Voices of Thunder: Polar bear quota reduction impacts in Gjoa Haven, Nunavut - self-implication, responsibility and acts of solidarity

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Abstract:

This paper draws from a series of workshops that took place in the summer of 2019 in Gjoa Haven, Nunavut, on Polar Bear Traditional Ecological Knowledge and the impacts of polar bear harvest quota restrictions in the M'Clintock Channel management unit on the community. Polar bear management policies in the last two decades, including a polar bear hunting moratorium, have disproportionately impacted Gjoa Haven compared to other Nunavut communities. Gjoa Haven hunters seek recognition of the impacts of these quotas on income, culture, and inter-generational knowledge transfer. They also seek better integration of their knowledge in polar bear monitoring and management. Engaging with Gjoa Haven's appeal for wider recognition of these impacts, we are co-producing several knowledge products, targeting multiple audiences. This paper, intended for researchers rooted in western based thinking/institutes and active in Nunavut (and beyond), is one of those products. Moving beyond passive empathy, we invite our fellow scholars and colleagues in the field to join us in a testimonial reading of the quota reduction impacts to Gjoa Haven's community members. We challenge our readers to understand themselves as implicated subjects. To become better allies within a more equitable socio-political environment of northern wildlife research, western-based institutional researchers first must recognize how they themselves contribute to-, inhabit, or benefit from the current institutional environment.

Introduction

This paper and its related work emerged from three years of ongoing conversations between representatives of the Gjoa Haven's Hunters and Trappers Association (HTA) in Gjoa Haven, Nunavut (figure 1) and Queen's University, Kingston, Ontario researchers. Our work is based on a series of community-based workshops conducted in the summer of 2019 for a Genome Canada sponsored large-scale polar bear monitoring project entitled "BEARWATCH: Monitoring Impacts of Arctic Climate Change using Polar Bears, Genomics and Traditional Ecological Knowledge"– hereafter simply BW. A central objective of BW was to combine Inuit knowledge with western science to develop a community-based, non-invasive, genomics-based toolkit for the monitoring and management of polar bears. Several Inuit communities across Inuit Nunangat - homeland of Inuit of Canada', and preferred term above 'the Arctic' (ITK, 2018) - have collaborated to this end with the BW project. This includes the community of Gjoa Haven who have an ongoing research relationship with BW co-PI V.C. de Groot, who has been working with the Gjoa Haven HTA over the past 15 years.

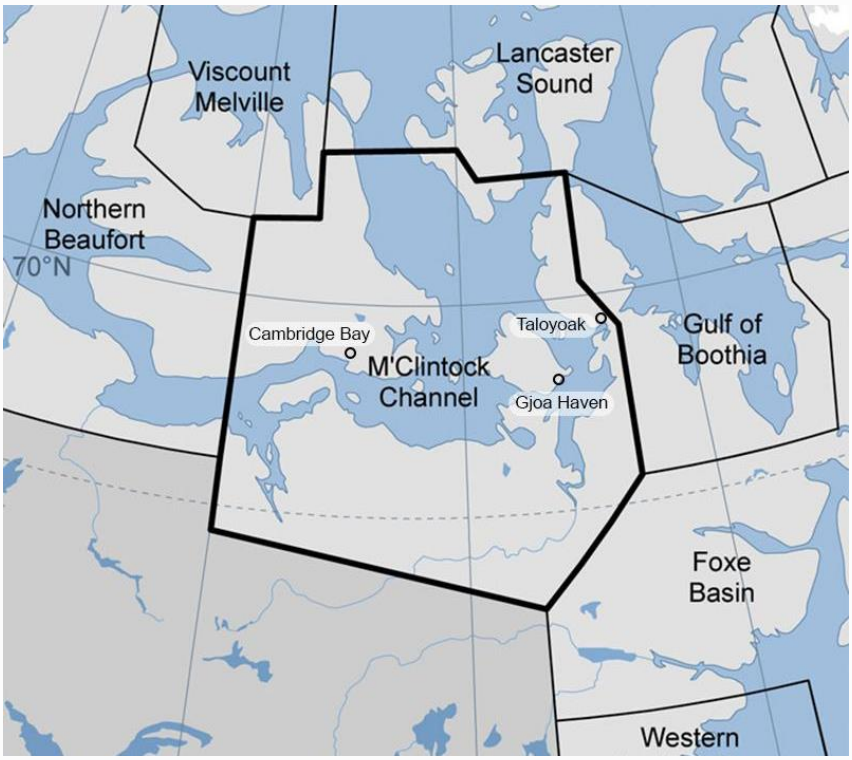


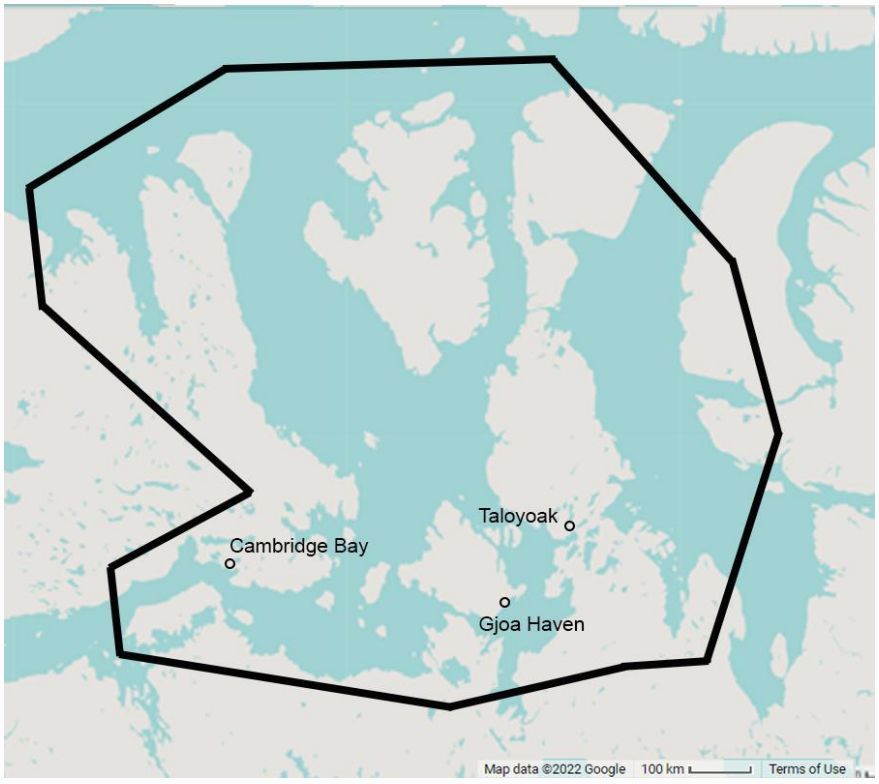
Figure 1: Map of the M'Clintock Channel Polar Bear Management Unit area (Vongraven and Peacock, 2011). Adapted with permission to include the locations of Gjoa Haven, Cambridge Bay and Taloyoak, who each hunt within this area.

