

“Borders don’t protect areas, people do”: Multi-scalar insights to promote the development and support of Indigenous Protected and Conserved Areas

By:

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BSc., McGill University, 2012

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of the Requirements for the Degree of

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We acknowledge with respect the Lekwungen-speaking peoples on whose traditional territory the university stands and the Songhees, Esquimalt and WSÁNEĆ peoples whose historical relationships with the land continue to this day.

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Abstract

Given the ongoing biodiversity decline during a time of Indigenous resurgence, Indigenous Protected and Conserved Areas (IPCAs) are garnering interest from the academic community, Indigenous and state governments, and protected area practitioners. Though Indigenous forms of land and sea protection have existed for millennia, these actors are exploring how IPCA development and support can meet needs to protect biodiversity and respect Indigenous Rights and roles in conservation. My main research objective was to advance academic and practical applications of IPCAs by drawing from global IPCA research while assisting the Kitasoo/Xai'xais Nation's IPCA planning process. I investigated two research questions: 1. What are the key successes, challenges, and lessons from IPCA research globally? 2. What can we learn from the Kitasoo/Xai'xais Nation's rationale and process for developing an IPCA?

To answer my first question, I reviewed 58 papers, describing 86 specific IPCA initiatives involving at least 68 Indigenous Peoples across 25 countries. Indigenous Peoples established IPCAs independently and through local- and broad-scale partnerships. Where state IPCA support existed, it was through formal legislation, agreements, and policies, and informally through local relationships and shared values. IPCAs created socio-cultural, political, and ecological benefits. Challenges limited benefits while demanding additional resources for mitigation. I recommend that states and other external actors create/improve IPCA policies, legislations, and resources as defined by Indigenous Peoples; facilitate Indigenous leadership to shape external IPCA establishment and development mechanisms; and create internal Indigenous engagement/partnerships mechanisms. I suggest that Indigenous Peoples would benefit from building partnerships to support and manage their IPCAs. Finally, I recommend that IPCA managers commit more resources, particularly in monitoring and management that integrates management priorities with local and larger scale social-environmental issues.

To answer my second question, in collaboration with the Kitasoo/Xai'xais Nation, we used participatory action research to assist efforts to plan a land-and-sea IPCA in Kitasoo/Xai'xais Territory. Together, we used mixed methods to summarize the Nation's rationale and process. IPCA development is an iteration of ongoing efforts to address limitations of state protected areas to better reflect Kitasoo/Xai'xais rights and responsibilities while preserving culture, biodiversity, and economic opportunity. The Kitasoo/Xai'xais process is rooted in long-term Territory planning and contemporary stewardship capacity building, has benefitted from global IPCA research, and has ongoing multi-generational engagement. The Nation faces challenges similar to other protected areas and is additionally burdened by ongoing colonization impacts. To address these challenges, the Nation is seeking state legislative IPCA recognition, applying Indigenous and complementary western stewardship approaches, and pursuing responsibility-based partnerships.

This research makes both practical and academic contributions. It assisted the Kitasoo/Xai'xais IPCA process by contributing to planning and documentation, to be used and modified by the Nation to implement current and future IPCAs. Other Indigenous organizations can adapt the lessons and processes described for their IPCA interests. Additionally, this work provides recommendations for states and other actors at various scales to improve IPCA support and recognition. This work also contributes to literature which highlight Indigenous-led conservation initiatives, including IPCAs, as potential pathways towards supporting biodiversity conservation and Indigenous resurgence.

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Glossary

Indigenous Rights and Title: These concepts are defined differently by various legal and governmental entities around the globe. Conceptually, Indigenous Rights refer most often to Indigenous People's diverse rights to use and occupy their ancestral Territories, including territorial, political, and cultural rights, as they were practiced and enjoyed prior to colonization by other governments, and current contemporary rights. Title refers to the formal rights and recognized legal/political jurisdiction of an Indigenous group over their ancestral Territories.

Indigenous Protected and Conserved Areas (IPCAs): Umbrella term (used in Canada) that references protected and conserved areas where Indigenous Peoples have: a strong spiritual and/or cultural connection; asserted a leading role in decision making in establishment and/or management of the area; and environmental conservation occurs whether it is stated as a goal explicitly or implicitly (ICE 2018).

Institution: Mechanisms that inform social order and interaction that include formal mechanisms (laws, constitutions, rules), informal mechanisms (self-imposed ethics, behavioural norms, conventions), and structural mechanisms (organizations, groups, and individuals).

Social justice: Though definitions across disciplines vary, in this work I focus on social equity in environmental conservation, particularly for Indigenous Nations and Peoples. Conventional western conservation paradigms forcibly and violently exclude Indigenous Peoples from their Territories; ignore Indigenous institutions – such as governance and laws – that include forms of environmental conservation and stewardship responsibilities; and in turn negatively impact Indigenous livelihoods, cultures, and futures. I use this term to encompass correcting for these injustices towards engagement and affirmation of Indigenous Rights, institutions, and responsibilities in environmental conservation.

State: Though there is no consensus on a definition, I use this term to refer to the dominant, centralized political organization of a country (e.g. governmental body) that claims authority and regulates certain geographical areas. In many cases, these governments followed from imperialist colonization of Indigenous Territory.

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Dedication

To the past, present, and future Kitasoo/Xai'xais stewards of land, sea, and life

and

To Indigenous land defenders and caretakers everywhere

Chapter 1 – Introduction

Introduction

There is renewed global interest in the potential of protected areas to achieve biodiversity conservation and support Indigenous resurgence. In particular, Indigenous and state governments are seeking the development, recognition, and support of Indigenous Protected and Conserved Areas (IPCAs) as a pathway to address these intersecting issues. In collaboration with the Kitsoo/Xai'xais Nation, my thesis explores what interested actors (i.e. Indigenous, state, and others such as environmental non-profit and researchers) can do to improve the development and/or the broad-scale recognition and support of IPCA initiatives. I do so by drawing from global IPCA research and contributing to ongoing planning and development of an IPCA within Kitsoo/Xai'xais Territory and what is currently known as British Columbia (BC) Canada. I share an approach that can be adapted by other Indigenous Nations interested in IPCAs. This work contributes to academic literature on the benefits of IPCAs, how to recognize these areas, and how to support the efforts by Indigenous People to develop and manage them.

In this chapter I introduce the various themes that are at the foundation of my thesis, providing an overview of conventional protected areas with Indigenous Peoples, the concept of IPCAs, protected areas and Indigenous Peoples in Canada, Indigenous Rights, reconciliation and Resurgence, social-ecological systems thinking, and a description of the Kitsoo/Xai'xais Nation and Territory. I then outline my research questions, objectives, and my thesis chapters. Finally, I provide a summary of my research methodology, which includes a description of my positionality.

Key Themes

Overview of Conventional Protected Areas with Indigenous Peoples

A protected area “is a clearly defined geographical space, recognised, dedicated and managed, through legal or other effective means, to achieve the long-term conservation of nature with associated ecosystem services and cultural values” (Dudley et al., 2008). In the face of rapid global biodiversity decline, there is a growing momentum for using protected areas as a conservation tool (e.g., Convention of Biological Diversity (CBD) Aichi targets¹). Research on the efficacy of protected areas has shown that they can positively contribute to terrestrial and marine conservation (Watson et al., 2014). Studies have also shown that protected areas both impact and are impacted by social factors surrounding their development and management (West et al., 2006). As such, the consideration and integration of social factors (e.g. attitudes towards

¹ See <https://www.cbd.int/sp/targets/>.

conservation efforts) in development and management of protected areas has been shown to influence conservation success (Cumming et al., 2015).

The global expansion of protected areas in western conservation can be traced back to the formation of Yosemite in 1864 and Yellowstone National Park in 1872 (Stevens, 1997). These early conventional protected areas in the 19th and 20th century were established under conservation paradigms that rationalized the exclusion and restriction of human uses of the environment for its preservation (Stevens, 1997). This has, and continues to lead, to the exclusion of many Indigenous Peoples from their Traditional Territories through imposing protected areas (Stevens, 1997; 2014; Zurba et al., 2019). The relatively recent (e.g. Dudley et al., 2008) definition of protected areas cited above arose after global recognition of the social injustices towards Indigenous Peoples resulting from conventional western conservation paradigms, and the important role Indigenous People have in biodiversity conservation success. As such, though some state-run or recognized protected areas still continue to follow an exclusionary and violent model, there is also a growing number of protected areas that have varying levels of engagement and/or leadership by Indigenous Peoples (Stevens, 2014).

There were three major turning points in western conservation discourse around protected areas and Indigenous Peoples on an international stage, all of which were made possible and prevalent by the advocacy of Indigenous Peoples and their allies. The first two were the Fourth and Fifth World Congress on National Parks and Protected Areas (in 1992 and 2002, respectively). The former created the Caracas Declaration, which supported the “development of national protected area policies which are sensitive to customs and traditions, safeguard the interests of Indigenous People” (McNeely, 1993, p16). The latter meeting explored the relationship between Indigenous Peoples and protected areas, and was attended by over 120 Indigenous leaders (Brosius, 2004). The outcome of this meeting was the Durban Action Plan and the Durban Accord, which included explicit recognition of Indigenous Peoples’ roles in conservation (Brosius, 2004). Finally, the adoption of United Nation’s Declaration on the Rights of Indigenous Peoples (UNDRIP) by the United Nations in 2007 recognized, among many things, Indigenous Peoples’ rights to self-determination, cultural identity, and free prior informed consent to activities within their Traditional Territories (UN General Assembly, 2007). These are inextricably linked with the right to govern and manage activities within their Traditional Territories. These efforts led to the evolution of the International Union for the Conservation of Nature (IUCN)’s protected area categories to include traditional uses and governance types with Indigenous Peoples as the main decision-makers (Borrini-Feyerabend et al., 2013). These new modifications have helped to establish recognized frameworks for IPCA initiatives around the world.

With growing recognition of the ways Indigenous Rights intersect with efforts to address the rapid decline of biodiversity, there is interest from Indigenous and state governments and organizations in seeking pathways that can satisfy both of these needs. For example, countries participating in the Convention of Biological Diversity (CBD) not only committed to creating

new protected areas across ecosystems by 2020 (Target 11), but also to considering the needs of Indigenous Peoples in conservation and restoration (Target 14), and where possible to respect Indigenous institutions relevant to conservation and the ‘effective participation’ of Indigenous Peoples across all conservation activities (Target 18; CBD, 2010). My work demonstrates how IPCA development, recognition, and support can be a pathway for various organizations that have intersecting commitments to respecting and upholding Indigenous Rights and responsibilities on Traditional Territory and biodiversity conservation.

Indigenous Protected and Conserved Areas (IPCAs)

Indigenous forms of land and water protection and stewardship have existed since time immemorial. In the last few decades, these stewardship practices have been acknowledged by states and global conservation efforts through formal labels, designations, and arrangements. In practice, a wide range of areas could be considered to be IPCAs but may not be labelled explicitly as such other than in Canada. Indeed, some Indigenous Peoples prefer to use their own definitions, governance, and management structures for IPCAs (see Davies et al., 2013; ICE, 2018). The term Indigenous Protected and Conserved Areas (IPCAs), currently used in Canada, refers to a suite of Indigenous-driven initiatives to protect, conserve, or steward areas where they exercise agency in territorial management (see ICE, 2018). A more comprehensive overview of IPCAs is detailed in Chapter 2.

The growing body of research on IPCAs has focused on their social-ecological benefits and how to properly support their development and recognition (Kothari, 2008; Borrini-Feyerabend et al., 2004; Stevens, 2010; 2014; Kothari et al., 2012; 2013). Despite IPCAs facing many external and internal challenges, such as resource development and lack of Indigenous Rights and title recognition, it is estimated that they may cover more area globally than state-led protected areas (Kothari et al., 2012) and meaningfully contribute to conserving ecosystems, their functions, services, and biodiversity (Stevens 2010; Artelle et al., 2019; Zurba et al. 2019).

Research is warranted to identify and address the common motivations, approaches, and challenges faced by IPCA managers to inform state and other actors interested in better supporting these initiatives. This can also inform the Indigenous Peoples who are striving to achieve state and external recognition and support for their IPCAs. At the time when my research began, a comprehensive review of IPCA research did not exist, and I developed this work to address that gap.

Protected Areas and Indigenous Peoples in Canada

The first protected area established by a Canadian government was Banff National Park in 1883 (Dearden et al., 2016). Canada’s early protected areas framework shared similar “top-down protectionist, colonial and in some cases a militarised approach” as other parts of the world, which disregarded First Nations’ deep-rooted relationships to their Traditional Territories

(Herrmann et al., 2012, p8; Sandlos, 2014). Land agreements between Indigenous Peoples and Canada's governments are ingrained in the process of creation of protected areas (Dearden et al. 2016). A notable shift in the landscape of Canada's protected areas was in 1975, with the signing of the James Bay and Northern Quebec Agreement (between the James Bay Cree, the Inuit of Quebec and the governments of Quebec and Canada (Canadian Parks Council, 2008). This agreement arguably led to the first Canadian-First Nation 'co-management' bodies that facilitated engagement of Indigenous Peoples in the process of protected area establishment (Canadian Parks Council, 2008). Since then, Indigenous resurgence has led to a shifting landscape for protected and conserved areas within BC and the rest of Canada.

The provincial and federal protected area system has multiple governmental bodies, policies, and legislation to govern protected area development, and management depends on the level of protection, jurisdiction, and the biological or physical resources within the area (Herrmann et al., 2012). This is the complex system that Indigenous Peoples must navigate when engaging with provincially and federally-recognized protected areas. Additionally, in BC, many First Nations have not completed treaty negotiations, and as such some recent protected and conserved area creation within unceded territory is conducted on a case-by-case basis. Multi-jurisdictional overlap along the Coast of BC (see Carlson, 2018; Nowlan and Hewson, 2019) continues to influence coastal and resource management, including protected areas.

Though neither BC nor Canada have broad-scale IPCA policies or legislative recognition, there have been efforts to learn what opportunities IPCAs can provide. Recently, federal and provincial governments have publicly committed to improve Nation-to-Nation relationships, reconciliation with Indigenous Peoples, and to improve and create protected areas. For example, in 2016, the federal government established the Indigenous Circle of Experts (ICE; a working group of Indigenous leaders in conservation and government officials) as part of the mechanism to reach CBD protected area targets (ICE, 2018). In 2018, ICE published a report with recommendations for how IPCAs can be recognized, supported, and contribute to Canada's commitments (see ICE, 2018). These efforts demonstrate growing awareness of how IPCAs can provide conservation benefits and create pathways for Indigenous resurgence in BC and Canada. Simultaneously, Indigenous Peoples in Canada have sought protection and conservation options for specific areas within their Traditional Territory while asserting their jurisdiction and responsibility over them. Some First Nations have pursued opportunities within existing provincial/federal legal frameworks to develop co-management agreements (e.g. The Haida Nation and Gwaii Hanaas National Park Reserve), while others have asserted their own management outside of these frameworks (e.g. The Tla-o-qui-aht First Nation and its Tla-o-qui-aht Tribal Park; Bhattacharyya and Whittaker, 2016; Zurba et al., 2019). As such, these IPCAs differ from other conventional protected and conserved areas in Canada because they have challenged and created space for recognizing Indigenous authority within their Traditional Territory (Murray and King, 2012).

Canada, like other state governments, should be wary of incorporating IPCA support into existing state protected area systems without the proper consultation and consent of Indigenous Peoples, as this may negatively impact Indigenous Rights and impede conservation efforts (Kothari et al., 2012). The diversity of Indigenous Peoples requires a diversity of approaches. Consequently, meaningful IPCA support and recognition can only occur through understanding the rationale and processes of Indigenous governments and organizations to establish IPCAs. Simultaneously, First Nations are interested in the benefits and drawbacks of various pathways to IPCA development. When I began my thesis, there were limited research examples that highlighted Indigenous' perspectives on IPCA development processes and rationales behind them. My research seeks to provide a case study to the IPCA literature by highlighting the Kitasoo/Xai'xais Nation and its staff's perspectives and approach. I use this case study to detail key gaps and changes needed from external actors (e.g. Canadian governments, researchers) to better support this and other IPCA initiatives and provide an example of an approach that could be adapted by other Indigenous governments.

Indigenous Rights, Title, and Resurgence

On top of the repercussions of past and present colonial pressures in protected area establishment, IPCA initiatives are inherently impacted by the sociopolitical conditions that surround it, particularly the meaningful recognition and support of Indigenous Rights and Title. Many countries have agreed to international agreements and policies such as UNDRIP as well as the work of CBD's Programme on Work on Protected Areas that seeks to recognize and uphold Indigenous Rights in conservation.

The federally-commissioned Truth and Reconciliation Commission (TRC) emphasized that colonization in Canada purposefully intended cultural genocide by means of forced assimilation, violence, and marginalization of Indigenous Peoples, as supported by colonial policies and legislation (TRC, 2015). In 2016, the federal government adopted UNDRIP (Indigenous and Northern Affairs Canada) and both the provincial and federal governments made public commitments to reconciliation and recognition of Indigenous Rights (see Trudeau, 2016; Government of BC, 2017; 2019). Most recently, BC has become the first province in Canada to adopt legislation to recognize UNDRIP through *the Declaration of the Rights of Indigenous Peoples Act* (Government of BC, 2019). Governmental policies and documents also state commitments to collaboration and partnerships with Indigenous Peoples on protected area development (e.g. Canada-British Columbia Marine Protected Area Strategy; Government of Canada and Government of BC, 2014). These efforts suggest that BC and Canada are interested in supporting pathways away from the history of social injustices imposed on Indigenous Peoples and towards social-ecological benefits for Indigenous Nations, communities, and beyond.

In the face of the displacement, violence, and marginalization by settler-colonization in places like BC, Canada and beyond, Indigenous Peoples have pushed for recognition that Indigenous governance and management of their Traditional Territories contribute toward the sustainability and resilience of ecosystem areas, services, functions, and biodiversity (Beltrán, 2000; Kothari et al., 2012). Indigenous resurgence counters settler-colonialism through “reconnecting with homelands, cultural practices, and communities, and is centered on reclaiming, restoring and regenerating homeland relationships” (Cornthassel and Bryce, 2012, p153). My thesis is one of many collaborations that highlight how Indigenous governments are leading their Indigenous resurgence in ways that center their Indigenous Rights and responsibilities on their Traditional Territory.

Social-Ecological Systems Thinking

In addition to focusing on IPCAs, my research also draws upon social-ecological systems (SES) literature. SES thinking organizes social and ecological factors into connected and interacting feedback loops that also interact across various temporal and spatial scales (Berkes et al., 2000). Research has shown that applying SES to conservation planning can lead to improvements to ecosystems and communities (e.g. Berkes et al. 2000; Ban et al., 2013). This approach, though developed within western research epistemologies, aligns with certain aspects of some Indigenous worldviews regarding their relationship with their territories (Berkes et al. 2000; Ban et al., 2013; Berkes, 2017). In particular, SES conservation research has demonstrated that for some Indigenous Peoples, their worldview and ethics (e.g. kincentric relationships between themselves and non-human entities) have, though not always, led to sustainable stewardship and biodiversity conservation (e.g., Berkes 2012; Artelle et al., 2018). As a non-Indigenous researcher collaborating with the Kitasoo/Xai’xais Nation for this work, I use SES literature to bridge western scientific epistemologies and Indigenous worldviews regarding IPCAs.

The Kitasoo/Xai’xais Nation and Territory²

Kitasoo/Xai’xais Nation, currently based in Klemtu (Figure 1), arose from two distinct tribal groups converging in the mid 1800s: the Kitasoo whose linguistic heritage is Sgüüxs (Southern Tsimshian), and Xai’xais whose linguistic heritage is Xai’xais (North Wakashan). The Kitasoo/Xai’xais Territory comprises approximately 13000 km² of land and sea on the Central Coast of BC, within a region commonly known as the Great Bear Rainforest (GBR; Figure 1). The Nation is currently governed with a blend of traditional and contemporary governance structures. The Kitasoo/Xai’xais Stewardship Authority (KXSA) is the key stewardship entity for the Nation and is responsible for the planning and management of land and natural resources, including protected and conserved areas. KXSA provides information that informs decision-making, upholds Kitasoo/Xai’xais values, and advocates for recognition of Kitasoo/Xai’xais

² Public information about Kitasoo/Xai’xais Nation and Territory can be found at www.klemtu.com.

title, rights, and law through resource planning and management. Further details about the Kitasoo/Xai'xais Nation and its Territory is provided in Chapter 3.

My thesis is focused in part of Kitasoo/Xai'xais Territory known currently known as Green Inlet (Figure 1). The land portion of Green Inlet, along with 7 other areas in other First Nation territories, are currently under a Special Forest Management Area (SFMA) designation by BC under the *Great Bear Rainforest (Forest Management) Act*. This was a placeholder designation to prevent forestry development until the Kitasoo/Xai'xais and other Coastal First Nations could decide how protection and conservation would manifest. The Kitasoo/Xai'xais Nation recognizes the history, influence, and limitations of current options available to them in provincial and federal protected area designations, and as such are pushing for a land-to-sea IPCA. At the same time, the BC government is interested in identifying designations and management options with the Nation for the SFMA. My research has benefited greatly from the Nation's work prior to our collaboration and thus my work seeks to assist the Nation in its process to develop an IPCA.

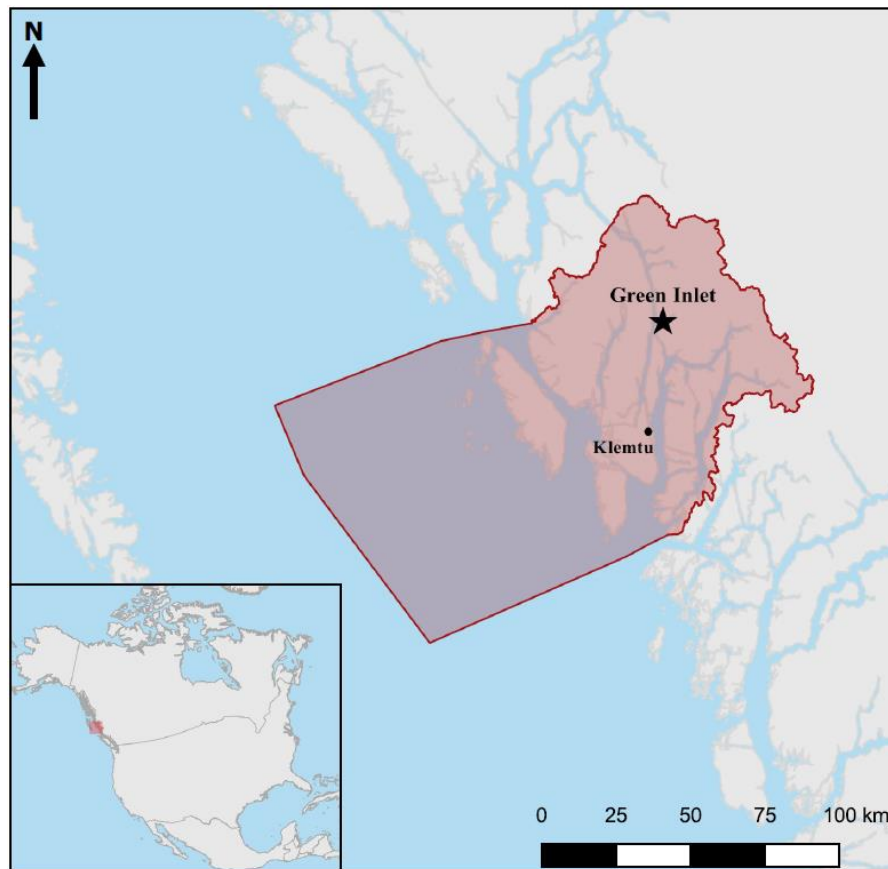


Figure 1. Overview of Kitasoo/Xai'xais Nation Territory (red shaded area). The star indicates the location of the proposed land-and-sea Green Inlet Indigenous Protected and Conserved Area. The Kitasoo/Xai'xais Nation is currently based in Klemtu.

