

**EXPLORING RESEARCHER PERSPECTIVES ON
INDIGENOUS-DEVELOPED RESEARCH EXPECTATIONS IN
THE LHÙ'ÀÀN MÂN' (KLUANE LAKE) REGION OF
SOUTHWEST YUKON**

SAVANAH STARR MÜLLER

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Department of Geography, Environment and Geomatics
Faculty of Arts
University of Ottawa

Supervisor:
Dr. Sonia Wesche

Committee members:
Dr. Jackie Dawson
Dr. Karine Vanthuyne



uOttawa

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ABSTRACT

While relationships between researchers and Indigenous communities are often complex and influenced by a legacy of colonialism, cultural differences and divergent worldviews (Castleden et al., 2010; Dawson et al., 2017; Ermine et al., 2004; Ninomiya & Pollock, 2016), many Indigenous Nations are asserting their rights over research within their respective territories and with their communities through the development of research protocols, guidelines and policies (Hayward et al., 2021). As such, researchers are being called upon to enact research practises that are aligned with community expectations (Hayward et al., 2021). These emerging documents provide culturally relevant guidance that promote research that is responsive to nation-specific research priorities, Indigenous worldviews and knowledge systems, and mutually beneficial research practises (Hayward et al., 2021).

The overarching aim of this thesis is to explore how all types of researchers would engage with emerging Indigenous developed guidelines for research within their respective territories. This thesis aims to achieve two main objectives: (O1) Identify current practises and mechanisms being used by academic researchers to build and strengthen relationships with Kluane First Nation, and (O2) Explore how researchers would approach aligning their current research practises with the expectations expressed in Kluane First Nations' Research Expectations.

In the Lhù'ààn Mân' (Kluane Lake) region of southwest Yukon – the Traditional Territory of Kluane First Nation (KFN), Champagne and Aishihik First Nation (CAFN) and White River First Nation (WRFN) – has a long history of research activity. In 2018, Kluane First Nation initiated the Bringing Research Home (BRH) project to support its ability to actively drive, participate and benefit from research conducted within Kluane First Nation Traditional Territory. Through this project, several tools and mechanisms were established to direct all types of research activity – including Kluane First Nation's Research Expectations (e.g. a community-developed guideline for researchers).

Chapter 2 (Literature Review) explores the historical context of institutional research with Indigenous Peoples – including the institutional ethical requirements for research, Indigenous self-determination in research and key events that have shifted how research is conducted with Indigenous Peoples and Nations across Canada.

Chapter 3 (Methods) outlines the methods used throughout the thesis. This research utilizes a participatory research approach and involves collaboration with Kluane First Nation's Lands, Resource and Heritage Department at all phases of the project. Using Kluane First Nation's *Research Expectations* as a framework, this research engaged directly with academic researchers working in the Lhù'ààn Mân region using a series of semi-structured interviews (n=17), participant observations and informal workshops (Chapter 4).

Chapter 4 is a stand-alone article analyzing the research conducted with academic researchers' working in the Lhù'ààn Mân region to explore their perspectives on current relationship-building practises and emerging community-developed research guidelines. Current mechanisms being used by researchers to align research practises with existing frameworks for ethical research with Indigenous Peoples include (1) land acknowledgements, (2) inclusion of Indigenous placenames,

(3) sharing job opportunities, (4) sharing research publications, (5) attending community events and (6) submitting relevant research licenses. Analyses of researcher perspectives also illuminated factors that influence engagement with emerging Indigenous-developed guidelines for research. These include (1) lack of foundational knowledge and scope of research topic/discipline, (2) territorial research licensing systems, (3) First Nation capacity, (4) relationships between supervisors and students, (5) the COVID-19 pandemic, and (6) existing partnerships with regional entities. Several opportunities were also identified to support future relationship-building between researchers and local First Nations, including community events (such as the Kluane Lake Research Summits) and improved ethical training for natural science researchers.

Chapter 5 explores my reflections on the supplemental research activities undertaken to support the research objectives of this thesis and the broader Bringing Research Home project. Framed around the Kluane Lake Research Summits, the Bringing Research Home website, and surveys for Yukon Government researchers, the key reflections included how these tools and processes support (1) Indigenous perspectives on reconciliation, (2) engagement in reflexivity in research, (3) fostering collaboration across scales and sectors, (4) engagement during and after community disruptions, (5) promoting opportunities for youth in research, and (6) improving researchers' foundational knowledge.

Chapter 6 includes a final discussion and conclusion of the thesis findings, looking at the implications for the broader research context and contributions to policy, including implications for institutional training requirements and responsibilities to uphold Indigenous rights in alignment with national and international frameworks and policies.

RÉSUMÉ

Bien que les relations entre les chercheurs et les communautés autochtones soient souvent complexes et influencées par un héritage de colonialisme, des différences culturelles et des visions du monde divergentes (Castleden et al., 2010; Dawson et al., 2017; Ermine et al., 2004; Morton Ninomiya et Pollock, 2016), de nombreuses nations autochtones affirment leurs droits sur la recherche au sein de leurs territoires respectifs et avec leurs communautés en élaborant des protocoles, des lignes directrices et des politiques de recherche (Hayward et al., 2021). À ce titre, les chercheurs sont appelés à adopter des pratiques de recherche qui sont alignées sur les attentes des communautés (Hayward et al., 2021). Ces documents émergents fournissent des orientations culturellement pertinentes qui favorisent une recherche qui répond aux priorités de recherche spécifiques à chaque nation, aux visions du monde et aux systèmes de connaissances autochtones, ainsi qu'aux pratiques de recherche mutuellement bénéfiques (Hayward et al., 2021).

L'objectif général de cette thèse est d'explorer comment tous les types de chercheurs s'engageraient dans les nouvelles lignes directrices élaborées par les autochtones pour la recherche au sein de leurs territoires respectifs. Cette thèse vise à atteindre deux objectifs principaux : (O1) Identifier les pratiques et les mécanismes actuels utilisés par les chercheurs universitaires pour établir et renforcer les relations avec la Première Nation de Kluane, et (O2) Explorer comment les chercheurs aborderaient l'alignement de leurs pratiques de recherche actuelles sur les attentes exprimées dans les attentes en matière de recherche de la Première Nation de Kluane.

La région de Lhù'ààn Mân' (lac Kluane) dans le sud-ouest du Yukon – le territoire traditionnel de la Première Nation Kluane (PNK), de la Première Nation Champagne et Aishihik (PNCA) et de la Première Nation White River (PNWR) – a une longue histoire d'activité de recherche. En 2018, la Première Nation Kluane a lancé le projet Bringing Research Home (BRH) pour soutenir sa capacité à mener activement, à participer et à bénéficier des recherches menées sur le territoire traditionnel de la Première Nation Kluane. Grâce à ce projet, plusieurs outils et mécanismes ont été mis en place pour orienter tous les types d'activités de recherche – y compris les attentes de la Première Nation Kluane en matière de recherche (p. ex., une ligne directrice élaborée par la communauté pour les chercheurs).

Le chapitre 2 (Revue de la littérature) explore le contexte historique de la recherche institutionnelle avec les peuples autochtones – y compris les exigences éthiques institutionnelles pour la recherche, l'autodétermination autochtone dans la recherche et les événements clés qui ont changé la façon dont la recherche est menée avec les peuples et les nations autochtones à travers le Canada.

Chapitre 3 (Méthodes) décrit les méthodes utilisées tout au long de la thèse. Cette recherche utilise une approche de recherche participative et a nécessité une collaboration avec le département des terres, des ressources et du patrimoine de la Première Nation de Kluane à toutes les phases du projet. En utilisant les attentes de recherche de la Première Nation de Kluane comme cadre, cette recherche a fait appel directement à des chercheurs universitaires travaillant dans la région de Lhù'ààn Mân' au moyen d'une série d'entrevues semi-structurées (n=17), d'observations des participants et d'ateliers informels (chapitre 4).

Chapitre 4 est un article autonome analysant la recherche menée auprès de chercheurs universitaires travaillant dans la région de Lhù'ààn Mán pour explorer leurs points de vue sur les pratiques actuelles d'établissement de relations et les nouvelles lignes directrices de recherche élaborées par la communauté. Les mécanismes actuels utilisés par les chercheurs pour aligner les pratiques de recherche sur les cadres existants de recherche éthique avec les peuples autochtones comprennent (1) la reconnaissance territoriale, (2) l'inclusion de noms de lieux autochtones, (3) le partage des possibilités d'emploi, (4) le partage des publications de recherche, (5) la participation à des événements communautaires et (6) la soumission de licences de recherche pertinentes. Les analyses des points de vue des chercheurs ont également mis en lumière les facteurs qui influencent l'engagement envers les protocoles émergents élaborés par les autochtones pour la recherche. Il s'agit notamment (1) du manque de connaissances fondamentales et de sujets/disciplines de recherche, (2) des systèmes territoriaux de licences de recherche, (3) de la capacité des Premières Nations, (4) des relations entre les superviseurs et les étudiants, (5) de la pandémie de COVID-19 et (6) des partenariats existants avec des entités régionales. Plusieurs possibilités ont également été identifiées pour soutenir l'établissement de relations futures entre les chercheurs et les Premières Nations locales, notamment des événements communautaires (comme les sommets de recherche du lac Kluane) et une meilleure formation éthique pour les chercheurs en sciences naturelles.

Le chapitre 5 explore mes réflexions personnelles sur le développement et l'importance des activités de recherche complémentaires menées pour soutenir le projet Bringing Research Home. S'articulant autour des sommets de recherche du lac Kluane, du site Web Bringing Research Home, et des sondages auprès des chercheurs du gouvernement du Yukon, les principales réflexions portaient sur la manière dont ces outils et processus soutiennent (1) les perspectives autochtones sur la réconciliation, (2) la promotion de la collaboration à travers les échelles et les secteurs, (3) l'engagement pendant et après les perturbations communautaires, (4) la promotion des opportunités pour les jeunes dans la recherche et (5) l'amélioration des connaissances fondamentales des chercheurs.

Le chapitre 6 fournit un bref résumé des principales conclusions et des réflexions finales, y compris les limites de cette étude, la signification des résultats et les domaines de recherche future.

ETHICS STATEMENT:

The research in this thesis conforms to all ethical standards for working with humans.

Ethics approval was granted through the University of Ottawa (*S-06-18-748*) and through Yukon University (YukonU2023-03R).

A Scientist and Explorer's License (license no. 22-41S&E) was granted through the Government of Yukon with a letter of support from Kluane First Nation.

A letter of support from Kluane First Nation was obtained for the Bringing Research Home research project (December 4, 2017; signed by Grace Southwick, Director of Lands, Resources and Heritage Department).

Appendices contain copies of the certificate of ethics approvals (Appendix 1-2), scientific research licenses (Appendices 3), and letter of support (Appendix 4).

STATEMENT OF AUTHORSHIP AND COLLABORATION:

This research was conducted by Savanah Müller under the supervision of Dr. Sonia Wesche, bridging from the “Bringing Research Home” project funded by the Canadian Mountain Network (CMN). The Bringing Research Home project is led by Kluane First Nation (Kate Ballegooyen and Kristy Kennedy) in partnership with the University of Ottawa (Sonia Wesche) and Yukon University’s Yukon Research Centre (Brian Horton).

Savanah Müller is the sole author for Chapter 1 (Introduction), Chapter 2 (Literature Review), Chapter 3 (Research Methodology), Chapter 5 (Bringing Research Home: Reflections on holistic approaches to co-development of community-led projects) and Chapter 6 (Final reflections and conclusions). These chapters were written under the supervision of Dr. Sonia Wesche.

This thesis consists of one chapter that was written for publication. Exceptions to sole authorship of material are as follows:

Chapter 4 (“Being a person first, researcher second”: Exploring academic researchers’ perspectives on Kluane First Nation-developed research expectations in the in the Lhù’àn Mân (Kluane Lake) region of Southwest Yukon):

The scope and objectives for this study were established in collaboration with Sonia Wesche and Kluane First Nation Natural Resources Manager, Kate Ballegooyen. Initial scoping for the study was informed through previous work by Yukon University (formerly Yukon College) research assistants, including interviews with Kluane First Nations citizens conducted by Ellorie McKnight. Savanah Müller led participant recruitment in consultation with Kristy Kennedy and Kate Ballegooyen. Savanah Müller conducted all virtual and in-person interviews with researcher participants and completed all interview transcriptions, data coding and data analysis. Savanah Müller wrote the manuscript in ongoing collaboration with Kate Ballegooyen, Kristy Kennedy and Sonia Wesche. This manuscript was prepared for publication in Facets Journal.

Chapter 5: Bringing Research Home: Reflections on holistic approaches to co-development of community-led projects

The scope and objectives for this chapter were determined by Savanah Müller in collaboration with Dr. Sonia Wesche. The tools and processes discussed in this chapter were developed through collaboration with the broader Bringing Research Home project, which included contributions from all project partners (Kristy Kennedy (KFN), Kate Ballegooyen (KFN), Sonia Wesche (University of Ottawa), Brian Horton (Yukon University), Ellorie McKnight (Yukon University), Stephanie Saal (Yukon University). These tools were also developed through collaborations with several Kluane First Nation citizens (Dyea Johnson, Shakina Johnson, Nadaya Johnson, Coleson Ford, Pauly Sias, and Math’ieya Alatini). While the development of tools was conducted using a collaborative approach, this chapter presents reflections by Savanah Müller.

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ACRONYMS:

AINA	Arctic Institute of North America
CAFN	Champagne and Aishihik First Nations
CBPR	Community Based Participatory Research
CIHR	Canadian Institute for Health Research
CMN	Canadian Mountain Network
IRB	Institutional Review Board
KNPR	Kluane National Park and Reserve
KFN	Kluane First Nation
KLRS	Kluane Lake Research Station
LRH	Lands, Resources and Heritage
NSERC	National Science and Engineering Research Council
OCAP	Ownership, Control, Access and Possession
REB	Research Ethic Board
RRC	Renewable Resource Council
SGA	Self-Government Agreement
SSHRC	Social Sciences and Humanities Research Council
TCPS	Tri-Council Policy Statement
TRC	Truth and Reconciliation Commission of Canada
UFA	Umbrella Final Agreement
WRFN	White River First Nation

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Chapter 1: General Introduction

This chapter serves as an introduction to the background and context of the research. It presents the research aim and objectives, provides an overview of the geographical and community context, and outlines the objectives and scope of each thesis chapter.

1.1 Study framing

Indigenous Peoples have often been over researched in ways that have caused acute and generational harm to communities (Dimayuga et al., 2023; Mosby, 2013; Wilson, 2008). Colonial systems of violence and racism are firmly embedded structurally, systemically and institutionally within settler states (McGregor, 2018). Research sanctioned by settler institutions, such as governments and universities, operates, and continues to operate, as a larger structured system of exploitation, one that was created on colonial experiences and beliefs on how things are and how they ought to be (Robbins, 2006). In Canada, institutional research has a legacy of highly unethical research methods that have caused acute harm to Indigenous Peoples (Macdonald et al., 2014; Mosby, 2013). Researchers have often advanced into Indigenous communities with paradigms that leave little room or regards for other perspectives, worldviews, or knowledge systems (Castleden et al., 2010; Dawson et al., 2017; Ermine et al., 2004; Ninomiya & Pollock, 2016). As Smith (1999) states:

“The word itself, 'research', is probably one of the dirtiest words in the Indigenous world's vocabulary. When mentioned in many Indigenous contexts, it stirs up silence, it conjures up bad memories, it raises a smile that is knowing and distrustful.” (Smith, 1999, p. 1).

Researchers have often failed to communicate back the results of their research or have only provided copies of academic publications that are neither understandable nor useful for local communities and decision-makers (Perrin et al., 2021). At an institutional level, academic research continues to be driven by institutional priorities and large scale policy agendas rather than local research needs and concerns (Perrin et al., 2021). As such, relationships between researchers and Indigenous Peoples are often complex and influenced by a legacy of colonialism, cultural differences and divergent ways of thinking (Ninomiya & Pollock, 2016). However, in recent years, researchers are being called upon to consider their responsibility to support Indigenous self-determination and reconciliation through their work (Ignace et al., 2023; Wong et al., 2020). Within institutional research, a growing emphasis is being placed on Indigenous collaboration and leadership in research project, to both improve research outcomes for relevant communities and decision-makers and to uphold Indigenous rights over data and land (Brunet et al., 2016; Perrin et al., 2021). At a national level, shifts in research expectations have been promoted by the release of

the Truth and Reconciliation Commission of Canada (TRC) 94 Calls to Action and Canada's recommitment to the United Nations Declaration on the Rights of Indigenous Peoples (UNDRIP) (Ignace et al., 2023).

At a regional level, Indigenous communities and governments are developing their own protocols, guidelines and strategies to guide research activities (FNIGC, 2014; Inuit Tapiriit Kanatami, 2018; Hayward et al., 2021). These emerging tools – guidelines, principles and protocols – move beyond merely acquiring permission from relevant communities to establishing research practices that are founded in meaningful relationship-building, responsive to community needs and concerns, and supportive of community-capacity building (Hayward et al., 2021). These tools also seek to promote research that is responsive to Indigenous laws, knowledge, and values and operates in ways that uphold Indigenous sovereignty over knowledge, data, and information (Hayward et al., 2021; Wilson et al., 2020). Often focused on expressing community expectations on relationships with outside researchers, partners and academics (Bull et al., 2020), these guidelines provide researchers with community relevant cultural and social expectations of how research should be conducted.

1.1.1 Gaps in Knowledge

Current literature on ethical research space with Indigenous Peoples has primarily focused on exploring how researchers are engaging with transformative praxis, such as community-based participatory research (CBPR) (Castleden et al., 2017). A scoping review conducted by Hayward et al. (2021) worked to summarize emerging Indigenous developed research protocols; but did not directly engage with researchers (Hayward et al., 2020). Other studies have focused participant recruitment on researchers who had previous experience working collaboratively with Indigenous Peoples and/or communities (Castleden et al., 2012; Sullivan et al., 2001). A study by Castleden et al. (2017) explored Canadian university researchers' perspectives on conducting community-based participatory research with Indigenous communities. This study involved interviewing researchers that employed CBPR approaches to their research and engaged in research with Indigenous communities in Canada, and thus had previous experience working collaboratively with Indigenous communities (Castleden et al., 2017). Additionally, existing literature on CBPR

approaches have focused on health sciences, with little current literature focused on the natural sciences (Johnson et al., 2019).

While many Indigenous protocols and principles for research are focused on research using Traditional/Ancestral Knowledge, emerging protocols are often intended to direct *all types of research* occurring within an Indigenous Territory (Kluane First Nation, 2024). As northern environments are often the focus of natural science research (Ford et al., 2016), it is expected that many researchers engaging with these protocols in the north would be natural scientists' researchers. As previous studies have indicated, natural scientists are often unaware of ethical guidance for working with Indigenous communities (Trisos et al., 2021; Wong et al., 2020). As such, it is important to understand how researchers with limited previous experience engaging with communities and Indigenous Peoples would engage authentically with the guidance provided by Indigenous research protocols.

1.1.2 Geographical and Community context

The Lhù'ààn Mân' region is the Traditional Territory of Kluane First Nation (KFN), Champagne and Aishihik First Nations (CAFN), and White River First Nation (WRFN). Kluane First Nation is a self-governing First Nation with their seat of government located in Burwash Landing, Yukon. Located along the shores Lhù'ààn Mân' of Burwash Landing is a small community of approximately 108 residents (Yukon Government, 2017). Kluane First Nation Traditional Territory (Fig. 1.1) is home to the Lhù'ààn Mân Ku Dań (Kluane Lake People) most of whom are descendants of Southern Tutchone speakers (Kluane First Nation, 2019).

Kluane First Nation signed their Final Agreement in 2003, and it came into effect in 2004 (Kluane First Nation, Government of Canada & Government of Yukon, 2003). Under the signed SGA, Kluane First Nation has specific rights over land, resources, and citizens, including exclusive rights of First Nation membership, housing policies and natural resource and heritage management (Kluane First Nation, Government of Canada & Government of Yukon, 2003). Kluane First Nation has exclusive jurisdiction over their Settlement Land, located around Destruction Bay and Burwash Landing (Figure 1.1). As outlined in their final Land Claims agreement, Kluane First

Nation Traditional Territory extends from the base of Lhù'ààn Mân' and covers a significant portion of the Kluane National Park.

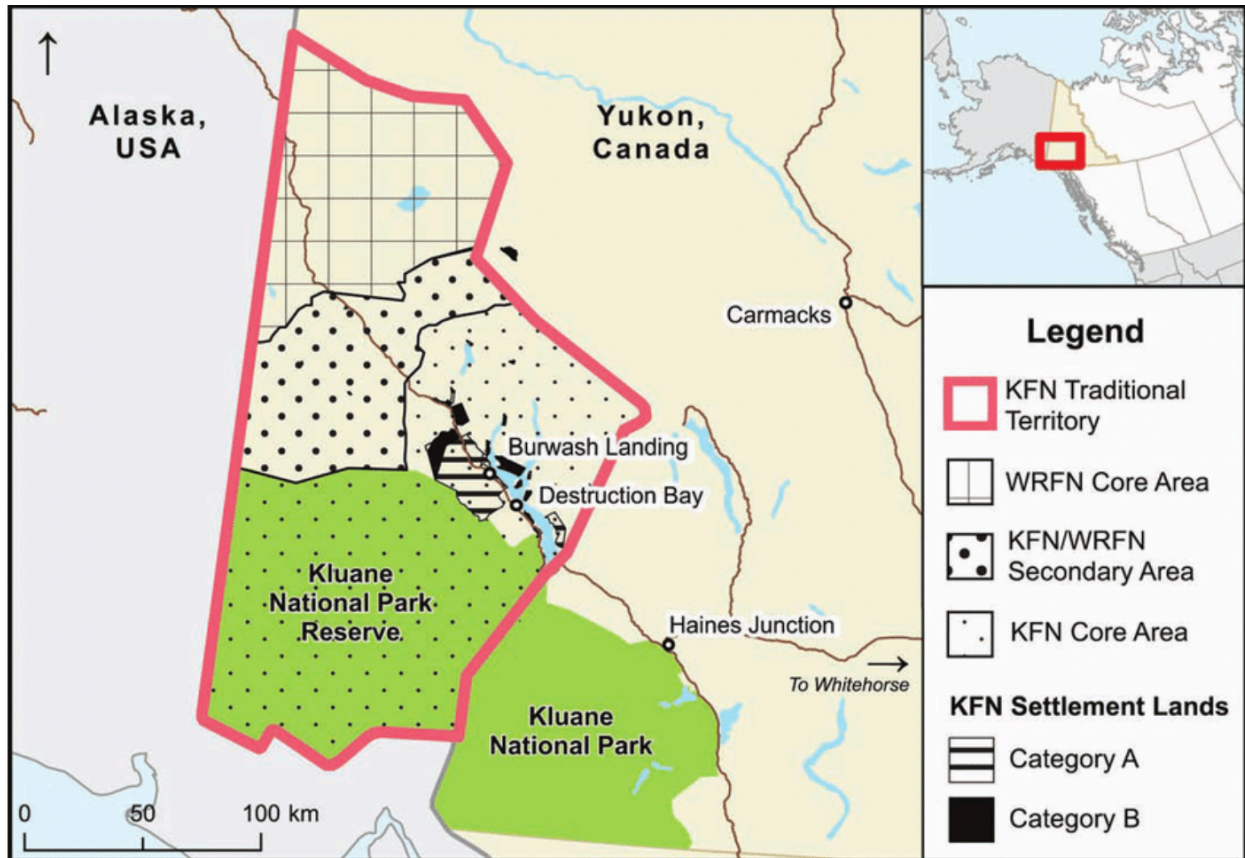


Figure 1.1 Kluane First Nation Traditional Territory, showing Category A and B lands and the overlap with Kluane National Park and Reserve (Figure from Cruickshank et al., 2019).

Extending from the Ruby Range to the east to the St. Elias Mountains to the west and encompassing Lhù'ààn Mân', the Lhù'ààn Mân' region has experienced significant research activity over the past half century (Danby et al., 2014). The diverse geography and presence of the St. Elias Mountain range – including Mt. Logan – has attracted the attention of explorers since the mid 1900s (Danby et al., 2014). Outsider presence in the region intensified after several periods of rapid social and economic changes, including the Kluane Gold Rush in 1904 and the building of the Alaska Highway in 1948 (Danby et al., 2003).

Early exploration into the Lhù'ààn Mân' region through early mountaineering explorations, transitioned towards research activity with the establishment of the Kluane Lake Research Station (KLRS) in 1961 (Danby et al., 2014). The KLRS is a southern-operated research

station run by the Arctic Institute of North America and the University of Calgary. Being one of few research stations north of the 60° parallel in Canada, KLRS provides an accessible home base for researchers seeking to study northern environments (Danby et al., 2014). In addition, the proximity and accessibility of the St. Elias Mountain range – which contain the world’s largest non-polar icefields – provides a dramatic elevation difference to establish a strong gradient in environmental attributes, resulting in diverse research opportunities within a small geographical area (Danby et al., 2003; Danby et al., 2014).

Research interest and activity in the Lhù’àn Mân region intensified after the 1972 designation of Kluane National Park (Danby et al., 2014). With the designation of the park came several long-term monitoring programs, including the Kluane Monitoring program, the Kluane Boreal Forest Monitoring Program, and the Community Ecological Monitoring Program (CEMP) (Danby et al., 2014). The Kluane Monitoring program was established in 1973 to monitor the abundance of several key species, including Dall sheep (*Ovis dalli*) and grizzly bears (*Ursus arctos horribilis*) (Krebs et al., 2014; Powell et al., 2014). The CEMP was established in 2005 to study the impacts of climate change on community dynamics in the region (Krebs et al., 2014). More recently, the 2016 A’äy Chù’ (Slims River) diversion, where glacial recession within the Lhù’àn Mân’ watershed resulted in the diversion of the lake’s primary inflow away from A’äy Chù’ and towards Alsek River (Southwick & Ballegooyen, 2019). The diversion resulted in lake water levels to drop and left the sand of the river valley exposed, resulting in frequent dust storms. This event brought in more researchers to study the ecological impacts of the event, including researchers in the field of hydrology, biology, and chemistry (Bachelder et al., 2020; McKnight et al., 2021; Southwick & Ballegooyen, 2019).

Following significant national and international research interest in the A’äy Chù’ diversion, Kluane First Nation organized the inaugural 2018 Kluane Lake Research Summit. Hosted and coordinated by Kluane First Nation, this summit aimed to bring together researchers, local community members and First Nations to engage in cross-cultural discussions and collaborative learning to direct a more coordinated research approach within the territory. Informed by Kluane First Nation priorities and discussions stemming from the summit, the Bringing Research Home (BRH) project was established in 2018 to collaboratively study how to enhance Kluane First

Nation's ability to actively drive and participate in research within its territory. Led by Kluane First Nation and centred on Kluane First Nation values, knowledge and priorities, the BRH project remained responsive to community needs and concerns through active collaboration and co-learning throughout the entirety of the project. Through the BRH project, a protocol for research was collaboratively developed centred around Kluane First Nation values, culture and knowledge. This research protocol, hereby known as Kluane First Nation's Research Expectations, provide clear, community-relevant expectations for all types of researchers working within its Traditional Territory.

1.2 Research Aim and Objectives

Building on the identified gaps in existing literature and informed by Kluane First Nation research priorities, this thesis seeks to examine researchers' perspectives on engagement with emerging Kluane First Nation-developed research guidelines. Using the framework developed through Kluane First Nation's Research Expectations, the overall objectives for this research were to:

- (1)** Explore researcher perspectives on current practises and mechanisms being used to build and strengthen relationships with Kluane First Nation.
- (2)** Explore how researchers would approach aligning their current research practises with the expectations expressed in Kluane First Nation's Research Expectations (e.g. protocol for research).

To accomplish these objectives, academic researchers (e.g. researchers working for universities) were targeted as the main study group. Engagement with academic researchers was accomplished through a series of semi-structured interviews with researchers who are currently or have previously worked in the Lhù'ààn Mân region (Chapter 4). The framework for the interviews was informed by Kluane First Nation's Research Expectations and a review of existing ethical guidance and protocols for research with Indigenous Peoples, including for institutional policies and protocols, guidelines and frameworks established by Indigenous organizations and Nations across Canada.

Building on the collaborative framework of the BRH project, this study used a participatory and mixed methods research approach to address a Kluane First Nation-identified research priority. Participatory research is a ‘bottom-up’ approach to research that focuses on locally defined research needs and priorities (Cornwall & Jewkes, 1995). As part of the BRH project, this research remained directed by Kluane First Nation needs and concerns through partnership and collaborative learning with Kluane First Nation’s Lands, Resources and Heritage (LRH) department and partners at the Yukon Research Centre.

1.3 Structure of the Thesis

This thesis is structured into six chapters. Chapter 4 has been prepared as a manuscript for publication in a relevant peer-reviewed academic journal. Each chapter has been structured to address specific objectives and scope:

Chapter 1 provides a general introduction to the thesis, including a general overview of the research context and background, the research objectives and positionality statement.

Chapter 2 is a literature review that explores the history of institutional research with Indigenous Peoples – including key events that have influenced modern relationships between researchers and Indigenous communities.

Chapter 3 situates this research within the broader community-based research project, outlines the research objectives and explains and justifies the methodology used throughout the thesis.

Chapter 4 is a standalone article exploring academic researcher perspectives on current relationship-building practises with local First Nation communities in Lhù’àn Mân’ region, including their perspectives on engaging with Kluane First Nation’s emerging expectations for research and researchers.

Chapter 5 is a summary of my personal reflections on the supplemental research activities undertaken to support the research objectives of this thesis and the broader Bringing Research Home project.

Chapter 6 explores a final discussion and conclusion of the thesis findings, looking at its implications and future areas of research.

1.4 Positionality

Acknowledging positionality in research allows researchers to situate themselves within their research and acknowledge how their race, class, gender and experiences influence their research process (Fisher, 2015; Johnson et al., 2019). Reflecting upon positionality through engaging in reflexivity and ongoing reflections is critical to uncover privileged positions with implications on the research process (Held, 2019). I wish to acknowledge my own positionality in relation to this research, including my relationship to the land and people I have work with and on over the past few years. I am a white, settler woman currently living and working on unceded Anishinaabe Algonquin territory (Ottawa). Before beginning this research, I had limited experience working with Indigenous communities and limited knowledge of northern Canada. Through this research, I have had the privilege to have worked and lived in the Yukon for several months on the Traditional Territories of Kluane First Nation, White River First Nation, Champagne and Aishihik First Nation, and Kwanlin Dün First Nation. Having the opportunity to travel for my research provided opportunities to learn from the people who have a deeper connection and history of the land. These experiences and knowledge have help challenge my assumptions of northern environments and better situate myself in relation to my research – including my relationship to the people and land. Collaborations between non-Indigenous researchers and Indigenous Peoples require constant reflection and assessment of power dynamics and positionality to ensure power structures were not replicated or reinforced through my research.

Acknowledging my positionality is also important for identifying the inherent limitations of this research (Barnett, 2006). My positionality as a white, non-Indigenous researcher with limited previous experience in the North may limit my understanding of relationship dynamics that exists within my research context. While my research objectives emerged from an Indigenous-identified

research priority, the findings were interpreted from my own worldview. As such, this research does not seek to represent Indigenous experiences nor explain through my own lens of positionality. Through ongoing collaborations and learning between project collaborators, I have been able to shift my ways of thinking and learn from Indigenous ways of knowing. While my positionality as a white, settler researcher required constant and deep reflection, it also provided a level of trust and transparency between myself and study participants (academic researchers). Throughout the data collection phase of this research, participants shared experiences and opinions with a high level of honesty and transparency that may not have been present otherwise.

Acknowledging my positionality was also critical for discovering my role and responsibility to the people, communities, and the land I worked on and with. It was important to me that this research produced tangible benefits for *all* those involved in the process, including the Kluane First Nation community and the research community in the Lhù'ààn Mân region.

1.5 References

- Bachelder, J., Cadieux, M., Liu-Kang, C., Lambert, P., Filoche, A., Galhardi, J.A., Hadioui, M., et al. 2020. Chemical and microphysical properties of wind-blown dust near an actively retreating glacier in Yukon, Canada. *J. Aerosol Sci. Technol.* 54(1): 2–20.
<http://dx.doi.org/10.1080/02786826.2019.1676394>
- Barnett, C. (2006). Postcolonialism: space, textuality and power. In: Aitken, Stuart and Valentine, Gill eds. *Approaches to Human Geography*. London, UK: Sage, pp. 147–159.
<https://doi.org/10.4135/9781446215432>
- Cruikshank, A., Notten, G., Wesche, S., Ballegooyen, K. & Pope, G. (2019). Co-management of Traditional Foods: Opportunities and Limitations for Food Security in Northern First Nation Communities. *Arctic*, 72(4).
<http://dx.doi.org.proxy.bib.uottawa.ca/10.14430/arctic69363>
- Danby, R.K., Hik, D.S., Slocombe, D.S., and Williams, A. (2003). Science and the St. Elias: An evolving framework for sustainability in North America’s highest mountains. *The Geographical Journal*, 169(3):191–204. <http://dx.doi.org/10.1111/1475-4959.00084>
- Danby, R. K., Williams, A., & Hik, D. S. (2014). Fifty years of science at the Kluane Lake research station. *Arctic*, 67(5 SUPPL.1). <https://doi.org/10.14430/arctic4398>
- Dimayuga, P., Sur, S., Choi, A., Greenwood, H. L., Galloway, T., & Bilton, A. M. (2023). A review of collaborative research practices with Indigenous Peoples in engineering, energy, and infrastructure development in Canada. *Energy, Sustainability and Society*, 13(1), 3.
<https://doi.org/10.1186/s13705-023-00382-8>
- Ford, J. D., Cameron, L., Rubis, J., Maillet, M., Nakashima, D., Willox, A. C., & Pearce, T. (2016). Including indigenous knowledge and experience in IPCC assessment reports. *Nature Climate Change*, 6(4), 349–353. <https://doi.org/10.1038/nclimate2954>
- Johnson, L. R., Stribling, C., Rivera, N., Preissner, K., Hsu, C. P., Jones, A., & May-Schroeder, A. (2019). “Earning the Right”: Conducting community based research. *Critical Questions in Education*, 10(3), 161–179.
- Kluane First Nation, Government of Canada, and the Government of the Yukon. (2003). Kluane First Nation Final Agreement. Ottawa: Department of Indian Affairs and Northern Development. <http://publications.gc.ca.proxy.bib.uottawa.ca/collections/Collection/R2-2912003E.pdf>
- Kluane First Nation. (2024). Bringing Research Home. Retrieved from www.kluanefirstnationresearch.ca

- Krebs, C.J., Boonstra, R., Boutin, S., Sinclair, A.R.E., Smith, J.N.M., Gilbert, B.S., Martin, K., O'Donoghue, M., and Turkington, R. (2014). Trophic dynamics of the boreal forests of the Kluane region. *Arctic* 67(Suppl. 1):71–81. <http://dx.doi.org/10.14430/arctic4350>
- Powell, T., Donoghue, M. O., Jung, T., Loewen, V., Gilbert, S., Fontaine, A., ... Alice, J. (2013). *The Community Ecological Monitoring Program Annual Report 2013*.
- McKnight, E. A., Swanson, H., Brahney, J., & Hik, D. S. (2021). The physical and chemical limnology of Yukon's largest lake, Lhù'ààn Mân' (Kluane lake), prior to the 2016 'Aäy Chù' diversion. *Arctic Science*, 7(3), 655–678. <https://doi.org/10.1139/as-2020-0012>
- Morton Ninomiya, M. E., & Pollock, N. J. (2017). Reconciling community-based Indigenous research and academic practices: Knowing principles is not always enough. *Social Science and Medicine*, 172, 28–36. <https://doi.org/10.1016/j.socscimed.2016.11.007>
- Southwick, T. & Ballegooyen, K. (2019). Living and Breathing Change: A Southern Tutchone Perspective on Climate and Research. Retrieved from <https://blog.alpineclubofcanada.ca/state-of-the-mountains/2019/6/21/living-and-breathing-change>
- Sullivan, M., Kone, A., Senturia, K. D., Chrisman, N. J., Ciske, S. J., & Krieger, J. W. (2001). Researcher and researched-community perspectives: Toward bridging the gap. *Health Education and Behavior*, 28(2), 130–149. <https://doi.org/10.1177/109019810102800202>

Chapter 2: Literature review

This chapter is structured as literature review to provide background information and an introduction to the research context, including key historical and modern events that have influenced and continue to shape relationships between non-Indigenous researchers and Indigenous Peoples.