One concern brought up repeatedly by Gjoa Haven community members and representatives over the years, pertains to the effects of the severe polar bear hunting quota reductions introduced in 2001. Hunting polar bears is an important part of Inuit culture. It facilitates inter-generational knowledge transmission of on-the-land skills, and provides a significant source of income within Inuit mixed-economies (Dowsley, 2008; Wenzel, 2004a; 2011). In 2001, the M'Clintock Channel (MC) Polar Bear Management Unit (PBMU)[1] used by

[1] The term 'Management Unit' and polar bear 'subpopulation' are sometimes used interchangeably, as the boundaries of the former relate to the geographical movements of the latter. Since the division between subpopulations of M'Clintock channel and the Gulf of Boothia is contested by some community members, we

hunters from Gjoa Haven, Cambridge Bay and Taloyoak (see figure 1), was subject to a three-year polar bear moratorium (a full suspension of hunting). In 2005, Gjoa Haven and Cambridge Bay signed a Memorandum of Understanding (MOU) with the Nunavut Wildlife Management Board (NWMB) for alternating quotas of one and two tags per year. Taloyoak did not sign the MOU and therefore did not receive any tags from the MC management unit between 2001 and 2015. Unlike the residents of Gjoa Haven however, both Taloyoak and Cambridge Bay also have traditional hunting grounds outside of the MC PBMU. So, when the quota in MC PBMU was significantly reduced, the community of Gjoa Haven was disproportionately impacted.

The number of tags and quota allocated to the MC communities up to 2015 were based on the outcomes of two early regional surveys conducted in the MC region. One survey was completed between 1972 and 1978 (see Figure 2) and the second from 1997 to 2000. The findings of the latter survey, and its resulting moratorium (see NWMB, 2000a p.28-30), have been contested by community members ever since (Legislative assembly of Nunavut, 2003; Lunn et al. 2002; 26). Community members indicated that factors other than hunting could have led to a decline in numbers (NWMB, 2000b p.2-6). Others did not find the results of the survey credible, and have consistently claimed that 'the process leading up to and following the moratorium has not been transparent and clear' (Hill, 2003; Kitikmeot Regional Wildlife Board, 2014; Legislative assembly of Nunavut, 2003). Although the moratorium was lifted in 2004, the quota available for MC PBMU was substantially reduced from an average of 32 to 34 bears annually before 2000 (US FWS, 2001), to often only 1 or 2 bears annually for Gjoa Haven over the past two decades (NWMB, 2005). No other community in Nunavut or the Northwest Territories has experienced such a near moratorium.



refer here specifically to the boundaries of the management unit, to which policy decisions apply.

Figure 2: Indication of the area that was studied for the 1972-1978 Central Arctic Survey based on Furnell and Schweinsburg (1984). This study, unlike the 1997-2000 study, did not view the polar bear populations of MC channel and the Gulf of Boothia as separate yet.

This work, for the first time in an academic publication, draws explicit attention to the impacts of the severe quota reductions, as presented through testimonies of Gjoa Haven hunters and community members. Our work also responds to calls for more meaningful collaboration with Indigenous communities and their knowledges. We, as western-based institutional researchers working on wildlife, hope to encourage our peers, through this work, to embark on a journey that see one engage the concepts of i) Accepting testimony; ii) Taking responsibility, and; iii) Acting in solidarity with their partnering communities. Our intended audience includes STEM scientists, for whom such concepts are likely to be outside the realm of their disciplinary training - but are nevertheless relevant. We have taken care to reflect the nature of the conversations within our own inter-cultural and -disciplinary partnership by using accessible language, as well as footnotes where necessary to clarify certain concepts.

This paper is organized into four sections. In section 1 we discuss our approach to presenting the impacts of quota reduction ons Gjoa Haven. In section 2 Gjoa Haven's testimonies[2] are presented. In section 3 the academic partners of BW recognize their entanglements with the experiences shared, and in section 4 we suggest specific acts of solidarity.

1. From purveying voices towards a testimonial reading.

1.1 Multiple voices

Based on the desire for recognition and acknowledgement of the impact of these polar bear quota regulations, two workshops were co-organized as part of BW to discuss and document testimonies of Gjoa Haven hunters and other community members. This paper, though, does not employ euro-scientific[3] theoretical frameworks and analysis to legitimize or otherwise explain the experiences vocalized by Gjoa Haven's HTA representatives[4] and workshop participants. Rather we let the testimonies on quota impacts speak for themselves, and describe how the academic partners of BW engage with Gjoa Haven's experiences through conducting a direct, 'unromantic', (*sensu* Jones and Jenkins, 2008) testimonial reading, as elaborated on in section 1.3.

In this publication, the academic partners of BW present themselves as explicitly visible actors, and distinctly differently positioned from their Gjoa Haven partners, but not as

[2] The concept of testimony here refers to a principle of witnessing as shared across many Indigenous cultures. It refers to a collective practice of seeing, retelling and reflecting of events, rather than the individualistic concept of the 'eye-witness' as applied in the western legal system (see Gaertner, 2014 for a Cree understanding of witnessing).