Research objectives and questions

There exists a gap among existing syntheses of global IPCA research, namely a lack of research that centres the perspectives of Indigenous organizations regarding their motivations and processes to plan and implement an IPCA. I use both a global and local lens to address these gaps and provide insight to the various actors investing in IPCA development. This research project is part of an ongoing effort by the Kitasoo/Xai'xais Nation to develop IPCAs within its Territory. Before this project began, there existed past and ongoing collaborations between the KXSA and the University of Victoria's Marine Ethnoecology Research Group through my supervisor Dr. Natalie Ban. Through ongoing informal conversations between KXSA and Dr. Ban, it was determined that my work could assist the Nation's IPCA development and planning process for Green Inlet while also showcasing the Nation's perspectives and approach. As such, my primary research objective was to advance academic and practical applications of IPCAs. I do this by drawing from global research on IPCAs and through a collaborative case study. The aim was to contribute to the Kitasoo/Xai'xais IPCA development process as well as the improvement of external recognition and support of IPCAs. My research addressed two research questions:

1. What are the key successes, challenges, and lessons from IPCA research globally?
2. What can we learn from the Kitasoo/Xai'xais Nation's rationale and process for an IPCA?

This thesis has been structured such that each substantive research chapter for the two main research questions (i.e. Chapters 2 and 3) has been written as an individual manuscript for publication. As such, there is some repetition between chapters.

Chapter 1 serves as an introduction to my thesis. I explain the key themes that lay the foundation of this research, outline my thesis, and provide a methodological overview, including a statement of my positionality regarding this research.

Chapter 2 is an academic literature review that synthesizes research regarding IPCA initiatives around the world. In it is a summary and analysis of the development, successes, and challenges for the multiple IPCA initiatives encountered. Using these results and the lessons from the literature I provide recommendations to state, Indigenous and other actors to better recognize and support IPCA initiatives.

Chapter 3 documents the rationale and the planning process that the Kitasoo/Xai'xais Nation have undertaken to develop a new kind of IPCA within its Traditional Territory through a collaborative case study. Our collaboration articulates what others can learn from the Nation's perspectives and process to develop and/or improve external support and recognition for this and other IPCA initiatives.

Chapter 4 summarizes the lessons from each of the previous chapters, discusses the practical value of this research, contemplates the limitations of this research, and provides recommendations for future research to complement this work.

Methodological approach

To conduct this work, I took a participatory action research (PAR) approach. Within my collaboration, I will always be in a position of un-learning colonial biases and learning to center myself as part of a growing movement towards anti-colonial change and social-environmental justice. I also recognize the inherent limits to my abilities to communicate cross-culturally and bridge my research between colonial and Indigenous processes. PAR is a research methodology framework that aims to conduct research with and by communities, rather than for and about them (Chilisa, 2012). In my research, I use PAR to engage our collaborators as co-researchers in the process, allowing for the co-generation of our research questions, data collection methods, and analysis (Chilisa, 2012). By using PAR methodology, I use information and knowledge generated in this research to contribute to the Kitasoo/Xai'xais IPCA planning process (Chilisa, 2012).

I use different methods to answer each of my research questions. To address my first question, I conducted a literature review based on peer-review research on IPCAs. In addition to addressing a gap in IPCA literature, information from this literature review also was used in the collaboration to provide insight and potential improvement to the Nation's IPCA planning process. It also informed directions for the development of the collaborative case study (e.g. informed semi-structured interview questions). In answering my second research question, I use mixed methods in partnership with KXSA staff to develop a case study on the Kitasoo/Xai'xais rationale and process for a Green Inlet IPCA.

Positionality

I am a woman of colour born to Vietnamese parents who were forced to leave Vietnam and eventually settled on the unceded Algonquin territory (Ottawa, Ontario). I currently live and works on the unceded Lekwungen and W̱SÁNEC territories (Victoria, BC). The collaborative work for my thesis also centered in the unceded Territory of the Kitasoo/Xai'xais Nation. This research was a humbling opportunity to do work that enhances my education, and to reflect on my relationship to a colonial system that has contributed to oppression and marginalization of Indigenous Peoples, and other racialized communities. I am aware of the challenge of conducting this research into protected area systems from within an academic institution (both created within colonial frameworks), while attempting to contribute positively to my Indigenous collaborators' objectives. It is my hope that through continual reflexivity throughout my research, I have prioritized and provided space and respect for the Kitasoo/Xai'xais goals, worldviews, and knowledge systems throughout this project. I am so grateful for the guidance and investment in

time and resources by the Kitasoo/Xai'xais Nation members and staff in this process. As my awareness has grown, so too has my understanding that I still have so much to learn.

Chapter 2 – A Review of Successes, Challenges, and Lessons Learned from Indigenous Protected and Conserved Areas

Introduction

Areas that are protected and conserved by Indigenous Peoples have gained global attention due to the urgency of protecting declining biodiversity during a time of Indigenous resurgence and recognition of Indigenous Rights. Through the adoption of United Nations Declaration of the Rights of Indigenous Peoples (UNDRIP), 144 countries recognized Indigenous Peoples' Rights to self-determination, cultural identity, and free prior informed consent to uses that affect their traditional Territory (UN General Assembly, 2007). Considerations of Indigenous Rights and Title and Indigenous Peoples' role in protected and conserved area governance in state-recognized conservation initiatives is also growing. For example, International Union for Conservation of Nature (IUCN)'s protected area matrix includes protected areas with traditional uses and governance regimes involving Indigenous Peoples (see Beltrán, 2000; Borrini-Feyerabend et al., 2004, 2013; Dudley et al., 2008). Similarly, countries participating in the Convention of Biological Diversity (CBD) not only committed to creating new protected areas across ecosystems by 2020 (Aichi Target 11), but also to considering the needs of Indigenous Peoples in conservation and restoration (Target 14), and to respecting Indigenous institutions relevant to conservation and the 'effective participation' of Indigenous Peoples across all conservation activities (Target 18, CBD, 2010). As such, there is interest from states, Indigenous, and environmental conservation organizations in the establishment and increasing widespread recognition and support for territories and areas protected and conserved by Indigenous Peoples.

Indigenous forms of land and water protection and stewardship have existed since time immemorial. Yet only within the last few decades have they been acknowledged by states and global conservation efforts through formal labels, designations, and arrangements. We use the term Indigenous Protected and Conserved Areas (IPCAs), currently used in Canada, to refer to a suite of Indigenous-driven initiatives to protect, conserve, or steward areas where they exercise agency in territorial management. In practice, there are many labels used by different agencies, initiatives, and regions to describe territories and areas protected by Indigenous Peoples, including: some Indigenous Community and Conserved Areas (ICCAs, <https://www.iccaconsortium.org>¹), Indigenous Protected Areas (IPAs) in Australia (Department of the Environment and Energy, 2019), Tribal Parks in North America (e.g. Nexwagwez'an – Dasiqox Tribal Park; Dasiqox Tribal Park Initiative et al., 2019); areas with shared governance and management (e.g. Uluru-Kata Tjuta and Kakadu National Parks, Langton et al., 2005), and many other political designations and arrangements (Table 1). IPCAs may have state-recognized Indigenous tenure (e.g. some Australia IPAs, Smyth, 2015), or they may exist without state

¹ Note that some ICCAs are led by non-Indigenous communities and we do not consider those to be IPCAs.

recognition and/or within state-recognized protected areas (e.g. beyuls in Nepal, Stevens, 2010; 2013). The multiple designations and arrangements highlight a wide range of areas that we consider to be IPCAs in our review, but may not be labelled explicitly as such other than in Canada. Indeed, some Indigenous Peoples prefer to use their own definitions, governance, and management structures for IPCAs (see Davies et al., 2013; ICE, 2018). The term IPCA is relatively new, even in Canada; we have elected to use it for consistency with growing national literature. For the purpose of this review, we consider any area as an IPCA when it meets all of the following criteria, which draw from the IUCN definition of ICCAs (Borrini-Feyerabend et al., 2013; ICCA Consortium, 2019) and from Canada’s Indigenous Circle of Experts (ICE) report regarding IPCAs (ICE, 2018):

- 1) Indigenous Peoples have a strong spiritual and/or cultural connection to the area, be it terrestrial, aquatic, marine or otherwise, through past and current lived histories language, and other potential interactions;
- 2) Indigenous Peoples have asserted a leading role in decision-making (governance), establishment, and/or management that demonstrates their rights and responsibilities in the area. This includes arrangements with other organizations but in a way that governance and/or management occur with the consensus of Indigenous actors; and
- 3) Environmental protection and/or conservation occurs whether it is stated explicitly or an understood (implicit) goal.

Table 1. Examples of different definitions that can encompass Indigenous Protected and Conserved Areas. Parentheses denote the organization or location where each definition is applied.

Framework	Definition	Reference
Indigenous and Community Conserved Areas (IUCN)	Natural and modified ecosystems, including significant biodiversity, ecological services and cultural values, voluntarily conserved by Indigenous, local, and mobile communities through customary laws or other effective means	IUCN, 2004; Borrini-Feyerabend et al., 2004; 2013
Indigenous Protected Area (Australia)	Areas governed by the continuing responsibilities of Aboriginal and Torres Strait Islander peoples to care for and protect lands and waters for present and future generations ... [and] may include areas of land and waters over which Aboriginal and Torres Strait Islanders are custodians, and which shall be managed for cultural biodiversity and conservation, permitting customary sustainable resource use and sharing of benefit	Hill et al., 2011
Indigenous Protected and Conserved Areas (Canada)	Lands and waters where Indigenous governments have the primary role in protecting and conserving culture and ecosystems through Indigenous laws, governance and knowledge systems. Culture and language are the heart and soul of an IPCA	ICE, 2018

The most comprehensive attempt to explore and document IPCAs to date was published by the CBD, which evaluated examples in 19 countries under the ICCA framework and suggested recommendations for state, civil society, and Indigenous actors to support and recognize these

initiatives (Kothari et al., 2012). That report was developed through reviewing case studies in those countries, based on publications and reports that were readily available, and reviewed by experts within these countries and internationally. The report indicated a strong link between ICCAs' ecological conservation success, and for Indigenous-led initiatives, increased self-determination of Indigenous Peoples, while also highlighting several challenges.

There were some key limitations to the CBD report when it comes to focusing on Indigenous-led initiatives and protected/conserved areas. Notably, some Indigenous Peoples' protected/conserved areas are either not labelled as ICCAs, by the choice of Indigenous groups managing them or for other reasons, or they are labelled as such without Indigenous consent (Smyth, 2015; Jonas et al., 2017). Second, ICCAs include areas managed by both Indigenous and local communities (IUCN, 2004; Borrini-Feyerabend et al., 2004; Smyth, 2015). Indigenous Peoples face critically different historical and contemporary contexts, aspirations, and challenges compared to local communities, which include: "their own historical continuity with pre-colonial societies; their close relationship with the land and natural resources of their own Territory; their particular socio-political system, language, culture, values and beliefs; and not belonging to the dominant sectors of their national society and seeing themselves as different from it" (Borrini-Feyerabend et al., 2004, page 8). As Opaskwayak Cree scholar Dr. Shawn Wilson (2008, page 34) notes: "the term Indigenous has important implications politically, as in the face of colonization we assert our collective rights as self-determining Peoples at an international level". State and other actors seeking to establish or increase support for IPCAs need to carefully consider the specific contexts surrounding specifically Indigenous initiatives and should follow visions set forth by Indigenous Peoples.

Some academic research on IPCAs has explored their social-ecological benefits, challenges, lessons learned, and provided advice for their development and recognition. Most academic publications about IPCAs describe specific case studies, such as Australia's Indigenous Protected Area program (e.g. Davies et al., 2013; Muller, 2003); Indigenous-led Tribal Parks in North America (e.g. Murray and King, 2012; Carroll, 2014), co-managed protected areas in Latin America (e.g. Ruiz-Mallén et al., 2014 and Reyes-Garcia et al., 2013), and long-standing Indigenous conserved areas in Malaysia (e.g. Massey et al., 2011; Vaz and Agama, 2013) and Nepal (e.g. Stevens, 2013). Research is warranted to identify and address the common issues, motivations, approaches, and challenges faced by Indigenous Peoples, to inform state and other actors interested in better supporting these initiatives and the Indigenous Peoples who are striving to achieve state and external recognition and support for IPCAs. No comprehensive review of research on IPCAs based on the academic literature exists; we seek to fill this gap.

Given the urgent and ongoing need for biodiversity conservation and recognition of Indigenous Rights, IPCAs are an important avenue forward for achieving both simultaneously (Schuster et al., 2019). Future initiatives can benefit from understanding the successes and challenges of existing IPCAs. We reviewed peer-reviewed literature to characterize research to date on IPCAs,

in order to describe the conditions, successes, challenges, and lessons associated with IPCA creation. Our primary objectives in this literature review were to: (1) identify and characterize IPCA initiatives documented in the academic literature; (2) describe socio-cultural, ecological, and political motivations behind IPCA creation, as well as external support, and recognition by state and other non-Indigenous actors; (3) summarize successes and challenges facing various initiatives; and (4) draw from lessons learned to provide recommendations for Indigenous, state, and other external actors to improve multi-sector support and recognition of IPCAs.

Methods

Literature selection

We focused our literature search on English-language, peer-reviewed articles. Literature search methods and selection involved a key term search, reviewing papers based on selection criteria, and coding relevant literature for achieving our objectives, following similar methods by Pittman and Armitage (2016) and Ban and Frid (2018). We searched three interdisciplinary databases: Web of Science, SCOPUS, and Google Scholar in January 2018 using keywords and phrases related to IPCAs (Table A1). We then imported full references and related information (e.g. containing abstract, key words from the articles and the database, etc.) into Endnote, a reference management software, for review. For Google Scholar, we imported the first 10 pages of each search.

We initially collected over 900 references from our database searches. We removed articles: that were not from academic journals or were duplicate entries; where titles, abstracts, or keywords (within the article and given by the database) did not contain our key search terms; and any articles not written in English. Afterwards, we reviewed abstracts for papers that met all the following criteria:

- 1) The people involved were described by the authors as Indigenous or specific Indigenous group names were stated that could be verified by a search online
- 2) The initiative was framed as protecting or conserving a defined area; and
- 3) The articles described, evaluated, or analyzed an IPCA initiative.

If it was unclear from the abstract whether these criteria were met, we scanned the entire paper to determine its relevance. We then fully reviewed and evaluated all remaining articles according to our objectives. Our intent with this literature review is to summarize the state of knowledge up to the time of the literature search. Hence, we refer to literature reviewed in past tense while fully acknowledging the current and ongoing nature of initiatives and circumstances discussed herein.

Analysis

We summarized information for each of our objectives (i.e. describe IPCA locations and governance/management characteristics; motivations behind creation, support; successes and challenges faced; and lessons from research) for each publication and specific IPCA initiative. We then coded the summarized information for common themes. We developed these themes through a combination of pre-determined categories during data collection (see Table A2 for data collection template) and grounded theory approaches (i.e. emerging from similar results during coding, Pittman and Armitage, 2016).

We determined the year of publication, geographic location(s) described, and research purpose for each article. We also identified and grouped initiatives by location, specific name (used by the community or author), and by Indigenous Peoples involved, as well as characterised the governance and management structure (e.g. Indigenous-led or collaborative with other organizations). For each initiative, we collated information about the socio-cultural, political, and ecological context in which they exist. This included specific Indigenous and others relationships to the area, and local, national/international events, policies, and legislation, and motivations that influenced the creation, support, and/or external recognition of the IPCA. We distinguished state support and recognition as formal (e.g. with state legislative designations, voluntary/formal/lease agreements with communities, state programs to fund or certify IPCA initiatives) or informal (e.g. shared values with state authorities that helped maintain Indigenous control and/or recognition and support from local state managers). We reviewed successes, challenges, and lessons from each article to derive common themes from the data. Finally, we developed recommendations drawing from the common themes within the objectives, supported by lessons within the literature. We directed these recommendations towards Indigenous, state, and external actors interested in creating, supporting and recognizing IPCA initiatives.

Limitations

There are some limitations to our review, necessary to make the scope tractable. We focused on peer-reviewed literature written in English as indexed in three interdisciplinary databases. Our review therefore excluded potentially relevant reports, book chapters, and books related to IPCAs. Articles on IPCAs in other languages without clear connection to our criteria were also not captured. Additionally, our results are based on descriptions contained in the papers, representing the point of view of the authors (who may or may not be Indigenous Peoples and/or from Indigenous communities). Finally, the connection (and therefore lack of division) between management, use, and protection of areas and resources is common within the worldview of many Indigenous Peoples (Berkes, 2009). However, we focused only on IPCAs and not on related but broader literature on resource management.

We quantified the frequency of key themes (i.e. percentages from numbers of papers or IPCAs) related to our objectives to provide a sense of prevalence in the literature. The literature,

however, is influenced by academic interests and may differ from values or perspectives held by Indigenous Peoples or IPCA managers. Furthermore, it is a matter of interpretation of what frequency values correspond to high or low occurrences, and our selection of literature is relatively small. Some nuances may also be missed because we grouped themes through thematic coding. While we attempt to highlight some details in the text, full discussion of all themes is beyond the scope of this review.

A lack of clarity regarding governance exist in some of the papers reviewed. Our IPCA definition includes a range of governance arrangements, from Indigenous-led to shared arrangements between Indigenous and other actors. Though there is a difference between governance (i.e. who holds decision making power, responsibilities and accountabilities) and management (i.e. the execution of objectives and actions; Borrini-Feyerabend and Hill, 2015), many papers reviewed did not provide sufficient detail to differentiate between the two. As such, we group governance and management together, unless explicitly distinguished in the papers. Additionally, we rely on interpretation by authors of the papers reviewed regarding governance and management structure and caution that true effectiveness is difficult to assess without evaluation by the Indigenous Peoples involved (see Ross et al., 2011; Stevens, 2014), which was beyond the scope of our review.

Results and Discussion

Characterization of IPCA initiatives

The sources that we reviewed discuss 86 site-specific initiatives (i.e. with specific names and/or Indigenous Peoples/communities) involving at least 68 distinct Indigenous Peoples from at least 25 different countries (see Table 2 for examples, Table A3 for full list). A total of 58 articles met the selection criteria (see Table A4, Figure A1). The majority of articles (52 of 58, 90%) focused on initiatives within individual countries, while some (6 of 58, 10%) discussed regional or global IPCA initiatives. Most articles (32 of 58, 55%) directly evaluated IPCA initiatives (typically through ethnographic and perception studies), commonly within a case study approach. The majority of site-specific initiatives originated from Australia and Mexico (30 and 10 of 86, 35% and 12%, respectively). IPCA initiatives included co-managed protected areas such as national/state parks and biosphere reserves, Tribal Parks, sacred sites, and entire Indigenous Territories and managed landscapes (Table 2).

Table 2. Examples of Indigenous Protected and Conserved Area (IPCA) initiatives by region and country. A full list of IPCA initiatives encountered in the literature review can be found in Table A3. Italicized descriptions are ones used by authors, and not necessarily by Indigenous Peoples involved. Names in brackets are the Indigenous Peoples involved and the numbers in ‘Examples in Literature’ refer to reference numbers in Table A4, where specified.

Region	Country/Location	Description	Example in Literature
Africa	Ethiopia	Traditional Territory/conserved landscapes	Borana ethnic Territory/conserved landscape (Borana/Borana-Ormo) ^{1, 6, 19}
	Ghana	Sacred forests/groves	Asantemanso ⁴
	Morocco	Agdals	Mesioui agdals (Mesioua Berber) ¹²
	Nigeria	<i>Indigenous and Community Conserved Areas</i>	unnamed (Ekuri) ¹⁹
	Senegal	<i>Indigenous and Community Conserved Areas</i>	Kawawana (Jola) ⁸
	South Africa	Co-management of national parks	Kruger National Park (Makuleke) ^{19, 21}
Asia	China	<i>Indigenous and Community Conserved Areas</i>	unnamed (Khampa) ²¹
	India	Sacred forest/groves	
	Malaysia	Native reserves	Bundu Tuhan Native Reserve (Kadazandusun) ⁵³
		Sacred sites	Gumantong (Rungus) ²⁶
	Nepal	<i>Indigenous and Community Conserved Areas</i>	
		Sacred valleys or beyuls	Khumbu Beyul/Community Conserved Area (Sharwa) ^{21, 47, 51}
		Sacred natural sites	
		Community-managed forests	unnamed (Sharwa) ⁵¹
	Philippines	Community-managed rotational grazing systems/grassland commons	
		<i>Indigenous and Community Conserved Areas</i>	Lakyok Bird Conservation Area (Sharwa) ^{21, 51}
Taiwan	<i>Indigenous conserved Territories</i>		
Philippines	<i>Indigenous and Community Conserved Areas</i>	unnamed (Tagbanwa) ¹⁹	
Taiwan	<i>Traditional agricultural/conserved landscapes</i>	unnamed (Fata'an of the Amis Indigenous Nation) ⁶	
South Pacific	Locally managed marine areas		
Australia/ New Zealand	Australia	Co-management of national parks	Kakadu National Park ^{22, 38, 50, 52, 58}
		Co-management of state parks	Barrberm (Miriuwung-Gajerrong) ¹⁵
	New Zealand	Indigenous Protected Areas	Dhimurru Indigenous Protected Area (Yolŋu) ^{22, 33, 35, 48, 49, 54}
North America	Canada	<i>Traditional agricultural/conserved landscapes</i>	unnamed (Maori) ⁶
		Biodiversity reserves	Paakumshumwaa-Maatuskaau Biodiversity Reserve* (Cree Nation) ^{2, 30}
		Co-management of national parks	Tawich (Marine) Conservation Area* (Cree Nation) ³⁰
		Co-management of state parks	Tombstone Territorial Park (Tr'ondëk Hwëch'in) ⁴⁴
		Tribal Parks	Tla-o-qhi-aht Tribal Parks (Tla-o-qui-aht First Nations) ^{7, 31, 32}
	<i>Indigenous and Community Conserved Areas</i>		

Table 2 (cont'd). Examples of Indigenous Protected and Conserved Area (IPCA) initiatives by region and country. A full list of IPCA initiatives encountered in the literature review can be found in Table A3. Italicized descriptions are ones used by authors, and not necessarily by Indigenous Peoples involved. Names in brackets are the Indigenous Peoples involved and the numbers in 'Examples in Literature' refer to reference numbers in Table A4, where specified.