2.1 Settler colonialism and institutional research

Relationships between researchers and Indigenous communities are often complex and heavily influenced by a legacy of colonialism, cultural differences and divergent ways of knowing and thinking (Ninomiya & Pollock, 2017). As already mentioned in the previous chapter, there is a long history between settler institutions and Indigenous communities in Canada – where the trauma of residential schools, forced displacements, and disregard of Indigenous rights are only beginning to be acknowledged (McGregor, 2018; Snow, 2018). Early institutional research in, specifically within the fields of health sciences, was often used to further advance colonial agendas and strengthen power imbalances between the government and Indigenous communities and nations (Held, 2019; Snow, 2018; Mosby, 2013; Macdonald et al., 2014). Research projects often occurred *on* rather than *with* Indigenous Peoples and communities, with researchers frequently proceeding without informed consent from Indigenous communities and people (Castleden et al., 2010; Dimayuga et al., 2023; Ninomiya & Pollock, 2016; Snow, 2018). Unethical research practices resulted in both acute harm to individuals and multi-generation harm to families and communities (Macdonald et al., 2014; Mosby, 2013). Such research was frequently not asked for, nor had any relevance to the communities being studied (Kovach, 2009; Wilson, 2008). As the 1999 Report of the Royal Commission on Aboriginal Peoples highlighted:

“In the past, Aboriginal people have not been consulted about what information should be collected, who should gather that information, who should maintain it, and who should have access to it...The information gathered may or may not have been relevant to the questions, priorities, and concerns of Aboriginal peoples” (Report of the Royal Commission on Aboriginal Peoples, 1998, Vol. 3).

Colonialism and colonization are inherently violent processes, built on the differentiation between the colonizer and the colonized (McEwan, 2008). Knowledge on Indigenous Peoples was often used as a form of power and the process of identifying and differentiating between cultures, societies and people created a binary between the ‘colonized’ and the ‘colonizer’ (Barnett, 2006). This process of ‘othering’ was used to legitimize and support the expansion of colonial control over colonized land and peoples, including their culture, identities and knowledge (Barnett, 2006). The colonial power structures built on processes of ‘othering’ were maintained through

representation of the ‘non-West’ or the ‘colonized’ people by the ‘West’ or the colonizers (Barnett, 2006).

Academic research has often advanced into Indigenous communities with research paradigms that do not leave space for other perspectives, worldviews, or knowledge systems (Drawson et al., 2017; Ermine et al., 2004; Kovach, 2009). Research paradigms, or theoretical frameworks, can be defined by their assumptions regarding ontology (*the nature of reality*), epistemology (*what is knowledge and the nature of knowing*), and axiology (*values, ethics, and morals*), which are used to inform and guide the development of research priorities, methods, and actions (Held, 2019; Wilson, 2008). While often used interchangeably, worldviews refer to cognitive and perceptual mental lenses that people use to make sense of their social landscape(s) (Hart, 2010). Worldviews are established throughout a person's lifetime through socialization and are often framed through societal structures – such as race, gender and class (Fisher, 2015). Worldview and paradigms affect belief systems, decision-making, assumptions and how we relate to the world around us (Hart, 2010).

Institutional research has often been governed by positivistic research paradigms and associated frameworks. Positivist paradigms are informed by the ontological assumptions that a single reality exists – one that can be “discovered” through identification and measurement (Park et al., 2020). Epistemic assumptions in positivistic frameworks assume that knowledge can and *must* be discovered objectively (Alakwe, 2017). Objectivity and neutrality are maintained by research processes to remove researcher bias from knowledge generation and to discover universal “truths” – knowledge that is assumed to be certain, accurate, and congruent with reality (Park et al., 2020). Most research operating within this paradigm relies on written texts, empirical observations, and analysis (Alakwe, 2017). While Indigenous epistemologies are diverse and heterogeneous, Indigenous paradigms or worldviews often have shared principles based on reciprocity, kinship and relationality (Wilson, 2008). Indigenous worldviews are often based on relationships between people, land and other non-human beings (Hart et al., 2010).

As Smith (1999) argues, “research is not an innocent or distant academic exercise but an activity that has something at stake and that occurs in a set of political and social conditions”

(Smith, 1999, p. 5). Research operated, and often continues to operate, as a larger structured system of exploitation, one that was created on colonial experiences and beliefs on how things are and how they ought to be (Robbins, 2006). The positivistic reliance on objectivity implies that subjective experiences and values must be removed to produce “true” knowledge, and often implies that subjectivity has no value within the research process (Park et al., 2020). Based on the positivistic assumption of one single reality, researchers that operate within this paradigm struggle to meaningfully incorporate diverse knowledge systems, often reducing place-based knowledge by removing relationships that are cultural, social or political in nature (Trisos et al., 2021). Indigenous methods of producing and sharing knowledge, often through oral traditions and communications, are often portrayed as unusable in Western research paradigms (Louis, 2007). In addition, researchers have often failed to communicate back the results of their research or have only provided copies of academic publications that are neither understandable nor useful for local communities and decision-makers (Perrin et al., 2021). Indigenous scholars have critiqued positivistic, and other Western-based paradigms, for their attempts to categorize, classify, or simplify paradigms that operate from different ontologies and axiologies (Bishop, 2020).

These assumptions continue to support a dominant Western/Eurocentric hegemony within academic settings and impacting how Indigenous communities are included in research processes and funding opportunities (Bishop, 2020; Dutta, 2018; Ryder et al., 2019). Positivism and associated quantitative methods have become the ‘gold standard’ within many disciplines - specifically within the natural sciences (Kovach, 2005). As such, research operating within these paradigms are often favored in funding allocations, publications and policy making decisions (Kovach, 2005). The epistemic privilege of positivism within the academy has effectively squeezed out other forms of knowledge, specifically the exclusion of knowledge from marginalized groups, and alienated Indigenous and other marginalized scholars (Kovach, 2005; Ryder et al., 2019; Wilson, 2008).

At an institutional level, academic research priorities continue to be being driven by large scale policy agendas and decisions (Perrin et al., 2021). Research sanctioned from academic institutions often fail to develop research projects that address local research needs, priorities or concerns (Perrin et al., 2021). Despite the frequently unacknowledged contribution of Indigenous

Peoples in research activities, the benefits of research have not been, and continue to not be, equally or equitably distributed (Castleden et al., 2012; Snow, 2018). The role of knowledge production in reproducing colonial relations has often led to research findings that are interpreted with limited or minimal context, leading to misrepresentations of Indigenous Peoples and lands, and contributing to further marginalization and harm (Ninomiya & Pollock, 2017; Toombs et al., 2016; Willows, 2017).

2.2 Academic institutional ethical requirements

Conventional western research has been largely condemned by Indigenous communities for reinforcing power imbalances, ignoring local needs and concerns, and failing to produce reciprocal benefits for communities (Hayward et al., 2021). Many Indigenous communities share an understandable mistrust and hesitancy to engage with research and researchers (Perrin et al., 2021). Communities not only distrust individual researchers but the institutions and systems they often represent (FNIGC, 2014; Kilian, 2018; Snow, 2018). Following research that was largely deemed unethical and extractive, universities moved to establish their own methods for directing ethical research, through the establishment of Research Ethic Boards (REBs) or Institutional Review Boards (IRBs) (Hayward et al., 2021). REBs and IRBs have three primary roles – to protect research participants, use societal resources with fairness and equity, and aid researchers in the ethical conduct of research (Cumyn et al., 2018). REBs and IRBs are also responsible in ensuring that research is adhering to any provincial/territorial, national or international requirements (Inuit Tapiriit Kanatami, 2018). Through this process it is assumed that the potential risks to participants are minimized, informed consent is received and documents that the privacy and rights of participants are upheld (Carjuzaa & Fenimore-Smith, 2010).

In Canada, all universities and major funding bodies refer to the *Tri-Council Policy Statement on the Ethical Conduct for Research Involving Humans* (TCPS) for directing ethical research. Produced by the Canadian Institute for Health Research (CIHR), the original TCPS was released in 1998 outlining the guiding principles of ethical research – respect, concern for welfare, and justice – which set the ethical standards for REBs and IRBs across Canada (CIHR, 2014; Riddell et al., 2017). This statement was created to address and prevent issues of unethical research with Indigenous communities; however, early concerns were raised due to the lack of appropriate consultation with Indigenous Peoples on its development (Riddell et al., 2017). In response, the

CIHR engaged in consultation with Indigenous Peoples and groups and released an updated TCPS in 2007, which was later updated in 2010 and 2014 in collaboration with the other two federal research agencies, the National Science and Engineering Research Council (NSERC) and the Social Sciences and Humanities Research Council (SSHRC) (Riddell et al., 2017). Later versions of the TCPS (2010 & 2014), known as TCPS2, contain a chapter outlining a policy for research with Indigenous communities (CIHR et al., 2014). The chapter “Research Involving the First Nations, Inuit and Métis Peoples of Canada” (Chapter 9) of the TCPS2 provides a framework for researchers and REBs/IRBs to evaluate research proposals, to ensure they meet the 3 guiding principles of the Tri-council guidelines in the context of research with Indigenous communities (Riddell et al., 2017).

While some information is useful to guide ethical research, following the TCPS2 alone does not guarantee that research is conducted in ethical and engaged ways (FNIGC, 2014). While REBs and IRBs continue to adapt their policies to better protect Indigenous communities, they have been criticized for focusing on promoting academic agendas rather than ensuring researchers and institutions are meeting their responsibilities to participants (Haywarth et al., 2017; Simonds & Christopher, 2013; Steigman & Castleden, 2015). Institutional review processes were ultimately established to protect the *individual* and are not well equipped to protect the *community* (Brown & Strega, 2005; Steigman & Castleden, 2015). Additionally, the responsibility of applying ethical standards in research practices ultimately lies with individual researchers rather than REBs and IRBs. Institutional ethical review processes have also been critiqued due to their reliance on positivist research frameworks, which reflect positivistic and Eurocentric biases (Brown & Strega, 2005; Hayward et al., 2021; Van der Hoonard, 2002). Ethical principles established to protect research participants and subjects are often ill-aligned with non-Eurocentric understandings of relationships and communities. Thus, ethical review processes guided by the TCPS, including REBs and IRBs, often fail to consider ethical questions related to representation, voice, and collaboration (Brown & Strega, 2005). While REBs may help uphold informed consent, confidentiality and privacy of research participants, institutional ethical reviews do not ensure that research is aligned with the needs, concerns, or research priorities of local communities.

2.3 History of natural science research in the North

Northern Canada has a long and complex history of research, from early Arctic expeditions to the establishment of multiple national and international scientific programs and government science strategies (Danby et al., 2014; Perrin et al., 2021). Due to the rapid climatic and environmental changes, northern regions have experienced an increased presence of southern scientists interested in studying these phenomena in recent years (Ford et al., 2016). Such research plays a critical role in addressing policy and decision-making priorities by a range of organizations, institutions, and governments in the North (Perrin et al., 2021). However, both academic and governmental institutions have often struggled to conduct research that is relevant, respectful of local and Indigenous interests, and supportive of local capacity building (Perrin et al., 2021).

While health sciences have often dominated the discourse on research ethics with Indigenous Peoples (Fitzpatrick et al., 2016; Mosby, 2013), the natural sciences carry their own legacy of harmful and often exclusionary research practices with Indigenous Peoples (Adams et al., 2014; Trisos et al., 2021; Wong et al., 2020). The growth of the natural sciences as an academic discipline is strongly rooted in colonialism, with early settler researchers benefiting from colonial control for access to land used for field studies and the establishment of research stations (Trisos et al., 2021). Early research findings from such activities were also frequently used to justify and inform colonial social and environmental control, including the dispossession of Indigenous Peoples from their land and control over natural resources (Trisos et al., 2021). The global environmental change research community that does engage with Indigenous knowledge holders practice engagement in extractive ways – where knowledge is treated as data that can be aggregated and understood in an abstract and universal form (Latulippe & Klenk, 2020). In addition, although the Natural Sciences and Engineering Research Council (NSERC) is part of the Tri-Council, very few natural scientists are aware of the guidance for working with Indigenous communities if they are not directly collaborating with Indigenous Peoples (Steigman & Castleden, 2015; Wong et al., 2020).

At the institutional level, academic researchers and professors are often expected to produce publishable research findings, which is used to secure research funding, support academic careers and advance the reputation of academic institutions (Castleden, et al., 2012). As such, research

topics and priorities within the natural sciences are often reflective of institutional priorities and national agendas rather than communities informed priorities (Ford et al., 2016). Despite increasing recognition of ethical research practices and attempts to engage meaningfully with Indigenous communities, natural scientists often still struggle to be conduct research in ways that produce reciprocal benefits for Indigenous Peoples, communities and governments (Wong et al., 2020).

As Debassige (2013) states “Indigenous people are the original researchers of these territories” (p. 16). Indigenous Peoples in the North have strong traditions in decision-making and governance systems grounded in deep knowledge and understanding of the people and land, including Traditional and Ancestral knowledge passed down through generations (McGregor et al., 2010). Despite colonial attempts to eradicate such systems, Indigenous Peoples continue to maintain and restore languages, connections with the land, knowledge systems and ways of governance. For northern Indigenous Peoples, much of the right to self-determination and engagement in research has emerged through struggles to regain control over their Traditional Territories (Brunet et al., 2016). Decision-making agency is shifting increasingly to Indigenous governments across the North through Self-Governing Agreements (SGAs) and comprehensive Land Claim Agreements (Adams et al., 2016; Perrin et al., 2021). Northern Indigenous communities have initiated major research programs as the basis for defending their land rights, formulating comprehensive land claims, and intervening in resource management decisions (McGregor et al., 2010). As such, research practises need to reflect and support that Indigenous nations are *rights holders*, with sovereignty over their land, people and stories (Bull et al., 2020).

2.4 Frameworks for ethical research with Indigenous Peoples

At a national level, there are several key legal agreements and frameworks that uphold and recognize Indigenous rights over land and territory, which have implications on research processes and consent for land use (Artelle et al., 2019). Indigenous rights, including Aboriginal title and responsibilities extend beyond Crown-recognized (e.g. reserves) land to all Traditional Territories, which span across the country (Artelle et al., 2019). These rights and title are acknowledged within Canadian law, including Section 35 of the Canadian *Constitution Act, 1982*, which recognizes and affirms the “existing aboriginal and treaty rights of the aboriginal peoples of Canada” (Constitution

Act, 1982, p. 14), and within federal policies and legislation such as “Principles: Respecting the Government of Canada’s Relationship with Indigenous Peoples” (Government of Canada, 2017) and the *United Nations Declaration on the Rights of Indigenous Peoples Act* (Government of Canada, 2021).

Since the release of the 2015 Final Report by the *Truth and Reconciliation Commission* (TRC), there has been a renewed recognition of and attention towards building collaborative approaches to research with Indigenous Peoples, including at the community level (Held, 2019; Wong et al., 2020). The TRC’s Final Report detailed 94 Calls to Action to “redress the legacy of residential schools and advance the process of Canadian reconciliation” (TRC, 2015). While not specifically targeted towards research, these calls to action address all aspects of society with implications on education, policy and institutional structures.

Canada’s recommitment to the United Nations Declaration on the Rights of Indigenous Peoples (UNDRIP) provides an important framework for ethical research with Indigenous Peoples (Held, 2019; Ignace et al., 2023). UNDRIP recognizes the rights of Indigenous Peoples to self-determination, cultural integrity, and the protection of their knowledge systems; the requirement for obtaining the free, prior, and informed consent of Indigenous Peoples; importance of respecting and protecting Indigenous knowledge systems, cultural practices, and intellectual property; advocates for equitable benefit sharing arising from the use of Traditional Territories, Indigenous knowledge and resources; encourages the active participation and empowerment of Indigenous Peoples in all stages of research; and provides a framework to protect Indigenous Peoples from any potential harm that could arise from research activities (UN General Assembly, 2007).

Indigenous Peoples have the right to self-determination as per Article 3 of UNDRIP (United Nations General Assembly, 2007). As per Article 32.1, Indigenous Peoples also have the right to determine priorities and strategies for the use or development of their lands (UNDRIP Article 32.1). As stated by the UNDRIP:

“Indigenous Peoples have the right to maintain, protect and develop their [...] traditional knowledge [...] as well as the manifestation of their sciences,

technologies and cultures. They also have the right to maintain, control, protect and develop their intellectual property” (UN General Assembly, 2007, p. 10).

UNDRIP was recognized within Canadian law through the *United Nations Declaration on the Rights of Indigenous Peoples Act, 2021* (Government of Canada, 2021). This Act provides the framework for accountability and provides greater clarity regarding the path forward for Indigenous Peoples, communities, industry and all Canadians. As noted by the United Nations Declaration on Indigenous Peoples, the conduct of ethical research with Indigenous Peoples cannot be separated from the application of research governance (Bull et al., 2020; UN General Assembly, 2007).

Engaging with Indigenous communities to inform research processes or decision-making implies that Indigenous Peoples are stakeholders as opposed to self-determining Nations with rights and responsibilities regarding their land and peoples (Latulippe & Klenk, 2020). As constitutionally protected rights holders in Canada, First Nations in the Yukon are leaders and decision makers about research within their communities and their land (Bull et al., 2020). Collectively, these documents and legal frameworks show an increasing recognition of inherent Indigenous rights and titles in legal systems, highlighting the need for Indigenous consent in land use decisions and research processes (Artelle et al., 2017). Acknowledgement of inherent Indigenous rights need to extend beyond merely acquiring permission to conduct research (e.g. research licenses), towards increased collaboration, engagement and decision-making in all phases and aspect of research (Bull et al., 2020). Supporting Indigenous sovereignty and rights cannot be simply a means to an end for researchers; rather Indigenous rights and title must be recognized as inherent and not contingent on their compatibility with given research objectives (Ignace et al., 2023).

Institutional processes to direct ethical research exist, such as REBs and IRBs, have been widely criticized for their reliance on colonial worldviews that reflect Western philosophical, cultural and methodological perspectives (Castleden et al., 2012; Hayward et al., 2021). Indigenous Peoples have critiqued these established boards and related processes for their tendency to protect institutions and researchers, rather than promote research that meets

researchers' responsibility to participants and Indigenous communities (Castleden et al., 2012). This includes sanctioning research that has caused harm to Indigenous participants and communities (Hayward et al., 2021). In response to the existing limitations of institutional ethical processes, various frameworks for ethical academic research involving Indigenous communities have emerged with increased involvement of Indigenous Peoples (Hayward et al., 2021) (Table 2.1). As Hayward et al. (2021) explains, these emerging frameworks - including principles, protocols and guidelines - often fall into two categories; (1) those that seek to change the research structure from within institutions and (2) those that seek to create a new pathway forward (Hayward et al., 2021).

Table 2.1 Summary of organizational frameworks to support ethical research with Indigenous communities, with application to northern Canada (* indicates frameworks applicable to Yukon-based research). Adapted from Hayward et al., 2021.

Ethical research documents	Organization	Date
Guidelines for Research in the Inuvialuit Settlement Region	Inuvialuit Regional Corporation	2000
Traditional Knowledge Research Guidelines: A Guide for Researchers in the Yukon *	Council of Yukon First Nations	2000
Conducting Traditional Knowledge in the Gwich'in Settlement area: A Guide for Researchers *	Gwich'in Tribal Council	2003
Ethical Principles for the Conduct of Research in the North *	Association of Canadian Universities for Northern Studies	2003
Negotiating Research Relationships with Inuit Communities: a guide for researchers	Inuit Tapiriit Kanatami and Nunavut Research Institution	2007
Principles of Ethical Métis Research	National Aboriginal Health Organization	2011
Protocols and Principles for Conducting Research with Yukon First Nations *	Yukon University	2013
OCAP®	First Nation Information Governance Centre	2015
First Nations Ethics Guide on Research and Aboriginal Traditional Knowledge	Assembly of First Nations	2018
Tri-Council Policy Statement on Research Involving Humans (TCPS 2)	Tri-Council	2018 (latest update)
National Inuit Strategy on Research	Inuit Tapiriit Kanatami	2018
Kitasoo/Xai'xais Stewardship Authority	Informing First Nation Stewardship with	2021

	Applied Research	
Doing Research in the Northwest Territories: A Guide for Researchers Applying for a Scientific Research Licence	Aurora Research Institute	2024

The manner in which research is conducted in relation to Indigenous Peoples has begun to shift, as researchers across disciplines are increasingly called to reflect upon power relations and positionality in the production of knowledge (Bull et al., 2020; Ignace et al., 2023; Leeuw et al., 2012). Following the 2015 release of the TRC’s Calls to Action, academic institutions (e.g. universities and colleges) have increasingly attempted to better align and support calls for reconciliation and decolonization with the academy (Gaudry et al., 2018). Institutions are promoting space for Indigenous faculty members across disciplines and establishing their own protocols and policies for reconciliation (Gaudry et al., 2018; Styres, 2022). Increasingly, consideration has been given within academic spaces for the use of community-based, participatory and Indigenous research methods (David-Chavez & Gavin, 2018; Martin, 2012; Wright & Ballantyne, 2019). CBPR approaches with Indigenous communities include (but are not limited to) (1) recognition of historical harms experienced by communities in relation to research activities, (2) understanding and upholding Indigenous sovereignty - including rights over intellectual property, (3) establishment of community trust, (4) enacting ethical responsibility to the community, and (5) implementing a flexible approach to research methods (ability to use innovative qualitative and mixed-methods research approaches, including photovoice, talking circles, etc.) (Allen et al., 2012; Wilson, 2008). At an institutional level, Memorandums of Understanding (MOUs) are increasingly employed to promote collaboration between researchers and Indigenous partners (Alcock et al., 2017). An MOU is “both a process and a tool for collaborative research. It is an active, living document used between research partners to develop, discuss, and physically outline the ethical, moral, and practical guidelines and protocols that will be used throughout the research project.” (Alcock et al., 2017, p. 1).

There are many frameworks and guidelines for ethical research practises developed by Indigenous governments and organizations. One of the most well-known Indigenous-developed frameworks is the First Nation Principles of Ownership, Control, Access, and Possession (OCAP®), which was developed by the First Nations Information Governance Centre (FNIGC) to

guide research that involves Indigenous research participants, uses Indigenous knowledge and/or community data (FNIGC, 2014). OCAP® asserts that First Nations have ultimate control over data collected in their communities and that they own and control how this information can and will be used (Hayward et al., 2021; FNIGC, 2014). The guiding principles of OCAP® (Ownership, Control, Access and Possession) assert that First Nations require control over their data, as it is their inherent right to self-determination (Hayward et al., 2021; FNIGC, 2014). These principles also offer an Indigenous approach to all aspects of research - including consultation, decision-making, methodology, data use and storage, and knowledge mobilization (Riddell et al., 2017).

At the same time, Indigenous governments are asserting and establishing their rights over research on their territories and within their communities through the ratification of research protocols, guidelines and policies (Bull et al., 2020; Hayward et al., 2021). These documents often centre on expressing community expectations on relationships with outside researchers, partners and academics (Bull et al., 2020). The expectations expressed in these documents provide researchers with community relevant cultural and social expectations of how research should be conducted. Considering Indigenous cultural diversity across Canada, Indigenous-developed research protocols and guidelines aim to reflect specific values, knowledge and concerns that aid in guiding research that is directly applicable to local and Indigenous needs and concerns (Sjöberg et al., 2018; Toombs et al., 2019).

While many Indigenous Nations and governments have existing protocols and policies for research involving their Traditional Knowledge and citizens, many are establishing tools to guide *all types of research* occurring within their territories. Lutsel K'e Dene First Nation in the Northwest Territories developed a research agreement to manage relationships between researchers and the local community. This agreement lays out fundamental requirements for researchers to guide relationship-building, knowledge mobilization and sharing, and processes for seeking free prior informed consent (Lutsel K'e Dene First Nation, n.d.). Tla-o-qui-aht First Nations released a document in 2016 outlining protocols and principles for all types of research involving directly or indirectly Tla-o-qui-aht First Nations people or culture. These principles outline expectations of community consultation and decision-making in research processes and ownership over research data and use (Tla-o-qui-aht First Nations, 2016).

One of the most widely cited examples of an Indigenous research protocol is the National Inuit Strategy on Research released in 2018 by the Inuit Tapiriit Kanatami (ITK) (Inuit Tapiriit Kanatami, 2018). Developed in response to a legacy of extractive research conducted in Inuit Nunangat, this strategy promotes research that is respectful of Inuit self-determination through the creation of partnerships that enhance the impact, benefits, and efficacy of research for Inuit and Inuit communities (Inuit Tapiriit Kanatami, 2018). The 48-page document, which is available in English, French, Inuktitut syllabics, and Inuktitut Qaliujaaqput, also identifies key priorities for research in Inuit Nunangat. Priorities include advancing Inuit governance in research, enhancing the ethical conduct of research, aligning funding with Inuit research priorities, ensuring Inuit access, control, and ownership over data and information, and building capacity for Inuit Nunangat research (Inuit Tapiriit Kanatami, 2018). This document represents a shift from research *on* Inuit to research *with* or *by* Inuit.

As Hoare, Levy, and Robinson state; “If knowledge is fundamental to understanding, interpreting, and establishing values within society, then control over its production becomes an integral component of cultural survival” (1993, p. 46). Gaining control over research processes is critical for advancing community-based goals of self-determination, decolonization, and cultural survival (Kovach, 2005). These emerging tools - guidelines, principles and protocols - move beyond merely acquiring permission from relevant communities to establishing research practices that are founded in meaningful relationship-building, responsive to community needs and concerns, and supportive of community-capacity building (Hayward et al., 2021). These tools also seek to promote research that is responsive to Indigenous laws, knowledge, and values and operates in ways that uphold Indigenous sovereignty over knowledge, data, and information (Hayward et al., 2021; Wilson et al., 2020).

2.5 Types of collaboration and engagement in research

Indigenous-developed research protocols often call for increased decision-making power between researchers and Indigenous Peoples, through the establishment of partnerships, and improved collaboration and engagement (Hayward et al., 2021). Increasingly, anti-oppressive and community-based frameworks are being used to study dynamic issues and academic space is

slowly being created for Indigenous perspectives and knowledge (Allen et al., 2019; Burnette & Sanders, 2014; Martin, 2012; Wright & Ballantyne, 2019). Collaborative approaches to research with Indigenous Peoples, such as participatory action and community-based research, have been explored extensively through existing literature and are characterized primarily through who retains authority over research processes and whose interests are being served (David-Chavez & Gavin, 2018). Collaboration in research requires active and ongoing engagement with relevant stakeholders and rightsholders, with shared decision-making power in all phases of the research (Duea et al., 2022; Woolf et al., 2016). Types of collaboration in research can be categorized according to scales of levels of community participation (Figure 2.1) (David-Chavez & Gavin, 2018).



Figure 2.1. Framework for assessing levels of Indigenous community participation based on who has authority over the research process (from David-Chavez & Gavin, 2018; adapted from Biggs, 1989; Johnson et al., 2003).

Indigenous research approaches are centred on Indigenous value and knowledge systems, where methodologies are responsive to the historical context and community has authority over decision-making processes (David-Chavez & Gavin, 2018; Wilson, 2008). Indigenous research oftentimes embodies Indigenist ontological concepts of relational accountability, which helps define our positions as researchers and supports research that is responsive to our relations to

people and land (Wilson, 2008). Acknowledging positionality and embodying relational accountability in Indigenous research, ensures that researchers fulfill their responsibilities that come with these relationships. As Wilson (2001) states:

“To me an Indigenous methodology means talking about relational accountability. As a researcher you answer to all your relations when you are doing research. You are not answering questions of validity or reliability or making judgements for better or worse. Instead, you should be fulfilling your relationships to the world around you.”
(Wilson, 2001, pg. 177)

In an Indigenist paradigm, it is not an idea or object that holds importance, but rather the relationships that exist to that object, idea or being. There is not one “true” reality that can be uncovered through research, but rather a web of relationships that define who people are, their responsibilities in the world and how different object, idea, beings, and Land are connected (Wilson, 2001; Wilson, 2008). As Wilson (2008) explains, Indigenous research is a ceremony of maintaining accountability to all of these relationships. Another core ontological belief in Indigenous research is that it must make a difference in people’s lives, not as unintended outcome or as a separate applied step, but as a function of the entire research process (Wilson, 2001; Wilson, 2003). As such, Indigenous Peoples must be a part of the decision-making process.

Several research approaches have gain popularity in institutionalized, especially academic, setting to better engage with Indigenous research paradigms and knowledge systems. Research approaches that support epistemological pluralism, the recognition and valuing of multiple ways of knowing in a given research context, have been used to support research across Indigenous and Western paradigms (Abu et al., 2020). For example, the Two Eyed-Seeing approach provides mechanisms for integrating knowledge across different systems and worldviews in ways that draw on the strengths of each knowledge systems to draw deeper understanding of a given phenomenon (Abu et al., 2020; Bartlett et al., 2012). The 4 Rs of research - respect, relevancy, reciprocity and responsibility - represent another way in which researchers can engage with Indigenous research concepts and paradigms (Bull et al., 2020).

Research that does not use community-based, participatory or Indigenous-led research approaches, such as traditional top-down approaches common within the fields of natural science, can integrate aspects of community engagement and community participation within research practises. However, the quality of community participation and engagement in research is highly dependent on the quality of the process it builds from, and the frameworks, worldviews and philosophy upon which the research process was built (Reed, 2008). As such, attempts to include community participation and engagement in traditional top-down, or “helicopter” approach, to research often do little to support critical reflections on power, shifting decision-making authority and supporting Indigenous self-determination in research (David-Chavez & Gavin, 2018; Wilson, 2008).

A study by David-Chavez & Gavin (2018) identified 6 indicators to assess the quality and level of standards within collaborative research with Indigenous communities in climate based studies. These included; (1) Access - community access to research findings, (2) Relevancy - relevancy of research to communities, (3) Credit – community members contributions are properly acknowledged within research, (4) Ethics – adherence to relevant ethical standards, policies and guidelines, (5) Cause no harm – proper consideration of intellectual property and risks for communities, and (6) Outputs – reporting on outputs or outcomes for communities (David-Chavez & Gavin, 2018). These indicators reflect both accepted ethical standards for research (e.g. free prior and informed consent) and the benefits of research for local communities (e.g. access, relevancy, etc.).

Best practises for collaboration are often framed in a temporal context, with continued collaboration during all phases of research, from the scoping phase to research dissemination and potential policy uptake (David-David-Chavez & Gavin, 2018). Success of collaborative, community-partnered research is often determined through the long-term benefits of research – including community empowerment, actual and timely deliverables and tangible community benefits, such as changes to policies and practises (Brush et al., 2019). As rights holders, Indigenous Peoples are leaders and decision makers about research within their communities and their land (Bull et al., 2020). Decision-making power needs to also be shifted towards community members, which is often accomplished in an academic setting through the negotiation of research

agreements and MOUs with relevant Indigenous communities and Nations (Alcock, 2017). As decision-making agency is shifting increasingly to Indigenous governments across the North through the United Nations Declaration on the Rights of Indigenous Peoples Act, Self-Governing Agreements (SGAs) and comprehensive Land Claim Agreements, there are opportunities for research relationships at the community level (Adams et al., 2016; Perrin et al., 2021). As noted by the United Nations Declaration on Indigenous Peoples, the conduct of ethical research with Indigenous Peoples cannot be separated from the application of research governance (UN General Assembly, 2007). Permission to conduct research in an Indigenous nation or territory is required, and community consent needs to be an ongoing conversation (Bull et al., 2020). Emerging Indigenous-developed frameworks, policies and guidelines for research seek to move the accepted standards of participation, engagement and collaboration in research towards approaches that better value, include and protect Indigenous knowledge, values and decision-making (Hayward et al., 2021). As expectations shift towards more collaboration and engagement in research, paradigms and approaches need to remain responsive to different ways of thinking, being and doing.

