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PLANTS IN A "SEA OF RELATIONSHIPS": NETWORKS OF PLANTS AND FISHING IN MAKKOVIK, NUNATSIAVUT (LABRADOR, CANADA)

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The importance of plants to peoples of the circumpolar North is often overlooked by non-residents. This oversight stems partly from perceptions of northern diets as exclusively meat- and fish-based and from a tendency for visiting researchers to assign plants to categories of utility—edible, medicinal, material—without also considering complex relationships between plants and culture. This paper focuses on the "sea of relationships" (Cajete 2000:178) between plants and fishing in the Inuit Community of Makkovik, where plant mentors teach how plants are integrated into cultural practices and day-to-day life. We looked to Indigenous methodologies for guidance in developing research questions, learning about plants through story and practice, and understanding and communicating collective knowledge. Makkovimiut plant mentors collectively tell a story of plants and fishing, illustrated in this paper by Makkovimiut artist Aunt Nellie Winters through her Inukuluk drawings. These oral and visual stories describe plants as part of a large network of relationships connecting trees, fish, birds, soil, berries, and people. Similarly, cultural practices are connected to each other; fishing is connected to berry picking, sharing, traveling, gardening, and celebrating, among other practices. Indigenous methodologies, with their focus on relationships, encourage us to seek connections between people and plants, and broaden our understanding of utility and value. Thinking of plants in relation—connected to everything in an active web of relationships—helps us recognize plants as vital facilitators of cultural practices, values, and community well-being and offers insights into the different kinds of relationships we might cultivate within this interconnected web.

Keywords: *Inuit, plants, fishing practices, Labrador, Indigenous methodologies*

Introduction

Mary B. Andersen is Makkovimiut, a resident of the Inuit Community of Makkovik in Nunatsiavut (Labrador, Canada). In speaking with Mary B. about topics for a conference presentation, we asked her what she believed was the most important message to convey to conference participants about plants in Makkovik. She replied:

> Plants give us everything: food, shelter, well-being, heat. They protect the soil from erosion. All medicines come from plants, even if people think

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> they're made somewhere. That understanding is getting lost now. You don't realize it until you think about it how much we depend on plants. It would be pretty bleak if you never had plants. Plants are so important in the food chain. Without plants, what would we have? We wouldn't have very much (Mary Andersen[1]).

Other Makkovimiut, such as Aunt Ellen Andersen[2], asked that we share a similarly strong message of basic tenets: "Tell them about our plants...All of our plants, what we have, any of them. They're all important."

Mary B. Andersen and Aunt Ellen Andersen speak as Indigenous residents of the circumpolar North and their words attest to the importance of the plants of their home. Their voices join an ever more audible chorus of other northern voices, who speak to the importance of people-plant relationships in recent publications (Bandringa et al. 2010; Jones 2010; Ziegler et al. 2009). Field guides to plants of the circumpolar North increasingly focus on local uses and names for plants, as well as translations into local languages (Blondeau et al. 2010; Burt 2000; Cuerrier and Hermanutz 2012; Mallory and Aiken 2012). These books all celebrate the importance of plants to northern peoples, just as Porsild (1953) did in his commentaries on the importance of plants to life and culture in the circumpolar North.

These first-person and published accounts provide an alternate narrative to the lingering perception that northern peoples, especially Inuit, subsist almost entirely on meat and have few uses for plants. Writings by Frank Boas (1888) during his visit to Qikiqtaaluk (Baffin Island) illustrate how plants are considered of minimal importance to Inuit, particularly in diet. "As the inhospitable country does not produce vegetation to an extent sufficient to sustain life in its human inhabitants, they are forced to depend entirely on animal food" (Boas 1888:419). Similar conclusions on the negligible value of plants in Inuit diet can be traced through other early works (Draper 1977; Lieb 1929; Stefansson 1960). A focus on animal foods continues to eclipse the role of plants in more recent academic and media descriptions of northern diets (e.g., Chen 2015; Jeppesen and Bjerregaard 2012; Ross et al. 2006). Plants may appear less important in the circumpolar North because they represent a calorically smaller part of the overall diet and because dietary energy, protein, and fat come primarily from animals (Fediuk et al. 2002). Plants, however, are rich sources of vitamins and micronutrients, even in small quantities (Anderson 2011; Fediuk et al. 2002; Grivetti and Ogle 2000; Kuhnlein et al. 2002) and may be particularly important in the North in mediating the physiological effects of high-fat diets (Johns 1996).

Discussions of foodways in the circumpolar North can be biased towards animal foods and the importance of plants in diet and as manageable resources overlooked (Lepofsky et al. 2001; Rautio 2014). The undervaluing of plants in the North may be partly due to an archaeological record that disproportionately preserves animal remains (Bergman et al. 2004). Archaeological remains also tell us very little about the beliefs, norms of behavior, and complex cultural relationships between people and plants (Beckwith 2004; Deur 2000). However, the limitations of archaeological inquiry do not alone explain why academic scholarship has attributed a minimal role to plants in the lives of northern

peoples. As some authors note, it is surprising that existing ethnographic records of people-plant relationships have been overlooked (Lepofsky et al. 2001). Dritsas (1986) critiques researchers for incorrectly assuming that plants are insignificant to northern peoples and suggests that more sensitivity to women's roles would better recognize the value of plants to Inuit. In all regions, gender bias may influence the status and attention afforded to plant gathering (Deur 2002; Norton 1979), particularly in early ethnobotanical works, few of which are authored by women (Ford 2011). Observer bias may also include other types of bias; for example, Lepofsky et al. (2001) question whether lower levels of plant diversity at northern latitudes may impact perception of plant value and use in these regions, reflecting a southern observer bias. In western North America, European notions of agriculture and "wilderness" blinded explorers and colonists to Indigenous systems of cultivation (Deur and Turner 2005); similarly, day-to-day interactions between northern peoples and plants may be sufficiently different in terms of harvest quantity, season, location, or purpose so as to go unnoticed by southern visitors. Harvesting practices in general may simply not be highly visible to non-residents (Anderson 2011).

