

## ICE BLINK: NAVIGATING NORTHERN ENVIRONMENTAL HISTORY Edited by Stephen Böcking and Brad Martin

ISBN 978-1-55238-855-6

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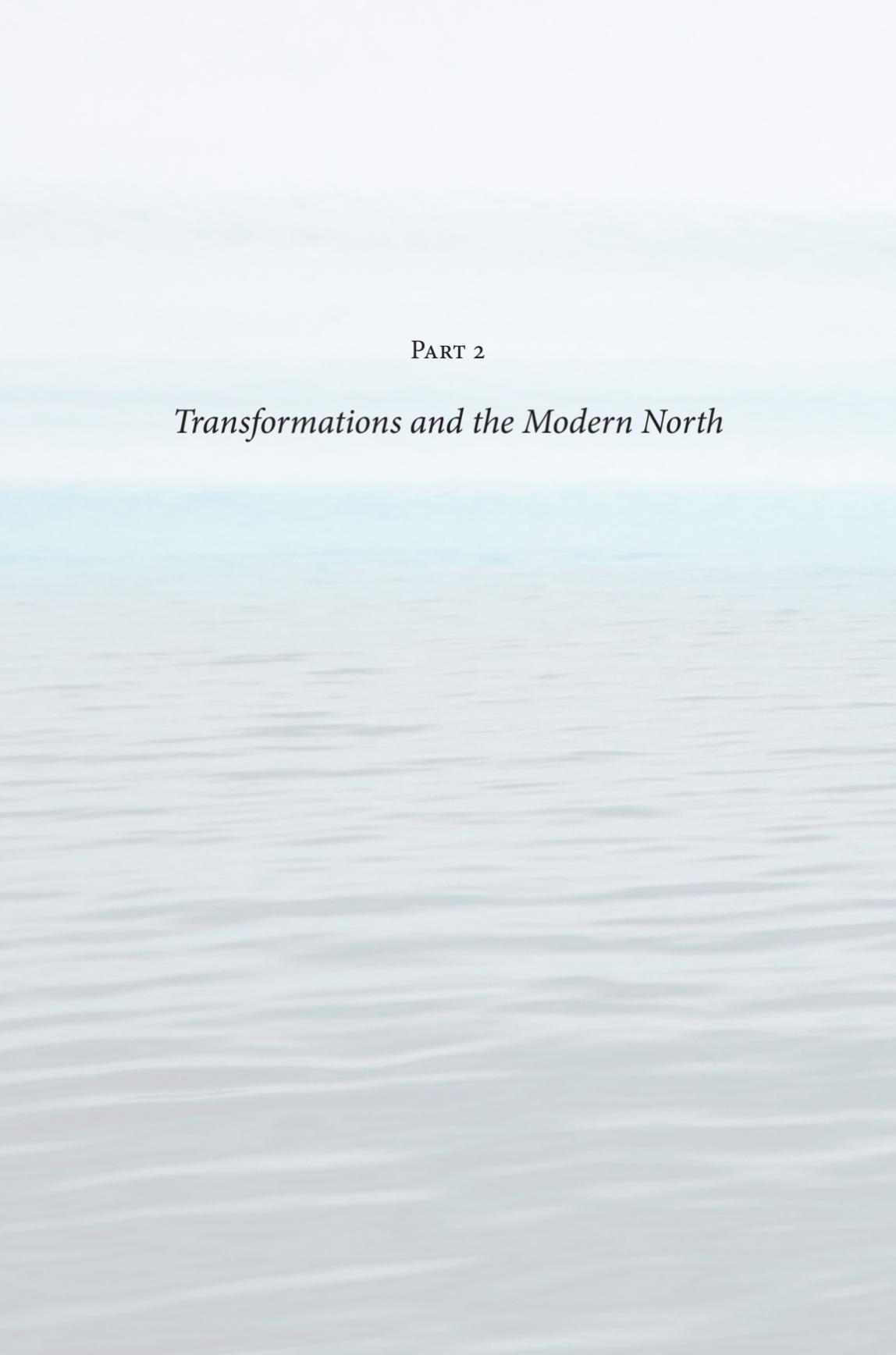
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PART 2

*Transformations and the Modern North*



# 6

## From Subsistence to Nutrition: The Canadian State's Involvement in Food and Diet in the North, 1900–1970

*Liza Piper*

### Introduction

*The caribou skin, caribou blood, they wouldn't leave that behind. Even caribou guts, they wouldn't leave that behind, either. They took it all to eat, also for dog feed. Around there, they stayed there; ah, it was really nice.*

*They just ate meat, and there was no grub [store-bought food]. Sometimes somebody had a little tea. Sometimes there was tobacco, too. They boiled meat on the fire. That's all they ate.<sup>1</sup>*

—Myra Moses (1884–1984)

Sometimes southern, urban Canadians need to be reminded of the significance of what they eat. As Margaret Lien writes in her introduction to *Politics of Food*, “What appears to be a carrot or a piece of meat is indeed a product with a history and implications more complex and profound than most of us ever want to think about.”<sup>2</sup> The apparent simplicity of such foods belies the work done—through the processes of preservation, transportation, distribution, and marketing in southern food systems—to mask the ecosystem of origin and the socio-economic and cultural circumstances of production.<sup>3</sup> In the north, reminders about the context of food are, by contrast, largely superfluous. The high cost and low quality of southern imported foods stand as constant signals of the place of a long-distance, industrial food system in northern diets. Moreover, where subsistence practices persist, as they do across much of the north into the present, there is no reminder necessary of the cultural, social, and economic significance of fish, marine mammals, game, or berries. This different experience of food illuminates more fundamental differences in relations between people and environment in the north compared to southern Canada in any given historical period. These apparent differences go beyond those of rural versus urban experiences (notwithstanding some important parallels between the rural south and the north) because of the profoundly different implications of hunting, gathering, and agriculture for relations with the rest of nature.<sup>4</sup> This chapter draws on an environmental history perspective to consider changes in diet and the rise of nutrition as a new way of thinking about food in the north in the twentieth century. As acknowledged by a 2009 forum in *Environmental History*, food has yet to figure as prominently within environmental historiography as is warranted given how eating intimately connects human bodies to local and global environments. Nevertheless, food history and all that it entails has offered opportunities for the critical study of subsistence and desire, or “needs and tastes,” consumption, food commodity chains, and relations of power.<sup>5</sup> Anthropologists have long been interested in studying food for its role in imposing structure and order.<sup>6</sup> This present chapter builds on such an approach, as well as work from across the field of environmental history that considers the role of the state in mediating relations between people and nature, to examine explicitly how the state engaged in “food colonialism”—using what Indigenous northerners drew from the land

and water into their bodies as a means of exerting control over significant social and environmental changes in the twentieth century.<sup>7</sup>