Region	Country/Location	Description	Example in Literature
North America	Mexico	Áreas Comunales Protegidas (protected communal areas)	La Raíz del Futuro (Tzeltal) ^{27, 36, 40}
		Áreas de Conservación por Manejo Forestal (Forestry management protected areas)	Nuevo San Juan Forestry Enterprise ²
		<i>Areas for Payment for Ecosystem Services**</i>	unnamed (Chol, Tzeltal, Tzotzil***) ⁴¹
		Reservas Comunitarias Certificadas (Voluntary conservation areas; certified community reserves)	La Sabana (Yucatec-Maya) ³⁶
North America	USA	Sitios Naturales Sagrados (Sacred natural sites; SNS)	
		Unidades para la Conservación, Manejo y Aprovechamiento Sustentable de la Vida Silvestre (UMAS; Wildlife management areas)	
South America	Argentina	Co-management of national parks	Canyon de Chelley National Monument (Navajo/Diné Nation) ^{24, 42} Monument Valley Tribal Park (Navajo/Diné Nation) ^{42, 56}
	Bolivia	Co-management of national parks	Lanin National Park (Mapuche) ^{19, 43}
	Bolivia	Co-management of biosphere reserves	Pilón Lajas Biosphere Reserve and Indigenous Territory (Tsimane') ^{13, 39, 41}
	Brazil	Co-management of national parks	Kaa-Iya del Gran Chaco National Park (Izoceño-Guaraní) ^{3, 21}
	Brazil	Indigenous reserves/territories	Jaquiera Reserve (Pataxó) ⁴¹
	Chile	Co-management of national parks	
	Chile	<i>Private protected areas</i>	unnamed (Mapuche) ⁴³
	Colombia	Co-managed national parks	Makaira National Park (Wayúu) ³⁴
	Colombia	Indigenous Territories	unnamed (Yapu) ²¹
	Ecuador	<i>Sacred sites</i>	
South America	Panama	Indigenous Territories	Comarca Ngöbe – Buglé Indigenous Territory (Ngöbe – Buglé) ¹⁹
	Peru	Biocultural heritage sites; Traditional agricultural/conserved landscapes	El Parque de la Papa (Quetchua) ^{2, 6}
		Territory/communal reserves	Native Community of Infierno (Ese'Eja***) ²³
	Amazon Rainforest	<i>Traditional agricultural conserved landscapes</i>	
	Amazon Rainforest	Indigenous protected areas/reserves/Territories	

*Both of these areas were declared through the Indigenous-led Wemindji protected areas project

**Some areas created for Payment for Ecosystem Services can overlap with other Indigenous protected and conserved area initiatives

***Mestizo community members were also involved

Governance of these areas ranged from leadership by Indigenous institutions (e.g., customary governance bodies; Table A3) to collaborative arrangements with varying organizations, including state departments, state-recognized land title holders, industry, not-for-profit organizations, and local councils and assemblies. Of the site-specific initiatives, a third (29 of 86, 33%) have been Indigenous-led from the start. Approximately half of the literature (31 of 58, 53%) explicitly indicated that Indigenous customs, norms, and laws guide decision-making and management within their respective IPCAs. Decision-making was sometimes carried out through existing Indigenous customary practices, such as long-standing governance structures in Mountain Mesioi agdals (mountain pasture lands, Dominguez and Benessaiah, 2017) and religious institutions in the beyuls in Nepal (sacred mountain valleys, Kothari et al., 2013; Stevens, 2013; Skog, 2017). Some Indigenous Peoples created new or contemporary institutions for management. For example, the Navajo Nation created a Parks and Recreation department to manage its Tribal Park (Zeman, 1998); in Australia, Indigenous Land Corporations commonly hold land titles for IPAs and are involved in their management, representing their respective peoples' interests (Smyth and Jaireth, 2012). Hybrid governance and/or management institutions that included both Indigenous and non-Indigenous representations were commonly developed to enable co-management (e.g. Tombstone Territorial Park, Shultis and Heffner, 2016).

Motivations behind IPCA Creation and External Support and Recognition

Creation

The literature highlighted multiple socio-cultural, ecological, and political motivations for creating IPCAs. Approximately 20% (18 of 86) of the site-specific initiatives had explicitly stated both socio-cultural and ecological purposes. A variety of Indigenous cultural, spiritual, and livelihood values were associated with IPCAs. These values included ceremonial sites, burial grounds, storied landscapes, and long-term relationships through land and natural resource management for Indigenous livelihoods and economies. Socio-cultural motivations for creating IPCAs included maintaining/improving economic opportunities (e.g. employment, Martin et al., 2011), protecting cultural/spiritual/religious sites (e.g. Pulu IPA, Hitchcock et al., 2015), facilitating intergenerational knowledge transfer (e.g. Muller, 2003), supporting cohesion and cultural identities (e.g. Berkes, 2009), and improving health and well-being (e.g. Moritz et al., 2013). Ecological motivations included protecting biodiversity values (e.g. Vaz and Agama, 2013), limiting natural resource use/extraction (Mulrennan et al., 2012), and maintaining ecological functions and services (e.g. Massey et al., 2011). For many Indigenous Peoples, the lack of distinction between socio-cultural and ecological goals may have resulted positive socio-cultural outcomes being inherently linked to ecological protection and conservation (Verschuuren et al., 2014; Ruiz-Mallén et al., 2014), especially in cases where conservation ethics have longstanding cultural and religious histories in communities (e.g. ICCAs in Malaysia, Vaz and Agama, 2013; sacred forest groves in India, Sinha, 1995). These inherent relationships between socio-cultural and ecological values can influence biological conservation within

IPCAs. In fact, 38% of articles (22 of 58) mentioned IPCAs containing key ecological values such as high biodiversity, rare species and habitats, and/or important ecosystem services.

Political motivations included affirming Rights and Title over land and resources (e.g. the Mapuche in the Andes, Sepulveda and Guyot, 2016), establishing self-government and sovereignty (e.g. Tla-o-qui-aht First Nation in Canada, Murray and King, 2012), enacting authority over access and management (e.g. the Yolngu in Australia, Langton et al., 2005), maintaining customary and religious practices (e.g. the Sharwa in Nepal, Stevens, 2013), and creating collaborations and accessing resources (e.g. funding) for community aspirations (e.g. many Aboriginal and Torres Strait Islanders of Australia, Smyth and Jaireth, 2012).

Many of the underlying socio-cultural and political reasons behind establishing IPCA initiatives were to improve conditions for peoples and territories that have been (and continue to be) severely impacted by colonial practices and values (e.g. Muller, 2003; Ross et al., 2009; Carroll, 2014). These motivations are a direct reflection of losses caused by violent, oppressive, and dismissive policies and legislation against Indigenous Peoples (e.g., forced assimilation, reduced access to traditional lands). Therefore, IPCAs were an approach towards reclaiming, restoring and/or revitalising Indigenous Territory management practices and access.

Indigenous Peoples have shown great adaptability in order to enable IPCAs to persist and/or develop within their traditional Territories. As such, IPCAs were created and supported through many mechanisms: some were designed by Indigenous groups, who then may have sought external support or recognition, while others were jointly initiated/created with one or many external actors, such as state agencies and non-government organizations (NGOs). In some IPCAs, such as sacred sites in India (Sinha, 1995; Singh and Kushwaha, 2008), Indigenous People have maintained stewardship for millennia. Seven initiatives began as state-led protected areas and evolved through co-management arrangements to become IPCAs. The Pílon Lajas Biosphere Reserve and Indigenous Territory (Bolivia) and the Kruger National Park (South Africa) became co-managed after Indigenous groups established state-recognized title over that land (Kothari, 2008; Kothari et al., 2013; Ruiz-Mallén et al., 2015, Ruiz-Mallén et al., 2017; Gambon and Rist, 2017). Approximately 36% (31 of 86) of the site-specific initiatives were preceded by Indigenous Peoples securing some form of land and/or natural resource title or tenure over the area.

External Support and Recognition

Evolving state-Indigenous relationships have influenced the development of IPCAs. Two thirds of articles (38 of 58, 66%) highlighted state-Indigenous relationships within the historical (both negative and positive) context of the IPCAs. For example, Ross et al. (2009) emphasized the impact of histories of state-level protected area establishment through dispossession and marginalization within the history of co-management of National Parks in Australia. Dominguez and Benessaiah (2017) and Martin et al. (2011) mentioned the history of resistance and rebellion

against state governments in Morocco and Mexico respectively as important factors for maintaining some relative autonomy of Indigenous Peoples involved in their respective IPCAs. As well, state support and recognition of IPCAs were influenced by national and international policies, and commitments to Indigenous Rights (e.g. International Labor Organization Convention 169 and UNDRIP, Stevens, 2013). This includes rights for meaningful engagement within conservation, land management, and protected areas (e.g. Parks with People Policy in Colombia, Premauer and Berkes, 2015). Support also was motivated through the potential for protecting valuable biodiversity areas (e.g. Den Maar IPA, Wallis, 2010), creating more comprehensive and connected protected area networks (e.g. many ICCAs, Kothari et al., 2013), and improving monitoring/enforcement to limit access to the area and its natural resources (e.g. Makuira National Park, Premauer and Berkes, 2015). More than half of the countries with formal recognition of an IPCA initiative also have legislation that facilitates Indigenous Title and/or Rights over land/resources (9 of 15, 60%; Table 2). Australia and Malaysia were the only countries where authors mentioned state-led institutional reports that highlighted the potential value of a state-supported IPCA program. Furthermore, Australia was the only country where growing understanding of Traditional Ecological Knowledge (TEK) and the value of Indigenous relationships and management were mentioned as important factors that enabled state support and recognition (e.g. Preuss and Dixon, 2012).

State-recognized Indigenous ownership and related state policy and legislation changes also arose from internal pressures of Indigenous advocacy, resistance, and political action to meet international standards of Indigenous Rights recognition. For example, leveraging national and international discourses and policy changes, the Mapuche shaped changes spanning the Andes, changing Chile's legislation to recognize protected area co-management, while in Argentina they advocated and developed co-management arrangements for Lanin and Nahuel Huapi National Park (Sepulveda and Guyot, 2016). Other initiatives were preceded by Indigenous-led projects and institutions that led to IPCA initiatives recognized by the state (e.g. the Wemindji Protected Area Project by the Cree Nation in Quebec, Canada, Mulrennan et al., 2012; Chinantec organizations in Oaxaca, Mexico, Bray et al., 2012). There were various formal and informal state mechanisms for recognizing and supporting IPCAs (Table 3). Mexico, for instance, has legislative designations for 'Voluntary Conserved Areas', where designation is applied and removed through a state-led process initiated by Indigenous groups and local communities (Ibarra et al., 2011; Bray et al., 2012).

Table 3. The existence of formal and informal mechanisms for recognition and support of Indigenous Protected and Conserved Area initiative types by country. Italicized initiative types are terms used by literature authors. Countries with an asterisks (*) were described to have legislation allowing for Indigenous Title and/or Rights over land and/or natural resources.

Region	Country	Initiative types	Formal	Informal	None	Unspecified
Africa	Ethiopia	Traditional Territories/conserved landscapes			✓	
	Ghana	Sacred forests/groves		✓		
	Morocco	Agdals				✓
	Nigeria	<i>Indigenous and Community Conserved Areas</i>				✓
	Senegal	<i>Indigenous and Community Conserved Areas</i>	✓			
	South Africa*	Co-management of national parks	✓			
Asia	China	<i>Indigenous and Community Conserved Areas</i>				✓
	India	Sacred forests/groves	✓			
	Malaysia*	Native reserves	✓			
		Sacred sites <i>Indigenous and Community Conserved Areas</i>	✓		✓	
	Nepal	Sacred valleys or Beyuls			✓	
		Sacred natural sites			✓	
		Community-managed forests			✓	
		Community-managed rotational grazing systems/grassland commons			✓	
		<i>Indigenous and Community Conserved Areas</i> <i>Indigenous conserved Territories</i>			✓	
	Philippines*	<i>Indigenous and Community Conserved Areas</i>	✓			
Taiwan	<i>Traditional agricultural/conserved landscapes</i>				✓	
Australia/ New Zealand	Australia*	Co-management of national parks	✓			
		Co-management of state parks	✓			
		Indigenous Protected Areas	✓			
New Zealand	<i>Traditional agricultural/conserved landscapes</i>				✓	
North America	Canada	Biodiversity reserves	✓			
		Co-management of national parks	✓			
		Co-management of state parks	✓			
		Tribal Parks			✓	
		<i>Indigenous and Community Conserved Areas</i>				✓

Table 3 (cont'd). The existence of formal and informal mechanisms for recognition and support of Indigenous Protected and Conserved Area initiative types by country. Italicized initiative types are terms used by literature authors. Countries with an asterisks (*) were described to have legislation allowing for Indigenous Title and/or Rights over land and/or natural resources.

Region	Country	Initiative types	Formal	Informal	None	Unspecified	
North America	Mexico*	Áreas Comunales Protegidas (protected communal areas)			✓		
		Áreas de Conservación por Manejo Forestal (Forestry management protected areas)	✓			✓	
		<i>Areas for Payment for Ecosystem Services</i>	✓				
		Reservas Comunitarias Certificadas (Voluntary conservation areas; certified community reserves)	✓				
		Sitios Naturales Sagrados (Sacred natural sites; SNS)					✓
		Unidades para la Conservación, Manejo y Aprovechamiento Sustentable de la Vida Silvestre (UMAS; Wildlife management areas)					✓
South America	USA	Co-management of national monuments	✓				
		Tribal Parks		✓			
	Argentina	Co-management of national parks	✓				
	Bolivia*	Co-management of biosphere reserves	✓				
		Co-management of national parks				✓	
	Brazil*	Indigenous reserves/territories	✓				
	Chile	Co-management of national parks	✓				
		<i>Private protected areas</i>			✓		
	Colombia*	Co-managed national parks	✓				
		Indigenous Territories				✓	
	Ecuador	<i>Sacred sites</i>				✓	
	Panama	Indigenous Territories				✓	
	Peru*	Biocultural heritage sites; Traditional agricultural/conserved landscapes					✓
Territory/communal reserves		✓					
	<i>Traditional agricultural/conserved landscapes</i>				✓		

Agreements between state and Indigenous Peoples preceding recognition and support could be created through combinations of legislation and voluntary and/or lease agreement (e.g. contract arrangements that may or may not be legally binding). For example, IPAs in Australia are facilitated by voluntary, formal agreements with the Australian government and provided funding without legislative recognition (Thackway and Brunckhorst, 1998; Muller, 2003; Langton et al., 2005; Zeng and Gerritsen, 2015). Informal support through shared values of communities and authorities have helped maintain community control in places such as sacred sites in Ghana (Bossart and Antwi, 2016). Relationships with local state-park managers in Nepal has allowed for informal, local state support and resources towards management (Stevens, 2013). There can also be differences between official recognition and support mechanisms compared to jurisdictional categorization or designation. For instance, though Canada has co-management arrangements with First Nations for some national parks (Kothari, 2008), there is no unique designation given to these areas within Canadian legislation. In contrast, Chile has legislation that recognizes co-management arrangements within protected areas, but official use of this designation has been limited (Sepulveda and Guyot, 2016).

In certain countries, IPCA initiatives were supported indirectly through additional legislation, policies, and programs. Such indirect support included state court decisions that upheld Indigenous Rights and Title (e.g. a Supreme Court decision that preceded the development of the Tla-o-qui-aht Tribal Parks in Canada, Murray and King, 2012; Murray and Burrows, 2017), technical/advisory support for management plan development and implementation (e.g. the US National Park Service assisted in the development of the Monument Valley Tribal Park Plan, Sanders, 1996), reports and other state publications that have promoted the inclusion of Indigenous People within conservation initiatives (e.g. Bornean Biodiversity and Environmental Conservation Programmes in Malaysia, Vaz and Agama, 2013), and state registries for sacred sites and other culturally important areas (e.g. Northern Territory Aboriginal Sacred Sites Act 1989, Muller, 2003; Smyth, 2006; 2013). Australia and Mexico were the only countries identified to have additional programs to support IPCA initiatives via direct economic and educational opportunities for Indigenous Peoples to participate in conservation initiatives. Australia's Working on Country Program provides training and employment to Indigenous Peoples to work as park rangers (Ross et al., 2009; Preuss and Dixon, 2012; Smyth and Jaireth, 2012; Davies et al., 2013; Moritz et al., 2013). Mexico's Payment for Ecosystem Services Program provides compensation for areas set aside for conservation directly to land-owners, who can be Indigenous (Ibarra et al., 2011; Bray et al., 2012; Reyes-Garcia et al., 2013; Mendéz-López et al., 2014; Denham, 2017).

Partnerships with other external actors, such as NGOs, academic researchers, and industry have also supported IPCA initiatives, directly through funding and indirectly through support roles (e.g. advisory roles). For example, Mulrennan et al. (2012) described how their partnership with the Cree Nation through the Wemindji Protected Areas Project was able to contribute to the Cree Nation's aspirations for protected and conserved areas within their Territory. Partnerships could

also assist in capacity building for management and monitoring, particularly funding. For instance, La Raíz del Futuro was initiated through support of a local NGO and funding from a British program (Reyes-Garcia et al., 2013). Partnerships likewise enabled and promoted participation in state-supported IPCA initiatives, such as in many Chinantec communities in Oaxaca, Mexico (Bray et al., 2012).

There was a wide range of timeframes described for IPCAs to progress from creation, through engaging with external actors, to achieving (if any) external recognition and support. For example, the first areas of the Tla-o-qui-aht Tribal Parks were declared by the Tla-o-qui-aht First Nation in the 1980s (Murray and King, 2012; Murray and Burrows, 2017). Yet, despite improved engagement with industry actors in the years since, without formal legal recognition of the IPCA by the government of Canada, the security of industry agreements and conservation achievements remains ambiguous and insecure (Murray and King, 2012; Murray and Burrows, 2017). Australia's IPA program began only in areas with recognized Indigenous ownership, which required Indigenous organizations to seek tenure before establishing an IPA (e.g. land tenure was obtained in 1993 before establishing Den Maar Indigenous Protected Area in 1999, Wallis, 2010). Makuira National Park was declared by the state in 1977 but the area (and parts of the surrounding peninsula) became state recognized as Wayúu Territory in 1984; however only decades later did co-governance negotiations occur in 2004 to 2006, and official agreements signed were signed in 2011 for establishing co-governance (Premauer and Berkes, 2015)

Successes and Challenges

Successes

Most articles (57 of 58, 98 %) mentioned successes or benefits from IPCA initiatives. We grouped these into three themes: political, socio-cultural, and ecological (Figure 1 and Table 4). Themes within political and socio-cultural categories related to creating equity for Indigenous Peoples and marginalized demographics via increasing political capital, promoting social justice, and capacity building across various scales. By facilitating opportunities for capacity building (e.g. funds to support Indigenous aspirations, Davies et al., 2013), IPCAs elevated Indigenous governance and management in IPCAs and beyond. Indigenous Peoples used IPCAs to increase political influence and external recognition of Rights and Title within and beyond IPCAs boundaries through creating multi-scale and sector partnerships (e.g. management of Dhimurru Indigenous Protected Area, Langton et al., 2005; Smyth, 2015) and promoting social capital between actors, through developing respect, trust, and reciprocity (e.g. between the Wayúu and state organizations in Makuira National Park, Premauer and Berkes, 2015). For instance, hybrid approaches utilizing TEK and western conservation science in management created external respect for Indigenous institutions and traditional land management within western conservation (e.g. Thackway and Brunckhorst, 1998; Preuss and Dixon, 2012; Hitchcock et al., 2015; Murray and Burrows, 2017).

IPCA facilitated increased agency of Indigenous Peoples for self-determination by providing opportunities and support for Indigenous individuals, families, to larger social scales. Individuals benefited from IPCAs, for example, through increased economic and livelihood opportunities (e.g. creating employment within Monument Valley Tribal Park management, Sanders 1998) and subsequent improved health and well-being (e.g. through fostering financial independence and better access to traditional foods, Smyth and Jaireth, 2012). Across social scales, IPCAs also fostered cultural revitalization and resurgence by providing opportunities to continue customary practices and (re)invigorating others (e.g. containing culture camps that facilitate traditional activities on the land and sharing of that knowledge, Shultis and Heffner, 2016).

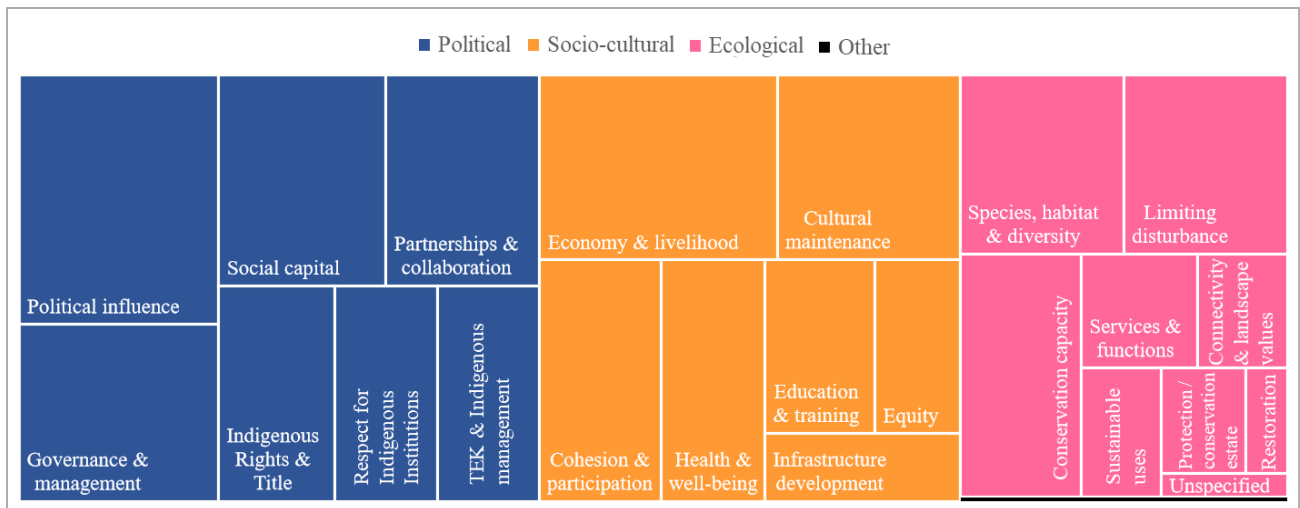


Figure 1. Themes of successes and benefits of Indigenous Protected and Conserved Areas, by broad categories: political (relating to politics), socio-cultural (relating to individuals and groups within societies or its organization), ecological (relating to the natural environment). ‘Other’ includes any benefits not mentioned in the other themes. Box sizes are proportional to the relative frequency of appearance within the literature review. For box size reference, the most frequent theme ‘political influence’ was mentioned in 34 papers.

