ARCTIC
VOL. 77, NO. 3 (SEPTEMBER 2024) P. 272–288
https://doi.org/10.14430/arctic80841

Reshaping Research Paradigms: Insights from a Large-Scale Project Based in Nunatsiavut, Labrador, Canada

Dylan Seidler,[1,2,3] Michelle K. Saunders,[4] Carla Pamak,[4] Melanie Zurba,[5] Paul McCarney,[6] Megan Bailey[2] and Hekia Bodwitch[7]

(Received 28 March 2024; accepted in revised form 13 August 2024)

ABSTRACT. Across Inuit Nunangat (the Inuit homelands of Canada) researchers have been called to engage ethically and meaningfully with community members to develop projects that support local goals. This article focuses on understanding such engagement in the context of Nunatsiavut, an Inuit-governed territory in the province of Newfoundland and Labrador, Canada. In 2022 we conducted 27 interviews with researchers (both southern- and community-based), Inuit government representatives, and NGO representatives associated with the transdisciplinary SakKijânginnaKullugit Nunatsiavut Sivunitsangit (Sustainable Nunatsiavut Futures [SNF]) Project. SakKijânginnaKullugit Nunatsiavut Sivunitsangit began in 2020 and was designed, in part, to facilitate the co-production of knowledge between researchers and community members about climatic changes in Nunatsiavut. Through interviews, we explored what ethical and meaningful community engagement means in the context of a large-scale transdisciplinary project. Drawing on an analysis of interview data, we examine how project members and partners engage with Inuit community members, and how members of the project team who are Inuit have experienced these engagements. Based on participant responses, we identified elements needed for, and barriers to, ethical and meaningful engagement. We also heard about possible solutions. University researchers described institutional constraints to long-term engagement, while members of the Nunatsiavut Government staff and Inuit research coordinators emphasized that extractive (one-sided) forms of engagement can negatively impact communities. Interviewees described how a) restructuring academic and funding institutions, b) broadening engagement methods, and c) scaling down within a project can minimize the likelihood of negative effects and lead to more ethical and meaningful community engagement.

Keywords: Nunatsiavut; community engagement; land–sea connection; climate change; Arctic; Inuit self-determination

RÉSUMÉ. Dans l'Inuit Nunangat (les terres inuites du Canada), des chercheurs sont appelés à s'engager de manière éthique et significative avec des membres de la communauté pour élaborer des projets cadrant avec les objectifs de la région. Cet article porte sur la compréhension de cet engagement dans le contexte du Nunatsiavut, un territoire gouverné par les Inuits dans la province de Terre-Neuve-et-Labrador, au Canada. En 2022, nous avons réalisé 27 entretiens auprès de chercheurs (des chercheurs du Sud et des chercheurs de la communauté), des représentants du gouvernement inuit et des représentants d'ONG associés au projet transdisciplinaire SakKijânginnaKullugit Nunatsiavut Sivunitsangit (Sustainable Nunatsiavut Futures). Le projet SakKijânginnaKullugit Nunatsiavut Sivunitsangit a vu le jour en 2020. Il visait, en partie, à faciliter la coproduction de connaissances entre les chercheurs et les membres de la communauté au sujet des changements climatiques du Nunatsiavut. Les entretiens nous ont permis d'explorer la signification d'un engagement communautaire éthique et significatif dans le contexte d'un projet transdisciplinaire d'envergure. En nous appuyant sur les données émanant des entretiens, nous examinons comment les membres et les partenaires du projet collaborent avec les membres de la communauté inuite et comment les membres inuits de l'équipe du projet vivent cet engagement. Grâce aux réponses des participants, nous avons pu déterminer les éléments nécessaires à un engagement éthique et significatif, de même que les obstacles qui s'y rattachent. Nous avons également pris connaissance de solutions possibles. Les chercheurs universitaires ont décrit les contraintes institutionnelles propres à un engagement à long terme, tandis que les membres du personnel du gouvernement du Nunatsiavut et les coordonnateurs de recherche inuits ont mis l'accent sur le fait que les formes d'engagement extractives (unilatérales) peuvent avoir des incidences négatives sur les communautés. Les personnes interviewées ont décrit comment a) la restructuration des établissements

[1] Department of Biology, Dalhousie University, 6299 South Street, Halifax, Nova Scotia B3H 4R2, Canada
[2] Marine Affairs Program, Dalhousie University, 6299 South Street, Halifax, Nova Scotia B3H 4R2, Canada
[3] Corresponding author: dylan.seidler@dal.ca
[4] Nunatsiavut Government, PO Box 70, Nain, Newfoundland and Labrador A0P 1L0, Canada
[5] School for Resource and Environmental Studies, Dalhousie University, 6100 University Avenue, Halifax, Nova Scotia B3H 4R2, Canada
[6] School of Indigenous Governance, Yukon University, Old Crow, Yukon Y0B 1N0, Canada
[7] Department of Social Sciences, School of Arts and Sciences, University of Alaska Southeast, 11066 Auke Lake Way, Juneau, Alaska 99801, USA

universitaires et du financement, b) l'élargissement des méthodes d'engagement et c) la réduction de l'envergure d'un projet peuvent minimiser la possibilité d'effets négatifs et mener à un engagement communautaire plus éthique et significatif.

Mots-clés : Nunatsiavut; engagement communautaire; lien entre la terre et la mer; changement climatique; Arctique; autodétermination inuite

Traduit pour la revue *Arctic* par Nicole Giguère.

INTRODUCTION

As environmental changes intensify in the Arctic region, researchers are increasingly looking toward Inuit knowledge to understand the impacts of these changes on the marine environment and local communities (Petrov et al., 2016; Kourantidou et al., 2020). Inuit Nunangat is the Inuit homeland currently covered by the four settled Inuit land claims regions in Canada (Fig. 1). Past research relationships with Inuit communities throughout Inuit Nunangat have been largely extractive, removing knowledge from communities with little or no follow up in a one-sided power structure (Inuit Tapiriit Kanatami, 2018; Coates and Broderstad, 2020). Specifically, there has been a long history of researchers coming into Inuit Nunangat aiming to "fix" issues through research that ignores knowledge held by Inuit community members (Wenzel, 1999; Pfeifer, 2024). Past research practices in Inuit Nunangat have been criticized for including only the bare minimum of engagement, whereby community members are merely consulted but not actively involved in projects (Drake et al., 2022), and for not returning data to communities (Ortenzi et al., 2024).

These extractive research practices have limited the abilities of Inuit governments and representative organizations to guide research directions and practices and, in turn, have actively constrained Inuit self-determination in this area. As described in the National Inuit Strategy on Research (Inuit Tapiriit Kanatami, 2018:5):

> Inuit in Canada are among the most studied Indigenous peoples on earth. The primary beneficiaries of Inuit Nunangat research continue to be researchers themselves, in the form of access to funding, data and information, research outcomes, and career advancement. Inuit remain largely marginalized from research governing bodies and in turn from experiencing the benefits of research.

In recent years, there has been a movement to shift research paradigms towards more ethical and meaningful community-engaged research (Anang et al., 2021). For example, the National Inuit Strategy on Research encourages research practices that incorporates community priorities. Inuit must first and foremost be acknowledged as rights holders, and researchers must develop respectful, equitable relationships that offer agency (Inuit Tapiriit Kanatami, 2018).

Others have posited that to establish an equitable partnership with community members researchers need to consider the specific context and entrenched power dynamics (Cundill et al., 2015). Indeed, over two decades ago, Natcher and Hickey (2002:361) described community engagement as a "catch-phrase … ubiquitous in the rhetoric of resource management." To represent the "plurality of values and personal interests nested within Indigenous communities" (Natcher and Hickey, 2002:350), researchers must adjust community-engaged work to fit a specific context to avoid generalizations (see also Fendler, 2006; Reed, 2017; Harrington, 2019).

One way to acknowledge community diversity and contextualizing research projects is to adopt a participatory approach wherein community members are directly involved in research processes (Balazs and Frosch, 2013; Jull et al., 2017; Davie-Chavez and Gavin, 2018; Kwan and Walsh, 2018; Dutton, 2019). Participatory frameworks like Key et al.'s, (2019) "Continuum of Community Engagement in Research" (which presents a spectrum of engagement points for researchers and the community), provide an overview of possible best practices to form partnerships that reflect concepts such as equitable and meaningful participation. Using a participatory approach with a clear framework for research governance can help ensure that scientific research processes are less extractive and focus more on local needs (Leeuw et al., 2012; Balazs and Frosch, 2013). Other approaches to participatory research, such as transdisciplinary and co-designed projects, might be more responsive to community needs (Zurba et al., 2022).