Visiting researchers often organize plants into discrete categories as objects of material use, including use as food, medicines, and materials such as fuel, dyes, or timber (Cook 1995). In contrast, many Indigenous traditions consider plants part of an interconnected network of relationships that is maintained and strengthened through active practice (Kimmerer 2003; Meyer 2001; Salmón 2000), wherein value is not solely measured by practical utility (Meyer 2001). We submit that a focus on discrete categories of edible, medicinal, and material plants constitutes a narrow definition of utility and that a lack of attention to the integration of plants into everyday cultural practices has contributed to underrepresenting the importance of plants to Inuit. In this paper, we highlight how integral plants are to fishing practices in the Inuit Community of Makkovik (Nunatsiavut, Labrador, Canada) and how connections between plants and fishing support not only Makkovimiut livelihoods, but also well-being, social connections, relationships with land and history, and personal connections to stories rooted in meaningful places. Moreover, as part of a connected system, changes to plants can have wide-ranging repercussions that are felt in many parts of these cultural-ecological networks. As Mary B. Andersen[1] observes, "Without plants, we wouldn't be the same unique people."

The Inuit Community of Makkovik

This work is based in the Inuit Community of Makkovik (55° 07′N, 59° 03′W) (Figure 1). Makkovik is one of five communities in Nunatsiavut ("Our Beautiful Land" in Inuttitut), the first self-governing Inuit region in Canada (Nunatsiavut Government 2016). It is one of the more southerly Inuit communities in Canada, surrounded by boreal forest, high rocky barrens and outcrops, and the Labrador Sea. The community is home to approximately 360 people (Inuit Community of Makkovik 2017).

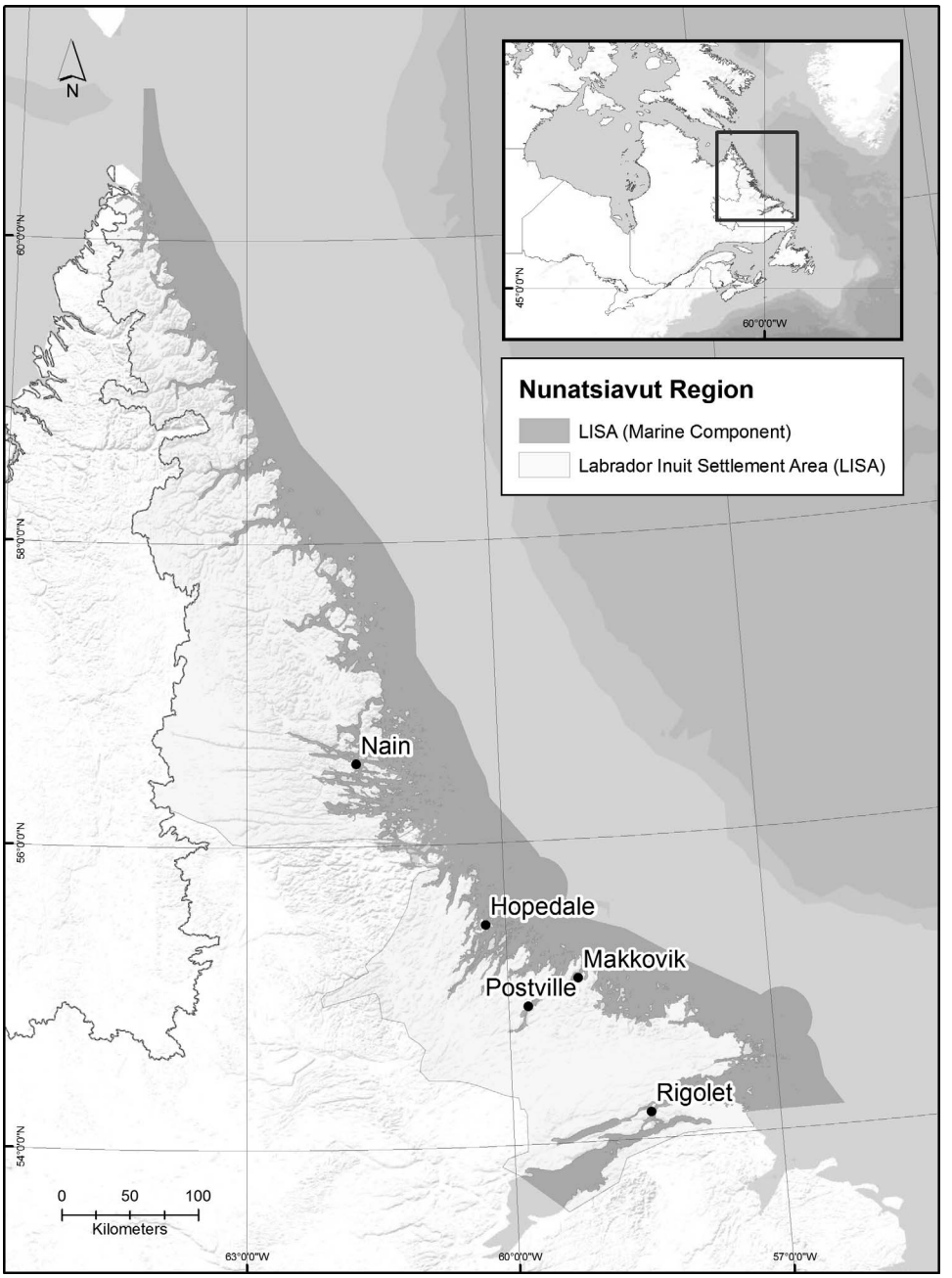

Figure 1. Map of the Labrador Inuit Settlement Area (LISA). Used with kind permission of Torngat Wildlife, Plants and Fisheries Secretariat.