2.6 References

- Abu, R., Reed, M. G., & Jardine, T. D. (2020). Using two-eyed seeing to bridge Western science and Indigenous knowledge systems and understand long-term change in the Saskatchewan River Delta, Canada. *International Journal of Water Resources Development*, 36(5), 757–776. <https://doi.org/10.1080/07900627.2018.1558050>
- Allen, J., Mohatt, G. V., Markstrom, C. A., Byers, L., & Novins, D. K. (2012). “Oh No, We Are Just Getting to Know You”: The Relationship in Research With Children and Youth in Indigenous Communities. *Child Development Perspectives*, 6(1), 55–60. <https://doi.org/10.1111/j.1750-8606.2011.00199.x>
- Artelle, K. A., Zurba, M., Bhattacharya, J., Chan, D. E., Brown, K., Housty, J., & Moola, F. (2019). Supporting resurgent Indigenous-led governance: A nascent mechanism for just and effective conservation. *Biological Conservation*, 240(April), 108284. <https://doi.org/10.1016/j.biocon.2019.108284>
- Assembly of First Nations. (2018). First Nations Ethics Guide on Research and Aboriginal Traditional Knowledge. Retrieved from: https://achh.ca/wp-content/uploads/2018/07/Guide_Ethics_AFN.pdf
- Association of Canadian Universities for Northern Studies. (2003). Ethical Principles for the Conduct of Research in the North. Retrieved from <https://acuns.ca/wp-content/uploads/2010/09/EthicsEnglishmarch2003.pdf>
- Barnett, C. (2006). Postcolonialism: space, textuality and power. In: Aitken, Stuart and Valentine, Gill eds. *Approaches to Human Geography*. London, UK: Sage, pp. 147–159. <https://doi.org/10.4135/9781446215432>
- Bartlett, C., Marshall, M., & Marshall, A. (2012). Two-eyed seeing and other lessons learned within a co-learning journey of bringing together indigenous and mainstream knowledges and ways of knowing. *Journal of Environmental Studies and Sciences*, 2(4), 331–340. <https://doi-org.proxy.bib.uottawa.ca/10.1007/s13412-012-0086-8>
- Beveridge, R., Moody, M., Murray, G., Darimont, C., & Pauly, B. (2020). The Nuxalk Sputc (Eulachon) Project: Strengthening Indigenous management authority through community-driven research. *Marine Policy*, 119, 103971. <https://doi.org/10.1016/j.marpol.2020.103971>
- Bharadwaj, L. (2014). A Framework for Building Research Partnerships with First Nations Communities. *Environmental Health Insights*, 8, 15–25. <https://doi.org/10.4137/EHI.S10869>
- Biggs, S. D. (1989). Resource-poor farmer participation in research: A synthesis of experiences from nine national agricultural research stations. *Special Series on the Organization and Management of On-Farm Client-Oriented Research (OFCOR) International Service for National Agricultural Research*. <http://hdl.handle.net/10919/66367>

- Brush, B., Jensen, M., Saylor, K. & Israel, B. (2019). Success in Long-Standing Community-Based Participatory Research (CBPR) Partnerships: A Scoping Literature Review. *Health Education & Behavior*, 47(4), 556-568.
- Bull, J., Beazley, K., Shea, J., MacQuarrie, C., Hudson, A., Shaw, K., ... Gagne, B. (2020). Shifting practise: recognizing Indigenous rights holders in research ethics review. *Qualitative Research in Organizations and Management: An International Journal*, 15(1), 21–35. <https://doi.org/10.1108/QROM-04-2019-1748>
- Burnette, C. E., & Sanders, S. (2014). Trust development in research with indigenous communities in the United States. *Qualitative Report*, (22). <https://doi.org/10.46743/2160-3715/2014.1223>
- Canadian Institute for Health Research (CIHR), Natural Sciences and Engineering Research Council of Canada (NSERC), and Social Sciences, & Humanities Research Council of Canada (SSHRC). (2014). Tri-Council policy statement: Ethical conduct for research involving humans. Retrieved from <http://www.pre.ethics.gc.ca/eng/policy-politique/initiatives/tcps2-eptc2/Default/>
- Carjuzaa, Jioanna, & J. K. F.-S. (2010). The Give Away Spirit: Reaching a Shared Vision of Ethical Indigenous Research Relationships. *Journal of Educational Controversy*, 5(2), 1–10.
- Castleden, H., Morgan, V. S., & Lamb, C. (2012). “I spent the first year drinking tea”: Exploring Canadian university researchers’ perspectives on community-based participatory research involving Indigenous Peoples. *Canadian Geographer*, 56(2), 160–179. <https://doi.org/10.1111/j.1541-0064.2012.00432.x>
- Council of Yukon First Nations. (2000). Traditional Knowledge Research Guidelines: A Guide for Researchers in the Yukon. Retrieved from <https://ethicshub.ca/wp-content/uploads/2020/05/10-Traditional-Knowledge-Research-Guidelines-A-Guide-for-Researchers-in-the-Yukon.pdf>
- Cumyn, A., Ouellet, K., Côté, A. M., Francoeur, C., & St-Onge, C. (2019). Role of Researchers in the Ethical Conduct of Research: A Discourse Analysis From Different Stakeholder Perspectives. *Ethics and Behavior*, 29(8), 621–636. <https://doi.org/10.1080/10508422.2018.1539671>
- Danby, R. K., Williams, A., & Hik, D. S. (2014). Fifty years of science at the Kluane Lake Research Station. *Arctic*, 67(5 SUPPL.1). <https://doi.org/10.14430/arctic4398>
- Datta, R. (2018). Decolonizing both researcher and research and its effectiveness in Indigenous research. *Research Ethics*, 14(2), 1–24. <https://doi.org/10.1177/1747016117733296>

- David-Chavez, D. M., & Gavin, M. C. (2018). A global assessment of Indigenous community engagement in climate research. *Environmental Research Letters*, *13*(12). <https://doi.org/10.1088/1748-9326/aaf300>
- Dimayuga, P., Sur, S., Choi, A., Greenwood, H. L., Galloway, T., & Bilton, A. M. (2023). A review of collaborative research practices with Indigenous Peoples in engineering, energy, and infrastructure development in Canada. *Energy, Sustainability and Society*, *13*(1), 3. <https://doi.org/10.1186/s13705-023-00382-8>
- Doering, N., Dudeck, S., Elverum, S., Fisher, C., Henriksen, J. E., Herrmann, T. M., ... Wilson, K. (2022). Improving the relationships between Indigenous rights holders and researchers in the Arctic: An invitation for change in funding and collaboration. *Environmental Research Letters*, *17*(6). <https://doi.org/10.1088/1748-9326/ac72b5>
- Drawson, A. S., Toombs, E., & Mushquash, C. J. (2017). Indigenous research methods: A systematic review. *International Indigenous Policy Journal*, *8*(2). <https://doi.org/10.18584/iipj.2017.8.2.5>
- Duea, S. R., Zimmerman, E. B., Vaughn, L. M., Dias, S., & Harris, J. (2022). A Guide to Selecting Participatory Research Methods Based on Project and Partnership Goals. *Journal of participatory research methods*, *3*(1), 10.35844/001c.32605. <https://doi.org/10.35844/001c.32605>
- Ermine, W., Sinclair, R., & Jeffery, B. (2004). *The ethics of research involving Indigenous Peoples: Report of the Indigenous Peoples' health research centre to the interagency advisory panel on research ethics (PRE)*. (July), 1–272. Retrieved from http://ahrnets.ca/files/2010/05/ethics_review_iphrc.pdf
- Ermine, W., Sinclair, R., & Jeffery, B. (2004). The Ethics of Research Involving Indigenous Peoples. *Ethics, Master of*(July), 272. Retrieved from http://iphrc.ohdev3.com/assets/Documents/ethics_review_iphrc.pdf
- Fiorito, T. (2023). Beyond research as a dirty word? Searching for ethical and reflexive ways of doing research with and for migrant communities. *Migration Studies*, *00*(0), 1–20. <https://doi.org/10.1093/migration/mnad027>
- First Nations Information Governance Centre. (2020a). About FNIGC. Retrieved May 24, 2024, from <https://fnigc.ca/about-fnigc/>
- Fitzpatrick, E. F. M., Martiniuk, A. L. C., D'Antoine, H., Oscar, J., Carter, M., & Elliott, E. J. (2016). Seeking consent for research with indigenous communities: A systematic review Ethics in Biomedical Research. *BMC Medical Ethics*, *17*(1). <https://doi.org/10.1186/s12910-016-0139-8>

- Ford, J. D., Cameron, L., Rubis, J., Maillet, M., Nakashima, D., Willox, A. C., & Pearce, T. (2016). Including indigenous knowledge and experience in IPCC assessment reports. *Nature Climate Change*, 6(4), 349–353. <https://doi.org/10.1038/nclimate2954>
- Gaudry, A., & Lorenz, D. (2018). Indigenization as inclusion, reconciliation, and decolonization: navigating the different visions for indigenizing the Canadian Academy. *AlterNative*, 14(3), 218–227. <https://doi.org/10.1177/1177180118785382>
- Government of Northwest Territories. (2024). Doing Research in the Northwest Territories: A Guide for Researchers. Retrieved from <https://data.researchlicensing.ece.gov.nt.ca/Content/ResearchInNWTGuideForResearchers.pdf>
- Government of Yukon. (2013). Guidebook on Scientific Research in the Yukon. Retrieved from: <https://yukon.ca/sites/yukon.ca/files/tc/tc-guidebook-scientific-research-2013.pdf>
- Grabowski, M. (2017). Recommendations for Modernizing the Yukon Scientists and Explorers Act. The Gordon Foundation.
- Graeme, C. S., & Mandawe, E. (2017). Indigenous geographies: Research as reconciliation. *International Indigenous Policy Journal*, 8(2). <https://doi.org/10.18584/iipj.2017.8.2.2>
- Gwich'in Tribal Council. (2003). Conducting Traditional Knowledge in the Gwich'in Settlement area: A Guide for Researchers. Retrieved from https://nwtresearch.com/sites/default/files/gwich-in-social-and-cultural-institute_0.pdf
- Harding, A., Harper, B., Stone, D., O'Neill, C., Berger, P., Harris, S., & Donatuto, J. (2012). Conducting research with tribal communities: Sovereignty, ethics, and data-sharing issues. *Environmental Health Perspectives*, 120(1), 6–10. <https://doi.org/10.1289/ehp.1103904>
- Hart, M. A. (2010). Indigenous Worldviews, Knowledge, and Research: The Development of an Indigenous Research Paradigm. *Journal of Indigenous Voices in Social Work*, 1(1), 1–16.
- Hayward, A., Sjoblom, E., Sinclair, S., & Cidro, J. (2021). A New Era of Indigenous Research: Community-based Indigenous Research Ethics Protocols in Canada. *Journal of Empirical Research on Human Research Ethics*, 16(4), 403–417. <https://doi.org/10.1177/15562646211023705>
- Held, M. B. E. (2019). Decolonizing Research Paradigms in the Context of Settler Colonialism: An Unsettling, Mutual, and Collaborative Effort. *International Journal of Qualitative Methods*, 18, 1–16. <https://doi.org/10.1177/1609406918821574>
- Inuit Tapiriit Kanatami & Nunavut Research Institution. (2007). Negotiating Research Relationships with Inuit Communities: a guide for researchers. Ottawa and Iqaluit. 25 pp.

- Inuit Tapiriit Kanatami. (2018). National Inuit Strategy on Research. Retrieved from: https://www.itk.ca/wp-content/uploads/2018/04/ITK_NISR-Report_English_low_res.pdf
- Inuvialuit Regional Cooperation. (2000). Guidelines for Research in the Inuvialuit Settlement Region. Retrieved from <https://nwtresearch.com/sites/default/files/inuvialuit-regional-corporation.pdf>
- Johnson, L. R., Stribling, C., Rivera, N., Preissner, K., Hsu, C. P., Jones, A., & May-Schroeder, A. (2019). “Earning the Right” : Conducting community based research. *Critical Questions in Education*, 10(3), 161–179.
- Johnson, N.L., Lilja, N. & Ashby, J. A. (2003). Measuring the impact of user participation in agricultural and natural resource management research. *Agricultural Systems*, 78, 287–306. [https://doi.org/10.1016/S0308-521X\(03\)00130-6](https://doi.org/10.1016/S0308-521X(03)00130-6)
- Kassi, N., Humphries, M. M., Dubé, M., Dragon, J., Olivier, N., Bowser, K., & Berry, M. (2022). Braiding Knowledges: The Canadian Mountain Network Experience. *Mountain Research and Development*, 42(4), P1–P6. <https://doi.org/10.1659/mrd.2022.00026>
- Kim, A., Barbara, C., & Margaret, H. B. (2013). Carriers of water: Aboriginal women’s experiences, relationships, and reflections. *Journal of Cleaner Production*, 60, 11–17. <https://doi.org/10.1016/j.jclepro.2011.10.023>
- Kirkness, V. J., & Barnhardt, R. (1991). FIRST NATIONS AND HIGHER EDUCATION: The Four R’s — Respect, Relevance, Reciprocity, Responsibility. *Journal of American Indian Education*, 30(3), 1–15. Retrieved from <http://www.jstor.org/stable/24397980>
- Kitasoo/Xai’xais Stewardship Authority. (2021). Informing First Nation Stewardship with Applied Research: Key questions to inform an equitably beneficial and engaged research process. Retrieved from <https://klemtu.com/research-guide/#:~:text=Informing%20First%20Nations%20Stewardship%20with,research%20process%20in%20support%20of>
- MacDonald, N., Stanwick, R., & Lynk, A. (2014). residential school children : The need for strong medical ethics in Aboriginal health research. *Paediatric Child Health*, 19(2), 64.
- McEwan, C. (2008). Postcolonialism and Development (1st ed.). Routledge. <https://doi.org/10.4324/9780203887387>
- McGregor, D. (2018). From “decolonized” to reconciliation research in Canada: Drawing from indigenous research paradigms. *Acme*, 17(3), 810–831.
- McNeil, K. (Osgoode H. L. S. (2007). *A BRIEF HISTORY of OUR RIGHT to SELF-GOVERNANCE*. 36. Retrieved from http://fngovernance.org/publication_docs/Inherent_Right_Timeline_EN_web.pdf

- Mitchell, F. M. (2018). Engaging in Indigenous CBPR Within Academia: A Critical Narrative. *Affilia - Journal of Women and Social Work*, 33(3), 379–394. <https://doi.org/10.1177/0886109918762570>
- Morton Ninomiya, M. E., & Pollock, N. J. (2017). Reconciling community-based Indigenous research and academic practices: Knowing principles is not always enough. *Social Science and Medicine*, 172, 28–36. <https://doi.org/10.1016/j.socscimed.2016.11.007>
- Mosby, I. (2013). Administering colonial science: Nutrition research and human biomedical experimentation in Aboriginal communities and residential schools, 1942-1952. *Histoire Sociale*, 46(91), 145–172. <https://doi.org/10.1353/his.2013.0015>
- National Aboriginal Health Organization. (2011). Principles of Ethical Métis Research. Retrieved from: https://achh.ca/wp-content/uploads/2018/07/Guide_Ethics_NAHOMetisCentre.pdf
- Pearce, T. D., Ford, J. D., Laidler, G. J., Smit, B., Duerden, F., Allarut, M., ... Wandel, J. (2009). Community collaboration and climate change research in the Canadian Arctic. *Polar Research*, 28(1), 10–27. <https://doi.org/10.1111/j.1751-8369.2008.00094.x>
- Pedersen, C., Otokiak, M., Koonoo, I., Milton, J., Maktar, E., Anaviapik, A., ... Elverum, S. (2020). ScIQ: An invitation and recommendations to combine science and Inuit Qaujimagatuqangit for meaningful engagement of Inuit communities in research. *Arctic Science*, 6(3), 326–339. <https://doi.org/10.1139/as-2020-0015>
- Perrin, A. D., Ljubicic, G., & Ogden, A. (2021). Northern research policy contributions to Canadian arctic sustainability. *Sustainability (Switzerland)*, 13(21), 1–39. <https://doi.org/10.3390/su132112035>
- Pidgeon, M. (2019). Moving between theory and practice within an Indigenous research paradigm. *Qualitative Research*, 19(4), 418–436. <https://doi.org/10.1177/1468794118781380>
- Provencher, J. F., Wong, P. B. Y., & Simmons, D. (2014). *InfoNorth*. 67(3), 419–429.
- Reid, A. J., McGregor, D. A., Menzies, A. K., Eckert, L. E., Febria, C. M., & Popp, J. N. (2024). Ecological research ‘in a good way’ means ethical and equitable relationships with Indigenous Peoples and Lands. *Nature Ecology and Evolution*. <https://doi.org/10.1038/s41559-023-02309-0>
- Riddell, J. K., Salamanca, A., Pepler, D. J., Cardinal, S., & McIvor, O. (2017). Laying the groundwork: A practical guide for ethical research with indigenous communities. *International Indigenous Policy Journal*, 8(2). <https://doi.org/10.18584/iipj.2017.8.2.6>

- Russell-Mundine, G. (2012). Reflexivity in indigenous research: Reframing and decolonising research? *Journal of Hospitality and Tourism Management*, 19(1), 85–90.
<https://doi.org/10.1017/jht.2012.8>
- Ryder, C., Mackean, T., Coombs, J., Williams, H., Hunter, K., Holland, A. J. A., & Ivers, R. Q. (2020). Indigenous research methodology—weaving a research interface. *International Journal of Social Research Methodology*, 23(3), 255–267.
<https://doi.org/10.1080/13645579.2019.1669923>
- Smith, L. (1999). *Decolonizing Methodologies: Research and Indigenous Peoples*. Zed Books Ltd. <https://nycstandswithstandingrock.files.wordpress.com/2016/10/linda-tuhiwai-smithdecolonizing-methodologies-research-and-indigenous-peoples.pdf>
- Snow, K. (2018). What Does Being a Settler Ally in Research Mean? A Graduate Students Experience Learning From and Working Within Indigenous Research Paradigms. *International Journal of Qualitative Methods*, 17(1), 1–11.
<https://doi.org/10.1177/1609406918770485>
- Sullivan, M., Kone, A., Senturia, K. D., Chrisman, N. J., Ciske, S. J., & Krieger, J. W. (2001). Researcher and researched-community perspectives: Toward bridging the gap. *Health Education and Behavior*, 28(2), 130–149. <https://doi.org/10.1177/109019810102800202>
- Tla-o-qui-aht First Nations. (2016). Tla-o-qui-aht Research Protocols and Procedures for Conducting Research in the Ha’houlthee of the Tla-o-qui-aht Ha’wiih. Retrieved May 27, 2024 from <https://ethicshub.ca/tool/tla-o-qui-aht-research-protocols-and-procedures-for-conducting-research-in-the-hahoulthee-of-thetla-o-qui-aht-hawiih/>
- Toombs, E., Drawson, A. S., Chambers, L., Bobinski, T. L. R., Dixon, J., & Mushquash, C. J. (2019). Moving towards an indigenous research process: A reflexive approach to empirical work with first nations communities in Canada. *International Indigenous Policy Journal*, 10(1). <https://doi.org/10.18584/IIPJ.2019.10.1.6>
- Trisos, C. H., Auerbach, J., & Katti, M. (2021). Decoloniality and anti-oppressive practices for a more ethical ecology. *Nature Ecology and Evolution*, 5(9), 1205–1212.
<https://doi.org/10.1038/s41559-021-01460-w>
- Truth and Reconciliation Commission of Canada. (2015). *Truth and Reconciliation Commission of Canada: Calls to Action*. Retrieved from: https://ehprnh2mwo3.exactdn.com/wp-content/uploads/2021/01/Calls_to_Action_English2.pdf
- Tynan, L., & Bishop, M. (2022). Decolonizing the Literature Review: A Relational Approach. *Qualitative Inquiry*. <https://doi.org/10.1177/10778004221101594>
- United Nations General Assembly. (2007). *Declaration on the Rights of Indigenous People*.

Wark, J. (2021). Land acknowledgements in the academy: Refusing the settler myth. *Curriculum Inquiry*, 51(2), 191–209. <https://doi.org/10.1080/03626784.2021.1889924>

Wilson, S. (2001). What is an indigenous research methodology? *Canadian Journal of Native Education*, 25(2), 175-179.

Wilson, S. (2008). *Research is Ceremony: Indigenous Research Methods*. Fernwood Publications.

Yukon Research Centre, 2013. *Protocols and Principles for Conducting Research with Yukon First Nations*. Yukon Research Centre, Yukon College, Whitehorse, YT, 15 p.

Chapter 3: Research Methodology

This chapter explores the methods used for the research presented in this thesis – including a background on the broader research project, research objectives, chosen methodologies, and dissemination.

3.1 Research and community context

3.1.1 Bringing Research Home

The Lhù'ààn Mân region of southwest Yukon – the Traditional Territory of Kluane First Nation (KFN), Champagne and Aishihik First Nations (CAFN) and White River First Nation (WRFN) – has a long and complex history of research. Following significant media coverage and research interest generated by the Ä'äy Chù diversion in 2016, Kluane First Nation hosted the inaugural Lhù'ààn Mân' - Kluane Lake Research Summit in 2018. This summit brought together community members (extending from Haines Junction to Beaver Creek) and researchers to share their knowledge of and interests in Lhù'ààn Mân. Focused on changes being studied and observed on the land, this summit sought to support a more coordinated research effort by promoting knowledge sharing and relationship-building between researchers and community members (Green Raven Environmental Inc, 2018; Kluane Research Summit Planning Committee, 2024).

Following the first Lhù'ààn Mân – Kluane Lake Research Summit, the Bringing Research Home (BRH) project was established in 2018. Stemming from community-identified research needs, the overarching aim of this project was to support Kluane First Nation's ability to actively drive and participate in all types of research being conducted within their Traditional Territory. This project aimed to (1) to compile and return to Kluane First Nation existing climate change research that has been conducted in their Traditional Territory; (2) To co-develop a process that will empower Kluane First Nation to have greater control over research in their Traditional Territory; and (3) To develop and employ tools to facilitate knowledge mobilization of climate change research in the region, with applicability to other contexts.

Led by Kluane First Nation and partnered with Yukon University and the University of Ottawa, this project worked to collaboratively develop tools and processes built on and reflective of Kluane First Nation knowledge, values and needs. Through a series of collaborative interviews and workshops – conducted by Ellorie McKnight (Yukon Research Centre) between October 2018 and February 2020 – Kluane First Nation community members came together to share their knowledge and help guide the expression of Kluane First Nation values and experiences with research. Through this collaborative process, a set of clear expectations for researchers was established (Table 3.1). These 'Research Expectations' serve as a guiding framework to steer

researchers in a positive direction, one that aligns with the values and needs of the Kluane First Nation community. They do not represent a “checklist” for researchers, but rather support a continuous process of meaningful engagement and collaboration. The emerging discussions sought to identify issues and engage meaningfully on the expectations placed upon researchers (Kluane First Nation, 2024).

Table 3.1 Summary of Kluane First Nation’s Research Expectations (Kluane First Nation, 2024).

Main theme:	Main expectations:
Respect	<ul style="list-style-type: none"> · Respect Indigenous ways of being, knowing, doing with intention. · Treat Kluane First Nation as equal partners with recognized rights · Respect and kindness are the most important. · Give back to the community. · Know what is/isn’t appropriate in terms of cultural protocols. · Be present in the community; invest time and effort to build and maintain relationships.
Community	<ul style="list-style-type: none"> · Learn about Kluane First Nation · Work with the community to identify a research project topic that is important for and benefits the community. · Don’t just hire ‘token’ fieldworkers. · Be flexible with timelines.
Communication	<ul style="list-style-type: none"> · Maintain good communication · Plan ahead and involve the community from the very beginning · Share your passion for your work with the community · Dañ K’è Kwánje – Our language, our traditions; Use Southern Tutchone place names
Humility	<ul style="list-style-type: none"> · Have an open mind and come with humility · Help out at community functions when appropriate · Be a person first, and a researcher second

3.1.2 Yukon Land Claims and Self-Government

Yukon First Nation Land Claims and Self-Government Agreements were achieved through the signing of the Umbrella Final Agreement in 1993 (Alcantara et al., 2012). The UFA is a tripartite agreement between the Government of Canada, the Yukon Government, and the Council of Yukon First Nations. It consists of several main topics, including settlement land (Ch. 9), compensation money (Ch. 19), self-governing (Ch. 24), and the establishment of boards and committees and tribunals to ensure the joint management of several specific areas (Kluane First Nation, Government of Canada & the Government of Yukon, 2003). Yukon First Nations choose to not pursue a Yukon-wide agreement, preferring a series of individual First Nation agreements

that allowed them to address a range of local issues and concerns (Nadasdy, 2017). Therefore, the UFA is not a land claim or treaty but provides the framework through which each of the fourteen Yukon First Nations can negotiate their Final Agreements. Each Final Agreement includes four documents; a Land Claim Agreement, Self-Governing Agreement (SGA), and implementation plans for each. The Final Agreements contain all the provisions provided in the UFA, with additional provisions determined through negotiations with each individual First Nation. Once finalized, the Yukon First Nation Final Agreements are land claims agreements and protected under section 35 of the Constitutional Act (1982) (Nadasdy, 2017).

Under the Land Claims Agreement, there are two main types of Settlement Land that Yukon First Nations own and manage – Category A Settlement Land and Category B Settlement Land (Council of Yukon First Nations, n.d.). For Category A Settlement Lands, First Nations have complete ownership over the surface and sub-surface (e.g., mineral, oil, and gas). Yukon First Nations have complete ownership over the surface of Category B Settlement Land, but only a Specified Subsistence Right over the sub-surface (Natcher & Davis, 2007). Land outside these categories is non-Settlement Land and can be classified as a Nation’s Traditional Territory. First Nations retain Aboriginal title on Category A and B Settlement Lands, and Aboriginal title is released on non-Settlement Land when a Yukon First Nation Final Agreement comes into effect (Nadasdy, 2017).

Traditional Territories are lands where First Nations do not have rights over ownership but do retain some proprietary rights, such as the right to hunt and fish. When ratifying their agreements, First Nations exchanged their Aboriginal right to hunt anywhere in Canada for the more limited treaty rights outlined in their agreements (Nadasdy, 2017). Yukon governments did not play a role in delineating Traditional Territories with the territory and was left up to individual bands to work out amongst themselves. Alongside their Final Agreements, First Nations also negotiated Self-Governing Agreements (SGAs). SGAs formally dissolved the Indian Act bands, along with Indian status, and created First Nations, with a broad range of powers to govern themselves and their lands, including management over wildlife, heritage, and other resources (Nadasdy, 2017). Unlike bands, self-governing First Nations are political entities with powers and authorities (Nadasdy, 2017). Under the signed SGAs, each nation had to establish several boards

and committees to administer governmental duties, this included the establishment of Renewable Resource Councils (RRC). RRCs are composed of members appointed by both the Yukon and First Nation governments, and act as the principal instrument for natural resource management throughout a First Nations Traditional Territory by providing recommendations to the relevant Yukon minister or First Nation (Nadasdy, 2017).

To date, eleven of the fourteen First Nations in the Yukon have ratified a Final Agreement (SGA and Land Claim agreement), including Carcross/Tagish First Nation, Champagne and Aishihik First Nation, First Nation of Na-Cho Nyäk Dun, Kluane First Nation, Kwanlin Dün First Nation, Little Salmon/Carmacks First Nation, Selkirk First Nation, Ta'an Kwäch'än Council, Tr'ondëk Hwëch'in, Teslin Tlingit Council and Vuntut Gwitchin First Nation. The three First Nations not currently involved in the implementation of land claims and self-government agreements under the UFA are White River First Nation, Liard First Nation, and Ross River Dena Council, who continue to rely on Aboriginal rights and title under the Indian Act (1951) (Nadasdy, 2017).

3.1.3 Yukon Research Licenses and Permits

Researchers proposing work in the Yukon may have to apply to a variety of research licensing, in addition to receiving institutional ethical approval. Currently, the Scientist and Explorers (S&E) Act (1959) licenses all social, natural and health science researchers who “enter the Yukon for scientific or exploration purposes” (Grabowski, 2017; Government of Yukon, 2013). As stated by the Yukon Government, the purpose of the Scientist and Explorers Act is (1) inform the Yukon government of research in the territory, (2) ensure the Yukon benefits from research by receiving research reports and results, and (3) ensure that research does not cause undue social or environmental harm (Government of Yukon, 2013).

Applications for S&E permits are forwarded to relevant Yukon First Nations for a 30-day comment period. The application is then returned to the Yukon Government, who then communicates with the applicant, to either award the license or present the conditions which must be met to obtain the license. Through the application process, researchers are encouraged to contact local communities and relevant organizations, First Nation governments, and Renewable Resource

Councils (RRC) before submitting their S&E application to develop relationships and good practices (Grabowski, 2017).

Several types of research are exempt from applying for a Scientists and Explorers License, including any archeological research, which is covered under the Yukon Archaeological Sites Regulation and any Yukon-based researchers, including Yukon government researchers (Government of Yukon, 2013). In the Yukon, recent changes were made that allow researchers to conduct research within a national park without having to obtain a Scientist and Explorers License. Permitting of research by Parks Canada functions independently from the territorial permit (Scientist and Explorers License), but both are reviewed by the First Nation governments.

The Scientists and Explorers Act (1959) was established three decades prior to the establishment of the first SGAs signed in 1995. Despite being updated in 2002, the S&E Act has been criticized for not upholding First Nation rights and modern-day relations between Yukon government and self-governing Yukon First Nations (Grabowski, 2017). While both academics and First Nation reviewers invest time and resources into the application and review process, often researchers fail to receive feedback on applications and submit applications without appropriate consultation (Grabowski, 2017).

In addition to the Scientists and Explorers License, researchers may need to apply for additional licensing from the Yukon government. Researchers might require a Lands Permit, depending on the size and location of the camp. If the camp is occupied more than 100 days of the year, it might also trigger a Yukon Environmental and Socioeconomic Assessment Board review, on which the First Nation government will also have opportunity to comment (Government of Yukon, 2013). If research is occurring on First Nation Settlement Land (category A and B), researchers (both Yukon researchers and non-Yukon researchers) are required to enter into a research agreement with Self-Governing First Nations. As stated in the UFA (section 16.5);

“Each Yukon First Nation shall have the following powers and responsibilities. Subject to the terms of each Yukon First Nation’s Final Agreement, each Yukon First Nation: [...] may make recommendations to the Council on applications for Fish and

Wildlife survey and research permits for Government surveys and research within that Yukon First Nation's Settlement Land.” (UFA, 1993, p. 161).

Proposed research occurring within a National Park is subjected to licensing and permitting systems through Parks Canada. Researchers proposing to work within Kluane National Park need to apply for licenses and permits through Parks Canada, most likely a Parks Canada Research and Collection permit. Recently, changes were made that allow researchers to conduct research in the park without having to obtain a Scientist and Explorers License. Permitting of research by Parks Canada functions independently from the territorial permit (Scientist and Explorers License), but both are reviewed by the First Nation governments. Researchers might also require a Lands Permit, depending on the size and location of the camp. If the camp is permanent and occurs outside of a pre-established research station, it might also trigger a Yukon Environmental and Socioeconomic Assessment Board review, on which the First Nation government will also have opportunity to comment.

As outlined in the SGAs, Self-Governing First Nations have specific rights over the management of lands and resources within their Traditional Territories. This includes heritage sites, which can be defined as any sites or areas of unique cultural or heritage significance (Kluane First Nation, 2003). The SGAs also outline the requirements for research permits to be submitted to the First Nations for comment and review. Within Kluane First Nation, the process of reviewing and commenting on research permits, including the Scientists and Explorers Licenses, Fish and Wildlife surveys and other relevant permits, is managed by the Lands and Heritage Department (Kluane First Nation, n.d.). This means that through the SGAs and Land Claim Agreements, Self-Governing Yukon First Nations have the right to drive research not only on their settlement land, but also within their Traditional Territory.

3.2 Research approach

This research utilized a Community-Based Participatory Research (CBPR) approach. With CBPR approaches, social change and transformative action are embedded into research strategies through collaboration with community partners and collaborators (Bird-Naytowhow et al., 2017). CBPR approaches remain responsive to community research priorities and needs through active

collaboration at all stages of the research project (De Leeuw et al., 2012). Active collaboration with project partners at Kluane First Nation's Land, Resources and Heritage department occurred throughout the length of this research. In addition, this research remained centred on Kluane First Nation values, needs and priorities through collaboration with broader BRH project partners and collaborators. As the broader objective of this study is to inform more ethical, equitable relationships between researchers and the Kluane First Nation community, the outcomes and findings of this research will be used to support social change and thus aligned with the goals of CBPR (Castleden et al., 2012).

While CBPR approaches require reflection on inherent power imbalances within research, this approach can still carry subtle form of epistemological imbalances that place academic and Western forms of knowledge as superior to other Ways of Knowing (Bird-Naytowhow et al., 2017; Wilson, 2008). As such, it is critical for researchers to integrate critical reflexivity and reflections within their work (Holmes, 2020). As Held (2019) explains, addressing positionality in research uncovers privileged positions, overt or hidden, which have implications on research processes (Held, 2019). Acknowledging my positionality is also acknowledging the inherent limitations of this research (Barnett, 2006). As such, this research approach utilized critical reflexivity and ongoing reflections throughout the entirety of the research process. Opportunities to engage in participant observation assisted with the process of critically reflecting upon my role as a researcher and the associated responsibility to conduct research that produces social change and benefits for the communities I worked with.

3.3 Data Collection: Semi-structured interviews

3.3.1 Scope and purpose

Semi-structured interviews were chosen as the primary research method to engage with academic researchers working in the Lhù'ààn Mân region. A semi-structured interview format was chosen to promote dialogue and relationship-building between interviewees and interviewers. Interviews followed a flexible interview guide and remained responsive to the flow of the interview, allowing for dialogues during the interview and for easy movement between questions (Kallio et al., 2016). Interview themes and questions were reviewed by the BRH project team prior to starting the interview process (Appendix 10).

Interviews were conducted by the lead author both in-person and virtually using Zoom. In-person interviews were conducted during the summer of 2022 at the Kluane Lake Research Station and Outpost Research Station in Silver City, Yukon. In-person and virtual interviews were audio-recorded and transcribed at a later date by the lead author. Notes and reflections were recording by hand during the interviews to help inform and direct follow up questions. All audio recordings were transcribed by the lead author. Transcriptions were reviewed to ensure accuracy and clarity. Non-verbal cues were annotated, and filler words or repetitions were removed to enhance clarity and readability.

The final number of interviews was based on saturation rates. Reaching data saturation occurs when one has enough information to replicate the study, where no new information is emerging from the interviews and enough data has been collected to draw reasonable conclusions (Guest et al., 2006; O'Reilly & Parker, 2012). Glaser and Strauss (1967) define saturation as the point at which “no additional data are being found whereby the [researcher] can develop properties of the category” (p. 61). As such, saturation was reached in data collection and analysis when new incoming data produces little or no new information to address the research question, or when new data produced infrequent codes (Guest et al., 2006; Guest et al., 2020).

3.3.2 Participant selection

Interview participants were chosen based on geographical location of research activities, where Kluane First Nation Traditional Territory was the geographic determinant of the study area. Participants from all fields of study were considered. Both Primary Investigators (PIs) (n=13) and advanced graduate student (PhD and master students) (n=4) researchers were considered as potential research participants. All participants were conducting research in association with a university. An initial list of potential participants was developed in conversation with Kluane First Nation Natural Resource Managers (Kristy Kennedy and Kate Ballegooyen), who are responsible for reviewing Scientists and Explorers license and Parks Canada research permit applications.

Additional participants were recruited via snowball sampling (e.g. suggestions from other researchers). Targeted solicitation was also used to recruit participants. Solicitation was informed

by participant observation and personal conversations with researchers working at both the KLRS and Outpost research station. Potential participants were contacted via email by Savannah Muller following a draft email template with an overview of the project included as an attachment (Appendix 7 & 8). An informative poster on the study was also posted at several locations, including Kluane Lake Research Station, academic conferences and Jacquot Hall (Kluane First Nation community hall located in Burwash Landing, YK) (Appendix E). A QR code was included on all posters and flyers to provide an opportunity for researchers conducting field work at a later time to participate in the study (Appendix 5). The QR code was connected to a Google Forms survey where participants could provide their contact information for participation in follow up interviews (Appendix 6).

3.3.3 Consent and privacy

Potential participants were contacted via email or in person at the Kluane Lake Research Station or Outpost Research Station in Silver City, Yukon. All participants were required to complete a consent form (Appendix 9) prior to participating in an interview. Consent forms and a project overview (Appendix 8) were sent to participants via email prior to interviews. Many participants completed the consent forms and returned them prior to the interviews, while others signed and sent them after the interview had taken place. Oral consent was obtained prior to commencing all interviews and recordings. All participants were given the option to remain anonymous within the consent forms. The names of the participants who wished to remain anonymous were replaced with unique identifiers, and their transcripts were edited to remove any information that could be used to identify them. Participants who did not wish to remain anonymous were contacted during the writing phase to determine how they wished to be identified and to review any quotes of interest. All participants were given the option to review their transcripts and selected quotes.

3.4 Data analysis

NVivo was used to thematically code transcripts from interviews. The aim of thematic coding is to arrange data in systematic codes that are part of a larger classification system (Braun & Clarke, 2006; Williams & Moser, 2019). Thematic codes are identified by researchers as they shift through responses and similar words and phrases. This allows data to be “segregated, grouped, regrouped and relinked in order to consolidate meaning and explanations” (Strauss, 1998,

p. 841). The initial main themes (e.g. respect, community, communication and reciprocity) were set as the principal codes, and further categories were developed through specifics found in the data. Data coding and interpretation was supported and supplemented with participant observation notes collected by lead author and notes taken by workshop facilitators at the 2023 Kluane Lake Research Summit.

Data analysis for this research followed two rounds of coding, combining a deductive and inductive coding approach. Preliminary rounds of coding followed a deductive coding method to focus data analysis on the predetermined principal codes. A secondary data analysis focused on identifying emerging themes and used an inductive open coding approach. Using a combination of deductive and inductive coding approaches allowed for a greater understanding of researchers' perspectives. The use of inductive thematic analysis was important as it allowed the generation of codes from the data, meaning the researchers' voices were valued as fully as possible and acknowledged researcher reflexivity (Braun & Clarke, 2006; Proudfoot, 2023). This allowed potential challenges and opportunities to emerge organically from the data. The deductive approach provided a structured analysis of the data framed around a community-established conceptual framework (Proudfoot, 2023). The deductive coding approach ensures that central themes established by the Kluane First Nation remained central to the analysis and findings would remain relevant to community-identified values and perspectives.