Transdisciplinary knowledge co-production is an approach to participatory research that has gained increased attention from researchers and government policy makers over the last several years (Zurba et al., 2022). Transdisciplinarity is viewed as a means to restructure science to include different types of knowledge and shift the paradigm toward more meaningful community-engagement projects (Gomez and Kopsel, 2023). In the Arctic context, knowledge co-production offers one way to meaningfully engage with community members and facilitate more ethical partnerships (Yua et al., 2022; Miner et al., 2023). The SakKijânginnaKullugit Nunatsiavut Sivunitsangit (Sustainable Nunatsiavut Futures [SNF]) project began in 2020 and was designed in part to facilitate knowledge co-production between researchers and Inuit in Nunatsiavut about climate change. Project members have critically evaluated the process of knowledge co-production and concluded that it is only collaborative if it actually leads to transformative changes

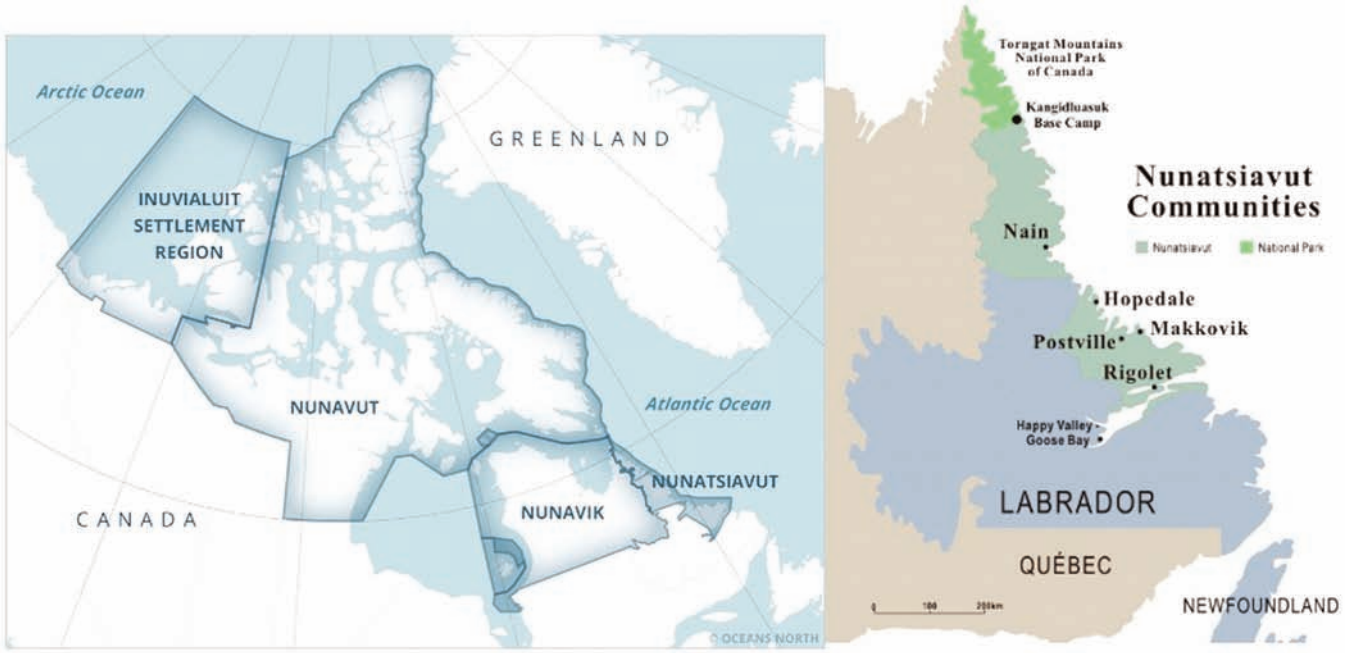

FIG. 1. Left, a broad map outlining the location of Nunatsiavut in relation to other Inuit territories (Oceans North, Inuit Nunangat, 2022). Right, a closeup of the five communities of Nunatsiavut in relation to neighbouring provinces (Arctic and Northern Studies: Nunatsiavut (Labrador), 2024).

whereby relationship-building is prioritized within the research paradigm (Zurba et al., 2022).

Despite calls to redistribute research power to focus on Inuit community goals (Levesque and Duhaime, 2016; Wilson et al., 2020; Doering et al., 2022), most research continues to be directed and funded by western academic institutions and universities (Inuit Tapiriit Kanatami, 2018; Doering et al., 2022). Western knowledge systems, favoured by many contemporary researchers and funding institutions, create inherent power dynamics that undermine the formation of strong partnerships (Pfeifer, 2024; Nadaeu et al., 2022).

For example, western knowledge is overwhelmingly prioritized in the governance decision making processes that affect Indigenous territories (Bodwitch et al., 2022). Academic institutions have a long history of dismissing Indigenous knowledge systems in favour of western scientific forms of knowledge production (Reeploeg, 2023). Academic institutions often hold funding power and research authority when it comes to proposing and developing project ideas. As a result, scholars have identified a need to shift toward more equitable and inclusive funding methods and partnerships to challenge inequities that arise from colonial ways of thinking (e.g., that western science is superior to Indigenous knowledge) (Doering et al., 2022; Miner et al., 2023). While there has been much discussion regarding decolonizing research methodologies, established colonial systems and institutions continue to reproduce entrenched power dynamics and unjust relations (Pfeifer, 2024).

Our objective in this research was to understand how researchers at southern institutions can develop projects that address community-specific needs and support Inuit self-determination in research. Drawing on the National Inuit Strategy on Research (Inuit Tapiriit Kanatami, 2018:11), we consider Inuit self-determination in research as:

> put into action when Inuit representational organizations are engaged as partners in setting the research agenda in our homeland, have equitable opportunities to access funding for Inuit led research, and are engaged as partners with researchers in the design, implementation, and dissemination of research.

To interrogate the concept of community engagement, we conducted 27 interviews throughout 2022 with researchers, Inuit community members (IRCs), Inuit government representatives, and NGO representatives associated with the transdisciplinary SakKijânginnaKullugit Nunatsiavut Sivunitsangit project. Through the interviews, we explored what ethical and meaningful community engagement means in the context of a large-scale transdisciplinary project. In what follows, we review the particular context of Nunatsiavut, describe the SakKijânginnaKullugit Nunatsiavut Sivunitsangit project, provide a method by which community engagement was studied, and present the results. We then discuss what community engagement in the Nunatsiavut context means within this project, and how that has implications for Inuit self-determined research in Nunatsiavut and elsewhere.

CONTEXT: NUNATSIAVUT AND THE SAKKIJÂNGINN KULLUGIT NUNATSIAVUT SIVUNITSANGIT PROJECT

Nunatsiavut Geography and Governance

Nunatsiavut is the Inuit-governed region in the province of Newfoundland and Labrador, Canada. It is comprised of five communities: Nain, Hopedale, Makkovik, Postville, and Rigolet (Fig. 1). Nunatsiavut was established in 2005 through the Labrador Inuit Land Claims Agreement (Government of Canada, 2005; Government of Newfoundland and Labrador, 2019). The Labrador Inuit regional government, or Nunatsiavut Government, holds authority over many central governance areas, including health, education, resource management, culture and language, justice, and community matters (Nunatsiavut Government, 2024).

The Nunatsiavut Government also oversees and advises on research projects in the region. Prior to conducting research, researchers are asked to contact the Inuit research advisor, who will help guide the project proposal and plans. At least three months prior to planned projects, outside researchers must also submit a research application to the Nunatsiavut Government Research Advisory Committee detailing the proposed plan for the project, proposed contributions that will benefit Nunatsiavut, how the researcher plans to share results, and documents and permits obtained to conduct the research (Nunatsiavut Research Centre, 2021). If the Advisory Committee approves a project, researchers are asked to submit an annual update of the current project status. According to the Nunatsiavut Government website: "Any research that impacts Nunatsiavut and its people should happen only with the full knowledge and participation of the Nunatsiavut Government and Labrador Inuit community" (Nunatsiavut Research Centre, 2021).

In Nunatsiavut, land and sea are inseparable. Ice provides crucial pathways across the sea to allow for travel between communities (Ogilvie et al., 2021). Marine species such as ringed seals (*Pusa hispida*) also rely on sea ice (Harwood et al., 2012). Aquatic, semi-migratory species such as Arctic char (*Salvelinus alpinus*) are affected by changing ice conditions (Kourantidou and Bailey, 2021), and both seal and char are vital food sources and cultural staples (Searles, 2009; Andrews and Coffey, 2009). As a result, climatic changes, such as shortened sea-ice seasons and changing sea-ice dynamics, hold profound implications for both economic activities and food security (Le Teno and Frison, 2021), and indeed for the very existence of Inuit. These climatic changes, combined with calls to shift extractive research practices, have led to the development of broad-scale initiatives aimed at forming community partnerships to better understand marine-based issues. SakKijânginnaKullugit Nunatsiavut Sivunitsangit is one such initiative.

SakKijânginnaKullugit Nunatsiavut Sivunitsangit

SakKijânginnaKullugit Nunatsiavut Sivunitsangit is a large-scale transdisciplinary research project co-led by the Nunatsiavut Government, Dalhousie University, and Memorial University of Newfoundland and Labrador. One of the main objectives of the initiative is to "support sustainable resource management of dynamic coastal systems in Nunatsiavut communities" (SNF, 2020a:1). Part of its mission is to avoid the problematic research practices of the past by doing science differently, while supporting Inuit-led planning and marine-based research. Many of its individual projects also focus on monitoring the impact of climate change and its effect on local communities in Nunatsiavut (SNF, 2020b). The project's overall goal is to combine Inuit knowledge and western science to support informed decisions and planning for the zone of the Labrador Inuit Settlement Area and ensure protection of Inuit interests into the future (Ocean Frontier Institute, 2024).

SakKijânginnaKullugit Nunatsiavut Sivunitsangit is comprised of over 75 individuals, including Inuit research coordinators (IRCs), who are researchers from each of the Nunatsiavut communities; natural and social scientists; government researchers and managers working in Nunatsiavut; and a variety of other project partners. These individuals represent the perspectives of various stakeholders and rights holders (i.e., land claim beneficiaries).