Table 4. Common themes of political (relating to politics), socio-cultural (relating to individuals and groups within societies and its organization), ecological (relating to the natural environment) successes and benefits of Indigenous Protected and Conserved Areas, with examples from the literature. Numbers correspond to references in Table A4.

Themes	Example from literature
<i>Political</i>	
Governance and management	Obtained funds to support Indigenous Territory-based aspirations ⁹
Partnership and collaboration	Established working partnerships with tourism and logging companies ³¹
Political influence	Shift from consultation to shared decision-making over protected areas ⁷
Respect for Indigenous institutions	Acknowledged resiliency of Indigenous Peoples and their institutions ⁶
Rights and Title	Ensured recognition of Rights over Territory ¹⁵
Social capital	Created trust, reciprocity, and respect in cross-sector partnerships ³⁴
TEK and Indigenous management	Management principles and policies derived from traditional teachings ³²
<i>Socio-cultural</i>	
Cohesion and participation	Lowered conflict between local user groups ¹¹
Cultural maintenance	Supported preservation of cultural heritage ⁵⁵
Economy and livelihood	Increased employment for Indigenous Peoples ⁴²
Education and training	Created professional development opportunities for local rangers ³⁵
Equity	Promoted social justice ²²
Health and well-being	Promoted spiritual, collective, and intergenerational well-being ¹⁶
Infrastructure development	Provided resources to build traditional houses and a school ⁴¹
<i>Ecological</i>	
Connectivity and landscape values	Enhanced conservation linkages with surrounding protected areas ⁵⁷
Conservation capacity	Created legal support for conservation at multiple levels ²⁸
Limiting disturbance	Prevented habitat loss from mining, logging, and oil extraction ¹³
Protected and conserved area estate	More area under protection than state-led protected areas ²⁴
Restoration	Regeneration of native plants ¹¹
Services and functions	Conservation of land and water ecosystem services ²
Species, habitat, and diversity	Created refuge for endangered, threatened, and vulnerable species ⁴⁶
Sustainable uses	Balancing well-being in ecological limits ²⁰

IPCAs provided tangible benefits towards ecological conservation, particularly the conservation of species, habitat, and biodiversity. Directly securing resources (e.g. funding for conservation actions, Martin et al., 2011) and fostering monitoring and research (e.g. Paakumshumwaau-Maatuskaau Biodiversity Reserve, Mulrennan et al., 2012) helped IPCAs to protect, conserve, and manage ecological issues, and to regulate development to support conservation of species and habitats. IPCA initiatives directly protected threatened and culturally significant species (fish species important for livelihoods, Cormier-Salem, 2014) and habitat (e.g. preventing mining, oil, and forestry extraction in the Pilón Lajas Biosphere Reserve and Indigenous Territory Gambon and Rist, 2017), as well as promoted restoration (e.g. return of native plants in Nantawarrina Indigenous Protected Area, Muller, 2003). Across larger geographic scales, IPCAs also increased the protected area estate (e.g. more than half of the protected areas are IPAs in Australia, Smyth, 2006) and created connectivity or promote large landscape scale conservation linkages (e.g. Bundu Tuhan Native Reserve in Malaysia, Vaz and Agama, 2013)

Challenges

Many articles (57 of 58, 98%) also mentioned challenges facing IPCA initiatives, from the past, present, and anticipated in the future. Some challenges had been overcome, while others were ongoing. Challenges were more diverse than successes, and often case-dependent. Our analysis grouped challenges into four themes: those related to IPCA management directly, those related to state institutions, partnerships and collaboration with external actors, and other external forces (Figure 2 and Table 5).

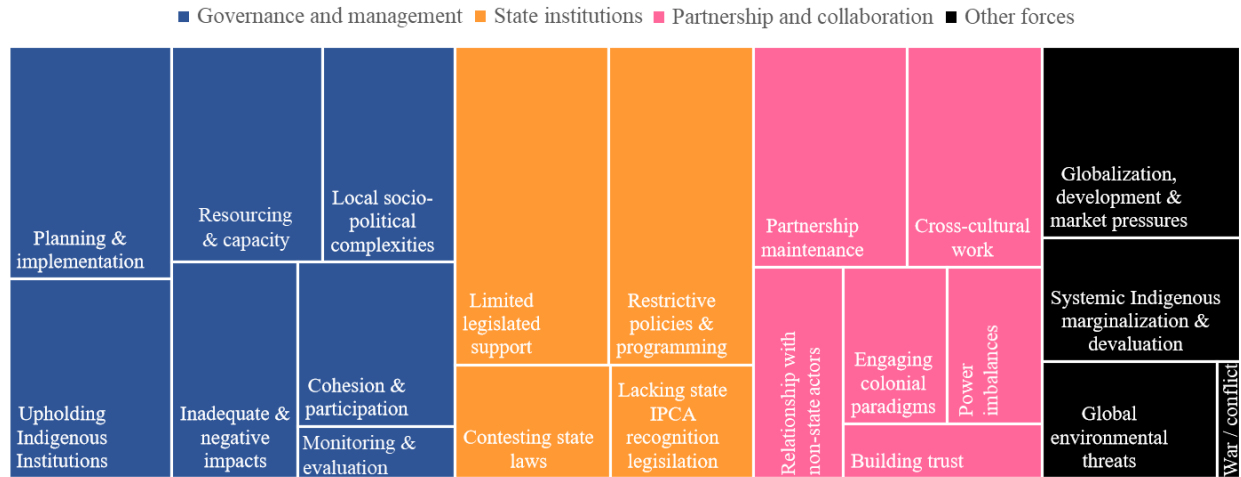


Figure 2. Themes of challenges faced by Indigenous Protected and Conserved Areas (IPCAs), by broad categories: governance and management (relating directly to the governance and/or management of the area), state institutions (challenges directly resulting from state policies and legislation), partnership and collaboration (arising from partnership and collaboration for the support, recognition, and/or management of an IPCA), and other forces (additional challenges not belonging to the previous three categories). Box sizes are proportional to the relative frequency of appearance within the literature review. For box size reference, the most frequent theme ‘limited legislated support’ was mentioned in 36 papers.

Table 5. Common themes regarding challenges faced by Indigenous Protected and Conserved Areas (IPCAs) by broad category: governance and management (relating directly to the governance and/or management of the area), state institutions (challenges directly resulting from state policies and legislation), partnership and collaboration (arising from partnership and collaboration for the support, recognition, and/or management of an IPCA), and other forces (additional challenges not belonging to the previous three categories), with examples from the literature. Numbers correspond to references in Table A4.

Themes	Example from literature
<i>Governance and management</i>	
Resourcing and capacity	Lack of funding cultural management activities ¹⁰
Cohesion and participation	Disputes within communities regarding management goals ⁵
Inadequate and negative impacts	Limiting livelihood practices ¹⁷
Local socio-political contexts	Existing local gender inequalities and power dynamics ¹²
Monitoring and evaluation	Need for more baseline monitoring of cultural and natural values ¹⁶
Planning and implementation	Addressing different Indigenous member groups' distinct values and aspirations ⁵⁸
Upholding Indigenous institutions	Erosion of cultural values ⁴⁵
<i>State institutions</i>	
Contesting state laws	State-retained legal power over selling, leasing, and renting communal property ²⁴
Lacking state IPCA legislative recognition	Inadequate recognition/respect for IPCA in national legislation ⁵¹
Limited legislated support	Lacking state-supported legal ability to enforce compliance ⁵⁴
Restricted policies and programming	Lacking guidelines for equitable treatment of Indigenous law and culture ¹⁵
<i>Partnerships and collaboration</i>	
Building trust	History of distrust, grievance, tension, and conflict ²
Cross-cultural work	Bridging understanding across epistemologies ³⁴
Engaging in colonial paradigms	Perpetuating colonial practices such as restricting land access ⁷
Partnership maintenance	Reconciling diverging objectives/values in partnerships ³²
Power imbalances	Lack of autonomy with certain management decisions ²²
Relationships with non-state actors	Lack of multi-sector cooperation ²
<i>Other forces</i>	
Globalization, development, and market pressures	Increased tourism pressure ⁵⁶
Multi-scale environmental threats	Impacts of natural disasters, overgrazing, and invasive species ²⁸
Systemic Indigenous marginalization and devaluation	Blaming Indigenous traditional practices for conservation/biodiversity decline ¹⁷
War and armed conflict	Civil war ⁸

IPCA governance and management faced challenges at many levels. When planning and implementing IPCAs, managers had to balance diverse rights and interests of Indigenous members (e.g. La Raíz del Futuro, Ruiz-Mallén et al., 2014), including members living outside IPCA boundaries or Traditional Territories (e.g. Adnyamathanha Indigenous Protected Area, Langton et al., 2005). Additionally, equitable sharing of benefits within communities could be limited by existing local divisions and power dynamics. Often, marginalized groups within communities, such as women, experienced fewer benefits from IPCA initiatives because governance and/or management typically remained with male community or household members

(e.g. male-only tribal assembly managing Morocco's agdals, Dominguez and Benessaiah 2017). Governance and management capacity were also hindered by many forces. Past and current colonial injustices (e.g. forced separations of people from Territory, Carroll, 2014) have meant that Indigenous Peoples had to, and must still, work towards maintaining and rebuilding Indigenous institutions, such as intergenerational knowledge transfer (e.g. passing on knowledge about the existence of beyuls in Nepal, Skog, 2017) and customary or religious values and practices (e.g. regarding sacred groves in India, Sinha, 1995). Allocating resources directly to managing IPCAs areas also was commonly a challenge. Notably, almost a quarter of the literature (14 of 58, 24%) indicated lack of funding as a challenge for IPCA management. Limited capacity among Indigenous governments and/or managers are reflected in the limited/lack of monitoring and evaluation frameworks for social-ecological benefits and management effectiveness in IPCAs. Without sufficient monitoring or reporting on indicators and outcomes, it is difficult to evaluate whether IPCAs are achieving success in their conservation and social goals, or the timeframes to do so (e.g. Australia's IPA Program, Muller, 2003; Ross et al., 2009; Zeng and Gerritsen, 2015).

State institutions such as legislation, policies, and programs cause challenges for Indigenous organizations and IPCA management bodies, particularly where there exists no state-recognized legislation for IPCAs. In fact, approximately 20% (12 of 58) of the literature mentioned the lack of, and the need for, state-recognized IPCA legislation as a major challenge. For example, obtaining Quebec-recognized legislative designation was the only way to have the Wemindji protected areas in Cree Nation Territory protected against the state-sanctioned mining laws (Mulrennan et al., 2012). Even with official support from the state, those and other legislations, policies, and programs can also create additional challenges, particularly if they do not reflect Indigenous Peoples' views of their Rights and responsibilities to Territory. Lack of adequate recognition and respect of Indigenous Rights and Title within states was frequently cited (15 of 58, 26 %) as a substantial challenge facing these initiatives. Where state institutions and policies challenge Indigenous relationships and responsibilities on Territory, Indigenous participation and engagement with state actors and programs can be limited (Kothari, 2008). For example, Ibarra et al. (2011) mentioned an IPCA initiative in Santiago Lachiguiri, Mexico, where a Zapotec community decided to cancel its 'Voluntary Conservation Area' state designation and refuse payment for ecosystem services because the emphasis on conservation impeded on subsistence uses of the land. Even in places with official state legislation or policies that support and recognize IPCAs, there are sometimes other legislation and policies that directly conflict with Rights and Title and other Indigenous aspirations. Bolivia, for example, had legislation that allows for Indigenous Title through establishment of Indigenous Territories, but there is also legislation that allows private property purchases to occur within them (Gambon and Rist, 2017). Legislation for state-recognized title could be limited in extent (e.g. to top soil only in Bolivia, Gambon and Rist, 2017) or difficult to obtain (e.g. in marine environments in Australia Hitchcock et al., 2015), which can contradict Indigenous views and aspirations of Territory.

Partnership and collaboration with external actors sometimes came at a cost of added burden to the capacities of partnering organizations and IPCA managers. Collaborative partnerships required additional resources (i.e. time and funding) to manage diverging goals and objectives and resulting tensions (e.g. Red Cliff Band and multi-sector representatives governing Frog Bay National Tribal Park, Carroll, 2014). These resources were also needed to work across knowledge systems with customary and western approaches (e.g. Tr'ondëk Hwëch'in and Canadian approaches to managing Tombstone Territorial Park, Shultis and Heffner, 2016), and improve awareness of the value of Indigenous institutions in conservation (e.g. in Southern Tanami Indigenous Protected Area, Preuss and Dixon, 2012). Further resources were also sometimes used to satisfy bureaucratic processes (e.g. state funding bodies for Northern Tanami Indigenous Protected Area, Davies et al., 2018). Distrust of state organizations and their representatives because of colonial impacts was an issue, particularly for initiatives that required collaboration with state organizations (e.g. Nantawarrina Indigenous Protected Area, Langton et al., 2005) or participation in state-recognized programs (e.g. Mexico's Voluntary Protected Areas program, Denham, 2017). Collaborating with state and other non-Indigenous organizations was seen by some as a 'colonial entanglement': it can provide access to state support and resources but at the same time requires sacrificing certain levels of self-determination (Dennison, 2012; Carroll, 2014).

IPCAs also faced common worldwide environmental threats. These threats include climate change (Ross et al., 2009; Kothari et al., 2013; Stevens, 2013; Ruiz-Mallén et al., 2017), invasive species (Singh and Kushwaha, 2008; Moritz et al., 2013), tourism/recreation impacts (e.g. Monument Valley Tribal Park, Zeman, 1998), and globalization and market pressures for increasing and encroaching development/resource extraction (e.g. Sinha, 1995; Licona et al., 2011).

Lessons and Recommendations

Through review and analysis, which cross-referenced common themes from our research objectives with lessons identified in the literature, we arrived at recommendations directed towards Indigenous, state and other external actors (e.g. researchers, NGOs, industry, etc.) to improve existing and future IPCA initiatives.

Beyond IPCAs

The literature demonstrates links between IPCAs and the broader issues of systemic, socio-political, and colonial relationships between Indigenous People and state and other actors that continue to marginalize Indigenous Peoples, even in cases where Indigenous Peoples establish IPCAs outside of state policies and legislation. For example, while the lack of tenurial security and defined authority within state laws can be both beneficial and challenging to Indigenous initiatives (Murray and Burrows, 2017), state-recognition and external partnerships can be challenging to consider for Indigenous organizations, because states might limit Indigenous

decision-making and can potentially uphold colonial practices (Muller, 2003; Hitchcock et al. 2005; Berkes, 2009; Ibarra et al., 2011; Smyth and Jaireth, 2012; Davies et al., 2013; Carroll, 2014; Gambon and Rist, 2017) Also, IPCA development may not shift colonial practices and values at larger socio-political scales (e.g. Muller, 2003; Ross et al., 2009; Carroll, 2014). This power dynamic cannot be ignored. Building equity and trust for effective collaboration in conservation requires Indigenous and especially state and external organizations to invest time and resources (Kothari et al., 2013). These resources can include investment in building Indigenous capacity/institutions (Ross et al., 2009) and reflecting Indigenous worldviews in state policy/legislation through mechanisms that respect their roles in land/sea management within their traditional Territories (e.g. supporting large-scale territory planning across state-recognized tenures, Smyth, 2015). Various international conventions and human rights treaties such as UNDRIP and the International Labor Organization Convention 169 on Indigenous and Tribal Peoples (2019) relate to IPCAs. Thus, efforts from all actors to apply these frameworks and promote discourse in supporting the value and visibility of Indigenous Rights and Title is needed not only for IPCAs and conservation, but for human rights equity (Stevens, 2010; 2013). Supporting Indigenous-led efforts for upholding their Rights and (re)connection to traditional Territories, as well as greater efforts to reconcile colonial injustices, can create powerful alliances for IPCAs. A thorough articulation and exploration of the extensive systemic changes needed to uphold Indigenous Rights, Title and Territory responsibilities is beyond the scope of this paper.

Recommendations for IPCA support and recognition

In this section, we present six recommendations for actors interested in developing and supporting IPCAs. The recommendations are derived from our analysis, and supported by the common lessons described in the reviewed literature.

1. States and external actors should provide functional pathways through policies, legislations, and resources, to support and recognize IPCAs, as defined by Indigenous Peoples.

With state support for IPCAs, involved actors can more effectively distribute their resources to achieve conservation goals. One major benefit of the IPA program for the Australian government was that collaborating with Indigenous land owners meant creating protected areas without the need for state purchase of the land (Smyth, 2006). Recognition leading to more areas under protection can improve landscape connectivity and abilities to establish protected area networks (Kothari, 2008). Functional political, regulatory, and fiscal pathways to support IPCAs and recognize IPCAs are needed to overcome the siloed approaches typical of state governments and other bureaucratic organizations. Many Indigenous Peoples do not share the same distinctions as state governments between people, land, sea, and natural resources. This separation within colonial laws and policies often restricts Indigenous Peoples' abilities to manage IPCAs holistically, stretching their capacity as these Indigenous organizations expend further resources

to seek added pathways to achieve their goals (Smyth, 2015). Our analysis indicates that laws and policies which oppose or conflict with Indigenous worldviews can deter Indigenous Peoples from seeking the support and resources they need to manage IPCAs. States should expect to change multiple policies and legislations in order to effectively support IPCAs. State resources — especially funding — need to be allocated to Indigenous organizations and IPCA managers to engage with these state pathways. In fact, states providing incentives (economic and otherwise) have been used successfully to actively support Indigenous Peoples in state-recognized conservation (Berkes, 2009; Bray et al., 2012; Ruiz-Mallén et al., 2015).

2. States and external actors ought to seek and provide resources for Indigenous Peoples to lead the process in developing and improving mechanisms that establish IPCAs

Indigenous Peoples have many possible motivations for engaging in state policies and legislations. Therefore state-level recognition generally exists in contexts of diverse Indigenous Peoples, cultures, and interests where standardization is not necessarily useful or effective. Consequently, when states engage Indigenous Peoples to lead the development of state policies and legislations for IPCAs, states should create flexibility in the process and structure of these same policies and legislations. For example, Australia's IPA program allows for staged investigation and planning with the financial and technical assistance from state departments to determine the establishment of an IPA (Davies et al., 2013). Similarly, communities in Mexico can request to apply for and remove 'Voluntary Conservation Area' designation to fit changing community needs (Ibarra et al., 2011; Bray et al., 2012). Berkes (2009) and Moritz et al. (2013) emphasized that adaptability, flexibility and a variety of state and other mechanisms for support and recognition can allow for increased participation and better solutions to local social and environmental problems. When state agencies understand and consider place-based power dynamics as part of their recognition of Indigenous institutions, the result is often that IPCA initiatives are more adaptable to local conditions and able to create equitable benefits for marginalized people, such as Indigenous women (Kothari, 2008; Mendéz-López et al., 2014; Ruiz-Mallén et al., 2014, Ruiz-Mallén et al., 2017; Skog, 2017). When states engage meaningfully with Indigenous Peoples (see Beyond IPCAs section), Indigenous Peoples can use these processes to promote and maintain TEK in western conservation discourse, exercising more control over their sustainable economic futures and engagement in the global market (Smyth, 2015).

3. States and external actors should commit to creating new internal structures and/or positions to facilitate engagement and partnerships with Indigenous Peoples regarding IPCAs.

Our results suggest that Indigenous Peoples have worked simultaneously from within and outside of colonial frameworks to successfully develop IPCAs, despite the challenges created by some partnerships. The burden of improving external and colonial structures cannot remain with

Indigenous Peoples. Individuals and groups working with states and other non-Indigenous organizations need to commit resources and effect changes within their respective institutions to break down barriers and create opportunities for engagement with Indigenous Peoples in a way that minimizes the operational and institutional burden on Indigenous groups. It is important for state and non-Indigenous actors to facilitate positive engagement by approaching partnerships with Indigenous organizations with openness to forms of governance and management that work with both Indigenous and non-Indigenous approaches (Moritz et al., 2013; Preuss and Dixon, 2012). Such openness can be facilitated through the involvement of people and resources to facilitate cross-cultural learning and dialogue (Langton et al., 2005).

4. Indigenous Peoples can benefit from seeking and building partnerships, where desired and appropriate, to support and manage IPCAs.

Indigenous Peoples can achieve tangible benefits from partnering with other actors to manage their IPCAs. In some cases, partnering with state legislative agencies may increase the financial stability of IPCA management for Indigenous leaders (Smyth and Jaireith, 2012). Seeking state recognition and support can help IPCA managers to access more resources for capacity building and increase political capital for Indigenous organizations. In addition, Indigenous actors can build partnerships to leverage funding and in-kind support to achieve management goals (Davies et al., 2013), such as with philanthropic and non-governmental organizations and researchers.

Indigenous organizations embracing hybrid management approaches can benefit from both Indigenous and western conservation science and land management to create unique and adaptable management tools, such as the land use zoning with Indigenous law guiding principles in Tla-o-qui-aht Tribal Parks (Murray and King, 2012; Murray and Burrows, 2017). NGOs, academics, and non-Indigenous employees can play a role in enhancing advocacy and provide technical support for IPCAs through additional resources, increasing local capacity and participation to address local needs and achieve goals (Preuss and Dixon, 2012; Kothari et al., 2013). Organizations in partnerships can also support advocacy on behalf of Indigenous Peoples and influence policies and legislation that recognize and support IPCA initiatives (Kothari et al., 2013). Moreover, actors in external partnerships can provide ongoing cross-cultural services to enable more effective and efficient communications across different sectors (Kothari et al., 2013). Indigenous Peoples will have to consider the trade-off of various partnerships, particularly the commitment and additional resources to establish and maintain effective working relationships, which may not be feasible in all cases (Verschuuren et al., 2014). Partnerships, when desired, need to be mutually enabling without building long-term dependence on external expertise (Mulrennan et al., 2012).