[3] Science based on western worldviews and practices

[4] As membership of the HTA board changes every year, the collaborative relationship referred to in this paper pertains to the respective board members of the HTA at the time of recording community testimonies, of which some still represent the board and other do not.

detached or as objective. To clarify which of our respective voices are present as this work unfolds, we state who '*we*' refers to in each section.

'*We'* in section 1, refers to the collective BW partnership between Gjoa Haven's HTA representatives and academic researchers

Explicitly stating whose voice is present, both eliminates the impression that this paper speaks from one harmonized voice, and aims to break with histories of scientists acting as the invisible and elevated 'purveyor of voices for the produced and subalterned other' (Simpson, 2007; Tuck and Yang, 2014, p.226). It also seeks to redirect the distanced 'morbid curiosity of settler-colonialisms preoccupation with pain' (Tuck and Yang, 2014, p.241) to understanding Gjoa Haven's testimonies as entangled with (academic) research practices and embedded in larger socio-political management structures[5]. For example, the legacy of exploitative research practices in Inuit Nunangat, which has tainted ongoing relationships between scientists and Indigenous communities in this region (ITK, 2018).

Although there have been encouraging steps to foster Inuit-led research, like Inuit Qaujisarnirmut Pilirijjutit (IQP) established in 2021, youth-led organisations like Ikaarvik, or the Indigenous Guardians program, established in 2017, exploitative dynamics continue to be reflected in most research governance and funding, policies, and practices (ITK, 2018). We encourage the scientific community collaborating with Inuit communities on wildlife research in Nunavut (and beyond) to recognize- and make themselves accountable for such dynamics. Not only as inheritors of a problematic research legacy, but also towards the current realities of the communities they partner with. Here, our reflection focuses on polar bear research in Inuit Nunangat, including our own scientific work. Many of the dynamics described in this work are nevertheless applicable to other species and contexts, beyond our project.

1.2 Ongoing conversations:

Most crucial to producing this paper was the choice to continue close collaboration between the BW partners beyond organizing workshops into a process of writing, analysing and presenting Gjoa Haven testimonies together. This decision allowed for our collaborative work to better present Gjoa Haven's voices and objectives, without the academic partners speaking *for* them (Simpson, 2007). To further avoid reproducing oppressive structures[6], for example by presenting yet another damage-centered study that portrays an Indigenous community primarily as 'broken, emptied, or flattened' (Tuck, 2009), we turned to a series of critical questions suggested by Smith (2013); "What research do we want to do? Who is it for? What difference will it make? Who will carry it out? How do we want the research done? How will we know it is worthwhile? Who will own the research? Who will benefit?" Among multiple other insights, this led to a clear articulation of *recognition* being the main objective of Gjoa Haven HTA representatives for publishing the experiences shared in the workshops.

'We want our voices of thunder to echo everywhere. We want everyone to know what happened to us. We seek acknowledgment and apologies for suffering the consequences of

[5] Social structures do not refer directly to individual behaviour or interpersonal interaction, but rather to the arrangement of institutions whereby human beings live together in a society.

[6] In this case associated with social sciences

the quota regulations; a loss of culture and knowledge, as well as increased danger due to the rising number of polar bears around our communities. Inuit knowledge in terms of accuracy and inherent value needs to be recognized and better acknowledged. We want better integration of Inuit knowledge in survey research, like for example accounting for seasonal changes. Scientific monitoring surveys have limitations, we ask that researchers will recognize and take Inuit observations more seriously'.

(Collectively formulated objectives based on multiple conversations).

The kind of recognition that Gjoa Haven is seeking is multifaceted. Beyond acknowledgment and apologies, Gjoa Haven also seeks validation, and better 'integration'[7] of their knowledge in research and management. The Gjoa Haven partners also speak of wanting to have their voices of thunder 'echo everywhere' - a vision of broad dissemination that academic publishing alone will likely not achieve. To more completely pursue such desired forms of recognition, we realized that additional knowledge outputs parallel to academic publishing were needed to convey Gjoa Haven's experiences in ways that target more relevant audiences. We subsequently co-created multiple audio/visual productions that are better suited for broad dissemination through publicly accessible venues like social media, and plan to co-produce one-pager communications, more suitable for political advocacy. These outputs, some of which are shared below, are meant to be distributed to selected audiences, which include other Nunavut communities and political decision-makers to gain the recognition sought by Gjoa Haven.

The strength of academic publishing lies in its ability to critically engage with the systematic, epistemic dominance of euro-centric institutes, including science, in polar bear research and management, which have contributed to Gjoa Haven experiences. In this paper we ask ourselves what it means to recognize (academic) researchers as implicated and accountable for such power dynamics by conducting a testimonial reading of Gjoa Haven's experiences.

1.3 Testimonial reading

A testimonial reading facilitates an engagement with the experiences of Gjoa Haven's community members that asks the reader to move beyond passive empathy towards empathy that requires bearing responsibility; it asks the reader to commit - to rethink their assumptions, to challenge the comfortable concept of being a 'distant' other, and to recognize the power-relationships between the reader and the testimonial text (Boler, 1997). Megan Boler, who named the method of testimonial reading, places the concept of responsibility centrally in her argument. She wrote; ''one must recognize oneself as implicated in the social forces that create the climate of obstacles the other must confront'' (ibid, p. 257). For the academic partners of BW, recognizing such implication starts with the acknowledgment of being part of the institutional environment that has partly facilitated the lack of recognition to which Gjoa Haven's testimonies speak in the second section of this paper. The method of testimonial reading therefore deliberately prevents the presentation of

[7] Appropriative practices happening in research under the guise of knowledge integration, like 'box-ticking' and 'scientization' have been criticized by Indigenous and critical scholars since their inception (e.g. Battiste and Henderson, 2000; Deloria Vine, 1997; Nadasdy, 1999; 2005; Shackeroff and Campbell, 2007; Agrawal, 2002).