One of the core themes is "building pathways for knowledge co-production." Knowledge co-production is directly connected to relationship-building and emphasizes collaborative approaches to include knowledge systems that "embody a range of world views and disciplines (e.g., local knowledge and academic disciplines)" (SNF, 2020a:5). In the marine space, knowledge co-production is a tool to discuss ways to better engage with community members throughout the research process (Muhl et al., 2023). This first theme can be seen as providing the overall structure for the project, while the other two themes directly describe the project-wide activities related to adapting to ecosystem change (SNF, 2020a).

The elements of community engagement, two-way training, knowledge exchange and science excellence outlined in Figure 2 connect the goals, objectives, and projects within each work package (SNF, 2020a). In this way, SakKijânginnaKullugit Nunatsiavut Sivunitsangit fosters collaboration between projects and transdisciplinary thinking. Community-engaged research is also a central goal, and specifically, ensuring that projects within this initiative align with community needs.

Positionality

Lead author DS would first like to acknowledge that she is a settler with roots on unceded Ohlone land in the San Francisco Bay area of the U.S. She is currently working at

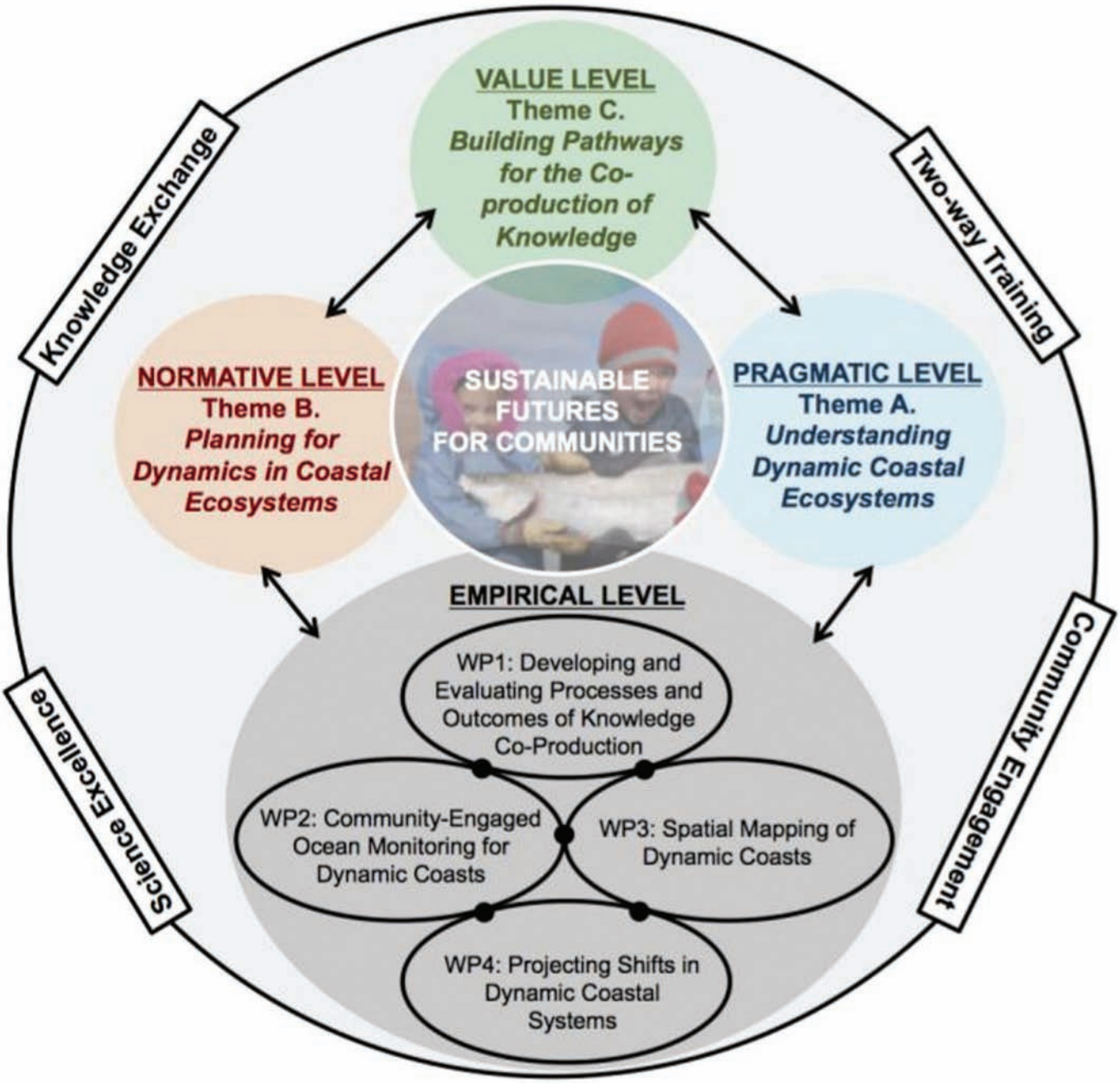

FIG. 2. Structural breakdown of how SakKijânginnaKullugit Nunatsiavut Sivunitsangit was organized at its inception (SNF, 2020b).

Dalhousie University, based in Kjipuktuk, Mi'kma'ki, on the ancestral and unceded territory of the Mi'kmaq people. DS would like to express her gratitude for being able to work, learn, and grow in the Inuit region of Nunatsiavut. This paper's authors also include Nunatsiavut Inuit community members and government staff (MS, CP), as well as settler-researchers and practitioners who live and work in Mi'kma'ki (MZ, MB), Bay Miwok (HB), and Kwanlin Dün First Nation and the Ta'an Kwäch'än Council (PM) traditional territories. All authors are (or previously were) members of the SakKijânginnaKullugit Nunatsiavut Sivunitsangit project.

Study Goals

The extractive methods used by Arctic researchers in the past raise the question: What counts as ethical research? This study seeks to answer this question in the context of Nunatsiavut and builds from work by Petriello et al. (2022), which outlined theories and themes important to knowledge co-production, as well as issues that arise within this research paradigm. We focus on how community engagement and knowledge co-production processes may operate in practice. The goals were threefold:

1. Collect experiences with, and perspectives on, community engagement from a variety of participants involved in, or associated with, the SakKijânginnaKullugit Nunatsiavut Sivunitsangit project.
2. Assess how Nunatsiavut Government staff and IRCs are being engaged within the project to develop a list of recommendations for use by large-scale initiatives and funding institutions to improve such relationships.
3. Identify steps individual researchers can take to ensure that research conducted in Nunatsiavut is accessible and tangible to communities without overburdening community members.

METHODS

Given that the SakKijânginnaKullugit Nunatsiavut Sivunitsangit project officially began in February 2020, COVID prevented travel to the region for most of the following two years. The idea for this study was initially presented to Nunatsiavut Government staff, IRCs, NGOs, and social and natural scientists during the first post-COVID, in-person, project-wide meeting, which took place in Halifax in May 2022. Following a subsequent meeting with Nunatsiavut Government staff, goals were modified based on group feedback. The focus changed from understanding barriers and opportunities for sharing knowledge between researchers and community members, to examining how research could better support community needs.

Upon receiving ethics and research approval from both the Nunatsiavut Government Research Advisory Committee (NGRAC 2021-2022-5510) and Dalhousie University, lead author DS interviewed 27 key informants via videoconference for approximately one hour each. All participants were either directly involved, or associated with, the SakKijânginnaKullugit Nunatsiavut Sivunitsangit as project partners. Interviews ended when statements made by interviewees became repetitive and we reached data saturation (Fusch and Ness, 2015). Participants were engaged through semi-structured, open-ended interviews, with questions that included queries regarding: a) why they were working in this region, and b) what their perspectives were on community members' engagement with the project. Participants were also asked how they would define the term "community engagement." For a list of specific questions, see Appendix 1.

To analyze results from the interviews, lead author DS recorded each interview. DS de-identified the transcripts, then divided them by key groups (listed in Fig. 3). Using systematic manual coding, DS identified common themes and values used in each individual group (Ose, 2016). This consisted of reading through each transcript and highlighting repeated terms among the six key groups (identified in Fig. 4). DS then inductively coded all interviewee statements based on common words and phrases found throughout all interviews. Next, each interview was cross compared using the same process to identify common phrases. DS then grouped these into eight themes discussed below. DS also conducted three phases of manual coding for group differences to identify both common themes and key differences. The first was to clean transcript errors, the second was to highlight group commonalities and categorize participants into the six groups, and the third was to group them into common themes.