5. IPCA managers and collaborators should commit resources to effectively manage and monitor IPCAs.

A lack of resources, particularly funding, described in much of the literature reflects a need for more operational support for IPCA initiatives. More research and resources are needed directly for monitoring and evaluating socio-cultural and ecological impacts of IPCAs (Brown and Kothari, 2011; Zeng and Gerritsen, 2015) in order to support their development and management. IPCAs can further be supported by conducting and facilitating planning at Territory-wide scales and depths reflective of Indigenous perspectives (Smyth, 2015). Also, IPCA initiatives strengthened by investment in on-the-ground and cross-cultural training and educational opportunities for both Indigenous and non-Indigenous collaborators, managers, and staff (Preuss and Dixon, 2012; Moritz et al., 2013; Premauer and Berkes, 2015). IPCA managers can engage multi-sector partnerships to address many challenges related to resourcing and capacity, as mentioned in the previous recommendation above.

6. IPCA managers need to be aware of local and larger scale social and environmental issues affecting their IPCAs, and take them into account for management actions within their borders.

IPCAAs have proven ecological conservation benefits (see Successes section). However, they also face the same local and global threats that impact other types of protected and conserved areas around the world. Pressure for resource exploitation, climate change, invasive species, tourism/recreation, other global and market pressures, and the cumulative impacts of these factors threaten terrestrial and marine ecosystems and protected areas around the world at scales far greater than any single territory or jurisdiction can tackle (Schulze et al., 2018; Lotze et al., 2018). Commitments and tangible efforts to address these conservation issues are required of Indigenous-led and non-Indigenous conservation initiatives alike, including in protected and conserved areas.

Conclusion

The rise in number and visibility of IPCAs has been significantly influenced by Indigenous advocacy regarding the roles and rights of Indigenous People in conservation across geographic scales. Indigenous Peoples have shown great resiliency and adaptability in working alongside and pushing against colonial frameworks to maintain and develop IPCAs. Peer-reviewed literature reflects multiple and tangible benefits of IPCAs. IPCAs can be a beneficial tool towards achieving the socio-cultural and ecological goals of various Indigenous and other organizations. While partnerships have been beneficial in these initiatives, much more work is needed to lessen the burden on Indigenous groups developing IPCAs and to shift power towards them.

Supplementing information with additional research, such as site-based research by Indigenous Peoples and co-research with non-Indigenous researcher partners can provide critical insights and more context-appropriate recommendations for specific places and peoples. Indigenous perspectives on IPCA creation, development, governance, and management are limited within

the literature, as “different researchers from different cultural backgrounds ... have different observations and perspectives” (Zeng and Gerritsen, 2015, page 26). As such, additional primary research is needed – ideally by Indigenous Peoples or through partnerships using participatory approaches (Zurba et al., 2012; Mulrennan et al., 2012) – to monitor the delivery of these initiatives on socio-cultural and ecological goals, evaluate governance and management effectiveness, investigate adequate mechanisms for bridging western and Indigenous approaches to conservation, and provide support through action-based research to assist Indigenous Peoples to achieve goals (Verschuuren et al., 2014). We are not Indigenous researchers ourselves, and while we cannot conclusively assess how many authors are or are not Indigenous, we respect the need for Indigenous voices in discourse about IPCAs. At the same time, our role is to support the work of Indigenous colleagues engaged in IPCA work by contributing to a better understanding of their initiatives. More research on “strategies and principles for the two-way approach” to cross-cultural partnerships can benefit non-Indigenous collaborators and individuals working with Indigenous organizations; their IPCAs can assist in bridging Indigenous and western knowledge (Preuss and Dixon, 2012, page 3). Future research could expand the scope of our review by: including books, book chapters, and grey literature; adding additional key search terms that encompass the various governance structures encountered in this review (e.g. shared and co-governance and management); and including literature in multiple languages.

As with other forms of protected areas, IPCAs alone will not solve the biodiversity conservation crisis (Kothari et al., 2013). Similarly, they cannot fully rectify a systemic lack of respect for Indigenous Rights and Title. However, IPCAs are one way that Indigenous Peoples are taking steps to assert their self-determination and responsibilities to lands and waters, even within colonial legacies. Actors and organizations across various sectors, including those only indirectly involved in conservation, have a role to play supporting IPCAs. Our results suggest that there is a need to move from rhetoric to more tangible action in relationships with Indigenous Peoples, particularly where they intersect with issues of conservation and stewardship of lands and waters.

Chapter 3 – “Borders don’t protect areas, people do”⁴: A collaborative case study of the development of a contemporary Indigenous Protected and Conserved Area in Kitasoo/Xai’xais Nation Territory

Introduction

Indigenous Protected and Conserved Areas (IPCAs) are garnering interest from conservation actors due to their ability to recognize and uphold the rights and roles of Indigenous Peoples in biological conservation. For example, international commitments such as the Convention of Biological Diversity (CBD) 2020 Aichi Targets include increased protected area coverage (Target 11) while also recognizing, respecting, and engaging ‘effective participation’ of Indigenous People and their institutions in conservation and restoration activities (Target 14 and 18; CBD, 2010). These targets are partly motivated by the United Nations Declaration on the Rights of Indigenous Peoples (UNDRIP; CBD, 2010). Indeed, IPCA recognition and support matters if biodiversity conservation is to uphold social justice and Indigenous Rights (Stevens, 2010; 2011; 2013; Artelle et al., 2019; Zurba et al., 2019; Tran et al., 2020). We use the term IPCA, as currently used in Canada, to refer to a suite of Indigenous-driven initiatives to protect, conserve, or steward areas where Indigenous peoples exercise agency in governance and/or management in ways that promote environmental protection/conservation (ICE, 2018; Zurba et al., 2019; Tran et al., 2020).

A recent global review of IPCAs found that few peer-reviewed academic case studies explicitly center the perspectives of Indigenous Peoples and organizations working on IPCA development (Tran et al., 2020). Such case studies are important to help states and other organizations improve support and recognition mechanisms (Tran et al., 2020), and to demonstrate models that other Indigenous organizations can adapt to advance their IPCA initiatives. Through our collaborative case study, we seek to address this gap.

Here we present the views of the Kitasoo/Xai’xais Nation (hereafter the Nation) on the rationale and process of developing an IPCA in Kitasoo/Xai’xais Territory. Our objectives were to: highlight the rationale (e.g. current gaps, motivations, and drivers) behind the Nation’s IPCA development; describe the process of IPCA planning and desired implementation process; and articulate key challenges to the Nation’s IPCA approaches plus solutions to address them.

⁴ Douglas Neasloss, Stewardship Director, Kitasoo/Xai’xais Stewardship Authority, former elected chief. Full quote on page 46.

Case Study Description

National context

Currently there are no Canada-wide legislation or policies explicitly recognizing IPCAs as a separate designation of protected area. However, individual IPCAs have been established, creating precedents for state governments to recognize Indigenous authority in protected areas (Murray and King, 2012). Some Indigenous Peoples have pursued opportunities within existing provincial/federal legal frameworks to develop co-management agreements (e.g. Gwaii Haanas National Park Reserve, National Marine Conservation Area Reserve, and Haida Heritage Site), while others have asserted IPCA governance and management outside of provincial and federal frameworks (e.g. Tla-o-qui-aht Tribal Park; Zurba et al., 2019). In 2016, the federal government established the Indigenous Circle of Experts (a working group of Indigenous conservation leaders and government officials) ‘spirit of reconciliation’ with Indigenous Peoples (ICE, 2018, p11) to investigate the potential use and support of IPCAs in meeting CBD protected area targets. These efforts demonstrate federal interest in formalized IPCA recognition and support for conservation benefits and upholding Indigenous resurgence (Zurba et al., 2019). Research focused in Canada regarding Indigenous-led conservation including IPCAs also highlight these initiatives as a key path for Canada to meet needs to support biodiversity conservation and recognition of Indigenous Rights and responsibilities (e.g. Artelle et al., 2019; Moola and Roth, 2019; Zurba et al., 2019).

Kitasoo/Xai’xais Nation Territory

Within British Columbia (BC), many Indigenous Nations – including the Kitasoo/Xai’xais Nation – have not signed treaties and therefore their Territories remain unceded and potentially subject to Aboriginal title (Tsilhqot’in Nation vs British Columbia, 2014). Kitasoo/Xai’xais Territory spans approximately 13000 square kilometers of land and sea in a region known as the Great Bear Rainforest (GBR; Figure 1). This Nation arose from two distinct tribal groups that came together in the mid 1800s: the Kitasoo whose linguistic heritage is Sgüüxs (Southern Tsimshian), and Xai’xais whose linguistic heritage is Xai’xais (North Wakashan). In spite of intergenerational traumas caused by past and ongoing colonial practices and policies (see TRC, 2015), Kitasoo/Xai’xais culture, governance, and relationship to Territory remain strong and resilient (Ban et al., 2019; 2020). Due to Kitasoo/Xai’xais stewardship, much of the Nation’s Territory remains undeveloped and relatively intact despite increasing developmental and environmental degradation pressures. The Nation’s culture and economy remain closely linked to land and sea in part through businesses and partnerships in ecotourism, fisheries, and forestry sectors. The Kitasoo/Xai’xais Stewardship Authority (KXSA) is the Nation’s key stewardship entity, responsible for planning and management of the Territory and natural resources, including protected and conserved areas. KXSA advises and supports Nation decision-making while upholding Kitasoo/Xai’xais values and advocating for recognition of Kitasoo/Xai’xais title, rights, and law.

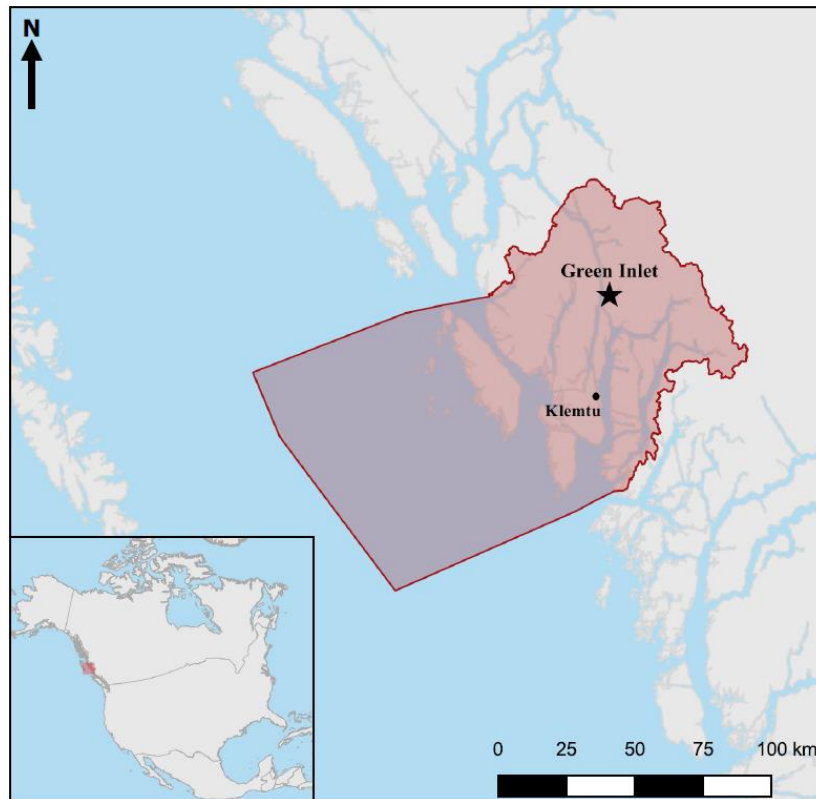


Figure 2. Overview of Kitasoo/Xai'xais Nation Territory (red shaded area). The star indicates the location of the proposed land-and-sea Green Inlet Indigenous Protected and Conserved Area (IPCA). The boundaries of the Green Inlet IPCA at the time of publication has yet to be finalized and therefore not available.

During the late 1990s, conflict and protest over GBR land use and protection arose due to substantial increases in industrial logging. Led by Indigenous Nations within the GBR, over two decades of negotiations between Indigenous and Canadian governments, international environmental non-governmental organizations, and the forestry industry led to several agreements in 2006 and 2009 (e.g. the Coast Land Use Decision, Land Use Objective; see Government of BC, 2020). These agreements, which included the creation of the Conservancy designation also led to the establishment of the provincial Great Bear Rainforest (Forest Management) Act and Great Bear Rainforest (Land Use) Order in 2016 (Government of BC, 2020). these agreements have been touted as a social and ecological success: they established funding for First Nation monitoring and planning work in their Territories, are centered around ecosystem-based management, and has led to the formalization of numerous protected areas across the GBR (see Turner and Bitoni, 2011; Curran, 2017). However, there remain many issues and gaps in the implementation of the GBR Agreements, leading to interest in IPCA development in the region.

Methods

We used multiple approaches to represent local and Indigenous voices and knowledge in the IPCA development process. Our participatory action research included co-generation of our research questions, data collection methods, and analysis (Chilisa, 2012). The Nation has been engaging in long-term initiatives to protect and manage the Territory, in which IPCAs are one route. As such, our collaboration (KXSA and University of Victoria) has been created to assist in these efforts. Here we focus on a proposed IPCA for an area currently known as Green Inlet (Figure 1). While Conservancies were a ground-breaking development in its time, the designation does not meet the Nation's socio-cultural and ecological goals for Green Inlet. As such, the Nation is building on Conservancies to seek alternative protected area models. The BC government is interested in identifying designations and management options with the Nation for parts of Green Inlet under its jurisdiction. Our collaboration is aimed at furthering the Nation's IPCA process while sharing its experiences in a way that can benefit other Indigenous organizations and interested IPCA supporters. Specifically, we considered the collaboration as an emergent process that influenced which methods, we used to gather information for this research (Chilisa, 2012). Consequently, we also directly contributed to the IPCA planning process by informing and receiving reflection/feedback from Nation members, which in turned influenced community deliverables (e.g. management planning documents). Figure A2 provides an illustration of our research process.

In this collaboration, we used document analysis, semi-structured interviews (see Appendix B for interview questions), community engagement efforts, and informal interviews and discussions among KXSA staff. The purpose of the document analysis was to gather information from past and ongoing Nation projects relevant to IPCA planning, to help university researchers position this collaboration within broader processes happening in Kitasoo/Xai'xais Territory, and ensure that we would complement and build on the Nation's existing work. Documents reviewed related to broader Territory management, governance, and Kitasoo/Xai'xais law; previous work by the Nation around IPCA models; as well as past and ongoing references to Green Inlet in various media, such as interviews, maps, historical documents, and scientific inventory/research. We also reviewed public documents (e.g. government reports) that relate to Green Inlet, such as species reports and protected area policies.

The purpose of interviews and community engagement was to gather diverse perspectives on the motivations and aspirations for this IPCA, and to maintain transparency, educate, and obtain community feedback about the IPCA planning process. We conducted 19 semi-structured interviews with 21 people between June 2018 and August 2019. Interview participants held key, sometimes multiple, roles with the Nation including: hereditary chiefs, high-ranking ladies, elders, knowledge holders, Kitasoo/Xai'xais leaders and KXSA staff. As of January 2020, KXSA staff has led three separate community outreach and engagement events: one where KXSA co-authors collaborated with the local high school to engage youth, and two others that

were open to all Nation members. Two of these engagements brought adults, youth, knowledge holders, and KXSA staff to Green Inlet to share and learn about its cultural and ecological importance, and to discuss the desire for an IPCA. The final event was part of KXSA's annual presentations to Nation members in Klemtu.

We used three analyses to derive our results for this case study: coding interviews and documents, active participation in the development of Green Inlet IPCA planning documents and author reflection throughout the process. Using NVivo software (Bazeley and Jackson, 2007), we summarized information from interviews and documents for each of our research objectives (i.e., rationale; desired management directions; and perceived challenges and potential solutions).

Results

To describe the Nation's rationale behind IPCA development, we grouped results into three main thematic categories: (1) building upon ongoing processes, (2) limitations of current protected areas designations and opportunities to address these with an IPCA, and (3) the specific socio-cultural and ecological values in Green Inlet. We then outlined the Nation's key stages in the IPCA planning process, followed by the Nation's vision for IPCA implementation and management. We highlight the Nation's key challenges regarding IPCA goals and their approaches to addressing them. We use the past tense to report results from interviews and documents, and the present tense when describing actions and processes that are ongoing. Unless otherwise noted, the information below comes from interviews and documents reviewed.

It is through the generosity of Nation members and staff that we can share their story; we honour and respect their voices and investment in this and ongoing work towards a Green Inlet IPCA by including quotes from interviewees (with permission) to illustrate key findings.

Rationale for developing an IPCA

1. Building upon ongoing processes

Several important historical and ongoing processes and mechanisms led to the desire and opportunity to develop the Green Inlet IPCA. We group them into three main categories (summarized in Table 1): foundational values of Territory stewardship, changing political climates and moving forward from the GBR Agreement, and growth and recognition of the Nation's contemporary stewardship capacity. KXSA advisor Evan Loveless summarized:

“Our IPCA planning is an iteration of how we've been moving along with protected area management and engagement with governments... The original Conservancy designation was at a certain time and we've been working on those plans and processes, and trying to push the boundaries... We're just at another state now, partly because of our capacity... the

frameworks that we have to build upon... the political climate, UNDRIP, the economy. There's lots of reasons why we can have this discussion.”

Table 1. Summary of broad-scale processes influencing the development of Indigenous Protected and Conserved Areas (IPCAs) in Kitasoo/Xai’xais Nation Territory.

Process/Mechanisms	Influence
Foundational values of Territory Stewardship	-Territory-wide planning processes to guide protected area establishment and management directions -Meeting contemporary stewardship mandates and objectives -Concern for cultural and ecological preservation of important areas and resources because of increasing development after colonization -Desire for protection of culturally and ecologically important areas for future generations
Changing political climates and moving forward from the Great Bear Rainforest Agreements	-Funds for local and regional Indigenous stewardship institutions -Creation of protected areas and multi-sector/government discussion tables on protected area management -Precedence of provincially supported land-use planning mechanisms that are flexible/adaptable to specific Indigenous Nations’ values -Political capital for pathways to recognize Indigenous Rights and responsibility in conservation -Interest in IPCAs from state governments
Growth and recognition of stewardship capacity	-Capacity to demonstrate effective leadership in contemporary stewardship of protected areas -Respectful and effective working relationships with multiple actors influencing areas and resources -Cultivation of respect for Indigenous worldview, approaches, and knowledge

a. Foundational values of Territory stewardship

Kitasoo/Xai’xais are interested in developing IPCAs because stewardship and conservation are foundational values within the Kitasoo/Xai’xais worldview. Stewardship is tied to Kitasoo/Xai’xais traditional forms of governance (e.g. hereditary chief system), wherein individuals are responsible for conserving specific areas to support human and non-human populations for current and future generations. KXSA follows guidance from contemporary and traditional institutions (e.g. hereditary chiefs and high-ranking ladies, elders, steering committees, land and marine use documents) to manage and conduct projects, including protected area planning and management, to uphold values of stewardship, conservation, and sustainability.

There is a crucial link between cultural and ecological conservation, especially for future Kitasoo/Xai’xais generations (Kitasoo/Xai’xais Nation, 2000; 2011; Kitasoo/Xai’xais Nation, and University of Victoria 2018). Since colonization, generations of Kitasoo/Xai’xais have expressed concern around the growing pressures on their areas and resources, and how those pressures impact their relationships with their Territory. As stated by elected and soon-to-be hereditary chief *Git’kon* Roxanne Robinson: “When we're trying to protect the land and ocean, it is for the future generation... to experience the way we've lived for thousands of years”.

b. Favourable political climates and moving forward from GBR Agreements

The GBR Agreements are a critical step towards having First Nation decision-making recognized externally by other governments, industries, and organizations with vested interests in the region. They offer flexible policies and legislations for diverse First Nations to apply their specific values and aspirations to influence land-use, including by creating Conservancies. KXSA chose Green Inlet to establish a protected area on advice from its stewardship board and elders during these negotiations. Green Inlet, along with 7 other areas in other First Nation territories, were placed under a Special Forest Management Area (SFMA) designation under provincial law under the *Great Bear Rainforest (Forest Management) Act* (Government of BC, 2016). This designation prevents forestry development until First Nations and BC decide how conservation will manifest. Since the GBR Agreements, regional and national discourse around Indigenous resurgence and state-Indigenous reconciliation, including interest in IPCAs, has continued to grow. Most recently, BC was the first Canadian province to adopt legislation to recognize UNDRIP (Government of BC, 2019). This momentum has accelerated the Nation's efforts to formalize IPCA planning efforts and seek active engagement of provincial and federal governments in the process.

c. Growth and recognition of stewardship capacity

Since the GBR Agreements, the Nation has significantly increased its capacity to monitor, manage, and collaborate in protected area management, garnering respect and recognition from other agencies. For example, because of limited scientific research/monitoring by provincial and federal governments within the GBR, KXSA has invested extensively in research programs in partnerships with various organizations and academic institutions. Research guided by KXSA centers and respects Indigenous and Local Ecological Knowledge, demonstrating the legitimacy of the Nation's depth of ecological knowledge and understanding. For example, science coordinator Christina Service described KXSA's interdisciplinary approaches to bridge various knowledges and ecological data on grizzly bear movement:

“Our bear inventory methods include standard scientific approaches, but also observational data from local Kitasoo/Xai'xais people. Initially, it was challenging for the provincial government to accept and incorporate our interdisciplinary approach into policy. However, I believe this is changing, in part because we could transparently show how our natural and social science methods are designed to get credible information.”

The Nation has been able to advance Territory stewardship by taking leadership in needed management and operational initiatives within the Territory, which in time the province has moved to support it. For example, the KXSA developed the Kitasoo/Xai'xais Guardian Watchmen Program, part of the Coastal Guardian Watchmen Network, to act on the Nation's responsibilities and rights to enforce Kitasoo/Xai'xais laws and regulations. The Guardians monitor compliance with the Nation's protocol agreements with commercial operators and are

the Nation's 'eyes and ears' throughout the Territory. For years, the program also assumed some responsibility to monitor compliance with provincial protected area regulations and permits in Kitsoo/Xai'xais Territory in part in response to limited presence of provincial enforcement and compliance officers, and did so without formal recognition from the province as a compliance and enforcement. As of writing, the Guardian Watchmen are officially becoming recognized to enforce provincial protected area law and regulations by BC Parks under the Park Act.