Gjoa Haven's testimonies without also asking questions of responsibility, solidarity between partners, and complex entanglement across time and space.

In the third section of this paper, the BW academic partners invoke 'the implicated subject' (Rothberg, 2020) to assist in recognizing their entanglements with Gjoa Haven's experiences. This subject moves beyond a binary conceptualization of victims and perpetrators, or even the triad that includes the innocent bystander (which is according to Rothberg in most cases a myth). Rothberg moves beyond the individual and understands implication as materializing among others through our cultural alignments, and memberships of structural collectives like for example (non-) governmental institutes. This means that every institutionally based researcher working in the field of polar bear research, can be regarded to different degrees as an implicated subject - regardless of whether they have been working in the field for multiple decades, or have just joined a project as a graduate student. Implication is often associated with feelings of guilt. Here we mean the moral, political or metaphysical forms of guilt, rather than its criminal conceptualization (Jaspers, 1946). Rothberg however points out that guilt forms a trap of one remaining oriented on the past, whereas the assumption of responsibility allows us to be future-oriented. Implication furthermore, does not equal complicity. The (re-)production of potential harm that can be caused through the institutes that we are part of, can be resisted by individual members, when we accept responsibility for our structural alignments, and act in solidarity with, in this case, our Indigenous partners (see e.g. Young, 2010). We explore what such action of solidarity could like in the fourth section of this paper.

2. Voices of Thunder; Testimonies of polar bear quota reduction impacts in Gjoa Haven, Nunavut

The following representations of Gjoa Haven testimonies are selected from a larger body of documents and audio-visual productions that have been co-created by the first three, and last author, of this publication in collaboration with multiple other Gjoa Haven-based creatives and artists who are credited in the acknowledgements and elsewhere. The final forms of the co-productions shared here emerged from ongoing conversations and collaboration among the project partners, leading, for example, to choices like placing the experiences that were shared during the workshops, in context of the archival documentation[8] on polar bear quota setting in the MC PBMU. It also resulted in an arrangement of this material along a timeline, despite the absence of such a temporal context of quota impacts by the hunters and elders in the workshops. We agreed during the process of co-production to strategically present our narratives in this way for two reasons; First, presenting the testimonies as such makes it clearer how Gjoa Haven's experiences are linked to scientific and political developments and structures over time. This is especially relevant for audiences that might not be familiar with the detailed historical context of quota setting in the MC management unit and associated impacts on Gjoa Haven hunters. Second, the archival documentation draws attention to regulatory, and potentially oppressive

[8] We draw from NWMB archives, academic literature, newspaper articles and grey literature like government reports and proceedings.

structures, rather than decontextualizing the experiences from the relationships of power in which they are entangled.

'*We'* in these audio-visual productions refers to Gjoa Haven's hunters, community members and HTA project partners exclusively.

2.1 Animated graphic film

Here, our 'Voices of Thunder' are shared as an audio-visual production, available in English and Inuktitut.

https://youtu.be/AldTCF73qp8

OR

<iframe width="560" height="315" src="https://www.youtube.com/embed/AldTCF73qp8" title="YouTube video player" frameborder="0" allow="accelerometer; autoplay; clipboard-write; encrypted-media; gyroscope; picture-in-picture" allowfullscreen></iframe>

Figure 3a: 'Voices of Thunder', film by Gjoa Haven HTA and BW, ''15

Figure 3b: Film still of 'Voices of Thunder' and QR code with link to the online videos

2.2 Multi-media timeline

Here, our 'Voices of Thunder' are shared mainly as an interactive text-based document, available in English and Inuktitut.

https://www.canva.com/design/DAFHzMCQKN0/view

Figure 4a: 'Voices of Thunder', online presentation by Gjoa Haven HTA and BW.

Figure 4b: 'Voices of Thunder', online presentation by Gjoa Haven HTA and BW, and QR code with link to the online versions of the presentation

3. A testimonial reading by academic BW partners:

"It is precisely by denying culpability or assuming that one is not implicated in violent relations toward others, that one is outside them, that violence can be perpetuated. Violence, especially of the liberal varieties, is often most easily perpetrated in the spaces and places where its possibility is unequivocally denounced" (Berlant, 2018, as cited in Rothberg, 2020, p.49).

'*We'* in section 3 refers to the academic partners of the BW project exclusively.

In the following sub-sections, we engage with Gjoa Haven's testimonies, by conducting a testimonial reading. This reading consists of the following: i) We acknowledge our initial affective responses towards selected testimonies; ii) We implicate and make ourselves accountable as part of a research legacy that has neglected to properly recognize and relate to Inuit knowledge; iii) We explore how these practices are embedded within an environment of uneven expectations, and; iv) We work to practice better relational accountability as research partners. In section 4, we suggest how the insights of our testimonial reading may translate into specific acts of solidarity.

3.1 Affective responses

'Shortly after the moratorium was put in place there was another research – ground travel. As of today, it didn't improve any increase of the quota. I understand that it didn't help anything at all.''

"I want to see future research that is actually going to make a difference to us. "Any research that is applied on us is always negative. We've never ever had a positive outcome of any research so far."

Such critical views of the processes and outcomes of research over the past decades provoked a range of affective reactions among us. Affect relates here to the emotional and attitudinal engagement with the subject matter, as contrasted with the cognitive domain, which refers to knowledge and intellectual skills related to the material (Seel, 2012). Among such affective responses were dissociation, defensiveness, and resistance. V.C. de Groot, for example, being immersed in a relationship with the community of Gjoa Haven to a degree not shared by the other academic members of the collective, took such negative perceptions of research to reflect directly on his personal research history with Gjoa Haven. In response, he pointed out how he has repeatedly reminded the members of the Gjoa Haven HTA throughout their respective collaborations that expectations of outcomes resulting in an upward revision of quota were not going to be met in the shorter term by their shared work. One of the opportunities that a testimonial reading offers us, is to acknowledge the role of emotions and explore how they reflect the stakes at play when we conceptualize ourselves as implicated subjects.