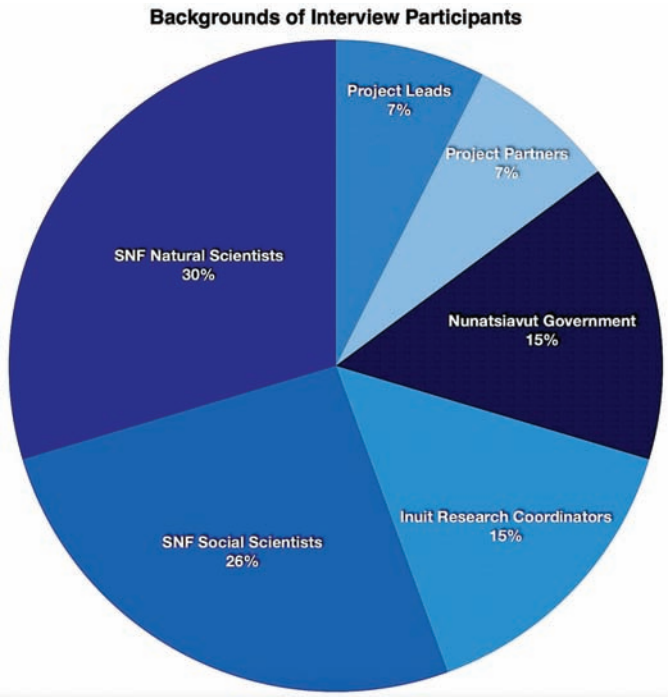

FIG. 3. Breakdown of interview participants, n=27: 2 project leads, 2 project partners, 4 members of the Nunatsiavut Government staff, 3 IRCs, 7 social scientists, 8 natural scientists.

Defining Community

In this research, "community" is defined in line with the terminology used by the Nunatsiavut Government to describe those who live in Nunatsiavut and are not government employees. However, there is also a much broader application. In summarizing the results, community members are largely defined as those living within Nunatsiavut, and therefore, members of the Nunatsiavut Government staff are also considered community members. This is because several participants viewed their interactions with the Nunatsiavut Government as community engagements. We often use the plural form, "communities," as Nunatsiavut is made up of several diverse communities. This project involved interviewing representatives from a variety of places, each with a unique culture. Thus, there can be no singular, monolithic definition of community, as there is diversity both within and between communities that comprise Nunatsiavut.

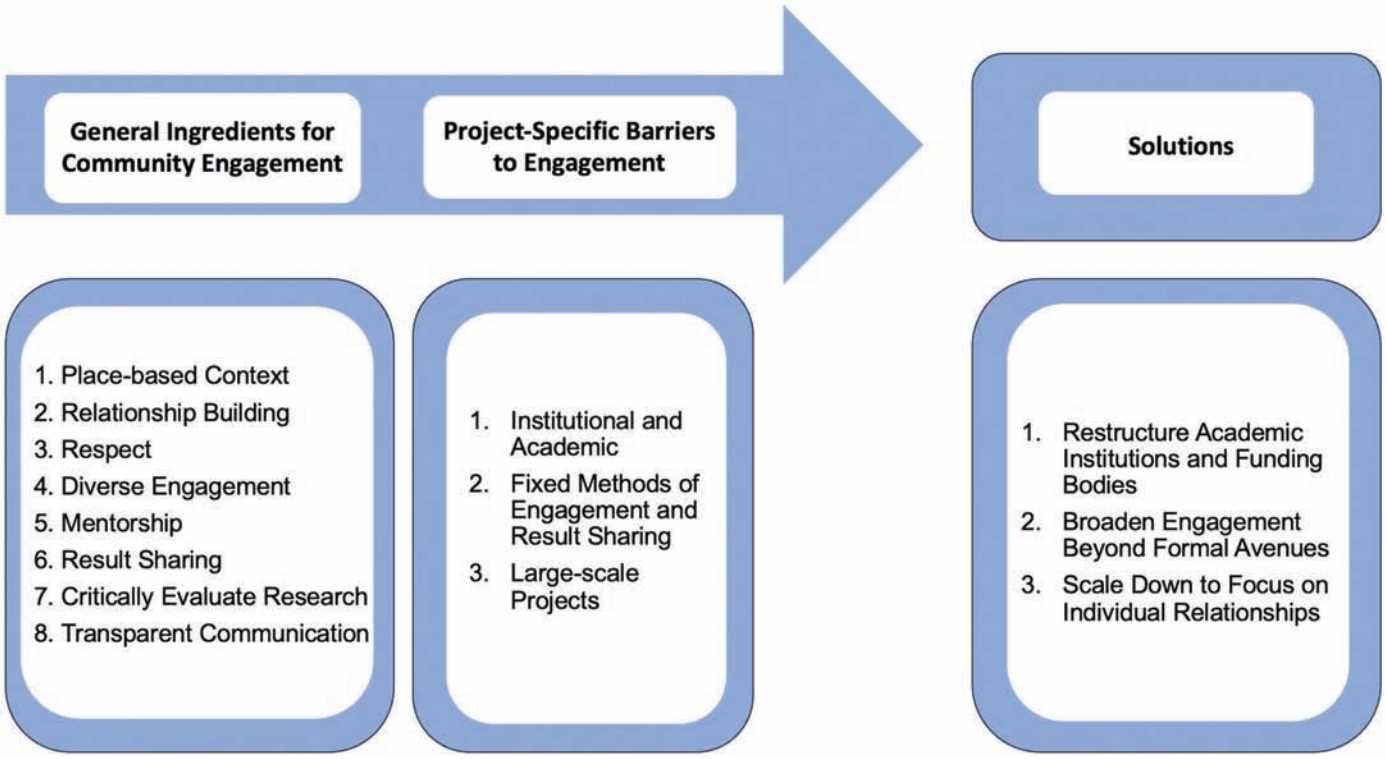

FIG. 4. Summary of how the core ingredients (themes) for community engagement and barriers identified overlap with each of the three solutions proposed.

Participants

While some interviewees came from transdisciplinary backgrounds, they were categorized based on what role they occupied as key informants within the original SakKijânginnaKullugit Nunatsiavut Sivunitsangit structure. These were either: a) a natural scientist, b) a social scientist, c) a member of the Nunatsiavut Government Staff, d) an IRC, e) a project lead, or f) a project partner (Fig. 3).

Given the transdisciplinary nature of SakKijânginnaKullugit Nunatsiavut Sivunitsangit, many participants in this study were involved in multiple streams of the project. These areas overlap with both natural and social sciences and often reach beyond these disciplines to develop collaborative approaches. Thus, in addition to the broader categories identified in Figure 3, all participants self-identified as working in one or more of the following areas of interest: a) governance, b) sea ice monitoring, c) fisheries, d) ship-based research and boat studies, e) studies on culturally significant species, f) Imappivut (the Nunatsiavut Government marine protection plan) (Nunatsiavut Government, 2020), and g) community engaged art or photography (Table 1). These categories were manually identified based on responses to the following interview questions: a) describe your role in relation to the SakKijânginnaKullugit Nunatsiavut Sivunitsangit project; and b) what is your individual project about? Note that given the transdisciplinary nature of the project, some participants held multiple roles and their areas of interest overlap. Thus, the total sample size is greater than the number of interviewees.

TABLE 1. Breakdown of areas of research interest for all participants.*

Area of interest	Sample size (n)
Governance (Nunatsiavut Government staff)	4
Sea ice monitoring	5
Fisheries	4
Ship-based research and boat studies	5
Culturally significant species studies (seasonality, specific to each community)	10
Imappivut (our oceans) (Nunatsiavut Government, 2020)	3
Community (art and photo studies, mapping, schools, and on-the-land workshops)	6

* Total (n) is greater than the number of participants, as some belong to multiple categories.

RESULTS

Values for Community Engagement

A key question interviewees were asked was: "What does the term community engagement mean to you?" From personal statements made by interviewees, eight core themes were identified as key concepts associated with effective and meaningful engagement. While many of these (such as the importance of place, relationship building, respect, and transparency) are not unique to this project, outlining the themes in the following context provides insight into how each idea operates within the large-scale SakKijânginnaKullugit Nunatsiavut Sivunitsangit project.

Place-based Context: Participants stressed the importance of understanding the context of the area prior to working in it. The structure of Nunatsiavut research, with the Nunatsiavut Government as the initial point of contact for approval, sets the stage for outside researchers to be more reflective. Acknowledging history is also a crucial component for this research. Researchers should be asking: Why do I want to do research in this specific region? The consensus drawn from Nunatsiavut government respondents was that researchers are more likely to develop effective partnerships if, after speaking with both Nunatsiavut Government staff and community members, they are open to altering their projects to fit the place-based, community-specific context. The term "context" was mentioned over 20 times by more than 10 participants, and the word "history" was mentioned by five participants, all community members living in Nunatsiavut.

Several diverse communities make this region home. One IRC noted: "Just to have that perspective, going into someone's home is important, because I know, a lot of times people explain the same things, even the community members here, of our history, when it should have already been known." Both IRCs and Nunatsiavut Government staff emphasized that it is necessary to recognize the community context prior to travelling to Nunatsiavut. Therefore, researchers should take the extra step to learn about the history of the region. It is also important to consider the language used when approaching research, as it can be interpreted by different community members in ways that are unintended or confusing.

Relationship Building: All participants considered connecting with community members to be a key aspect of effective engagement. Each interviewee mentioned "relationships" at least once during the interview process. For them, building a relationship means extending connections and conversations beyond formal avenues. As one participant who works for the Nunatsiavut Government noted, "Just plain talking to people is a good way to describe it." This means attending events, sharing meals, and accepting invitations to go out on the land with community members.

Participants often mentioned the importance of appreciating that community members have busy lives. Therefore, a certain level of trust and respect needs to be established over time. A key aspect of relationship building is connecting on a personal level prior to starting research. Participants noted that researchers should take steps to modify their objectives to ensure they align with community goals. Participants stated that after project completion researchers should also take extra steps to ensure that both their data and results are shared and continue to build relationships and remain connected with community members. Researchers' commitments to long-term relationships with individuals in the regions where they work reduces the risk of what is sometimes referred to as "parachute science" (where researchers drop in, then leave with acquired data) and allows for more opportunities to build long-term trust.

