

Toward Alaska Native research and data sovereignty: Observations and experiences from the Yukon Flats

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Abstract

Indigenous Peoples research and data sovereignty is of paramount importance to a healthy relationship between Indigenous Peoples and the research enterprise. The development of Indigenous methods and methodologies lends itself to the hot discussion of research and data or, as we posit, knowledge born from Alaska Native communities' experiences and observations since time immemorial. Within the context of climate change, Alaska Native communities in the Yukon Flats National Wildlife Refuge (Flats) are experiencing research fatigue. There are an extraordinary number of researchers applying constant pressure on Alaska Native communities on the Yukon Flats to engage with research ideas and pursuits that are not of their own needs. In concert with large and frequent grant dollars that are promoting research with Alaska Native Peoples and demand grant proposals have components of coproduction of knowledge intertwined with the research. With so much research directed at, not with, Alaska Native communities on the Yukon Flats, never has it been more important to shape research and data sovereignty with Alaska Native communities based on their needs and their worldviews. This article works to demonstrate how established Indigenous methods in collaboration with Alaska Native and Allies scholarship alongside Alaska Native communities inform the future of Alaska Native research and data sovereignty.

Keywords

Alaska Native, research and data sovereignty, Indigenous methods, relationship, responsibility, reciprocity, and redistribution

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Positionality statement

We are a team of Indigenous and Allied scholars, and leaders who have been trained in and worked alongside Western and Indigenous academic methods and community protocols, and Indigenous people and communities. We begin by acknowledging and paying respect to the Nakhwotsii (Ancestors) who have greatly shaped this work, come before us, are with us, and will come after us and who have had a tremendous influence on each of our lives. The Yukon Flats are the traditional homelands of the Gwich'in and Koyukon Peoples. We honor their past, present, and future stewardship of these beautiful lands and the vast generational knowledge that have been imparted upon us. While we critique the harms inflicted by colonization and unethical research, we do so to ensure that this type of research never happens again and with the hope that future researchers will engage in research in a relational way. We do not see ourselves as the experts, but instead work alongside experts who have shared their knowledge and protocols for conducting research in relational ways. The Gwich'in word for land is the same word for person, "Nan"; there is no physical, spiritual, mental, or emotional separation between the two; and the protection of this relationship is our responsibility. Therefore, we recognize and uplift Indigenous sovereignty, and in doing so, we acknowledge and openly share and bring into the light the harms and wounds of past research, so as not to repeat history. This article was written for researchers, tribes, universities, Western managerial agencies, Indigenous Peoples, allies, communities, and anybody interested in the significance of Indigenous People's research and data sovereignty. Deepening the discussion of data sovereignty is about first recognizing that "data" collected from Indigenous Peoples and communities are often their knowledges, born from their experiences and observations. Second, there is an ethical imperative to not have "data," or their knowledges, used to harm Indigenous Peoples but instead collected and utilized in a collaborative way, to uphold Indigenous sovereignty and work toward the collective well-being of the population it is intended to serve.

Introduction and background

There are more than 200 federally recognized tribes throughout Alaska, and while each tribe is sovereign, their ability to exercise inherent sovereignty is diminished by a host of political and legal factors, but also by research practices that are conducted either without their consent and/or without their full collaboration. This has resulted in continued harm that is avoidable if research were to follow established protocols designed by Indigenous Peoples and allies. Such protocols ensure research is responsible, reciprocal, relational, and redistributive (Harris and Wasilewski, 2004)¹ and have been documented in empirical literature by Indigenous scholars (Kovach, 2010; Smith, 1999; Wilson, 2008) and allies. Over the last 20+ years, both Indigenous and non-Indigenous scholars alike have contributed to a growing body of literature about conducting research with and alongside Indigenous Peoples, communities, and their governments (Howitt, 2001; Kovach, 2010; McGregor et al., 2010; Rainie et al., 2019; Smith, 1999; Wilson, 2008). These contributions focus on upholding the sovereign authority of Indigenous Peoples² and communities in the research process and product, in order to ensure research benefits those intended (Inuit Circumpolar Protocols, n.d.). This growing body of literature serves as the foundation to which we add an important contribution: representing the knowledge of Gwich'in and Koyukon voices, which have been absent from much empirical research. Globally, attention has rightfully been given to research ethics, methodologies, methods, design, and review boards when working with Indigenous people/communities. However, there continues to be great distance between Indigenous Peoples, communities, and governments and the development of research plans from the funding of the research, to the initial phases of design, to conducting the research, and, finally, the consideration of the research product itself, namely, where, how, and by whom data will be owned, analyzed, and shared.

When used in Alaska Native communities, Western research methods are most often centered on Western needs, rarely centering or meeting community needs, and they do not protect the communities from harm (Caldwell et al., 2005; Chief et al., 2015; Reo et al., 2017). Thanks to the work of Indigenous communities, Elders, scholars, intellectuals, and Indigenous allies, the needle on academia's moral compass has moved in the right direction. However, in our observations of ongoing research and data collection in Alaska's Yukon Flats, we have found a continued lack of emphasis on the protection and stewardship of research data. Research pursuits serving individual, state, and federal research interests are so normalized that these projects end up placing Alaska Native Peoples and communities in precarious positions.

We recognize that Alaska Native knowledge, that is, their place-based experiences and observations over deep time, is a primary data source and that Western trained and centered researchers collect this knowledge to further their own research aims. Therefore, in this context, Indigenous Knowledge is data. Thus, in research with/about/for Alaska Native people and communities, there is an inherent sovereign right for their knowledge to be used only in their best interest and never to do harm. Indigenous methods and methodologies (IM&M)³ are already situated within the legal framework of tribal sovereignty and are uniquely equipped to guide research conducted in or about Alaska Native Tribes. However, this approach is outside the realm of many academic research Institutional Review Board (IRB) processes, which often are limited to institutional legal protections. This article attempts to address this gap by providing ethical–practical solutions about how best to protect Alaska Native knowledge and peoples in the research process, that is, *data* (emphasis added).