De Wildt, Whitelaw and Lougheed did not perceive Gjoa Haven's critique of research outcomes as directed towards V.C. de Groot work per se. Rather they saw such comments as expressing frustration with research practices in general, extending beyond projects related to polar bears - and as a critique of the GN, in particular towards their surveys leading to Gjoa Haven's near moratorium, and their subsequent lack of timely accountability towards the community. The initial affective response from those three academic partners ranged from defensiveness about the legitimacy of scientific research, a fear of losing community support, and guilt or cognitive dissonance between (violent) historical research practices, and on our current research practices and collaboration.

Such initial affective responses are often left unmentioned in academic publications in favour of more cognitive or rational responses. As a result, many academics do not know how to examine and articulate their feelings towards their own work (Daly, 2005). This can perpetuate oppression, as unexamined emotions like guilt, might lead to denial, or defensiveness that prevent us from studying how affective responses influence practices and choices made within research. Conducting a testimonial reading can assist us in acknowledging the unsettlement that our affective responses clearly speak to. However, rather than letting it trap us into passive feelings of guilt, or lure us towards a 'settler-colonial horizon of closure'[9], this unsettlement should be explored alongside a practice of decolonization (Robinson and Martin, 2016; Tuck and Yang, 2012). Guilt forms a trap of one remaining oriented on the past, whereas the assumption of responsibility allows us to be future-oriented by questioning how historical contributions relate to present conditions. ''One has responsibility always now'' (Young, 2010, p.108-9). To transcend passive empathy, we

[9] This horizon of closure speaks towards the belief that conciliation is possible between settler- and Indigenous communities, without radical change taking effect along the lines of repatriation of land, and a dismantling of colonial structures (Tuck and Yang, 2012).

must explore self-implication, acknowledge our affective responses (including those of guilt), and explore its potential for taking action through the concept of responsibility - allowing our affective responses to assist us in this process, rather than hold us back.

3.2 Recognizing Inuit knowledge

''Helicopters miss a lot of bears. They hide from the noise by lying down flat. They are even hard to see from a skimobile.''

The hunters and elders at the workshop and the Gjoa Haven HTA want the 'inherent value of Inuit knowledge better acknowledged'. They point out that 'scientific monitoring surveys have limitations, and they want better integration of Inuit knowledge in such research'. In our efforts towards taking responsibility as implicated subjects, we do not address Gjoa Haven's appeal by scrutinizing potential shortcomings of the GN surveys that lead to the MC PBMU quota reductions - as if they are completely disconnected from our own practices. Here, we would rather critically explore the power relationships at play in terms of epistemic recognition within polar bear monitoring research, including our own, by critically reflecting on common practices of engaging with Inuit knowledge.

In our efforts to achieve one of the main objectives of BW; the optimization of non-invasive community-level polar bear monitoring, we engaged Inuit knowledge through a focus on polar bear Traditional Ecological Knowledge (TEK)[10]. This focus on documenting and compiling TEK, rather than the more complex endeavour of engaging with Inuit Quajimajatuqangit (IQ)[11] and reconciling two different systems of knowing and being, is based on a common preference of scientists to selectively incorporate those elements of Inuit knowledge that can be processed and measured as 'data' (Agrawal, 2002; Nadasty, 1999).

In BW, polar bear TEK was mainly collected through workshops and individual interviews, coupled with participatory mapping. Portions of these 'data' were translated into geographical polygons and markers on a map with, among other goals, an objective of guiding future on-the-land field sampling. Underlying our approach was an assumption that knowledge integration is a technical problem to be solved. In such technical approaches, knowledge integration is considered an interface between two compartmentalised bodies of knowledge consisting of codifiable data (see Nadady, 1999). Such a view leads to Indigenous knowledge being seen as simply a new form of "data" - to be incorporated into research and existing management bureaucracies. The choices we made in our desire to 'integrate' TEK into science and the subsequent processes of analysing the gathered knowledge, have led to the disconnection of such TEK from IQ - and has therefore lost the distinguishable characteristics that would make the TEK traditionally Inuit.

[10] We regard TEK Traditional Ecological Knowledge (TEK) as a derivative of IQ. Its definition originates from Western academia rather than from Aboriginal communities themselves, and can be understood as "the knowledge of Native people about their natural environment" (McGregor, 2008, p. 145).

[11] We use the term 'Inuit Qaujimajatuqangit' (IQ) to refer to a holistic set of Inuit values, principles and knowledge that guide relationships among Inuit, animals and their environment (Arnakak, 2000 ; Arnakak, 2002 ; Nunavut Department of Education, 2007; Wenzel, 2004).

We do not discount the insights, observations, and contributions to research that such knowledge can provide for monitoring research. However, as a process of ethically engaging with Inuit knowledge, we now realize that this approach, like that of many other contemporary wildlife monitoring projects that engage TEK in Inuit Nunangat, falls short. Instead of approaching knowledge conciliation as a question of data, we should consider Indigenous knowledge as an invitation to rethink the basic assumptions, values, and practices underlying contemporary processes of research and polar bear management (ibid). Many Indigenous people, for example, share an understanding of knowledge not as simply understanding relationships within Creation, they *are* Creation (McGregor 2004). Knowledge is something one *does*.

"[Polar bears] don't belong to people, because we don't have control of them. They migrate on their own. The government has to realize that we cannot control their movements and us we survive on the migration of animals and they shift every year from place to place and we don't always know exactly where they're gonna be but we know roughly where they're gonna go. These animals are given to us by God for us to consume and eat, and white people shouldn't have a say on what we eat or what is our diet or restrict our diet and tell us what we should eat or can eat."

3.3 A legacy of uneven expectations

Our BW partnership consists of academic- and government researchers, hunters, community representatives, funding bodies, etc., which are each shaped and affected in different ways by the socio-political legacy of (polar bear) research practices in Gjoa Haven. To assume responsibility as academic research partners for our structural alignments in this environment we must extend our testimonial reading beyond our current BW project and include prior (government) research in Gjoa Haven.

The findings of the GN survey, conducted from 1997 to 2000, indicated that the MC sub-population had depleted to less than half of its previous population estimate. Recognizing that there was no community consensus on whether polar bear numbers were declining, and if so, whether this was due to over- harvesting, or migration for reasons like for example environmental disturbances or changes in ice, the NWMB proceeded incrementally. They first instituted a quota of 12 for the MC PBMU in 2000, followed by a moratorium in 2001. They furthermore charged the Department of Sustainable Development to gather additional information during those two years, in order to develop an effective management plan for subsequent years (NMWB 2000b).

The only government-led research activity between the 1997-2000 survey and the next scheduled population survey in 2014 was however the publication of a telemetry study[12] (Taylor et al., 2006) and a community consultation on the listing of polar bears as a species of special concern under the Species at Risk Act (SARA; CWS, 2009). Other projects related to polar bears conducted in Gjoa Haven during this period, were collaborations between Gjoa Haven's HTA and V.C. de Groot (2006; 2007; 2008; 2009; 2010; 2011; 2012; 2013a; 2013b), and a collaboration between Gjoa Haven's HTA and Darren Keith to document polar bear IQ (Keith, 2005). These projects were conducted in (collaboration with) a community

[12] This GN publication was based on existing data from the survey period that lead to the moratorium in 2001

that has been seeking recognition for their disagreement around polar bear research and quota distribution since 2000, with an expectation that researchers address this issue. Nevertheless, neither V.C. de Groot's nor Keith's (2005) HTA-invited projects had the resources nor the scope, or mandate to impact polar bear quota. This speaks to a tangible gap between community priorities and the infrastructure available to those communities to have their priorities sufficiently funded, permitted and researched. Despite significant resources spent on polar bear research by institutions outside the community, see for example Nunavut's Wildlife Research Trust (ITK, 2018; NWMB, 2022a), the financial, human, social and administrative capacities of community organisations like HTAs are limited, and their role in setting the research agenda is reactive rather than proactive; they can grant or withhold community sanction of wildlife research, but have limited mechanisms to influence terms or conditions under which this research is executed (Gearheard & Shirley, 2009). While community organizations like HTAs provide insights via consulting, handle requests for community sanction of research funding and permitting, and assume important roles within the research itself, (government) researchers and managers have not made themselves sufficiently available for questions of concern to the community itself. Such dynamics have tangible consequences for ongoing and future (research) partnerships including our own.

Earlier in BW, some community consultations in Gjoa Haven were experienced as being 'highjacked by members of the HTA with questions on how the results of BW would affect quota. We initially hesitated to enter this conversation. We perceived the topic of quota setting as outside of our sphere of influence, and scope of scientific research objectives. As such, we initially neglected our responsibility towards our research partners to recognize and engage with their needs and priorities, based on previous experiences with research and issues of accountability. Following Rothberg, we are not by default *guilty* of the lack of accountability displayed by previous research partners in Gjoa Haven - but we do carry a *responsibility* to acknowledge and address the structures and institutes that have made, and continue to make it possible for researchers to avoid accountability and ignore community priorities.

3.4 From presenting back to relational accountability

''They said they were going to do research, as of today, it's always ongoing and they never seem to get results out of research. They were told that it was going to take 3 years and they would get the results from all of these research that our government does. It's been 20 years now and we're still waiting to hear answers from all this research."

Gjoa Haven's frustrations with researchers are related to friction between the practice of accountability in western science, and Inuit understandings of accountability. Many Indigenous cultures construe accountability as relational, personal, collective, and with a focus on process rather than outcomes (Wilson, 2008). Aligning western research with this understanding of accountability requires more than the occasional 'presenting back' final outcomes of research to partnering communities. It requires reconsideration of what

accountability means within research conducted in Indigenous contexts. Within an Indigenous research paradigm that functions within a holistic worldview of collective responsibility, where relationships are central - accountability is quite literally understood as making yourself accountable to your relations (Kovach, 2021; McGregor, 2009; Wilson, 2008). We argue that regardless of the scope and methods of our research projects, we should as community-based researchers at the very least be aware of culturally specific expectations of accountability of the communities we partner with.

''Helicopter survey and ground survey didn't help us. Us Inuit helped each other. It didn't improve quota. The only good thing that came out of it was this meeting here'' (the quota impact workshops).

This quote speaks to an expectation from Gjoa Haven hunters who were present at our workshops that researchers take responsibility for the social implications of research results that do not translate into preferable outcomes for the communities. The social sciences and the humanities have become arenas for critical conversations about the implications of research on community partners. However, many natural science researchers consider such an understanding of accountability as outside their skillset, training, and the scope of their research responsibilities. Accountability for outcomes of scientific research is regarded within polar bear research as the responsibility of other organisations within the management environment, for example the NWMB. Researchers may find, however, that they engage much more effectively with communities when they are aware of a community's previous experiences with research and their current priorities (Castleden et al. 2012).

An awareness of specific previous experiences, needs, and community priorities requires time and long-term sustainable relationships between communities and researchers. Building such a relationship takes time, effort, and funds, resources that are often argued as lying beyond the purview of current research environments or granting programs. This argument is especially relevant in the field of Arctic wildlife monitoring, which is incredibly resource intensive. With limited time in the field and multiple additional responsibilities tied to academic reward structures for tenure-track positions and granting agencies, like the emphasis on production of 'new knowledge' and training students, the current academic landscape is not well aligned with Indigenous conceptions of relational accountability (Castleden et al. 2012). As we argue in the next section, there are nevertheless ways in which we can make space for Inuit and other Indigenous forms of relational accountability, and acts of solidarity in our day-to-day polar bear research practices and within our institutions. In the following section, we move beyond understanding our own implication in the socio-political environment, by assuming responsibility and exploring its potential for acting in solidarity with Gjoa Haven.

4. Acting in solidarity

'*We'* in section 4, refers to the academic partners of the BW project exclusively.

What follows is an exploration of what acting in solidarity with our partners would entail. Before we do so, we wish to caution against the conceptualization of 'solidarity' in ways that facilitate ''moves towards innocence'' (Tuck and Yang, 2012); the fallacy of imagining there is an easy road to reconciliation leading to superficial actions that alleviate settler guilt, but

do nothing to repatriate land, power or privilege. ‘Solidarity’ shouldn’t be invoked to reinscribe settler virtues, it should be contemplated alongside the concepts of implication, responsibility to unsettle settler innocence, and to inspire action (Grundy et al., 2019). Solidarity with Inuit communities, needs to be premised on difference rather than logics of sameness and identification (Rothberg, 2020); they should support Inuit objectives of self-determination while balancing the tightrope of incommensurability (see Jones and Jenkins, 2008; Tuck and Yang, 2012). We also want to clarify that the form and degree of acting in solidarity (especially from within institutions rooted in western-based thinking) depends on the complexity of one's entanglement and the privileges one has within the institution and other interlocking socially inherited structures (see Rothberg 2020, p.87). As a result, challenging established structures around accountability and ethics can take different forms. We therefore wanted to conclude by suggesting specific acts of solidarity that apply within the context of polar bear research in Nunavut, but also touch upon general processes of wildlife research, including funding and ethics clearance processes.

The following suggestions have been guided by the insights generated through our collective partnership, Gjoa Haven’s testimonies, and the objectives formulated by Inuit representative organizations Inuit Tapiriit Kanatami (ITK) and Nunavut Tunngavik Incorporated (NTI) . We join such voices calling in particular for i) Shared decision-making power and ownership in community-based research, ii) A shift in funding eligibility and conditions (ITK, 2018) and; iii) A shift in jurisdictional authority determining who gets to define what constitutes ethical conduct in wildlife research with(in) Indigenous communities (Stiegman and Castleden, 2015).

4.1 Shared decision-making power and ownership in community-based research

University-based researchers have an undeniable position of power in designing research projects. They can mobilize such power by designing their research where decision-making power and ownership is shared between the researcher and the community involved (Castleden et al. 2012). One such approach is Community-Based-Participatory-Research (CBPR). CBPR, is not linked to a specific discipline or research methodology and therefore can address several issues that emerged in our workshops and conversations across multiple disciplines, including those that are dominated by Science, Technology, Engineering, and Math (STEM) sciences. CBPR promotes a bi-directional research capacity and co-learning approach. In CBPR, educational opportunities for graduate students in the field are balanced against those of community members (ibid).

As such CBPR could address some of the accountability issues mentioned previously, like those related to the form of presenting back on research progress and -outcomes. For example, research is rarely communicated back to communities in a form that makes highly technical science effectively comprehensible and meaningful to non-specialists (Shackeroff and Campbell, 2007). With the additional challenge, as in BW where the terms and phrases specific to a discipline, like e.g. *DNA*, or *genome*, may not even exist in Inuktitut. Sometimes this leads knowledge holders to conclude that their knowledge is rendered meaningless - or inconsequential for the process of generating answers (Agrawal, 2002). Shared decision-making power and ownership throughout research projects, diminishes the need for ‘presenting back’. A CBPR approach would have many moments at all stages of the research where community members are involved and engaged with its progress. Such an

approach would inherently also lead to conversations on how IQ would be *practiced*, rather than *collected* as data, and how research would be best disseminated to be the most accessible for different rights- and stakeholders.

CBPR as a partnership approach also addresses concerns about peer review as a protracted process, and students taking away learning opportunities from the community[13]. Community members can be involved in data collection and analysis, but also in other facets of the project, like writing reports, manuscripts, posters, and conference presentations. Academy based researchers and students, in turn, learn cultural protocols, ceremonies, and relational ethics (e.g. Meadows et al. 2003). It furthermore mediates the issue of who is deemed 'expert' enough to be kept informed on research progress, especially when external expertise gets hired for data analysis. Why this last issue is especially important in the context of Gjoa Haven's experiences with polar bear research is highlighted in an Nunatiavut News article wherein Louis Kamookak, the HTA chair at the time of setting the moratorium, questions Mitch Taylor, Nunavut's lead biologist, on why ''if the draft report is good enough to base a moratorium on, (...) a copy can't be released to his HTA'' (Hill, 2003). CBPR moves towards a partnership and is conducted by, for or with Indigenous peoples, rather than merely on them (Delemos 2006; Schnarch 2004). Thus, CBPR in theory has the potential to address many of Gjoa Haven's critiques towards current research practices. Its mobilization in the field, however, like many practices, quickly runs into issues of resource distribution.

4.2 Increasing capacity of HTAs and addressing funding conditions

As we describe above, HTAs are central to facilitating community-based research. They provide insights via consulting, handle requests for community sanction of research funding and permitting, and assume important roles within the research itself. This exerts much pressure on community organizations like HTAs, pressure for which they are not adequately resourced. And while local consultation and community input are an important improvement on past research governance, the requirement to consult must be combined with making available suitable resources for communities to engage equitably with researchers of any kind, and to be able to hold them accountable. These communities are currently, however, excluded from eligibility to benefit financially or to manage large, federal research grants (for example in Canada the Tri-Council agencies like the Social Sciences and Humanities Research Council of Canada) – As an illustration of the asymmetry, the funds available for wildlife research to HTAs via NWMB are less than ten percent of those available to Government of Nunavut researchers, see Nunavut's Wildlife Studies Fund (NWMB, 2022b). Not only does this lead to a continued domination of research by non-Inuit researchers, this funding asymmetry also hampers research capacity building within Inuit Nunangat more generally (ITK, 2018). We amplify a call from the National Inuit Strategy on Research (NISR) that seeks the reform of research-related legislative, regulatory, and policy mechanisms to

[13] In the case of lab-based research like BW where new genomics tools are developed, tested and validated, such discussions should include trade-offs between the costs associated with commercial labs and consultants, which likely exceed grant agencies and government budgets, compared to academic labs that rely on students and their associated wages.

improve research governance and Inuit self-determination in research. They call for Inuit organisations, including HTAs, to be eligible for 'multi-year, flexible funding to participate in Inuit Nunangat research governance' (ITK, 2018).

We furthermore suggest that researchers and funding officers who wish to act in solidarity with community HTAs, optimise tools already used within community-based research. The most obvious mechanism for this is the Letter of Support (LOS). These are written statements produced by HTAs that support a particular project and are required from collaborating communities by most granting agencies. After receipt of these letters; or after research outcomes have been achieved, there is usually no follow up with the community by the funding program officer. This means there cannot be any sanction from funders, like withholding of further/future funding, if a community's expectations are left unmet. Thus, these LOSs currently lack accountability incentives for researchers towards their community partners. We propose that researchers use these letters as an opportunity to co-articulate research deliverables, opportunities for community members, and timelines and the means by which these are to be communicated/facilitated with their community partners. To increase the enforceability potential of such LOSs, they should be linked with (intermediate) evaluative measures from funders, in the place of, or alongside the administrative reporting currently required[14].

Of course, our proposal to use LOSs is suggested as supplementary to the progress Indigenous communities have made over the past decades in ensuring ethical research practices. Indeed, Indigenous representative groups have taken an active lead in formulating ethical guidelines since the 1980's, leading to current guidelines like Section 9 of the current Tri-Council Standards for Ethical Conduct for Research Involving Humans (TCPS2; (Government of Canada, 2018). As argued below however, even these norms are still associated with limitations, when it comes to ensuring polar bear research practices that act in solidarity with Inuit communities.

4.3 Addressing jurisdictional authority on research ethics

Both Canadian universities and government departments need to comply with TCPS 2 (ibid) ensured through review processes of Research Ethic Boards (REBs). However, such standards have at least two limitations in the context of polar bear research in Gjoa Haven. First, it appears there are no guidelines comparable to the TCPS2 for wildlife research that is assumed not to involve humans. Not only does this not hold in all contexts; in the case of Arctic wildlife science one is highly dependent on local expertise, if not for their insights, then for their knowledge of the terrain, or for logistical services (as most recently revealed by the Covid-19 pandemic). Such assumptions are also based on ontologies which see humans as separate from their environment and other sentient beings. Such compartmentalisation is alien to many Indigenous worldviews (ITK, 2018). Second, when wildlife research *does* require TCPS2 clearance, it lacks specific Inuit representation because only Section 9 of the TCPS2 is dedicated to research involving Indigenous communities. And this section generalizes across Canada (ibid). And finally, most REBs effectively exclude Inuit from 'decision-making authority about whether or not ethical guidelines are being met for research conducted in (Inuit) communities' (ibid).

[14] We also argue for additional financial support to support such activities.

We therefore stress that regardless of research discipline and focus, every researcher active in Inuit Nungagat should familiarize themselves with two core documents that provide guidelines to conducting ethical research from an Inuit perspective; The NISR (ITK, 2018) and the complementary guidelines to the TCPS2 for negotiating research relationships with Inuit communities, published by ITK and the Nunavut Research Institute (ITK & NRI, 2007). Adhering to those guidelines can sometimes be as simple as using preferred language like 'Inuit Nunangat', rather than the 'Arctic' or 'rightsholders', rather than 'stakeholders', when referring to Inuit. Acting in solidarity on the increased recognition of Inuit-formulated principles of ethics requires advocacy beyond day-to-day practices of most academic researchers. It might require supporting Indigenous faculty members in their advocacy for, or creation of sovereign Indigenous spaces in the academy, or, depending on your positionality, making space for other voices to be heard. Because university-based formulation of ethical policies and REB requirements can potentially exist in conflict with ethical practices that honour the guiding principles of partnering communities, this might also mean relying on ones more privileged position as (tenured) faculty to push for certain reform within the academy (Israel and Hay, 2006; Stiegman & Castleden, 2015).

Some researchers, have sought constructs and resources to maintain ethical relationships outside or even *despite* academic infrastructures and policies. To act in solidarity however, is not only to find ways beyond academic policies and resources. It requires using our academic access strategically, by critically engaging with REB's and university-based ethical policies. Particularly on how they obstruct or facilitate research-collaborations with Indigenous partners based on their own jurisdictional understandings of what it entails to conduct research in an ethical way.

5. Conclusion

'We' refers in this conclusion to the collective BW partnership between Gjoa Haven's HTA representatives and academic researchers

We have described the transformation of what originally would have been an academic representation of Gjoa Haven's experiences on the impacts of significant quota reductions, but evolved to a co-creative process between Gjoa Haven community members and academic researchers within the BW partnership. We explored how this project emerged based on community needs for recognition, and how we decided, through ongoing conversations, on the best ways to address this desire. As part of our considerations, we chose to use the medium of academic publishing as a platform to question the responsibilities that university-based researchers have towards some of the impacts described by Gjoa Haven's testimonies as implicated subjects. This choice has not only redirected the (academic) reader of this paper away from a damage-centric approach where dominant actors get to passively engage, consume, or *grant* a hearing to 'usually supressed voices' (Jones and Jenkins, 2008), but also opens a pathway to exploring acts of solidarity based on a premise of responsibility and difference.

It is clear that a radical shift of self-understanding by many researchers in relation to their subject(s) and partnering communities is needed. We addressed specifically the academically based, STEM community working on wildlife monitoring. We hope to inspire our audience(s), especially those researching wildlife in Nunavut (and beyond), to recognize

themselves as structurally implicated. The strategies used by the academic partners of BW to move beyond passive empathy, and beyond unhelpful categories like *innocence* and *guilt,* towards identifying ways to act in solidarity with their community partners should serve as helpful considerations for academic researchers committed to challenging the structural injustices faced by the communities they work with.

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