Respect: In our study, 80% of participants directly discussed the need to be respectful when engaging with communities. Respect is fundamental to both building relationships and recognizing historical context. Participants stated that it is necessary to acknowledge positionality and embrace the fact that people come from diverse backgrounds and cultures. As one IRC noted: "I think [community engagement is] just respecting each other and building this connection between Indigenous knowledge and scientific knowledge and how they can work together."

Interviewees also stressed that respecting differing expectations in academic versus community settings is essential. This includes making sure community members involved with research are properly compensated for their time. As participants noted, it also requires flexibility on behalf of researcher to modify projects and timelines to support community needs.

Diverse Engagement: Seven participants, most of whom were social scientists, noted that ethical research requires using diverse methods to engage community members. Researchers must recognize that communities are not homogenous. To acknowledge this diversity, researchers should directly engage with community members and evaluate whether their project goals align with, or can be modified to align with, community interests. Examples of this that were given include arts or photo-based projects that focus on supporting initiatives previously identified as being important to community members.

Participants noted that researchers tend to assume communities need them and that their role is to build capacity. They stressed that this could lead to a myopic view that perpetuates colonial perspectives, assumes a deficit model, and ignores how communities can effectively assist researchers. The type of community engagement required depends on the nature of the project. When asked about community engagement, a SakKijânginnaKullugit Nunatsiavut Sivunitsangit social scientist noted: "I think it's just acknowledging that there's diversity and engagement. The engagement is going to happen in a lot of different ways. And that they're all really important." If the project focuses on an issue of particular interest to

a specific community group, there is a need to connect early and often. However, if the project involves work on a specific species that is not necessarily culturally significant, the community may not be as invested. The Nunatsiavut Government can serve as a conduit to connect researchers to a specific community issue or concern.

Mentorship: Early-career scientists emphasized the importance of mentorship. All students and post-docs interviewed noted that without an initial introduction, it is nearly impossible for researchers to connect and develop ties to the region. Given the research process, a project without ties to community will not produce meaningful results. Interview participants mentioned mentorship as being of particular value to student researchers. One of the early career–social scientist interviewees, who was a student, observed:

> SNF can establish some of those partnerships and that understanding and hopefully some trust. So that as new researchers come on board, as new questions arise that you want answered, it's much easier to be able to start doing that work well because the people will point you in the directions that you need to go.

As seven of the interview participants were students directly involved in SakKijânginnaKullugit Nunatsiavut Sivunitsangit, much of the conversation focused on the ways a large-scale project could foster relationships by introducing newcomers to the region via a few select contacts. For example, IllinniaKatigenniik, a group for students, IRCs, and early-career researchers formed within the project, was in part, created with the goal of fostering such connections. All students, post-docs, and IRCs interviewed viewed this group as offering an effective source of support. By providing this type of built-in network, those new to the region could learn from other researchers without overburdening community members. Also, those unable to travel to the region because of COVID-19 or high costs were able to establish relationships with others facing similar academic pressures.

Result Sharing: Participants, particularly Nunatsiavut Government staff and IRCs, noted that researchers need to take steps to ensure that their results are tangible and relevant for community members. One Nunatsiavut Government participant observed:

> Sometimes you might have to put in the extra work and develop a product that's not necessarily just a publication. And that's just part of the tax you pay for doing research in our region. You need to also have something that actually benefits us—and I don't know if that's just as simple as a poster, going over what your results were. It could be in a lot of things.

Nunatsiavut Government participants also noted that sharing results includes being transparent and following up to ask how data should be disseminated among interested parties. Some staff members felt this additional step is often overlooked by outside researchers when they are too focused on publications, grants, and academic expectations and subsequently neglect to follow up and share results with community members.

One of the core issues identified with regards to the dissemination of published papers among community members was the use of jargon and publication objectives. This was a concern mentioned by both Nunatsiavut Government and IRCs. Journals are often limited to a single discipline and include formal writing that is unnecessarily complex and exclusive, both in terms of language and pay walls that create barriers to open access. One interview participant suggested that researchers consider taking a plain-language course to learn how to effectively present their results to community members.

Critically Evaluate Research: The need for researchers to critically examine research methodologies was mentioned by more than 23 participants. As noted by a Nunatsiavut Government participant:

> Be genuine about your successes and failures because people don't realize if you reported something, if you want to make yourself look good in this project and look good to funders, if you write in that this was a great success, the way that you did things—and it was not—other academics are going to read that and say that's the way you should do it. And they're going to continue to do this bad pattern of research and process.

Some participants, particularly the Nunatsiavut Government staff and IRCs, discussed how community engagement is not necessarily always positive. In fact, in some instances, when it is extractive, or researchers are hyper-focused on the needs of their own project, it can be harmful. This can also create a cycle of distrust that permeates other research projects and inhibits partnerships. In those cases, research papers are sometimes published that do not account for mistakes made or community impacts. Being critical of research practices requires expressing humility and being honest when errors are made. Expectations surrounding the pressure to publish often undermines the success of community-based work.

Transparent Communication: In the interviews, 23 participants emphasized transparent communication as a fundamental aspect of successful community engagement. One natural scientist observed: "Ultimately, it's about people connecting, and being open and respectful to each other, bring that to the table, if I had one rule that would be it." In the eyes of many participants, transparency was fundamental to building meaningful relationships and engaging ethically with community members. Researchers should also be clear about their intentions. This requires taking the time to establish trust and being open to modifying research methods to correspond to community needs and values.

When taken together, these eight themes speak to the need to prioritize individual relationships grounded in respect, and to develop projects that benefit community members. Forming meaningful partnerships between outside researchers and community members requires those researchers possess the humility to acknowledge mistakes made throughout the process within publications. When a project only focuses on formal avenues for engagement, much of the context is lost. While many of the themes identified by interviewees are not novel, the fact that these ideas are being repeated means they are the significant elements to consider in future research projects.

Key Barriers

The themes that underpin ethical and meaningful engagement practices, as summarized above, are often hindered by barriers that need to be addressed to move forward. We grouped these into three categories, which we describe below (Table 2).

Institutional and Academic: Differences between academic and community expectations, particularly regarding building relationships, representation, timelines, and funding, were mentioned by all participants. Flexibility was noted by over 20 participants as the key element required to bridge the gap between academic expectations and community values. Ultimately, solutions for academic and institutional barriers centre on the need to shift these models to allow more flexibility. Such solutions often require change on the broader structural level rather than at the individual one.

Regarding relationship building, a Nunatsiavut Government staff member noted:

> Academics are so like step, step, step. This is the process. This is what you do. But a lot of the time that's not exactly how it works. Relationship building and not just ticking a box. It's making friends. It's going out in a boat with someone if they offered to take you out, learning more about the culture. It's give and take. Coming up without a set plan works way better and fits our process so much better. If you come in open-minded, you're going to get a way better response from the community because nobody likes to be told, "this is what I'm doing on your land.

Inflexible research plans are usually a result of rigid research questions that do not take into account the need for flexibility in their design to accommodate community-specific contexts. Avoiding fixed questions often involves moving directly counter to existing academic and institutional structures. Academic timelines do not lend themselves well to adaptability, and nor do some funding structures. At the same time, adaptability is required for relationship building. Specifically in a transdisciplinary project, doing science differently means there is a different level of accountability to the community, one which insists on community engagement at all points in project planning (Flowers, 2023).

A natural scientist noted that while the project tries to do science differently, academic barriers enforced by the institution remain:

> This project is, from a natural science perspective, pretty novel and exciting. The way that it's doing things differently. We're trying to do things differently. Yet, it's still at the end of the day a university-based project … And so, while from the university's perspective, I think it's being pretty transformative, I think from the community perspective, it's still doctor so and so, from the university of whatever, doing stuff.

Shifting this narrative requires connecting to people first and moving beyond the academic project at hand.

A member of the Nunatsiavut Government staff noted that the lack of Inuit representation from the project onset meant expectations regarding the role of Inuit within he project were unclear:

> There was no Inuit representation up until [we asked], why is there nobody on these work packages? And even now, we're not even work package leads. We're kind of just there … I think there needs to be a steering committee overseeing this project and that needs to be made up of academics and community members, and a broad range of each.

Several government staff members suggested that developing an organizing committee made up of an equal number of community members and researchers would mitigate this and represent a step in rebalancing power dynamics, especially if put in place early in a project.

Regarding timelines, 15 participants noted that strict timelines are a barrier. Early-career researchers (students and post-docs) cited logistical constraints (in terms of timeline and funding) as the primary obstacle to engagement. It takes time to establish relationships with community members. One of the social scientists noted: "I think there's a real incongruency with students, where students involved in projects like this actually are vulnerable to the fact that there is a temporal mismatch between what needs to happen for their degrees and what needs to happen for the communities." The only solution for this barrier is for academic structures to shift to create timeline flexibility, which is difficult to do within the current structure.

Similar issues arise when considering funding. University policies, particularly when it comes to acquiring funding and how grants are used, do not align with community expectations. For example, some community members prefer to receive their honoraria in cash, but university research ethics boards do not allow for this method of payment. This can generate a lot of mistrust, both in terms of compensating community members and

TABLE 2. Summary of community engagement barriers.

Barrier	Description of barrier	Proposed solution by interviewees
1. Institutional and academic	Timelines and obligations in academia do not always align with community expectations and concerns. Accountability is sometimes different depending on discipline.	Allow for as much flexibility as possible in terms of funding, timelines, and project structure.
2. Fixed methods of engagement and results sharing	A. The pressure to field community engagement requests often falls on a select few within the government to act as pillars of community.	Diversify engagement methods, reach out to individual communities early on (examples include open-house, radio, poster, social media) and take the extra time to communicate results in meaningful ways (i.e. maps, on-the-land demonstrations etc.).
	B. Research publication takes priority over sharing data and results back with community members and Nunatsiavut Government officials.	
3. Scale of large projects	Large-scale projects that try to work across disciplines have many moving parts. This can make their mission confusing for both incoming project members and community members.	Have a broader governance structure at the project start and include a handbook established early on outlining expectations for project members and describing past projects.

funding researchers for their travel to work in the region. One of the leads of the project noted:

> At an institutional level, there are policies at the university that make doing any kind of work in Nunatsiavut quite difficult. Payments, for instance. It is quite a barrier when we're hiring people or trying to pay people in the community for their time and contributions to the project, there would be a really long turn around to people being paid, and there's a lot of forms and paperwork that's required to compensate people for their time.

Fixed Engagement Methods and Result Sharing: In the interviews, 17 participants noted how community engagement methods often become formulaic. While members of the Nunatsiavut Government staff and IRCs are great initial points of contact, broadening engagement methods once these connections have been made is crucial. Many interviewees equated the Nunatsiavut Government with community members while their role is, in fact, different. At the same time, broadening connections can be difficult, as exemplified by this statement by a social scientist:

> Right now, everybody's focused all their attention on just the people at the Research Centre, but they've got full-time jobs. It would be actually a lot better if we could connect with and directly work with members of the communities … But I think the problem is just that people don't know members of the community because it takes a lot of time.

A Nunatsiavut Government staff member noted:

> Hiring the IRCs as part of the project is a start at engaging the community because they are from the communities in Nunatsiavut. But I think there are more ways to engage the community as well. When researchers come to each of the communities to do the work that they're doing, they could hold open houses to talk about what is happening within the project.

This speaks to the need to also involve community members directly in the process, taking the time to talk to community members about what they want to see from research. Early engagement was cited as a critical step. One of the partners associated with the project noted:

> Not all projects warrant the same level of community engagement … If researchers do want the communities to care about what they're doing, I think being open to suggestions of how to change the project or the sites before it even happens is important. Because again, it's their space, their place.

Nunatsiavut Government staff members also mentioned that, in general, outside researchers often do not follow up and share their results in meaningful ways beyond publications. Despite owning the data, sometimes the Nunatsiavut Government must ask researchers for data, and even then, they do not always get a reply (Ortenzi et al., 2024). As the Nunatsiavut Government is a direct co-lead for SakKijânginnaKullugit Nunatsiavut Sivunitsangit, they can provide guidance on ways to share data, and it is made clear that individual team members within the project must share their data with the government.

Beyond results sharing, it is important to develop a project that is meaningful for community members. As noted by a member of the Nunatsiavut Government staff: "Result sharing 100% and I think that comes back to my thing about communication too. It needs to be shared in a way that's understandable and that actually matters. If you don't have a product that is beneficial to Labrador Inuit, what's the point, right?" The product that is developed to benefit community members can take a variety of forms, including maps, posters, radio talks, and discussions.

At the same time, researchers have to share results without the expectation of further engagement. Over 20 participants mentioned that community engagement approaches are diverse. Some participants suggested discussing with community members how results may benefit them, but said researchers also have to be aware that community members have other needs. As noted by a social scientist:

> I think the community is going to be the biggest authority in saying what engagement should be looking like. It's easy to get caught up in your own research and think it's the most important thing, but there's a whole other world for people in the community that's happening, so kind of tempering your expectations of what engagement might look like and acknowledging that there are other needs.

Nunatsiavut Government staff also noted that it is important to partner with other researchers and projects in the region to avoid repeating past research projects. A social scientist noted: "Thinking about how we can present our work back in other ways, for example, maybe with other researchers who worked in the area, we can kind of help the Nunatsiavut Government coordinate amongst projects." Coordination between projects could help avoid repetitive initiatives and ensure research is relevant to the communities in Nunatsiavut.

Large Scale Projects: Given the broad scale of this 75-person project, all participants expressed that in some way the overall mission can be confusing for both community members and researchers involved. Grounding a project in an overarching set of principles and guidelines allows for clear expectations. Barriers to engagement were most commonly associated with the project scale, as identified by both Nunatsiavut Government staff and project partners. As noted by a project partner:

> So, the communication of the overall goals of the SNF and what it means when different individuals popping in and out, what that means to the whole … to get it thematically I think that's going to be the biggest challenge because I don't think we as partners in the SNF project quite get it yet. So how can we expect anyone in the community to get it if 20 people descend on the community next summer, for example?

DISCUSSION

Interviewees were asked to identify elements the project is doing well, barriers for engagement, and suggest improvements. Based on their reflections, we identified some potential solutions to the barriers described above.

The institutional and academic barriers participants identified speak to several options for researchers who seek to overcome them, including: (1) keeping project ideas open and flexible; (2) allowing for the largest funding budget possible; and (3) building in more time than you think you need to build a collaborative project.

For the second set of barriers related to fixed methods for community engagement and result sharing, based on our study results, we suggest that researchers (1) involve community members directly in the research process at all stages (prior to project conceptualization, during, and after); (2) host open houses, make the research clear, ask for community feedback; (3) build engagements from initial points of contact to include different community values in research; (4) share your data with the Nunatsiavut government in a timely manner; and (5) share results in meaningful ways, including posters, maps, guides, radio, etc., so there is a product that will be accessible to, and benefit community members.

Finally, for barriers stemming from the large-scale nature of SakKijânginnaKullugit Nunatsiavut Sivunitsangit, early-career researchers noted that when joining such a large project, it would helpful to have a detailed handbook or set of guidelines that outlines both past projects, overall project structure, and expectations between community members and researchers. It would be important that the handbook include: (1) a list of essential resources that people can view to understand regional context; (2) a description of past projects to avoid repeating research; and (3) co-developed guidelines on expectations from researchers and community members and what is expected at each stage of the process.

At the onset of SakKijânginnaKullugit Nunatsiavut Sivunitsangit, a primer version of a handbook outlining the history and structure of the Nunatsiavut Government was shared internally, but this handbook was not passed down or made easily accessible. This demonstrates that in addition to creating and providing these resources, it is critically important that project members actually read and engage with such materials, and that projects create accountability structures that maintain good relations with community members and collaborators. Broader project goals should also translate into actionable outcomes**.**

Many of the reflections offered by interviewees that we discuss here are not novel; similar observations and barriers persist across different contexts. These shared barriers provide insight into ways to develop meaningful partnerships and extend community engagement beyond an obligation or box to check (i.e., "the step, step, step" of the researcher). Based on the above barriers and solutions provided by interviewees, we identified three main insights. These insights are: (1) aligning academic institutions and other funding bodies with community needs; (2) broadening engagement beyond formal structures; and (3) shifting project scale to focus on individual relationships.

Redistributing Funding

Many of the barriers outlined are rooted in funding bodies and the academic structure of universities. Whether

it is justifying funds for travel or advocating for additional time needed to share results in meaningful ways, academic institutions (in this case, Dalhousie and Memorial Universities) seem to be oppositional to community-based projects. Yet, academic institutions largely determine how projects unfold because funds are primarily allocated to universities. For a project that tries to do science differently, this institutional barrier directly interferes with equitable and meaningful community engagement. There are several funding structures, such as those within Health Canada and Polar Knowledge Canada, that aim to directly support Indigenous governments and research (Peace and Myers, 2012; Polar Knowledge, 2024).

There is a need to continue to restructure funding allocation strategies so that more funding power rests in the hands of the community itself (Wilson et al., 2020). This often means redistributing funds so the Nunatsiavut Government can oversee the allocation of funding and ensure research projects are relevant to communities. While this is a long process, it is part of the obligation in respect to the right of the Nunatsiavut Government to oversee outside research that occurs in the region. As Veronica Flowers (2023) notes, the Nunatsiavut Government Research Advisory Committee research process is designed to focus research projects on local needs. Redistributing funding also ensures that research conducted is relevant for Inuit living in Nunatsiavut.

Go Beyond Formal Structures

Many of the outside researchers interviewed pointed to the Nunatsiavut Government as the key entity to consult for community engagement. However, individuals within the government have stated that their role as Nunatsiavut Government staff is very different from that of community members. Both IRCs and Nunatsiavut Government respondents noted that the Nunatsiavut Government is not the same as the community. While the Nunatsiavut Government plays a critical role in advising and shaping research projects, it is essential to consider ways to involve other community members. Placing the burden of engagement questions solely on the Nunatsiavut Government is not conducting community-engaged research. Suggested ways to broaden engagement methods early in the process include coming into the region open minded, with a flexible plan and flexible research question (Flowers, 2023). Engagement should not end at this early stage and must occur before, during, and after the research project is planned (Flowers, 2023). Liz Pijogge, the northern contaminants researcher at the Nunatsiavut Government, in her collaborative work with Max Liboiron at Memorial University studying plastics in Nunatsiavut, emphasizes that researchers and community members engage in capacity sharing, which recognizes the perspectives, knowledge, skills, and roles that different people bring to research and teach each other (Liboiron, 2021).

