

People, Place and Season: Reflections on Gwich'in Ordering of Access
to Resources in an Arctic Landscape
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It is a tenet of common property theory that local groups of people tend to evolve institutions to allocate common pool resources among community members in ways which are economically and ecologically sustainable. We are interested in the applicability of this type of analysis to subsistence systems of non-agricultural indigenous peoples. This paper is a preliminary examination of informal institutions of the Gwich'in of the Northwest Territories in Canada and how they contribute to ordering access to resources through the seasons by Gwich'in. This analysis is based on conversations by Johnson with Gwich'in and other people who have worked with Gwich'in people, and her fieldwork with Gwich'in from Fort McPherson and Tsiigehtchic in 1999 and 2000, and the insights and experiences of Andre regarding Gwich'in seasonal use of land and resources. This paper considers the resource use of the people of Fort McPherson and Tsiigehtchic. It does not deal with the mixed Gwich'in-Inuvialuit-non-Indigenous communities of Aklavik and Inuvik, which are historically more complex. We will consider three principal areas in this analysis: fishing, trapping, and caribou.

It must be emphasized that this discussion uses an analytic framework which differs in important ways from the usual perspective of Gwich'in people. The conceptualization of diverse elements of traditional subsistence as "resources", for example, and the discussion of these as things separate from a seasonal flow of life is not an indigenous perspective. Nonetheless, this approach can reveal aspects of Gwich'in life that allow us to compare aspects of the Gwich'in way of living on their land with that of other peoples in diverse areas of the world.

The Gwich'in Seasonal Round

Until relatively recent times, Gwich'in people lived out on the land, moving between seasonal sites in a relatively regular seasonal round. A sequence of different subsistence activities, focused in different locations and at different types of sites, characterized the Gwich'in seasonal cycle. Prior to the past thirty to forty years, villages were occupied for relatively short times, especially at seasonal gatherings such as Christmas, Easter, and Assumption Day or a summer gathering, when visiting and trading were done.

If we take spring as the beginning of the year, Gwich'in families decided where they would "pass spring". (Because of the constraints of school attendance and wage jobs, few families can now "pass spring" on the land). This had to be a site where they could wait out the shift from winter sled [now snowmobile] travel to summer boat travel, and high enough above the spring flood and ice jam levels to remain unflooded. Muskrat and beaver hunting and trapping, and waterfowl hunting, are the principal subsistence activities in a spring camp. After the waters become navigable again, and the water levels and currents have become more manageable, summer fishing begins. A fish camp will be established at a suitable eddy, and gill nets used to obtain coney (*Stenodus leucichthys*),

whitefish (*Coreogonus nasus* and *C. clupeaformis*), and “herring” (*Coreogonus autumnalis*). Fish are smoke dried, or preserved by freezing in pits, preserved by freezing on sticks as “stick fish”, or half smoked and frozen.

Fishing may continue on into the early fall. Fall caught fish were usually just frozen in pits, or made into “stick fish”. Travel in the fall to specific fish lakes was a former part of the Tsiigehtchic seasonal round; productive runs of lake whitefish were netted, and a large supply of winter dog-feed was cached. Fall is also a time of caribou hunting and ice fishing on the river. Both Gwichya Gwich’in and Teetl’it Gwich’in ice fish in the fall, while Fort McPherson people are more involved in fall caribou hunting because of their proximity to the Richardson Mountains where the Porcupine Caribou Herd migrates.

Moose hunting is and was a part of the fall and winter routine of both groups, especially along the rivers and around certain lakes. In addition to the value of the meat, moose hides are important as a source of durable leather. Defleshing and dehairing of hides can take place in winter; tanning of the hides is best finished in the warm weather of summer. Moose hunting can be combined with trapping activity, also characteristic of late fall through late winter, with a break around Christmas. Depending on location, marten and/or wolverine, wolf, fox, mink or lynx may be the species sought. Jigging for loche (*Lota lota*, also known as burbot) through the ice is another winter subsistence activity, and can be done at specific productive sites along the main river systems and Delta channels, and on the lakes.

Caribou hunting can also take place in winter; families in the past, especially from Fort McPherson, would follow various routes into the mountains with their dogsleds, and would camp wherever they encountered caribou to process the meat. There is also a spring caribou hunt, when the caribou are moving north to their calving grounds.