The Nation's capacity and influence are also increasingly recognized and effective at local and regional decision-making tables. Indigenous Law Coordinator Sam Harrison describes the Nation as "having a high per capita ability to conduct stewardship work." As a result, the Nation is capitalizing on its stewardship capacity and visibility to seek an IPCA. The Kitsoo/Xai'xais alongside other Coastal First Nations are leading the development of IPCAs, including encouraging adapted/new provincial legislation, just as previously done with Conservancies and recently with the Coastal Guardian Watchmen Network, with benefits to Indigenous Nations, British Columbians, and biodiversity conservation. As the Stewardship director and former elected chief Douglas Neasloss stated:

"We've experienced a strong resurgence of stewardship over the last number of years, so now we are working with the government to put forward a new model for protected areas. We have the capacity and people to get out there and monitor and manage our territory."

2. Limitations of conventional protected area models and opportunities to address them through an IPCA

The Nation is motivated to develop an IPCA because of four key challenges in available designations, particularly issues around governance; management; and enforcement (Table 2). These challenges limit the effective management of protected areas in turn impacting economies, livelihoods, cultural history and connections, and biodiversity conservation. The Nation sees a pathway to address these challenges through an IPCA model (Table 2).

a. Governance

Current protected area governance frameworks do not meet the Nation's expectations of meaningful joint decision-making. Along with the GBR Agreements, which promised greater collaboration with First Nations for land-use planning and management, the Kitsoo/Xai'xais and the province also negotiated and signed several agreements to establish co-management frameworks (e.g. Collaborative Management Agreement, Reconciliation Protocol Agreement), which were a step towards shared-decision making. Yet existing protected areas have not been implemented in a way that reflect true joint decision-making. The Nation can only provide recommendations in current co-management bodies and engagement process, but the provincial ministers are allowed to make final decisions at their discretion. The Nation is using IPCAs to

assert a protected area governance framework that respects the Nation’s inherent rights to decision-making and self-determination.

Without the respect for Indigenous decision-making in governance, existing provincial and federal protected area designations do not effectively consider Indigenous Rights and responsibility on Territory. The establishment of the Green Inlet IPCA is a critical next step towards reconciling differences between Kitsoo/Xai’xais and Canadian governments on the Nation’s Territory. Though the Nation is designing Green Inlet IPCA for the Nation’s needs, it can also be a model for IPCAs that other Indigenous groups can adapt and implement to benefit their own stewardship goals. As such, the Nation is advocating that provincial and federal IPCA support and recognition can help all parties work together on promises for improved relationships and reconciliation. As stated by the late elder, former elected chief, and hereditary chief *Gusx Percy Starr*, “that’s why we use the word reconciliation, [so we] can find a way to work together.”

Table 2. Perceptions of limitations of current protected area frameworks offered by the provincial (British Columbia) and federal (Canada) government organized and potential opportunities to address them through the pursuit of an Indigenous Protected and Conserved Area (IPCA) by broad categories: governance, management, and regulation and enforcement.

Key Limitations	Opportunities
<i>Governance</i>	
<ul style="list-style-type: none"> -History of exclusionary state protected area practices -Lack of recognized Indigenous decision-making authority -Lack of implementation of shared governance and management agreements -Lack of meaningful recognition of Indigenous Rights and responsibilities 	<ul style="list-style-type: none"> -Mechanism for external acknowledgement of Indigenous governance in protected areas -Mechanism to move forward with future protected area negotiation -Meaningful steps towards reconciliation and respect of Indigenous Rights and responsibilities in protected areas -IPCA model in which other Indigenous organizations can adapt
<i>Management</i>	
<ul style="list-style-type: none"> -Limited state capacity to develop timely management plans -Continued protected area use without management plans -Burdensome multi-jurisdictional and silo-ed state approaches to area/resource management -Inadequate permitting process -No state mechanisms to apply or recognize Indigenous law, rules, regulations, or programs -Limited scientific and local knowledge held in state departments 	<ul style="list-style-type: none"> -Streamlined management and operations into a single regional agency -Streamlined permitting process that reduce resource use and uncertainty -Management at a more appropriate ecological-scale -Management that centers Indigenous worldviews/law
<i>Regulation and enforcement</i>	
<ul style="list-style-type: none"> -Lack of state enforcement of protected area regulations and permits 	<ul style="list-style-type: none"> -Opportunity to demonstrate/seek recognition for Indigenous management and operations -Opportunity to apply and enforce Indigenous law/regulations

a. Management

Another major issue identified by the Nation, and particularly Conservancies, has been the timely development of protected management plans. Since the GBR Agreements established new Conservancies, only 2 of 12 Conservancies in Kitsoo/Xai'xais Territory have formal management plans in place. Continued use of Conservancies without a management plan is a major concern for the Nation, as expressed by Doug Neasloss: "Borders don't protect areas, people do. Creating management plans provides important structure and gives people the tools to effectively manage these places." Additionally, it is costly for provincial and federal governments to monitor ecological resources in the GBR and associated protected areas because of its relative remoteness to operational bases, impacting their ability to make effective management decisions. As Outdoor Coordinator for KXSA and soon-to-be hereditary chief *Dzagmsagisk* Vernon Brown stated "I've never seen the BC Fish & Wildlife branch conduct assessments in our territory, and the federal government has cut funding for salmon monitoring. This makes me question their ability to make management decisions." Furthermore, multi-jurisdictional, and silo-ed approaches impede management (e.g., see Carlson, 2018; Nowlan and Hewson, 2019). By exercising decision-making and management authorities within an IPCA, the Nation aims to reduce demand on resources and capacity overall for all involved governments through more localized decision-making and management, while also managing the protected area at an ecological-scale that makes sense to the Nation's Indigenous worldview and laws of connecting land and sea.

b. Regulation and enforcement

Provincial regulation and enforcement for commercial tourism in Conservancies is problematic. BC Park's process for Request for Proposals for commercial tourism allows for open-bidding (BC Parks, 2015). Additionally, under the provincial permit applications process, BC Parks can approve companies for 10-year tourism permits (BC Parks, 2015) without specifying vessel(s) within the permit which impacts compliance and enforcement. Though it would be difficult, with these two processes it is feasible that operators can then receive permits who do not have an existing relationship with the Nation. This is a great concern especially in areas without management plans, as there is also no regulation on the number of visitors in these Conservancies. Furthermore, because BC Parks has limited monitoring capacity, they are largely unable to evaluate adherence to permit regulations.

In response, KXSA developed its own permitting system - protocol agreements - with commercial operators. These agreements govern the relationship of the parties as it pertains to the activities of the operator in the Nation's territory and provides consent of the Nation for the proposed activity. Protocol agreements also have associated fees that directly fund the Kitsoo/Xai'xais Guardian Watchmen Program. Despite support from operators for the protocol agreements, provincial and federal governments do not require compliance. The Nation's efforts to create a harmonized process that combines BC permits and the Nation's protocol agreements

have not been successful. By establishing an IPCA, the Nation seeks to have clear articulation of the Nation's role within protected area management and operations, including its Guardian Watchmen program and protocol agreements as an integral part of protected area management in Kitasoo/Xai'xais Territory.

3. Socio-cultural and Ecological Values in Green Inlet

The Nation chose Green Inlet as a site for an IPCA because of its socio-cultural and ecological values and cultural importance. In fact, local and regional land and marine use plans have long identified parts of Green Inlet for formal protection (Kitasoo/Xai'xais Nation, 2001; 2011; MaPP, 2015). Stories and songs about the area demonstrate a long history of extensive use by the Kitasoo/Xai'xais; the area's isolated geography offered shelter for settlement and use. Today, the area remains abundant in cultural and ecological resources. Within Green Inlet, traditional community harvesting continues, including: harvesting of medicines (e.g. Devil's club; *Oplopanax horridus*), building materials (e.g. cedar), and food (e.g. berries, halibut and salmon). Protecting Green Inlet also creates opportunities for intergenerational cultural and knowledge revitalization (e.g. through multi-generational language, harvesting, and cultural education programs). Protecting the area is important for connectivity of protected areas because of its location between existing Conservancies (K'ootze/Khutze Conservancy to the north, Fiordland Conservancy to the east, and Carter Bay Conservancy to the south). The floodplain of Green River, and several other smaller creeks within the area are swamp and marsh wetlands classified as a habitat of concern by the province (see Wetland Stewardship Partnership, 2010). Estuaries, such as Green Lagoon (MaPP, 2015), are considered some of the most productive systems on earth, comprise only 2.3% of the BC coastline, and are at high risk of negative impacts throughout other parts of the province (Ministry of Environment, 2006). All these habitats are essential for culturally, ecologically, and economically important species, such as spirit bears (*Ursus americanus kermodei*), salmon species, and provincially and federally listed endangered species such as the marbled murrelet (*Brachyramphus marmoratus*; GeoBC, 2011; FLNRORD, 2018).

Because of its rich cultural history and biodiversity, the Nation is also creating an IPCA at Green Inlet to support sustainable tourism opportunities by potentially using the area for eco-cultural tours with the Nation's tourism business. Tourism has developed in tandem with protected areas throughout the region. As explained by Douglas Neasloss:

“With over half of our territory in protected areas, we needed to diversify our economic development. We have a lot to offer and lots of people wanting to visit so ecotourism was a perfect fit.”

In 2001 the Nation began the Spirit Bear Lodge, a Klemtu-based tourism company that specializes in bear viewing and cultural tours. This operation plays a critical role in Kitasoo/Xai'xais economic development and employment for Nation members. Since the

establishment of the GBR, there has been an exponential rise of other tourism-based operators in the region. Although these other operations sometimes employ Nation members, the increased activity has fueled concerns about tourism pressures on existing protected areas, and the Nation is advocating for priority tourism access in the proposed IPCA. However, the Nation must consider the potential impact of tourism access to Green Inlet (discussed in Challenges and potential solutions section).

Key stages in the IPCA development process

In this section we share the key stages in the development of the Green Inlet IPCA management planning framework: territory planning and creation of contemporary governance institutions; stewardship capacity building; research on other IPCA-like models; and community engagement (Table 3).

1. Territory planning and creation of contemporary governance institutions

The Nation has always stewarded its Territory, and continues to do so in contemporary times through KXSA. Work towards this IPCA is rooted in foundational values around stewardship and conservation, which KXSA is revitalizing, documenting, and summarizing through Kitasoo/Xai'xais governance and laws. The Nation's land and marine use plans and various committees (e.g. Stewardship Board, Food Fish Committee) provided guidance for the IPCA's planning and development. Additionally, KXSA is documenting Kitasoo/Xai'xais laws, stories, and knowledge, using various sources to develop the Nation's Cultural Heritage Database. This database houses historical and contemporary media including maps, audio recordings, documents, and research that have been a key resource for information about Green Inlet.

2. Stewardship capacity building

The Nation has invested substantial resources to build both traditional and contemporary stewardship institutions that bridge Indigenous and western knowledge systems. For example, KXSA runs extensive socio-cultural and ecological research programs across the Territory that include Indigenous and western approaches. These research programs have elevated external understanding of Indigenous and Local Ecological Knowledge, while building extensive scientific knowledge about the Territory that informs IPCA planning and implementation. A large factor in the Nation's growing capacity has been the effective use of partnerships to conduct work with and for the Nation, including the transfer of diverse skillsets to Nation members. Non-Indigenous people working for the Nation recognize that they have a role to contribute to build capacity within local Nation members to reduce dependence on outside expertise. These cross-cultural partnerships and capacity have been used to advocate for the Nation's interest at various discussion tables. Though challenges exist (see Challenges and potential solutions section), BC Parks have been supportive of the Nation's various efforts in the Central Coast region. Particularly partnerships with BC Parks as well as Forest, Lands, and

National Resource Operations and Rural Development (FLNRORD) staff have supported opportunities for initiating IPCA negotiations and formal planning.

3. Research on other IPCA models

Given the diversity of existing IPCA models, plus the need to cultivate local knowledge and understanding about these models, the Nation engaged in research on why and how other IPCAs are established and managed. Before our collaboration began, KXSA had already spent several years investigating IPCA-like models around the world. This included visiting and engaging researchers in Australia's Indigenous Protected Areas (IPA) program, and exploring existing models used in Canada such as Tribal Parks (e.g. Tla-o-qui-aht Tribal Parks). In 2018, University of Victoria partners complemented this work by conducting a review of IPCA initiatives documented in the academic literature to summarize successes, challenges, and lessons learned (see Tran et al., 2020). Learning from the context, successes, and challenges of these initiatives, KXSA could frame approaches to achieve the IPCA goals by adapting approaches and forging new ones. Finally, by strategically engaging in scientific research and collaboration, KXSA were able to leverage capacity to support the Nation's efforts (e.g. assistance with drafting related IPCA documents).

4. Community engagement

As part of the IPCA planning process, Kitsoo/Xai'xais community engagement explored and documented what was desired locally from a new designation and site-specific goals. Engagement was intergenerational and included interviews with current and future hereditary chiefs and elders, collaboration with the local high school's social science class, and intergenerational trips to Green Inlet.

Table 3. A summary of key stages undertaken by the Kitasoo/Xai'xais Nation to plan and develop the Green Inlet Indigenous Protected and Conserved Area (IPCA), with examples and outcomes/benefits.

Stage	Examples	Outcomes/Benefits
Territory planning and creation of contemporary governance institutions	<ul style="list-style-type: none"> -Land and marine use documents -Steering/management committees -Stewardship department 	<ul style="list-style-type: none"> -Resources to provide background knowledge and reasoning -Resources for guidance and direction in planning and development -Connects initiative to past and ongoing Territory-wide processes
Stewardship capacity building	<ul style="list-style-type: none"> - Kitasoo/Xai'xais Guardian Watchmen program -Inventory and monitoring programs -Education, training, and mentorship programs -Cultural revitalization programs (e.g. culture camps) 	<ul style="list-style-type: none"> -Created external legitimacy in Indigenous stewardship and decision-making authority -Cultivated in-community leadership and management capacity -Reduce dependence on external expertise
Research on other IPCA like-models	<ul style="list-style-type: none"> -Contracted researchers to investigate other IPCAs 	<ul style="list-style-type: none"> -Learn and build upon existing IPCA approaches through their successes and challenges -Take aspects of other models that, if appropriate, can be adapted to local context, and learn where new pathways are needed -Leverage research/work on other IPCAs to gain political capital
Community engagement	<ul style="list-style-type: none"> -Interviews -Land-based workshops -Community, committee, and council presentations/meetings 	<ul style="list-style-type: none"> -Incorporation of direction/leadership by Nation members -Incorporation of community feedback into planning process that spans generations -Community education and awareness -Experience and education for future leaders of the community in Territory governance and management -Intergenerational knowledge transfer opportunities

Implementation approach

In 2019, the Nation and partners began drafting documents to support management planning. Informed by the previous processes above, the purposes of these documents were to: articulate the desired management goals for Green Inlet, help guide management actions, enable in-house communication for Nation members, and guide future collaboration, negotiations, and direction as needed.

The Nation's vision for Green Inlet is a Kitsoo/Xai'xais Protected Area where they lead governance and management. The area will be managed holistically, integrating responsibilities across geographic scales, as well as the land, sea, and airspace. Current social, ecological, and political contexts surrounding this IPCA require strategic collaboration and partnerships with other organizations that also share responsibilities within the area (e.g., federal and provincial governments, other First Nations with overlapping Territory claims). The area will be governed and managed consistent with Kitsoo/Xai'xais laws and principles, through an intergenerational process (e.g. engaging youth and elders). KXSA will continue to integrate the management of Green Inlet IPCA into its programs, such as the Nation's Guardian Watchmen, scientific monitoring and research, youth education, and culture and language revitalization programs. Furthermore, this IPCA will be managed to meet socio-cultural and ecological responsibilities and goals, prioritizing conservation of ecological, spiritual, and cultural relationships. Other uses will be contingent on meeting these responsibilities. Consequently, the Nation prioritizes Nation members' access and (re)connection to the area. Ongoing site-based community engagement will promote (re)connection and cultural revitalization, in turn informing management of the area.

Challenges and potential solutions

Below, we highlight key challenges the Nation has identified to achieving its vision for Green Inlet, and their approaches to addressing those challenges (Table 4).

Challenges

One of the greatest challenges facing implementation is working with the province and eventually federal governments to create functional, formal recognition and support for IPCAs. Currently without it, the Nation expends resources to navigate and engage with various (sometimes conflicting) provincial and federal policies and laws to achieve its goals. Seeking political and legal recognition of IPCAs requires long-term engagement with provincial and federal governments, making progress vulnerable to changing political agendas of those governments through political cycles. Effective political and legislated recognition by Canadian governments is further complicated by the overlapping and contested jurisdictions between First Nations that are caused and exacerbated by colonial impacts and governance systems.

Table 4. A summary of key challenges facing the Kitasoo/Xai'xais Nation in the effective implementation of the Green Inlet Indigenous Protected and Conserved Area (IPCA), their impacts, and the key Kitasoo/Xai'xais approaches to address them.

Challenge	Impact	Potential Solutions
Impacts of colonial displacement and marginalization on area knowledge and relationships	-Need to revitalize and maintain area knowledge and relationships -Ecological and cultural damage due to use before more surveys are done	-Prioritize, above all, ecological and cultural conservation -Prioritize area/resource monitoring and surveys -Prioritize goals for community uses/benefits -Link management to existing cultural revitalization and stewardship capacity building programs
No current mechanisms for meaningful (e.g. legislative, long-term) IPCA support or recognition	-Requiring engagement of multi-jurisdictional state policies/law -External support/engagement change with political climates	-Advocating for wide-spread state policy/legislated changes -Working with other Indigenous Nations to push for legal IPCA recognition and support -Fostering partnerships to focusing on shared responsibilities -Using multi-sector partnerships to create pathways for desired support/goals
Decisions around allowable activities and access over time	-Potential ecological and cultural impacts -Managing responsibilities to current and future potential values and uses	-Prioritize, above all, ecological and cultural conservation -Regular updates and adaptations to management plan -Ongoing engagement with key Kitasoo/Xai'xais governance/management institutions (e.g. Nation members, Territory and Nation documents) -Zoning, seasonal regulations
Cultivating effective cross-cultural partnerships and relationships	-Demands additional resources to create/maintain -Indigenous worldviews and law are sometimes difficult to articulate and work alongside/within state colonial-based tools -Loss in investment in ineffective partnerships -Conceding to piece-meal approaches	-Advocate for wide-spread state policy/legislated changes -Improve engagement mechanisms for external partnerships/non-community employees -Continue work on codifying Indigenous law -Prioritize community capacity development -Foster partnerships around shared responsibilities -Improve existing stewardship programs
Adequate funding	-Limited capacity to implement effective management strategies -Insecurity in ability to implement programming	-Seek strategic funding partnerships -Advocating for wide-spread state policy/legislated changes

Table 4 (cont'd). A summary of key challenges facing the Kitasoo/Xai'xais Nation in the effective implementation of the Green Inlet Indigenous Protected and Conserved Area (IPCA), their impacts, and the key Kitasoo/Xai'xais approaches to address them.

Challenge	Impact	Potential Solutions
Increasing developmental pressures	<ul style="list-style-type: none"> -Increase risk of environmental disasters (e.g. oil spills) -Anticipating future pressures resulting from increased traffic/use by the general public -Potential negative impacts on biodiversity and cultural resources 	<ul style="list-style-type: none"> -Advocating for wide-spread state policy/legislated changes -Investment in crisis response training -Improving existing stewardship programs -Establish ecological and cultural inventory and compliance monitoring schedules -Create visitor education opportunities (e.g. signage) -Establish zoning, seasonal regulations
Ecological change and uncertainty	<ul style="list-style-type: none"> Planning/preparedness for drastic and/or abrupt and drastic ecological changes (e.g. wildfire, climate change, landslides impacting fish streams) 	<ul style="list-style-type: none"> -Investment in crisis response training -Establish ecological/cultural inventory and monitoring schedules -Establish zoning and seasonal regulations

Successful management of Green Inlet IPCA is impacted by cumulative impacts of socio-cultural and ecological change since colonization. Nation members have noted that relationships with Green Inlet have been impacted by colonial violence, displacement, and marginalization. Particularly, cultural knowledge and practices have been affected. Compounding and related to colonial influences are growing concern that rapid ecological change in the area (e.g. climate change and related wildfires and droughts) is further burdening the Nation's ability to manage the protected area for conservation and safety. As a result, KXSA will need to work to maintain and revitalize Kitasoo/Xai'xais knowledge and relationships to the area to build socio-cultural and ecological resilience. For example, members have expressed a desire for more extensive work to understand and document the ecological and cultural relationships that exist on this land-and-seascape before regular tourism use.

Another challenge is the community concerns around the specific and amount of activity and access to Green Inlet, especially as community interests/needs change over time. For example, though tourism is an important economic driver for the Nation, increasing tourism access to some areas is a concern. As summarized by *Inmansaxsxokskw* Krista Duncan: "There's interest in using Green Inlet as a tourism spot to view wildlife and to bring a cultural aspect into it as well. Part of me wants to go forward but there's another part of me that doesn't support it." Another challenge is anticipating negative impacts of management and research (e.g., drone use) while cultivating beneficial economic and cultural opportunities for current and future generations.

Funding is a critical issue for resource management by KXSA, especially with the added responsibilities for Green Inlet IPCA. For example, a significant source of regular funding for stewardship activities from the Coast Opportunities Fund¹, established as part of the GBR Agreements, which has been essential to develop contemporary stewardship management through KXSA. However, available funding has remained the same over time despite the Nation requiring increasing financial resources for its expanding programs.

Potential solutions

The Nation's key strategy to address many of these challenges is through seeking provincial/federal legislative change to recognize and support IPCAs. With functional legal recognition, the Nation could garner greater financial and logistical support and reduce the burden of navigating multiple, sometimes conflicting, policies and legislations around resource management. With proper legislated recognition, the Nation could more easily implement

¹ Coast Opportunities Fund was fund established under the Great Bear Rainforest Agreements to offset immediate economic losses for First Nations due to restriction in forestry development and promote sustainable economic development and conservation activities that meet conservation priorities for the region. More information can be found at www.coastfunds.ca.

management strategies grounded in its expertise and knowledge of the area. The Nation is working to have its Guardian Watchmen recognized as authorities that can enforce both state and Kitasoo/Xai'xais laws throughout the Territory.

As Kitasoo/Xai'xais Territory is undergoing unprecedented change (e.g. increasing tourism, climate change, see above section), the Nation will use adaptive management. By creating a living management plan, the Nation aims to address many of the challenges that relate to planning for uncertainty. The Nation plans to update the plan every 5 years, to reflect changing environmental conditions (e.g. wildfires, species decline, climate change), as well as new area knowledge, updated land and marine plans, and ongoing community input. These updates will honour diverse and evolving community perspectives and Nation priorities, allowing for changes to goals, strategies (e.g. zoning), and management measures (e.g. seasonal rules).