To illustrate, today in the age of climate change, funding agencies seek proposals⁴ that have an Indigenous knowledge or co-production of knowledge component, creating a desire about Alaska for more data collection with Alaska Native Peoples and communities.⁵ Furthermore, climate change being one of, if not the foremost pressing issues in the world today has been a focal point nationally. Whether it is observed in fisheries, forestry, sea-level rise, wildlife movement, warming temperatures, or annual snowfall, these are all relative to daily experiences Gwich'in and Koyukon People navigate. As such, those who do not live on the ground and observe or have experiences daily in the interior of Alaska, where Gwich'in and Koyukon People live, are curious about these experiences. Some researchers and granting agencies in the interest of understanding how the boreal forests are moving further north as the climate warms will approach Gwich'in and Koyukon communities with this research question. To unpack this even further, often these research questions are designed and constructed without first engaging the communities the researchers intend to work with, but beyond that scenario the research itself is not shaped in a way that speaks to the communities' needs, only the researchers. In sum, there is no or very limited relationality built into the pre-, current, and post-research process (Harris and Wasilewski, 2004). While the research grant, as an example, may promote a co-production of knowledge, the initial life of this research project was born from the researchers ideas, which seem to be built on or shaped by Western paradigms. For often, the result is also that researchers seek Alaska Native participation as an afterthought, requiring swift consent from communities who meet researchers and hear their research ideas after they are formulated. This has put a tremendous burden on Alaska Native communities (Yua et al., 2022). The burden thus becomes very real when too often the circumstance is that tribes are asked to quickly review and approve research proposals without full discussion and dialogue. In this common circumstance, this is not meaningful research.

Western research protocols essentially have different goals—to promote the ideas of the individual researchers, which lie in stark contrast to Indigenous research, which centers community needs and outcomes. The central tenet to the overarching issues we are bringing forward is that Western research protocols are built on Western needs primarily, in that for academic, federal, and state institutions interested in research, that research is for their interests. Each of these institutions was built on the ideologies of empire (cf. Smith, 1999), meaning they were created for the benefit of themselves and house academic and institutional commitments to, primarily, themselves.

IM&M are culturally grounded and holistic in nature, requiring ethical rigor and accountability to the community from the outset of the research. IM&M are about, but not limited to, the inclusivity of Indigenous community values. For those unaware of Indigenous protocols, IM&M include seeking permission to be present in the community and working alongside the community and lead research in a value-driven manner, following community and/or tribal protocols. The process of taking into account the entire community, on both the community-based and tribally led research, moves beyond typical, Western practices of research extraction and works to understand the implications and associated impacts of research, both beneficial and detrimental, on Indigenous communities. Before conducting research, researchers must consider how the research they aim to conduct can either positively or negatively contribute to community well-being and initiatives. One way to accomplish this is to engage in tribally participatory research (Fisher and Ball, 2003) and/or community-based participatory research (Collins et al., 2018), whereby an equitable relationship between researchers and communities is established by inviting Indigenous communities into project leadership. This community-based practice contributes to creating productive research methodologies that center Alaska Native data sovereignty.

As the line of researchers seeking to work with Alaska Native Peoples and communities grows, an equitable bridge must be built to ensure community-based ethical requirements of research are met. Our work alongside tribal communities in the interior of Alaska demonstrates three gaps in current methods literature that must be addressed to further Alaska Native research and data sovereignty. The first gap is the lack of meaningful responsibility Western and Western-trained researchers take in creating research-based relationships with Tribal Peoples and Communities. Researchers and their sponsors fail to recognize and honor the inherent sovereignty of tribal governments within Alaska. This has been exacerbated by the surge of research directed at Indigenous Knowledge systems in the United States and by the IRB protocols which do not require researchers to uphold tribal governance protocols. In response to this lack of consideration, some tribes and tribal colleges created their own IRB processes. The result is a gap between tribal IRBs, which focus on protecting Indigenous knowledge and data, and university IRBs, which focus on legal compliance in order to minimize recourse resulting from botched research and mismanaged data. The second gap is between the call for new and inclusive methods (the field-based practices) that uphold IM&M, and the dearth of information about what and how methods actually work in Indigenous communities. And, finally, the more glaring of the three gaps is the ways data or the knowledge from Alaska Native communities and people (really Indigenous people writ-large) is owned, analyzed, and shared. Of the three gaps identified, the third is a pressing issue and the focus of this article as it contains the greatest potential to cause direct harm to Alaska Native Peoples and communities. Predominantly, the more pressing issue created is that data collected from Alaska Native communities is used to harm those communities by limiting their ability to hunt and/or fish or, more directly, feed their families.

To that end, this article is intended to provide guidance when conducting research with and/or in Indigenous communities, and more specifically appropriate protocols for engagement in research with Alaska Natives in the Yukon Flats. We, as authors, center the work of La Donna Harris and Jacqueline Wasilewski, who wrote about the Four Rs, Relationship, Responsibility, Reciprocity, and Redistribution, as underpinnings to Indigenous research and their juxtaposition to the underpinnings of Western research, the Two Ps, Power and Profit. Utilizing the four Rs to frame our discussion demonstrates how one can frame academic concepts in alignment with Indigenous/Alaska Native values and we call on researchers to do the same. As explained by Harris and Wasilewski, the four Rs are foundational Indigenous values, and their fluidity allows each value to amplify the next from which to frame a discussion on Indigenous research and data sovereignty.

We begin with the values and protocols of *responsibility* to ground our discussion of Indigenous research methods and methodologies, and to demonstrate the need for Alaska Native research and data sovereignty. In sections to follow, *reciprocity* highlights the Yukon Flats study area as a demonstration of current research relationships between Alaska Native Peoples, communities, and

governments and university, state, and federal researchers. This demonstration illustrates that while research relationships are founded in part on collaboration and data-sharing, attempting to maintain the spirit of natural resources co-management, the reality is one of hierarchical relationships and a struggle for Alaska Native self-governance. We contextualize the imbalance of self-governance by discussing case studies regarding moose management. Continuing with the Yukon Flats case study, we move on to *relationship* by showing how self-governance agreements with federal conservation units are based on Western or settler ideals and identified needs, which are not relational but contractual, and therefore can and do disenfranchise Alaska Native Peoples and communities. Furthermore, this article offers a way forward in the context of *redistribution* of Alaska Native research and data sovereignty by examining strategies created by Alaska Native scholars, intellectuals, and allies.⁶ These strategies, combined with new protocols for Alaska Tribes, based on experiential field work with interior Alaska Native communities, can provide for practical research methods and methodologies that support Alaska Natives research and data sovereignty.

Responsibility: Community obligation

Research as an enterprise is an industry which largely extracts from Alaska Native and Indigenous communities. Western research, without consideration of Indigenous worldviews, is often about Western needs, which disregards Indigenous Peoples' needs and ideologies (Johnson et al., 2007; Louis, 2007; Smith, 1999). The fundamental concern is research led by universities, federal, and state agencies in relation to Alaska Native communities has minimal benefit to Alaska Native communities, either in its conception or in its outcomes. Many communities on the Yukon Flats are experiencing research fatigue,⁷ demonstrating the people themselves are an afterthought in research. Moreover, as an example, the fatigue stems from too many researchers either proposing research or doing research on the community rather than alongside the community. The proposition of the research is typically from the researcher's interests, as stated above, but also the resources and time it takes to appropriately vet the proposed research through the right channels can be exhausting. Communities on the Yukon Flats are small, members of the community that are tasked with vetting the research proposals already have jobs that carry a large amount of work, and this work is or can be an add-on. It is exhausting to not only vet research and measure the potential implications of the proposed research on the community (i.e. harm), but to evaluate another proposal that views the community as the subject or the source of data rather than the teachers or respected knowledge holders/keepers is exhausting. In all, this creates physical, emotional, and mental fatigue.

It is the responsibility of the professionals who profit from the industry of research to ensure research benefits those whose knowledge or data are collected, through the creation of meaningful relationships with the community. Alaska Native communities have become central to a growing body of research interests; therefore, as a starting point, it is paramount that the research enterprise acknowledge that these communities retain inherent sovereign tribal rights over how and by whom research is defined, designed, and conducted, as well as how Alaska Native knowledge as data is generated, handled, stored, shared, and protected. In recognition of these inherent rights, both Indigenous and non-Indigenous scholars have contributed to a growing body of literature about working alongside Indigenous communities.⁸

When undertaking research in Alaska Native communities, no matter the discipline or the intent, the onus is on the researcher to acquaint themselves with the methods and methodologies Indigenous scholars and others have documented. Specifically in Alaska, Indigenous Scholars, such as Stephanie Russo Carroll (Rainie), Dene/Ahtna Athabascan, document issues, concerns, and solutions to provide for Indigenous sovereign design, collection, and ownership of their own data. This approach of upholding Indigenous sovereignty in research provides for more meaningful, useful, and productive

research, delivering outcomes that benefit those intended. It is the responsibility of researchers working with Indigenous Peoples to be familiar with these Indigenous approaches, to provide a roadmap of the benefits of upholding community protocols, and to address any bias and/or predisposition they may have about Indigenous Peoples or research in general (Carroll et al., 2019; Rainie et al., 2019; Ranco, 2006; Rodriguez-Lonebear, 2016; Tahu and Taylor, 2016). The earliest work by Linda Tuhwai Smith, Maori, in 1999 on Indigenous methodologies sought to establish a narrative that empowers the Indigenous voice in research. As Smith states, “‘research’ is probably one of the dirtiest words in the Indigenous world’s vocabulary” and “fails to improve the conditions of the people who are researched” (Smith, 1999: 1). Essentially, research or at least the empire of research in the Western paradigm has situated Indigenous people as the subject to be studied for the benefit or need of the researcher. The literature Smith, Margaret Kovach, Shawn Wilson, and many others contribute to is, at its core, a manifesto directed at creating an awareness of the issues, but more importantly demonstrating that Indigenous people have the right to refuse or shape their own research futures.

Scholarship also demonstrates that community-based participatory research/methodologies (Coombes et al., 2014), for example, can be applied using techniques and methods consistent with Western protocols, but explained using Indigenous worldviews (Hikuroa et al., 2011). Specifically, existing methodologies can be adapted to fit research with and in Indigenous communities; there is possibility for agility (Tano, 2006), meaning it might be flexible. The message here is clear: efforts to reshape methodologies that center Indigenous needs and are expressed by Indigenous people in their worldview will ultimately benefit and be more inclusive of Indigenous people, though not all Indigenous scholars agree or perscribe.⁹ The learning opportunity that Smith and others bring to our attention, whether in New Zealand, Australia, Canada, or the United States, is common all over the world and include two main ideas: (1) that Western methodologies applied in Indigenous communities need an Indigenous worldview born from those places, and (2) that methodologies, no matter their origins, should be centered on needs expressed by Indigenous communities. For example, as Kendall et al. (2011) state, in regard to why healthcare research in Australia about Aboriginal people largely misrepresents Aboriginal concerns, “one possible explanation for this lack of impact (nationally) is the fact that research has focused on Western ways of knowing that fail to fully reflect the needs of Indigenous communities” (Kendall et al., 2011: 1719).

Recasting this research through an Indigenous lens it would have first centered the needs of the Aboriginal community. To break this down even further, beyond the first primary need to center the research on community needs, again Western research paradigms focus on Western needs. This particular study’s research questions were first about what the researchers thought was important and/or wanted to know. The key word in the quote above is “knowing,” the practice of forcing or directing a worldview onto another—in other words, knowing for the sake of knowing but not knowing for the sake of others’ well-being. The entire orientation of the work was first about identifying issues of concern as the issues were seen through a Western lens, and then the interpretation of the data was again viewed through a Western lens. Māori scholar Moana Jackson shared that if a comparative measure is made by which one population is measured by the scale or metrics of another different population, the research from the outset is flawed. In comparative studies, if a comparative has to be done, it is better to compare the subject to the society to which that person belongs (Jackson, 2009). In this instance, the Aboriginal population who ideally would need national support for health care needs, as most societies do in modernity, are being misrepresented in the data due to the lack of care the researchers had to engage with the communities which the researchers are researching. Then, the harm that is inflicted, to mention one, is the ongoing lack of health care support in the needed places. To name a few disparities in this dichotomy, without meaningful community engagement, led by the community, research continues to be an ongoing abstraction of inaccurate information that either completely mischaracterizes or misses opportunities to make a difference for those communities, or outright harms the communities.

Reciprocity: Cyclical obligation

Reciprocity is a consummate reminder to all of creation that humans are merely a part of, not a part from, the cyclical foundation of a living universe, and our intentions to give should far out-weigh our desire to receive. Reciprocity in the context of research and data sovereignty references the value that the funding of research, the design of research, the conducting of research, and the research product, namely, where, how, and by whom data are owned, analyzed, and shared, should and must be beneficial to those of the place and to those engaged in the research. Alaska Native Peoples and communities have graciously accommodated Western research needs since first contact, in an extractive one-sided relationship. In the Yukon Flats, the foundation of relationships between tribal, university, federal, and state representatives are based in Western values, missing the values of holistic, ecologically grounded stewardship of the Gwich'in and Koyukon Peoples of the region. Tribal, university, federal, and state representatives have attempted to build relationships promoting inclusivity to benefit all Alaska residents; however, the non-Indigenous approaches to natural resources management limit the productivity of these relationships (Alliance for a Just Society (AJS) and Council of Athabascan Tribal Governments (CATG) 2010; CATG, 2016).

Of the approximately 425,000,000 million acres in Alaska, the Yukon Flats National Wildlife Refuge (the Refuge) makes up 18 million acres in the interior of Alaska as designated by the Alaska National Interests Lands Conservation Act, 1980 (ANILCA). The Refuge is under the jurisdiction and management of the United States Fish and Wildlife Service (USFWS, 2017b). Alaska Natives, specifically Gwich'in and Koyukon communities of the Yukon Flats, have stewarded their/these traditional territories for millennia, through delicate systems of living with ecosystems based on reciprocity and relationships. They have and continue to practice Traditional and Customary (T&C) lifeways by hunting, trapping, fishing, and gathering in this remote geography. Gwich'in and Koyukon governing bodies have forged relationships with the Refuge managers, U.S. Fish and Wildlife Service (USFWS), to promote Gwich'in and Koyukon self-governance.

As 18 million acres of the traditional territories of the Gwich'in and Koyukon Tribes are now a National Wildlife Refuge, Alaska Natives have been forced to participate in Western models of land ownership within the region as the Alaska Native Claims Settlement Act (ANSCA) dictates. The ANSCA in 1971 disrupted Indigenous patterns of stewardship and relationship with place by placing fractions of traditional territories into Western land ownership patterns, held by 12 Alaska Native regional and 200 village corporations.¹⁰ Alaska Tribes, as distinct political governments, have no jurisdiction or regulatory authority over lands held by Alaska Native corporations, or federal or state governments. ANSCA and ANILCA stripped tribes of traditional lands in the Yukon Flats over which they had jurisdictional authority. One example of what remains is a jurisdictional jigsaw puzzle of competing and unclear interests between at least six different entities, federal, state, regional corporation, village corporation, individuals, and tribes. Thus, currently for Alaska Natives on the Yukon Flats, formal self-governance agreements with federal management agencies are a primary avenue to exercise voice, as Gwich'in and Koyukon rely on these natural resources for their livelihood. Self-governance agreements are negotiated contracts on the Yukon Flats are essential to annual funding agreements with eligible tribes and tribal consortia, coordinates the collection of budget and performance data from self-governance tribes, resolves issues that are identified in financial and program audits of tribal self-governance operations and distributes funding to self governance tribes. (BIA—OSG, n.d.)

Unfortunately, such self-governance agreements have historically failed to consider the best interest of tribal communities located within the Yukon Flats. In addition, they have failed to consider tribal research needs on the Yukon Flats, as research priorities are dictated by federal agencies. Tribes on the Yukon Flats are disadvantaged in the formation of these self-governance agreements in two primary ways. First, the self-governance agreements are discretionary, providing federal agencies complete control of the negotiations. Second, as stated, tribes have no continuous jurisdictional authority over their traditional homelands. Federal agencies take full advantage of these disparities by

influencing self-governance agreements in their favor. Importantly though, in exchange for diminished leverage, Gwich'in and Koyukon maintain the practice of self-governance. Tribal consortia have formed to advocate and negotiate with federal agencies over T&C uses of natural resources on the Yukon Flats. An important part of the relationship between tribal communities and federal agencies is the gathering and sharing of data for management purposes, though this flow of gathering and sharing data has been historically unilateral serving federal needs.

The tribal consortium working toward self-governance on behalf of eight Gwich'in and two Koyukon villages on the Yukon Flats is the Council of Athabascan Tribal Governments (CATG). CATG was partially formed in response to massive loss of lands that started when Alaska was purchased in the *Treaty of Cession, 1867* by the United States. Land loss continued, due primarily to ANSCA and ANILCA which stripped Indigenous hunting and fishing rights in their homelands. CATG advocates for tribal self-governance of education, health care, and natural resources.¹¹ Through self-governance Annual Funding Agreements (AFAs), the CATG natural resources department (CATG-NR) expresses and negotiates goals of the tribes with USFWS in an effort to secure as well as elevate T&C lifeways and traditional land stewardship (AJS and CATG, 2010). AFAs are funds that, in theory, support USFWS needs as well as CATG needs. Part of CATG's natural resources work, and negotiations range from conservation of natural habitats to subsistence¹² to wildlife harvest data collection/sharing.¹³ An important point to be made in relation to research and data sovereignty, the AFA serves multiple purposes, one is funding but also the second being a recognition that it is a negotiation with a tribal governing body.¹⁴ Thus, the relationship at its core is an expression of Alaska Native self-governance and a recognition of such authority by USFWS. The relationship is a demonstration that tribes want timely, inclusive, and morally grounded Tribal Consultation. In sum, the relationship is a recognition of the "special geographic, historic, and cultural significance" of the Yukon Flats National Wildlife Refuge to CATG member tribes, therefore affording tribes a contractual relationship with the federal government to conduct "selected federal program, functions, services, and activities," including collecting and sharing desired data. Thus, the relationship is more contractual than relational, that is you provide these services for a set rate of funding. The Refuge is managed remotely from USFWS headquarters in Fairbanks, Alaska,¹⁵ limiting the efficiency of the agency, so they work with CATG-NR to conduct selected activities within the Refuge. In order to obtain accurate and current data of moose populations, as an example, USFWS will fly moose surveys for estimates of the population and this work has at times been contracted to CATG-NR. In the past, CATG-NR has collaborated with USFWS to create mapping projects and data collection that identify moose harvest locations (Johnson et al., 2016) throughout the Yukon Flats.¹⁶

The contractual relationship outlined in the AFA legally binds the two self-governing entities.^{17,18} While the contract-based relationship between CATG-NR and USFWS may have formed under tumultuous and unprecedented conditions, it seems there are examples that the relationship is mutually beneficial when CATG is treated as an equal and when they are both reliant on one another for operational needs. USFWS needs CATG-NR for data collection to support management objectives and CATG-NR benefits from receiving funding from USFWS for management purposes as well, though not usually based on the Tribal Peoples', communities', governments', or CATG's identified needs.

Case in point: Collection, analysis, and sharing of moose harvest data

For the purposes of this article, we have chosen to highlight a critical research area of concern: moose management. Moose are a cornerstone species to the T&C lifeway of the Yukon Flats, and their populations have remained low across the region. Most recently, a good faith effort was made to contact Gwich'in and Koyukon providers on the Yukon Flats, asking them to identify geographies where moose populations were being harvested during their traditional hunting season. In 2016, in collaboration with CATG-NR, Alaska Trappers Association, University of Alaska Fairbanks Biology and Wildlife Department, and National Science Foundation Alaska EPSCoR, a paper was published titled

“Quantifying Rural Hunter Access in Alaska,” which identified geographies or river corridor locations where Gwich’in and Koyukon providers sought and harvested moose using current and historic data dating back to 1941 (Johnson et al., 2016). In past studies, hunters were asked to identify locations on a map where they hunted moose; then, some of those locations were plotted on a map to outline where the majority of moose were harvested and located during hunting season. The data were then compared to moose density estimates from flyover surveys in the areas of interest (Johnson et al., 2016). The study effectively did two things. First, it illustrated primary T&C hunting locations and, second, where moose were successfully harvested during the hunting season. To test accuracy, data retrieved from the study were compared to data from CATG-NR and other studies, one of which asked households to report locations and number of moose harvests. While most studies to determine hunter access rely on quantitative data, that is, flyover surveys, moose density data, the novelty of this study, as explained by the authors, was a mixed methods approach by combining the quantitative data with the qualitative data which in this case was hunters’ knowledge or what is referenced as Traditional Ecological Knowledge (TEK).

An important point in this example is the unique incorporation of a mixed methods approach; although studies like this have been conducted previously, there is no evidence the data were applied to decision-making. Meaning, if flyover surveys and TEK are sources to determine hunting regulations, there is limited documentation from USFWS that this knowledge has influenced decision-making, rather simply population data alone. The quantitative data are useful although the data from flyovers and moose harvest household survey data historically have mixed accuracy. These flaws occur for two reasons, the total geography covered in flyovers is limited and extrapolation techniques are employed, and there can be a distrust between those collecting and those reporting the moose harvest data. Thus, USFWS contracts with CATG-NR to collect harvest data to ensure greater accuracy through the use of tribal surveyors. Therefore, without accurate local knowledge from those on the ground, the data are incomplete and have higher rates of inaccuracy. History demonstrates the use of the quantitative population data is the driving force in decision-making, leading to distrust in participation in local surveying as a key to affect management. The distrust being that the numbers are inaccurate and a common error known by those who are to be subjected to the decision-making. The distrust of the research process related to moose management throughout the Yukon Flats has validity, as there is a history of selected application of Western approaches to research. Essentially, the decision-making is ineffective in meeting tribal needs because tribally sourced data are not employed in decision-making, demonstrating limited reciprocity in research.

The knowledge of the Gwich’in and Koyukon providers cannot be overlooked as it is central to all research parties’ needs and without it the study would be severely limited. Hunters provided two primary sources of data: (1) moose harvest locations and (2) harvest methods. As hunters rely on moose for cultural and food security needs, they traverse these geographies with frequency and are the only ones with this unique spatial knowledge of their homelands. This knowledge is the data these research projects require, of which the ensuing ownership, analysis, and sharing creates the potential for harm. Once hunter knowledge is published, it is then accessible for public consumption, and those locations can become vulnerable. They become vulnerable because now those locations are known. The core objective of Johnson’s paper, and others like it in interior Alaska, is consistently couched in the rhetoric of co-management, or to manage the Yukon Flats more effectively. It is important to note the life span, use, and potential harm data sharing of this nature could bring to tribes, and perhaps more importantly Gwich’in and Koyukon providers.¹⁹ Ensuing data analysis, Johnson problematically states, may lead to a negative effect upon T&C practices: “if the goal of managers is to maintain moose numbers, rather than estimate harvest amount, they may consider liberalizing harvest in areas with less access, and restricting harvest in high access areas” (Johnson et al., 2016: 10).

This is a clear demonstration of research that does not recognize tribal sovereignty or center tribal needs. The ownership, analysis, and sharing of data are not governed by tribal needs. In this instance,

why share harvest locations in publications, why analyze the data without consideration of impact to tribal T&C practices, and who owns the data in conclusion? This demonstrates that well-intended research, self-governance agreements, and cooperative research does not ensure incorporation of an Indigenous worldview or guidance by IM&M principles, resulting in potential for harm to Alaska Native communities. To ensure unintended impacts to Alaska Native Peoples and communities, researchers should recognize tribal sovereignty from the inception of the research question to the ownership, analysis, and sharing of the data. As tribal sovereignty in research is recognized, accuracy of data and knowledge will increase, trust will build, management and stewardship will improve, and wildlife populations will be healthier. In this way, all researchers can build reciprocal relationships with Alaska Native Peoples and communities, securing the community's best interests in the use of data for the protection of T&C practices. Fundamentally, in order to create protocols that consider the potential harm that data can be used to impose on Alaska Natives, the entities proposing the research need to understand potential harms and the tribe's sovereign rights. Unpacking this a bit more, tribal governments can work with hunters, community members, and allies to identify potential harms that data can create. Those harms can be then shaped into policy that speaks directly to tribal research protocols. Then, each research entity such as the federal, academic, and state would have to sign a legally binding agreement that could help modify behavior and create awareness that works to minimize and hopefully alleviate harm.

Relationship: Kinship obligation

Alaska Native Peoples, communities, and governments on the Yukon Flats seek equitable research relationships which provide for their needs on their terms. A healthy research relationship relies on trust, and the processes used to build trust. On the Yukon Flats, the central tenet of human existence is reliant upon the health of all of creation, and "so, our societal task is to make sure that everyone feels included and feels that they can make their contribution to our common good" (Harris and Wasilewski, 2004: 4). Conducting research in relationship, with respect and trust, as we see within the moose management illustration, produces data with greater accuracy and validity, data with more applicability to the issues it seeks to address. Therefore, conducting research in relationship produces better research.

Gwich'in and Koyukon people have successfully provided for their communities in their homelands for over 20,000 years (Our Arctic Refuge, 2022), and Gwich'in have been in the Yukon Flats for over 600 generations. What kind of relationship might they have shaped with the environment in this amount of time, over so many generations? This is the deep spatial, temporal, and ecological knowledge (data) researchers seek. The possible applications of this unique and rich data in the fields of wildlife biology and management are infinite (Halvorson and Davis, 1996). For example, data are used to make decisions on regulations regarding harvest (seasonality, bag limits, methods and means), particularly in geographies that are remote and not often accessed by the managing entities, that is, traditional Alaska Native homelands (National Research Council (NRC), 1997). Alaska Native Peoples (hunters/surveyors), communities, and governments (CATG-NR) located across remote Alaskan landscapes like the Yukon Flats are the only source of accurate and valid knowledge and data. If Gwich'in and Koyukon providers in the study above had not shared the location of moose, the research would have been incomplete at best, and potentially largely inaccurate.

The case study further illustrates potential for ill-handled T&C hunter knowledge to harm T&C practices. Here, in the context of historically low moose populations in the Yukon Flats, managing excessive predation is a task of Western management systems. If added hunting pressure from non-native hunters creates more stress on the moose population, then increased regulatory limitations on moose hunting in the Yukon Flats could occur. Increased regulatory limitations on hunting often leads to increased policing in areas identified as high harvest and access areas, which in turn leads to

increased criminalization of Gwich'in and Koyukon providers. These limitations would not be the result of natural phenomena, like diseases or climate change (McNeeley, 2012), but of a research relationship that did not maintain as a central tenet to the sovereignty of Indigenous Knowledge. As former Yukon Flats Refuge Enforcement Officer Michael Hinkes (December 10, 2009) stated, "I have worked all across the State of Alaska enforcing fish and wildlife regulations, and nowhere else in the state have I seen such a regulatory nightmare for subsistence users as the Yukon Flats" (Britton, 2015).

By definition, Alaska Native hunters in Alaska are Alaskan residents. Everyone, including non-Native Alaskan hunters, has equal rights and equal access to "subsistence" hunting according to the State of Alaska. If a non-rural–non-native Alaskan hunter can access these remote locations, and the location is open to hunting by state law, they can harvest the same food source as Alaska Natives living in their home communities.²⁰ For Gwich'in and Koyukon living in their homelands, T&C hunting is vital to spirituality, community wellness and the transmission of generational knowledge and ways of life, and food security (AJS and CATG, 2010; CATG, 2016; Walsey and Brewer, 2018).²¹ As one Gwich'in hunter from Venetie, Alaska, explained the difference between state definitions of subsistence and tribal T&C practices, "we don't just mean using the resource, but using the tribal methods and acting out culture and complying with those values, and we do those things because they are a measure of protection for the land and its resources" (USFWS, 2017a: Para.1).

The relationship between data sovereignty and better research is first and foremost about respecting and acting in accordance with the legal and political identity of Indigenous Nations tribal sovereignty, globally. To also recognize that tribal sovereignty, true tribal sovereignty is not a colonial exercise, it is not a permission granted by colonial empires, and it is indeed inherent. Given it is inherent, the phrase "tribal sovereignty" is simply used as a starting point to new, ongoing, and future government-to-government relationships. As inherent, then tribes have always worked to maintain order within their societies and the universe itself, not to control it, but to work alongside the living universe. Then, researchers must realize that all proposed research is essentially relationally based; whether the researcher or Western institutions legitimize that or not, it remains a worldview of Alaska Natives and generally Indigenous People. If you're going to do research with Alaska Natives, the expectation is a genuine human investment in the values and beliefs of the community, to listen and commit to learning.

Redistribution: Sharing obligation

The redistribution of research "is to balance and rebalance relationships" with the communities and peoples researchers intend to work with (Harris and Wasilewski, 2004: 5). Gwich'in and Koyukon identity and well-being revolve around sharing, with your relations, with anyone who walks through your door, and with the greater world in which you exist. As co-author Black states, thus, sharing and taking care of one another are deep-rooted cultural values passed down through the generations. While times have changed and the level of interdependence is not a life or death matter, there continues to be a commitment to caring for one another. (Black, 2017: 83)

Wealth can be measured by how much people give away versus how much people accumulate, from food to wood to beadwork; sharing in the form of redistribution is foundational to the communities in the Yukon Flats. These lifeways are born from experiences and observations of Gwich'in and Koyukon living in their homelands for thousands of years, and embedded within this "deep time" are the intimate connections to place and all that it embodies.

Most Western research paradigms require that researchers remain "objective" in an effort to remain unbiased and not skew the data. However, there is a growing cadre of Alaska Native scholars and allies, who are engaging in relation-based research (Black, 2017; Brower, 2016; Stern, 2018) while remaking research relationships and redistributing knowledge back to its rightful place (i.e. communities). This

Alaska Native-led research has helped to heal the wounds from harmful research conducted in the past and also to chart a new path forward, where Indigenous epistemologies and ontologies are centered in the process of research. These Indigenous scholars have also centered the concepts of responsibility, reciprocity, relationship, and redistribution as foundational to their research and it has led to long-term and relevant research in each of their respective communities.

Although not explicitly stated, it is assumed that researchers understand the need to work with local peoples and communities to assure no harm is done by the research itself. In the United States, IRBs approve and review as well as monitor the risk-benefit of research on or about humans (National Institute of Environmental Sciences (NIEHS), 2017). At the university level, IRBs are beginning to position themselves as ethically reliable when reviewing research proposed in Indigenous communities by appointing board members who are familiar with IM&M. However, the worldviews of distinct Indigenous communities are not a part of this university process (Burhansstipanov and Schumacher, 2005). University IRBs do provide some basic human rights protections, but they do not speak to tribal sovereignty or further invest in a review of implications of data collection, ownership, analysis, and sharing. Establishing first the research needs of the community, data ownership, analysis, and sharing are paramount to a healthy relationship, but beyond that is the need to have an honest dialogue about the nature of the research. In other words, what is the intent and who benefits?

Individual researchers and the entities they represent (universities, state and federal agencies, and funders) need to come to terms with the protocols present in this article and others in order to minimize potential harm to Alaska Native communities. The path(s) forward, well beyond the fundamental step of finding and engaging with the literature cited in this article, is for research relationships to be positioned within the cultural values of tribal relationships, as the tribes define them. This is carried out more formally by creating government-to-government research agreements with Alaska Native Peoples, communities, and governments. An important point in this discussion brought forward by MacDonald (2017) is that Indigenous communities in South America have long established research protocols that vet research interests against community needs. Essentially, Indigenous people are privy to the ways they are being taken advantage of and recognize the need to develop their own regulatory, civil laws and/or research protocols, and codes to maintain the integral sovereign rights to their knowledge; they are after-all the data—knowledge sources.

Respecting Indigenous Peoples' knowledge and data sovereignty is one way to solidify Indigenous Peoples' inherent rights of T&C ways of life in their homelands. Knowledge, in a very real way, is Indigenous communities' most precious commodity. Knowledge is passed down from generation to generation as well as with those who demonstrate a vested interest in learning. However, in reality, this generosity in sharing knowledge with outsiders has resulted in exploitation. In the past and present, Indigenous peoples' knowledge has been used to exploit (Brewer and Kronk Warner, 2014) and harm as well as help communities. Research is an industry, and as noted, research in the arctic inclusive of Indigenous knowledge is currently flooded with funding. Researchers and their institutions financially benefit from Indigenous knowledge and research conducted in Alaska Native communities, with minimal financial benefit reaching Alaska Native Peoples and communities. In the future, it is better to protect that knowledge unequivocally. Indigenous knowledge can be stewarded in the same ways it is disseminated, using community protocols.

Alaska Native research and data sovereignty is not about asking permission, nor waiting for external validation of approach. This is about doing the practice and application of stewarding how research is conducted and how data are used to depict and manage Alaska Native homelands and T&C practices. At its core, this is about a rebalance of morality or the four Rs and decolonizing research; the work of protecting from harm is about clarifying tribal control over their knowledge and traditional homelands. Tribal needs should be prioritized when research projects are vetted.

Ideally, anybody who engages Alaska Natives on the Yukon Flats in research, whether invited or on their own accord, should be aware of the existing foundational work on IM&M and tribal

governance protocols. Beyond framing the work in a manner that is respectful of IM&M, researchers should work with Alaska Natives to consider, create, and adhere to Alaska Native and tribal government research and data sovereignty protocols based on community values. If there is no formal process, ask what is appropriate and explore the potential harms with the community if the data are made public, not just the harms a university IRB identifies. The moose management case study shared provides an illustration of the T&C issues at stake for Alaska Natives, and why long-term protection of data is paramount. The evolving nature of data use and protection brings this discussion forward, but the important point is that knowledge is owned by the tribe and its citizens.

While the work to eradicate all sensitive information from the public purview has not been formalized just yet, a number of Gwich'in and Koyukon Elders on the Yukon Flats are asking important questions about the use and protection of their knowledge. Formal research codes have been and are being created. Elders remain adamant that knowledge be transmitted to Gwich'in and Koyukon youth and those interested who uphold the integrity of the knowledge in accordance with community values. No matter how well-intentioned research is, the abuse of Gwich'in and Koyukon knowledge and of IM&M permeates the intellectual discourse of research in Alaska. It is clear, without community and tribally based research protocols based on Indigenous values, abuses will continue.

Data extrapolated from the research need a permanent home under tribal control, complete with a legal process that details control over data based upon the values of the Indigenous Peoples, communities, and governments. Tribes and researchers must consider how knowledge and data can be analyzed and shared in ways that both harm and help tribes, currently and in the future, so making data public can create unforeseen impacts and consequences. As MacDonald points out, some researchers are intimidated by this process or know little about it, do not want to step on toes, and are not used to others owning data produced as a result of research they have led (MacDonald, 2017), but this is the protocol: be present, transparent, honest, listen, and learn.

To conduct ethical, meaningful, accurate research with integrity alongside Alaska Native Peoples, communities, and governments on the Yukon Flats, Alaska researchers must ask

1. Am I conducting research *Responsibly*?
Am I promoting tribal sovereignty, including tribal sovereignty over research and data? Are the peoples, communities, and governments defining the research objectives, does the research meet their needs? Are Indigenous People and/or Indigenous Communities leading the research design, data analysis, and data sharing protocols?
2. Am I conducting research in *Reciprocity*?
Am I investing in the peoples, communities, and governments mutually as I am asking them to invest in me and the research? Is time invested with Elders to seek grounding and guidance? Is time invested in Youth to build voice and capacity?
3. Am I conducting research in *Relationship*?
Am I conducting research that is respectful and aligned with the values of the traditional homelands within which the research is being conducted.
4. Am I conducting research with *Redistribution*?
Are Indigenous People and/or Indigenous Communities mutually benefiting from the research financially, in policy, or otherwise?

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Notes

1. For a more in-depth Alaska Native perspective, please consult the work of Dr. Stephanie Russo Carroll (Rainie), Ahtna Athabaskan, Assistant Professor of Public Health Policy and Management at the Community, Environment and Policy Department, University of Arizona, and co-founder of the US Indigenous Data Sovereignty Network and the International Indigenous Data Sovereignty Interest Group at the Research Data Alliance.
2. Please note that we will be using the terms Indigenous, Alaska Native, and tribal interchangeably throughout this article, as we feel the issues presented here are important for all Indigenous Peoples and Communities but specific also when we speak about Alaska Native.
3. There is a difference between methods and methodologies—simply methods are the practice and methodologies are the theories of structuring and carrying out research.
4. An important note here, these grant funding streams are designed to promote the relationship between the grantee and grantor, but rarely do the granting agencies have direct relationships with tribal communities; therefore, much of the funding does not go to assist tribal needs, that is, research interests, directly.
5. This article is focused on harm to the communities as opposed to the individual. However, the examples used affect both the community and individual. A recent development that is encouraging, Elder's councils are now meeting semi-regularly throughout the interior of Alaska; they are asking important questions about the intentions and protection of data born from research. Thus, this article hopes to honor Gwich'in and Koyukon Elder's leadership of self-governance and help to move that discussion along.
6. While this article is focused on the United States, there are other Indigenous Nations doing important work in this area for over 20 years, in Canada, New Zealand, and other countries.
7. To be clear, there are a great deal of researchers trying to work with the communities, from government to non-profit and health care to education.
8. This article does not cover all of Indigenous research and data sovereignty, as this is an international and ongoing conversation to include but not limited to use and overall implications related to collection, handling, storage and sharing of, as well as access.
9. Not all scholars of Indigenous methodologies agrees that some Western methods can be agile enough to incorporate Indigenous worldviews, such as Margret Kovach who argues that Western methods are not adaptable enough to fit Indigenous contexts and worldviews, and that the overarching goals, worldviews, and interests are too different.
10. The exception being individual allotments assigned to families, Venetie's reservation status as well as the 1.8 million acres owned by Venetie and Arctic Villages. For more information, see <https://www.oyez.org/cases/1997/96-1577>.
11. In order to make way for the Trans-Alaska Pipeline, the Alaska Native Claims Settlement Act of 1971 extinguished over 360 million acres of Alaska Native title to land and created 12 regional and over 200 village corporations that act as a business, owned by Alaska Natives, that work in the best interest of Alaska Native people. The Alaska National Lands Interest Conservation Act of 1980 took another 157 million acres of Alaska Native land and put it into national parks, wildlife refuges, and reserves.
12. It is important to understand that "subsistence" is a colonial word used by federal and state governments to describe in legal terms how Alaska Natives and non-native Alaskan residents harvest foods and resources (AF&WCF v. SDFG 289P.3d 903). However, subsistence is not a word used by all Alaska Natives on the Yukon Flats. Subsistence, in the Gwich'in language, is *teediraa'in*, which translates as "striving to survive." The common/preferable phrase used by many Gwich'in and Koyukon in Council of Athabaskan Tribal Governments (CATG) villages is *traditional and customary* (T&C) when referencing these practices, which separates them culturally and in time-and-place from non-native Alaskans, even though the state or federal government does not recognize these inherent rights as separate (refer to discussion below) (CATG, 2010).
13. An Annual Funding Agreement is essentially a legally binding contract between a self-governing body and a federal agency, in this case the CATG and US Fish and Wildlife that take place annually.
14. Federal agencies are tasked with working with Alaska Native Tribes, such as the Bureau of Land Management, and they need to be educated on what Annual Funding Agreements (AFAs) are and how they work. There are numerous reports of Tribal Consortia having to educate federal agencies on these matters. This speaks volumes to the importance of tribal needs being met by these agencies, if these agencies do not understand the fundamental premise to which has created these relationships, then how are they to carry out these tasks.

15. Few, if any, of the 13 United States Fish and Wildlife Service (USFWS) employees live in the communities on the Yukon Flats or practice a traditional and customary lifestyle in this geography.
16. A more concerted effort to identify the reasons why CATG was formed speaks to an ongoing Alaska Native and non-Native dichotomy centered on the politics of land ownership, and self-governance. CATG was conceived in the early 1980s, amid growing health concerns arising from villagers in regard to diseases like “diabetes, cancer, and alcoholism” never before seen in Gwich’in and Koyukon populations (CATG.org/our-history). CATG, formed under the auspices of various tribes on the Yukon Flats, as a self-governing action-oriented advocacy consortium on behalf of Fort Yukon, Beaver, Stevens, Arctic, Birch Creek, Chalkytsik, Venetie, Circle, Rampart, and Canyon Alaska Native villages. CATG was identified as a need by nearly every tribal government on the Yukon Flats, to lead in advocacy and negotiate for tribal control of natural resources, health care, and education on the Yukon Flats.
17. There are other forms of negotiations and advocacy CATG does for health care, and education, which are important, but for this article, we work with American Indian and Alaska Natives on land tenure and natural resources so it seems obvious for us to stick to that line of reasoning.
18. In total, there are two AFAs CATG negotiates: (1) with FWS, explained above and (2) with the Bureau of Land Management (BLM) fire service to provide firefighter training and testing to build capacity in the villages. For more information, see <http://www.catg.org/natural-resources/emergency-firefighting/>
19. Another interesting and important point to make, but in order to maintain a consistent message not included in the text above, is the data collected by BLM and CATG on Gwich’in cultural significance of various geographies throughout the Black River. The data collected become invaluable for the purposes of fighting proposed mining operations as well as for Gwich’in villagers who are interested in preserving cultural sites. For more information, see https://www.washingtonpost.com/news/energy-environment/wp/2017/01/05/the-obama-administration-just-moved-to-protect-some-of-the-most-remote-areas-of-alaska/?utm_term=.416e9c671212. Thus, data can also be culturally relevant to tribes as well.
20. For the purposes of accuracy, federal closure of area 25D west, which includes the villages of Beaver, Birch Creek, and Stevens is closed to non-rural hunters and the state regulates this by pushing this to a tier 2 permit system (harder to obtain) in the same area because of low moose populations.
21. An important note, the use of rural and non-rural are Western constructs, which can and do divide Alaska Native Peoples in ways that compromise their access to traditional ways of life, culture, and spirituality. We use these terms in this article in order to maintain consistency, but prefer Alaska Native and non-Alaska Native. Moose are not merely a food source. Urban Alaska Native hunters are also marginalized but have the same connections to their homelands and traditional ways of life and spiritual practices.

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Gwich'in Ancestors (Nakhwotsii).

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