3.5 Conceptual framework

The framework for the semi-structured interviews was developed based on a draft version of Kluane First Nation's *Research Expectations*. At the time of conducting initial interviews, the *Research Expectations* were not publicly available and had not received enough community feedback to be widely shared. Based on directions from project partners, the *Research Expectations* were used as an initial framework and a review of existing Indigenous developed research protocols and guidelines were used to support the identification of main themes, including (1) community, (2) communication, (3) respect, and (4) reciprocity (Figure 3.1).

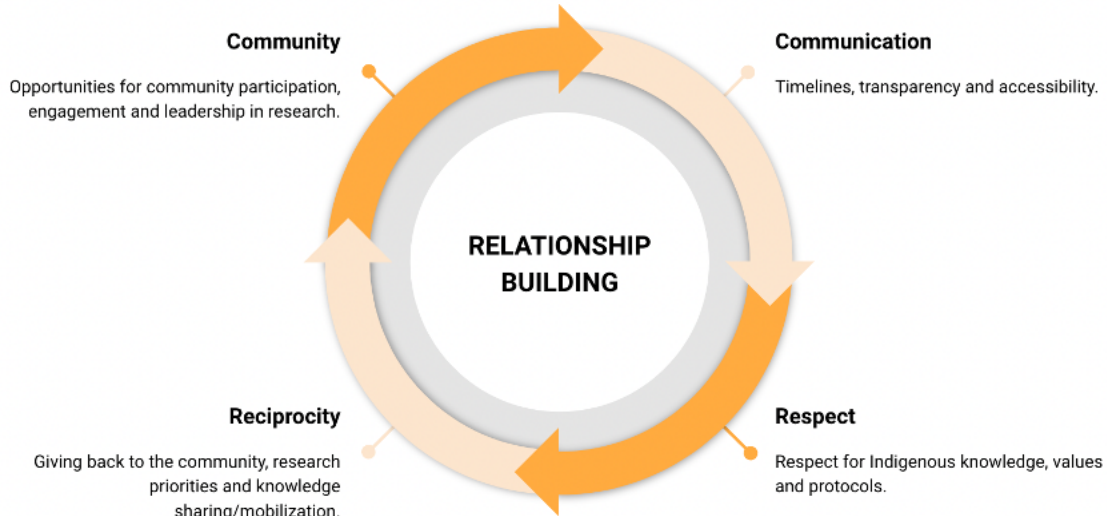


Figure 3.1. Conceptual framework used for the development of semi-structured interviews.

Relationship-building was chosen as the central theme for this research. This theme was chosen due to its alignment with the overall objectives of the BRH project (e.g. to support a more coordinated and engaged research approach across KFN Territory). In addition, identifying relationship-building as a central theme was also informed through a review of existing literature on Indigenous research paradigms and methodologies (McGregor, 2018; Smith, 1998; Wilson, 2008). As previous Indigenous authors have explained, relationships – including concepts of relationality and relational accountability – are foundational concepts of Indigenous paradigms and frameworks of research. It is critical for researchers to understand their relationships in research and the inherent responsibilities that come from those relationships (McGregor, 2018; Wilson, 2008). As the original KFN Research Expectations emerged from an Indigenous worldview, framing the study around relationship-building was also used to support grounding this study in relationality and better aligning my research with Indigenous research frameworks.

3.5.1 Coding – Phase 1

The first round of coding used a deductive coding approach. Data was coded according to predetermined principal codes identified for the interview framework (Table 3.2). Principal codes were further coded according to emerging themes. Identification of both principal codes and

categories were informed through a review of existing Indigenous-developed protocols and guidelines for research and were reviewed against Kluane First Nation’s *draft* version of their *research expectations*. This phase of the coding was used to explore how researchers were currently engaging with the Kluane First Nation community across all 4 central themes (O1), and how they would approach incorporating community research expectations into their research practises (O2).

Table 3.2 Codebook 1: Deductive coding – coding framework was based on themes identified through review of Kluane First Nation’s Research Expectation and review of existing Indigenous developed research protocols, guidelines, and expectations.

Code:	Description:
Community	This code refers to discussion around the theme of community – including community participation and engagement in research practices. This includes discussions on current and past research practices, potential limitations/barriers, and future opportunities.
<i>Community engagement</i>	Any discussion mentioning Kluane First Nation <i>community</i> .
<i>Youth engagement</i>	Any discussions around youth engagement in research.
<i>Tokenism</i>	Any discussion around opportunities for youth in research.
<i>Capacity building</i>	Any discussion around supporting community capacity building through research.
Communication	This code refers to discussions around the theme of communication in research practices. This includes discussions on current and past research practices, potential limitations/barriers, and future opportunities.
<i>Timelines</i>	Any discussion around timelines for communication with Kluane First Nation government and/or community.
<i>Frequency</i>	Discussions around frequency of communication with Kluane First Nation government and/or community.
<i>Accessibility/format</i>	Discussions around format and accessibility of communication with Kluane First Nation government and/or community.
Respect	This code refers to how researchers perceive the role of respect in their research activities. This includes discussions on current and past research practices, potential limitations/barriers, and future opportunities.
<i>Traditional/ancestral knowledge</i>	Any discussion around the use of Traditional Knowledge/ancestral knowledge in research.
<i>Cultural protocols</i>	Includes discussions around how researchers are or are attempting to align research practices with cultural protocols.
<i>Ethical resources</i>	Any discussions around engagement with and knowledge of existing ethical resources and frameworks (e.g., OCAP [®]).
Reciprocity	This code refers to discussion around reciprocity in research practices. This includes discussions on current and past research practices, potential limitations/barriers, and future opportunities.
<i>Research priorities</i>	Any discussion around ways of showing reciprocity through addressing community identified research priorities.

<i>Giving back</i>	Any discussion around ways of showing informal (non-academic) ways of ‘giving back’ to the community.
<i>Skill-building</i>	Any discussion around skill-building and sharing opportunities in research.
<i>Knowledge sharing</i>	Any discussion around knowledge sharing in research.

3.5.2 Coding – Phase 2

After data was coded deductively based on the established framework, the data was further inductively coded. Inductive coding followed an open coding approach and allowed themes to emerge organically from the data (Table 3.3). This phase of data analysis was used to identify potential challenges and opportunities for research engagement in research expectations (O2).

Table 3.3 Codebook 2: Inductive coding – used to allow emergent themes in data.

Code:	Description:
Opportunities	Any discussion around potential opportunities to improve researcher engagement in emerging guidelines.
<i>Community events</i>	Any discussions around community events as processes to improve relationship-building.
<i>Kluane Lake Research Summits</i>	Any discussions around Kluane Lake Research Summits as processes to improve relationship-building.
<i>Existing partnerships</i>	Any discussions around partnerships as processes that facilitate relationship-building.
<i>Future partnerships</i>	Includes discussions around establishing partnerships to improve relationship-building with local communities.
<i>Training</i>	Any discussion around ethical training as an opportunity to improve relationship-building with communities.
<i>Resources</i>	Any discussion around access to ethical resources as an opportunity to improve relationship-building with communities.
<i>Community guidance</i>	Any discussion around additional community guidance to improve relationship-building with communities.
<i>Funding</i>	Any discussion around funding or funding structures that could improve relationship-building with communities.
Barriers/challenges	Any discussion around potential barriers or challenges to improving researcher engagement in emerging guidelines and relationship-building.

<i>Permitting systems</i>	Any discussions around the limitations of the permitting system(s) – including both S&E and Parks Canada permits.
<i>Foundational knowledge</i>	Any discussion around lack of foundational knowledge as a challenge to relationship-building/engagement in research guidelines.
<i>Responsibilities</i>	Any discussion around responsibilities within research teams.
<i>Research topic/area</i>	Any discussion around how research topic/area influences relationship-building with communities.
<i>Community capacity</i>	Any discussions around how Kluane First Nation capacity may limit relationship-building with local communities.
<i>Institutional requirements</i>	Any discussion around institutional requirements that may limit relationship-building with local communities.

3.6 Participant observation and workshops

This study utilized several additional research methods to support the analysis and interpretation of the findings from the semi-structured interviews. Throughout the project, data interpretation was guided through ongoing collaboration and co-learning with partners at KFN’s LRH department. This included collaboration with KFN citizens – including youth – KFN government employees and community members through the BRH project. Through my work on the BRH project, as research assistant and later as project coordinator, this collaboration and engagement helped steer the direction of data collection (e.g. identifying relevant researchers to contact) and informed data interpretation.

Data analysis and interpretation was also supported through ongoing participant observation. To support the establishment of trust with potential study participants and gain a more comprehensive understanding of on-the-ground research activities, I spent approximately eight months in the Yukon during the summers of 2022 and 2023. During my first visit to the Lhù’àn Mân’ region, I stayed at both KLRs and Outpost Research Station for several weeks. This time allowed me to build relationships with researchers working from each of the stations, as well their students and the managers at both stations. I also accompanied researchers into the field to see first-hand what research practises were being employed on the ground. Additionally, I spent several weeks in Whitehorse, where I worked from KFN’s Whitehorse office and built

relationships with other members of the LRH Department. While spending time in Whitehorse, I was also able to work from Yukon University and build relationships with BRH project team members from Yukon University's Research Centre.

Reflective observations and notes were taken during fieldwork and periodically throughout the entire research process to allow research to remain responsive to community and participant needs and allow for adaptation or modification to occur at any point. All reflections and observations were recorded in a field journal. Reflections occurring during data analysis were recorded on individual transcripts. Participatory research processes focus on iterative reflection and action, which is necessary to avoid risking the reflection and reproduction of power structures and imbalances within research (Cornwall & Jewkes, 1995; Thambinathan & Kinsella, 2021). Through active reflexivity, ongoing critical interrogations of positionality, researchers can examine individuals' epistemological assumptions and situatedness with respect to the research process which can uncover how power operates and what effects it has on how research is carried out (Soedirgo & Glas, 2020).

Data analysis and interpretation were also supported through workshops held at the 2023 Lhù'ààn Mân Research Summit, which was hosted by KFN (supported through the BRH project) in Burwash Landing, Yukon in May 2023. To support a more comprehensive understanding of researcher perspectives, a workshop was planned during the summit to promote collaborative learning and knowledge sharing among participants. This workshop was framed around KFN's Research Expectations and involved discussion around a series of guiding questions based on the interview framework used for this research. Main themes for the workshops included (1) respect, (2) humility, (3) community and (4) communication. Each workshop group was made up of both researchers and KFN community members. Discussions were supported by group facilitators and each facilitator provided a plenary session summary afterwards. The personal notes taken during the workshop, in addition to the notes taken by the group facilitators were used to help support the analysis and interpretation of my research findings.

3.7 Data dissemination

As this study was part of a broader community-led research project, it was important that the Kluane First Nation community had access to the findings of this study. In addition, as the focus

of the study was on researcher engagement, it was also essential that the research community in the Kluane region had access to and understood the findings from this study. To facilitate equitable dissemination of research findings to both communities, research findings were shared at several community events and research-related summits. Preliminary study findings were shared at the 2023 Lhù'ààn Mân Research Summit, hosted by KFN in Burwash Landing. Both KFN community members, citizens and government employees were present at the summit in addition to academic, government and Parks Canada researchers. Findings from this study were also presented at the Canadian Mountain Network Knowledge Sharing Summit, hosted in Parksville, BC. In attendance were several KFN citizens, BRH project collaborators and many researchers that work within KFN Traditional Territory. Finally, results were shared with the KFN community at a community winter festival hosted by the BRH project in Burwash Landing during January 2024. This event provided the opportunity for community members and citizens to provide feedback on the findings of the study and help inform how these findings would be used for the development of tools and resources emerging from the broader BRH project. To facilitate dissemination of research findings to the academic community – specifically graduate students – I presented this work at several academic symposiums. This included the Queen's Northern Research Symposium in 2022 and the Ottawa-Carleton Student Northern Research Symposium (OCSNRS) in 2021 and 2022.

The findings from this study (Chapter 4) also helped inform the development of tools and resources emerging from the BRH project – including the development of educational storymaps and a list of additional education materials. The BRH website is publicly available at www.kluanefirstnationresearch.ca. A QR code for the website was with the KFN community at the aforementioned community events and a poster with the QR code was left in Jacquot Hall (community hall in Burwash Landing) (Appendix 12). Through collaboration with the manager of the Kluane Lake Research Station, several handouts and poster were posted throughout the facility with QR codes to the website.

3.8 References

- Alcantara, C., Cameron, K., and Kennedy, S. (2012). Assessing devolution in the Canadian North: A case study of the Yukon Territory. *Arctic* 65(3):328-338. <https://doi-org.proxy.bib.uottawa.ca/10.14430/arctic4220>
- Barnett, C. (2006). Postcolonialism: space, textuality and power. In: Aitken, Stuart and Valentine, Gill eds. *Approaches to Human Geography*. London, UK: Sage, pp. 147–159. <https://doi.org/10.4135/9781446215432>
- Bergold, J., & Stefan, E. (2012). Participatory Research Methods : A Methodological Approach in Motion. *Historical Social Research*, 37(4), 191–222. <http://www.jstor.org/stable/41756482>
- Bharadwaj, L. (2014). A Framework for Building Research Partnerships with First Nations Communities. *Environmental Health Insights*, 8, 15–25. <https://doi.org/10.4137/EHI.S10869>
- Bird-Naytowhow, K., Hatala, A. R., Pearl, T., Judge, A., & Sjoblom, E. (2017). Ceremonies of Relationship: Engaging Urban Indigenous Youth in Community-Based Research. *International Journal of Qualitative Methods*, 16(1), 1–14. <https://doi.org/10.1177/1609406917707899>
- Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative Research in Psychology*, 3(2), 77–101. <https://doi.org/10.1191/1478088706qp063oa>
- Castleden, H., Morgan, V. S., & Lamb, C. (2012). “I spent the first year drinking tea”: Exploring Canadian university researchers’ perspectives on community-based participatory research involving Indigenous Peoples. *Canadian Geographer*, 56(2), 160–179. <https://doi.org/10.1111/j.1541-0064.2012.00432.x>
- Cornwall, A., & Jewkes, R. (2010). Erratum to: “What is participatory research” [Social Science & Medicine, 41 (1995), 1667-1676] (DOI:10.1016/0277-9536(95)00127-S). *Social Science and Medicine*, 70(5), 794. <https://doi.org/10.1016/j.socscimed.2009.11.005>
- De Leeuw, S., Cameron, E. S., & Greenwood, M. L. (2012). Participatory and community-based research, Indigenous geographies, and the spaces of friendship: A critical engagement. *Canadian Geographer*, 56(2), 180–194. <https://doi.org/10.1111/j.1541-0064.2012.00434.x>
- Glaser, B & Strauss A. (1967). *The Discovery of Grounded Theory: Strategies for Qualitative Research*. New York, NY: Aldine.
- Government of Yukon. (2013). *Guidebook on Scientific Research in the Yukon*. Retrieved from: <https://yukon.ca/sites/yukon.ca/files/tc/tc-guidebook-scientific-research-2013.pdf>

- Grabowski, M. (2017). Recommendations for Modernizing the Yukon Scientists and Explorers Act. The Gordon Foundation.
- Green Raven Environmental. (2018). 2018 Kluane Lake Research Summit Summary Report. Retrieved from: https://cdn.prod.website-files.com/64e8c636ec80377d55979d4a/65a8169b2deaea85604877e1_Summit%20report%202018.pdf
- Green Raven Environmental. (2019). 2019 Kluane Lake Research Summit Summary Report. Retrieved from: https://cdn.prod.website-files.com/64e8c636ec80377d55979d4a/65a816c1ef02b1caa42553a3_Summit%20report%202019.pdf
- Guest, G., Bunce, A., & Johnson, L. (2006). How Many Interviews Are Enough?: An Experiment with Data Saturation and Variability. *Field Methods*, 18(1), 59-82. <https://doi.org/10.1177/1525822X05279903>
- Guest, G., Namey, E., & Chen, M. (2020). A simple method to assess and report thematic saturation in qualitative research. *PLoS ONE*, 15(5), 1–17. <https://doi.org/10.1371/journal.pone.0232076>
- Kallio, H., Pietilä, A. M., Johnson, M., & Kangasniemi, M. (2016). Systematic methodological review: developing a framework for a qualitative semi-structured interview guide. *Journal of advanced nursing*, 72(12), 2954–2965. <https://doi.org/10.1111/jan.13031>
- Kluane First Nation, Government of Canada, and the Government of the Yukon. (2003). Kluane First Nation Final Agreement. Ottawa: Department of Indian Affairs and Northern Development. <http://publications.gc.ca.proxy.bib.uottawa.ca/collections/Collection/R2-291-2003E.pdf>
- Kluane First Nation. (2024). Bringing Research Home. Retrieved from: www.kluanefirstnationresearch.ca
- Kluane Lake Research Summit Planning Committee. (2024). 2023 Lhù'ààn Mân-Kluane Lake Research Summit Summary Report. Retrieved from: https://cdn.prod.website-files.com/64e8c636ec80377d55979d4a/65affe111a6aab36d007c662_2023%20summit%20report%20_%20PDF-sm.pdf
- Held, M. B. E. (2019). Decolonizing Research Paradigms in the Context of Settler Colonialism: An Unsettling, Mutual, and Collaborative Effort. *International Journal of Qualitative Methods*, 18, 1–16. <https://doi.org/10.1177/1609406918821574>
- Holmes, A. G. D. (2020). Researcher positionality: a consideration of its influence and place in qualitative research. *Shanlax International Journal of Education*, 8(4), 1–10.

- Morton Ninomiya, M. E., & Pollock, N. J. (2017). Reconciling community-based Indigenous research and academic practices: Knowing principles is not always enough. *Social Science and Medicine*, 172, 28–36. <https://doi.org/10.1016/j.socscimed.2016.11.007>
- Natcher, D. C., & Davis, S. (2007). Rethinking devolution: Challenges for Aboriginal resource management in the Yukon Territory. *Society and Natural Resources*, 20(3), 271–279. <https://doi.org/10.1080/08941920601117405>
- Nadasdy, P. (2017). *Sovereignty's Entailments: First Nation State Formation in the Yukon*. University of Toronto Press.
- O'Reilly, M. and Parker, N. (2012). "Unsatisfactory Saturation": A Critical Exploration of the Notion of Saturated Sample Sizes in Qualitative Research. *Qualitative Research*, 13, 190-197. <https://doi.org/10.1177/1468794112446106>
- Proudfoot, K. (2023). Inductive/Deductive Hybrid Thematic Analysis in Mixed Methods Research. *Journal of Mixed Methods Research*, 17(3), 308–326. <https://doi.org/10.1177/15586898221126816>
- Soedirgo, J., & Glas, A. (2020). Toward Active Reflexivity: Positionality and Practice in the Production of Knowledge. *PS - Political Science and Politics*, 53(3), 527–531. <https://doi.org/10.1017/S1049096519002233>
- Strauss, A., & Corbin, J. (1998). *Basics of qualitative research: Techniques and procedures for developing grounded theory* (2nd ed.).
- Thambinathan, V., & Kinsella, E. A. (2021). Decolonizing Methodologies in Qualitative Research: Creating Spaces for Transformative Praxis. *International Journal of Qualitative Methods*, 20, 1–9. <https://doi.org/10.1177/16094069211014766>
- Williams, M., & Moser, T. (2019). The Art of Coding and Thematic Exploration in Qualitative Research. *International Management Review*, 15, 45.
- Wilson, S. (2008). *Research is Ceremony: Indigenous Research Methods*. Fernwood Publications.

Chapter 4: “*Being a person first, researcher second*”: Exploring academic researchers’ perspectives on Kluane First Nation-developed research expectations in the in the Lhù’àn Mân (Kluane Lake) region of Southwest Yukon

Savanah Müller¹, Kristy Kennedy², Kate Ballegooyen², Sonia D. Wesche¹

1. University of Ottawa, Department of Geography, Environment and Geomatics
2. Kluane First Nation, Lands, Resources and Heritage Department

Abstract:

While existing literature has explored how researchers are engaging in ethical, collaborative research with Indigenous communities, little research has been framed around engagement in emerging research protocols developed by Indigenous communities and Nations. This paper reports on the findings from a series of 17 semi-structured interviews with natural science academic researchers working in the Lhù’àn Mân (Kluane Lake) region of Southwest Yukon that explored their perspectives on meaningful engagement with Kluane First Nation’s Research Expectations. Interview transcripts were thematically analyzed to explore researcher perspectives on (O1) their current relationship-building practices with Kluane First Nation and (O2) their engagement with emerging Indigenous-developed research guidelines. Analysis of interview transcripts identified current approaches for facilitating ethical relationships included (1) dissemination of academic publications, (2) inclusion of land acknowledgements and Indigenous languages, in research publications, (3) attending community events, and (4) submitting research licenses and permits to relevant First Nations. Potential challenges facing researchers who have limited experience conducting collaborative research included (1) limited training and lack of foundational knowledge, (2) social disruptions (e.g. COVID-19 pandemic), (3) internal division of research team responsibilities, and (4) territorial research licensing requirements. Opportunities to improve how researchers meaningfully engaged with Indigenous research protocols included supporting ongoing informal community-led events, improving access to ethical training for all members of the research teams, and improving communication of collaborative opportunities. This study meaningfully contributes to better understanding researchers’ perspectives on the expectations being placed upon them and opportunities to improve engagement with protocols at an individual and institutional level.

Keywords: Relationship-building, Indigenous research protocols, Researchers perspectives, Kluane First Nation, reconciliation, research collaboration and engagement, reciprocity in research.

4.1 Introduction

Relationships between researchers and Indigenous communities are often complex and influenced by a legacy of colonialism, cultural differences and divergent ways of thinking (Ninomiya & Pollock, 2017). Relationship dynamics between researchers and communities are often framed through past experiences with research; these range from positive in nature to often extractive, harmful and negative (Wong et al., 2020). In Canada, institutionalized research with Indigenous communities has frequently used highly unethical research practices, often resulting in acute harm to both individuals and communities (MacDonald et al., 2014; Mosby, 2013; Snow, 2018). Despite institutional attempts to conduct more ethical research – such as the establishment of research ethics boards (REBs) and institutional review boards (IRBs) – academic research continues to be largely informed by paradigms that are grounded in western thought, leaving little room for divergent worldviews and local research concerns (Littlechild et al., 2021; Ninomiya & Pollock, 2017). As such, the benefits of research continue to benefit institutions and non-Indigenous researchers (Ninomiya & Pollock, 2017).

The natural sciences carry their own legacy of poor communication with communities and often exclusionary research practices (Trisos et al., 2021; Wong et al., 2021). Natural scientists have often failed to engage with Indigenous communities as rightsholders – leading to the misuse and misinterpretation of research data and the further marginalization of Indigenous communities (Reid et al., 2024; Trisos et al., 2021). Often dominated by “parachute science”, natural scientists frequently collect data on their own schedules and have failed to communicate back the results of their research to relevant communities – or have only provided copies of academic publications that are neither understandable nor useful to local communities and decision makers (Reid et al., 2024; Castleden et al., 2012; Perrin et al., 2021). Due to large-scale environmental change, priorities within the natural sciences are often informed by national and international priorities, leading to research projects that often fail to consider local research priorities or concerns (Wilson et al., 2016). Natural science research that does engage with Indigenous communities often does so in extractive ways, where Indigenous knowledge is treated as data that can be aggregated and understood in universal forms (Latulippe & Klenk, 2020; Wilson, 2008).

However, the landscape for research is beginning to change and a growing emphasis is being placed on Indigenous collaboration and leadership in research, to both improve research outcomes and uphold Indigenous self-determination (Brunet et al., 2016). At a national level, the release of the Truth and Reconciliation Commission of Canada (TRC) 94 Calls to Action report and Canada's recommitment to the United Nations Declaration on the Rights of Indigenous People (UNDRIP) have amplified the need for researchers to support Indigenous rights and self-determination through their research (Bull et al., 2020; Held, 2019; Ignace et al., 2023; United Nation General Assembly, 2007). Across the north, there are also increased pressures from major Arctic research agencies and funders for researchers to incorporate Indigenous Knowledge and engage meaningfully with northern Indigenous communities and Nations (Pederson et al., 2020).

Shifting research regimes have also been influenced by the establishment of comprehensive Land Claim agreements across the North (e.g. the Yukon Final Umbrella Agreement, Nunavut Land Claims Agreement, various land claims across the Northwest Territories and Quebec, and the Labrador Inuit Land Claims Agreement) which have led to various Indigenous Self-Government Agreements (Alcantara et al., 2012; Tondu et al., 2014). First Nations, Métis and Inuit communities and governments have also released various guidelines and protocols for researchers working within their respective territories and communities (Hayward et al., 2017). While reflective of nation-specific epistemologies, these emerging protocols and guidelines largely aim at guiding all types of research in ways that are responsive to Indigenous rights, reflective of Indigenous knowledge systems and worldviews, and aligned with community relevant research priorities (Hayward et al., 2017).

While researchers are increasingly expected to improve how they conduct research with Indigenous Peoples, large scale institutional frameworks on research with Indigenous Peoples (such as the TCPS2) do not provide community-specific guidance and research must usually interpret for themselves what this means and how to do it in practise (Pederson et al., 2020). As such, Indigenous developed research protocols provide a key resource for researchers seeking to improve their relationships with local Indigenous communities and Nations. However, many of the emerging guidelines and protocols are unenforceable, acting as complementary resources to existing institutional ethical and territorial licensing processes. Thus, the effectiveness of such

resources at promoting ethical changes within research processes relies heavily on individual researchers to meaningfully engage and adhere to the guidance and expectations expressed in these documents.

While existing literature has explored how researchers are engaging in ethical, collaborative research with Indigenous communities (Castleden et al., 2012), little research has been framed around engagement in emerging research protocols developed by Indigenous communities and Nations. In addition, existing studies exploring researchers' perspectives have focused on researchers with experience working collaboratively with Indigenous communities (Castleden et al., 2012; Sullivan et al., 2001). As many emerging Indigenous-developed research protocols intend to direct *all types of research*, this study aims to expand the current literature by engaging academic researchers with varied levels of experience working with Indigenous communities in a range of disciplinary contexts (e.g. natural sciences).

4.2 Geographical and community context

The Lhù'ààn Mân' (Kluane Lake) region of southwest Yukon is the Traditional Territory of Kluane First Nation (KFN), Champagne and Aishihik First Nations (CAFN) and White River First Nation (WRFN). Kluane First Nation is a self-governing First Nation whose government is located in Burwash Landing, Yukon. Through its signed Self-Government Agreement (SGA), Kluane First Nation has specific rights over its Settlement Lands and Traditional Territory. There is a long and complex history of research within the Lhù'ààn Mân' region, starting in the early 1900s with several northern explorations and expeditions (Danby et al., 2016). Early exploration transitioned into scientific research in the mid 1900s with the establishment of Kluane Lake Research Station (KLRS) on the south end of Lhù'ààn Mân' (Danby et al., 2016). The establishment of Kluane National Park and Reserve (KNPR) in 1973 also promoted research to inform park management, with several long-term monitoring programs being initiated in the region (Danby et al., 2016).

After the 2016 Ä'äy Chù diversion, the Lhù'ààn Mân region experienced international attention and magnified research interest in Lhù'ààn Mân (McKnight et al., 2019; Southwick & Ballegooyen, 2019). The 2018 Lhù'ààn Mân Research Summit was hosted by Kluane First Nation and the Dän Keyí Renewable Resource Council (DKRRC) to support a more coordinated research

effort between local First Nation governments and communities, and all types of researchers. At the same time, Kluane First Nation in partnership with Yukon University and the University of Ottawa was in the process of initiating a new community-led research project – the Bringing Research Home (BRH) project. The aim of this project was to collaboratively study how Kluane First Nation could enhance its ability to actively drive and participate in research in their Traditional Territory and build the capacity to conduct meaningful, collaborative research in Kluane First Nation Territory.

Through this project, a series of interviews were conducted with Kluane First Nation citizens to identify a set of guiding expectations for all types of researchers working within its Traditional Territory (Kluane First Nation, 2023). The Research Expectations provide clear, community-relevant guidance to researchers that reflect Kluane First Nation knowledge, values and priorities for research activities. In order to better understand how researchers would engage with the expectations provided in Kluane First Nation’s *Research Expectations*, this study engaged with academic researchers’ working within Kluane First Nation Traditional Territory. Using a series of semi-structured interviews, participant observation and informal discussions, this research aimed to:

1. Explore how academic researchers working in the Lhù’àn Mân region were currently engaging in relationship-building practices with local First Nation communities.
2. Explore how academic researchers would approach aligning their research practices with Indigenous-developed research expectations expressed in Kluane First Nation’s Research Expectations.

4.3 Author Positionality

Addressing positionality in research uncovers privileged positions, overt or hidden, which have implication on how research is conducted and the ways it is interpreted (Held, 2019). Acknowledge my own positionality also acknowledges the inherent limitations of this research (Barnett, 2006). Before explaining my methods in detail, I would like to acknowledge and situate myself within my research process. I am a white settler woman currently living and working on unceded Anishinaabe territory (Ottawa). Before beginning this research, I had little knowledge of working directly with Indigenous communities and no lived experiences in northern Canada. Over

the span of several years working on this study, I have now spent close to 8 months working and living on the Traditional Territories of Kluane First Nation, White River First Nation, Champagne and Aishihik First Nation, and Kwanlin Dün First Nation.

My positionality and initially limited experiences engaging with northern and Indigenous communities limits my understanding of often complex relationship dynamics that exist among northern residents. Establishing relationships with community members throughout this project required constant reflection and assessment of power dynamics and positionality to ensure these structures were not replicated or reinforced throughout my research process. While my positionality as a white, settler researcher required constant and deep reflection, it also provided a level of trust and transparency between myself and study participants. Throughout the data collection phase of this research, participants shared experiences and opinions with a high level of honesty and transparency.

Acknowledging my positionality is also critical for discovering my role and responsibility to the people, communities, and the land I worked with. It was critical to me that this research produced tangible benefits for *all* those involved in the process, including the Kluane First Nation community and the research community in the Lhù'ààn Mân region. Collaborative learning and shared experiences between myself and community partners also allowed me to situate myself and my research within Indigenous culture and ways of thinking (Louis, 2007; Wilson, 2008). Ensuring this research practiced good relations meant producing benefits for everyone involved including both the communities and land I worked on and with.

4.4 Methods

As part of a broader community-driven project led by Kluane First Nation, *Bringing Research Home*, this study was developed to address a community-identified research priority by engaging with researchers working in the Lhù'ààn Mân region to collaboratively develop tools and processes to support ethical, engaged research practises. Partners at Kluane First Nation's Lands, Resource and Heritage (LRH) department directed and informed decisions at all phases of the study.

To maximize the quality and depth of data, a flexible semi-structured interview guide was developed (Kallio et al., 2016). Interview focal themes and follow-up questions were informed by the draft version of Kluane First Nation's *Research Expectations* supplemented by a review of existing Indigenous-developed research protocols and guidelines in Canada. A priori themes of (1) respect, (2) reciprocity, (3) community, and (4) communication were identified. Interviews were conducted both in-person and virtually (when needed) using Zoom. Interviews lasted between 60 and 90 minutes. Interviews were recorded and transcribed verbatim.

Interview participants were recruited based on their geographical location of study (e.g., within the Lhù'ààn Mân region) and both primary investigators (PIs) (e.g. lead researcher for specific project) (n= 12) and graduate students (n=5) were interviewed. Participant selection was also informed by partners at Kluane First Nation's LRH Department, who are responsible for reviewing both the Scientist & Explorers and Parks Canada research licenses. Academic researchers from all disciplines were considered for this study.

Interviews were coded thematically during two separate rounds of analysis. The first round was conducted deductively using the established framework, and associated themes and subthemes, to identify how researchers were currently engaging in relationship-building practises with local First Nation communities in the region, with specific focus on Kluane First Nation (O1). The second round of coding was conducted inductively using an open-coding approach to identify emergent themes, including the identification of potential challenges and opportunities for improving how researchers engage with Kluane First Nation's Research Expectations (O2). To gain a more holistic understanding of research dynamics and validate data beyond the group interviewed, interviews were supplemented and validated through informal conversations with researchers, which occurred during several months of fieldwork in the spring of 2022 and 2023 and during a planned collaborative workshop at the 2023 Lhù'ààn Mân – Kluane Lake Research Summit.

4.5 Findings

This study involved interviewing a total of 17 academic researchers (e.g. researchers working from universities) working on 14 different research projects throughout the Lhù'ààn Mân'

region. All participants came to the Lhù'àn Mân' region to conduct research from southern-based universities. Participants identified as either primary investigators (n=12) or graduate students (n=5), including PhD students (n=4) and a master's student (n=1). While this study did not directly target natural science researchers, all participants worked within the field of natural science, with the most common fields of research being biology/ecology (n=5) and glaciology (n=5).

While a priori themes of (1) communication, (2) community, (3) respect and (4) reciprocity were identified, these themes were informed by Kluane First Nation's Research Expectations and thus emerged from an Indigenous worldview. As such, these themes do not exist independently from each other and operate from a relational worldview. While themes are presented as sub-headers in the findings section, there was a high level of overlap across themes and discussions.

4.5.1 Community: Engagement, collaboration & partnerships

Currently there is limited collaboration occurring between study participants and local First Nation communities. The majority of the research projects were not established through engagement collaboration, or partnerships with local communities or other relevant entities, such as First Nation governments, Renewable Resource Councils (RRCs) or Parks Canada. While several research projects (n=3) were informed by community-identified research priorities, these priorities were shared at the Kluane Lake Research Summits and not through formal collaborations and there was limited collaboration and engagement with local communities after initial scoping phase of the projects. Only one participant in this study was involved in a research project that involved direct collaboration with local First Nations from the scoping to the dissemination phase of the project.

Many participants had limited previous experience collaborating with Indigenous community members and partners (n=16). The degree of collaboration with local communities was also found to not be reflective of the length of research programs/projects. Several long term projects or monitoring programs involved in this study were established many years before Yukon First Nation land claims came into effect. As one participant stated:

“Because Umbrella Final Agreement [UFA], right, was in 1993. And the project started before that and so I came into the project after that final agreement, but some of the ways we do things were already well established before that. And we're still working through some of that inertia now. As opposed to, if I were to be starting fresh with a new project somewhere else. There're interesting differences there.” – Anonymous participant (ID KR4)

Participants identified that collaboration with local communities was currently impacted by (1) remote and dangerous fieldwork and sites involved in natural science research, (2) the social/physical disconnection between researchers and community members, and (3) impacts of the COVID-19 pandemic. Limited collaboration with local communities was often explained by the nature of research activities within natural sciences fields, which frequently involves work at remote field sites (e.g. glaciers and icefields) that carry potential hazards. Collaboration with local community members needs to be supported by proper training for community members, which carries additional funding requirements and allocations. Participants identified that opportunities to support community collaboration within natural science research projects required that funds be allocated to support job positions well in advance of communicating these opportunities with community members. Without understanding community needs, capacity and interests, these opportunities were often not well taken up by community members.

The COVID-19 pandemic and associated travel restrictions were also perceived to heavily influence the establishment and continuity of collaborations with local communities. Following several years of limited fieldwork, participants identified that research priorities had shifted from establishing meaningful collaborations towards making up for lost fieldwork seasons (n=10). As one participant stated:

“[W]e've put things on pause. And this comes back to COVID. And we are going through this recovery process after COVID of getting back up to speed again, 2021 was still limited travel in the north, 2022 to was okay, but I was kind of running a double field season trying to catch up.” - Anonymous participant (ID KR8)

Many participants also identified the physical distance between the research stations and local communities as another factor that influences community collaboration in research. Located on the south end of Lhù'ààn Mân, the Kluane Lake Research Station and Outpost Research Station are a 45-minute drive to the nearest town (Destruction Bay). Given the physical distance between the stations and local communities, many researchers identified limited opportunities to establish relationships through informal pathways.