Another response to these challenges is to intentionally emphasize ecological and cultural conservation above other uses, and the use of complementary Indigenous and western approaches to management. Despite diverse perspectives, community concerns are rooted in preserving socio-cultural and ecological values and practices and a desire to maintain Green Inlet to uphold Nation members' relationship with the area. Principles of Kitasoo/Xai'xais law, such as respect, reciprocity, and intergenerational knowledge will guide management actions. The Nation will also utilize compatible western approaches (e.g., the precautionary principle, use of zoning and seasonal closures). KXSA aims to expand cultural and ecological inventories to assist with management zoning, as part of its responsibilities to protect and conserve socio-cultural and ecological values. Research partnerships will expand capacity by directly increasing personnel and helping to provide critical knowledge for stewardship goals.

Bolstering existing stewardship programs will also be key to addressing many of the challenges listed above. Codifying Kitasoo/Xai'xais law and continuing to train Kitasoo/Xai'xais Guardian Watchmen in diverse skills are critical to effective management. For example, Kitasoo/Xai'xais Guardian Watchmen have received oil spill response training, and are interested in building their response capacity for other environmental disasters such as wildfire. The Nation's continued presence at decision-making tables is also important, as is building partnerships to reduce operational costs by engaging others in priority work for the Nation. The Nation aspires to strategically engage government and industry on what the Nation sees as 'shared responsibilities' in the Territory to leverage funding, including stewardship program development and improvement.

Discussion and conclusion

Case studies that explicitly center perspectives of Indigenous Peoples and organizations working on IPCA development are important to establish and support IPCAs, yet few such examples exist in the literature (Tran et al., 2020). Our research helps to fill this gap through a case study of the

ongoing development of an IPCA by the Kitasoo/Xai'xais Nation. Our research upholds and supports the Nation's efforts to establish the Green Inlet IPCA, by engaging participatory action research to contribute to management planning. For example, we assisted in community engagement efforts, and alongside existing Nation knowledge, we generated information to draft planning and summary documents to be used by the Nation as they see fit. The Nation is a leading advocate for formal IPCA recognition through the establishment of new legislation in BC and Canada. The development of the Green Inlet IPCA manifests many years of foundational work articulating how Kitasoo/Xai'xais knowledge, rights, and responsibilities can be revitalized and recognized. The challenges the Nation is facing to achieve their vision is similar to other protected areas: limited resources (Balmford et al., 2003), planning for future and compounding uncertainties (Sym and Carr, 2001), and balancing uses, access, and impacts (e.g. tourism; McCool, 2009). The Nation aims to manage the Green Inlet IPCA holistically, especially with intergenerational community engagement.

The Kitasoo/Xai'xais approach to IPCA development and implementation benefits from, and drawn upon, decades of Territory planning and contemporary stewardship capacity building. By investing in contemporary Territory planning, the Nation can centre Kitasoo/Xai'xais values and aspirations in the stewardship of areas and natural resources, which is shown in other research as critically important to achieving IPCA benefits (e.g. Preuss and Dixon, 2012). Research on Australia's IPA program has similarly noted that broad-scale Territory planning can improve IPA development and implementation (Davies et al., 2013; Smyth, 2015). In Mexico, three years of Territorial planning by Indigenous and mestizo communities helped the implementation of several Voluntary Conserved Areas in the Oaxaca region (Ibarra et al., 2011). Thus Indigenous organizations can use Territory planning to inform options for achieving their aspirations, which can include IPCA creation (Smyth, 2015). Other research has also articulated that cultivation of local governance and management capacity is critical for IPCA success (e.g. Kothari, 2013; Mulrennan et al., 2012).

Our results demonstrate that Kitasoo/Xai'xais Nation has sought a hybrid approach to IPCA development and management, centering Indigenous worldviews, knowledge, and values, while applying complementary western knowledge and tools to satisfy the current geopolitical and socio-cultural and ecological context. Other research on IPCA management has also highlighted the value of hybrid approaches. For instance, some Indigenous and Community Conserved Areas in Asia are built upon traditional and local knowledge from their ancestors, and driven by younger generations wanting to advance community governance (e.g. in Malaysia, Vaz and Agama, 2013). The Tla-o-qui-aht Tribal Park is also planned and governed through customary and contemporary approaches to improve cultural and contemporary fit (Murray and King, 2012). Verschuren et al. (2015) discuss how the ranger program in the Dhirrumu IPA (Australia) has benefitted from 'two-way' approaches of land management to improve IPA management, particularly engaging other actors for ranger program support.

Beyond protecting the social-ecological values within Green Inlet, the Nation is developing this IPCA to improve upon the contemporary protected area systems to better reflect its Indigenous Rights and responsibilities, and to intersect socio-cultural and environmental conservation needs. Previous collaborative work with the Nation has illustrated how stewardship and conservation principles are grounded in its socio-cultural values as an Indigenous Nation (Ban et al., 2019). Other IPCA research similarly demonstrates that a lack of distinction between socio-cultural and ecological goals has led to improvements in both (Berkes, 2009; Verschuuren et al., 2015; Ruiz-Mallén et al., 2014; Tran et al., 2020). Engaging Indigenous governance through mechanisms like IPCAs has significant potential to simultaneously address issues around Indigenous Rights and biodiversity conservation decline (Stevens, 2010; 2014; Artelle et al., 2019; Tran et al., 2020; Zurba et al., 2019). Similarly, Carrol (2014) describes how three different IPCA initiatives across North America have served as reclamation and resurgence in Indigenous authority over traditional lands by creating Indigenous space that both use and defy western conservation to advance decolonization.

Pursuing state legislative IPCA recognition is one pathway to support IPCA goals (Kothari, 2008; Artelle et al., 2019; Zurba et al., 2019; Tran et al., 2020). Similar to current efforts by the Kitasoo/Xai'xais Nation, in 1961 the Kadazandusun village of Bundu Tuhan (Malaysia) began planning a legally-established native reserve to protect their forest for long-term communal access against increasing development (Vas and Agama, 2013). Since 1983 the reserve remains protected in perpetuity under Malaysian law and now contributes to protected landscape connectivity and ecotourism opportunities (Vas and Agama, 2013). However, legal state recognition can be perceived by some people as 'colonial entanglement', where this recognition may require sacrificing some self-determination (Dennison, 2012; Carroll, 2014; Zurba et al., 2019). State recognition can hinder true respect for Indigenous decision-making and continue to uphold colonial practices (Berkes, 2009; Ibarra et al., 2011; Davies et al., 2013; Carroll, 2014; Zurba et al., 2019). Where states are invested in improving IPCA recognition and support, government organizations should prepare for broad-scale legislative and policy changes, including embracing holistic approaches that better reflect Indigenous worldviews on Territory stewardship (Zurba et al., 2019; Tran et al., 2020). Given that policy and legislative changes in state law can take decades, relationships with local and regional state staff will remain important to advance progressive agendas for IPCAs.

This case study demonstrates the years of effort and resources that the Nation has put into IPCA development, but efforts to improve protected area tools, especially IPCAs, should not depend solely on Indigenous efforts (Tran et al., 2020). Research on IPCAs emphasizes the importance of partnering organizations investing in protected area governance and management that work with both Indigenous and non-Indigenous approaches (Preuss and Dixon, 2012; Moritz et al., 2013). Indeed, the Kitasoo/Xai'xais approach illustrates that external partnerships that respect Kitasoo/Xai'xais leadership and goals, despite their challenges, play an important role in IPCA development and implementation. Other case studies with partnerships between researchers and

Indigenous organizations also advanced Indigenous aspirations to establish IPCAs, such as what was done in the Wemidji Protected Area Project in Cree Nation Territory and Quebec, Canada (Mulrennan et al., 2012). Collaborative conservation research, when done respectfully and centered around tangible outcomes for Indigenous partners, can assist both social justice and environmental conservation issues (Mulrennan et al., 2012). For meaningful support of IPCAs to occur, other actors must push their institutional boundaries and invest in creating cross-cultural capacity (Langton et al., 2005; Tran et al., 2019). For instance, state government staff also must push against restrictive colonial frameworks, particularly siloed area and resource management approaches, to create opportunities for true shared-decision in IPCAs.

IPCAs are not a panacea for resolving Indigenous Rights or conservation issues (Kothari et al., 2014). IPCAs can be limited in scope to the areas within their boundaries, and externally by how states and other actors recognize or support Indigenous Title, Rights, laws, and governance surrounding those areas (Kothari et al., 2012). Those limitations also challenge the capacity of IPCAs, as much as any form of protected area, to address ecological processes that span spatial and temporal scales. As such, states and other actors need to positively address where these issues intersect beyond the border of protected areas.

Diverse approaches to IPCA development, support, and recognition are necessary (Kothari, 2008; Smyth, 2015; Tran et al., 2020). Further research highlighting perspectives of other Indigenous organizations planning and implementing IPCAs can provide additional insight, for example, on how various regional actors (e.g. state, non-for-profits) can support and recognize IPCAs. More publications on primary research led by Indigenous organizations or through participatory approaches can support broad understanding of the challenges and potential solutions associated with IPCA governance and management (Zurba et al., 2012; Mulrennan et al., 2012; Tran et al., 2020).

Chapter 4 – Conclusion

Introduction

Indigenous and state governments have vested interest in the development and subsequent support of Indigenous Protected and Conserved Areas (IPCAs) to address needs to protect biodiversity and respect Indigenous Rights and roles in conservation on Traditional Territory. My thesis investigated how Indigenous, state, and other interested actors can enhance the development, support, and recognition of IPCAs. My main research objective was to advance academic and practical applications of IPCAs by drawing from global IPCA research while assisting the Kitsoo/Xai'xais Nation's IPCA planning process. To do so, I investigated two research questions: 1. What are the key successes, challenges, and lessons from IPCA research globally? 2. What can we learn from the Kitsoo/Xai'xais Nation's rationale and process for an IPCA?

In this chapter, I summarize how I answered these questions and how it impacted my research objective. I discuss the practical applications of this work for the Kitsoo/Xai'xais IPCA development and other interested IPCA supporters more broadly. I also describe the academic contributions. Finally, I reflect on study limitations and suggest future research directions.

Question 1: What are the key successes, challenges, and lessons from IPCA research globally?

Given the urgent and ongoing need for biodiversity conservation and recognition of Indigenous Rights, IPCAs are an important avenue forward for achieving both simultaneously (Schuster et al., 2019). As states and other actors are engaging with IPCAs and the Indigenous Peoples and managers interested in external IPCA recognition and support, such as the Kitsoo/Xai'xais Nation, research is warranted to identify and address the common issues, motivations, approaches, and challenges facing these initiatives and their managers. A review of the IPCA academic literature had not yet been completed, thus my work provides an important academic contribution on IPCA research. I additionally shared and discussed review results with my collaborators to inform the Kitsoo/Xai'xais IPCA planning process.

I found and analyzed 58 papers, describing 86 specific initiatives involving at least 68 Indigenous Peoples across 25 countries. I found that Indigenous Peoples established IPCAs independently and through local- and broad-scale partnerships. States that supported such efforts did so through formal legislation, agreements, and policies, and informally through local relationships and shared values. IPCAs created socio-cultural, political, and ecological benefits such as improving Indigenous livelihoods; increasing governance and management capacities; and improving species populations and habitat protection. However, some challenges (e.g. restrictive legislations, burdensome partnerships, insufficient funding) limited benefits, and

demanded additional capacities and resources for mitigation. Drawing from these findings and the lessons from previous IPCA research, I provide interested IPCA developers, such as the Kitasoo/Xai'xais Nation, and potential IPCA supporters several recommendations. Particularly, states and other external actors should: create and improve policies, legislations, and resources for IPCAs as defined by Indigenous Peoples; provide resources and facilitate Indigenous leadership to shape external mechanisms for protected area establishment and development; and create new internal mechanisms for Indigenous engagement and partnerships. Indigenous Peoples would benefit from building partnerships to support and manage their areas. Finally, IPCA managers should commit more resources, particularly in monitoring and management development, including integrating management priorities with local and larger scale socio-cultural and environmental issues that affect these areas.

Question 2: What can we learn from the Kitasoo/Xai'xais Nation's rationale and process for an IPCA?

Advancing IPCA development, support, and recognition needs meaningful and respectful engagement of the leadership of Indigenous People and their institutions. However, few examples exist that illustrate the rationale and processes that highlight Indigenous People and organizations developing IPCAs. Such case studies are important to inform states and other organizations' support and recognition mechanisms and to demonstrate models that other Indigenous governments and organizations can adapt to advance their IPCA initiatives. My work with the Kitasoo/Xai'xais Nation addresses this research gap.

In our collaboration, Kitasoo/Xai'xais staff and I used participatory action research to assist Kitasoo/Xai'xais' efforts for a land-and-sea IPCA development. We used mixed methods, including document analysis, semi-structured interviews, community engagement efforts, as well as informal interviews and discussions to summarize the Nation and staff's perspectives on the rationale and process of IPCA development. To the Nation, IPCAs are an iteration of ongoing Kitasoo/Xai'xais' efforts to address limitations of state protected area governance and management to better reflect the Nation's (Indigenous) Rights and responsibilities while preserving culture, biodiversity, and economic opportunity. The Kitasoo/Xai'xais process is rooted in long-term Territory planning and contemporary stewardship capacity building, has benefitted from research on other IPCA models, and has ongoing community engagement that spans generations. When making management and planning decisions the Nation will face challenges similar to other protected areas (e.g. anticipating climate change impacts, limited funding) and is also influenced by ongoing colonization impacts (e.g. need for cross-cultural work to engage with burdensome state legislation). The Nation seeks state legislative recognition of IPCAs, to apply Indigenous and western approaches, and to pursue responsibility-based partnerships to address many anticipated challenges.

Answering this research question directly contributed to my research objective. Particularly, as participatory action research, myself and collaborators co-generated methods and information that influenced the Kitasoo/Xai'xais planning process. This work helps other IPCA developers and supporters by demonstrating that more efforts are needed by state and other external actors to reduce the burden and create opportunities for meaningful IPCA support. Additionally, by providing information on the Kitasoo/Xai'xais process, other Nations can adapt this approach to inform their IPCAs.

Contributions to the Kitasoo/Xai'xais Nation IPCA planning process

This research assisted in the Kitasoo/Xai'xais IPCA planning process by utilizing collaborative methods to gather and collate information that was directly integrated into the Nation's planning process. For example, community engagement expanded as we got direction from interviews to include the next generations of leaders and to engage youth in the process. This led to KXSA collaborating with the local high school, and two intergenerational community trips to Green Inlet. We also generated information that we used to draft several planning documents, such as policy briefs and summary of site-specific rationale for an IPCA, to be modified and used as desired by the Nation to advance IPCA planning in Green Inlet. This information, including audio files, interview transcripts, and any written documents have been returned to KXSA, which can be added to the Nation's Cultural Heritage Database and used in other Nation projects. With a foundation on how this IPCA process has unfolded so far and the associated documents, the Nation can also build and adapt them to develop future IPCAs.

Contributions to IPCAs beyond Kitasoo/Xai'xais Territory

This research can serve as a resource to other Indigenous peoples who are looking for alternatives to current available options for protected and conserved areas, particularly those having to engage with the British Columbia (BC) government. The information generated can inform approaches for other Indigenous Peoples to develop their own culturally-appropriate IPCA framework by highlighting the various ways IPCAs have developed globally and providing details on a specific IPCA planning process model. This work also demonstrates how supporting and recognizing IPCA development and implementation can complement state governments' (e.g. BC and Canada) protected area strategies and commitments towards Indigenous Rights and reconciliation with Indigenous Peoples. I also provided recommendations to states and other actors at broader scales to better support and recognize IPCA managers and their protected areas goals.

Academic contributions

Beyond the practical applications in Kitasoo/Xai'xais Territory and for other interested Indigenous organizations and IPCA supporters, this research also adds to a growing body of literature regarding the potential social and ecological benefit of IPCAs. The literature review provides a timely summary of IPCA research that supports that IPCAs can have tangible socio-cultural, economic, and ecological benefits. The review and the Kitasoo/Xai'xais case study support that the connection between social and ecological components within certain Indigenous worldviews and/or their incorporation together implicitly or explicitly in IPCA planning and management, may result in improvements in both. Relatedly, my research contributes to growing literature on the role of engaging various worldviews (e.g. Preuss and Dixon, 2012; Verschuuren et al., 2015), interdisciplinary environmental conservation research (e.g. Berkes, 2004), and the inclusion and influence of social factors and values in the success of protected areas and other biodiversity conservation efforts (e.g. Nursery-Bray, 2011; Ban et al., 2013). Chapter 2 and 3 contribute to academic literature on alternatives to conventional (i.e. state-led and/or exclusionary) protected area frameworks for achieving effective environmental conservation that is socially just (e.g. Stevens, 2010; 2014; Jonas et al., 2017; Laffoley et al. 2017; Ban and Frid, 2018; Artelle et al., 2019; Zurba et al., 2019). In this work, I summarized various challenges and lessons from both global research and a detailed in-depth case study that could lead to better recognition and support of IPCAs. Though IPCA research is expanding, there are few studies that highlight the perspectives of Indigenous organizations. My collaboration with the Kitasoo/Xai'xais sought to address this gap by describing the rationale and process behind the development of the Green Inlet IPCA, and the challenges facing the Nation's work and solutions sought to address them. Our case study is one of many increasing efforts to conduct work in collaboration with Indigenous actors to strive for various pathways for Indigenous resurgence and meaningful recognition of their inalienable Indigenous Rights and responsibilities on their Traditional Territory, including in biodiversity conservation (e.g. Mulrennan et al., 2012; Murray and King, 2012; Murray and Burrows, 2017).

Study limitations

IPCA development, support, and recognition *are not the overall solution* to recognizing Indigenous Rights and Title, ongoing work towards this recognition, nor reconciliation. This project focuses *on whether* IPCA development and support can provide *space and opportunity* for the recognition of Indigenous Title, Rights, laws and governance structures in BC/Canada *within a protected and conserved area context*. One major limitation of this project is that IPCA initiatives are inherently impacted by the social and political conditions that surround them; though it is beyond the scope of this project to evaluate in depth, IPCA initiatives in BC and other parts of Canada are, and will continue to be, influenced by broader Canadian historical and contemporary colonial policies and legislation regarding relationships with Indigenous Peoples. Inherently, IPCAs are limited within their designated boundaries (where traditional territories

can extend beyond) and are influenced externally by the recognition of Indigenous Title, Rights, laws, and governance surrounding these areas (Kothari et al., 2012).

Though I draw from various IPCA initiatives broadly through my global review and in-depth through a local-scale collaboration, the diversity of Indigenous Peoples and the contexts in which they engage in protected area stewardship means that there will be no panacea approach for effective development, management, and external support and recognition of IPCAs. Though there is value in drawing from various models and case studies, it is important that states and external actors engage with interested Indigenous organizations in a way that incorporates their specific aspirations, and values, as well as avoids paternalization and generalization. Additionally, Kitasoo/Xai'xais efforts to plan and implement the Green Inlet IPCA are still ongoing, and though this thesis is informed by past work by the Nation, this thesis ultimately represents one snapshot of the Nation's process and perspectives. This is also true regarding the case studies within the literature review. As such, conclusions from my thesis are not representative of the changing contexts and subsequent challenges and solutions being implemented which influence IPCA success. Additionally, the external support and recognition needed for particular IPCAs, or across different geographic scales, may also change.

Though my thesis was reviewed by Kitasoo/Xai'xais Nation collaborators and my methods were meant to be collaborative and participatory in nature, this thesis is written from my perspective. As a non-Indigenous researcher raised and educated in Canadian settler society, this work is not meant to be representative of, or interpreted as, Indigenous or Kitasoo/Xai'xais perspectives.

Recommendations for future research

There are several research avenues that would benefit the Kitasoo/Xai'xais Nation and other IPCA managers, as well as interested supporters. Future research could complement the literature review by: including books and grey literature; adding additional key search terms (e.g. shared and co-governance and management); and including literature in multiple languages. Place-based research by Indigenous Peoples and co-research with non-Indigenous researcher partners can provide critical insights and more context-appropriate recommendations for specific places and peoples. More primary research led by Indigenous organizations or through participatory approaches is needed to better understand the challenges and potential solutions for IPCA management and implementation (Zurba et al., 2012; Mulrennan et al., 2012). Additionally, research can benefit current and future IPCAs through engaging in collaboration with, or being led, by Indigenous groups to monitor the delivery of these initiatives on socio-cultural and ecological goals, evaluate governance and management effectiveness, investigate adequate mechanisms for bridging western and Indigenous approaches to conservation, and provide support through action-based research to assist Indigenous Peoples to achieve goals (Verschuuren et al., 2014). In particular, there is a need for long-term case studies that encompass pre- and post- IPCA implementation (Zeng et al., 2015). More research that bridges

both Indigenous and western science approaches in cross-cultural partnerships can benefit non-Indigenous collaborators and individuals working with Indigenous organizations; their IPCAs can assist in bridging Indigenous and western knowledge (Preuss and Dixon, 2012). As more IPCAs are established and recognized, larger-scale IPCA research that includes IPCA networks will be needed for understanding their regional impacts. Research on other Indigenous-led efforts that complement but may not be considered IPCAs (e.g. other effective area-based conservation measures; see Jonas et al., 2017; Laffoley et al., 2017) can help build a greater understanding of the differences and similarities with IPCAs and also help to improve recognition and support for the various models of Indigenous-led conservation initiatives.