Bigger is not Better

Based on the core themes identified and the barriers outlined, clear lessons can be gleaned from SakKijânginnaKullugit Nunatsiavut Sivunitsangit (Fig. 4). Some good ideas arose. Other researchers have noted the importance of shifting away from parachute science and revamping university-based scientific programs (de Vos, 2022). The intention of doing science differently, notably restructuring science to centre projects on concerns directly identified by the community, fostered solid individual relationships. Individual projects within SakKijânginnaKullugit Nunatsiavut Sivunitsangit prioritize relationship building and develop meaningful products through community partnerships (such as maps, posters, etc.). At the same time, such projects were successful only when they were on a smaller scale.

The extensive structure of the project, and the involvement of over 75 members, often left individuals unsure as to their specific role within the project structure. Issues that developed due to project scale also arose because of a lack of underlying Inuit-led governance in the form of a broader research advisory committee at the start of the project. This speaks to the need for overall governance expectations to be established early, with explicit guidance from the community members impacted. This also speaks to the need to plan out designated roles for all the groups involved prior to working in the region. This type of plan could take the form of a partnership or an engagement type of agreement (Cadman et al., 2024).

Synthesizing the project at the onset may offer clarified governance expectations. Additionally, it is crucial to ensure sufficient time is allocated to recruit an Inuit research advisory board that can oversee recommendations regarding the overarching structure and scale of such initiatives. How community members are engaged will differ depending on the nature of the project (Drake, 2022). This, again, speaks to the need to focus on solidifying community engagement methods prior to launching any concrete scientific projects.

Project Limitations

Our study took place at a unique transition period within SakKijânginnaKullugit Nunatsiavut Sivunitsangit post-COVID. During the pandemic travel to the region was restricted. This presented difficulties in terms of engaging with community members beyond those directly associated with the project. Given this context and additional time constraints within this study, we decided to narrow the scope to interview those who are already associated with SakKijânginnaKullugit Nunatsiavut Sivunitsangit. Other limitations included budget, seasonality, and changes in governance. Due to budgetary constraints and ongoing travel limitations, all interviews were conducted virtually. This limited the scope of interview participants. Seasonality also impacted the study, as summer is a

particularly active season for project partners. Therefore, responses from project partners were limited to two individuals. The final constraint was due to restructuring of SakKijânginnaKullugit Nunatsiavut Sivunitsangit that occurred post study. The role of an interviewee shifted from researcher, at the time of the interviews, to project lead currently. This shift means that the self-identified roles indicated in Figure 3 would be slightly different if the interviews occurred today.

CONCLUSION

Based on the conversations held and insights gleaned, there are three immediate steps that should be taken toward establishing ethical and meaningful research work in the context of Inuit communities, particularly in Nunatsiavut. First, efforts should continue to redistribute funding so that it is held directly by the Nunatsiavut Government. Funding should be Inuit-controlled rather than situated in other university institutions, as this will better support initiatives that are by, and for, Inuit. Second, it is not enough to rely on one contact or type of engagement. Individual researchers should consider broadening engagement efforts via open houses, posters, radio broadcasts, and informal conversations, and rely on methods like arts and land-based activities. Third, a solid governance structure that directly involves an Inuit-led advisory board is needed at the onset of a project in the region. This board can determine scale and provide input in all aspects of the research process from idea to implementation. This should include a central coordinator who resides in the region.

As these, or other recommendations are adopted in future projects, ongoing opportunities emerge for academic-based initiatives to align their goals and objectives with those of community partners. Feedback may occur systematically through studies such as this and informally in ways that allow for in-the-moment, real-time amendments to researchers' actions. Such opportunities are needed to support practical efforts toward equitable community engagement.

ACKNOWLEDGEMENTS

The lead author, DS, would like to thank the Nippon Foundation Ocean Nexus Center for generously funding her research as a student fellow. DS would also like to express her gratitude to the interview participants who, by sharing their perspectives, enriched and contributed greatly to the outcomes of this project. In addition, the authors are grateful to the Ocean Frontier Institute for funding the SakKijânginnaKullugit Nunatsiavut Sivunitsangit project. The outside researchers involved in this paper would also like to express their gratitude for the guidance received from the Nunatsiavut Government staff and for being welcomed as guests on to Nunatsiavut's lands and waters.

REFERENCES

Anang, P., Gottlieb, N., Putulik, S., Iguptak, S., and Gordon, E.M. 2021. Learning to fail better: Reflections on the challenges and risks of community-based participatory mental health research with Inuit youth in Nunavut. Frontiers in Public Health 9: 604668. https://doi.org/10.3389/fpubh.2021.604668

Andrews, D.W., and Coffey, J. 2009. Current knowledge and future research needs of Atlantic salmon and Arctic charr in northern Labrador. Goose Bay: Report of the Torngat Wildlife, Plants and Fisheries Secretariat and Torngat Joint Fisheries Board. https://www.researchgate.net/profile/Juliana-Coffey/publication/340849441_Current_Knowledge_and_Future_Research_Needs_of_Atlantic_Salmon_and_Arctic_Char_in_Northern_Labrador/links/5ea0b0c6299bf143893ff4f8/Current-Knowledge-and-Future-Research-Needs-of-Atlantic-Salmon-and-Arctic-Char-in-Northern-Labrador.pdf

Arctic and Northern Studies: Nunatsiavut (Labrador). 2024. Quick context. Washington University Libraries. https://guides.lib.uw.edu/research/arctic/nunatsiavut

Bodwitch, H., Song, A.M., Temby, O., Reid, J.D., Bailey, M., and Hickey, G.M. 2022. Why New Zealand's Indigenous reconciliation process has failed to empower Māori fishers: Distributional, procedural, and recognition-based injustices. World Development 157: 105894. https://doi.org/10.1016/j.worlddev.2022.105894

Balazs, C.L., and Morello-Frosch, R. 2013. The three Rs: How community-based participatory research strengthens the rigor, relevance, and reach of science. Environmental Justice 6(1):9–16. https://doi.org/10.1089/env.2012.0017

Cadman, R., Syliboy, A., Saunders, M., Denny, S., Denniston, M., Barry, E., Bishop, B., Landovskis, S., and Bailey, M. Using positionality and reflexivity to support equity in partnership-driven research. Conservation Biology 38(6): e14396. https://pmc.ncbi.nlm.nih.gov/articles/PMC11588975/

Coates, K.S., and Broderstad, E.G. 2020. Indigenous peoples of the Arctic: Re-taking control of the far north. In: Coates, K.S., and Holroyd, C., eds. The Palgrave handbook of Arctic policy and politics. Cham: Palgrave Macmillan. 9–25. https://doi.org/10.1007/978-3-030-20557-7_2

Cundill, G., Roux, D.J., and Parker, J.N. 2015. Nurturing communities of practice for transdisciplinary research. Ecology and Society 20(2): 22.
https://doi.org/10.5751/es-07580-200222

David-Chavez, D., and Gavin, M. 2018. A global assessment of Indigenous community engagement in climate research. Environmental Research Letters 13(12):123005.
https://doi.org/10.1088/1748-9326/aaf300

de Vos, A. 2022. Stowing parachutes, strengthening science. Conservation Science and Practice 4(5): e12709.
https://doi.org/10.1111/csp2.12709

Doering, N.N., Dudeck, S., Elverum, S., Fisher, C., Henriksen, J.E., Herrmann, T.M., Kramvig, B., et al. 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): 065014.
https://doi.org/10.1088/1748-9326/ac72b5

Drake, A.K., Perkovic, A., Reeve, C., Alexander, S.M., Nguyen, V.M., and Dunmall, K.M. 2022. Community participation in coastal and marine research and monitoring in Inuit Nunangat: A scoping literature review. Facets 7:891–911.
https://doi.org/10.1139/facets-2021-0067

Dutton, S., Davison, C.M., Malla, M., Bartels, S., Collier, K., Plamondon, K., and Purkey, E. 2019. Biographical collage as a tool in Inuit community-based participatory research and capacity development. International Journal of Qualitative Methods 18: 160940691987730.
https://doi.org/10.1177/1609406919877307

Fendler, L. 2006. Others and the problem of community. Curriculum Inquiry 36(3):303–326.
https://doi.org/10.1111/j.1467-873x.2006.00360.x

Flowers, V.L.I. 2023. "What I'm saying is the focus should be on things that matter to people": Inuit perspectives on wildlife research in Nunatsiavut. MSc thesis in Environmental Policy, Corner Brook: Memorial University of Newfoundland.
https://research.library.mun.ca/16113/1/converted.pdf

Fusch, P.I., and Ness, L.R. 2015. Are we there yet? Data saturation in qualitative research. The Qualitative Report 20(9):1408–1416.
http://nsuworks.nova.edu/tqr/vol20/iss9/3

Gómez, S., and Köpsel, V. 2023. Transdisciplinary marine research: Bridging science and society.
https://library.oapen.org/bitstream/id/38e80225-be9f-4784-bab9-f240dabde4da/9781032317601_10.4324_9781003311171-2.pdf

Government of Canada. 2005. Labrador Inuit Land Claims Agreement Act.
https://laws-lois.justice.gc.ca/eng/acts/L-4.3/