People from Tsiigehtchic regularly went up the Arctic Red River to hunt caribou in the fall and winter, where they could access woodland caribou, and in the headwaters, the Porcupine Caribou herd in the mountains. Caribou hunting will be discussed in detail below.

Contemporary Gwich’in in the MacKenzie Delta region live in the villages of Fort McPherson, Tsiigehtchic, and Aklavik, and in the town of Inuvik. Many people have part-time or full-time wage employment, or live on transfer payments. Few people presently engage in serious trapping, though hunting and fishing for subsistence continue to be important and highly valued activities. Most people spend the majority of their time residing in permanent houses or apartments in town; few spend substantial amounts of time out on the land living in camps in cabins or wall-tents. Those that do, tend to alternate periods of time in town with time on the land. Present subsistence activities are more likely to be within a day’s travel of the village, and people may return immediately to town by motorized transportation (truck, boat with outboard, or snow machine) with the meat or fish they have obtained.

DISCUSSION OF SPECIFIC RESOURCES

Fishing

In the summer, after break-up and while the weather is warm, Gwich’in disperse to various locations along the Peel and MacKenzie Rivers, and in the myriad channels of the MacKenzie Delta, to fish for river running broad whitefish, hump-backed whitefish and

inconnu or coney. Fishable sites are eddies, and locations of productive eddies are known to community members. Through an informal network of conversation within communities, people communicate who will be fishing in what areas, and where people will set up their fish camps. Camp sites seem to be a form of property, and permission is required to use a site established and improved by someone else who is not a relative. A similar form of family fishing sites is reported for Greenlanders by Peterson (1963). When a family decides to fish an area where they previously had no camp, they are free to establish a new site. Where more than one net is set in an eddy, the nets are set so that they do not interfere with each other and both can catch fish. Areas immediately adjacent to the villages or ferry crossings such as 8 Miles at the Peel River Ferry, and the area below Tsiigehtchic on the MacKenzie River are areas of common use. Just upstream and across from Tsiigehtchic at Chii t'iet, and the bay just downstream from the western end of the MacKenzie Ferry crossing are also shared areas of common use for Tsiigehtchic people.

In the Fall, fishing at fish lakes and ice fishing on the Peel and MacKenzie Rivers is carried out. "Fish lakes" are lakes in which productive fall fish netting (usually from the ice) can be accomplished. There are also areas of open water like at Travaillant Lake, which has a highly productive crooked-back (hump-backed whitefish) fishery in November. As with rivers, only specific sites are productive (e.g. near inlet streams or off of certain points), and one must know both where and when to fish to be successful. People may decline to share the information necessary for successful fishing, especially if they feel would-be fishers may not be adequately respectful of the fish they take. Species taken in lakes include trout, both species of whitefish, loche, and northern pike. During the fall fishery on the MacKenzie, broad and hump-backed whitefish, coney, herring, loche and northern pike are caught. The whitefish species and coney are the most abundant species. Loche eggs and liver are a delicacy much appreciated by Gwich'in people. Spawning whitefish eggs are also a delicacy. In the past, serious fall fishing activity was undertaken on rivers and on lakes to catch fish for winter dog feed. A family might cache several thousand fish to ensure an adequate supply (pers. com. Hyacinthe Andre, Noel Andre, William Teya). There are numerous known fish lakes north of the MacKenzie River north and east of Tsiigehtchic. Different families accessed specific camping and fishing sites over the years, integrating this movement into their seasonal round (Andre and Kritsch 1992). At present, little concentrated fall fishing is done, because changes in lifestyle associated with concentration in villages and with adoption of gas powered snowmobiles has eliminated the need for a large dog feed fishery. Herring are no longer seriously fished for the same reason, and the 5 1/2" mesh usually used for fishing does not catch significant numbers of herring. Fish remain very important as human food, and form a very significant part of the diet of Gwich'in people.

Fish populations seem stable for whitefish and for coney. Arctic Charr populations have declined in recent decades. Declining numbers of Arctic Charr have led to an Arctic Charr monitoring program and management plan which involves the Gwich'in Renewable Resource Board, Fisheries Joint Management Committee (Inuvialuit), the Aklavik Renewable Resource Council (Gwich'in¹) and Hunters and Trappers Committee (Inuvialuit), the Teetl'it Renewable Resource Council (also Gwich'in) and the Department of Fisheries and Oceans. The local community resource councils have taken

the initiative with this effort; the fishing plan is supported by Department of Fisheries and Oceans and the Gwich'in Renewable Resource Board.

Trapping and Traplines

Trapping furbearers has been an important economic activity since at least the early 1800's (Krech 1983). Species utilized on traplines include the furbearers which are the focus of the cash economy, game species for subsistence, and fish from fish lakes, which were procured in large amounts in the fall for dog feed prior to the introduction of snow machines. Traplines are areas of extensive use in the winter season, and include areas away from the banks of the major rivers. Upland areas are trapped for marten, while Delta areas may be productive of lynx and, in the late winter and spring, of muskrat. Beavers have a distinctive ecology, and will not be discussed here.

After a relatively long period of trapping unregulated by the State, group traplines were registered in the 1930's-1940's to protect trapping areas in the areas of the Gwich'in villages from the incursion of non-Native trappers. Registered trapping areas were also established for muskrat in the MacKenzie Delta in 1949 (Wolforth 1967). Wolforth reported that most of these had been abandoned by the mid-1960's. At the present time, there are no group traplines, but unofficially each community has their area based on closeness to the community and traditional use of the area.

People tend to trap in areas familiar to them, or which have been used in the past by family members. According to elders, people had their own trap lines, and they respected the lines of others. Elders stated that you can't cross another trapper's trail, nor use his [her] trail in your own trapping activities. Traps may be set, however, in the same general area provided these rules are followed, and each trapper elaborates his own trail system (Tony Andre personal communication). These considerations of trapline ownership are similar to those reported for Alaska Gwich'in (=Kutchin) by Dick Nelson (1986). Trapping camps, with requirements for other resources like dry fuelwood, are also associated with traplines. Trappers can change their areas; the same kind of informal networking among community members regulate where trapping effort is focused that operate to order fishing effort. As Margaret Donovan of Tsiigehtchic put it, the trappers decide where they are going and who will be concentrating in what area by a kind of "gentleman's agreement". People may decide to try a new area, to give a previously used area a rest, or they may choose to return to an area they have worked in previously. When Tsiigehtchic had a group trapline, individual trappers decided where to trap within that area.

The Teetl'it Gwich'in from Fort McPherson have an extensive area in the Yukon as well as in the Northwest Territories, so their hunting and trapping activities must interface with two different sets of territorial regulations for fish, wildlife and furbearers. Trappers from Fort McPherson seem to have family traplines, and related people may have lines in nearby areas (c.f. the Charlie/Tetlich family and spouses in the Road River area). Some flexibility seems to be afforded by how many people are currently trapping, and choices among several family controlled lines. One can also arrange to trap in someone else's area by talking with them.

Caribou

Caribou, being vagrant and highly bunched, require different arrangements for their use. We will here discuss Gwich'in use of the Porcupine Caribou Herd, which ranges in the northwest extremity of the NWT, in adjacent areas of the northern Yukon, and on the Arctic Coastal Plain of eastern Alaska. These animals were more often hunted by the Teetl'it Gwich'in and the Vuntut Gwitchin of the northern Yukon (Gwich'in Elders 1997; Sherry 1999); the Gwichya Gwich'in of Tsiigehtchic also made use of the Bluenose Caribou herd of the northern Northwest Territories (Gwich'in Elders 1997). Hunting bluenose caribou occurred where groups were encountered amongst the lakes north of the MacKenzie River in the general vicinity of Travaillant Lake. As bluenose caribou follow different patterns, they change their route about every 10 to 20 years. It is almost like they are aware of how much food they have; they leave a certain area and then return to it later. Another factor influencing their movement to new wintering areas is the occurrence of forest fires, which burn out all of the lichens which form their food source. In 1986, the area around Travaillant Lake burned, and the Bluenose caribou are now found in an area to the north of there where they are relatively remote from Tsiigehtchic. Owing to greater accessibility via the highway, Tsiigehtchic hunters now make more extensive use of the Porcupine caribou instead.

In the past, hunting of the Porcupine caribou involved travel up various trails into the Richardson Mountains, especially trails up the Rat to Fish Creek and the Bell River; up Stony Creek to Brass House; up Vittrekwa Creek and Road River across to Rock River; and up Caribou River to the Caribou Lake area (Gwich'in Elders 1997, and personal communication, Bertha Frances, Mary and William Teya, and Neil Colin). When caribou were encountered, people camped there and processed the meat by making drymeat and caching frozen meat for later use. Some of this dry meat and frozen meat might later be taken to Fort McPherson by dogsled. Communal hunting was often practiced, and information about where caribou were encountered was shared.

As mentioned above, caribou are hunted when they are moving south in the fall and pass relatively close to the site of Fort McPherson, during the winter if wintering groups are encountered at not too great a distance south and west of the area of Fort McPherson, and during spring when the caribou are migrating north to the calving grounds on the Arctic Coast. When caribou are available nearby, people from Fort McPherson preferentially hunt caribou. Gwich'in people required large amounts of meat traditionally; meat is still culturally (and nutritionally) very important. There is a high degree of sharing of meat, especially of caribou and of moose; rabbits and fish are also shared. When there are no caribou around, Gwich'in people shift to other resources like moose and rabbits, and make extensive use of fish.

At present, Gwich'in from all of the Canadian communities access the Porcupine Caribou from the Dempster Highway. Caribou are the most important species to Gwich'in identity and most highly valued game animal. Although the broad outlines of their seasonal cycle and geographic movements are well known, the exact timing and route of movement are notoriously variable. Now, the presence of the highway does ensure that caribou will cross the highway or feed in the highway area at some point during the winter. The relative lack of predictability in their movements means that the exact timing and location of encountering huntable caribou varies significantly year to year. This maximizes the value of sharing information about the occurrence of caribou, as well as

distribution of the catch. The nature of caribou movement also maximizes the value of dispersing people in predictable areas to make sure that someone encounters caribou, and can communicate to others where the animals are. Communal hunting and a highly developed sharing ethic allow distribution of meat to as many people as possible in the community. This is underscored by the strong Gwich'in belief that generosity in sharing meat is necessary to ensure continuation of good hunting success. Gwich'in consider caribou to be active agents who chose to give themselves to human hunters to enable their survival. Respectful acceptance of the gift (shooting caribou when possible and sharing the meat if it is more than the hunter's immediate needs) is necessary for that relationship to continue.

Since the mid 1970's when the Dempster Highway was completed, a *de facto* open access situation exists along the Dempster Highway. Non-Native hunters, and hunters from several different First Nations all hunt from the highway corridor, and can quickly travel large distances to areas where caribou are reported to be near the road. This has focused hunting to a corridor near the highway, and has led to concerns by Gwich'in (in Alaska, the Yukon and the Northwest Territories) and others about the sustainability of current practices. The Porcupine Caribou Management Board was formed to monitor impacts of development on the Porcupine Caribou herd (Peter and Urquhart 1996), and attempts to deal with many modern impacts on the resource, including Native and non-Native hunting practice along the Dempster, and oil and gas development in the calving areas along the Arctic Coast in Alaska. The Porcupine Caribou Management Board estimates that an annual harvest of up to 8,000 animals can be sustained. It is concerned about effects of the highway on migration, and of development on calving success, and has taken a leading role in political lobbying efforts on behalf of the herd, especially with the US Congress and public. The Gwich'in Renewable Resource Board has also been involved in public education campaigns to try to increase hunting responsibility among indigenous hunters.

Non-native hunting is strictly controlled, including bag limits of 2 caribou per year, by Yukon hunting regulations. Recently, the Yukon Territory, in consultation with stakeholders, instituted new more restrictive hunting regulations for indigenous hunters, designed to reduce the impact of the highway corridor by prohibiting hunting within 500m of the road by indigenous hunters as well as non-indigenous hunters. Violators risk having their truck seized. This enhances human safety, and hopefully will cause less disruption of caribou migration by the highway corridor. There are still no bag limits for indigenous hunters; indeed, given the widespread sharing of meat and communal hunting, it would be difficult to do this in a meaningful way. What effects the new regulations will have is yet unclear; whether caribou harvest levels will be effected is not yet known.

THE CONTEMPORARY SITUATION

In the contemporary Canadian context, there are various formal institutions that influence Gwich'in use of land and resources. Since the settlement of the Gwich'in Comprehensive Claim in 1992 these institutions include co-management boards- the Gwich'in Renewable Resource Board, the Gwich'in Land and Water Board, and the Gwich'in Land Use Planning Board; the Gwich'in Tribal Council and the Gwich'in Lands Office; community Renewable Resource Councils; local governments; the Porcupine

Caribou Management Board; the Northwest Territories Department of Resources, Wildlife and Economic Development and the Federal Department of Fisheries and Oceans. Comparable Yukon Departments regulate caribou hunting in the Yukon.

A variety of mandates and epistemologies guide the approaches to land and resource management promoted by these diverse organizations. Contemporary Gwich'in ordering of access to land and resources necessarily encompasses the intersection of EuroCanadian and indigenous perspectives and goals, with these new formal institutions being laid over the highly informal and fluid traditional system. Contemporary Gwich'in find themselves dealing with a global cash economy, the intrusion of other resource values (e.g. natural gas, tourism, transportation corridors) and other actors (tourists, resource industries and their employees, non-indigenous government biologists and other employees). The Department of Fisheries and Oceans, in consultation with the GRRB and the Renewable Resource Councils, regulates fishing gear and attempts to collect a series of statistics on all fish caught or released by fishers with commercial licenses.

The conditions and constraints of the comprehensive claim define a bounded Gwich'in Settlement Area, which encompasses much, but not all, of the area traditionally used by Gwich'in of the MacKenzie and Peel Rivers. Within this Settlement Area, some parcels are designated as Gwich'in Private Lands, and other lands are co-managed by the government of the Northwest Territories, through their various agencies, and the Gwich'in. What kinds of activities can take place is influenced by the differences between the legal status of these types of land. Renewable Resource Councils, the Gwich'in Land Office, the Designated Gwich'in Organizations, and the Co-management boards, DRWED, and the Gwich'in Tribal Council review and monitor activities, hold meetings to discuss what courses of action should be permitted, and negotiate the shape of activities on the land, by Gwich'in and other interested parties. Underneath all of this, informal institutions continue to operate as people choose where and when they will fish, hunt or trap.

SUMMARY AND CONCLUSIONS

In an Arctic environment, everything is highly seasonal; configurations of people and place can change dramatically depending on time of year, and may be renegotiated for each season. Fishing sites do not change dramatically, though people may change the areas they choose to fish; areas for hunting moose and caribou do change quite a bit from year to year. A measure of stability is provided by associations of particular families with specific areas over periods of at least two to three generations, despite dramatic changes in Gwich'in life. The changeability of Arctic environment is a major factor in needing flexible organization and the ability to shift spatially in response to shifts in animal populations, unusual weather, and the spatial distribution of stochastic events like wild fire, which influence furbearer and fish habitats and ease of travel, as well as plant resources like berries and firewood. The strong Gwich'in ethic of sharing meat and fish helps to ensure that the variations in catch are evened out among members of the community, despite variations in the productivity of different areas at different times.

In the contemporary Canadian and global contexts, there are other factors which influence the operation of local informal institutions. The MacKenzie Delta is part of

Canada, and the Northwest Territories. The 1992 comprehensive claim settlement dictated various institutional arrangements to accommodate Canadian, territorial and Gwich'in rights and responsibilities vis a vis the land. The global economy continues to influence pressures on the landbase by industries such as the oil and gas industry, and the viability of trapping through the market for fine furs. The Canadian economy influences how much funding is available to Gwich'in communities for economic development, and what markets are possible for local skills and resources. The local subsistence economy continues to be extremely significant, though substantial investments in equipment and fuel are often now required to be able to harvest country foods. The dollar value of country foods, especially fish and wild meats, is very high² (c.f. Wein and Freeman 1992 and Wein 1994) though many people fail to realize their worth. Within this changed context, the local, informal institutions continue to operate, and newer institutions such as the Renewable Resource Councils, the Band Councils, the Designated Gwich'in Organizations, the Gwich'in Tribal Council, the Porcupine Caribou Management Board, and the Gwich'in Co-management Boards monitor land and resource use and debate competing uses for land.

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¹ Although these organizations are centred in the Gwich'in communities, they are not official Gwich'in organizations, and are open to any interested community members who wish to be involved in renewable resource management issues.

² The figures for country food consumption by Inuvialuit from Aklavik, a MacKenzie Delta village which also has a large Gwich'in population are indicative of the importance of country foods in local nutrition (Wein and Freeman 1992). The replacement cost figures for Yukon First Nations given by Wein (1994) can be taken as an indication of the magnitude of the dollar value country foods represent for Northern peoples.