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Appendix A: Supplementary Material

Table A1. Searches and key terms

Search	Date	Database	Key terms
1	2018-01-26	Web of Science	("indigenous protected area*" OR "indigenous and community conserved area*" OR "indigenous and local community conserved area*" OR "Indigenous Peoples' and community conserved territories and area*" OR "indigenous protected and conserved area*" OR "indigenous community conserved area*" OR "tribal park*") OR (("IPA*" OR "ICCA*" or "IPCA*" OR "community conservation area*" OR "community-conserved area*" OR "community-based conservation*" OR "protected area*" OR "conserved area*" OR "biosphere reserve*") AND ("indigenous*" OR "First Nation*" OR "aborigin*" OR "tribal*"))
2a*	2018-01-26	SCOPUS	"indigenous protected area*" OR "indigenous and community conserved area*" OR "indigenous and local community conserved area*" OR "Indigenous Peoples' and community conserved territories and area*" OR "indigenous protected and conserved area*" OR "indigenous community conserved area*" OR "tribal park*"
2b*	2018-01-26	SCOPUS	("IPA*" OR "ICCA*" or "IPCA*" OR "community conservation area*" OR "community-conserved area*" OR "community-based conservation*" OR "protected area*" and "conserved area*" OR "biosphere reserve*") AND ("indigenous*" OR "First Nation*" OR "aborigin*" OR "tribal*")
3a*	2018-01-29	Google Scholar	"indigenous protected area*" OR "indigenous and community conserved area*" OR "indigenous and local community conserved area*" OR "Indigenous Peoples' and community conserved territories and area*"
3b*	2018-01-29	Google Scholar	"indigenous protected and conserved area*" OR "indigenous community conserved area*" OR "tribal park*"
3c*	2018-01-29	Google Scholar	("IPA*" OR "ICCA*" or "IPCA*" OR "community conservation area*" OR "community-conserved area*") AND ("indigenous*" OR "First Nation*" OR "aborigin*" OR "tribal*")
3d*	2018-01-29	Google Scholar	("community-based conservation*" OR "protected area*" OR "conserved area*" OR "biosphere reserve*") AND ("indigenous*" OR "First Nation*" OR "aborigin*" OR "tribal*")

*Search terms were broken up into several search strings because of character limits for SCOPUS and Google Scholar

Table A2. Literature review data collection template

<i>Reference</i>	<i>Country</i>	<i>Location</i>	<i>Initiative Description</i>	<i>Initiative Name</i>	<i>Governance/management</i>	<i>Motivations</i>	<i>Success</i>	<i>Challenge</i>	<i>Lessons</i>

Table A3. Indigenous protected and conserved area (IPCA) initiatives by region and country. Italicized initiative descriptions are ones used by authors, and not necessarily adopted by communities. Names in brackets for the examples are Indigenous Peoples involved, where specified. Check marks (✓) indicate if an article mentions the type of governance and management structure: Indigenous (e.g. by single or various Indigenous institutions), collaborative (in partnership with one or more external organizations), and/or varies. Numbers for references are from Table A4.

Region	Country/ Location	Description	Examples in Literature	Governance/Management Structure		
				Indigenous	Collaborative	Varies
Africa	Ethiopia	Traditional Territories/conserved landscapes	Borana ethnic territory/conserved landscape (Borana/Borana-Ormo) ^{1,6,19}	✓		
	Ghana	Sacred forests/groves	Asantemanso ⁴	✓		
			Bobiri ⁴	✓		
			Bonwire ⁴	✓		
			Gyakye ⁴	✓		
			Kajease ⁴	✓		
			Kona ⁴	✓		
			Owabi ⁴	✓		
	Morocco	Agdals	Mesioui agdals (Mesioua Berber) ¹²	✓		
Nigeria	<i>Indigenous and Community Conserved Areas</i>	unnamed (Ekuri) ¹⁹	✓			
Senegal	<i>Indigenous and Community Conserved Areas</i>	Kawawana (Jola) ⁸		✓		
South Africa	Co-management of national parks	Kruger National Park (Makuleke) ^{19,21}		✓		
Asia	China	<i>Indigenous and Community Conserved Areas</i>	multiple, unnamed (Khampa) ²¹ multiple ²¹			
	India	Sacred forests/groves	multiple ^{45,46}	✓		✓
	Malaysia	Native reserves Sacred sites	Bundu Tuhan Native Reserve (Kadazandusun) ⁵³	✓		
			Gumantong (Rungus) ²⁶	✓		
		multiple, unnamed on Banggi Island (Bonggi) ⁵³	✓			
		<i>Indigenous and Community Conserved Areas</i>	multiple, unnamed (Kadazan-Dusun, Murut, Kota Belud Bajau, Bajau Laut, Suluk, Idahan, Tidung, Orang Sungai, Lundayeh) ⁵³			

Table A3 (cont'd). Indigenous protected and conserved area (IPCA) initiatives by region and country. Italicized initiative descriptions are ones used by authors, and not necessarily adopted by communities. Names in brackets for the examples are Indigenous Peoples involved, where specified. Check marks (✓) indicate if an article mentions the type of governance and management structure: Indigenous (e.g. by single or various Indigenous institutions), collaborative (in partnership with one or more external organizations), and/or varies. Numbers for references are from Table A4.

Region	Country/ Location	Description	Examples in Literature	Governance/Management Structure		
				Indigenous	Collaborative	Varies
Asia	Nepal	Sacred valleys or Beyuls	Khumbu Beyul/Community Conserved Area (Sharwa) ^{21,47,51}	✓		
			Khenbalung (Sharwa) ⁵¹			
			Kunasa (Dolpo-pa) ⁵¹			
		Sacred natural sites	Yolmo Kangra (Yolmo) ⁵¹			
			multiple, unnamed (Sharwa, Dolpopa, Yolmo, Tamang, Rai) ^{21,51}	✓		
			unnamed (Sharwa) ⁵¹			✓
	Community-managed forests	multiple, unnamed (Sharwa, Dolpopa, Yolmo, Tamang, Rai) ⁵¹	✓			
		Community-managed rotational grazing systems/grassland commons	multiple, unnamed (Sharwa, Dolpopa, Yolmo, Tamang, Rai) ⁵¹	✓		
		<i>Indigenous and Community Conserved Areas</i>	Lakyok Bird Conservation Area (Sharwa) ^{21,51}	✓		
		<i>Indigenous Conserved Territories</i>	multiple, unnamed (Sharwa, Dolpopa, Yolmo, Tamang, Rai) ⁵¹	✓		
Philippines	<i>Indigenous and Community Conserved Areas</i>	unnamed (Tagbanwa) ¹⁹	✓			
Taiwan	<i>Traditional agricultural/conserved landscapes</i>	unnamed (Fata'an of the Amis Indigenous Nation) ⁶				
South Pacific	Locally managed marine areas	multiple ^{19,20}	✓			
Australia / New Zealand	Australia	Co-management of national parks	Booderee National Park -Jervus Bay ⁵²			✓
			Garig Gunak Barlu National Park ^{38,52,58}			✓
			Kakadu National Park ^{22,38,50,52,58}			✓
			Karijini National Park ⁵²			✓
			Mount Yarrowyck ⁵²			✓
			Mutawintji ⁵²			✓
			Nitmiluk ⁵²			✓
			Uluru Kata-Tjuta National Park ^{22,50,52}			✓
			Witjira ⁵²			✓
multiple ^{29,38,50,52,58}			✓			

Table A3 (cont'd). Indigenous protected and conserved area (IPCA) initiatives by region and country. Italicized initiative descriptions are ones used by authors, and not necessarily adopted by communities. Names in brackets for the examples are Indigenous Peoples involved, where specified. Check marks (✓) indicate if an article mentions the type of governance and management structure: Indigenous (e.g. by single or various Indigenous institutions), collaborative (in partnership with one or more external organizations), and/or varies. Numbers for references are from Table A4.

Region	Country/ Location	Description	Examples in Literature	Governance/Management Structure		
				Indigenous	Collaborative	Varies
Australia / New Zealand	Australia	Co-management of state parks	Barrberm (Miriuwung-Gajerrong) ¹⁵		✓	
			Goomyig (Miriuwung-Gajerrong) ¹⁵		✓	
			Jemandi Winingim (Miriuwung-Gajerrong) ¹⁵		✓	
			Ngamoowalem (Miriuwung-Gajerrong) ¹⁵		✓	
	Indigenous Protected Areas	Den Maar Indigenous Protected Area (Gunditjmarra) ⁵⁵				
		Dhimurru Indigenous Protected Area (Yolŋu) ^{22,33,35,48,49,54}	✓		✓	
		Girringun Regional IPA (Bandjin, Djiru, Gulnay, Girramay, Warrgamay, Nywaigi, Jirrbal, Warungnu, Gugu Badhun) ^{49,58}			✓	
		Kuku Yalanji Indigenous Protected Area ⁴⁹				
		Mandingalbay Yidinji Indigenous Protected Area (Mandingalbay Yidinji) ^{49,50}				
		Nantawarrina Indigenous Protected Area (Adnyamathanha) ^{21,22,29,38,48,49,50,57}	✓		✓	
		Ngaanyatjarra Lands Indigenous Protected Area ⁵⁷				
		Northern Tanami Indigenous Protected Area (Warlpiri) ^{10,35}	✓			
		Nyangumarta Indigenous Protected Area ⁴⁹				
		Preminghana Indigenous Protected Area ³³	✓			
		Pulu Indigenous Protected Area (Goemulgal) ¹⁶	✓		✓	
		Putalina Indigenous Protected Area ⁵⁷				
		Southern Tanami Indigenous Protected Area (Warlpiri) ³⁵	✓		✓	
		Thuwathu/Bujimulla Indigenous Protected Area ⁴⁹				
		Warul Kawa (Goemulgal) ¹⁶				✓
		Yalata Indigenous Protected Area ²⁹	✓		✓	
Yanyuwa Indigenous Protected Area ⁴⁹						
multiple ^{2,9,14,15,16,19,20,21,22,28,29,33,37,38,48,49,50,52,55,57,58}	✓				✓	
	New Zealand	<i>Traditional agricultural/conserved landscapes</i>	multiple, unnamed (Maori) ⁶	✓		

Table A3 (cont'd). Indigenous protected and conserved area (IPCA) initiatives by region and country. Italicized initiative descriptions are ones used by authors, and not necessarily adopted by communities. Names in brackets for the examples are Indigenous Peoples involved, where specified. Check marks (✓) indicate if an article mentions the type of governance and management structure: Indigenous (e.g. by single or various Indigenous institutions), collaborative (in partnership with one or more external organizations), and/or varies. Numbers for references are from Table A4.

Region	Country/ Location	Description	Examples in Literature	Governance/Management Structure		
				Indigenous	Collaborative	Varies
North America	Canada	Biodiversity reserves	Paakumshumwaa-Maatuskaau Biodiversity Reserve* (Cree Nation) ^{2,30}			
		Co-management of national parks	Tawich (Marine) Conservation Area* (Cree Nation) ³⁰ multiple ^{19,21}		✓	
		Co-management of state parks	Tombstone Territorial Park (Tr'ondëk Hwëch'in) ⁴⁴			✓
		Tribal Parks	Dasiqox Nexwagwez?an Tribal Park (Tsilhqot'in) ³¹ Tla-o-qhi-aht Tribal Parks: Esowista, Ha'uukmin Kennedy Lake, Tranquil, Wanachis-hilth-hoo-is Meares Island (Tla-o-qui-aht First Nation) ^{7,31,32}	✓		
		<i>Indigenous and Community Conserved Areas</i>	multiple ²⁰			
	Mexico	Áreas Comunales Protegidas (Protected communal areas)	La Raíz del Futuro (Tzeltal) ^{27,36,40} multiple ^{6,25}	✓		✓
		Áreas de Conservación por Manejo Forestal (Forestry management protected areas)	Nuevo San Juan Forestry Enterprise ² unnamed, from San Miguel Mixtepec (Zapotec) ²⁵ unnamed, from San Juan Juquila Vijanos (Zapotec) ²⁵ multiple, unnamed (Chinantec) ²⁵ multiple, unnamed (Zapotec) ²⁵ multiple ^{6,25}	✓		
		<i>Areas for payment for ecosystem services**</i>	unnamed, in Calakmul, Campeche (Chol, Tzeltal, Tzotzil***) ⁴¹			✓
		Reservas Comunitarias Certificadas (Voluntary conservation areas; certified community reserves)	La Sabana (Yucatec-Maya) ³⁶ La Tierra del Faisan (Chinantec) ^{27,36} Much' Kanan K'aax (Yucatec-Maya) ^{27,36,40} unnamed, in Chinantla, Oaxaca (Chinantec) ^{5,11,17} unnamed, in Santiago Lachiguiri, Oaxaca (Zapotec) ¹⁷ multiple ^{6,25,27,36}	✓ ✓ ✓ ✓ ✓		✓ ✓ ✓
				✓		

Table A3 (cont'd). Indigenous protected and conserved area (IPCA) initiatives by region and country. Italicized initiative descriptions are ones used by authors, and not necessarily adopted by communities. Names in brackets for the examples are Indigenous Peoples involved, where specified. Check marks (✓) indicate if an article mentions the type of governance and management structure: Indigenous (e.g. by single or various Indigenous institutions), collaborative (in partnership with one or more external organizations), and/or varies. Numbers for references are from Table A4.

Region	Country/ Location	Description	Examples in Literature	Governance/Management Structure			
				Indigenous	Collaborative	Varies	
North America	Mexico	Sitios Naturales Sagrados (Sacred natural sites; SNS)	multiple ^{6,25}	✓			
		Unidades para la Conservación, Manejo y Aprovechamiento Sustentable de la Vida Silvestre (UMAS; Wildlife management areas)	multiple ^{6,25}	✓			
	USA	Co-management of national monuments Tribal Parks	Canyon de Chelley National Monument (Navajo/Diné Nation) ^{24,42}			✓	
			Frog Bay Tribal National Park (Red Cliff Band of Lake Superior Chippewa) ⁷				✓
			Mancos Canyon Tribal Park (Weeminuche Band) ²⁴				
Monument Valley Tribal Park (Navajo/Diné Nation) ^{42,56}			✓				
		Ute Mountain Tribal Park (Weeminuche Band) ⁷	✓				
South America	Argentina	Co-management of national parks	Lanin National Park (Mapuche) ^{19,43} Nahuel Huapi National Park (Mapuche) ⁴³			✓	
	Bolivia	Co-management of biosphere reserves	Pilón Lajas Biosphere Reserve and Indigenous Territory (Tsimane') ^{13,39,41}				
		Co-management of national parks	Kaa-Iya del Gran Chaco National Park (Izoceño-Guaraní) ^{3,21}				
	Brazil	Indigenous Reserves/Territories	Jaquiera Reserve (Pataxó) ⁴¹ Xingu Indigenous Park ²	✓			
	Chile	Co-management of national parks <i>Private protected areas</i>	multiple ^{18,20} multiple ⁴³			✓	
	Colombia	Co-managed national parks	multiple, unnamed (Mapuche) ⁴³				✓
		Indigenous Territories	Makaira National Park (Wayúu) ³⁴ unnamed (Yapu) ²¹	✓			
Ecuador	<i>Sacred sites</i>	multiple ²¹ multiple ²					

Table A3 (cont'd). Indigenous protected and conserved area (IPCA) initiatives by region and country. Italicized initiative descriptions are ones used by authors, and not necessarily adopted by communities. Names in brackets for the examples are Indigenous Peoples involved, where specified. Check marks (✓) indicate if an article mentions the type of governance and management structure: Indigenous (e.g. by single or various Indigenous institutions), collaborative (in partnership with one or more external organizations), and/or varies. Numbers for references are from Table A4.

Region	Country/ Location	Description	Examples in Literature	Governance/Management Structure		
				Indigenous	Collaborative	Varies
South America	Panama	Indigenous Territories	Comarca Ngöbe – Buglé Indigenous Territory (Ngöbe – Buglé) ¹⁹			
	Peru	Biocultural heritage sites, Traditional agricultural/conserved landscapes Territory/communal reserves	El Parque de la Papa (Quetchua) ^{2,6}			
			Native Community of Infierno (Ese'Eja ^{***}) ²³ unnamed (Shipibo Konibo) ²¹ multiple ¹⁹	✓		
	Amazonian Rainforest	<i>Traditional agricultural/conserved landscapes</i> Indigenous protected areas/reserves/Territories	multiple ⁶ multiple ^{19,21}			
Global		<i>Co-management of protected areas Indigenous and Community Conserved Areas</i>	multiple ^{19,21} Including, but not limited to: whole Territories, sacred forests/groves, sacred sites, biocultural heritage sites, Indigenous protected areas, locally managed marine areas ^{2,19,20,21,49,51}		✓	✓
		<i>Traditional agricultural/conserved landscapes</i>	multiple ⁶	✓		

*Both of these areas were declared through the Indigenous-led Wemindji protected areas project

**Some areas created for Payment for Ecosystem Services can overlap with other Indigenous Protected and Conserved Area initiatives

***Mezitso community members were also involved

Table A4. Bibliography of selected literature for review. References are listed and numbered in alphabetical order.

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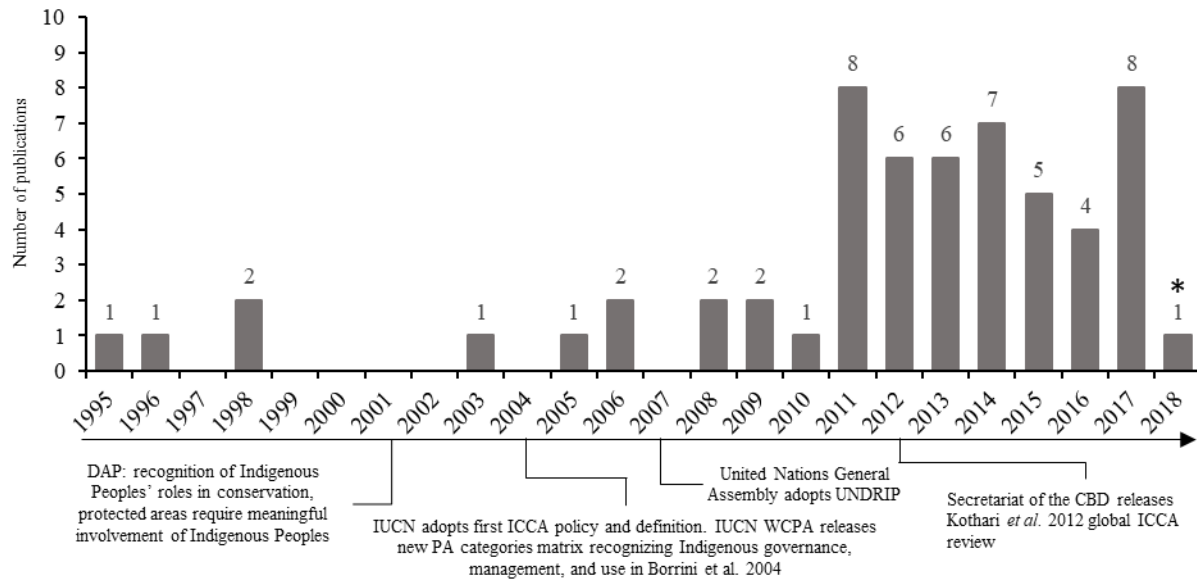


Figure A1. Number of publications about Indigenous Protected and Conserved Areas that met our selection criteria from the literature review by year up to January 2018 – denoted by an asterisk (*) and thus included only publications from the first month of 2018. The timeline below the graph contains examples of key events contributing to the international discourse regarding Indigenous Peoples, conservation, and protected areas. It is important to note that reports releases are not considered IUCN policy themselves, and do not have the weight of IUCN resolutions and policy adoptions. CBD = Convention on Biological Diversity, DAP = Durban Action Plan; ICCA = Indigenous and Community Conserved Areas; IUCN WCPA = International Union for the Conservation of Nature’s World Commission on Protected Areas; PA = Protected Area; UNDRIP = United Nations Declaration for the Rights of Indigenous Peoples.

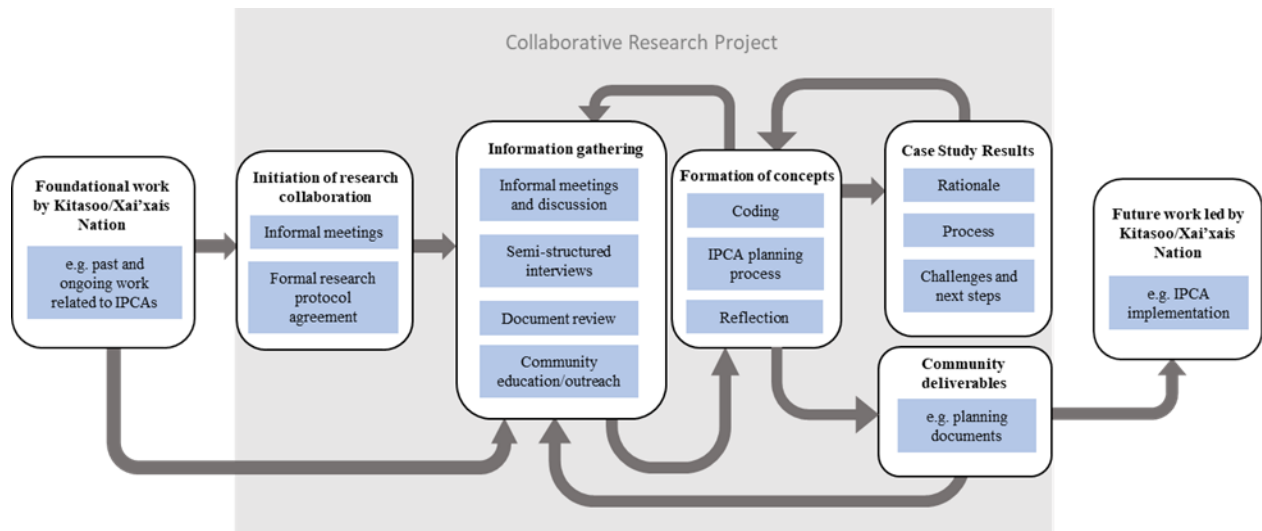


Figure A2. Overview of the research process to develop the case study in relationship to the Kitasoo/Xai'xais Nation's ongoing process to develop the Green Inlet Indigenous Protected and Conserved Area (IPCA). The grey shaded area illustrates the boundaries in which collaborative research projects lies within the IPCA planning processes. White boxes represent key collaboration phases. Blue shaded text illustrates methods and/or outputs from each stage. The arrows depict where different methods/outputs were used within subsequent stages.

Appendix B: List of semi-structured interview questions

For Kitasoo/Xai'xais Nation members

1. What comes to mind when mentioning Green Inlet?
2. What is your vision for a new type of protected area designation/Indigenous Protected and Conserved Area?
3. What are some key elements that you would like to see in its management?
 - a. What do you think its goals should be? Objectives?
 - b. What must be addressed?
4. How do see this project being supported now and in the future?
5. Is there anything desirable, but not necessarily essential, that could be included?
6. Is there other work that should be done to inform this project? People we should talk to?
7. Is there anything you would like to see regarding Green Inlet, its management, or this planning process in general?

For Kitasoo/Xai'xais Staff

1. In your experience, how well are existing protected area designations working?
 - a. What has worked?
 - b. What aspects need improvement?
2. How did the opportunity to create a new type of protected area arise?
 - a. Who was involved?
 - b. Are there important Nation or external events/policies/legislation that has influences this process today?
3. How has the process been successful or challenging thus far?
4. What do you perceive are the opportunities with a new type of protected area designation in general?
 - a. What are essential elements you think need to be included in a new protected area designation?
 - b. What are desirable (but not essential) elements?
5. What do you perceive are the challenges/limitation/drawbacks that the process must face to be realized?
6. What is your vision for an Indigenous Protected and Conserved Area for Green Inlet?
 - a. What are current or future challenges facing these management goals and objectives?
7. Is there anything else you want to say about protecting the area or the planning process?