Government of Newfoundland and Labrador. 2019. Office of Indigenous affairs and reconciliation: Labrador, and Inuit Land Claims Agreement.
https://www.gov.nl.ca/exec/iar/overview/land-claims/labrador-and-inuit-land-claims-agreement-document/

Harrington, C., Erete, S., and Piper, A.M. 2019. Deconstructing community-based collaborative design: Towards more equitable participatory design engagements. Association for Computing Machinery 3(CSCW):1–25.
https://doi.org/10.1145/3359318

Harwood, L.A, Smith, T.G., Melling, H., Alikamik, J., and Kingsley, M.C.S. 2012. Ringed seals and sea ice in Canada's Western Arctic: harvest-based monitoring 1992–2011. Arctic 65(4):377–390.
https://www.jstor.org/stable/41758907

Inuit Tapiriit Kanatami. 2018. National Inuit strategy on research.
https://www.itk.ca/wp-content/uploads/2018/04/ITK_NISR-Report_English_low_res.pdf

Jull, J., Giles, A., and Graham, I.D. 2017. Community-based participatory research and integrated knowledge translation: Advancing the co-creation of knowledge. Implementation Science 12: 150.
https://doi.org/10.1186/s13012-017-0696-3

Key, K.D., Furr-Holden, D., Lewis, E.Y., Cunningham, R., Zimmerman, M.C., Johnson-Lawrence, V., and Selig, S. 2019. The continuum of community engagement in research: A roadmap for understanding and assessing progress. Progress in Community Health Partnerships: Research, Education, and Action 13(4):427–434.
https://doi.org/10.1353/cpr.2019.0064

Kourantidou, M., and Bailey, M. 2021. Monitoring food insecurity among Inuit: The forgotten pillar of fisheries management.
https://arcticobservingsummit.org/wp-content/uploads/2021/06/AOS2020_white_paper_short_statement_025.pdf

Kourantidou, M., Hoover, C., and Bailey, M. 2020. Conceptualizing indicators as boundary objects in integrating Inuit knowledge and western science for marine resource management. Arctic Science 6(3):279–306.
https://doi.org/10.1139/as-2019-0013

Kwan, C., and Walsh, C. 2018. Ethical issues in conducting community-based participatory research: A narrative review of the literature. The Qualitative Report 23(2):369–386.
https://doi.org/10.46743/2160-3715/2018.3331

Leeuw, S.D., Cameron, E.S., and Greenwood, M.L. 2012. Participatory and community-based research, Indigenous geographies, and the spaces of friendship: A critical engagement. The Canadian Geographer / Le Géographe Canadien 56(2):180–194. https://doi.org/10.1111/j.1541-0064.2012.00434.x

Le Teno, S., and Frison, C. 2021. Sea-ice melting, collective Inuit peoples' rights and the human rights discourse: A critical legal analysis of the Nunavut governance system. Environmental Policy and Law 51(4):223–234. https://doi.org/10.3233/EPL-201067

Lévesque, S., and Duhaime, G. 2016. Inequality and social processes in Inuit Nunangat. The Polar Journal 6(1):69–86. https://doi.org/10.1080/2154896x.2016.1173795

Liboiron, M., 2021. Pollution is colonialism. Durham: Duke University Press.

Miner, K., Canavera, L., Gonet, J., Luis, K., Maddox, M., McCarney, P., Bridge, G., Schimel, D., and Rattlingleaf, J. 2023. The co-production of knowledge for climate science. Nature Climate Change 13(4):307–308. https://doi.org/10.1038/s41558-023-01633-4

Muhl, E.-K., Armitage, D., Anderson, K., Boyko, C., Busilacchi, S., Butler, J., Cvitanovic, C., et al. 2023. Transitioning toward "deep" knowledge co-production in coastal and marine systems: Examining the interplay among governance, power, and knowledge. Ecology and Society 28(4): 17. https://doi.org/10.5751/es-14443-280417

Nadeau, L., Gaulin, D., Johnson-Lafleur, J., Levesque, C., and Fraser, S. 2022. The challenges of decolonizing participatory research in Indigenous contexts: The Atautsikut community of practice experience in Nunavik. International Journal of Circumpolar Health 81(1): 2087846. https://doi.org/10.1080/22423982.2022.2087846

Natcher, D.C., and Hickey, C.G. 2002. Putting the community back into community-based resource management: A criteria and indicators approach to sustainability. Human Organization 61(4):350–363. https://www.jstor.org/stable/44127575

Nunatsiavut Government. 2020. Imappivut (our oceans): Nunatsiavut marine plan. https://imappivut.com/about/

———. 2024. Nunatsiavut research centre. https://nunatsiavut.com/research/

Nunatsiavut Research Centre. 2021. Nunatsiavut Government research advisory committee. https://nunatsiavutresearchcentre.com/ngrac/

Ocean Frontier Institute. 2024. Sustainable Nunatsiavut futures. https://www.ofi.ca/sustainable-nunatsiavut-futures

Ogilvie, A.E.J., Hill, B.T., and Demarée, G.R. 2021. A fleet of silver: 12 Local perceptions of sea ice from Iceland and Labrador/Nunatsiavut. In: Panagiotakopulu, E., and Sadler, J.P., eds. Biogeography in the sub-arctic: The past and future of North Atlantic biota. 273–291. https://doi.org/10.1002/9781118561461.ch12

Ortenzi, K.M., Flowers, V.L., Pamak, C., Saunders, M., Schmidt, J.O., and Bailey, M. 2024. Good data relations key to Indigenous research sovereignty: A case study from Nunatsiavut. Ambio:54:256–269. https://doi.org/10.1007/s13280-024-02077-6

Ose, S.O. 2016. Using Excel and Word to structure qualitative data. Journal of Applied Social Science 10(2):147–162. https://doi.org/10.1177/1936724416664948

Peace, D.M., and Myers, E. 2012. Community-based participatory process–Climate change and health adaptation program for northern First Nations and Inuit in Canada. International Journal of Circumpolar Health 71(1): 18412. https://doi.org/10.3402/ijch.v71i0.18412

Petriello, M., Zurba, M., Schmidt, J., Anthony, K., Jacque, N., Nochasak, C., Winters, J., et al. 2022. The power and precocity of knowledge co-production: A case study of SakKijânginnaniattut Nunatsiavut Sivunitsangit (the Sustainable Nunatsiavut Futures Project). In: Gómez, S., and Köpsel, V., eds. Transdisciplinary marine research: Bridging science and society. London: Routledge.

Petrov, A.N., BurnSilver, S., Chapin, F.S., Fondahl, G., Graybill, J., Keil, K., Nilsson, A.E., Riedlsperger, R., and Schweitzer, P. 2016. Arctic sustainability research: Toward a new agenda. Polar Geography 39(3):165–178. https://doi.org/10.1080/1088937x.2016.1217095

Pfeifer, P. 2024. An Inuit critique of Canadian Arctic research. Arctic Research Foundation: Arctic focus. https://www.arcticfocus.org/stories/inuit-critique-canadian-arctic-research/

Polar Knowledge Canada. 2024. Call for proposals research and training and capacity building–Inuit Nunangat 2024–2027. https://www.canada.ca/en/polar-knowledge/fundingforresearchers/science-and-technology-program/inuit-nunangat-2024-2027.html

Reed, M.S., Vella, S., Challies, E., de Vente, J., Frewer, L., Hohenwallner-Ries, D., Huber, T., et al. 2017. A theory of participation: What makes stakeholder and public engagement in environmental management work? Restoration Ecology 26(1):S7–S17. https://doi.org/10.1111/rec.12541

Reeploeg, S. 2023. Unthinking historical thinking: Lessons from the Arctic. History Education Research Journal 20(1): 4. https://doi.org/10.14324/HERJ.20.1.04

Searles, E. 2002. Food and the making of modern Inuit identities. Food and Foodways 10(1-2):55–78. https://doi.org/10.1080/07409710212485

SNF (Sustainable Nunatsiavut Futures). 2020a. Knowledge co-production and transdisciplinary approaches for Sustainable Nunatsiavut Futures: Kickoff workshop series. Ocean Frontier Institute. https://docplayer.fi/221866316-Knowledge-co-production-%20and-transdisciplinary-approaches-for-sustainable-nunatsiavut-futures.html

———. 2020b. Academic slidedeck—Full. https://3.basecamp.com/4467768/p/mNCzy81wy8DPozassGgwqX49/vault/5222920965

Wenzel, G. 1999. Traditional ecological knowledge and Inuit: Reflections on TEK research and ethics. Arctic 52(2):13–124. https://www.jstor.org/stable/40512224

Wilson, K., Bell, T., Arreak, A., Koonoo, B., Angnatsiak, D., and Ljubicic, G. 2020. Changing the role of non-Indigenous research partners in practice to support Inuit self-determination in research. Arctic Science 6(3):127–153. https://doi.org/10.1139/as-2019-0021

Yua, E., Raymond-Yakoubian, J., Daniel, R. A., and Behe, C. 2022. A framework for co-production of knowledge in the context of Arctic research. Ecology and Society 27(1): 34. https://doi.org/10.5751/es-12960-270134

Zurba, M., Petriello, M.A., Madge, C., McCarney, P., Bishop, B., McBeth, S., Denniston, M., Bodwitch, H., and Bailey, M. 2022. Learning from knowledge co-production research and practice in the twenty-first century: Global lessons and what they mean for collaborative research in Nunatsiavut. Sustainability Science 17:449–467. https://doi.org/10.1007/s11625-021-00996-x