Makkovik came into being as a permanent settlement in 1860 as a small trading post and Moravian missionary station that functioned as a trading hub for families living in nearby seasonal winter and summer homes. Many families continued to live in their traditional family areas close to the new settlement of Makkovik and visited the town to attend church services, sell furs and fish, and purchase supplies. From October to July, families lived in seasonal winter homes at sheltered mainland sites and moved to summer fishing stations at outer bays and islands in late June or July each year. Only in the 1950s did families move to Makkovik on a permanent full-time basis, when it became mandatory for children to attend boarding/residential schools run by the Moravian Church. Entire families moved to the town in order to be closer to their children (Herb Jacque[3]). Families from the more northern communities of Nutak and Hebron were relocated to Makkovik in 1956 and 1959, respectively, when these two northern communities had their services removed by the provincial government, the Grenfell Mission, and the Moravian Church (Brice-Bennett 1977; Nunatsiavut Government 2016).

Many Makkovimiut continued working in the commercial cod (*Gadus morhua*) fishery until it closed in 1992 under the cod fishery moratorium (Herb Jacque[3]). Since that time, commercial fishing and fish processing in Makkovik has shifted to snowcrab (*Chionoecetes opilio*) and turbot (Greenland halibut, *Reinhardtius hippoglossoides*). Fishing for codfish, Arctic charr (*Salvelinus alpinus*), salmon (*Salmo salar*), and trout (*Salvelinus* spp.) remains a vitally important practice for providing families with food, even as commercial fishing opportunities have decreased. Fishing berths, traplines, and hunting areas are still closely tied to traditional winter and summer family places near Makkovik, where many families now have their cabins. Makkovimiut preferentially harvest berries close to their traditional family places, especially redberries (*Vaccinium vitis-idaea*), blackberries (*Empetrum nigrum*), bakeapples (*Rubus chamaemorus*), blueberries (*Vaccinium* spp.), and currants (*Ribes glandulosum*). Fuelwood and berries are harvested for immediate and extended families as needed and both are extensively shared (Aunt Annie Evans[4]; Todd Broomfield[5]). Plants in Makkovik are given as gifts and are only very rarely sold. Many other communities in Labrador maintain similar customs of sharing plants (Karst and Turner 2011).

Indigenous Methodologies

This research is guided by Indigenous methodologies, which Indigenous scholar Margaret Kovach (2009:20) describes as "the theory and method of conducting research that flows from an Indigenous epistemology" or Indigenous ways of knowing. These ways of knowing are "born of land and locality" and are "purposeful and practical" (Kovach 2005:28). Indigenous epistemology upholds experience as a way of knowing and storytelling as a way of teaching (Kovach 2005). An "Indigenous perspective/theory" (Kovach 2005:28) additionally includes respect for collectivist research principles, ecological integrity, and

locally resonant and authentic methods and tools for learning (Kovach 2005). Though Indigenous methodologies share common ground with other critical and emancipatory approaches, such as participatory and feminist methodologies (Kovach 2005, 2009), Indigenous methodologies differ in two key aspects. First, Indigenous methodologies are rooted in collective cultural principles, including the collective nature of knowledge. Second, they emerge from the concept of relationality, which recognizes the interrelatedness of all beings and the responsibilities inherent in maintaining and strengthening those relationships, including research relationships (Kovach 2009; Wilson 2008).

Because Indigenous ways of knowing are rooted in specific places, engaging with Indigenous methodologies is not a prescriptive research approach; research practices must adapt to and reflect the local context. In her capacity as Community Liaison Officer with the Nunatsiavut Government in Makkovik, Makkovimiut author Carol Gear has advised and shaped this research since its inception by insisting on methodological approaches that are appropriate for her community. Aunt Nellie Winters is a Makkovimiut Elder and plant mentor whose storytelling and artistic talent figuratively and literally illustrate her extensive lived experience of plants and fishing. The non-Indigenous and non-resident authors of this paper (Erica, Gita, and Jeremy) have looked to Carol, Aunt Nellie, and Makkovimiut plant mentors, as well as Indigenous methodologies literature, for guidance throughout this work.

In the following paragraphs, we describe the methods through which we have tried to put Indigenous methodologies into practice. In particular, we highlight the values and processes that determine research questions, how we choose methods and understand meaning in findings, how we work within the collective nature of knowledge, and how we practice reciprocity and fulfill our obligations as researchers (Kovach 2005, 2009; Louis 2007; Meyer 2001; Wilson 2001, 2008). In the findings section, we aim to reflect the collective nature of knowledge (Wilson 2008) and story as research (Kovach 2009; Moore 2017; Smith 1999) by weaving together the experience and knowledge of many Makkovimiut plant mentors into a collective story of plants and fishing in which all plant mentors have a place (Smith 1999). This approach helps us appreciate not only relationships between plants and fishing, but relationships that link all beings in an interconnected web (Bawaka Country et al. 2015).

Larger Research Context

Indigenous methodologies insist that research topics and questions must reflect community needs, respond to Indigenous goals and protocols, and be collaborative (Louis 2007). Consequently, our work began with three separate preliminary visits to Makkovik (2012–2013) to learn about research priorities in the Inuit Community of Makkovik on the topic of people-plant relationships. One of the central research needs identified by Makkovimiut on this topic was documenting plant knowledge in Makkovik, particularly the knowledge of Elders. This community priority directed our first research objective, from which this paper emerges: to learn about Makkovimiut relationships with plants in the broadest possible sense, by listening to the "stories people tell about plants" (Oberndorfer 2016:117).

Learning from Plant Mentors

Honoring and being accountable to all relationships are key tenets of Indigenous methodologies (Kovach 2009; Louis 2007; Wilson 2008). Community members and researchers invest significant time and energy in building relationships and developing the trust that allows stories to be told (Kovach 2009). We appreciate it is important to communicate some measure of the scope of the work to academic readers; however, we do so with some unease, for these metrics do not necessarily measure accountability or reciprocity on the part of the researcher, or indicate success from a community's perspective. During 20 separate visits to Makkovik (2012–2016), plant mentors (Makkovimiut who are knowledgeable about plants and consented to teach about plants) devoted over 250 hours of their time to discussions and apprenticeships, resulting in 147 verified transcripts. Guides familiar with the fishing history of the region spent an additional 40 days with Erica visiting important family areas near Makkovik by boat and snowmobile. Frequent visits, both research-related and social, are one way to demonstrate basic respect for and interest in the knowledge of Elders and to show reciprocity through investing time and effort in community life (Kovach 2005). Some of the ways we tried to actively contribute to life in Makkovik included organizing workshops on plant-based skills, developing plant programs for youth, and presenting plant-related talks at community events and Elders' dinners. Other contributions were less project-oriented, like baking for community suppers and volunteering during community events.

In Makkovik, Erica learned from 34 plant mentors, both in town and at traditional family places. This paper incorporates teachings from 17 of these plant mentors. Plant mentors and Erica talked about plants one-on-one, in small groups at family homes, and in larger groups during workshops. In Indigenous methodologies, stories emphasize knowledge rooted in context of personal lived experience and in the context of specific places (Kovach 2009). We learned "in habitat" while walking outdoors in Makkovik and at family cabins, where plants are in the context of their relationships and often more recognizable to plant mentors (Ootoova et al. 2001). We learned by doing, through apprenticing with mentors around specific plant skills, such as turning snowshoes, allowing Elders to teach in the way they had themselves learned (Carol Gear[6]). Discussions were semi-structured at the beginning of the project and moved to open-structured conversations as research relationships became more established and plant mentors began to direct the narrative according to stories that were important to them (Kovach 2009; Wilson 2008).

Audio recording, note-taking by hand, photography, and memory recall notes were used during and after conversations to help document cultural plant knowledge. Audio transcripts and notes were returned in draft to plant mentors and reviewed together with Erica to check for accuracy, identify potentially sensitive material, and add further detail. We follow an iterative consent and verification method (Oberndorfer 2016).

Working with Shared Stories

Plant knowledge in Makkovik is generally discussed in the context of active practices and values relating to plants. We kept a running list of the practices and

values that emerged from discussions, which became the thematic groupings around which to organize stories about plants (Kovach 2006). These thematic groupings include plant species, active practices involving plants, such as fishing, hunting, celebrating, and traveling, and links between plants, memory, and respect. The relevance of these categories was evaluated with plant mentors through one-on-one discussions, a community workshop and two presentations, which generated suggestions about overlooked themes and content. Erica used NVivo 10, a qualitative data analysis software, to organize transcripts and notes into these revised thematic groupings and this has provided the analytical framework for discussing Makkovimiut plant knowledge.

The findings section of this paper focuses on a collective narrative of Makkovimiut voices on the topic of fishing and plants, as brought together from over 600 pages of transcripts. The stories are told (mostly) one voice at a time, but they are collectively familiar and they inform and enrich one another as they build towards a collective and interrelated knowledge. Carol likens building a community narrative to making a quilt with interconnected squares:

> Many artists have their own way of making squares to fit into that quilt. Many ways are different depending on the crafter's knowledge and strengths. Once you put the quilt together, it's beautiful because you get many different shapes, colors, textures, and styles for each square, instead of just getting the same square over and over. Once the piece is put together and you are able to stand back and see it, it will show a very diverse and special quilt, because so much knowledge has gone into putting it together (Carol Gear[7]).

This community narrative and this paper retain Makkovimiut names for plants, with scientific nomenclature from the Database of Vascular Plants of Canada (VASCAN 2015) in parentheses or brackets.

Drawing *Inukuluks*

A key part of our findings section is the figure that visually illustrates the relationships between plants and fishing (Figure 2). The *Inukuluks* ("little people") shown in Figure 2 are drawn by plant mentor Aunt Nellie Winters of Makkovik. Aunt Nellie is a well-known Nunatsiavut artist whose sewing and embroidery is exhibited in galleries, museums, and private collections both in Canada and internationally. She is also a skilled illustrator, especially of the *Inukuluks* that are often used in embroidery. Aunt Nellie drew these particular *Inukuluks* over several days in January 2016 to visibly illustrate her knowledge of plants in relation to fishing practices and to illustrate examples of plants in the fishery that had been shared by other Makkovimiut plant mentors. This visual teaching method accompanied Aunt Nellie's in-depth descriptions of her experience of plants in the fishery, some of which she had discussed during interviews and plant walks. Through illustration, Aunt Nellie identified previously unmentioned examples of plants in relation to fishing. For example, Aunt Nellie drew an *Inukuluk* hitting nets with a stick to explain the method for cleaning kellup (seaweed) from nets and drew fish keeping cool in a bucket of kellup to show how kellup is reincorporated into the fishing process. Aunt

Nellie's pen drawings were scanned and imported into Keynote (Apple Inc. presentation software) and superimposed on a photo of Manaks Island, the family fishing place of Todd Broomfield of Makkovik.

Findings

Here we present an integrated community narrative woven from discussions with Makkovimiut plant mentors to describe some of the many relationships connecting plants and fishing. At first glance, a largely aquatic activity such as fishing appears unrelated to terrestrial plants. Visitors to Makkovik who go fishing with Makkovimiut friends may understandably focus on the most immediate aspect of fishing; namely, the part that involves hauling fish into the boat. In contrast, Makkovimiut understand through practice and shared oral traditions how plants support fishing at all stages of the practice and how fishing also supports plants.

> The juniper [*Larix laricina*] makes the snowshoes [Henry Jacque[8]], so that, in spring, when the snow is hard, you can cut the spruce [*Picea* spp.] that builds the boat and pick the *kutsuk* [spruce gum, *Picea mariana*] that seals her seams [John Winters[9]]. The juniper also makes the *killik* [anchor] that holds you in place and the juniper rind barks the nets [dyes the nets with bark] that haul the fish [John Winters[9]]. The kellup [seaweed, kelp, *Laminaria* group] you've picked from your nets cools fish in the pail [Aunt Annie Evans[10]]. Ashore, the blackberry het [*Empetrum nigrum* sod] smolders in the smokepot to keep away flies while you work and you hang fish on the net galet to make *pitsik* [dried fish] [Aunt Annie Evans[11,12]]. If there's yet snow on the high hills, you can store fish fresh for the summertime under salt, snow, and boughs [Aunt Nellie Winters[13]] or in the cold storage of a rock crevice hard-packed with snow and ice that never thaws out, even in summer [Toby Andersen[14]]. As the smokehouse puffs the trout full of flavor from the blackberry sod [Randy Edmunds[15]], you might pick a few currants [*Ribes glandulosum*] by the cabin where they grow best [Aunt Annie Evans[16]] and mend the nets with the spruce netting needle [Charles McNeill and Jim McNeill[17]]. The gulls eat the scraps from your catch and fertilize the land [Jessica Winters[18]] as you sit in the shade of the fishing stage with its blackberry sod and juniper bark roof [*Larix laricina*] [Aunt Annie Evans[12]; Toby Andersen[14]], rub *tulligunnak* [*Rhodiola rosea*] leaves on your sore hands to soothe them [Henry Jacque[19]], and remember to take a branch of fir [*Abies balsamea*] to scent the house with something other than fish [Carol Gear[20]].
>
> You can follow each practice further and talk about the spruce that would fuel the steambox to bend the snowshoe bows [Henry Jacque[21]]; before snowmobiles, the caribou moss [*Cladonia* spp.] and seal fat that nourished your dog team pulling a load of wood in the *komatik* [sled] [Aunt Annie Evans[22]] or the antiseptic sap that heals a cut while you're working [*Picea*

Figure 2. The relationships between plants and fishing. *Inukuluks* ("little people") depicting some of the ways that plants support fishing. Clockwise from bottom left: barking the nets with juniper (*Larix laricina*) bark in a large iron barking pot, with juniper bark lying next to the pot; making *pitsik* (dried fish), with fish keeping cool in a bucket of kellup (seaweed); *pitsik* hanging on a wooden net gallet; blackberry sod (*Empetrum nigrum*) smoldering in the smokepot to keep away the flies; fishing from a boat sealed with pitch (*Picea* sp.), with a *killik* (anchor) made of juniper; smoking fish in the smokehouse with blackberry sod and rotten wood; gulls eating scraps from the fish and fertilizing the land; storing fish in layers of salt and snow under conifer boughs on the hills; cleaning the nets of kellup, which will be used to fertilize the garden; picking berries while the fish are smoking, and harvesting *tulligunnak* (*Rhodiola rosea*) to help soothe sore hands from working with the fish; fixing the nets with a spruce netting needle. Drawings created by Aunt Nellie Winters, January 2016. Photo by Erica Oberndorfer, August 2013.

> spp., *Abies balsamea*] [Barry Andersen[23]]. From back to front, you can look at how fishing itself supports plant practices: working with line and tying knots on the boat helps you understand the best way to do the filling on your snowshoes [Henry Jacque[24]]; fishwater and kellup fertilize the garden and the wild rhubarbs [*Rheum* spp.] [Charles and Jim McNeill[17]; Enid McNeill[25]] and the currants you picked while waiting for the fish to dry are given to an Elder, who makes a jelly to share with her neighbor [Aunt Ellen Andersen and Uncle Harold Andersen[26]].

Parts of this community narrative are illustrated in Figure 2, in which Aunt Nellie's *Inukuluks* tell a visual story of the relationships between plants and fishing. Descriptions for each *Inukuluk* are given in the figure caption.

The kinds of interconnections that occur between plants and fishing can be traced throughout many other kinds of practices that connect Makkovimiut at the community level and that support cultural knowledge at a broader scale (Oberndorfer 2016). Plants are integrated into artwork, such as embroidery and carving. They are central in celebrating, such as in the cutting of Advent trees and the sticks carried by the *Nalijuks* on January 6. They enable not just traveling in the guise of snowshoes and boats, but safe traveling through reading the forest to forecast the weather and knowing which plants to turn to in emergencies. Plants are part of play for children as toys and games and part of cautioning children against danger. Plants promote more than livelihood in the practical and economic sense: they help define life in Makkovik.

Discussion

In Makkovik, it is more common to hear about plants in practice, in the context of day-to-day life, rather than as a list of edible, medicinal, or material plants sometimes found in articles and guidebooks written outside Makkovik. Partly, this finding is an outcome of our choice of story-focused and experiential methods for learning about plants. In wider-ranging narratives, plants are often elements in a larger story rather than the story's exclusive focus. Other visiting researchers note that rich insights on people-plant relationships emerge when Indigenous plant mentors discuss plants from their own cultural perspectives, rather than in response to repetitive questions about naming and classification (Turner et al. 2013). Our experience similarly suggests that stories about cultural practices seemingly unrelated to plants—such as fishing—can more thoroughly illustrate the importance of plants to Makkovimiut than interviews in which plant mentors are asked to speak solely to individual plant species. Carol explains that there are more appropriate ways of learning about plants in Makkovik than through the "oddity of categorizing plants and what they are used for."[7]

> I feel that this is a required researcher way of compiling data, but researchers should not convey that to people that they are working with unless they are other academics. Researchers will get all of that information and more simply by listening and living in our environment without ever even asking that question to anyone (Carol Gear[7]).

Carol identifies another method that has direct bearing on how researchers come to understand the importance of plants; namely, the timing of visits. She notes that what visiting researchers learn about plants is highly dependent on when they choose to learn about plants.

> I would also like to point out that, for any true researcher, they need to spend time in our community to fully understand how plants interact with us. Depending upon when you arrive, if it's in the summer months, when you think plants grow and will flourish, then you will miss out on the wreaths that are made for church at Christmastime, or the wood that

> is harvested during the winter months, or the ripe juicy berries that are harvested in the fall of the year (Carol Gear[7]).

If researchers are particularly interested in one dimension of plants in daily life, such as plants and medicine, Carol recommends they focus on the active practice of healing rather than on individual plant species. The discussion will yield different and possibly more diverse insights if it focuses on practical lived experience that is told through story.

> Rather than asking about how plants are used for medicinal purposes, ask what, if anything, could I use to heal a cut, or to cure a bad cough, or to help with my sinuses. You will hear stories about what was/is used and get all of the information that you need without mentioning medicine once. If you get too technical, many people, including seniors/elders, will draw a blank. They will feel that they are not doctors and don't know much about that, but by keeping it simple and asking what they would do in a situation, you will get a huge wealth of material (Carol Gear[7]).

Discussing active and personal experiences with plants acknowledges Indigenous ways of knowing, many of which are described as subjective and based in personal experience (Kovach 2009). Plant knowledge within a community may, in some cases, be related to age or gender, but Carol notes that each individual's unique situation, especially the specific needs of their family and household, will shape a person's experiences in life and, consequently, their relationships with plants (Carol Gear[27]). As a result, considerable time is needed to work in a conversational method (Kovach 2009) with diverse members of a community, in order to reflect the diverse learning that comes from diverse experience:

> Different people in town have different answers or actions based on their life, their job, their own context. Don't base opinions on small groups. Much of what a researcher learns about Makkovik will depend on who they speak with—and on what day. You need to talk to and get to know different people. It makes for better research to get different points of view (Carol Gear[28]).

Learning about plants in the context of their relationships—including with cultural practices and practitioners—can also encourage thinking on the concept of utility more broadly regarding plants, particularly in Indigenous communities. Utility is an essential concept in discussions of Indigenous knowledge. Many Indigenous scholars consider utility a fundamental tenet of knowledge (Crazy Bull 1997; Kovach 2009; Louis 2007; Wilson 2008). Meyer (2001:195) writes, "knowledge must be useful or have a function for it to be meaningful or important." However, "useful" does not exclusively mean in a utilitarian sense, in the way that plants are often described as belonging to categories of use to humans. The usefulness of plants is coupled with relationality or how humans exist in relation to plants and to other beings (Meyer 2001). On utility and plants, Meyer (2001:195–196) asks:

> What are the characteristics of a plant? Does it describe an idea, person, or place? Does it heal, is it food, how does it link us with our history? Do

> we use it for bowls? Do we use it for canoes? If we did not have a purpose for this plant it was not named...Mainstream knowledge advocates that we should know the name of every plant. It didn't make our universe smaller if we did not know every name of every plant. Those plants simply did not have a function or use in our world. It made what we did know relationary, spiritual, utilitarian, and thus important.

When we consider the utility of plants to Makkovimiut, we need a similarly expanded understanding of the word utility. Plants in Makkovik are not just useful in the conventional, unidirectional way of objects to be used. The value and utility of plants is at the systems level, in how plants function as one of many strands that connect people to fish, birds, soils, berries, and other people, as well as to aesthetics, memory, emotion, and cultural values.

In the example of fishing, there are countless active strands of connection among beings in the system. Makkovimiut connect to trees when they select a juniper tree (*Larix laricina*) to make a *killik* for a boat. The juniper *killik* holds the boat steady in order to catch fish, connecting trees to fish. Birds eat parts of the caught fish, connecting fish to birds. Birds fertilize the land and enrich the soil, connecting birds to soil. Soil grows berries and Makkovimiut pick berries to share with their neighbors, connecting people to people—encircling all beings in the system of relationships (Wyndham 2009). There are also strands of connection based on ideas, feelings, values, knowledge, and memory. Selecting the juniper for a *killik* requires a knowledge of trees, which is applied to the art of wood carving, connecting plants to art. The memory of fishing at traditional family homes generates feelings of connection to place. Sharing berries picked while fishing connects Makkovimiut to the enduring cultural value of sharing. Other cultural practices are also connected in this web of relationships, as practices like fishing support the knowledge needed to work the filling in your snowshoes, which then allow you to fell a tree to support your fishing. Language, too, helps connect different parts of this web. For example, the word "blackberries" (*Empetrum nigrum*) most commonly refers to an abundant local berry plant; however, "blackberries" is also used in reference to pteropods that are eaten by codfish early in the summer and are so named because they look like a "blackberry with wings" (Todd Broomfield[5]). Plants like *tulligunnak* (*Rhodiola rosea*), that have no English name in Makkovik, connect Makkovimiut to the Inuttitut linguistic and cultural heritage of the region.

Carol counsels that to understand the importance of plants in Makkovik, researchers have to exercise more than intellect. Instead of working to fit plants into categories, researchers have to work harder emotionally to appreciate the aspects of people-plant relationships that transcend categories. Plants are important to Makkovimiut because they create and strengthen connections with community, with the land, and with the self:

> I feel that we also have to recognize our five senses when it comes to any kind of research. When we are able to experience plants by using our senses, we are more in tune with our surroundings and we are able to get a sense of happiness and wellbeing. As examples, when we smell berries being cooked for jams, pies, and jellies, we tend to have happy memories of

> Christmas. When we touch plants, we get a sense of determination because there's a job to do, like making snowshoes. When we see different flowers, plants, or bushes growing, we know the seasons are changing. When we taste food that has been made with plants, we either do it because we're hungry or because we're celebrating. When we hear plants rustle, move with the wind, or fall if we've cut down a tree for firewood, it gives us a sense of calm because we are able to use that sense as nature's own antidepressant. It gives us a sense of wellbeing and connection to our surroundings. I often see notes of thank you on Facebook from students or family living away that have received a care package from home, which usually consists of jams, smoked charr, or *pitsik* that they miss so much (Carol Gear[7]).

Reflecting on how plants nurture connections also makes us appreciate how disruptions to plants have reverberations throughout a larger system:

> Due to development and loss of habitat, not only are the loss of plant lives affecting our way of life on the land, it's also affecting our water life as well. If there is less for us to eat, it also affects what is available for birds and fish too. There is a cycle, and when you start disrupting one part of it, it affects all (Carol Gear[7]).

People and plants in Makkovik live in a "sea of relationships" (Cajete 2000:178), in which all members and all connections make life possible. The idea of plants as passive objects finds little traction in many Indigenous worldviews because plants are active members within this sea of relationships. In some Indigenous traditions, plants have consciousness equal to or greater than humans, and humans are the junior members in a kinship network that includes plants (Deloria 1999; Tinker 2004). Some cultures see humans as originating directly from plants themselves (Kimmerer 2003; Salmón 2000). Indigenous relationships with plants extend beyond relationships, in the sense of interactions, familiarity, or knowledge of each other: people and plants are *relations*, kin.

Human beings do not simply exist in a sea of relationships: they have a responsibility for maintaining and strengthening these relationships and are accountable to all their relations (Salmón 2000; Tinker 2004; Turner et al. 2000; Wilson 2001). Part of this accountability is behaving appropriately in fulfilling one's role in relation to other beings. Plants "want to be used," and are honored through proper care (Blackburn and Anderson 1993:155). Harvesting also helps plants fulfill their destiny and ensure that plants are abundant (Blackburn and Anderson 1993; Salmón 2000). Speaking on the relationship between harvesting and berries, Aunt Nellie[29] says, "I was told by the old people that the more you pick, they better they'll grow." In Makkovik, the practice of sharing what you harvest, whether fish or berries (or even a boat in order to harvest on your own), helps Makkovimiut honor the fish and berries through respectful and careful harvesting, and it also shows active care and respect for neighbors. Aunt Annie Evans describes how extensively berries are shared in Makkovik:

> A lot of people gives berries and bakeapples, too, to people who can't get out. A lot of people here does that. I know last year Blanche Winters

> brought me a gallon of redberries. And she's given Hilda, my sister-in-law, bakeapples, eh. And I do give my sister-in-law bakeapples, too.... Here where everybody knows everybody, everybody knows the people who always had berries but can't get out to get them now. I think everybody knows[4].

Knowing who to share with is made possible by strong relationships within the community and sharing helps to further reinforce those relationships.

When Makkovimiut purposefully interact with plants and fish as part of everyday cultural practices, they strengthen the web of relationships that connects people, plants, fish, and everything else. They participate in a "kincentric ecology":

> Indigenous people are affected by and, in turn, affect the life around them. The interactions that result from this "kincentric ecology" enhance and preserve the ecosystem. Interactions are the commerce of ecosystem functioning. Without human recognition of their role in the complexities of life in a place, the life suffers and loses its sustainability. (Salmón 2000:1327)

Engaged participation in this kincentric ecology supports a "living mutualism" (Sheehan 2011:69) of plants, fish, and Makkovimiut that is maintained by continued participation in these relationships (Salmón 2000; Wilson 2008). It also supports a caring and connected community with an ethic of care and responsibility for neighbors. A culture of sharing encourages active engagement with the land, since to participate in sharing, one must first have something to share. Active engagement with the land forges connections to place and nourishes well-being. Actively practicing cultural traditions like fishing is a way to learn about plants in context and to access other opportunities for learning, since "knowledge that is practiced is knowledge" (Meyer 2001:196). In this way, engaged learning and development of cultural knowledge are also embedded in this sea of relationships.

Conclusions

Plants are an essential part of a web of relationships that make life possible in Makkovik. Through their complex integration into daily life, plants have greater value and reach than the economic, dietary, and material categories to which they are often assigned and to which complex cultural practices are sometimes distilled. When we assign plants to categories like food, medicine, and materials, and consider plants as isolated and individual species, it can be harder to see the profound effects of plants in relation—and as relations. Categories of use are ill-equipped to help explain why, as Aunt Ellen Andersen says, all plants are important.

It would be possible to take any cultural practices—hunting, wooding, traveling, celebrating—and, as in the extended example of fishing, make the connections between how these practices are supported by plants and how, in turn, these practices support plants. Much plant knowledge in Makkovik is

embedded in cultural practices and can therefore be cryptic to outsiders. One reason that the importance of people-plant relationships in the circumpolar North has been undervalued by non-residents is that plants are often inconspicuous in the ways they make other cultural practices possible. A revised understanding of plants in relation is especially needed in northern regions, where plants may not form a calorically large part of the diet but where they critically support fishing, hunting, and other more visible practices.

An important lesson from this work is how necessary it is to understand plants in active practice. Practice is the language through which cultural and ecological values are expressed. This is especially true in communities where both the specific harvesting skills and the norms of respectful behavior are learned by doing, and where rules governing respectful harvesting are therefore often unspoken. Focusing on practice is not only more in keeping with Indigenous perspectives on knowledge as something that is practiced, but also helps to highlight the importance of plants as facilitators of culture and values.

Indigenous methodologies, with their insistence on relationality, are particularly appropriate in helping us to see plants in the context of relationships. They encourage us to see plants not simply as objects of study, but as a part of an extended community and as a way to fulfill our obligations within that community. For example, berries are not just something we pick and eat; they are part of a sharing practice that allows us to fulfill family and community obligations. This is where the stories Makkovimiut tell about plants can offer meaning. Within the stories are the worldviews, values, and unwritten rules that speak to how respectful relationships with both plants and people can be practiced. If one of the goals of research is "learning, so as to enhance the well-being of the earth's inhabitants" (Kovach 2009:102), then it is in the stories Makkovimiut tell about plants that learners will find a very different model to guide our own reverberating actions within this web of relationships.

Notes

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[1] Andersen, Mary B. Discussion by Phone. Feb. 9, 2015.

[2] Andersen, Aunt Ellen. Discussion by Phone. Feb. 8, 2015

[3] Jacque, Herb. Discussion in Makkovik. Jan 29, 2016.

[4] Evans, Aunt Annie. Discussion in Makkovik. Oct. 30, 2014

[5] Broomfield, Todd. Discussion in Makkovik. Feb. 3 2015

[6] Gear, Carol. Discussion by phone. Dec. 5, 2013.

[7] Gear, Carol. Personal Communication. November 17, 2016.

[8] Jacque, Henry. Discussion while Turning Snowshoes in Makkovik. Feb. 8, 2014.

[9] Winters, John. Discussion in Makkovik. March 19, 2014.

[10] Evans, Aunt Annie. Discussion at Ben's Cove. July 21, 2015.

[11] Evans, Aunt Annie. Discussion in Makkovik. July 17, 2015.

[12] Evans, Aunt Annie. Discussion in Makkovik. March 27, 2015.

[13] Winters, Aunt Nellie. Discussion in Makkovik. July 19, 2013.

[14] Andersen, Toby. Discussion in Makkovik. January 28, 2015.

[15] Edmunds, Randy. Discussion while Smoking Trout in Makkovik. Aug. 16, 2013.

[16] Evans, Aunt Annie. Discussion in Makkovik. July 23, 2012.

[17] McNeill, Charles and Jim. Plant Walk and Discussion at Island Harbour. Aug. 24, 2013.

[18] Winters, Jessica. Discussion at Ikey's Point. July 23, 2014.

[19] Jacque Henry. Group Discussion at Makkovik Community Hall. Nov. 4, 2014.

[20] Gear, Carol. Discussion in Makkovik. July 19, 2013.

[21] Jacque, Henry. Discussion while Turning Snowshoes in Makkovik. March 22, 2014.

[22] Evans, Aunt Annie. Group Discussion at Makkovik Community Hall. Nov. 4, 2014.

[23] Andersen, Barry. Discussion in Makkovik. March 31, 2015.

[24] Jacque, Henry. Discussion while Turning Snowshoes in Makkovik. Feb. 5, 2015.

[25] McNeill, Enid. 2013. Discussion at Island Harbour. Aug. 23, 2013.

[26] Andersen, Aunt Ellen and Uncle Harold. 2013. Discussion in Makkovik. Feb. 8, 2013.

[27] Gear, Carol. Discussion in Makkovik. Oct. 30, 2014.

[28] Gear, Carol. Discussion in Makkovik. Oct. 20, 2015.

[29] Winters, Aunt Nellie. Discussion in Makkovik. Nov. 1, 2014.

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