The quotation that opens this chapter was spoken by Myra Moses in 1979. She was a Van Tat Gwich'in woman born in 1884, who lived in the northern Yukon and Alaska. It is but one of countless references to subsistence found in oral histories of northerners conducted in the twentieth century. As Chase Hensel argues in *Telling Our Selves: Ethnicity and Discourse in Southwestern Alaska*, "subsistence is the central focus in the intellectual, material, and spiritual culture of both historic and contemporary Yup'ik society."<sup>8</sup> The same case could be made for communities across the north.<sup>9</sup> Indeed, to hive off food or diet or nutrition as a category of analysis is to scratch only the surface of the significance of northern subsistence, neglecting the fact that this "is not simply [an] activity but [a] socio-economic system."<sup>10</sup> Food itself, in any context, is hardly a simple category. As Lien writes, it is uniquely complex: "food is literally transformed and becomes *part of* the human body. ... The physiological need in humans to eat every day makes access to food a crucial issue." She continues, "It also makes us vulnerable, weak and easy to control. In this way, food is entrenched in structures of subordination, governance and dominance."<sup>11</sup> The categories of "food," "diet," and "nutrition" lie at the heart of this investigation, as their appearance and the concurrent ways in which these categories became distinct from the larger place of subsistence in the north signalled a profound transition in the region in the post-war period. Food, diet, and nutrition became axes along which the southern-based Canadian state could assert control over northern bodies and articulate new standards of healthy and ethical citizenship, especially for Indigenous northerners. In this respect, this chapter builds upon work by Maureen Lux, Mary-Ellen Kelm, and a handful of others, that examines the place of food in changing Indigenous relations with the Canadian state.<sup>12</sup> This chapter, like those by Andrew Stuhl, Tina Loo, and Matthew Farish and Whitney Lackenbauer, also in this volume, considers the different ways the Canadian state sought to manage complicated relations with northern people and environments in the interwar and postwar periods. I broadly outline early nutritional policy (to the extent that such a thing existed), and, more importantly, the changes in subsistence that characterized the first part of the twentieth century before the Canadian government turned, in the latter half of the twentieth century, to use nutrition and

nutritional science as the means by which to manage ongoing changes in relationships between northerners and their environments.<sup>13</sup>

By the early twentieth century, tea, bannock or biscuits, molasses, flour, and sugar were well integrated into the diets of most northerners. Nevertheless, and as should be obvious from the paucity of that list, Indigenous and non-Indigenous diets relied upon the resources of the land. These resources ranged from waterfowl, fish, caribou, moose, and sea mammals, to smaller creatures, such as hares, and plants, most notably berries. Fish were of particular importance regardless of whether northerners lived on the coast or inland. As late as 1990, Fikret Berkes estimated that “some 300 000 northern rural people ... may be harvesting on the order of 15 000 t[ons] of fish per year.”<sup>14</sup> This was well after the decline of many inland fisheries as a consequence of commercial overharvesting and habitat destruction.<sup>15</sup> All kinds of food, from plants, to animals, to fish, were harvested from the land, but were variously available from year to year, or at different times of the year. A complex food economy thus prevailed across northern Canada.<sup>16</sup> Such harvesting involved an intimate knowledge of the land and animals, but perhaps paradoxically for those who understand close relationships with nature to be focused upon local places, this intimacy extended over a wide area. Such elaborate and extensive food economies served as a strategy for resilience in a highly variable environment often visited by periods of hardship: people could turn to a range of resources to ensure health, particularly during times of scarcity.

Scarcity was neither uncommon nor unanticipated. Across the north, people relied on migratory animals whose migrations shifted, and upon species, such as the hare, with cyclic fluctuations in population. Families and traders froze and dried freshwater fish in the fall to sustain them through the long winter and the spring, the hardest, most vulnerable time of the year. Climate could fluctuate dramatically. Between 1910 and 1920, above-average rain and snow and fluctuating temperatures in the central Arctic drove the caribou herds, to the west of Hudson Bay, away for a decade.<sup>17</sup> In the boreal forest, fires could also push game far from the usual hunting grounds. Historians Gulig, Coates, and Morrison have noted that such fires increased with the arrival of industry, whether as a consequence of prospectors burning off the brush to facilitate mineral exploration, or as a by-product of the presence of more machines.<sup>18</sup>

The periodicity of hardship could range from season to season, year to year, or decade to decade. It meant, at times, going hungry. Occasional and seasonal malnutrition was not uncommon in the Subarctic and Arctic at the turn of the century. Gwich'in elders from Fort McPherson and Tsiigehtchic (Arctic Red River) described hungry times from their childhoods in the early twentieth century, and deaths from starvation.<sup>19</sup> At other times, sustained hardship required families or communities to relocate. In northern history, there have long been many instances of places being abandoned, particularly in response to declining environmental conditions and climatic change. With the onset of the Little Ice Age, many Thule turned to new food sources (fish, caribou, and seal) before they and their descendants eventually abandoned sites such as Somerset Island and south Baffin in the 1300s. The south Baffin villages were repopulated by 1500, with residents adopting more mobile harvesting practices than before, such as spending more time in portable skin houses rather than the stone-sod-and-whalebone houses suited to whale-hunting communities.<sup>20</sup> Other sites were famous as ancient gathering places: the village at Kitigaryuit was the site of a natural beluga whale trap, and the length and scale of occupation at that site (estimates of a thousand villagers in the 1820s, for instance), or at the confluence of the Yukon and Klondike rivers, was indicative of the uncommon local wealth of resources.<sup>21</sup>

## Dimensions of a Changing Diet: Supply

Between 1870 and 1940, more people exploited northern resources than ever before. Specifically, newcomers to the region from the outside and new activities taking place on northern lands and in northern waters affected subsistence opportunities. From the late nineteenth century on, whalers, scientists, and large research expeditions contributed significantly to the depletion of musk ox, caribou, and walrus populations. David Hanbury, in a journal recorded while he undertook geographical explorations along the western coast of Hudson Bay, wrote, "altho' game may not be so plentiful now as in former times, still there is plenty of it." In April 1902, Hanbury noted more precisely: "Musk ox [my Inuit informant] reports to be scarce both N and S of Backs river. Long ago they were numerous. ... Why have musk ox disappeared?"<sup>22</sup> The answer to Hanbury's query lay not with

unsustainable Indigenous hunting (primarily for meat) but rather with the appearance of new sport and subsistence hunters. In 1875, research vessels travelling in the eastern Arctic waters stopped where game was plentiful. Such hunting was in part for meat: men on board Victorian research vessels or those with search parties for the lost Franklin expedition kept fresh meat in the hold by harvesting from northern lands. But hunting was also very much for sport.<sup>23</sup> In the Bellot Bay area, the impact upon large animals by occasional research parties was intensified by the activities of whalers, who began over-wintering in 1864–65 and who relied upon local game harvested by Inuit hunters for their crews' subsistence. Elsewhere in the Canadian north, resource and research expeditions created new demands upon local wildlife for food, trade, and recreation. It is likely, although research remains to be done on this question, that the concentrated scientific efforts associated with the International Polar Years (1882–83, 1932–33) and the International Geophysical Year (1957–58) increased pressures on food resources.<sup>24</sup> To the west, American whalers, using Herschel Island as a base, consumed 12,308 caribou in less than two decades (1890–1908), leaving far fewer caribou for local Inuvialuit.<sup>25</sup> The influx of trappers and traders prior to the First World War intensified demands upon northern furbearers. Trapping, combined with the arrival of men and women working in the surging mining industry, continued the pressure on all kinds of fish, fowl, and game populations well into the twentieth century. Miners at Port Radium on Great Bear Lake, where pitchblende was extracted beginning in 1929, relied on locals who traded fish, moose meat, and other country foodstuffs for variety in a diet that otherwise consisted of canned and preserved goods that had been shipped north.<sup>26</sup>

In the first half of the twentieth century, Dominion government officials facing pressure from hunters and concerned about sustaining the livelihoods of northern Indigenous peoples became attentive to the depletion of game populations.<sup>27</sup> In her chapter in this volume, Tina Adcock further demonstrates the antimodern sensibilities at work in this period, which shaped concerns about both Indigenous peoples and wildlife populations in the 1920s and 1930s. Continental concern about resource conservation influenced the new government interest in the north. Within a decade, the Dominion government introduced the Northwest Game Act (1917) and the Migratory Birds Act (1917), established Wood Buffalo National Park (1922) and the Thelon Game Sanctuary (1927), and expanded

the 1924 ban on musk ox hunting in the Northwest Territories to include Indigenous hunters, who had previously been exempt if they were starving. In many respects, the changed relationships between people and the land that had come to the fore in the early twentieth century were to be managed through the regulation of wildlife.

The changes that compelled the Dominion government to introduce new wildlife regulations had direct implications for government policy on and attitudes toward subsistence in the north. O. S. Finnie, then director of the Northwest Territories Branch, articulated this policy in letters addressed “from the Government to the Indian People” (1924) and “from the Government to the Eskimo People” (1926), as well as in correspondence from 1928 between the NWT Branch, the Department of the Interior, the Royal Canadian Mounted Police, and the Hudson’s Bay Company. The NWT Branch aimed to “keep the natives strong and healthy, making them self-reliant and independent citizens” and to “keep the native, native.”<sup>28</sup> Part of a larger colonial assimilationist project, the specific implications of this attitude for subsistence meant that the NWT Branch wished, insofar as was possible, to keep northern Indigenous people off relief (this was what was meant, in part, by “self-reliant” and “independent”). Finnie emphasized that to ensure independence with regard to food, northern Indigenous peoples had to be taught “to conserve the food supply of the country for [their] own requirements.” Indeed, this was the focus of his letters “to the Indian/Eskimo people.”<sup>29</sup> Sandlos describes the letter “to the Indian people” as emblematic of the Dominion’s paternalism. In it, Finnie detailed what characterized “a good hunter”: a hunter who did not kill female caribou with young and who did not kill “more caribou than he needs.” Wolves, on the other hand, should be targeted by hunters because they competed with them for caribou. In these ways, Finnie’s letter articulated the mantra of early-twentieth-century southern wildlife conservation policy as a new doctrine for northern Indigenous peoples. The letter was interspersed with comments about the value of caribou and the dire consequences of overhunting. The letter to “the Eskimo people” was identical in tone and varied primarily in the details of the advice. Here, Finnie expounded upon the optimal time to hunt seal and the best methods for drying meat and fish, matters in which he clearly presumed himself more expert than the Inuit hunters he addressed. Finnie again emphasized prohibitions against killing pregnant caribou, killing caribou

for skins to trade rather than meat, and wasting the meat of animals. In this letter, Finnie went further in terms of the food advice he disseminated. He emphasized, "No matter what you may be hunting always think of what you will leave for your children and their children."<sup>30</sup> Moreover, he detailed appropriate food to be given to children, appropriate breast-feeding practices, and expectations about cleanliness. In spite of the fact that Dominion officials typically characterized Inuit as more independent than other northern Indigenous peoples, Finnie clearly felt it was necessary to dispense even more detailed food advice to the Inuit than to the "Indians," suggesting that he viewed the Inuit subsistence livelihood as less secure.

Regulation was a response to the depletion of northern food resources as a result of intensified harvesting. However, regulation also reinforced the shortages of country food for northern Indigenous peoples, trappers, and traders, all of whom lived off the land. As John Sandlos and Tina Loo have examined in detail, these new regulations criminalized northern Indigenous subsistence activities. Waterfowl regulations were the most egregious in this regard, as the open and closed seasons were timed in response to the interests of southern, not northern hunters. While most of the new regulations were honoured as much in the breach as in the observance, they nevertheless directly impacted the ability of northerners to continue to obtain subsistence from the land in the fashion to which they had become accustomed as recently as a few years or decades earlier. Harvesting shortfalls and changes in government administration pushed more northerners onto state-supplied relief in the twentieth century. When it came to relief rations, including milk, butter, and bacon, these were characterized as luxuries "from the Eskimo standpoint" and were only to be distributed, if absolutely necessary, to infants and invalids. Otherwise, when relief was necessary, "he should be rationed with his own kind of food and not that of white man's." Yet, if the resources of the land were scarce (which was what pushed many northerners onto relief rolls in the first instance), what—from the perspective of the state—constituted northerners' "own kind of food"? Two examples, suggested by Charles Sale of the Hudson's Bay Company, were seal-meat infused biscuits for Inuit and large quantities of bison meat for distribution across the north.

These, then, can be considered the cumulative pressures on the supply side, when it came to northern subsistence in the early twentieth century.

In addition to environmental variability, which caused fluctuations in the availability of game, fish, and fowl, newcomers increased pressures upon northern food resources, often to the point of depletion, while regulations and surveillance introduced in response to some of these new pressures further affected the ability of Indigenous northerners, in particular, to continue their historical harvesting practices.

## Dimensions of a Changing Diet: Demand

From the end of the nineteenth into the early twentieth century, there were also a range of new pressures that affected northerners' harvesting of food resources from the land. Perhaps most notably, from the mid-nineteenth century through until 1960 or so, northern peoples were faced with repeated outbreaks of infectious diseases. While not "virgin soil epidemics" *per se*, these epidemics shared some characteristics with contact-era outbreaks across the Americas. The epidemics tended to affect communities which, due to small population sizes and distance from larger centres, had acquired but limited immunity to crowd diseases such as measles, scarlet fever, and influenza. In turn, the outbreaks often led to significant mortality or had complex social and economic effects upon families and communities.<sup>31</sup> Malnutrition increased mortality from infectious diseases and deepened the social and economic consequences of outbreaks.

Epidemic disease and malnutrition travel hand-in-hand in human history.<sup>32</sup> Malnutrition, by weakening individual immunity, could lead to epidemic outbreaks. Seasonal malnutrition was not uncommon in the North, with the spring being the hardest period: food stores from the winter months were low, supplies from the south had yet to be restocked, and travel for hunting was complicated by the break-up of ice. Spring malnutrition contributed directly to the influenza outbreaks that came with the arrival of the first boats from the south. Epidemics and ill health also made it much more difficult for people to harvest food in subarctic and arctic environments. The illness itself, whether influenza, typhoid, or another disease, weakened those who were afflicted, and healing demanded considerable energy that otherwise would be put to hunting, fishing, trapping, or harvesting activities. Moreover, by the late nineteenth century, hunting and trapping relied on dog teams that also needed to be fed

during an outbreak. Their food requirements were significant. Although dogs happily consumed many of the rough fish discarded from catches, thousands also had to be preserved from fall fisheries for consumption during the winter months.<sup>33</sup> Finally, by the turn of the century, officials increasingly used quarantines to check the spread of diseases across extensive northern territories. Yet quarantines also acted to prevent healthy persons from harvesting by restricting the travel necessary for extensive subsistence practices.<sup>34</sup>

The influenza outbreak of 1928 in the Mackenzie District offers good evidence of the synergistic relationship between infectious disease and hunger in this period. Helge Ingstad, a non-Indigenous trapper living near Lutselk'e (Snowdrift), on the eastern shore of Great Slave Lake, wrote: "[The flu] came at a time when I was living from hand to mouth. Fish was my sole diet, and this I had to procure by hauling in the nets. So far as I was concerned, it might just as well have stayed there till it rotted, for I was unable to swallow a mouthful of food in any event."<sup>35</sup> From his patrol in the Talston River region, RCMP Inspector Gagnon reported that, "these people are practically starving, as they are unable to hunt; there are only three boys attending to the fish nets and the wants of the community."<sup>36</sup> Given the demands of subsistence living, illness could have devastating effects. Later in the century, similar reports were made regarding Inuit who perished in the Garry Lake and Back River districts. There, seven members of one family died from "flu and hunger" in June and July, leaving only one man, Marer, alive. The police report noted that "it is difficult to ascertain whether these people died actually of starvation or sickness."<sup>37</sup> Illness could not only be intensified by malnutrition, but also led to hunger, as it weakened people beyond the point where they could engage in their necessary harvesting activities.

The interrelationship between epidemic illness and nutrition in the early twentieth century encouraged a growing dependence upon rations and foodstuffs (typically preserved) imported from the south at the expense of country-food based diets. Rations were already a part of the treaty process, and thus, with the introduction of regular treaty payments after 1898 in the Treaty 8 area, and after 1921 in the Treaty 11 area, eligible individuals and families could expect to receive ammunition and twine (used for hunting and fishing), as well as rations (in particular tea, sugar, flour, and bacon).<sup>38</sup> These rations and supplies were distributed at the annual

treaty gatherings that took place in early summer, and included a visit to the medical doctor assigned to the area. This demonstrates another way in which treaties, as Paul Nadasdy assesses in his chapter in this volume, constituted new relations between people and their home environments in the north. Rations were not exclusively distributed as part of the treaty process, although that was one way in which they became normalized in northern life. They were also distributed by RCMP officers and other agents of the state to people who faced hardship, whether or not they had a formal treaty relationship to the state.

Outbreaks of infectious diseases created increased dependence on rations because of the ways in which they interfered with regular harvesting activities. This disruption could have consequences that extended long after the epidemic had passed. When an epidemic arrived during the summer, it disrupted immediate harvesting activities, as well as the work necessary to ensure subsistence during the fall and winter months (repairs to nets or laying up of winter supplies, for instance). Over the longer term, camps and family groups hit repeatedly by epidemics would find themselves too weak to produce food, and relied upon rations from missionaries and RCMP officers. In the 1928 influenza outbreak, the disease was spread at the treaty gatherings themselves, and, as news of this travelled, some families chose not to travel to the treaty gathering, or fled them before rations and supplies were even distributed. These families were, in some instances, spared the infection—but not always. Some left the treaty gathering only to fall ill afterward, and many died later at their camps elsewhere across the north. But those who had not received necessary rations and supplies faced further difficulties hunting and harvesting the food they needed for the rest of the year. The 1928 influenza thus had a long-term impact upon health and nutrition in the Mackenzie region, and demonstrates how disease accelerated the twentieth-century shift across northern Canada from country-food diets to reliance upon southern, imported foods.

The expansion of the residential school system had similar long-term dietary impacts. The first residential school in the north opened in Providence, on the Mackenzie River just west of Great Slave Lake, in 1867.<sup>39</sup> Following the establishment of this first school, operated by the Roman Catholic Soeurs Grises (Grey Nuns) and the Oblates of Mary Immaculate, further institutions spread across northern Canada. Roman Catholic

and Anglican missionaries operated the schools at the outset. The federal government took over both residential and day schools by the early 1960s. Missionaries depended upon local food supplies to feed the resident children, although these local foods were not necessarily indigenous. The children themselves assisted in providing their own food: berry picking in late summer, helping with the fish catch and the potato harvest, and cutting hay to feed the cattle (or the occasional ox) also found at the missions.<sup>40</sup> At Hay River, the Anglican mission hired a Métis father and son, Charlie and Frank Norn, to fish for the mission and the school. Fish dominated the children's diets at the Hay River school, although the missionaries also purchased moose meat for the children from local hunters.

The residential schools acted to create new food relationships with the land by encouraging agriculture and by the very fact that they kept children away from their families, where they would have learned hunting, trapping, and fishing skills. For Dene and Inuit children, education was experiential: learning took place on the land, by doing the things they would need to know how to do in the future. When children were kept in school for part of the year, they missed out on this crucial part of their education. If they only returned to their families in the summer, as was typically the case, they missed out on much of the seasonal harvesting. The residential school system also created a new appreciation for southern food. School menus cultivated new tastes by featuring lettuce, tomatoes, beef, and chicken. In later years, as described below, both residential and day schools also became essential venues for the dissemination of fortified foods and new attitudes toward southern, processed foods. With their focus on children and education, the residential schools directly contributed to the twentieth-century dietary shift across the north.

Finally, there were major changes in northern geography in the first half of the twentieth century: new settlements appeared, their locations guided by new motivations, and northern life became more closely tied to settled communities. On Baffin Island, large, stable polynyas—natural holes in the ice through which seals, walrus, and whales can be hunted in winter—attracted human settlement by ensuring the availability of resources.<sup>41</sup> New environmental rationales underpinned the establishment of newcomer communities. Pond Inlet, for example, offered a good harbour for whaling ships, but was otherwise not important for harvesting—not to mention dark in the long winter months—making it a relatively

unattractive site for habitation.<sup>42</sup> Southern demand for resources differed from northern demand, and new communities emerged at rich industrial resource sites: Hay River (commercial fishery), Norman Wells (oil), Yellowknife (gold), and Rankin Inlet (nickel and copper). As more children were sent to residential schools, the communities in which these schools were located (Aklavik, Fort McPherson, Fort Providence, Fort Resolution, Fort Simpson, Hay River, Chesterfield Inlet, Carcross, Dawson, Whitehorse, Shingle Point) became home for the children for at least part of the year. These communities, in turn, became destinations for the parents, who, while prohibited from visiting their children while in school, would come to pick them up for the months that they spent fishing, hunting, and harvesting out on the land. Individuals and families came into communities to trade or to celebrate holidays such as New Year's, and, after 1898 and 1921 in the western Arctic and Subarctic, to receive treaty payments. Increasingly by mid-century, they also came to collect relief or to work at the new industrial operations. Long-distance transport opportunities governed the location of many new communities (Churchill, Simpson, Pond Inlet, and Inuvik, to name a few) and facilitated both the Fort export of northern resources and the import of southern foodstuffs. Whereas many older communities were established close to rich subsistence sites, the twentieth century brought new settlement rationales typically focused on southern demands for resources.

## Relocations and Consequences for Subsistence

The other reorientation with significant subsistence implications were the mid-century relocations of Indigenous northerners. These relocations have been addressed in detail by other scholars, most notably Frank Tester and Peter Kulchyski in their 1994 work *Tammarniit (Mistakes): Inuit Relocation in the Eastern Arctic, 1939–1963*. Tester and Kulchyski described the hunger experienced by inlanders, for instance, relocated to a coastal region.<sup>43</sup> Indeed, there are many recollections of hunger and even starvation caused by relocations to areas where subsistence was not assured. Relocations had other impacts upon diet, as well. In their work on northern contaminants, Usher et al. note that, “through keen observation and experience with wildlife, Inuit have their own understanding of the

food chain as a vector, and of potential health hazards such as botulism or trichinosis which can be associated with country food.”<sup>44</sup> Such knowledge was eroded during the relocations, with serious consequences.

In November 1948, long-time northerner L. A. Learmonth, engaged in archaeological work near Fort Ross, sent word to the RCMP detachment at Cambridge Bay that a group of sixteen Inuit had fallen terribly ill at Creswell Bay on Somerset Island during the summer. Nine of the sixteen had died, and, at the time of writing, the other seven remained seriously ill. The news only reached Cambridge Bay in January 1949, at which time the RCMP worked with other government officials to send relief to the survivors and to evacuate them to southern hospitals as necessary. English- and French-language newspapers across Canada reported extensively on these “mercy flights,” employing stereotypes that contrasted life in the north to “civilization,” characterized Indigenous northerners as “plague-ridden” worriers—who could “die from worrying about a toothache,” according to one “pessimistic northerner”—and reinforcing ideas that the Inuit needed to be cared for and “properly fed” by the state.<sup>45</sup> The story held southern media attention in part because there was a lot of uncertainty, even mystery, around the “strange malady” that had struck the group at Creswell Bay.<sup>46</sup> Initial reports suggested influenza or starvation. Then a “plague” of gangrene—this after one of the two survivors was sent south with severe gangrene in both his feet.<sup>47</sup> Typhoid, followed by acute colitis, alternatively described as food poisoning, were the next suggestions. Southern media articulated this last interpretation by noting that “inhabitants of the village had been eating parts of the carcass of a dead whale which had washed ashore.”<sup>48</sup> This description was pure speculation on the part of a journalist who aimed to make sense of what was, in fact, a much more complex and challenging story.

The Inuit who fell ill at Creswell Bay had been relocated first to Arctic Bay from Cape Dorset (both Pond Inlet and Pangnirtung) in 1936, and then, the following year, to Fort Ross at the southerly end of the Somerset Peninsula. In 1947, when the post at Fort Ross closed, they were moved again to Spence Bay on the Boothia Peninsula. They made repeated requests to be returned to Baffin Island, but to no avail. In 1948, these Inuit crossed Prince Regent Inlet to Creswell Bay, and en route they evidently consumed some walrus meat. While walrus were common food for the Inuit in their home region and walrus liver regarded by many Inuit as a

delicacy, evidently the Netsilingmiut of the arctic coast west of Hudson Bay were “very superstitious about eating the liver of the Bearded Seal or the Walrus, saying that if one eats this the skin will fall off the person’s face and arms.”<sup>49</sup> This describes, with some accuracy, one presentation of hypervitaminosis-A (or an excess of vitamin A), which can cause excessive skin peeling, particularly on the arms, legs, and face, as well as headache, nausea, and debility.<sup>50</sup> Moreover, this was what was described to have originally happened to one of the surviving Inuit, a teenager, Kayoomyk, who was evacuated with serious gangrene in his feet. Alternatively, the “strange disease” may have been trichinosis, as the group had suffered from serious diarrhea (a contributing cause in some of the deaths). Trichinosis and hypervitaminosis-A are each a consequence of eating the liver of “carnivorous” walrus. Most walrus rely for sustenance on a wide range of benthic organisms, such as shrimp, crabs, molluscs, clams, soft corals, and sea cucumbers. In areas where such food is scarce, walrus have been known to eat warm-blooded mammals such as seals and conceivably even whales; it is these walrus that are described as carnivorous. In eating other marine mammals, and especially in eating their blubber where vitamin A is concentrated, the carnivorous walrus consume much more vitamin A than their benthic-organism-eating counterparts. Their livers become, like polar bear livers, highly toxic to humans. Trichinosis is caused by consumption of the *Trichinella spiralis* parasite, which “is primarily a parasite of carnivores and its transmission is mainly accomplished by one mammal eating the infected flesh of another.”<sup>51</sup> It seems, based on the available evidence, that the Cape Dorset Inuit had not worried about walrus livers in their homelands and considered them safe to eat, and that they ate these livers after their relocation to a new environment with tragic consequences. Peter Evans described botulism outbreaks among relocated Inuit in Labrador (caused by food contamination in different environmental circumstances) as evidence of how “traditional ecological knowledge” is place-specific rather than abstracted knowledge.<sup>52</sup> Beyond this, though, the deaths at Creswell Bay and elsewhere across the north speak to the complex legacy of the relocations on Indigenous people’s subsistence.

## The Federal Government and Post-War Northern Nutrition

In 1944, D. L. McKeand, superintendent of the Eastern Arctic, outlined to his superior, Roy Gibson, the government's position on northern food and health. He emphasized that policy had not changed since the late 1920s, and that the government continued to advocate that Native northerners consume "native foods" to maintain optimum health. He wrote, channeling O. S. Finnie from earlier in the century, "Now is the time to 'keep them native' at the same time introducing articles of food, clothing and shelter which have been especially made or grown for their use." In spite of this assertion of continuity, it is also clear from McKeand's letter that circumstances had changed. McKeand questioned the feasibility of returning to "native foods" on the grounds that "human nature is generally opposed to any return to old customs unless these are carefully disguised." Likewise, he emphasized how particular groups of Inuit were, due to location, "more susceptible to white man's foods (and habits)" and would always be able to secure "white man's" foods and other goods.<sup>53</sup> Thus, while claiming continuity, McKeand nevertheless imparted his understanding that northern Indigenous people had experienced changes in the twentieth century that could not be undone.

These changes to northern subsistence, including those described in the first part of this chapter, were exemplified by a series of food-related health crises at mid-century. The "strange malady" at Creswell Bay arose from the consumption of toxic foods; an outbreak of poliomyelitis at Chesterfield Inlet in 1949 raised the question of whether growing reliance upon imported southern foodstuffs played a direct role in the appearance of this modern, urban disease.<sup>54</sup> Toby Morantz describes the "great famine" among the Cree of James Bay in the 1930s and 1940s.<sup>55</sup> This was followed by the famine in the Keewatin, which Loo discusses in her chapter in this volume, that claimed international attention following the photographs and reporting of Richard Harrington and the publication in 1952 of Farley Mowat's first book, *People of the Deer*.<sup>56</sup> Most important, however, was the prevailing tuberculosis epidemic that came to the fore of northern government policy in the 1940s and 1950s.

It would be false to suggest that the federal government, as a colonial state, stood back and observed the changes underway in the north, merely reacting to events rather than guiding them. On the contrary, through a

range of interventions in diet, the federal government played a lead role in moving northerners farther away from subsistence—from one socio-economic system to another that bound the north more intimately to southern markets. The remainder of this chapter examines some of these interventions: in relief, Family Allowances and children's diets, and economic activities. It emphasizes the place of nutritional science in guiding the state's hand, and suggests finally that a profound sense of insecurity about the prospects for a healthy Indigenous diet in the north was at the core of the federal government's policies.

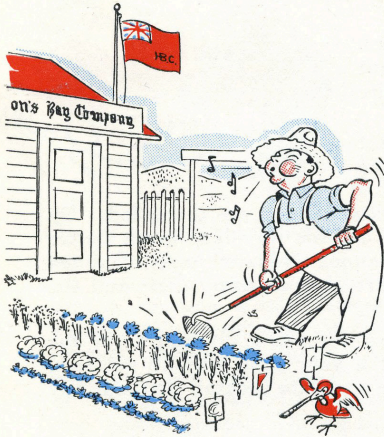
Aleck Ostry has detailed the federal government's role in directing nutrition policy in Canada, and divides this history into five eras from the mid-1870s to the present, with the first three directly relevant to the present discussion.<sup>57</sup> In the earliest period, lasting until 1918, the Dominion government established a system of food safety, inspection, and surveillance within the framework of federal criminal law. In the interwar period, from the creation of the federal Department of Health (1919) to the Canadian Council on Nutrition (1938), the Dominion government engaged with areas formally under provincial jurisdiction by acting on social and health policy matters where they overlapped with nutrition. The government had developed a national dietary standard by the end of the 1930s. This was part of international efforts, led by the League of Nations, which embraced and promoted the new nutritional science, including work on vitamins in the 1920s and the medicalization of nutrition through artificial infant feeding in the 1930s. The Canadian Council on Nutrition (CCN) endured from 1938 to 1972, constituting Ostry's third era, which saw the creation of wartime nutrition policies. This era also saw the CCN, in the post-war period, working together with the Department of Health to fortify the Canadian food supply with various elements and vitamins. This period ended with the CCN coordinating the world's first representative national dietary survey, which reached into the north.<sup>58</sup> Nevertheless, in the context of Canadian nutrition policy history, the north was distinct from the rest of the country as it was the one region where, in the absence of provincial authorities, the federal government had direct responsibility for health and social policy. Yet the region was also characterized by federal government neglect prior to 1940; in the first half of the twentieth century, nutritional interventions fell primarily under the auspices of non-government agencies (the churches and the Hudson's Bay Company).

There was no published or otherwise formalized articulation of the churches' nutrition policy beyond their core mandate of ministering to bodies and souls. Their approach to nutrition was nevertheless manifested in the gardens maintained at the missions, where missionaries cultivated vegetables and flowers (including the ample potato crop at Fort Good Hope on the Mackenzie River), and in the residential schools as discussed earlier. The HBC went further, in 1940 publishing a booklet titled *Your Food and Health in the North*. This publication, penned by Frederick Tisdall, chair of the Canadian Medical Association's Committee on Nutrition, was to be distributed to HBC staff across the north. The booklet was prepared following "a study of post diet [that] convinced us that in many cases diets should be changed, and if they are, improved health will be the result."<sup>59</sup> It included a discussion of minerals and vitamins such as iron, calcium, and iodine, and emphasized the need for Vitamin D supplementation as "sunshine in the North is deficient in Vitamin D." Illustrated with cartoon men and women in parkas, polar bears, and ice floes, the booklet demonstrated a clear belief in the importance of nutrition education as the core of a healthy diet, and asserted, "We can only achieve this [health] improvement if you continue to help and co-operate."<sup>60</sup> The virtues of tinned vegetables and fruits were highlighted, as was the need for gardens at all trade posts (see Fig. 6.1). The booklet also included an extended section on nutrition for children and expectant mothers, emphasizing the importance of breastfeeding and even laying out detailed three- and four-hour schedules for nursing mothers. In these ways, *Your Food and Health in the North* can be seen as an expression of southern Canadian values about nutrition consistent with the dominant policy interests of this period as described by Ostry. This orientation is further evident in the omission of Indigenous people and any extended discussion of country food. The emphasis was on foods that could be imported to the north, and in this fashion the north was elided with southern urban centres, each effectively divorced from their surrounding environments and dependant instead upon extended networks of food supply and distribution—as well as informed science—to ensure adequate vitamins.<sup>61</sup> The Hudson's Bay Company's approach to nutrition, while confined to its employees in the north, nevertheless can be seen as consistent with the federal nutrition policy, which increasingly emphasized fortified southern foods and scientifically informed diets, alongside education, to change individual and family dietary practices.

# VEGETABLES

SHOULD BE GROWN AT THE POST

*Wherever Possible*



Home grown vegetables are the cheapest and have the best flavour. Every post which can raise vegetables should do so. They will pay big dividends in good health.

Salad vegetables, such as lettuce and green onions, give you additional supplies of Vitamin C and add greatly to summer meals, but admittedly are not available at all posts.

Factory canned vegetables, like factory canned fruits, as far as food value is concerned, are equal or superior to cooked fresh vegetables. Remember they are usually processed the day they are picked, which conserves their maximum nutritional value.

Fortunately there is quite a variety of canned vegetables. The following list may be obtained by each post:

Corn	Beets	Sweet Potatoes
Corn on the Cob	Carrots	Asparagus
Baked Beans	Peas	Cauliflower
Lima Beans	Tomatoes	Sauerkraut
String Beans	Macedoine Beans	Celery
Succotash	Spinach	Turnips

FIG. 6.1: Page from *Your Food and Health in the North*, prepared by Dr. Frederick F. Tisdall and printed by the Hudson's Bay Company, 1940.

The federal government directed new attention northward during and after the Second World War. This was stimulated in large measure by interest in northern resources, science, and sovereignty in the context of ongoing global conflicts.<sup>62</sup> Yet it also reflected the more activist welfare state of the post-war period in its expanded concern for social and health policy in the region. Federal government interventions in northern nutrition manifested in a variety of ways, including initially in policy and practices regarding relief. At mid-century, the place of relief in northern subsistence was complicated. For decades, the HBC and other traders had supplied grubstakes to trappers, giving them and their families advances on ammunition and provisions for the season on the assumption that the debts would be settled when the hunters returned with fur to trade. As the fur trade declined in the north over the course of the twentieth century, posts were shuttered and the role of the HBC transformed.<sup>63</sup> The federal government instead came to be seen as more responsible for some of the provisioning, which had previously been part of the HBC's trade relations. This shift led Roy Gibson to direct that closer attention be paid to the issue of relief rations in the north. He wrote to the Commissioner of the RCMP that, "what we are trying to avoid is having accounts classed as relief when they should be considered as grubstakes by the traders."<sup>64</sup> Nevertheless, as Tester and Kulchyski argue, by the 1950s the Inuit in the Garry Lake region had shifted from "a condition of total independence and reliance on caribou and fishing, to a reliance on caribou, fishing, and relief to tide them over."<sup>65</sup> The Northwest Territories Branch aimed to avoid such practices. It saw relief as demeaning and wanted to keep northern Indigenous people "independent" and the costs of administering relief low, without being "too niggardly."<sup>66</sup> RCMP officers indicated that they "[made] it a practice of discouraging the issue of relief rations."<sup>67</sup>

Widespread tuberculosis infection among northerners countered efforts to limit relief. Active TB infection could prevent hunters from successfully procuring subsistence for their families; moreover, good nutrition was seen as essential to fighting TB, particularly as antibiotics would not become widely available until the late 1940s. Thus, by the 1950s, there were two categories for relief provision: a relief ration for those who were destitute and required relief to be administered "in part or in full at the discretion of the administering officer," and a supplementary ration for all members of a family for six months "upon discovery and diagnosis

of pulmonary tuberculosis in any member of a family,” or “upon return from hospital of a T.B. patient.”<sup>68</sup> Given the prevalence of tuberculosis in the north, this second category of relief constituted a major intervention by the federal government in the diets of northerners. Likewise, the introduction of regular health checks to screen for TB in the 1940s led to the provision of rations for families who disrupted their regular subsistence practices to come into communities to meet the medical ships.<sup>69</sup>

It is also clear that agents of the federal government viewed relief rations as an opportunity to intervene positively in the diet of northern Indigenous people. In a 1955 meeting on rations for Inuit, Dr. J. S. Willis, of the Indian Health Services branch of the Department of National Health and Welfare, observed that “the percentage of Eskimos suffering from poor nutrition was quite high. ... He felt that the relief rations provided an opportunity for us to see that the Eskimos were given foods which provided kinds of nutrition we knew to be lacking.”<sup>70</sup> Willis’ comments demand two questions: how was Inuit diet perceived to be lacking? And what did the government understand as appropriate rations under the circumstances? There is much evidence that southern administrators and others viewed country-food diets, and especially “transitional,” diets as inherently inadequate. The “post diet” was a particular concern, as L. B. Pett, chief of nutrition services with the federal Department of Health and Welfare, noted in a letter to Gibson. Pett characterized Indigenous northerners as moving from “a true native diet (that seems to be pretty adequate) [to] a ‘trading post’ diet of flour, lard, salt, baking powder and tea.”<sup>71</sup> In spite of Pett’s description of the “pretty adequate” Native diet, it was apparent from many of the government discussions about rations that “food” meant southern food, not country food. At the same meeting on Inuit rations where Willis spoke, Mr. J. Cantley, of the Arctic Division of the Department of Northern Affairs, pointed out that there were “many more foods ... available in the North now than there were five years ago,” by which he meant southern foods.<sup>72</sup> Ben Sivertz, Acting Director of the Department of Northern Affairs and National Resources, likewise noted, in his memo to L. A. C. O. Hunt, the Mackenzie District administrator, that greater discretion could be exercised in issuing rations to “white and halfbreed persons” relative to Indigenous people. “For those persons who are accustomed to broader selection of foodstuff than laid out in Schedule 1,” he noted, “a cash equivalent in the form of a food voucher may

be issued.”<sup>73</sup> Northern Indigenous people would most certainly have been likewise accustomed to a “broader selection of foodstuff” than specified on ration lists, but in his writing here, Sivertz reveals the unspoken assumption, common in state correspondence on nutrition, that country food was less adequate in a variety of ways—here, specifically, less diverse—than southern food.

Across Canada, administration of food relief was guided by the principle that the standard of living provided in relief should not exceed that which could be obtained through “economic effort”—in other words, through subsistence harvesting or wage labour. Yet there was a perception that northern Indigenous peoples in general maintained only a very low standard of living. This reflected attitudes toward country-food diets, discussed above, and functioned to lower the bar for relief in the north.<sup>74</sup> Relief rations were universally applied in the north: the lists of rations did not vary according to whether the recipient was Inuit, Métis, non-Indigenous, and so on. Most lists resembled this one:

Flour  
Rolled Oats  
Rice  
Sugar, Jam or Molasses (one or the other)  
Lard, fortified margarine or beef fat  
Beans, dried, or extra rolled oats  
Tea  
Baking Powder  
Salt  
Cheese  
Milk  
Tomatoes, canned (where available)<sup>75</sup>

Meat, specifically beef and typically tinned rather than fresh, was also commonly found on relief lists. Nevertheless, ration lists emphasized grains, dairy, and vegetables to a much greater extent than country-food

diets. What is not immediately apparent from this particular list was that the identification of appropriate rations was directly informed by scientific research, particularly with regard to fortified foods and vitamins. Multi-vitamin capsules and cod liver oil appeared on lists and in discussions about rations, as did “special flour” or “bannock mix”; the latter (manufactured by the Canadian Doughnut Company of Trenton, Ontario) was flour to which skim milk powder, vegetable shortening, baking powder, and salt had been added. Much like the seal-meat-infused biscuits of the 1920s, bannock mix aimed to fortify northern diets, in this instance with milk added into an otherwise familiar food.<sup>76</sup> There were repeated concerns that a taste for fortified foods, such as enriched flour or the bannock mix, needed to be inculcated amongst northern Indigenous peoples. In addition to fostering a taste for such foods among children, nutritional researchers also conducted experiments with northerners on the best way to prepare such mixes to ensure their optimal palatability.<sup>77</sup>

Northerners did not passively accept these decisions about relief and rations as constructed by agents of the federal government. In 1956, Inuvialuit chiefs and the Citizens’ Committee in Aklavik sought an increase in the caloric content of rations from 2,800 calories to 8,400 calories per day. They called for more food and more varied foods. The chiefs and the Committee included fresh meat and fresh fish on their lists, as well as matches, dried fruit, ham or bacon, and vegetable soup. The chiefs and the Committee, moreover, drew on scientific research to make their argument. The state representatives, in turn, used military research that looked at soldiers, air crews, and lumberjacks—people working hard, outdoors, and in northern climates, but who did not require such a high calorie intake—to justify keeping the caloric content of rations lower.<sup>78</sup> State officials opposed race-based differences in rations on the grounds that this impeded their fundamental assimilationist project. The argument was resolved by keeping the caloric content of rations higher than it was in southern Canada, and approving additional rations for those with active cases of TB and their immediate family.<sup>79</sup> This demonstrated the emphasis upon environment over “race” within the rationale for improved nutrition. It also exposed the new emphasis on scientific authority. Northerners had long argued for improved rations; now they deployed the language of nutritional science to do so, although ultimately they remained unsuccessful in having their needs fully met.

The foodstuffs on ration lists were only one prong in a strategy of nutritional interventions that also included education and surveillance, with a specific focus on Indigenous people. This was most clearly articulated by Sivertz to district administrator Hunt in a letter dated 22 August 1956, in which Sivertz directed that, "it will be the responsibility of the administrator in the area, upon discovery of T.B. in a member of a household, to investigate the family circumstances. The administrator will be required to insure that there is not only sufficient food in the home, but that it is the type which is nutritionally sound. ... If there is a shortage of adequate foodstuffs ... immediate steps must be taken to insure that there is a balanced diet in the home."<sup>80</sup> In a letter dated the following February, F. J. G. Cunningham in Ottawa wrote to the district administrator at Fort Smith emphasizing the importance of sitting down with ration recipients individually to "point out the necessity of a balanced nutritional diet."<sup>81</sup> The language of "adequate foodstuffs" and "a balanced diet" masked assumptions about what constituted good and healthy food. Cunningham further acknowledged that educating the Inuit population in this fashion would take a lot of time and effort, but that the ultimate goal was that they receive the same rations as their non-Indigenous counterparts. He thus simultaneously articulated the nutritional dimension of the assimilationist project and the educational objectives of the ration and relief system.

In contrast to relief, Family Allowances were a universal welfare program intended to raise the standard of living for Canadian children across the country.<sup>82</sup> Family Allowance credits could be used to purchase foods specified on a list "recommended by the Department of National Health and Welfare as beneficial to the health of children."<sup>83</sup> