

# From River Trails to Adaptive Co-Management: Learning and Relating with Inuit Inhabitants of the Thelon River, Canada

Bryan S. R. Grimwood, Ph.D., Assistant Professor

Department of Recreation and Leisure Studies, University of Waterloo, (519) 888-4567 ext. 32612;

[bgrimwood@uwaterloo.ca](mailto:bgrimwood@uwaterloo.ca)

Nancy C. Doubleday, Ph.D., Hope Chair in Peace and Health

Department of Philosophy, McMaster University

## Abstract

*This article draws upon community-based case study research to illuminate Inuit uses of and relationships with the Thelon River in Arctic Canada. Local and traditional knowledge related to this special and changing river-place was documented in partnership with residents of Baker Lake, Nunavut, an inland Inuit settlement located at the terminus of the Thelon River west of Hudson Bay. Contrasting representations of a bounded river “corridor” or “watershed”, Inuit experience and encounter the Thelon River as part of a complex network of socially, ecologically, and culturally constructed trails. Meaning, subsistence, and cultural livelihoods are situated not just at nodes of intense activity (e.g., caribou crossings), but also along human and non-human paths travelled, perceived, and inscribed into memory (e.g., using inuksuit to navigate or hunt). The temporal and spatial dimensions of Inuit relationships with the Thelon River are thus characterized by degrees of oscillation, vitality, and ambiguity. This understanding has implications for river system governance in Nunavut and other Arctic regions in Canada. Specifically, we argue for collaborative and equitable visions of northern futures premised upon the promises of adaptive co-management, an approach to governance that begins with, and fosters, hybridity of perspective, knowledge, and action with respect to the meanings of complex resources such as the Thelon.*

## Introduction

The Thelon River is a trans-regional and trans-jurisdictional river in Arctic Canada. From headwaters east of Great Slave Lake in the Northwest Territories, the Thelon flows more than 900 kilometres out of the boreal biome and into the tundra, emptying at Baker Lake in Nunavut (Figure 1). As a 142,400 km<sup>2</sup> watershed with no road access from the Canadian south, threats due to increasing signs of industrial activity, and settlements situated only near the river’s upper and lower extremities, the Thelon is quite deserving of its recognition as the “largest unaltered drainage basin emptying into Hudson Bay” (CHRS, 2012). Indeed, the Thelon traverses some of the most remote and sublime terrain remaining on the planet. This is ideal habitat for large mammals, such as wolf, grizzly bear, muskoxen, moose, and caribou, and several smaller species thriving in the mosaic of tree and tundra vegetation (Norment, Hall, & Hendricks, 1999). These characteristics mark the Thelon River as emblematic wilderness space (Pelly, 1996).

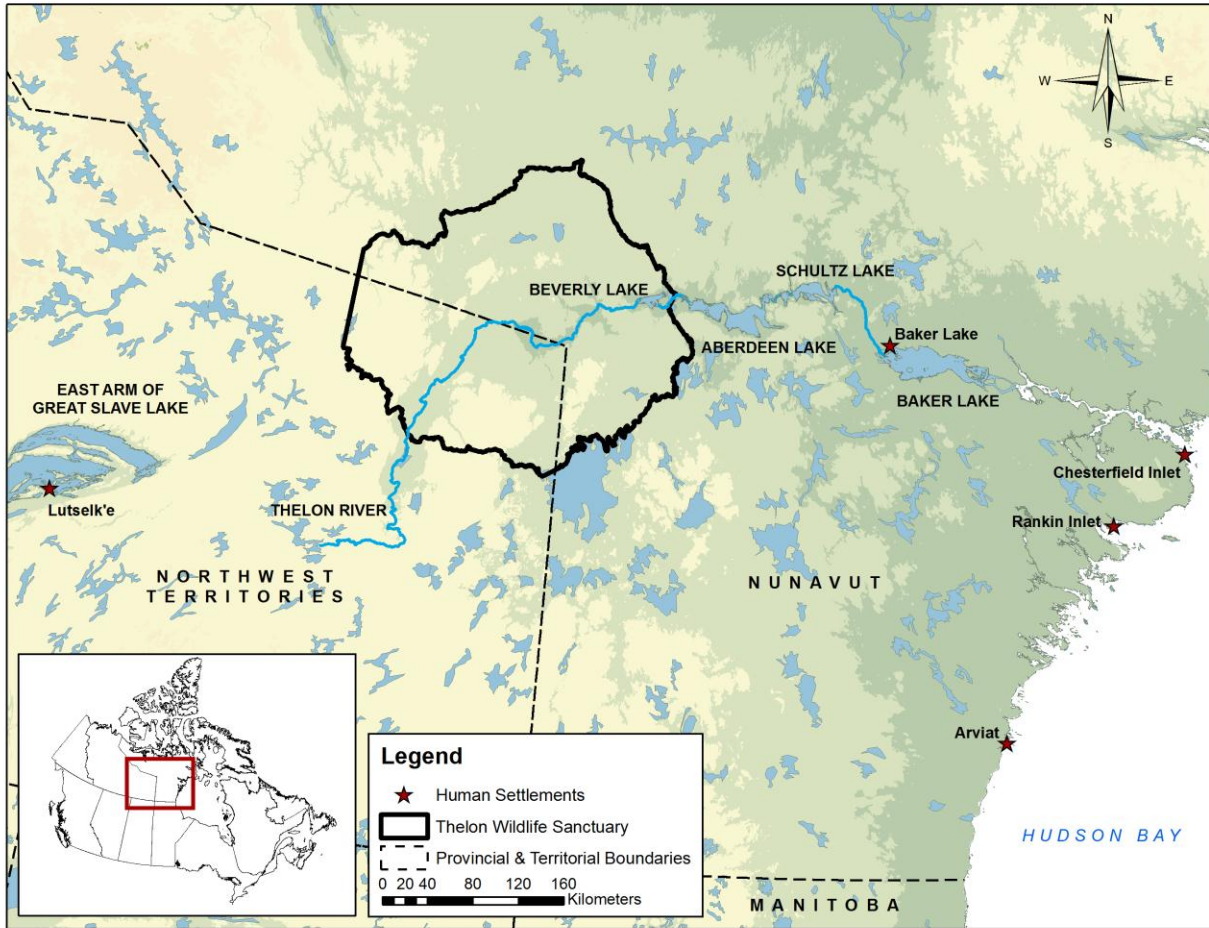


Figure 1: Thelon River watershed. Map created by Will Van Hemessen using shapefiles provided by GeoGratis (Natural Resources Canada) and the DMTI Data Consortium, June 2012.

The Thelon, however, is far from uninhabited. For generations of Indigenous Arctic societies, including descendants of the historic Caribou Inuit, who now reside primarily at the Thelon’s eastern terminus in the hamlet of Baker Lake (or *Qamani’uaq*, “where the river widens”), the Thelon has been integral to cultural livelihoods based on semi-nomadic subsistence practices of hunting, fishing, and gathering. Significant harvesting and camp activity has occurred at or near various caribou crossing sites along the river (Friesen, 2004). These are generally narrow river sections where migrating herds return almost annually and are vulnerable to waiting hunters. As oral historical, anthropological, and archaeological records show, the connections that Inuit have forged at these crossings include material, social, emotional, and spiritual dimensions (Friesen, 2004; Gordon, 1975; Mannick, 1998).

This article illuminates Inuit uses of and relationships to the Thelon River and discusses associated implications for river system governance in northern Canada. Attention is devoted to presenting empirical material derived from community-based participatory research with residents of Baker Lake in which local and traditional knowledge of the Thelon River was documented. As two *qablunaat*<sup>1</sup>

<sup>1</sup> *Qablunaat* is an Inuktitut word for non-Inuit people often used by residents of Baker Lake and the Kivalliq region (west of Hudson Bay). An individual non-Inuk is *qablunaaq*.

researchers situated within the norms and practices of southern Canadian academic institutions, we view the process of co-producing knowledge *with* Inuit as one response to calls made to better recognize the value of Indigenous voices in creating sustainable futures (e.g., Brody, 2000). Following Berger's (1977) seminal insight, our objective has been to articulate northern environments not as an unpeopled "wilderness" but rather as "homeland". While these metaphors have been unpacked previously in relation to the Thelon (e.g., Raffan, 1992), it is the former trope that continues to resonate most closely with popular imaginations of a barren and inhospitable northern frontier, and which has been profoundly effective at obscuring histories of Indigenous occupation and use (see e.g., Baldwin et al., 2011).

In our view, the seriousness of such silencing has the potential to escalate as visions of the Arctic resource frontier threaten to undermine those legitimate Canadian claims literally embodied by Inuit, First Nations, and Métis presence. Since 2007 Canadian Prime Minister Stephen Harper's repeated clarion call in regards to federal Arctic sovereignty policy has been "use it or lose it". Although any legitimacy contained within this slogan is likely limited to marine waters (Bartenstein, 2010), the implication is that generations of Inuit and other Indigenous use and occupancy of Arctic environments does not count amongst the claims supporting the current *federal vision of Canadian sovereignty*. In contrast to re-emerging policies that fixate on a resource frontier, a more robust and nuanced approach would be to count the political development of Canada's Indigenous north just as strongly amongst the planks supporting the *totality of Canadian sovereignty*. Attention must be paid to the evolution of the northern political landscape: Inuit and other Indigenous Peoples in Arctic Canada, including those inhabiting the Thelon River Basin, did not cede their lands, resources, or political rights to the Government of Canada, or any of its predecessor constitutional authorities, through any form of agreement (with the exception of Treaty 8 in the southerly Mackenzie Valley region of the Western Arctic). Thus their original interests were preserved until formally and legally alienated, ceded, or otherwise converted. The confirmation of this legal reality in 1973 by the Calder decision led to the statement of then Minister of Indian Affairs Jean Chretien and ultimately to the formulation of the federal policy on comprehensive land claims settlements set out in "In All Fairness" under then Minister John Munro in 1981.<sup>2</sup> Accordingly, the negotiation and settlement of comprehensive land claims agreements themselves constitutes firm evidence: unextinguished aboriginal rights to lands and resources were ceded to the Crown in right of Canada, in exchange for specific rights to lands, natural and financial resources, and to joint management.

Here we also find clear legislative intention on the part of Canada, enacted in specific agreements and subsequently constitutionally enshrined, to confer a special status on co-management under certain comprehensive land claims. In this respect, co-management provides a critical conceptual stepping-stone from colonial and neo-colonial practices of management to governance, via co-management

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<sup>2</sup> Department of Indian Affairs and Northern Development, "Statement Made by the Honourable Jean Chrétien, Minister of Indian Affairs and Northern Development on Claims of Indian and Inuit People," *Communiqué*, 8 August 1973. The policy was reaffirmed in *In All Fairness: A Native Claims Policy – Comprehensive Claims*, Department of Indian Affairs and Northern Development, Ottawa, 1981. Cited in <http://www.parl.gc.ca/Content/LOP/ResearchPublications/prb0916-e.htm#ftn2>.

authorities wherein decision-making power is shared. One example of such an arrangement is the Nunavut Wildlife Board, which redefines the relationship between hunters and government managers. Another example from a non-renewable resource perspective is the Nunavut Water Board, which governs Nunavut's inland waters—including a significant proportion of the Thelon River Basin. Beyond the ethical benefits of shared power and responsibility, framing co-management as governance offers clear pragmatic benefits, including: 1) knowledge integration; 2) social learning [which, for the purposes of this paper, we identify with in general terms as collective action and reflection aimed at improving human and environment interrelationships (Plummer & Fitzgibbon, 2007)]; 3) rapid innovation; and 4) as a result of all of the foregoing, a strategic opportunity for adaptation in the face of rapid social, cultural, and ecological change driven by globalized economies and shifting climatic conditions.

In what follows, we begin by explaining our research with Inuit inhabitants of the Thelon River. Three aspects of the knowledge co-constructed through these partnerships are reported: Inuit subsistence, social, and knowledge relationships with the river. The lessons of change, uncertainty, and learning that exist amid Inuit uses of and relationships to the Thelon are then extended to illuminate specifically the promise of adaptive co-management as a response to “hybridity” of interests in Canadian northern river system governance.

### **Community-based Participatory Research**

Much like resource management, research involving communities in the Canadian Arctic has a controversial history tied to colonial practices of Indigenous land and resource dispossession, cultural assimilation, and rights violation. While colonial relations arguably underwrite all Arctic research (Cameron, 2011), many scholars are increasingly mindful of the hurtful effects of doing research *on* Indigenous Peoples (Smith, 1999). Concurrently, many northern communities and regions have actively pursued partnerships with academic researchers in order to address specific local concerns and issues (Caine et al., 2009; ITK/NRI, 2007). Associated with these trends is the emergence of community-based participatory research (CBPR), a methodological framework adopted in our research for the potential it affords to engage responsibly with communities (CIHR, NSERC, & SSHRC, 2010; Grimwood et al., 2012). In general, we understand CBPR as research conducted *by* or *with* the participation of a community (Markey, Halseth, & Mason, 2010). More specifically, we strive to achieve the three aims of CBPR put forward by Castleden and colleagues (2008): first, to balance research power relations by sharing control of research processes and outcomes; second, to foster trust through transparent, reciprocal, and interactive relationships; and third, to support community ownership of research priorities, decision-making, and knowledge. Each of these goals we view as continuums of collaboration between researchers and communities during various stages of a project (Stewart & Draper, 2009).

Research partnerships with Baker Lake residents evolved during a series of community visits between 2008 and 2011. As Table 1 depicts, visits varied in duration and involved different intentions and activities. Empirical material used in this article was derived from three qualitative modules. The first was structured as photo-elicitation (Harper, 2002). Ten research participants were invited to select photographs from their personal collections to reflect their relationships with the Thelon River. A total

of 147 photographs were contributed. Participants subsequently used their photographs in one-on-one conversational interviews to discuss their knowledge, stories, meanings, and experiences in and of the Thelon. With participants' consent,<sup>3</sup> photographs were copied and saved, and interviews audio recorded and later transcribed. When this process was loosely structured, the photographs proved effective at mediating, and bringing into dialogue, different knowledges and experiences.

The second module involved the lead author's participation in six experiential river journeys, four of which occurred with an Inuk hunter and her family. Journeys were of a day or less and included various modes of transportation over a range distances. They were documented using ethnographic methods including participant observation, photography, and GPS tracking (Aporta, 2009; Watts & Urry, 2008).

The third module entailed community research workshops emphasising knowledge translation and social learning. Participants engaged with photographs and information derived from the other two modules, and shared their stories, experiences, and meanings of the Thelon. As such, the workshops functioned simultaneously as a strategy for reporting results and for community interpretation of research.

### **Inuit and the Thelon**

Contrasting representations of the Thelon River as a bounded "corridor" traversing expansive tracks of barren wilderness, participants expressed their encounters with the Thelon as being part of complex networks of temporally and spatially dynamic trails. Aporta (2004) has described Inuit trails as physical manifestations of evolving social and individual memories that appear, disappear, and reappear upon the landscape as people travel and seasons progress. Known as *igliniit* in some Inuktitut dialects, these trails interconnect land, lakes, and rivers, as well as various cultural resources (Aporta, 2004; Gearheard et al., 2011). Indeed, trails are "more than evidence of travel, or a means to get from place to place; they are places in themselves and symbolize an important aspect of Inuit cultural identity" (Gearheard et al., 2011, p. 43).

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<sup>3</sup> As part of the informed consent process, participants were asked to indicate how they preferred their contributions to be acknowledged. In this paper, names that appear in single quotations are pseudonyms for the participants that requested confidentiality be maintained. Participants that requested direct acknowledgement are referred to by their actual name, a practice that is consistent with Wilson's (2008) articulation of relational accountability in research.

Table 1 Research activities that occurred in Baker Lake, Nunavut

<b>Dates</b>	<b>Intention of Visit</b>	<b>Research Activities</b>
July 02 – 17, 2008	Familiarization	Informal project planning meetings Pilot experiential journeys (motorboat, ATV x 3)
October 27 – November 09, 2009	Consultation	Formal and informal consultations with community representatives and organizations Project planning workshops Acquisition of letters of support Research document translation
May 03 – 21, 2010	Research visit 1	7 photographic interviews, 88 photographs contributed Experiential journeys (snowmobile, walking) Community research assistant recruitment
July 23 – August 01, 2010	Research visit 2	2 photographic interviews, 23 photographs contributed Experiential journeys (motorboat, ATV x 2)
November 17 – December 03, 2010	Research visit 3	1 photographic interview, 9 photographs contributed Experiential journey (snowmobile) 2 research workshops, 19 participants
October 17 – 25, 2011	Research visit 4	3 research workshops, 9 participants Research reporting

Understood in this broader context of Inuit trails, the uses of and relationships to the Thelon River assume a significance characterized by degrees of oscillation, vitality, and ambiguity. The following sub-sections illuminate three fundamental and interrelated aspects of this co-produced understanding. These themes emerged from content analyzing interview transcripts, participant photographs, and research field notes. While themes have been reported back to participants in the format of the community workshops noted above, it is important to remember that they speak only to partial truths. Other analyses yielding additional understandings are always possible and warranted.

### Seasons of Subsistence

It has been well documented that Caribou Inuit and their descendants have relied on the Thelon River to access the resource riches of the tundra interior (e.g., Rasmussen, 1930). Certain areas along the river have enabled hunters to intercept caribou along their annual migratory paths, while other places have provided opportunities for picking berries (e.g., *aqipiks*, or cloudberries), fishing, or collecting wood. Research participants reiterated these multiple affordances, but emphasized that they were seasonally distributed.

From late July until October hunters residing in Baker Lake prefer to travel up the Thelon by motorboat, sometimes as far inland as Beverly Lake. During this time, herds of fattening caribou with good skins for clothing tend to cross the river, which is flowing at a rate that allows skilled boaters to safely attain river rapids. The month of September is a particularly favoured time because of comfortable air temperatures and few mosquitoes. Thomas, an Elder, reflected that this “is the time to catch your caribou, put it underground, have it frozen for the winter, fermented...it wasn’t a boring time, we were all constantly busy, constantly going”. This season of activity includes family members who travel and camp with hunters and assist with preparing harvested meat and skins.

Some participants reported that lower autumn river levels limit river accessibility to small aluminum boats. Wayfinding remains possible only because boat drivers stay within deep-water channels, a skill enacted through perception of river dynamics, attention to signals left upon the landscape (e.g., an inuksuit indicating a sharp bend in the channel), and subtle and purposeful manipulations of the throttle and steering column. On exceptionally windy fall days, one hunter indicated that he travels by all-terrain vehicle (ATV); a popular mode for travelling trails more proximate to Baker Lake.

Uses and relationships to the Thelon shift as winter sets in and most of the river’s surface freezes. Compared to its direct use in the open-water season, the Thelon becomes more noticeably linked with land and lakes via trail networks. For example, *kingaryurk* is an area that ‘Anthony’, among others, uses regularly to cross the Thelon’s snow and ice-covered currents on snowmobile. The crossing enables Inuit safe and more efficient access to hunting areas west and northwest of town. Although the Thelon does not function as a direct path during the winter, sections of the river remain critical to Inuit livelihoods.

The Thelon also provides many Inuit with a preferred source of drinking water, a value that is curiously absent in government river heritage documents (CHRS, 2000). On spring visits to her grandfather’s cabin located along the Thelon’s eastern shore and 20 minutes by ATV from Baker Lake, ‘Denise’ assists with gathering drinking water from the river. She explained that “when the ice break-up starts...[we] usually drive down on their ATV and get some ice and then they have a big container that they store it in”. Gabriel contributed a series of photographs depicting his related strategy for retrieving ice in the winter. After travelling cautiously by snowmobile to the mouth of the Thelon, slabs are chiselled out of the surface ice, anchored with a rope, and hauled onto a *qamutiik*<sup>4</sup> (Figure 2). When the slabs arrive back to town, they are stored outside until placed to melt indoors in large water containers. Gabriel indicated that this water is “way much better than you get from the tap, better for your body”.

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<sup>4</sup> A *qamutiik* is a sled, often made of wood, which is pulled by dog-team or snowmobile.



Such preferences and benefits are also important to Elders who used river ice/water for making tea and coffee during community workshops, and for visitors to the area who, according to 'Beth', "would be constantly drinking because it is so pure".

### **Social Relations**

Participants documented that the Thelon is a deeply social place. In particular, they suggested three aspects of their social realities that are expressed in their use of the Thelon River.

First, the river has supported Inuit participation in a wage economy. For much of Baker Lake's history, including its establishment in the 1920's by the Hudson Bay Company, fur trade and wildlife management activities have been prominent. From Thomas' trap line, which we explained "cut across the lands" from Beverly Lake to Baker Lake and south of the Thelon, supplies of fox skins were procured to trade at the settlement's post. Later on, he assisted *qablunaat* wildlife officers by tagging caribou at river crossings. More recently, the Thelon River at Schultz Lake served as the base for a small-scale fly-in fishing lodge. 'Beth' explained that the lodge catered to wealthy North Americans fishing for trout, char, and grayling. While current tourism outfitters in Baker Lake are scarce, resource extraction industries are, more than ever, centre stage. In addition to Agnico-Eagle's Meadowbank gold mine, Areva's proposed uranium mine 80 km west of Baker Lake promises more local employment opportunities and social services, in addition to year-round road access to the Thelon's lower sections. What this suite of examples illustrates is that, over time, the Thelon River has afforded Inuit opportunities to participate in economic networks that extend beyond the local or regional.





*Figure 2: Ice slabs from the mouth of the Thelon are used for drinking water. Source: Gabriel*

A second aspect, social encounters, signifies that Inuit experiences of the Thelon are rich in interactions with family and friends. Most participants agreed that travelling the Thelon is a family affair; that “families travel to the land together and share tea and conversation” (‘Anthony’). Gabriel emphasized that the Thelon is a place where he connects with his children; while Elders at a workshop pointed out that the Thelon was an important place to share food among family. These river trail relationships were

also observed during experiential journeys, particularly on a July 2010 motorboat trip in which the route travelled was determined by a hunter's desire to experience a certain place with his daughter and to meet his siblings to share harvest. But while it is family or extended family that often travel the Thelon together, the river trails are inviting space for interacting with many other Inuit encountered. Joedee illustrated this best:

*We don't always be together, but up the Thelon River some of the hunters when we see each other we get together and have something to eat or just talk about stories or what we go through. And that's how we get together. We don't always be together but somehow we just get together.*

Amid the vastness of the tundra landscape, Inuit relate to the Thelon as a meeting place. Indeed, encounters on the land were observed to foster communication within peer groups and across generations. When asked why this occurs, 'Beth' explained that

*It brings us back to how we used to live, being a community much more closely knitted community than we are today because of no TV here. Sometimes I have to talk to your kids, but up there they communicate with you and I always teach Inuit. There is lots of chance to teach them to, how to respect the land.*

Third, contemporary use of the Thelon reflects attributes of leisure, a construct with multiple meanings and dimensions related to activity preferences, non-work time, intrinsic motivation, and perceived freedom (Mannell & Kleiber, 1997). Although certain offences (such as misrepresentation or the reproduction of colonialist tendencies) can arise by attaching Euro-American concepts to the practices of Indigenous groups (Fox, 2007), we were struck by the many instances in which participants associated their Thelon experiences with leisure-like ideas and practices. 'Denise', for example, specified that her family, among others, take boat rides up the Thelon for "recreational purposes" like picnicking. Valerie described using her cell phone to engage in creative environmental photography while travelling the Thelon. Beyond leisure-like activity examples, other participants associated their use of the Thelon with time away from work and a positive state of mind. According to 'Beth', "because when you work nowadays, at weekends you are tired but you still want to go out there because it is peaceful and you feel really great. It is our happy time to be. It's good for the soul". Likewise, for Joedee: "On the weekend we go for what we want to eat. We hunt. And at the same, have fun with quiet air place". Along the Thelon, Inuit subsistence and "leisure" are not mutually exclusive. This is a marked contrast to Canadian Heritage River System documents (1990; 2000) that limit the recreational values associated with the Thelon to those pertaining to wilderness (e.g., canoe expeditions) and nature-based tourism (e.g., sport fishing). It also suggests that Inuit may adopt leisure-like meanings and practices as an adaptive response to the social and cultural changes associated with settlement lifestyles and to maintain connections to their homeland and traditional trails.

## Knowledge

Corroborating other published reports (e.g., Mannick, 1998; Pelly, 1996; Raffan, 1992), Baker Lake participants identified with the Thelon River as a place where Inuit knowledge is produced, stored, transmitted, and revised. That Inuit knowledge, or *Inuit Qaujimagatuqangit*, is relational and adaptive (see e.g., Bennett & Rowley, 2004; Tester & Irniq, 2008), rather than bound to a historicised notion of “traditional”, was mirrored in the ways that Inuit participants use and relate to the Thelon.

Amongst other landscape features and resources, using the Thelon fosters Inuit knowledge expressed as observations of change at diverse scales (e.g., environmental-cultural, local-global). For example, participants often perceive the dynamics of wildlife habitat while travelling. Valerie noted that muskoxen “move everywhere; they don’t stay in one spot”. While hunting during the spring of 2010, she observed muskoxen much closer to the hamlet than she had ever before. Grizzly bear is another species with changing ranges observed by and known to Inuit. According to Thomas, “around here there hardly used to be any grizzly bears, but in the last few years now grizzly bears seem to be moving eastward”. On the south side of Schultz Lake, ‘Anthony’ photographed the cabin shown in Figure 3 to document damage caused by a grizzly. Such damage was considered a secondary concern relative to a bear’s ability to uncover caribou meat stored, preserved, and prepared in various caches kept on trail. Adapted responses to increased grizzly bear presence and their associated cultural threats have included opportunistic harvesting and reduced quota restrictions.

Participants in this study also associated observations of changing weather and climatic patterns with their Thelon River experiences. Thomas indicated that the “summers are a lot hotter now”; that because of “the lack of snow on the ice, the thickness of the ice has increased a lot”; and that “nowadays the wind comes from any direction”. He observed that the prevailing winds are no longer strictly from the north and when blizzards come in “the wind is strong right away”. Literature associated with vulnerability and such environmental change (e.g., Ford & Pearce, 2012), corresponds with other concerns raised by Gabriel about accessing ice for drinking, and by ‘Anthony’ in terms of using the snow and ice river crossings. Winter weather and ice conditions are harder to predict, meaning that both practices entail greater degrees of perceived and real risk.

Memory is another manifestation of knowledge apparent in Inuit relationships with the Thelon River. Specifically, the river (and photographs of the river) provides participants with windows into the past, the backdrop against which aforementioned observations of change are understood and cultural meanings and social relations deepen. Stories from the “old days” when people lived on the land circulated among Elders involved in workshops. These included the telling of hunts by kayak, Lucy’s unique caring relationship with a sled dog, and ‘Hank’s’ description of why particular places were given their Inuktitut names. Memories of ancestors also layer upon the riverscape, as noted by participants who had travelled far inland and upriver to honour deceased relatives at gravesites. In addition to other lithic traces such as tent rings, kayak stands, inuksuit, fox traps, and caches, these gravesites illustrate that individual and cultural memories associated with the Thelon have unequivocal material dimensions. In this way, the interplay of social and material, environment and culture, past and present, are recognizable in the traces retrieved from memory by participants, prompted by the visual, auditory, olfactory, experienced Thelon as well as the remembered Thelon.



Figure 3: A cabin damaged by a grizzly bear. Source: anonymous Baker Lake participant

Lastly, Inuit participants described the Thelon River as ideal space for communicating knowledge between generations and across cultures. This aspect of use is linked to the social relations discussed above. Participants confirmed observations during river journeys that, when on trail, children and youth are more engaged learners. They actively listen to stories told by parents or Elders, appear keen to practice their skills with a knife or motorboat, and are more willing to eat country foods and speak Inuktitut. As a parent, Gabriel placed tremendous importance on encouraging these direct experiences for his kids: “That way they’ll know”. ‘Beth’ expressed a related sentiment in terms of the cultural learning that often occurred among the fishing lodge tourists.

*For a long time people thought this is barren, isolated. [Visiting the Thelon] shows them that people live here and they depend on the land to survive. I think it gives them a better understanding of another world...even though a lot of them stay for a real very short time, they learned a lot I think from us, from the guides.*

An Elder, Anautalik, recalled several spontaneous encounters with river canoeists, which afforded similar opportunities to share knowledge between cultures. These exchanges were described as relatively reciprocal, with canoeists and Inuit exchanging food, environmental information (e.g., caribou sightings, forecasts, or navigation strategies), and stories from their respective trails.



## Prospects for River System Governance: Adaptive Co-Management of Northern Rivers

The temporal and spatial dimensions of Inuit relationships with the Thelon River, understood as part of dynamic socially-ecologically-culturally constructed trails, have implications for river system governance in Nunavut and Northern Canada as forms of embodied knowledge. The stories, meanings, and observations presented as findings argue for the recognition of the primary and unique contributions to be made by Inuit, beyond their existing, legislatively recognized roles. For this reason, we argue for the application of an adaptive form of co-management, designed to incorporate multiple perspectives and knowledges, and to form hybrid understandings early in the management process that provides a basis for collaboration, responsiveness, and equity. In this way, the power sharing needed to enable research as an effective knowledge-sharing instrument also supports sound and acceptable decision-making and action in co-management. Building from equitable and inclusive governance is in itself an adaptive strategy for social-cultural-ecological change as well as a potential response to system change.

The choice of a co-management strategy stems from the political landscape, both in terms of recent history, sketched above, and also in response to the clearly articulated, diverse, but provisional and partial perspectives of the Thelon and its values and meanings elucidated in this study. A system of participatory river management that fails to acknowledge the distinctions not only amongst perspectives of those interested in it, but also amongst the rights and responsibilities of parties concerned for the future of the Thelon, will most likely fail in the long-term. The Nunavut land claims and the existence of the Nunavut Government, both with strong interests in culture as a basis for decision-making, are statutory parties, as is the federal government, represented within the Thelon by Parks Canada and the Canadian Heritage Rivers System. Local practices of both Inuit and *qablunaat* (e.g., those enacted in the CBPR represented above) carry particular perspectives as well. Such hybridity in understanding, application of knowledge sources, and management structures is potentially adaptive: it offers the opportunity for new insights and rapid responses built on an appreciation of subtle indicators of incremental change iteratively, as they become visible in fine-grained approaches to studies of environmental change. ‘Anthony’s’ experience of change and risk at river crossings, for example, might marshal discussion, if not immediate and locally sensitive action, aimed at managing for safe and continuous access to cultural landscapes. Similarly when evidence is pooled and consensus as to meaning is built in the dialogical context of co-management and shared responsibility (or perhaps even in research workshops), the strong values of diversity are able to manifest, ultimately finding expression in policy and action.

Adaptive co-management permits the creation of shared “space” for engaging across these many kinds of difference: differences of knowledge, of rights and responsibilities, of understanding, and of power. However, perhaps most importantly, it creates space within which these and other differences can be shared for common aims of sustainability, or other tentative “ends” related to and affecting place, meaning, and management. It can foster, for instance, the aforementioned convergence of relations along the Thelon River that invite youth engagement and cross-cultural awareness. It likewise champions encounters that enable cultures to potentially adopt lessons from one another; the leisure-

like meanings associated with Inuit use of the Thelon referred to above is one possible example. As noted by Plummer and FitzGibbon (2007), co-management offers a context for social learning, clearly an important aspect of adaptation. Given the recognized need for adaptive responses to Arctic environmental change (Murray et al., 2012), as well as the recognition that place as experienced by Inuit in the case of the Thelon contributes to culture and livelihoods, co-management can be seen to be a desirable and equitable management choice within the Thelon watershed.

Recognizing the local, national, and international significance of the Thelon to interests as diverse as those of Inuit and their organizations; conservation and preservation bodies, both governmental and non-governmental; and globalized development, including mining; arguably an integrated and inclusive management paradigm is needed. Given that the region is subject to legal authorities stemming from unextinguished aboriginal rights to lands and resources, and their successor land claims regimes; from wildlife authorities such as the Beverley-Quamanirjuaq Caribou Management Board; and more recently to federal policy regimes; a hybrid approach to management in the region is already understood amongst northerners. But if the renewed “northern vision” articulated by current federal authorities—which emphasizes Canadian sovereignty and improving environmental protection, social and economic development, and governance (Government of Canada, 2012)—is to deliver more than past visions of northern economic frontiers driven by possibilities of mineral wealth, it will require investment and involvement by all of the diverse interests identified above.

For example, despite being recognized by Indigenous Peoples, scientists, legislators, judges, conservation interests and a host of others, the future of the “great herds” of caribou still remains in doubt and demands attention (see e.g., Hummel and Ray, 2008). Although the caribou herds that inhabit the Thelon, and other Arctic regions in North America, are often used to symbolize wilderness values to southern citizens in both Canada and the United States, and have shaped legislation behind parks, reserves, land-use planning, land claims, and a host of regulations, the continuing threats from development indicate that wildlife is less appreciated by interests outside Inuit communities. From the perspective of another resource of global significance, water is increasingly under scrutiny, whether for management, conservation, consumption, or commodification. The complexity of river management can only increase as links between climate and surface water are understood and acknowledged (see e.g., de Villiers, 2003), but also felt and lived in the ways described by Gabriel and others during this study. Clearly, water offers another focus of attraction for a wide range of interests, again across scales. Given these two simple and quite different examples, one existing under constant threat due in part to its migratory nature and development forces, and the other seemingly also likely to be imperilled by long-term system changes that will also impact the first, how can we begin to talk about integrated river governance and the interests of future generations or of wildlife, given the diverse, complex, shifting, and at times conflicting nature of the current interests involved? Even the management and scientific authorities charged with interjurisdictional cooperation are challenged by the prospect of doing more in a time of budget cuts and diminishing institutional resources, both fiscal and human. However, this is not the first run of the boom and bust cycle of interest in northern lands and peoples, and there are durable lessons from earlier struggles, notably from co-management in the context of northern land claims. Cases such as the Inuvialuit Fisheries Co-management Board illustrate the capabilities of

adaptive and responsive management that develops from the long-term, stable practice of co-management involving governmental regulatory authorities and those who use and depend upon living resources (Ayles, Bell, & Hoyt, 2007). Similarly in a more complex, agrarian and industrialized landscape farther south, where the focus of management is also riverine, Plummer and FitzGibbon (2007) provide evidence that even where management stakeholders are further divided as a result of histories complicated by private interests, co-management offers paradigmatic benefits enabling cooperation.

Given the familiarity of northern peoples and territorial and national governments with co-management and with regulatory authorities under land claims regimes, integrated approaches to landscape scale management of locally, regionally, nationally and internationally significant features can most productively be framed using adaptive co-management. Recognizing the continuing long-term implications of climatic and economic pressures, such as those due to mining and arctic shipping, perhaps the emphasis must inevitably shift more strongly to the adaptive nature of the collaborative learning required and made possible through adaptive co-management.

## **Conclusion**

This article has illuminated Inuit uses of and relationships to the Thelon River in Arctic Canada and discussed associated implications for northern river system governance. Starting from the prospects of community-based participatory research for knowledge co-production, and culminating in the promise of co-management for enabling collaborative learning and adaptation, we have attempted to articulate the complexities and possibilities in understanding and respecting northern environments as homeland. As the preceding empirical material attempts to show, Inuit use, relate, and occupy the Thelon River as part of socially, ecologically, and culturally constructed trail networks. The lived realities of these landscapes and their histories constitute more than quaint episodes: they represent the embodied past extended into a problematic present. The uncharted trajectory toward a shared future can be informed by the successes that this survival implies, or not. In the latter case, memories of Franklin's doomed men trekking to their deaths in denial of the validity of land skill lessons learned by Inuit and other Indigenous peoples through constant testing comes to mind. Better to follow Rasmussen, learn the strengths and wisdom of the local people and share the effort of the journey and travel together to mutual benefit.

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