Given the disconnection - both socially and geographically – identified by participants between researchers and the First Nation community in the Lhù'ààn Mân region, community events provided participants with an opportunity to be present in the community in a way that felt respectful. Community-led events that supported collaborative learning and shared experiences, such as the Kluane Lake Research Summits (2018, 2019 & 2023), were identified by all participants as a key process for strengthening relationships and supporting opportunities for future local collaboration and engagement in research. Many participants identified a hesitancy to attend local events without an invitation and appreciate the formal invitation to the Kluane Lake Research Summits.

Participants indicated that the informal format of the research summits promoted mutual learning and knowledge sharing between communities and researchers, while allowing space for the organic development of relationships. Events such as sharing meals, spending time on the land and beading were identified as key processes that supported authentic relationship-building. As one participant stated:

“There were formal sessions, and they are important. But most of the connections happened over coffee, or while on a walk, that sort of stuff. The important thing is for people to realize that we're all human in the end, and you start to build trust in other people's intentions, because you get to know them. And you may even change your intentions, as you get to know the people that are local, and you feel like, oh, maybe I should do this differently because I now understand certain things better.” – Anonymous participant (ID KR1)

Intentions to come into community events with an open-mind and supportive attitude were shared among participants. Many participants expressed the idea of “being a person first and researcher second”. As another participant that had participated at the Research Summits explained:

“I felt there is more connection on a personal level if I remove myself as a representative of science. You know, I am the researcher, and I am going to represent the research. I felt it was much more about making this contact with the local communities and establishing some sort of human connection. I did not present myself just as a scientist, but more as a human being also interested in what the community is about and listen from that perspective.” - Anonymous participant (ID KR10)

Meaningful collaboration was also established most effectively when researchers spent several consecutive months in the region with semi-flexible schedules that allowed for time to participate in community events and disseminate opportunities.

4.5.2 Communication: Format, frequency and accessibility

Participants identified that current communication practices were largely informed by the requirements of relevant permitting systems – primarily the Scientists and Explorers (S&E) Licence. Currently, all researchers who “enter the Yukon for scientific or exploration purposes” must apply for a Scientist and Explorers (S&E) permit through the Government of Yukon (Government of Yukon, 2013). As outlined by the S&E guidelines, researchers are expected to contact relevant First Nations prior to applying for the license and receive a letter of support (Yukon Government, 2013). All research projects involved in this study contacted relevant First Nations prior to submitting their S&E applications (n=17). However, several research projects advanced despite not receiving feedback or direct communication from relevant First Nation employees (n=4). Several participants identified perceived issues of First Nation capacity and turnover, and divergent institutional timelines that did not align with territorial timelines. As one participant stated:

“I think I have heard about First Nations having a limited amount of time to spend with the research permits. And if they don't get to review and the research permits then the Yukon government just makes an overriding decision.” - Anonymous respondent (ID KR12)

Many participants also identified that communication was influenced by limited knowledge of communication best practises with First Nation governments – including preferred timeline, frequency and format. As one participant stated:

“I think we have a really strong will to do things better. But we feel the path forward is not at all clear. And this is part of where I've been feeling a little bit stonewalled through the formal avenues of communication. There's so much I want to do; there's so much I want to get feedback on about our work. And I just feel frustrated, because it's very hard to get that feedback that would allow us to do things in a better way.” – Anonymous participant (ID KR4)

While many participants were aware of expectations to communicate research results back to relevant First Nations, this primarily occurred through the sharing of academic publications and/or other research outputs (e.g. academic posters). As one participant stated:

“So that will be providing our research papers, let's say, because ultimately what we as researchers, like what is deliverable is, is effectively writing research papers on our results.” – Anonymous participant (ID KR10)

Several respondents identified approaches for improving how knowledge was shared and mobilized between researchers and the local communities - including the use of virtual reality, blog posts and community newsletters. The Kluane Lake Research Summits were identified as a key resource for improving researchers' understanding of preferred communication methods.

4.5.3 Reciprocity: Benefits, training and knowledge sharing

Participants identified that challenges with collaboration and communication often led to limited perceived benefits of research for local communities. While several research projects were informed by community-identified research priorities (n=3) and several participants were able to identify connections between current research objectives and previously articulated community needs and/or priorities (n=6), the majority of participants were unable to identify direct benefits of research for local communities (n=8).

Oftentimes, the Lhù'ààn Mân' region was chosen as the fieldwork site due to its geographical and ecological significance rather than community identified research needs and concerns. For participants working in the field of glaciology, the Lhù'ààn Mân' region was chosen as their research location due to the presence of accessible subarctic glaciers within the Kluane Icefields. Participants within other fields of research identified that the location of their research was also chosen based on the accessibility of the region and the presence of the two research stations (Kluane Lake Research Station and Outpost Research Station), which provides an accessible base location compared to other northern field sites across Canada.

Research priorities within research projects were most commonly informed by broader scale climate related priorities (n=12). As several participants shared, one of the caveats of environmental change research is that research in one area may not produce tangible benefits for local communities but has implications for broader policy and mitigation efforts. As one participant stated:

“[...] There's a really tricky part when it comes to climate issues, which is that you may end up studying certain issues on someone's lands, but the issues really affect someone somewhere else. And how do you balance that set of needs and make local communit[ies] feel like this is something that's worth doing on their lands.” – Anonymous participant (ID KR1)

While several participants identified the possibility of adapting current research projects to address specific research concerns and needs of local communities, many researchers felt they

were ill-positioned to address local research priorities. This hesitancy was amplified for Kluane First Nation research priorities that were culturally significant, such as those related to local food systems and those that engaged heavily with Ancestral/Traditional Knowledge. While participants struggled to identify direct benefits of their research for local communities in ways that addressed community-identified research priorities and concerns, the Kluane Lake Research Summits identified tangible benefits that researchers could provide to communities. These included sharing access to helicopters and planes to increase accessibility to the Traditional Territory for Kluane First Nation citizens, improving how research findings are communicated to local communities, and utilizing Indigenous languages and acknowledging Indigenous self-determination in research publications. Participants expressed a willingness to integrate such activities into their research activities moving forward.

4.5.4 Respect: Respect for people, land and knowledge

None of the research projects involved in this study formally engaged with local or Ancestral/Traditional knowledge. Many participants were hesitant to engage with Ancestral/Traditional knowledge due limited previous experience and knowledge on working between different knowledge systems. As one participant stated:

“I get very nervous because the lexicon constantly changes whether we're integrating, braiding, weaving. And that's very regional specific, and people get very upset if you use the wrong word at the wrong time.” - Anonymous Participant (ID KR13)

Hesitancy to engage in relevant protocols were also often augmented due to limited training and foundational knowledge on research with Indigenous Peoples. As several participants identified, engagement with community members to collect local and/or Traditional/Ancestral knowledge requires additional institutional ethical requirements. While participants often expressed a desire to include more local and Ancestral/Traditional knowledge within their research, they identified a limitation due to a lack of appropriate institutional ethical approval and training. As one participant stated:

“I think the only disconnect that I have for physical scientists is that we don’t go through ethics approvals. And community engagement to inform our research is an additional step that expands projects. And so that might be an institutional level barrier, and universities may need to create space and time for physical scientists to have ethics approval more available and accessible. But I can see for physical scientists, the community engagement piece being more challenging, because we wouldn’t be able to include that information, nor or we trained to do personal interactions when it comes to collecting information and including it in our projects.”

- Anonymous participant (ID KR12)

Overall, participants did not have a good understanding of existing ethical resources and guidelines for research with Indigenous Peoples. For example, the majority of participants (n=8) were unaware of the First Nation’s Principles of Ownership, Control, Access and Possession (OCAP®). Several participants identified community-relevant resources, such as the Wong et al. (2020) paper, as key resources for informing the development of research practises. While many participants were unaware of relevant cultural protocols before starting their research in the region, several participants were able to learn about relevant expectations and protocols through direct interactions with local community members they met in the field. However, several participants were hesitant to adjust research practices in alignment with community expectations and cultural values due to a perceived increased researcher costs - including time and resources (n=4). Community events helped improve researchers understanding of relevant cultural protocols and expectations for research, specifically research involving animals.

Hesitancy to engage with relevant cultural protocols was also amplified due to limited knowledge of the socio-political landscape of the Yukon. Many participants shared a limited understanding of the history of Yukon First Nations, including the Umbrella Final Agreement (UFA) and the establishment of Self-Government Agreements (SGAs). As one participant stated:

“I didn't understand the history, I think what was more important for me to learn was the history behind the UFA [Umbrella Final Agreement]. And what spurred the UFA to be put forward as early as it was. And then the other thing I would say that I learned,

and I think this kind of speaks to some of the licensing, is the time at which various aspects of devolution occurred in each of the three territories [Northwest Territories, Yukon, and Nunavut] which really affects the research environment. [...]" - Anonymous participant (KR13)

All participants believed that relationships between researchers and local communities were strongly influenced by community perceptions of past harms caused by researchers and research activities. The establishment of Kluane National Park and Reserve (KNPR) and forced displacement of local First Nation people was identified as a key harmful activity that continues to shape community perceptions of outside, oftentimes southern, researchers. Modern examples of unethical research practises, such as the failure to consult with local communities and the publication of research articles that have lacked community perspectives, were also identified among participants. Without understanding the socio-political context of the region, participants did not have a comprehensive understanding of how relationships between researchers and communities have evolved and oftentimes lack sufficient knowledge to properly engage in respectful ways with local communities.

4.5.5 Emergent findings: Responsibilities and roles in research teams

While this study did not intend to explore the dynamics between supervisors and student researchers, several student researchers participated in the interviews. Graduate student participants in this study were all willing and eager to engage with local communities in authentic and meaningful ways. Many students sought out opportunities to attend community events and learn about Lhù'ààn Män Ku Dän (Kluane Lake People) culture and history. While students expressed a desire and sense of responsibility to improve relationships with local communities, there was an identifiable disconnect between the intentions and the capacity of graduate students to properly engage with local communities. Students indicated that the responsibilities of communicating and establishing relationships with local communities often landed on their shoulders; however, they often felt ill-equipped to pursue such activities, both in terms of training and knowledge and of their capacity to maintain long-term relationships with communities. Student hesitancy to engage with local communities was frequently amplified by limited training support and guidance from supervisors. Students were frequently unaware of the socio-political

landscape of the Yukon, including knowledge of relevant land claims and related processes – such as the Umbrella Final Agreement (UFA) and Self-Government Agreements (SGAs). Despite the existence of resources targeted to address this lack of knowledge (e.g. Yukon First Nation 101 course at Yukon University), students were often not provided adequate opportunities to access these resources - including insufficient funding allocations and limited support to participate in training opportunities.

Graduate students face a myriad of responsibilities while in the field, which are frequently amplified under short timelines and limited resources. Despite often spending more time in the field each year than their supervisors (PIs), student turnover and short program timelines limited students' long-term presence and capacity to engage with communities. While field seasons can vary from two weeks to several months, students believed that authentic relationship-building could not be supported on such a short-term timeline. In response, many students were hesitant to pursue relationship-building with local communities. As one participant stated:

“[...] If you're a PI [Primary Investigator] doing long term research here, you should be the one developing a relationship, because your students are at a very vulnerable point in their career; things could go six different ways. But as a PI, if you've established a research base here, you're here for a long time. And that's your responsibility.” – Anonymous participant (KR11)

By exploring internal research team dynamics further highlights the need for reflection on how we approach ethical research practises. As one respondent indicated:

“I think the one thing that we need to get better at as researchers and I can see the [Kluane Lake Research] summit helping with this, is that there are people on every team that are good at different things. Some people are very good at dealing with people and talking to communities, and some people [are not]. So, like, kind of accepting that and working with that.” – Anonymous participant (ID KR13)

4.6 Discussion: Reflection and recommendations for researchers and institutions

This study explored researchers’ perspective on (O1) the current research practises being employed to improve relationships with First Nations in the Lhù’àn Mân’ region (Table 4.1) and (O2) explored how researchers would engage with emerging research expectations being developed by Kluane First Nation. Through collaboration with Kluane First Nation’s LRH Department, this study utilized Kluane First Nation’s Research Expectations as a conceptual framework and remained centered around relationship-building. Despite the emergence of Indigenous-developed research protocols in the past couple decades, limited research has explored how researchers are engaging with the provided guidance and expectations expressed within these documents. In addition, limited studies have explored how researchers with limited experience engaging in collaborative research with Indigenous communities would engage with these expectations. This paper presents the results of interviews conducted with 17 natural science academic researchers working within Kluane First Nation Territory, who have varied experience working collaboratively with Indigenous communities and peoples. By exploring current research practises and potential challenges researchers face in aligning their research practises with community expectations, there were also several opportunities identified for improving how natural science research conduct their work in alignment with community guidance and expectations (Table 4.2).

Table 4.1 Current mechanisms and methods being used by participants to align research activities with community expectations of researchers and institutional/funding requirements for ethical research.

Identified mechanism:	Description:
<i>Sharing research publications and reports with communities</i>	Participants promoted knowledge sharing most frequently through the sharing and dissemination of academic publications.
<i>Inclusion of land acknowledgments</i>	The most common mechanism used to acknowledge Indigenous land rights and show respect for local First Nation in the region was through the inclusion of land acknowledgment within academic publications and other outputs.
<i>Use of Indigenous language(s)</i>	Participants were keen to integrate Indigenous language (e.g. Southern Tutchone) into research publications to show respect to Kluane First Nation and other Southern Tutchone people.

Sharing job opportunities Participants identified attempts to share available job opportunities within research projects with relevant and local communities.

Attending community events Participants were keen to attend community events to further share research updates and findings and establish relationships with community members.

Submitting research permits/licenses to relevant First Nations Current communication practises between researchers and First Nations were largely informed by the requirements and expected provided in the S&E License application process.

Table 4.2 Identified factors influencing researchers’ engagement with emerging research expectations and relationship-building.

Identified factor:	Description:	Example quote(s):
Lack of foundational knowledge/training	Researchers working in the region frequently had limited knowledge on the history and culture of the region and local First Nations. This included knowledge of First Nation cultural values, land claim agreements and expectations for outsiders. Researchers also lack the foundational knowledge on institutional expectations for research with Indigenous Peoples.	<i>“I didn’t understand the history, I think what was more important for me to learn was the history behind the UFA [Umbrella Final Agreement]. And what spurred the UFA to be put forward as early as it was. And then the other thing I would say that I learned, and I think this kind of speaks to some of the licensing, is the time at which various aspects of devolution occurred in each of the three territories [Northwest Territories, Yukon, and Nunavut] which really affects the research environment. [...]” – Anonymous participant (ID KR13)</i>
Research topic/area	Researchers identified that the focus of their research often limited opportunities for community collaboration and direction. Natural science research is often remote and disconnected physically from local communities. Benefits from natural science research are often tied to national level priorities and can be hard to identify reciprocal benefits for communities.	<i>“[...] There’s a really tricky part when it comes to climate issues, which is that you may end up studying certain issues on someone’s lands, but the issues really affect someone somewhere else. And how do you balance that set of needs and make local communit[ies] feel like this is something that’s worth doing on their lands.” – Anonymous participant (ID KR1)</i> <i>“I can see for physical scientists, the community engagement piece being more challenging, because we wouldn’t be able to include that information, nor or we trained to do personal interactions when it comes to collecting information and including it in our projects.”- Anonymous participant (ID KR12)</i>

Territorial research licensing system	The current processes required by the S&E licensing application do not adequately support relationships between researchers and Yukon First Nations. As such, researchers cannot rely on the requirements outlined in the permit to support 'best practices and community expectations for communication.	<p><i>"I get the impression that this permitting process is viewed by [First Nation] as not their system, this is the Yukon government system that they do, but this is not their system. So, they perhaps engage in the process, but I don't get the impression that its satisfying to them. And so, it's never clear to me, the degree to which they are happy or unhappy with the work that we're proposing to do, based on that permitting process."</i> - Anonymous respondent (ID KR9)</p> <p><i>"I think I have heard about First Nations having a limited amount of time to spend with the research permits. And if they don't get to review and the research permits then the Yukon government just makes an overriding decision."</i> - Anonymous respondent (ID KR12)</p> <p><i>"It's been really kind of like a black box. So, we submit these reports, I'll forward this to people, and we never heard anything else from it."</i> – Anonymous participant (ID KR6)</p>
Limited First Nation capacity	Relationship-building was perceived to be limited by high turnover rates within First Nation governments. Researchers often identified a need for clearly communicated contact information and best practices for communication.	<p><i>"[T]hese relationships are all about, establishing personal connections. And it seems like there's been a lot of turnover of people. So here we are supposed to build relationships with people. And yet, you know, six months later, they're gone and we're dealing with someone brand new, who has no idea what we're doing. That's admittedly frustrating. So that's been a challenge"</i> – Anonymous participant (ID KR9)</p>
Internal research team dynamics	Students presented a group that were willing and eager to engage meaningfully with local communities. They felt responsibility to improve relationships between their project and local communities; however, often felt ill-equipped to pursue such activities in terms of training, resources and support from supervisors.	<p><i>"[...] If you're a PI [Primary Investigator] doing long term research here, you should be the one developing a relationship, because your students are at a very vulnerable point in their career; things could go six different ways. But as a PI, if you've established a research base here, you're here for a long time. And that's your responsibility."</i> - Anonymous participant (ID KR11)</p>
Covid-19 pandemic	The Covid-19 pandemic presented unique barriers and challenges for community engagement and research timelines. The subsequent years following the pandemic, institutional priorities have shifted away from improving relationships towards compensating for lost field season time.	<p><i>"[W]e've put things on pause. And this comes back to COVID. And we are going through this recovery process after COVID of getting back up to speed again, 2021 was still limited travel in the north, 2022 to was okay, but I was kind of running a double field season trying to catch up."</i> - Anonymous participant (ID KR8)</p>

While many recommendations and opportunities to improve relationship-building are implementable by individual researchers and research teams, several others are aimed at the

institutional level. As Ignace et al. (2023) explains, there are three interrelated spheres of control, influence and interest that exists in research. Researchers have direct control through power, privilege and responsibility over where, when, how and why their research is carried out at the project and program level. While it is important to consider all aspects of the research process, other factors – such as funding requirements, institutional timelines, and licensing processes – may fall outside the sphere of influence of individual researchers and teams.

Currently, communication practises between researchers and First Nations in the Lhù'ààn Mân' region - which often provide the groundwork for initial relationship-building - are primarily informed by the guidelines of the Scientists and Explorers (S&E) license. As Grabowski (2017) explains, researchers have the assumption that receiving an S&E license indicates a certain level of awareness and community consent with proposed research activities (Grabowski, 2017). However, as study participants identified, the application process is somewhat of a “black box” where researchers oftentimes do not hear back from relevant First Nations. Originally established in 1959 – 40 years prior to the first Yukon SGA - and despite being updated in 2003, the S&E Act continues to be critiqued for its inability to capture and support new models of First Nations authority over lands and subsequently over research activities (Grabowski, 2017). Relying solely on the requirements and expectations outlined in the S&E application does not adequately support communication and relationship-building practices that are reflective of modern Self-Governing First Nation rights over decision-making within research processes. As findings from this study indicate, more is needed from individual researchers and research teams to shift the standard of practice beyond merely acquiring a research license and/or permit.

Relationship-building with Indigenous communities requires a deep and holistic understanding of the land you work on – including understanding the Indigenous Peoples, the history of the land and related land claim processes, and the Indigenous language(s) (McGregor & Nelson, 2022; Wilson, 2008). To better understand the limitations of the territorial licensing process, researchers must be aware of the socio-political and legal landscape on which they work (or wish to work on). This includes establishing a more comprehensive understanding of Yukon First Nation history – including the SGAs, UFA and related Land Claims. In the Yukon, relationships between institutions - and representatives of institutions, such as academic

researchers – and First Nations should remain responsive to the rights and responsibilities outlined in Yukon First Nation SGAs and UFA. As with other modern land claims, the UFA and subsequent SGAs paved a new era of Indigenous self-determination, shifting decision-making power towards First Nations and requiring new approaches to relationships between institutions and First Nations (Tondu et al., 2014). In order for research to adhere to and support relationships reflective of modern tri-partite agreements and Indigenous rights, researchers need to further expand their understandings of the legal context in which they work.

Natural science researchers are often not trained in ethical research practises and the ability to reflect upon relational responsibilities to the land and communities, thus often fail to consider how Indigenous ethical frameworks are applied to their work (Bozhkov et al., 2020). For research within the Lhù'ààn Mân' Man region, where very few researchers are currently engaging directly with local community members, many natural scientists shared a limited knowledge and awareness of ethical frameworks for research with Indigenous Peoples – such as the principles of OCAP®. As Wong et al. (2020) highlights, natural scientists often fail to see the connection between their work and the provided guidance if they are not directly interviewing or collaborating with Indigenous Peoples (Bozhkov et al., 2020; Wong et al., 2020). While many ethical training resources currently exist, findings from this study suggest more effort is needed at an individual research team level to facilitate improved ethical training for all members of the research team to broaden the depth of foundational knowledge.

Non-Indigenous researchers often have ruptured understandings of indigeneity and what it means to embody responsible relations to Indigenous Peoples and land (Daigle, 2019). For researchers, this includes expanding our understandings of the past harms that have occurred through institutional sanctioned research and shifting the standard away from research that “does no harm” towards research that “does good”. As the TRC Report (2015) states, many Canadians know little or nothing about the deep historical roots of settler colonialism and its continued reverberations within society. True reconciliation and repairing relationships between settlers and Indigenous communities can only occur after learning the history of settler colonialism and acknowledging the past (and ongoing) harms that have occurred (Reid et al., 2024; Truth and Reconciliation Commission of Canada, 2015). Researchers must reflect upon our relational

accountability and responsibility to the land and people, which extends further than institutional ethical considerations (Wilson, 2008). Community events, such as the Kluane Lake Research Summits, were identified by all participants as key processes to support collaborative learning, knowledge sharing and relationship-building between researchers and local communities. These events created space for collaborative learning and improving researchers' understandings of community expectations. It also provided space to share Indigenous perspectives and knowledge which can help inform how researchers' position themselves within research processes and improve how collaboration and engagement takes place.

Findings from this study suggest that relationships and division of responsibilities between research team members also influences the success of long-term relationships with local communities. Student researchers presented as a group that was willing and eager to improve how research was conducted collaboratively with local communities. However, their ability to establish and maintain such relationships were strongly influenced by a lack of knowledge as novice researchers, short institutional timelines and conflicting responsibilities and direction from supervisors. These findings express the need for more comprehensive ethical training for all members of a research team. It also suggests a need for further reflection by supervisors on internal team dynamics and responsibilities. It is critical that researchers acknowledge and explore their own positionality to uncover positions of power, including how these positions influence research decision-making processes within research teams (Held, 2019). Reflection within research teams can promote research approaches that are responsive to individual strengths and capacities, which can improve long-term approaches to relationship-building with local communities.

Participants identified that current mechanisms for aligning research practises with community expectations of researchers was often through the inclusion of land acknowledgements and Indigenous place names in research outputs (Table 4.1). The inclusion of land acknowledgements is a common practice within academic research to support calls for reconciliation (Wark, 2021). Land acknowledgements can be used to acknowledge that academic institutions are widely Western, settler institutions and that the history of the land extends back much further than Western accounts (Whitmore & Carlson, 2024). However, this practice can often become a "box-ticking" exercise or a symbolic gesture if it is not supported by commitments

and actions towards change (Wark, 2021). As Wark (2021) explains, land acknowledgements play a role in maintaining the status quo within institutions and negate any type of commitment for change. Often referred to as “settler moves to innocence”, performative strategies or positionings often attempt to relieve settler feelings of guilt or responsibility without having to give up power or privileged positions (Tuck & Yang, 2012; Wark, 2021). By placing colonial influence in the past, settler innocence is maintained through these actions. In addition, the use of such strategies often benefits the settler – where within academic settings, researchers can improve their reputation for culturally sensitive research without having to engage in the process of relationship-building with Indigenous communities, leading to further power imbalances and negative outcomes of research activities (Tuck & Yang, 2012). Such actions can thus be counter-productive for future relationships between settlers/settler institutions and Indigenous Peoples if not supported with additional mechanisms and approaches to support meaningful collaboration and shared decision-making within research.

As identified by study participants, the challenges brought on by the COVID-19 pandemic strongly influenced research timelines and often shifted research priorities away from community collaboration and engagement. While internal research priorities may have shifted towards compensating for lost field time, the pandemic also highlighted the need to further reflect on the limitations of current research practises and responsibility to support more collaborative research approaches moving forward (Herbst et al., 2021). The COVID-19 pandemic highlighted the importance of establishing ethical collaborations and partnerships with northern people that are nurtured and can endure over time. While the pandemic may have brought on novel challenges for academic researchers, social and environmental disturbances are not uncommon in northern environments. Widespread environmental disturbances, such as wildfires, can cause large scale displacements for communities, resulting in shifting community priorities and limited capacity for engagement. Disruptions can delay expected research timelines and alter how and when research can proceed respectfully with community engagement and collaboration. As the pandemic highlighted, research must remain responsive to social and environmental disruptions with flexible timelines and approaches that are able to reflect shifting community priorities and capacities.

Research funding has strong implications for the generation of knowledge and often steers the direction of research (Ou et al., 2014). As this study highlighted, relationship-building is often limited by funding-related restrictions and challenges. Oftentimes, research activities that are used to support relationship-building and ethical research practises, such as attending community events and returning to communities to share research findings, are not properly acknowledged within funding structures. While advancements have been made by funding agencies and opportunities to better capture these activities, such as allocations towards northern travel and supporting collaboration in the scoping phase of research projects, a more flexible and adaptable funding scheme is still required among many natural science funding sources to better align with community expectations.

4.7 Conclusion

Despite increased calls for collaboration and engagement with Indigenous Peoples and existing broad scale ethical frameworks (e.g. TCPS2, OCAP[®], etc.), researchers are largely left to interpret what these expectations look like in practise. Community-develop research expectations provide researchers with clear, community-relevant expectations and guidance. However, for researchers with limited experience conducting collaborative research with Indigenous Peoples, this may present challenges for establishing mutually beneficial collaborations and engagement across cultural divides. While researchers may face certain barriers at an institutional level, findings from this study suggest that more commitment is needed at an individual researcher level to establish a more comprehensive and holistic understanding of how research should operate across different knowledge systems, worldviews and expectations. Meaningful relationships between researchers and Indigenous communities must be situated within the context of the colonial legacy of research and potential power imbalances, while also enabling research practises that support mutual trust and uphold Indigenous rights over research. By engaging across different worldviews and knowledge systems, collaborative approaches to research not only acknowledge responsibilities to uphold Indigenous self-determination and rights but can also broaden the scope and applicability of research findings for northern communities (Cooke et al., 2021; David-Chavez & Gavin, 2018; Perrin et al., 2021).

Encouraging reflections on current research practises within the natural sciences can promote a greater understanding of our positions as non-Indigenous researchers working within Indigenous Territories. Developing a deeper and more holistic understanding of our role and responsibility as researchers can uncover positions of power and hierarchical structures of academic research. While community and social disruptions present challenges for research timelines and priorities, they also provide an opportunity for reflection on current research approaches and practises. The COVID-19 pandemic highlighted the importance of community relationships for maintaining research activities during unsettled social times. As the northern research environment continues to shift towards Indigenous self-determination and leadership in research, academic researchers must enable research practises that support and uphold modern self-governing rights and decision-making of Indigenous Nations.

While many participants involved in this study expressed a desire to do better, more is needed from individual researchers to improve long-term approaches to relationship-building. Acknowledging the role of researchers to better support their relational responsibilities to the communities and land they work on is an important first step, but not a means to an end. Oftentimes, community expectations may challenge institutional standards, and the skill set and expertise of natural scientists. Improving how research is conducted with Indigenous communities requires researchers to invest valuable time and resources to support improved foundational knowledge and training of all team members. Integrating opportunities for community collaboration into research projects require a flexible and emergent research approach that acknowledges and remains responsive to community needs, concerns and priorities. Acknowledging our own strengths and weaknesses in conducting collaborative research is important for discussing potential challenges and establish equitable approaches for overcoming them in ways that respect the knowledge, capacity and positions of team members and our non-academic collaborators. Coming into communities with good intentions and a willingness to learn, creates space and opportunities to learn from diverse worldviews, knowledge systems and perspectives and challenge our own assumptions and beliefs.

While the perspectives explored in this paper are reflective of dynamics oftentimes unique to the Lhù'ààn Mân' region, the findings from this paper and recommendations can help inform

ethical research practises of researchers working across Canada. As Indigenous Nations continue to establish their own protocols, guidelines and policies for research across their Territories and within their respective communities, researchers will continue to be called upon to critical reflect on how their research practises fit into the broader context of reconciliation and promoting ethical research spaces with Indigenous Peoples.

4.8 References

- Alcantara, C., Cameron, K., and Kennedy, S. 2012. Assessing devolution in the Canadian North: A case study of the Yukon Territory. *Arctic* 65(3):328-338. <https://doi-org.proxy.bib.uottawa.ca/10.14430/arctic4220>
- Allard-Tremblay, Y. (2024). Dispelling the Fantasy of Innocence: Complicity and the Cultivation of Transgression in Settler Colonial Contexts. *Canadian Journal of Political Science*, 57(1), 1–20. <https://doi.org/10.1017/S0008423923000690>
- Armitage, D., Berkes, F., Dale, A., Kocho-Schellenberg, E., & Patton, E. (2011). Co-management and the co-production of knowledge: Learning to adapt in Canada’s Arctic. *Global Environmental Change*, 21(3), 995–1004. <https://doi.org/10.1016/j.gloenvcha.2011.04.006>
- Barnett, C. (2006). Postcolonialism: space, textuality and power. In: Aitken, Stuart and Valentine, Gill eds. *Approaches to Human Geography*. London, UK: Sage, pp. 147–159. DOI: <https://doi.org/10.4135/9781446215432>
- Bozhkov, E., Walker, C., McCourt, V., & Castleden, H. (2020). Are the natural sciences ready for truth, healing, and reconciliation with Indigenous Peoples in Canada? Exploring ‘settler readiness’ at a world-class freshwater research station. *Journal of Environmental Studies and Sciences*, 10(3), 226–241. <https://doi.org/10.1007/s13412-020-00601-0>
- Bull, J., Beazley, K., Shea, J., MacQuarrie, C., Hudson, A., Shaw, K., ... Gagne, B. (2020). Shifting practise: recognizing Indigenous rights holders in research ethics review. *Qualitative Research in Organizations and Management: An International Journal*, 15(1), 21–35. <https://doi.org/10.1108/QROM-04-2019-1748>
- Castleden, H., Morgan, V. S., & Lamb, C. (2012). “i spent the first year drinking tea”: Exploring Canadian university researchers’ perspectives on community-based participatory research involving Indigenous Peoples. *Canadian Geographer*, 56(2), 160–179. <https://doi.org/10.1111/j.1541-0064.2012.00432.x>
- Cooke, S. J., Nguyen, V. M., Chapman, J. M., Reid, A. J., Landsman, S. J., Young, N., ... Semeniuk, C. A. D. (2021). Knowledge co-production: A pathway to effective fisheries management, conservation, and governance. *Fisheries*, 46(2), 89–97. <https://doi.org/10.1002/fsh.10512>
- Danby, R. K., Williams, A., & Hik, D. S. (2014). Fifty years of science at the Kluane lake research station. *Arctic*, 67(5 SUPPL.1). <https://doi.org/10.14430/arctic4398>
- Daigle, M. (2019). The spectacle of reconciliation: On (the) unsettling responsibilities to Indigenous Peoples in the academy. *Environment and Planning D: Society and Space*, 37(4), 703–721. <https://doi.org/10.1177/0263775818824342>

- Doering, N., Dudeck, S., Elverum, S., Fisher, C., Henriksen, J. E., Herrmann, T. M., ... Wilson, K. (2022). Improving the relationships between Indigenous rights holders and researchers in the Arctic: An invitation for change in funding and collaboration. *Environmental Research Letters*, 17(6). <https://doi.org/10.1088/1748-9326/ac72b5>
- Grabowski, M. (2017). Recommendations for Modernizing the Yukon Scientists and Explorers Act. The Gordon Foundation.
- Harding, A., Harper, B., Stone, D., O'Neill, C., Berger, P., Harris, S., & Donatuto, J. (2012). Conducting research with tribal communities: Sovereignty, ethics, and data-sharing issues. *Environmental Health Perspectives*, 120(1), 6–10. <https://doi.org/10.1289/ehp.1103904>
- Held, M. B. E. (2019). Decolonizing Research Paradigms in the Context of Settler Colonialism: An Unsettling, Mutual, and Collaborative Effort. *International Journal of Qualitative Methods*, 18, 1–16. <https://doi.org/10.1177/1609406918821574>
- Kluane First Nation. (2024). Bringing Research Home. Retrieved from www.kluanefirstnationresearch.ca
- Latulippe, N., & Klenk, N. (2020). Making room and moving over: knowledge co-production, Indigenous knowledge sovereignty and the politics of global environmental change decision-making. *Current Opinion in Environmental Sustainability*, 42, 7–14. <https://doi.org/10.1016/j.cosust.2019.10.010>
- MacDonald, N., Stanwick, R., & Lynk, A. (2014). residential school children : The need for strong medical ethics in Aboriginal health research. *Paediatr Child Health*, 19(2), 64.
- McGregor, D. (2018). From “decolonized” to reconciliation research in Canada: Drawing from indigenous research paradigms. *Acme*, 17(3), 810–831.
- McKnight, E. A., Swanson, H., Brahney, J., & Hik, D. S. (2021). The physical and chemical limnology of Yukon’s largest lake, Lhù’àn Mân’ (Kluane lake), prior to the 2016 ‘Aäy Chù’ diversion. *Arctic Science*, 7(3), 655–678. <https://doi.org/10.1139/as-2020-0012>
- Morton Ninomiya, M. E., & Pollock, N. J. (2017). Reconciling community-based Indigenous research and academic practices: Knowing principles is not always enough. *Social Science and Medicine*, 172, 28–36. <https://doi.org/10.1016/j.socscimed.2016.11.007>
- Pedersen, C., Otokiak, M., Koonoo, I., Milton, J., Maktar, E., Anaviapik, A., ... Elverum, S. (2020). SciQ: An invitation and recommendations to combine science and Inuit Qaujimagatuqangit for meaningful engagement of inuit communities in research. *Arctic Science*, 6(3), 326–339. <https://doi.org/10.1139/as-2020-0015>
- Reid, A. J., McGregor, D. A., Menzies, A. K., Eckert, L. E., Febria, C. M., & Popp, J. N. (2024). Ecological research ‘in a good way’ means ethical and equitable relationships with

- Indigenous Peoples and Lands. *Nature Ecology and Evolution*.
<https://doi.org/10.1038/s41559-023-02309-0>
- Sullivan, M., Kone, A., Senturia, K. D., Chrisman, N. J., Ciske, S. J., & Krieger, J. W. (2001). Researcher and researched-community perspectives: Toward bridging the gap. *Health Education and Behavior*, 28(2), 130–149. <https://doi.org/10.1177/109019810102800202>
- Tondu, J. M. E., Balasubramaniam, A. M., Chavarie, L., Gantner, N., Knopp, J. A., Provencher, J. F., ... Simmons, D. (2014). *InfoNorth*. 67(3).
- Trisos, C. H., Auerbach, J., & Katti, M. (2021). Decoloniality and anti-oppressive practices for a more ethical ecology. *Nature Ecology and Evolution*, 5(9), 1205–1212.
<https://doi.org/10.1038/s41559-021-01460-w>
- Truth and Reconciliation Commission of Canada. (2015). Truth and Reconciliation Commission of Canada: Calls to Action. Retrieved from: https://ehprnh2mwo3.exactdn.com/wp-content/uploads/2021/01/Calls_to_Action_English2.pdf
- United Nations General Assembly. (2007). Declaration on the Rights of Indigenous People.
- Wark, J. (2021). Land acknowledgements in the academy: Refusing the settler myth. *Curriculum Inquiry*, 51(2), 191–209. <https://doi.org/10.1080/03626784.2021.1889924>
- Wesche, S., Schuster, R. C., Tobin, P., Dickson, C., Matthiessen, D., Graupe, S., ... Chan, H. M. (2011). Community-based health research led by the Vuntut Gwitchin first nation. *International Journal of Circumpolar Health*, 70(4), 396–406.
<https://doi.org/10.3402/ijch.v70i4.17846>
- Whitmore, C., & Carlson, E. (2024). Making Land Acknowledgements in the University Setting Meaningful and Appropriate. *College Teaching*, 72(1), 9–14.
<https://doi.org/10.1080/87567555.2022.2070720>
- Wong, C., Ballegooyen, K., Ignace, L., Johnson, M. J., & Swanson, H. (2020). Towards reconciliation: 10 Calls to Action to natural scientists working in Canada. *Facets*, 5(1), 769–783. <https://doi.org/10.1139/FACETS-2020-0005>
- Yang, E., & Wayne, T. K. (2012). Decolonization is not a metaphor. *Decolonization: Indigeneity, Education and Society*, 1(1), 1–40.

Chapter 5: Bringing Research Home: Reflections on holistic approaches to co-development of community-led projects

Savanah Müller

This chapter presents personal reflections on the development and significance of the supplemental tools and research activities undertaken as part of the Bringing Research Home project.

5.1 Introduction

The past four decades have seen a significant rise in Indigenous self-determination and leadership in research, as evidenced by the rise of protocols for research being established by Indigenous Nations, increased collaboration with Indigenous Peoples and the responsiveness of researchers to northern needs and concerns (Hayward et al., 2021; McGregor et al., 2010; Tondu et al., 2014; Perrin et al., 2021; Wesche et al., 2011). Indigenous protocols, guidelines or policies for research often focus on enabling practises that are grounded in culturally relevant principles, responsive to community priorities and supportive of self-determined research practices (Hayward et al., 2021). While research methodologies can be an important means of assuring that Indigenous research protocols are adhered to within the research process, research institutions have a long history of colonialism and with colonial ways of knowing and doing strongly rooted in institutional research processes and practises (Hayward et al., 2021; Reid et al., 2024; Wilson, 2008).

To support more ethical and coordinated research across First Nation Territories, work needs to be done to support learning, relationships and collaborations across various communities, institutions and disciplines (Tondu et al., 2014; Perrin et al., 2021). The Bringing Research Home (BRH) project was initiated in 2018 by Kluane First Nation in partnership with the University of Ottawa and Yukon University. Guided by Indigenous methodologies, the project fostered a research process that was both collaborative and held Indigenous perspectives, knowledge and experiences at its core. Working collaboratively with partners at Kluane First Nation's Lands, Resources and Heritage (LRH) Department, this project addressed a community-identified research priority to better understand and enhance Kluane First Nation's ability to participate in and lead research within its Traditional Territory. This was accomplished by (O1) compiling historical and existing climate change research conducted within the territory, (O2) developing tools to make research more accessible to community members, and (O3) developing expectations for researchers, based on Kluane First Nation knowledge and values (e.g. Kluane First Nation's Research Expectations). The tools and processes developed through the BRH project aimed to support a more coordinated, engaged research approach that is responsive to and supportive of Kluane First Nation needs, concerns and research priorities while upholding their Self-Government rights, cultural values, and worldviews.

The following chapter explores supplementary research activities collaboratively undertaken by the BRH project. Through ongoing collaborations and partnerships between the University of Ottawa, Yukon University and Kluane First Nation, several key processes, tools and resources were developed to support the research objectives of the project. These included (1) the Kluane Lake Research Summits (2019 & 2023), (2) the Bringing Research Home website, which hosts a series of educational tools and resources for community members and researchers, and (3) a targeted survey to engage with Yukon Government researchers. By pulling on my experience working collaboratively on the BRH project, as a research assistant and later the project coordinator, and my experience participating on the Kluane Lake Research Summit planning committee, this chapter will first provide an overview of the development and purpose of the tools, resources and process. The significance and importance of these tools, resources and processes will also be explored and support through personal reflections. I will also draw on my own experience as a novice settler researcher starting on my own journey of building relationships with place and people through my research – including relationships to both communities and people, but also to the land I have worked and traveled across over the past few years.

5.2 Development of tools, resources and processes

5.2.1 Kluane Lake Research Summits

In 2016, glacial recession caused the diversion of main inputs into Lhù'ààn Mân (Kluane Lake) and resulted in significant drops in lake levels (McKnight et al., 2019). Following this event, the Lhù'ààn Mân region experienced significant research activity, where effective community engagement was frequently lacking, and research was published without appropriate collaboration with local communities and First Nations (Southwick & Ballegooyen, 2020). In 2018, Kluane First Nation, in partnership with the Dan Keyí Renewable Resource Council, hosted the inaugural Lhù'ààn Mân - Kluane Lake Research Summit. This research summit aimed to bring together researchers and local communities to engage in collaborative, cross-cultural discussions and promote a more coordinated and locally engaged research approach throughout Kluane First Nation Territory (Kluane Lake Research Summit Planning Committee, 2024). Participants included researchers across a range of institutions – including universities, Yukon Government, Federal Government departments and Parks Canada – and local community members and First Nation citizens. Framed around Lhù'ààn Mân and the central theme of water, this summit aimed

to facilitate dialogue between researchers, communities and governments and build stronger relationships for mutually beneficial research outcomes (Green Raven Environmental, Inc., 2018). Discussions and collaborations stemming from the 2018 summit led to the establishment of the BRH project.

Based on recommendations from the first summit, a second research summit was held in 2019 to continue to reflect and advance the goals of the first Lhù'ààn Mân - Kluane Lake Research summit. The theme of the 2019 research summit took a more holistic approach and was framed around changes being observed in the Lhù'ààn Mân region (Green Raven Environmental, Inc., 2019). It took a more traditional format with fewer scientific presentations and broader range of panelists and speakers, including both researchers, community members and First Nation citizens. Collaborative discussions at the summit focused on general changes being observed in the region, providing participants the opportunity to share scientific and local observations on changes to the water, land and animals. These discussions also included how our relationships with animals and research approaches and mindsets have changed and how they continue to evolve and shift (Green Raven Environmental, Inc., 2019).

Following a break due to the COVID-19 pandemic, the most recent summit was hosted in May 2023. Similar to the previous two summits, the 2023 summit aimed to bring together a range of academic and government researchers, Kluane First Nation citizens and local community members into collaborative dialogue. Based on collaboration between the summit planning committee members– which included Kluane First Nation citizens and employees and BRH project team members – the theme of this summit was Reconciliation in Research. Discussions and panels were led by Kluane First Nation citizens and several Indigenous scholars came to share their experience, knowledge and perspectives on research.

5.2.2 Bringing Research Home website

The BRH project also developed several tools and resources to help to support the objectives of the project, including the reclamation of climate change research conducted within Kluane First Nation Territory, the co-development of processes that empower Kluane First Nation to have greater control over research processes, and the development of tools to facilitate improved

knowledge mobilization. To achieve these objectives, several tools were developed through collaboration with Kluane First Nation citizens, community members and youths. These tools are now hosted on the Bringing Research Home website (www.kluanefirstnationresearch.ca) to ensure access for both community members and researchers.

To support improved knowledge mobilization, a systematic scan of existing databases, peer-reviewed literature, grey literature, websites and other sources was conducted to compile relevant research conducted in the region. An online mapping database was developed to showcase these documents and resources (Appendix 14). This online database, referred to as a Research Atlas, is an interactive tool for both researchers and community members to improve how research is disseminated and improve community access to research publications. Research publications are categorized by themes, which were reviewed by community members, and showcased on an interactive map overlain with Kluane First Nation Traditional Territory boundaries. The Research Atlas can host newly published research outputs through an online submission tool, which will be reviewed by Kluane First Nation's LRH department before publication on the map. Publications can be searched via category, key term, research publication date and author.

As explored in more depth in Chapter 4, the BRH website hosts Kluane First Nation's Research Expectations. These expectations provide clear, community-relevant expectations of researchers and research activities occurring with Kluane First Nation Territory. These expectations were established through interviews and workshops conducted with Kluane First Nation citizens and youths (conducted by Ellorie McKnight, Yukon Research Centre). In addition to the Research Atlas and Research Expectations, the BRH website also hosts two ArcGIS storymaps aimed at improving researchers' knowledge of Kluane First Nation Territory and the history of research in the Lhù'ààn Mân region. The first story map (Introduction to KFN lands) was developed through collaboration with several Kluane First Nation youths. It focuses on providing an overview of key landscape features across Kluane First Nation Territory, as well as introduction to Kluane First Nation, Kluane First Nation Traditional Territory and Kluane First Nation Settlement Lands. The second storymap (History of Research) was developed by the primary author of this paper and was informed by collaboration with Kluane First Nation's LRH Department and feedback from the broader Kluane First Nation community. This storymap focuses

on key historical events that have contributed to modern relationships between researchers and Kluane First Nation, including establishment of the S&E Act, Kluane Lake Research Station and Kluane National Park and Reserve. In addition, this storymap also served to highlight key events related to Kluane First Nation Self-Government and the research projects it has undertaken to inform the management of its resources, citizens and territory.

Finally, the BRH website also hosts a list of additional resources for both community members and researchers. This list includes Kluane First Nation related documents, such as Southern Tutchone dictionaries, Kluane First Nation management plans and Kluane Lake Research Summit reports, as well as additional resources for guiding ethical research with Indigenous Peoples. These resources were identified through collaboration with Kluane First Nation and informed by the findings identified in Chapter 4 of this thesis.

5.2.3 Yukon Government surveys

The Lhù'ààn Mân region experiences significant research activity sanctioned by a range of institutional actors – including universities, federal departments and the territorial government. Currently, all researchers who “*enter* the Yukon for scientific or exploration purposes” must apply for a Scientist and Explorers (S&E) permit through the Government of Yukon (Government of Yukon, 2013). All S&E applications are forwarded to relevant Yukon First Nations for a 30-day period, where they can provide comments (Government of Yukon, 2013). This application process has been critiqued for its lack of capacity to promote relationships between researchers and First Nations that are reflective of the rights and responsibilities of Self-Governing First Nations (Grabowski, 2017). In addition to limitations that exist within the current S&E application process, it also fails to address research being conducted by Yukon-based researchers and institutions.

The Government of Yukon sanctions significant research across the territory to help inform the management of lands and resources. Currently, research being conducted from territorial government departments are not managed through any centralized permitting system and often rely on individual researchers to communicate activities and findings to relevant Yukon First Nations.

To better understand the current mechanisms being used by Yukon Government researchers to communicate and build relationships with relevant First Nations, I developed a draft survey in collaboration with Kluane First Nation's LRH department and the BRH project partners (Appendix 11). The objectives of this survey were to: (O1) Identify current mechanisms being used by Yukon Government researchers to build and maintain relationships with relevant First Nations (e.g. communication, community, respect and reciprocity), (O2) Explore how Yukon Government researchers would engage with Kluane First Nation's Research Expectations, and (O3) Identify current limitations and opportunities to support better engagement with the Kluane First Nation's Research Expectations. These objectives directly support the broader goals of the BRH project by broadening the scope of engagement to include all types of researchers working in Kluane First Nation Territory.

5.3 Reflections, recommendations and lessons learned

5.3.1 Indigenous perspectives on reconciliation and reflexivity

Relationships between non-Indigenous researchers and Indigenous communities are often complex and influenced by a legacy of colonialism, cultural differences and divergent ways of knowing (Morton Ninomiya & Pollock et al., 2017). Oftentimes, misunderstandings and mistrust between researchers and Indigenous communities strongly influence how relationships are established and maintained over time (Burnette & Sanders, 2014; Morton Ninomiya & Pollock et al., 2017). While national agendas and policies have emerged to direct institutional activity in alignment with Indigenous calls for reconciliation, settlers often have fragmented understandings and misconceptions about the process of reconciliation (Datta, 2019). This often extends to poor understandings of Indigeneity and what it means to embody responsible relations to Indigenous Peoples (Daigle, 2019).

As Simpson (2014) highlights, if reconciliation is to be meaningful for Indigenous Peoples and communities, it must be grounded in Indigenous perspectives, cultural regeneration, and political resurgence. Indigenous Peoples and Nations have diverse worldviews, with perspectives and priorities on reconciliation that can vary between communities, lands and generations (Datta, 2016). Through collaboration with BRH partners at Kluane First Nation's LRH department and the summit planning committee, the theme of the 2023 Kluane Lake Research Summit was chosen as reconciliation in research. Focus was placed on providing space and a platform to highlight

Indigenous perspectives, knowledge and experiences with research. This included Kluane First Nation citizens and youth, and several Indigenous scholars from across Canada. While opportunities to share institutional research were integrated into the summit, research presentations were allocated a short time period, and speakers were primarily student researchers. As such, the summit was not intended to provide an opportunity for researchers to complete funding or institutional requirements for community consultation or dissemination of research findings.

Learning about reconciliation from an Indigenous perspective is critical to shift the conversation away from remaining centered on settler guilt, towards Indigenous sovereignty and self-determined research processes (Tuck & Wayne Yang, 2012). In recent decades, a resurgence of Indigenous rights to research is emerging as Indigenous nations continue to assert and gain legal recognition of their inherent rights to self-government with federal, provincial and territorial governments in Canada (Bull et al., 2019). For northern Indigenous First Nations, much of the right to self-determination and engagement in research has emerged through struggles to regain control over their Traditional Territories (Brunet et al., 2016). Northern Indigenous communities have initiated major research programs as the basis for defending their land rights, formulating comprehensive land claims, and resource management decisions (McGregor et al., 2010). As highlighted by several speakers, Kluane First Nation has undertaken comprehensive and extensive projects to reclaim their political independence. Speakers and panelists spoke of Kluane First Nation's journey to self-government, which involved undertaking comprehensive research projects to protect cultural knowledge and ongoing management of its lands, resources and citizens. The expertise, skills and knowledge of Kluane First Nation was highlighted through the success of the 2023 Research Summit, which was planned and hosted primarily by Kluane First Nation citizens, including food preparation, summit planning, videography and speakers and panelists.

While oftentimes sharing similar values and perspectives on expectations for ethical research, Indigenous communities are heterogenous with diverse worldviews and cultural values (Hayward et al., 2019). Additionally, northern communities may face similar challenges with environmental changes, they have unique research priorities, needs and concerns. To support a deeper understanding on Kluane First Nation expectations of researchers working within their

territory, opportunities for cross-cultural collaborative discussions and workshops were integrated into the summit agenda. Informed by findings from the study presented in Chapter 4, the collaborative workshop was framed around KFN's Research Expectations and questions followed a similar format to the interview guide used to engage with academic researchers (Appendix 10). Each workshop group included members of the Kluane First Nation community and researchers across a range of institutions, providing space for sharing perspectives, experiences and knowledge between participants. The workshop was facilitated by members of the BRH team and selected speakers from the summit to ensure that discussions remained centred on the Research Expectations in respectful and productive ways. Feedback we received from summit participants indicated that the workshop and informal opportunities to build relationships – such as spending time on the land and sharing meals – were appreciated by both researchers and the Kluane First Nation community (Kluane Research Summit Planning Committee, 2024). As one participant stated:

“I really enjoyed the good mixture of format and content - panel discussions, films, round table sessions. I thought it was amazing to have so much time to hear from Elders and knowledge holders, and that their contributions were prioritized.” –

Anonymous participant from the 2023 Kluane Lake Research Summit

Researchers within all disciplines carry a responsibility for learning about the historical and ongoing injustices occurring on the lands they work on, especially those that have transformed Indigenous relationships to the land (Reid et al., 2024). While acknowledging and learning about the historical and ongoing injustices facing Indigenous Peoples is critical in the process of reconciliation, researchers must also learn and situate themselves within the modern context of Indigenous resurgence and modern political and legal systems of Indigenous self-determination, self-government and inherent constitutional rights (Artelle et al., 2019; Bull et al., 2019). While summit presentations and discussion addressed historical wrongdoings and how these events have shaped modern relationships between First Nations and outside researchers, presentations remained centered on expressing and exploring Kluane First Nation-led research and how they envision research relationships in the future.

The natural sciences are often dominated by Western concepts of ‘objectivity’ and ideas of the ‘neutral’ and ‘objective’ observer (Hausermann & Adomako, 2022). As such, natural scientists are often not well trained in ethical research practises and the ability to reflect upon their responsibilities to the land they work on and the communities they work with (Bozhkov et al., 2020; Hausermann & Adomako, 2022). Opportunities to bring researchers onto the land and explore the history of the territory on which they work was promoted through a guided tour led by Elder Gùdia-Mary Jane Johnson.

In order to understand their roles as researchers, researchers need to be able to situate themselves within their research, including acknowledgement of how their race, class and gender influences their research processes (Fisher, 2015; Johnson et al., 2019). Critical reflection on our positionality can also uncover positions of power, both as researchers but also with the knowledge systems we work with (Held, 2019). As feminist scholar Gillian Rose explains, reflexivity must look both “inward” to the identity of the researcher, and “outward to the research relations in the wider world” (Rose, 1997, p. 309). Community events, such as the Kluane Lake Research Summits, bring different communities together to promote meaningful reflections on current research practises, allowing for a greater consideration of other worldviews, knowledge and perspectives. While discussions and panels were led by Indigenous Peoples, non-Indigenous researchers involved in collaborative, community-led research were also highlighted. These researchers shared their experience conducting collaborative, oftentimes cross-cultural research. They shared how the relationships they have established take time and involve constant reflections on their own positionality and inherent power imbalances involved in collaborative approaches to research. As a graduate student beginning my journey of research, it was important to listen and learn from other non-Indigenous researchers attempting to conduct research in a better, more reciprocal way. Being able to hear about their experiences and learn from successes and challenges, allowed be to develop a better understanding of how to situate myself within my given research context – including how to better engage with communities and embody being a “person first, researcher second”.

The process of reconciliation or relationship-building is a life-long process of unlearning and relearning (Datta, 2018). The Kluane Lake Research Summits highlight the importance of coming

with an open heart and authentically engaging in (sometimes difficult) collaborative conversations around institutional hierarchies of knowledge and what meaningful collaboration looks like between researchers and Indigenous Peoples. The 2023 Kluane Lake Research Summit provided important space for researchers at all stages of their learning and reconciliation journeys to come together and learn from Indigenous Peoples. The open dialogue and collaborative structure of the summit provided space to critically reflect upon our own responsibilities and motivations for engaging with First Nation communities that are often undertaking their own research to address their own priorities and concerns. As researchers, we have a responsibility to question whose interests are being served by collaborations and engagement and ensure that our attempts to improve how we conduct research do not risk tokenizing communities to reconcile our guilt and privilege.

While reflections on positionality and power do not inherently promote more ethical research, it can promote a better understanding of power dynamics in research contexts which can lead to more thoughtful and ethical methods and data interpretation (Hausermann & Adomako, 2022). Engaging in these discussions and learning what communities expect from us can sometimes challenge institutional “best practises” or standards for research. Accepting that one way of doing something may not be what aligns best with community expectations and needs can present novel challenges for how research should proceed. As researchers, we all strive to conduct ‘good’ research. Establishing a better understanding of relational accountability in research can also help expand our understandings of reciprocity beyond institutional standards and ensure that our research produces tangible benefits for communities. Creating space for open discussion between researchers about identities and power imbalances in research helps promote transparency and creates space for the expression of desires, frustrations and needs (Hausermann & Adomako, 2022). These conversations not only promote more ethical research practises, but also allows us to discuss anticipated challenges and establish equitable approaches for overcoming them in ways that respect the knowledge, capacity and positions of team members and our non-academic partners. Listening and learning about reconciliation and ethical research from Indigenous Peoples and communities creates opportunities for us to learn from diverse worldviews, knowledge systems and perspectives and challenge our own assumptions and beliefs.

5.3.2 Fostering collaborations across institutions and sectors

Institutional research often operates in silos with limited collaboration occurring across disciplines and institutional divides (Barthel & Seidl, 2017). In the North, it is not uncommon for multiple overlapping research projects to be occurring simultaneously (Pearce et al., 2009). Collaboration across disciplines, such as between natural and social sciences, and between institutions can provide opportunities for collaborative learning and leveraging strengths between research teams (Barthel & Seidl, 2017). Improved collaboration within the research communities can also promote a more coordinated and less redundant research landscape, that support knowledge sharing that can broaden the scope and significance of research (Huntington et al., 2006).

The BRH project successfully brought together a number of organizations and actors to work collaboratively on shared goals and objectives. The collaborative approach to this project helped strengthen existing and build new partnerships between Kluane First Nation, Parks Canada, the University of Ottawa, the Arctic Institution of North America (AINA) and the Yukon Research Centre at Yukon University. These partnerships not only advanced the goals of the BRH project, but also established relationships that contribute to a more coordinated approach to climate change research within the region moving forward, including future collaborations and strategies for climate research. Following the conclusion of the BRH project, a new climate modeling project was initiated by Kluane First Nation, the University of Ottawa and the University of Montreal. Building on the objectives of the BRH projects and existing relationships between partners, this project will continue to advance the goals of the BRH project with applicability to climate modeling and Kluane First Nation research priorities.

The BRH project also provided further insight into how socially innovative approaches can lead to transformative change and helped characterize how collaboration within and across sectors and new ways of working can address complex issues such as climate change (Goldenberg et al. 2009). The Kluane Lake Research Summits provided space for researchers across institutions to come together into collaborative dialogue and discussions. Bringing together researchers from different institutions present opportunities for collaborations and knowledge sharing among research teams (Herbst et al., 2021). As Chapter 4 highlighted, researchers have varied experiences

and strengths in term of community relationship-building. Early communication and relationships with relevant community and regional entities, such as First Nation governments, Renewable Resource Councils and Parks Canada, can help facilitate community engagement and collaboration within research projects. Oftentimes, these entities and governments can leverage long-standing relationships to support projects that are meaningfully addresses their research needs and priorities.

Promoting collaboration across research teams not only helps support a more coordinated research approach across the region, but it can also support a more ethical and respectful approach to collaboration with local communities. Natural scientists are often not well trained in community-based research approaches (Wong et al., 2020), oftentimes presenting challenges for establishing respectful communication and relationship-building practises. Sharing responsibilities for communication and collaboration between research team members present an employable research practise that can leverage individual strengths and skills. Establishing relationships and collaborative approaches between research teams can provide opportunities for co-learning and division of responsibilities that leverage disciplinary and individual strengths in ways that have the potential to support the capacity of regional partners.

While collaboration across institutions and research teams can support a more coordinated research approach in the region, more still needs to be done to maintain the progress accomplished by the BRH project. Events such as the Kluane Lake Research Summits proved to be key processes for relationship-building across communities, institutions and actors in the region; however, these events are costly and should continue to be supported by the resources held by other institutions that benefit from research in the region. Established research entities, such as AINA, hold a role and responsibility for leveraging their long-standing presence and access to resources to support the ongoing and long-term engagement between researchers and local communities. Recommendations and expectations for research stations to take the lead in provided space and opportunities for community engagement are being increasingly taken up, which was evidenced by commitments by Kluane Lake Research Station to host yearly research open houses and monthly informal community nights.

5.3.3 Engagement during and after community disruptions

Researchers are facing novel and unprecedented challenges brought on by the COVID-19 pandemic (Duker, 2020; Herbst et al., 2021). Pandemic-related travel restrictions have heavily impacted research timelines, influencing timing and length of field seasons and data collection approaches (Herbst et al., 2021). Collaborative research methods, such as workshops, interviews and talking circles were halted, suspended or conducted virtually. As with many remote communities, challenges with limited internet connection further complicated collaboration with research partners and collaborators (Duker, 2020). As Chapter 4 highlighted, the subsequent years following the pandemic, research priorities have shifted away from improving engagement and collaborations with local communities towards compensating for lost field seasons and completing academic responsibilities.

Social and environmental disturbances are not uncommon among northern communities and environments (Walsh et al., 2020). Widespread climate-related disturbances, such as wildfires, can cause large scale displacements for northern communities and have direct impacts on research activities and timelines. Since many northern communities are small and remote, with complex histories and strong connections between families and community members, social disruptions, such as deaths within a community, can also delay expected research timelines and alter how and when research can proceed with community engagement and collaboration. Government priorities following social and environmental disruptions also shift towards supporting community health and well-being and may be accompanied by limited community capacity to engage with outside researchers.

While the pandemic present unprecedented challenges for research, it also provided space for reflection on current approaches and the need to support more collaborative and engaged research methods moving forward (Herbst et al., 2021). During the pandemic, many collaborative research projects relied heavily on the support of community partners to engage with local community members, conduct data collection and lead research dissemination within their respective communities (Hall et al., 2021). For pre-existing research projects, where community relationships are already established, delays to research timelines may also have negative impacts on those already involved and invested valuable time and resources into research activities (Hall

et al., 2021). Virtual options for engagement and collaboration during the pandemic provided Indigenous Peoples and communities with the autonomy to proceed with a priority project, or halting research activities until the necessary protocols or governance processes can be adhered to (Duker, 2020).

During the pandemic, the BRH project relied on our northern research partners, including Yukon University researchers and Kluane First Nation citizens, to facilitate community engagement and on the ground research activities. As southern-based research partners, we were able to provide logistical support; however, our ability to conduct research activities were significantly impacted. During this time, we relied on technology to support ongoing discussions and collaboration between project partners. Our reliance on technology to connect with our northern research partners also provided an opportunity to expand the scope of community engagement and collaborations. As many Kluane First Nation citizens do not live in Burwash Landing, transitioning to virtual settings allow an opportunity for citizens across Canada and the United States to be directly involved in various roles and responsibilities within the BRH project.

While transitioning to virtual settings allowed for continued collaboration and engagement between BRH project collaborators, it also presented several challenges for participatory community-based research. Participatory research approaches rely on establishing trust and rapport between researchers and participants, which involves participants in the planning, implementation and dissemination of research (Hall et al., 2021). By using online software to facilitate collaboration across geographically distributed context, the openness and equitability of research approach may be reduced (Hall et al., 2021). For research with Indigenous Peoples and communities, researchers must consider how cultural protocols may be influenced by transitions to virtual settings.

Transitioning from conducting research in situ (situated in the place) to virtual settings also shifts how researchers are able to relate to and interpret research findings. Community events are important mechanisms to support and maintain relationships that may have been disrupted or impacted following social and environmental disturbances. Events such as the Kluane Lake Research Summits provide a space for relationship-building between Indigenous community

members and researchers. While the 2023 summit continued to build on the work from the previous two summits, it also provided an opportunity to bring communities back together following several years of disconnection initiated by the COVID-19 pandemic. For the BRH project and my own research, the Kluane Lake Research Summit provided an opportunity to bring back the research that had been conducted through virtual settings and ground our interpretations in community perspectives.

5.3.4 Promoting opportunities for youth in research

Increasingly, researchers are being called upon by Indigenous communities, funders and international forums to better engage with Indigenous youth (Liebenberg et al., 2017). Youth engagement in research not only acknowledges researchers' responsibilities to honour reciprocal relationships and honour intergenerational knowledge exchange, but can also increase the scope, significance and applicability of research findings (Bird-Naytowhow et al., 2017). Indigenous youths are well positioned to meaningfully contribute to research with knowledge, skills and experiences that can add value to research processes and outcomes (Bird-Naytowhow et al., 2017; Nowland et al., 2022). Authentic and meaningful engagement with youths must move towards creating space for youth-led knowledge generation, interpretation and dissemination. These opportunities must simultaneously provide space that supports and empowers youth while respecting their agency and decision-making (Bird-Naytowhow et al., 2017). Currently, largely in the absence of knowledge regarding how exactly to achieve meaningful engagement, much research with youth remains tokenistic and a "box checking" exercise (Liebenberg et al., 2017). Through ongoing collaboration and engagement with Kluane First Nation youths, our experiences highlighted several approaches to collaboration with Indigenous youths, some of which were effective and others which required further reflection on our part. These lessons learned and reflections can provide guidance for future research to improve engagement with northern Indigenous youths in meaningful and supportive ways.

Engagement with Indigenous youth was an integral component of the BRH project, which was identified through collaboration with Kluane First Nation in the initial scoping phase of the project. Opportunities to support Kluane First Nation youth in active decision-making roles were supported throughout the length of the project, from the scoping to dissemination phase. We

directly collaborated with several youth (Nadaya Johnson, Shakina Johnson and Dyea Johnson) on the development of the Introduction to KFN Lands storymap. This component of the project was supported through several workshops, including ongoing virtual meetings and in-person workshops in Whitehorse during December 2022. Youth had the opportunity to help inform and direct the development of other tools emerging from the project as well, including the Research Atlas and Southern Tutchone translations. Opportunities for youth to lead dissemination processes to the broader Kluane First Nation community were also included through several planned trips to Burwash Landing.

Successful engagement with northern Indigenous youth is often influenced by challenges of capacity, with a limited number of youths available to participate in projects. Northern communities are often small and located far from central cities, meaning that youth are often unable to live within their communities for their high school and post-secondary educations. While oftentimes this may limit collaboration that takes place within communities, we found that the use of technology can support collaboration and engagement with youths across geographic scales. Employing the use of technology and virtual collaboration effectively increased the scope of youth that could participate, as many Kluane First Nation citizens were not located within Burwash Landing. Through the use of technology and virtual meetings, we were able to successfully collaborate with youth located across Canada and the United States, who oftentimes would not have the opportunity to participate in research conducted primarily within the Lhù'ààn Mân region. In addition, this approach to research proved beneficial during the COVID-19 pandemic and associated travel restrictions, where challenges were presented for maintaining collaboration with community members.

In the Lhù'ààn Mân region, the number of researchers interested in engaging with youth oftentimes exceeds the number of youth available to participate. As such, it is important to get creative and provide genuine opportunities for youth in research. This may require thinking outside the academic definition of “collaboration”. As identified by speakers at the 2023 Kluane Lake Research Summit, Kluane First Nation citizens have skills and knowledge beyond traditional engagement roles (e.g. on the land activities). Researchers need to identify and share opportunities that are interesting and engaging for youth, which often requires actively listening and learning

about their passions, skills and interests. Throughout the Bringing Research Home project, we collaborated with youth in a wide range of roles – from creating art for the BRH website (Shakina Johnson) to hiring a youth to film the 2023 Kluane Lake Research Summit (Jared Dulac). As explored at the 2023 Kluane Lake Research Summit, researchers have access to resources that can help get community members onto the land and to parts of their Territory they may not have had the ability to previously visit. Such opportunities are often valued by youths, and opportunities to bring youth on to the land need to be supported through adequate funding and communication at the start of a research project.

Collaborating with youth also requires a flexible research approach. Throughout the project, roles and responsibilities held among youth were constantly shifting as competing priorities and capacity levels changed. Youth are often at the point in their lives where they are managing multiple roles (e.g. students) with a range of responsibilities and capacities. However, there was a strong shared desire to meaningfully contribute to the well-being of their communities. Our approach to maintaining relationships with youths had to remain responsive to these shifting capacities and needs. Taking a long-term approach to relationship-building is important for building capacity, establishing trust and building interest in a given research project (Bird-Naytowhow et al., 2017). In our experience, a long-term approach to relationship-building allowed us to engage with youth in a variety of shifting roles throughout the length of the project. Oftentimes this involved collaborating with a youth in a given role for several months and then adapting that role to fit their shifting needs and interests later on in the project. This approach allowed us to establish relationships built on a foundation of trust, where youths felt more empowered to communicate the roles and responsibilities they wished to have and ensure their decision-making power was upheld throughout the research. The success of a long-term approach to relationship-building with youth was shown through youth collaboration on the climate-related project emerging from the BRH project, which continues collaborate with several youth involved in the BRH project.

While the BRH project had successful youth engagement in several aspects, other approaches required further reflections to better support youth decision-making and leadership. One of the main responsibilities held by youths in the BRH project was the development and

dissemination of the Introduction to KFN Lands storymap. This storymap served as an education tool for researchers to gain a more holistic understanding of the land they are working on in the Lhù'ààn Mân region. Through collaborative workshops and youth-led development of the storymap, we were able to produce a resource that provided an overview of key landscape features related to Kluane First Nation Territory. While the development of this resource was led by youth, more collaboration was needed from other Kluane First Nation community members. Youths expressed a hesitancy to work on aspects of the tool that required a higher-level of community representations, such as representation of culture and history. Cross-generational collaboration between youth and Elders needed to be better integrated into research activities that involved cultural or community representation.

While youth engagement and collaboration were central to the success of the BRH project, our experiences highlighted potential challenges and opportunities to improve how we communicate and support these opportunities in our research. Planning for youth engagement needs to be considered at all phases of the project and adequate funding and support must be considered in project budgeting and funding allocations. For the BRH project, establishing partnerships with the Kluane First Nation government was important for facilitating communication of these opportunities to the broader community. A long-term approach to relationship-building with youth was key for supporting ongoing collaborative efforts and remaining responsive to shifting capacities, interests and skills of youth. For research projects addressing culture and history of Indigenous people, it is important to consider ways to integrate cross-generation collaboration and knowledge sharing into research approaches to adequate support youth agency and decision-making.

5.3.5 Improving researcher foundation knowledge

Researchers within all disciplines carry a responsibility for learning about the historical and ongoing injustices occurring on the lands they work on, especially those that have transformed Indigenous relationships to the land (Reid et al., 2024). Broad institutional ethical frameworks, such as the TCPS2 and OCAP[®], provide key guidance for ensuring research practices are upholding Indigenous rights over data and ethical research practices (FNIGC, 2014; CIHR et al., 2014); however, they do not provide context to inform relationship-building practices between

researchers and specific Nations and Indigenous communities (Hayward et al., 2021). While Indigenous communities across Canada share experiences of colonialism, marginalization and discrimination; they have diverse worldviews, cultures and priorities (Doering et al., 2022). Dynamics within communities, including research priorities, are oftentimes influenced by regional specific experiences and events (Reich et al., 2017). Knowing the specific history of the land and peoples presents an opportunity to build a deeper understanding of Indigenous rights and connections to place and land that have been excluded from national narratives (Reid et al., 2024).

Informed by the recommendations from previous Kluane Lake Research Summits (2018 & 2019), the BRH project worked to establish a set of tools to help inform researchers' foundational knowledge of Kluane First Nation. This included two storymaps developed through ArcGIS; (1) Introduction to KFN's Lands and (2) History of Research, and (3) a list of additional educational resources. In collaboration with Kluane First Nation's LRH Department and BRH partners, the *History of Research Storymap* was developed to present an overview of key historical events that have influenced relationships between Kluane First Nation and outside researchers. Key events were informed through a draft framework developed by Kluane First Nation youth, additional historical events were identified through a literature review and a review of grey literature. Community perspectives and feedback was collected through several community events - including the Kluane Lake Research Summit (May 2023) and the Kluane Climate Futures Winter Festival (January 2024) (see Appendix 13 for feedback forms).

Through collaboration with project partners at the LRH Department and through engagement with several Kluane First Nation citizens, it was identified that the story map should be a resource that is used to also identify and showcase research led by Kluane First Nation. Based on this feedback, the original story map was edited to highlight key research projects undertaken by Kluane First Nation to support the management of their resources, lands and heritage. Integrating and highlighting key political events within the timeline of western led research in the region was important to help inform how researchers relate to and situate themselves and their research practices within the greater, and shifting, political landscape of the Yukon. Through the collaborative development of this tool, I was also able to reflect on my own positionality more

deeply and how my assumptions, worldview and ways of knowing influenced by decisions and approaches to research.

Key recommendations emerging from the interviews (Chapter 4) and the feedback from the 2023 Kluane Lake Research Summit, included extending ethical training for all members of the research team. Student and early-career researchers often felt ill-equipped to pursue ethical relationship-building with Indigenous communities, due to a limited understanding of ‘best practises and expectations. In addition, there are several long-term monitoring programs in the region that were established well before any Yukon First Nation Land Claims or SGAs were signed (Danby et al., 2016). Identifying the timeline of such political events - including the signing of the UFA and subsequent SGAs - helps provide context to the existing limitations of territorial research licensing processes. This understanding is key to help inform better communication practices between researchers and First Nations that are reflective of modern Self-Governing First Nations. Informed by findings from Chapter 4, Kluane First Nation now also forwards the BRH website to anyone applying for research licenses (S&E and Parks Canada permits). The tools established through this project, including the storymaps and list of resources, serve as an important starting place for researchers before coming to the region. These resources are not exhaustive and should be complimented with additional training and learning from communities.

5.4 Final reflections

The BRH project helped advanced the standard or accepted approach within the research community to better include First Nation priorities and values. The tools, resources and processes supported through the project helped inform a better understanding among researchers of what is expected of them, in terms of both the research process (development, research methods and dissemination) and also as people working within Kluane First Nation’s Territory. The Kluane Lake Research Summits and BRH website, help communicate the need and responsibility of researchers in better understanding, advancing and upholding Indigenous rights over research. By bringing together researchers and the Kluane First Nation community into collaborative dialogue, the BRH project and the Kluane Lake Research Summits offer an important step towards reconciliation in research, where communities can learn about each other’s ways of knowing and share information about cultures, landscapes and worldviews.

By reflecting on the BRH project, including the collaborations and co-learning that took place, provides valuable insights and recommendations for the broader research community in the Lhù'ààn Mân region. Our collaborative efforts within the BRH project aimed to shift research towards a trend that supports long-term research relationships, develops local capacity to engage with different types of research, and is responsive to Indigenous ways of doing, being and knowing. Through on-going collaboration and co-learning between project partners, we have learned valuable lessons on ethical collaboration with Indigenous Peoples which continues to inform the holistic co-development of future research projects. Reflecting on our research approach, methodology and relationship-building involved in this project highlighted approaches to relationship-building and collaboration that were successful, providing recommendations and guidance for researchers working in the region. While many of our approaches were successful and well received, others required further reflection and adaptations to better align with community needs, capacities and skills. Discussing research approaches that were less successful also helps inform the future development and scoping of research activities that better support meaningful engagement and collaborations between project partners – including youth.

In collaborative, community-based research, oftentimes research activities extend beyond what is captured within academic publications and reports. When working with collaboratively with communities, you are often called upon to undertake responsibilities outside the initial scope research projects to support a more holistic and engaged research approach. Theses, where data collection and interpretation are presented in traditionally organized formats, are often unable to capture the full scope of research activities undertaken by students to support broader community-led projects. It is important to document these activities, not only to showcase the work we've done, but also share the lessons we have learned through this process and encapsulate a more relational view on research. Creating space for reflection in research outcomes allows for other aspects of research to be centred in discussions, such as our own relationships to people, places and knowledge (Tynan & Bishop, 2020). Building relationships is an ongoing process, writing about my own work and experiences contributing to the broader BRH project promoted a deeper reflection on how my own research fits into the boarder context and highlighted the importance of relationship-building in holistic approaches to collaborative research projects. Engaging in critical

reflections of my own research approach allowed me to better situate myself within my research and explore a deeper understanding of my role and responsibilities as a non-Indigenous researcher supporting Indigenous self-determination in research.

5.5 References

- Allen, J., Mohatt, G. V., Markstrom, C. A., Byers, L., & Novins, D. K. (2012). “Oh No, We Are Just Getting to Know You”: The Relationship in Research With Children and Youth in Indigenous Communities. *Child Development Perspectives*, 6(1), 55–60. <https://doi.org/10.1111/j.1750-8606.2011.00199.x>
- Alcock, D., Elgie, J., Richmond, C., & White, J. (2017). Developing ethical research practices between institutional and community partners: A look at the current base of literature surrounding memorandums of understanding in Canada. *International Indigenous Policy Journal*, 8(4). <https://doi.org/10.18584/iipj.2017.8.4.3>
- Artelle, K. A., Zurba, M., Bhattacharya, J., Chan, D. E., Brown, K., Housty, J., & Moola, F. (2019). Supporting resurgent Indigenous-led governance: A nascent mechanism for just and effective conservation. *Biological Conservation*, 240(April), 108284. <https://doi.org/10.1016/j.biocon.2019.108284>
- Bull, J., Beazley, K., Shea, J., MacQuarrie, C., Hudson, A., Shaw, K., ... Gagne, B. (2020). Shifting practise: recognizing Indigenous rights holders in research ethics review. *Qualitative Research in Organizations and Management: An International Journal*, 15(1), 21–35. <https://doi.org/10.1108/QROM-04-2019-1748>
- Canadian Institute for Health Research (CIHR), Natural Sciences and Engineering Research Council of Canada (NSERC), and Social Sciences, & Humanities Research Council of Canada (SSHRC). (2014). Tri-Council policy statement: Ethical conduct for research involving humans. Retrieved from <http://www.pre.ethics.gc.ca/eng/policy-politique/initiatives/tcps2-eptc2/Default/>
- Daigle, M. (2019). The spectacle of reconciliation: On (the) unsettling responsibilities to Indigenous Peoples in the academy. *Environment and Planning D: Society and Space*, 37(4), 703–721. <https://doi.org/10.1177/0263775818824342>
- Danby, R. K., Williams, A., & Hik, D. S. (2014). Fifty years of science at the kluane lake research station. *Arctic*, 67(5 SUPPL.1). <https://doi.org/10.14430/arctic4398>
- Doering, N., Dudeck, S., Elverum, S., Fisher, C., Henriksen, J. E., Herrmann, T. M., ... Wilson, K. (2022). Improving the relationships between Indigenous rights holders and researchers in the Arctic: An invitation for change in funding and collaboration. *Environmental Research Letters*, 17(6). <https://doi.org/10.1088/1748-9326/ac72b5>
- Duker, P. (2020). Reflections on conducting community-engaged research during COVID-19. *New Sociology: Journal of Critical Praxis*, 2(2). <https://doi.org/10.25071/2563-3694.60>
- First Nations Information Governance Centre. (2014). Ownership, control, access and possession (OCAP™): The path to first nations information governance. Retrieved May 20, 2023,

from https://fnigc.ca/sites/default/files/docs/ocap_path_to_fn_information_governance_en_final.pdf

- Fisher, K. T. (2015). Positionality, subjectivity, and race in transnational and transcultural geographical research. *Gender, Place and Culture*, 22(4), 456–473.
<https://doi.org/10.1080/0966369X.2013.879097>
- Fitzpatrick, E. F. M., Martiniuk, A. L. C., D'Antoine, H., Oscar, J., Carter, M., & Elliott, E. J. (2016). Seeking consent for research with indigenous communities: A systematic review Ethics in Biomedical Research. *BMC Medical Ethics*, 17(1).
<https://doi.org/10.1186/s12910-016-0139-8>
- Gerofsky, S. (2007). Mathematics Education. *Battleground: Schools: Volume 1-2, 1*, 391–400.
<https://doi.org/10.4324/9781315146706-38>
- Government of Yukon. (2013). Guidebook on Scientific Research in the Yukon. Retrieved from: <https://yukon.ca/sites/yukon.ca/files/tc/tc-guidebook-scientific-research-2013.pdf>
- Grabowski, M. (2017). Recommendations for Modernizing the Yukon Scientists and Explorers Act. The Gordon Foundation.
- Hall, J., Gaved, M., & Sargent, J. (2021). Participatory Research Approaches in Times of Covid-19: A Narrative Literature Review. *International Journal of Qualitative Methods*, 20.
<https://doi.org/10.1177/16094069211010087>
- Hausermann, H., & Adomako, J. (2021). Positionality, ‘the field,’ and implications for knowledge production and research ethics in land change science. *Journal of Land Use Science*, 17(1), 211–225. <https://doi.org/10.1080/1747423X.2021.2015000>
- Hayward, A., Sjoblom, E., Sinclair, S., & Cidro, J. (2021). A New Era of Indigenous Research: Community-based Indigenous Research Ethics Protocols in Canada. *Journal of Empirical Research on Human Research Ethics*, 16(4), 403–417.
<https://doi.org/10.1177/15562646211023705>
- Holm, P., Goodsite, M. E., Cloetingh, S., Agnoletti, M., Moldan, B., Lang, D. J., ... Zondervan, R. (2013). Collaboration between the natural, social and human sciences in Global Change Research. *Environmental Science and Policy*, 28, 25–35.
<https://doi.org/10.1016/j.envsci.2012.11.010>
- Huntington, H. P., Trainor, S. F., Natcher, D. C., Huntington, O. H., DeWilde, L., & Chapin, F. S. (2006). The significance of context in community-based research: Understanding discussions about wildfire in Huslia, Alaska. *Ecology and Society*, 11(1).
<https://doi.org/10.5751/ES-01723-110140>

- James, M. (2012). A carnival of truth? Knowledge, ignorance and the Canadian Truth and Reconciliation Commission. *International Journal of Transitional Justice*, 6(2), 182–204. <https://doi.org/10.1093/ijtj/ijts010>
- Johnson, L. R., Stribling, C., Rivera, N., Preissner, K., Hsu, C. P., Jones, A., & May-schroeder, A. (2019). “Earning the Right”: Conducting community based research. *Critical Questions in Education*, 10(3), 161–179.
- Kohl, E., & McCutcheon, P. (2015). Kitchen table reflexivity: negotiating positionality through everyday talk. *Gender, Place and Culture*, 22(6), 747–763. <https://doi.org/10.1080/0966369X.2014.958063>
- Liebenberg, L., Sylliboy, A., Davis-Ward, D., & Vincent, A. (2017). Meaningful Engagement of Indigenous Youth in PAR: The Role of Community Partnerships. *International Journal of Qualitative Methods*, 16(1), 1–11. <https://doi.org/10.1177/1609406917704095>
- McGregor, D. (2018). From “decolonized” to reconciliation research in Canada: Drawing from indigenous research paradigms. *Acme*, 17(3), 810–831.
- Morton Ninomiya, M. E., & Pollock, N. J. (2017). Reconciling community-based Indigenous research and academic practices: Knowing principles is not always enough. *Social Science and Medicine*, 172, 28–36. <https://doi.org/10.1016/j.socscimed.2016.11.007>
- Nkhata, A. B., Breen, C. M., & Freimund, W. A. (2008). Resilient social relationships and collaboration in the management of social-ecological systems. *Ecology and Society*, 13(1). <https://doi.org/10.5751/es-02164-130102>
- Nowland, R., Robertson, L., Farrelly, N., Roy, A., Sharpe, D., Harris, C., ... Larkins, C. (2022). Collaborative research methods and best practice with children and young people: protocol for a mixed-method review of the health and social sciences literature. *BMJ Open*, 12(10), 1–7. <https://doi.org/10.1136/bmjopen-2022-061659>
- Pearce, T. D., Ford, J. D., Laidler, G. J., Smit, B., Duerden, F., Allarut, M., ... Wandel, J. (2009). Community collaboration and climate change research in the Canadian Arctic. *Polar Research*, 28(1), 10–27. <https://doi.org/10.1111/j.1751-8369.2008.00094.x>
- Reich, J., Liebenberg, L., Denny, M., Battiste, H., Bernard, A., Christmas, K., ... Paul, H. (2017). In This Together: Relational Accountability and Meaningful Research and Dissemination With Youth. *International Journal of Qualitative Methods*, 16(1), 1–12. <https://doi.org/10.1177/1609406917717345>
- Reid, A. J., McGregor, D. A., Menzies, A. K., Eckert, L. E., Febria, C. M., & Popp, J. N. (2024). Ecological research ‘in a good way’ means ethical and equitable relationships with Indigenous Peoples and Lands. *Nature Ecology and Evolution*. <https://doi.org/10.1038/s41559-023-02309-0>

- Rose, G. (1997). Situating knowledges: Positionality, reflexivities and other tactics. *Progress in Human Geography* 21(3): 305–320. <https://doi.org/10.1191/030913297673302122>
- Swann, S., Campbell, A., Nicholson, V., & Murray, M. (2020). Meaningful Community Collaboration in Research. *BC Medical Journal*, 62(9), 340–341.
- Trisos, C. H., Auerbach, J., & Katti, M. (2021). Decoloniality and anti-oppressive practices for a more ethical ecology. *Nature Ecology and Evolution*, 5(9), 1205–1212. <https://doi.org/10.1038/s41559-021-01460-w>
- Walsh, J. E., Ballinger, T. J., Euskirchen, E. S., Hanna, E., Mård, J., Overland, J. E., ... Vihma, T. (2020). Extreme weather and climate events in northern areas: A review. *Earth-Science Reviews*, 209(July), 103324. <https://doi.org/10.1016/j.earscirev.2020.103324>
- Wark, J. (2021). Land acknowledgements in the academy: Refusing the settler myth. *Curriculum Inquiry*, 51(2), 191–209. <https://doi.org/10.1080/03626784.2021.1889924>
- Wesche, S., Schuster, R. C., Tobin, P., Dickson, C., Matthiessen, D., Graupe, S., ... Chan, H. M. (2011). Community-based health research led by the Vuntut Gwitchin first nation. *International Journal of Circumpolar Health*, 70(4), 396–406. <https://doi.org/10.3402/ijch.v70i4.17846>

Chapter 6: Conclusion

Savanah Müller

This chapter present my final conclusions and reflections on the research presented in this thesis – including a summary of key findings, the significance of research to the broader research context, contributions of findings for policy, and next steps for future research.

6.1 Summary of Key Findings

The general research objectives for this thesis were as follows: (O1) to gain a better understanding of current practises being used by academic researchers to build and strengthen relationships with Kluane First Nation, and (O2) to explore researchers working in the Lhù'ààn Mân region would approach aligning their current research practises with the expectations expressed in research protocols developed by Kluane First Nation. A series of mixed methods, including document analysis and review of existing literature, and a series of semi-structured interviews with academic researchers working in the Lhù'ààn Mân region contributed to addressing the objectives stated above. Interpretation of research findings were supported through continued participant observations and lived experiences generated through ongoing collaboration and co-learning with our research partners at Kluane First Nation.

Chapter 2 (Literature review) provided the context and current state of the literature on research with research with Indigenous Peoples, including historical events that have shaped and continue to shape relationships between researchers and Indigenous communities. This chapter also highlighted key changes that have occurred on the national and territorial level that have promoted the recognition of Indigenous rights and sovereignty in research processes. In response to the legacy of unethical and unequitable research processes, Indigenous Nations are establishing their own guidelines, policies and protocols for research occurring within their respective territories and communities. Examples of such documents were provided in Table 1. While emerging ethical frameworks developed by Indigenous Nations and organizations provide clear, community-relevant expectations for researchers, little research has explored how researchers are engaging with the provided expectations.

Chapter 4 explored academic researchers' perspectives on (O1) current mechanisms and processes being used to establish and maintain relationships with communities, and (O2) how researchers would approach engaging with community expectations of researchers. Using Kluane First Nation's Research Expectations as a conceptual framework, this chapter identified current mechanisms for improving or maintaining relationships with relevant communities (e.g. communication, community engagement, respect and reciprocity) included the sharing of academic publications with relevant communities, use of Indigenous language in research outputs,

sharing job opportunities, attending community events, inclusion of land acknowledgements and the submission of relevant research permits and licenses (Table 3.1). The findings from this study suggest that current communication practises between researchers and First Nations are largely framed through the requirements of the territorial research license (e.g. the Scientists and Explorer's License). Findings from this study support previous authors (Grabowski, 2017) in concluding that the current S&E license does not adequately support relationships between researchers and Yukon First Nations in ways that are reflect of modern Self-Government Agreements and commitments towards reconciliation. While many researchers were keen to improve their relationships with local First Nations (Kluane First Nation and Champagne and Aishihik First Nation) they often lack the foundational political and legal knowledge on Yukon First Nations – including the UFA and subsequent land claims and self-government agreements. Engagement in research expectations is further complicated by a limited understanding of cultural values and knowledge systems, indicating a need for more comprehensive ethical and cultural training for natural scientists and their research teams. Furthermore, findings from this study suggest a need for reflection on the roles and responsibility within research teams to support a more equitable approach to relationship-building with First Nation communities.

Chapter 5 explored my reflections on the development and significance of the tools, processes and resources emerging from the broader Bringing Research Home project. Pulling on my experience as a research assistant and later as the project coordinator, this chapter drew on existing literature and our experience on the project to explore how these tools support the broader aim of shifting the standard or accepted approach within the research community to better include First Nation priorities, values and knowledge. Drawing on my experience working collaboratively with Kluane First Nation on the development of the 2023 Kluane Lake Research Summit, the BRH website and surveys for Yukon Government researches, this chapter explore how these tools contributed to the main themes of (1) Indigenous perspectives on reconciliation, (2) engagement in reflexivity in research, (3) fostering collaboration across scales and sectors, (4) engagement during and after community disruptions, (5) promoting opportunities for youth in research, and (6) improving researchers' foundational knowledge. This chapter drew on our personal experience of conducting collaborative research with models of co-production between Indigenous and Western

ways of knowing and presented key recommendations and lessons learned for future research projects in the region.

6.2 Significance and Research Contributions

Overall, the thesis makes a valuable contribution towards better understanding how researchers across disciplines and institutions can improve how they meaningfully engage and build relationships with Indigenous communities founded on community expectations and values. As Indigenous Nations are increasingly asserting their rights over research through the establishment of research protocols and policies, researchers and institutions must adapt and enable research processes that are responsive to and uphold Indigenous rights, self-determination and sovereignty (Hayward et al., 2021). While previous studies have explored how researchers are engaging in collaborative research approaches (Castleden et al., 2012; Johnson et al., 2019), this research broadens our understanding by engaging with researchers with limited previous experience conducting research with Indigenous Peoples and communities. By exploring how researchers can meaningfully engage with these protocols, this research highlighted key recommendations for individual researchers, research teams and institutions to improve how research is conducted with Indigenous communities and within Indigenous Territories.

By exploring relationship-building between settler researchers and Indigenous communities, this research also directly supports several national-level frameworks for improving Indigenous-settler relationships and advancing reconciliation, including the TRC's 94 Calls to Action and the United Nations Declaration on the Rights of Indigenous Peoples (UNDRIP) (Truth and Reconciliation Commission of Canada, 2015; UN General Assembly, 2007). Since the release of the TRC's Calls to Action and Canada's recommitment to UNDRIP, researchers across all types of institutions are being increasingly called upon to consider ways to uphold Indigenous self-determination in research - including respecting Indigenous knowledge and ownership over data, aligning research with relevant cultural values and expectations, and working to establish mutually beneficial research partnerships and collaborations (David-Chavez & Gavin, 2018; Held, 2019; Ignace et al., 2023; Wong et al., 2020). As previous authors have noted, how research is conducted has implications on Indigenous rights, self-determination, and sovereignty, especially when research takes place on Indigenous lands and waters (Ignace et al., 2023). While the findings from

this research do not directly contribute to specific TRC Calls to Action, they do indicate a need for more comprehensive education for settler researchers on Indigenous rights and reconciliation which indirectly support calls for more comprehensive educations across Canadian society (e.g. Call 64) (Truth and Reconciliation Commission of Canada, 2015). By exploring researcher perspectives on current relationship practises, this research helps further understand how Indigenous rights are currently recognized within research practises and processes to improve how these rights are upheld moving forward.

The findings from this research also contribute to a better understanding of what is needed at an institutional level to support researchers in their ability to establish and maintain meaningful relationships with Indigenous communities. As previous authors have noted and findings from this research supports, researchers have frequently failed to see the connection between their work and existing ethical frameworks (e.g. OCAP® and TCPS2) if they are not directly collaborating with Indigenous Peoples (Ignace et al., 2023; Wong et al., 2020). This indicates there are gaps in training requirements at an institutional level which may limit researchers' understanding of how to maintain long-term, meaningful relationships with Indigenous communities. The identification of challenges at the institutional level also highlights the need for reflection on the standards that are accepted within the academy and the need for further commitment from individual researchers to advance their practises beyond these accepted standards. This involves moving the conversation of consent from strictly receiving a research license towards ongoing collaborations and engagement.

This research also directly contributed to advancing Kluane First Nations research priorities by engaging with researchers working in the region. Findings from the exploratory study (Chapter 4) directly informed and supported the development of tools and processes emerging from the broader community led Bringing Research Home project. Through ongoing collaboration with project partners, findings from this study were used to inform the scope and development of tools, such as the Research Expectations and History of Research storymap to better address the current challenges identified by researchers. Furthermore, the findings from this study were used to help inform the planning and structure of the 2023 Kluane Lake Research Summit, where opportunities to further explore the Research Expectations were built into collaborative discussions and a

facilitated workshop. Collecting and analyzing researchers' perspectives on Kluane First Nation's Research Expectations led to several edits and updates to help improve the dissemination of key themes and improve researchers' understandings. In addition, through this collaboration and participation at the Kluane Lake Research Summits, updates were made to the existing Research Expectations to include wording around use of Southern Tutchone language and links to existing ethical resource documents that would help inform researchers foundation knowledge of Kluane First Nation.

While findings from this research are directly applicable to the dynamics between researchers and First Nations in the Lhù'ààn Mân region, the findings may also be applicable to other Indigenous Nations across Canada that are establishing their own protocols and policies for research occurring within their respective communities and territories. While the dynamics between researchers and First Nations in the Lhù'ààn Mân region have been shaped by unique historical events, including establishment of Kluane National Park and Reserve and later the Kluane Lake Research Station, they have also largely been influenced by colonial ways of thinking firmly embedded in institutional research. The recommendations and opportunities to improve how researchers engage in emerging Indigenous frameworks for research can be applied across research institutions and disciplines.

6.3 Limitations and next steps

This research presented in this thesis sought to explore how researchers across institutions and disciplines are engaging with relationship-building with Indigenous communities framed around community developed expectations (e.g. research protocols). Currently, limited research has explored how researchers would engage with the expectations expressed within emerging Indigenous developed research protocols. While all types of academic researchers were recruited as participants in the exploratory study (Chapter 4), final participants were all involved in research within the natural sciences. Due to the often limited previous experience natural science research had in conducting collaborative, community engaged research, the study produced valuable findings. While the findings from this study provided unique findings due to the often limited experience natural science researchers have in conducting collaborative research, further research

is needed to expand our understandings of how researchers across disciplines would engage with emerging protocols.

Emergent findings from the exploratory study (Chapter 4) identified that internal relationship dynamics between students and supervisors can influence relationship-building with local First Nation communities. While this study did not intend to explore experiences unique to student researchers (e.g. Master's and PhD students), several students were involved in the study. As identified by student participants, students often face challenges caused by internal relationship dynamics and divisions of responsibilities. These challenges and dynamics can heavily influence how relationships with Indigenous communities are established and maintained long-term. As such, further research is needed broaden the study population of student researchers and gain a more comprehensive understanding of how these perspectives and experiences influence community collaboration within academic research.

Furthermore, while Chapter 4 explored the perspectives of academic researchers, there are many other types of researchers across various institutions working within the region. Researchers operating outside of the academy, have varying institutional requirements but do not have to comply by territorial research licensing requirements. While they may face similar institutional challenges (e.g. funding, timelines, capacity) and benefit from similar opportunities (e.g. foundational knowledge, community events), more research is needed to engage directly with Government of Yukon and Parks Canada researchers. The draft survey presented in Chapter 5 offers a framework and potential approach for engaging with Government of Yukon researchers. As identified by initial collaboration with Yukon Government representatives, the draft survey could provide valuable insight to inform their institutional training development; however, further collaboration is needed to inform the scope and overview of the survey. If extended beyond the Lhù'ààn Mân region, this survey could inform the development of training for all types of government researchers conducting work across the Yukon.

To facilitate a more coordinated, engaged research process across Kluane First Nation territory, supplemental processes and tools were developed to enhance researchers' foundation knowledge, promote knowledge mobilization and support ongoing relationship-building and

collaboration between researchers and local communities. As Chapter 5 explored, the tools and processes established through the BRH project supported the development of key tools and processes for enabling shifting research practises within the region. Many of these tools – such as the Online Research Atlas, the ArcGIS storymaps (Introduction to KFN Lands & History of Research) and list of additional resources – rely on individual researchers to meaningfully engage and embrace the provided guidance and knowledge. While the exploratory study (Chapter 4) and the broader BRH project (Chapter 5) provided key insight and helped inform the development of these tools, further research could be conducted to explore how these tools are being utilized by researchers and research teams across disciplines.

6.4 Final thoughts

As Indigenous nations continue to assert their rights over research processes, researchers have a responsibility to understand how Indigenous Peoples are manifesting and expressing their rights to self-determination in research and enable research processes that recognize and uphold these rights - including practises that are responsive to local research priorities, aligned with cultural values and worldviews, and capable of producing equitable, beneficial research outcomes. As research presented in this thesis highlights, Indigenous developed research protocols provide important guidance for researchers seeking to improve how they conduct research across Indigenous territories. By engaging directly with researchers, this research meaningfully contributes to further understanding how Indigenous research protocols can help promote a research environment that is support of the above mentioned characteristics. If done authentically and respectfully, collaborative partnerships and engagement can improve the scope, applicability and scale of research findings, helping to inform policy and decision-making processes at a regional level.

This research also highlights how wanting to do better is the first step but is not a means to an end. The tools and processes established through the Bringing Research Home project, such as the Research Expectations, are important mechanisms for supporting researchers committed to ongoing collaborative learning and relearning. Opportunities to bring together researchers and communities are important for both sides to better understanding our inherent strengths and weaknesses and move towards better, more equitable research relationships. While the tools and

processes explored throughout this thesis have helped shift the expected standards of research practises in the Lhù'àn Mân region, more work is needed at an individual researcher level to engage in the principles and expectations being expressed by the community. As our own experience on the BRH project has shown, meaningful collaboration oftentimes does not materialize in standard ways. Oftentimes, opportunities for meaningful collaboration and engagement in research processes, may require researchers to think outside the “academic box” to engage in new ways of doing research.

6.5 References

- Castleden, H., Morgan, V. S., & Lamb, C. (2012). “i spent the first year drinking tea”: Exploring Canadian university researchers’ perspectives on community-based participatory research involving Indigenous Peoples. *Canadian Geographer*, 56(2), 160–179. <https://doi.org/10.1111/j.1541-0064.2012.00432.x>
- David-Chavez, D. M., & Gavin, M. C. (2018). A global assessment of Indigenous community engagement in climate research. *Environmental Research Letters*, 13(12). <https://doi.org/10.1088/1748-9326/aaf300>
- Grabowski, M. (2017). Recommendations for Modernizing the Yukon Scientists and Explorers Act. The Gordon Foundation.
- Hayward, A., Sjoblom, E., Sinclair, S., & Cidro, J. (2021). A New Era of Indigenous Research: Community-based Indigenous Research Ethics Protocols in Canada. *Journal of Empirical Research on Human Research Ethics*, 16(4), 403–417. <https://doi.org/10.1177/15562646211023705>
- Held, M. B. E. (2019). Decolonizing Research Paradigms in the Context of Settler Colonialism: An Unsettling, Mutual, and Collaborative Effort. *International Journal of Qualitative Methods*, 18, 1–16. <https://doi.org/10.1177/1609406918821574>
- Ignace, L., Burton, L., Mynott, S., Meehan, M., Steel, J., Ojeda, J., Harper, S., Ramirez, L., Baker, D., Sleight, L., Frenkel, C., Rhodes, C. & Ban, N. (2023). Researchers’ responsibility to uphold Indigenous rights. *Science* 381,129-131. <https://doi.org/10.1126/science.adh4470>
- Johnson, L. R., Stribling, C., Rivera, N., Preissner, K., Hsu, C. P., Jones, A., & May-schroeder, A. (2019). “Earning the Right ”: Conducting community based research. *Critical Questions in Education*, 10(3), 161–179.
- Truth and Reconciliation Commission of Canada. (2015). Truth and Reconciliation Commission of Canada: Calls to Action. Retrieved from: https://ehprnh2mwo3.exactdn.com/wp-content/uploads/2021/01/Calls_to_Action_English2.pdf
- United Nations General Assembly. (2007). Declaration on the Rights of Indigenous People.
- Wong, C., Ballegooyen, K., Ignace, L., Johnson, M. J., & Swanson, H. (2020). Towards reconciliation: 10 Calls to Action to natural scientists working in Canada. *Facets*, 5(1), 769–783. <https://doi.org/10.1139/FACETS-2020-0005>

APPENDICES

APPENDIX 1 – University of Ottawa Ethics Approval for the Bringing Research Home Project

03/01/2024

Université d'Ottawa

Bureau d'éthique et d'intégrité de la recherche

University of Ottawa

Office of Research Ethics and Integrity

CERTIFICAT D'APPROBATION ÉTHIQUE | CERTIFICATE OF ETHICS APPROVAL

Numéro du dossier / Ethics File Number	S-06-18-748
Titre du projet / Project Title	Bringing research home: Reclaiming research to tell the story of climate change in the Kluane First Nation Traditional Territory
Type de projet / Project Type	Recherche de professeur / Professor's research project
Statut du projet / Project Status	Renouvelé / Renewed
Date d'approbation (jj/mm/aaaa) / Approval Date (dd/mm/yyyy)	18/01/2019
Date d'expiration (jj/mm/aaaa) / Expiry Date (dd/mm/yyyy)	17/01/2025

Équipe de recherche / Research Team

Chercheur / Researcher	Affiliation	Role
Sonia WESCHE	Département de géographie / Department of Geography	Chercheur Principal / Principal Investigator
Alison PERRIN	Yukon College	Assistant de recherche / Research Assistant
Natsuko YAMAUCHI	Yukon Research Centre, Yukon College	Assistant de recherche / Research Assistant
Siku ALLOOLOO	Arctic Institute of Community-Based Research	Collaborateur / Collaborator
David HIK	Simon Fraser University	Co-chercheur / Co-investigator
Ellorie MCKNIGHT	University of Alberta	Étudiant-chercheur / Student-researcher
Brian HORTON	Northern Climate ExChange, Yukon Research Centre, Yukon College	Co-chercheur / Co-investigator
Savanah Starr MULLER	Département de géographie / Department of Geography	Étudiant-chercheur / Student-researcher
Kristy KENNEDY	Kluane First Nation	Collaborateur / Collaborator

Conditions spéciales ou commentaires / Special conditions or comments

550, rue Cumberland, pièce 154 550 Cumberland Street, Room 154
Ottawa (Ontario) K1N 6N5 Canada Ottawa, Ontario K1N 6N5 Canada

613-562-5387 • 613-562-5338 • ethique@uOttawa.ca / ethics@uOttawa.ca
www.recherche.uottawa.ca/deontologie | www.recherche.uottawa.ca/ethics

APPENDIX 2 – Yukon University Ethics Approval for the Bringing Research Home Project

Title of Project: Bringing Research Home: Reclaiming research to tell the story of climate change in the Klwane First Nation Traditional Territory
Principal Investigator: Sonia Wesche
Principal Applicant: Kristy Kennedy & Kate Ballegooyen
Project #: YukonU2023-03R (renewal of YukonU2022-09)
Received: March 20, 2023
Reviews: March 24, 2023; April 21, 2023
Modification Approval: April 21, 2023
Renewal Approval: April 21, 2023



REB Approval – Research Project Renewal

April 21, 2023

Principal Investigator: Sonia Wesche
Geography, Environment and Geomatics
Faculty of Arts
University of Ottawa
Ottawa, ON
Email: [REDACTED]

Thank you for providing your study renewal form and research ethics application with updated details for the project titled **“Bringing Research Home: Reclaiming research to tell the story of climate change in the Klwane First Nation Traditional Territory”** to the Yukon University Research Ethics Board (REB). The REB has approved your renewal for this research based on the details provided. The new project number is **YukonU2023-03R**.

Please ensure that you inform the REB of any additional changes, renewals or if the project ends. If any unforeseen incident occurs during the course of the research that puts participants at risk, immediately report the incident to the REB and halt data collection. Your protocol may be subject to compliance review by the REB.

Your REB approval is valid to April 21, 2024. You will need to submit a renewal form should the study continue past this date. Your renewal form (Form 5A) should be received by the REB by **February 21, 2024** to ensure REB review and approval for continued research. If you have any questions, please feel free to contact the Research Ethics Coordinator at vwalker@yukonu.ca

We wish you continued success with your research.

On Behalf of the Yukon University Research Ethics Board,

Dawn
Macdonald

Digitally signed by
Dawn Macdonald
Date: 2023.04.21
14:30:12 -07'00'

Aline
Goncalves

Digitally signed by
Aline Goncalves
Date: 2023.04.21
14:41:42 -07'00'

Dawn Macdonald
Co-Chair(s)

Aline Goncalves



APPENDIX 3 – S&E Research License for the Bringing Research Home Project



Tourism and Culture
PO Box 2703, Whitehorse, Yukon Y1A 2C6

CULTURAL SERVICES BRANCH

File No.: 6800-20-1174

April 17, 2023

TO: Sonia Wesche
Habitat Management, Environment (V-5R)
Land Use Section, Lands Branch (K-320)
Regional Land Use Planning (K-320-LP)
Kluane First Nation
White River First Nation
Ta'an Kwächän Council
Kwanlin Dün First Nation

RE: Sonia Wesche (University of Ottawa)

Please be advised that the attached licence has been issued under the Yukon Scientists and Explorers Act (1958).

Sincerely,



Brian Groves
Senior Manager, Heritage

Enclosure



Licence Number: 23-21S&E

**YUKON - CANADA
SCIENTISTS AND EXPLORERS ACT
LICENCE**

PURSUANT to the provisions of the Scientists and Explorers Act (1958) of the Yukon, permission is hereby granted to:

Sonia Wesche (University of Ottawa)

to enter Yukon to conduct scientific research with respect to:

Bringing research home: Reclaiming research to tell the story of climate change in the Kluane First Nation Traditional Territory

GENERAL CONDITIONS

1. A complete, final report of the research conducted under this licence shall be submitted, in duplicate, within one year of completion or termination of the project.
 - a) A field or progress report as well as plain English summary, including descriptions or catalogues of collections made (where applicable) shall be submitted in duplicate, within two months following the expiry date written below.
 - b) The Licensee shall provide a copy of any report or article published on the research conducted under this licence to Heritage Resources Unit.
2. All camps shall be established according to the provisions of the Territorial Land Use Regulations.
3. All steps shall be taken to avoid unnecessary disturbance of wildlife.
 - a) No camp site shall be established within 2 km of an active raptor nest.
 - b) When using aircraft, maintain a minimum of 1,000 feet over wildlife such as sheep, raptor nests and migrating caribou.
 - c) Pay particular attention to bear habitat, and take all steps necessary to avoid contact with bears such as use of bear fence, bear-proof containers and maintain a clean camp.
 - d) All camps should be temporary/non-permanent with no structures, and entirely removed at the conclusion of the field work.
4. The Licensee shall meet with, inform and receive permission from First Nation(s) of the field activities conducted under this licence on their settlement land(s), and shall not proceed if permission is not gained from the First Nation(s). The Licensee shall provide a copy of any report or article published on the research conducted under this licence to the First Nation(s).
5. The Licensee shall strictly observe all applicable First Nation Settlement Land, Territorial and Federal legislation and regulations.
6. The licensee shall consult the <https://yukon.ca/covid-19> webpage for the latest information about COVID-19 in the Yukon. The licensee is required to follow the guidelines and recommendations and adhere to the orders and direction of Yukon's Chief Medical Officer of Health.

OTHER CONDITIONS: N/A

THIS Licence is valid for the period **April 17, 2023** to **December 31st, 2023**

DATED at the City of Whitehorse, in the Yukon Territory, this **17th day of April, A.D., 2023**


Senior Manager, Heritage
Cultural Services Branch
Tourism and Culture

APPENDIX 4 – Letter of Support for the Bringing Research Home Project



KLUANE FIRST NATION

P.O. Box 20, Burwash Landing, Yukon Territory Y0B 1V0
Main Ph: (867) 841-4274 Fax: (867) 841-5900 Toll Free 1-866-558-5507

December 4, 2017

RE: Support for NSERC-College & Community Innovation Fund proposal: Bring Research Home: Reclaiming research to tell a story of climate change in the Kluane First Nation Traditional Territory

Dear Review Committee:

Kluane First Nation is pleased to express our full support of the proposal from Yukon College entitled "Bring Research Home: Reclaiming research to tell a story of climate change in the Kluane First Nation Traditional Territory". This project is entirely consistent with our mission to build political and administrative systems of governance that will respect and value the past and still be able to communicate and participate with modern government structures.

Research of all kinds is central to informing our understanding of the world, particularly as forces such as a changing climate impact our ways of life. Within the boundaries of our traditional territory we are aware of a vast array of research projects conducted by government, consultants, and academics from all over the world. As a self-governing First Nation, we have also led our own research and innovation initiatives. However, we are also increasingly aware of examples where there is a lack of overall coordination or oversight of the research occurring on our lands. We are excited by the opportunity to collaborate with Yukon College and the other partners in this project in order to gain a better appreciation of the research that has happened, and to take a more active role in setting priorities and participating in future research.

It is imperative that Kluane First Nation be able to take a leadership role in directing, meaningfully collaborating on research projects that are happening in our traditional territory. We see community participation in developing a research protocol as a critical component to this. We all also know that with a better understanding of the research that is happening within the region we will be better prepared to identify gaps and put the research results into action. To our knowledge there is no such resource that pulls the research together, nor has there been a collaborative effort between the various

stakeholders to keep everyone well informed and engaged on research activities in the Kluane Lake Region.

As part of this project, we will be welcoming members of the project team from Yukon College, University of Ottawa, Arctic Institute of Community Based Research, Arctic Institute of North America, and Parks Canada into community events such as our annual Harvest Camp. We will provide opportunities for the project team to meet with community members to gather their input into what a research protocol is and how they would like it to serve them. KFN will focus on coordinating logistics and facilitating the project.

We thank NSERC for making this funding opportunity available and look forward to starting work on this innovative community-based project. If you have any questions, please do not hesitate to contact me. Thank you for your consideration of this project, we look forward to a positive response.


Sincerely,



Grace Southwick
Director of Lands, Resources, Heritage




APPENDIX 5 – Recruitment poster for researcher interviews



Community-developed research expectations in Kluane region, southwest Yukon: Understanding researcher perspectives

Savanah Müller¹, Sonia Wesche¹, Brian Horton², Kristy Kennedy³, Ellorie McKnight³, Kate Ballegooyen³, Stephanie Saal¹

1. Dept. of Geography, Environment & Geomatics, Univ. of Ottawa, 2. Yukon Research Centre, Yukon University, 3. Kluane First Nation, Lands and Heritage Department




Background:

Relationships between researchers and Indigenous communities in northern Canada are complex and influenced by a legacy of colonialism, cultural differences, and divergent ways of knowing¹. In the Kluane region of southwest Yukon, the Traditional Territory of Kluane First Nation (KFN), White River First Nation (WRFN) and Champagne-Aishihik First Nation (CAFN) (Figure 1), research processes and outputs have been mainly externally-driven and largely inaccessible to the local communities.

In keeping with commitments to improve relationships with local communities, the northern research paradigm is shifting². Community organizations and governments are increasingly developing research protocols and guidelines that largely aim to support ethical, engaged research^{3,4}.

Driven by Kluane First Nation (KFN) interests, the collaborative **Bringing Research Home (BRH) project** was created to develop approaches to give KFN more access to research conducted in their Traditional Territory, and a greater role in research decision-making. Through BRH, a draft (unpublished) set of research expectations are being developed by the Kluane community to guide ethical, engaged research processes that support relationship-building and knowledge mobilization.



Objectives:

This research focuses on exploring how northern researchers are responding to the changing research paradigm, specifically **how northern researchers perceive the role of community-developed research expectations in their work.**

Methods:

Using a participatory approach and drawing inspiration from the draft BRH research expectations, this research uses a series of semi-structured interviews and workshops with academic and Yukon government researchers to:

- 1) Characterize current research practices in the region.
- 2) Identify limitations/barriers for researcher engagement with community-developed research protocols.

Significance:

By highlighting potential barriers to engagement, this research will help **inform the development of future research expectations that may emerge from the BRH project.**

Findings from this research will also contribute to the growing body of literature on how researchers can ensure that research practices remain culturally relevant, locally-driven and supportive of community capacity-building.

Ethical, engaged research practices

Communication

Knowledge mobilization

Relationship-building

Reciprocity

Respect

Figure 2: Framework for ethical, engaged research used to inform interview structure and questions for researchers. Themes were identified by a review of existing research protocols and compared to KFN's draft research expectations.

Preliminary findings:

Early results highlight potential barriers to full ethical engagement in ways that enhance relationship-building and knowledge mobilization between researchers and First Nation communities (Figure 3).

Limited time/resources

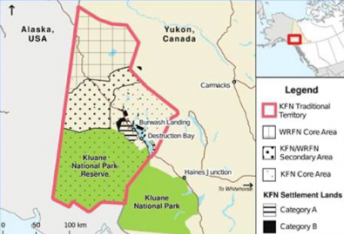
Academic schedules

Awareness of cultural expectations/protocols

Funding cycles/requirements

Figure 3: Barriers identified by researchers to full engagement with community-developed research protocols.

Initial interviews also indicate that barriers to full engagement vary between graduate students and primary investigators (PIs).




Interviewees were selected based on the geographic area of focus for their research (i.e., Kluane region). Focal themes for the interviews were identified through a review of existing community and Indigenous-developed research protocols in Canada, then compared to the draft expectations being developed by KFN. Interview questions were developed based off the interview framework in Figure 2.

Figure 1: Map of Kluane First Nation Traditional Territory, including core and secondary areas (Cruikshank et al., 2017).

CALLING ALL RESEARCHERS!

Are you a researcher working in the Kluane region? If so, please connect with us via our brief questionnaire.



SCAN ME!

References:

1. Bhat, M. (2016). *Developing Research Strategies in the Context of Arctic*. Collection: Arctic Studies, Montreal, and Centre for Arctic and Northern Studies, Arctic Studies Centre, 1-10.




2. McKeown, D. (2016). *From Development to Resilience Research in Canada: Changing Area Indigenous Research Paradigms*. Arctic and Northern Studies and Arctic Geography, 17(3), 180-202.

3. Stewart, A., Gillies, B., Jacobs, S., & Collins, J. (2015). *A Call for Indigenous Research: Community-based Indigenous Research Ethics: Processes in Canada*. *Journal of Indigenous Research in Alaska*, 8(2), 405-427.

4. Cruikshank, R., Haines, V., & Lutz, C. (2017). *Values in Research: Addressing the Tension Between Academic Researcher Perspectives on Community-based Participatory Research Involving Indigenous Peoples*. *The Canadian Geographer*, 56(1), 145-158.

Acknowledgements:

Project funding: Canadian Mountain Network, Social Sciences and Humanities Research Council, Polar Knowledge Canada

APPENDIX 6 – QR code Google Form recruitment for researcher interviews

Calling all Kluane Researchers!

Are you a researcher working in the Kluane region? If so, please connect with us via our brief questionnaire below.

Through the Bringing Research Home project, Kluane First Nation is developing tools and mechanisms to enhance their ability to actively drive and participate in research conducted on their Traditional Territory. These include a draft set of Research Expectations aimed at guiding ethical, engaged research processes that support relationship-building and knowledge mobilization for all types of research (Natural Science, Social Science, Health Science, Indigenous Ways of Knowing).

We are interviewing researchers to understand their responses to these expectations, and to identify additional areas where researchers would appreciate community guidance. We are also building a list of researchers to engage with as the tools are finalized and disseminated.

The Bringing Research Home (BRH) project is a collaboration between Kluane First Nation (Lead: Kate Ballegooyen/Kristy Kennedy), Yukon University (Lead: Brian Horton), and the University of Ottawa (Lead: Dr. Sonia Wesche). For more information, please contact Savannah Muller (redacted), a Master's student in Geography at the University of Ottawa, or Sonia Wesche (redacted).

 savannahsmuller@gmail.com (not shared) [Switch account](#) 

* Required

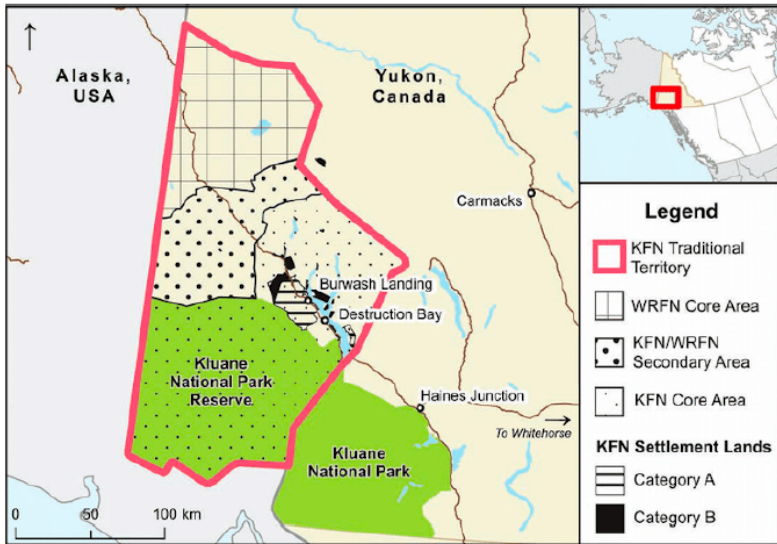
What is your full name? *

Your answer

What is your email address? *

Your answer

Do you conduct your research within KFN Traditional Territory? (image: Cruickshank et al. 2019) *



- Yes
- No
- Not sure

Are you a Yukon resident? *

- Yes
- No

What is your current role/position? *

- Faculty Member (University or College)
- PhD student
- Master's student
- Research assistant
- Government Researcher
- Other:

Submit

Clear form

APPENDIX 7 – Email recruitment template for researchers

Email template – researcher interviews:

Hello [name],

My name is Savannah Müller, and I am a master student at the University of Ottawa. I am currently working with Kluane First Nation (KFN) on the Bringing Research Home project (for more info visit - <https://www.ecohlab-labecos.ca/bringing-research-home>). The BRH project is a collaborative project between KFN, Yukon University, and the University of Ottawa. Through this project several tools and mechanisms are being developed to enhance KFN's ability to actively drive and participate in research within their Traditional Territory. This includes a draft (unpublished) set of research expectations, aimed at guiding ethical, engaged research processes that support relationship-building and knowledge mobilization for all types of research.

My research, as part of this broader project, is focused on (1) developing a better understanding of current research practices in the Kluane region and (2) exploring how researchers are currently attempting to engage with research best practises and align their research practises with community expectations of researchers. The findings from this research will be used to inform the development of the tools emerging from the BRH project.

The findings from this research will inform to the development of the 'research expectations' emerging from the BRH project, as well as help improve relationships and knowledge mobilization between researchers and communities within the Kluane region.

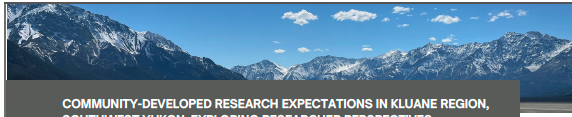
I am looking to connect with researchers who would be willing to participate in a semi-structured interview. If you are interested in participating in this research, interviews are approximately 1-1.5 hours.

Thank you and look forward to hearing from you,

-

Savannah Müller (*she/her/elle*)
M.A Candidate, Geography
Department of Geography, Environment, and Geomatics | Département de géographie, environnement et géomatique
ECoH Lab ECoS
University of Ottawa | Université d'Ottawa

APPENDIX 8 – Research study overview pamphlet



COMMUNITY-DEVELOPED RESEARCH EXPECTATIONS IN KLUANE REGION, SOUTHWEST YUKON: EXPLORING RESEARCHER PERSPECTIVES

Background:

Relationships between researchers and Indigenous communities in northern Canada are complex and influenced by a legacy of colonialism, cultural differences, and divergent ways of knowing. In the Klwane region of southwest Yukon, the Traditional Territory of Klwane First Nation (KFN), White River First Nation (WRFN) and Champagne-Aishihik First Nations (CAFN), the diverse geography of the region, recent rapid environmental changes, and presence of southern-operated research stations have generated significant research activity. However, research processes and outputs have been mainly externally driven and largely inaccessible to the local communities.

Klwane First Nation is currently developing a draft (unpublished) set of research expectations aimed at increasing their access to research outputs and supporting their role in research decision-making. Despite the emergence of community-developed research protocols, little research has explored how northern researchers are engaging with research 'best practices' established through ethical guidelines and emerging community research protocols.

Objectives:

This research seeks to explore how Klwane-based researchers are engaging with ethical protocols and principles. The objectives of this research are:

1. Characterize current research practices in the Klwane region.
2. Identify how Klwane-based researchers are currently engaging with established ethical principles and guidelines.
3. Explore how Klwane-based researchers would approach incorporating community-developed research expectations into their practices.

Methodology:

Using a participatory approach, this research seeks to engage with Klwane-based academic and Yukon government researchers using semi-structured interviews and workshops. Participants are selected based on geographical area of focus for their research (i.e., Klwane region).

Focal themes for the interviews/workshops were identified through a review of existing ethical research protocols and guidelines in Canada and verified with the draft version of KFN's research protocols.



Expected outcomes:

Findings from this research will help inform the development of tools emerging from the broader Bringing Research Home project and support the process of relationship-building between researchers and communities in the Klwane region. Analysis will be conducted to identify areas where researchers may require further guidance to support relationship-building.

This research will also explore how current research processes (such as research licensing requirements and established ethical documents) support relationships between researchers and Yukon First Nation communities.

About the Bringing Research Home project:

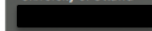
This research is part of a broader project, Bringing Research Home (BRH). The BRH project is a collaborative project between Klwane First Nation (KFN), Yukon University, and the University of Ottawa. Centred on KFN values, knowledge and needs, this project collaboratively studies how self-governing KFN can enhance its ability to actively drive and participate in research within their Traditional Territory.

For more information visit: <https://www.ecohlab-labecos.ca/bringing-research-home>



Contact info:

Savanah Müller (she/her/elle)
Department of Geography, Environment, and Geomatics
University of Ottawa



APPENDIX 9 – Consent form for interview participants

Université d'Ottawa | University of Ottawa

PROJECT TITLE: *Bringing research home: Reclaiming research to tell the story of climate change in the Kluane First Nation Traditional Territory*

PARTICIPANT CONSENT FORM: Researcher interviews

This consent form is for participation in a research study. Your participation is voluntary.

Research Team:

- **Dr. Sonia Wesche** (Assistant Professor, Department of Geography, Environment and Geomatics, University of Ottawa), [REDACTED]
- **Savanah Müller** (MA student, Department of Geography, Environment and Geomatics, University of Ottawa), [REDACTED]
- **Kristy Kennedy** (Kluane First Nation), [REDACTED]
- **Ellorie McKnight** (Yukon University)
- **Stephanie Saal** (Yukon University)

Purpose and Benefits of the Research:

- To explore current research practises employed by Kluane-based academic researchers.
- To explore how academic researchers would approach incorporating community-based research expectations into their research practises.
- Support the co-development the co-development of processes and tools that will empower KFN to have greater control over research in their Traditional Territory.

Purpose and Format:

- One on one interviews with Kluane-based academic researchers
- The purpose is to share information regarding research practices and contribute to the development of research methods, tools, and protocols emerging from the BRH project
- Duration: 1-1.5 hours.
- Interviews will be facilitated by Savanah Müller and data will be used for her thesis project.

Intended Outcomes:

- Information will be used to develop KFN's research protocol and will be reported in a final report, a plain language summary, project reports and academic publications (including on a project blog promoted through social media), and conference presentations.

Faculté des arts
Département de géographie,
environnement et géomatique

Faculty of Arts
Department of Geography,
Environment and Geomatics

☎ 613-562-5725

📠 613-562-5145

🌐 uOttawa.ca

📍 60 Université / University
(047) Ottawa ON K1N 6N5
Canada



Compensation:

- If you are participating outside of your work duties, an honorarium of \$75.00 will be offered for a half-day, i.e. less than 3 hours.
- You can withdraw from this project at any time and will receive compensation for the time that you participated.

Funding:

Funding for this research has been provided by the Social Science and Humanities Research Council of Canada and the Canadian Mountain Network. In-kind contributions for the research are being provided by the Kluane First Nation.

Potential Risks:

- There are limited potential risks associated with outlined research activities.
- For any in-person research activities, you may be exposed to someone with COVID-19. Masking and physical distancing will be used to mitigate this risk, and interviews will be conducted remotely when possible.
- Up to date information on Covid in the Yukon is available here: <https://yukon.ca/en/covid-19-information>

Confidentiality/Anonymity:

Your personal identity will be kept confidential at all times, unless you wish to attach your name to what you have said; if so, please tick the appropriate box on the consent form. Because of the small number of participants, it may be possible to identify who comments came from. If we would like to use direct quotes in our research publications and reports, we will contact you for permission and give you an opportunity to review and approve each quote.

Storage of Data:

All data collected will become property of the Kluane First Nation Government and will be managed according to KFN's Traditional Knowledge Policy. During this project and until publications and reporting are complete, access to the data will be granted by KFN to the researchers. Unedited audio recordings, videos, photographs, researchers' notes with identifying information will be held on an encrypted hard drive in the locked offices of the researchers and at the KFN government offices.

Use of Data:

Audio recordings will be listened to by the researchers and sections of the recordings will be transcribed. Verification of the data will occur if participants wish to be identified by name and to have their name associated with their comments. Audio transcriptions will be analyzed to identified key themes. Data will be used by Savannah Müller (MA student) for her thesis project.

Right to Withdraw:

Your participation is voluntary, and you can answer only those questions that you are comfortable with. There is no guarantee that you will personally benefit from your involvement. You may withdraw from the research project for any reason without penalty of any sort including payment for time spent and future collaboration opportunities. You may withdraw from the research project for any reason, at any time without explanation or penalty of any sort.

Questions or Concerns about Ethical Conduct:

This project has been reviewed on ethical grounds by the Yukon University Research Ethics Board (REB). Any questions regarding your rights or ethical concerns you may have as a participant may be addressed to the REB Chair at Yukon University by emailing ethics@yukonu.ca.

Consent to Participate:

I have read and understood the description provided; I have had an opportunity to ask questions and my/our questions have been answered. I consent to participate in the research project, understanding that:

- I may withdraw my consent to participate at any time.
- My input will be audio/video-recorded (where logistically feasible).
- The information that I share during the dialogue will remain anonymous unless I choose to be identified.
- My input will be reported in summary form, direct quotations, video and photographs (based on consent).
- Information gathered will be used for a lay-language reports, public presentations, web-hosted presentations, and/or publications with the understanding that the quotations will be anonymous unless I expressly request otherwise.
- A copy of this Consent Form has been given to me for my records.

With full knowledge of all foregoing, I agree, of my own free will, to **participate in this study**.

Yes No

I agree to have my comments **audio recorded**. The recorder will be turned off at any time I request it.

Yes No

I would like to be **identified by name** as a participant in any presentation that comes of this research.

Yes No

I would like the **opportunity to review my transcribed interview**.

Yes No

If yes, please contact me (Savanah Müller) at 

Name of Participant

Signature

Date

Name of Researcher

Signature

Date

A copy of this consent form will be left with you for your information about this research, and a signed copy will be kept by the research team so that we can demonstrate who participated and how. The signed forms will be handed over to the

KFN government on completion of this project to be kept with the project data that they will archive.

APPENDIX 10 – Interview guide for semi-structured interviews

Introduction/background information:

1. Could you briefly describe your research in the Kluane region?
 - a. How long have you been involved in research in the Kluane region?
 - b. How did you get involved in the research in the Kluane region?
 - c. Which part of the region do you conduct your research in?
 - d. How long do you spend in the Kluane region every year?
2. Why did you pick the Kluane region for your research?
3. Which research licenses did you have to apply for? Who is responsible to apply for these licenses?
 - a. Do you think licensing processing effectively support relationships between researchers and local communities? Please explain.
4. Before beginning your research did you draw on any additional ethical research documents or guidelines?
 - a. What were these resources/documents?
 - b. In your opinion, how effective were these documents/resources?
5. In which ways have you learned what local communities expect from you as a researcher coming into the Kluane region?

Relationship-building:

1. Did you have a pre-existing relationship with any local communities before starting your research in the region? How were those developed?
2. Since starting your research, how have you attempted to build new relationships or strengthen existing relationships with local communities?
3. In your opinion, what have been the most effective ways of building relationships with local communities?
4. Can you tell me about any challenges you have experiences in establishing relationships with local communities?
 - a. Have these challenges impacted your research? In which ways?
5. Have you been able to attend any community events? What was that experience like?
6. How do you think your approach to relationship-building with local communities has changed over time?

7. In your opinion, what do you think is needed to support better relationships between researchers and local communities?

Reciprocity:

1. Does your research address a community-identified research priority or need?
 - a. Does your research produce any direct benefits for local communities?
Any in-direct benefits?
2. How important is to you that your research is useful to local communities?
3. In which ways do you practise reciprocity (or giving back to the community) in your research?

Respect (Upholding cultural values, knowledge, and practises):

1. Are you aware of any local cultural values or protocols that are relevant to your research?
 - a. How have you attempted to align your research activities with relevant local and/or Indigenous values and protocols?
2. Does your research build on local and/or traditional knowledge? Please explain.
 - a. **Yes** – How do you acknowledge the contribution of local and/or Traditional knowledge in your research?
 - b. **No** - In your research, do you think there are ways to build on local and/or traditional knowledge? Please explain.
 - i. Do you have plans to include Indigenous knowledge into your research?
3. How familiar are you with the First Nation Principles of OCAP?

Community engagement and participation:

1. How do you support opportunities for community involvement in your research, specifically youth engagement or mentorship?
2. Have you experienced any barriers or challenges to involving community members in your research? Please explain.
3. Thinking about your future research in the region, how could you better support opportunities for local participation and engagement?

Communication:

1. How frequently do you communicate with local communities and First Nations?
 - a. What format/approach do you use to communicate with local communities?

2. In which ways have you shared your research with local communities?
3. Have you experienced any challenges communicating your research to local communities?
4. In your opinion, what do you think is needed to support better communication between researchers and local communities in the Kluane region?

Overall:

1. Looking back on your experience in the Kluane region, is there any information that would have been useful to know for facilitating relationship-building with local communities prior to starting research?
2. Are there any areas where you (or current/future students) would benefit from having further guidance or clarification from KFN?
3. Do you conduct research in any other northern regions? In which ways are the dynamics between researchers and communities in the Kluane region similar or different to other northern regions?

APPENDIX 11 – Draft version of Yukon Government researcher survey

Community-developed guidelines for research on Yukon First Nations Traditional Territory: Exploring researcher perspectives

Survey information for participants:

Through a community-driven project (Bringing Research Home), Kluane First Nation is in the process of developing their own protocol for all types of research conducted within their Traditional Territory. This survey seeks to support this process by:

- (1) exploring how ethical research processes are being used by Yukon Government researchers and;
- (2) improving our understanding of the needs of Yukon Government researchers in applying ethical research processes.

Survey questions are framed around central themes of the draft (unpublished) KFN research protocol which includes *relationship-building, respect, reciprocity, communication, and community engagement*.

This survey will take approximately 15-20 minutes to complete. Your participation in this research will help inform the development of KFN's research protocols and other tools emerging from the BRH project. Findings from this research will be used by Savannah Müller (MA student at the University of Ottawa, under the supervision of Sonja Wesche) for her thesis research.

Potential Risks and confidentiality:

There are limited potential risks associated with outlined research activities. Due to the potential small respondent group, it may be possible to identify individuals based on responses. All responses will be anonymized, and no direct quotes will be used in any publications or reports. We ask that you provide your name to confirm your identity as a Yukon Government researcher. As we may be doing a limited number of follow-up interviews, please indicate if you would be willing to be contacted for an interview.

Storage of Data:

All names and identifying information will be dissociated from survey responses by research assistant, Savannah Müller. Anonymized data will become property of the Kluane First Nation Government and will be managed according to KFN's Traditional Knowledge Policy. During this project and until publications and reporting are complete, access to the data will be granted by KFN to the researchers.

Survey questions and responses will be stored in the University of Ottawa's cloud storage in the Canadian Data Centre. As SurveyMonkey data policy, information associated with individual accounts (e.g. login information, IP addresses, and account metadata) will be stored in the United States. This survey does not collect individual IP addresses with survey responses.

Right to Withdraw:

Your participation is voluntary. There is no guarantee that you will personally benefit from your involvement. You may withdraw from the research project for any reason, at any time without explanation or penalty of any sort by exiting from the webpage. If you wish to withdraw from this research after the submission of the survey, please contact Savannah Müller.

Funding:

This research is funded by the Canadian Mountain Network and Polar Knowledge Canada. In-kind contributions are provided by Kluane First Nation.

Question or concerns:

Please contact Savannah Müller [REDACTED] with any questions related to this research.

This project has been reviewed on ethical grounds by the Yukon University Research Ethics Board and the University of Ottawa Research Ethics Board. Any questions regarding your rights or ethical concerns you may have as a participant may be addressed to the REB Chair by emailing ethics@yukonu.ca or ethics@uottawa.ca

* 1. I agree to participate in the research study. I understand the purpose and nature of this study and I am participating voluntarily. Please type your first and last name in the box below to indicate agreement to participate in this study.

* 2. I am open to being contacted to participate in a follow-up interview.

- Yes
- No

* 3. What is your age?

- Under 18
- 18-24
- 25-34
- 35-44
- 45-54
- 55-64
- 65+

* 4. How long have you lived in the Yukon?

- Less than 1 year
- 1-10 years
- 10 - 30 years
- 30+ years

* 5. How long have you worked at Yukon Government?

- Less than 1 year
- 1- 10 years
- 10-30 years
- 30+ years

* 6. Do you identify as Indigenous (First Nation, Inuit and/or Métis)?

- No
- Yes (please specify)

* 7. What is your research area ?

- Agriculture
- Forestry
- Business and economy
- Climate change
- Earth science
- Natural environment
- Health and wellbeing
- Heritage and culture
- Housing and infrastructure
- Social science
- Other (please specify)

* 8. Are you currently conducting any work in the Klwane region?

- Yes
- No

9. Could you provide a brief description of the time you have spent conducting research in the Klwane region? (Dates and location):

10. Have you conducted work within Klwane National Park?

- Yes
- No

11. Have you worked on any of the following Yukon First Nations Traditional Territories?
(select all that apply):

- Carcross/Tagish First Nation
- Champagne and Aishihik First Nations
- First Nation of Na-Cho Nyäk Dun
- Klwane First Nation
- Kwanlin Dün First Nation
- Liard First Nation
- Little Salmon/Carmacks First Nation
- Ross River Dena Council
- Selkirk First Nation
- Ta'an Kwäch'än Council
- Teslin Tlinglit Council
- Tr'ondék Hwëch'in
- Vuntut Gwitchin First Nation
- White River First Nation

* 12. What type of research methods do you primarily use?

- Qualitative methods
- Quantitative methods
- Mixed methods (qualitative and quantitative)
- Other (please specify)

Community-developed guidelines for research on Yukon First Nations Traditional Territory: Exploring researcher perspectives

Relationship-building

* 13. While working for the Yukon Government, have you used any of the following licenses or research agreements? (please select all that apply):

- Scientists and Explorer's License
- Parks Canada research licensing
- Memorandum of Understandings (MOU)
- Research agreements with relevant First Nations
- Research agreements with academic institutions
- None of the above
- Other (please specify)

* 14. Since starting your position at the Yukon Government, how have your relationships with Yukon First Nations evolved?

- Relationships have **significantly improved.**
- Relationships have **somewhat improved.**
- Relationships have **stayed the same.**
- Relationships have **slightly deteriorated.**
- Relationships have **significantly deteriorated.**

15. What resources has the Yukon Government provided to help improve your understanding of how to engage with Yukon First Nation communities? (select all that apply):

- Formalized research protocols
- Research guidelines or 'best practises'
- Workshops and training opportunities
- Other (please specify)

16. Does the Yukon Government provide guidance to researchers on any of the following areas? (please select all that apply):

- Communication with First Nations
- Relationship-building with First Nations
- Research dissemination to communities
- Community engagement and participation
- None of the above
- Other (please specify)

* 17. Have any of the following factors have impacted your ability to build relationships with Yukon First Nation communities? (select all that apply):

- Covid-19 restrictions
- Research licensing requirements
- Internal deadlines and requirements (e.g. funding requirements)
- Limited resources (e.g. time and funding)
- Limited knowledge of cultural protocols and expectations
- Limited capacity for communities to engage with research
- None of the above

* 18. Are there any additional factors that have impacted relationship-building with local communities?

- No
- Yes (please specify):

Community-developed guidelines for research on Yukon First Nations Traditional Territory: Exploring researcher perspectives

Communication

* 19. In your position, are you required to enter into a research agreement with relevant First Nations when working on their settlement land?

- Yes
- No
- Not sure

* 20. In your position, are you required to inform relevant First Nations when working on their Traditional Territory (not on settlement lands)?

- Always
- Never
- Not sure
- Sometimes (please specify)

21. What formats do you use to communicate your research with local communities? (please select all that apply):

- Through peer-reviewed/academic articles
- Non-traditional reports
- Presentations at community-events
- Social media or local websites
- Other (please specify)

22. What do you think is needed to support better communication between researchers and local communities? (please select all that apply):

- Increased training and education resources
- Government regulations and requirements
- Community developed protocols and/or guidelines
- Increased funding, time and resources
- Other (please specify)

Community-developed guidelines for research on Yukon First Nations Traditional Territory: Exploring researcher perspectives

Main theme: Community participation and engagement

* 23. How often does are Yukon First Nation Elders involved in your work?

- Always
- Often
- Sometimes
- Rarely
- Never

* 24. How often are Yukon First Nation youth involved in your work?

- Always
- Often
- Sometimes
- Rarely
- Never

* 25. In what capacity have Yukon First Nation community members been involved in your research activities? (select all that apply):

- Informing research priorities
- Directing research activities
- Involvement in fieldwork
- Mobilizing knowledge
- Other (please specify)
- Engaging in training and capacity building
- Analyzing research data and information
- Generating research reports or publications

26. Have you ever worked with Indigenous guardians?

- Yes
- No
- Not applicable

27. Have you experienced any challenges in involving community members in research processes? (please explain):

Community-developed guidelines for research on Yukon First Nations Traditional Territory: Exploring researcher perspectives

Main theme: Respect

28. Does your research involve handling any wildlife?

- Yes
- No

29. Are you aware of any cultural protocols that are relevant to your research?

- Yes
- No
- Not sure

30. How have you tried to align your research processes with relevant cultural protocols and expectations?

31. Does your research process include working with any Traditional Knowledge?

- Yes
- No

32. How do you acknowledge the contribution of Traditional Knowledge in your research?

33. Are you aware of the First Nations Principles of OCAP (Ownership, Control, Access and Possession)?

- Very aware.
- Somewhat aware.
- Not all aware.

Community-developed guidelines for research on Yukon First Nations Traditional Territory: Exploring researcher perspectives

Main theme: Reciprocity

34. How often are your research priorities directed or informed by locally-determined research priorities and needs?

- Always
- Usually
- Sometimes
- Rarely
- Never

35. How often are your research priorities informed by community-based fish and wildlife work plans?

- Always
- Sometimes
- Never
- Not relevant

* 36. Is your research topic addressed in the Umbrella Final Agreement?

- Yes
- No
- I don't know

37. Does your research produce any of the following benefits for Yukon First Nations? (select all that apply):

- Sharing knowledge and results of research
- Helping out at community events
- Hiring local community members
- Skill building/training for community members
- Addressing a community-identified research needs/priorities
- Other (please specify)

38. What challenges have you experienced in attempting to align research activities with locally determined research priorities/needs?

Community-developed guidelines for research on Yukon First Nations Traditional Territory: Exploring researcher perspectives

Researcher perspectives

39. Are you aware of what is expected of you as a government researcher conducting work within a First Nation Traditional Territory?

- I am **very aware** of what communities expect from me as a researcher.
- I am **moderately aware** of what communities expect from me as a researcher.
- I am **slightly aware** of what communities expect from me as a researcher.
- I am **not at all aware** of what communities expect from me as a researcher.

40. Which of the following area(s) would you benefit from having further guidance on from communities?

- Cultural protocols and values
- Best practises for communication
- Best practises for relationship building
- Best practises for community engagement
- Research dissemination and knowledge mobilization
- Other (please specify)

41. Based on your previous answer, is there any specific guidance that would help improve your understanding of what Yukon First Nations expect from researchers?

42. In your opinion, what should new Yukon government researchers be aware of before engaging with research on Yukon First Nation(s) Traditional Territory?

(e.g. culture and regulations, protocols and engagement, funding and resource requirements)

43. Do you have any additional perspectives or comments on the topic of research with Yukon First Nation(s) communities?

APPENDIX 12 – Community feedback poster for the Bringing Research Home website



BRINGING RESEARCH HOME WEBSITE UPDATE!

www.kluanefirstnationresearch.ca



BRH website:
QR CODE

ABOUT THE BRH WEBSITE:

Bringing Research Home (BRH) is a collaborative project led by the interests and needs of Kluane First Nation. The goal of BRH is to understand and enhance KFN's ability to participate in and lead research within its Traditional Territory.

Through collaboration with KFN's Lands and Heritage department and KFN citizens (including youth), several tools and resources were produced through this project. These resources are housed on the BRH website and include:

- A KFN youth developed storymap introducing KFN people and land.
- An interactive map displaying historical and contemporary climate change research in the Lhù'ààn Mân region.
- Community-identified expectations of researchers.
- A storymap exploring the history of research in the Lhù'ààn Mân region, highlighting KFN led research.

The website serves as a resource for both community members and researchers.



Do you have feedback or comments on the website?
We want to hear from you!



Scan the QR code and fill out the survey!
or contact Pauly Sias

Submit feedback before February 15th and be entered into a prize draw!



APPENDIX 13 – Community feedback forms for the Bringing Research Home website

Bringing Research Home website feedback:

1. What are your overall impressions of the website? What things did you like the most?

2. Is there anything you would like to see added or changed to the KFN Lands Introduction storymap?

3. Is there anything you would like to see added or changed to the History of Research storymap?

4. Are the images and labels for each mapping category appropriate? Are there any symbols you think should be changed?

5. Are there any additional categories you think should be added?

6. Are there specific words/phrases on the website you would like to see a Southern Tutchone translation for?

7. Do you have any additional comments or feedback on the website?

Name: _____

Contact information: _____

APPENDIX 14 – Screenshot of Bringing Research Home atlas tool

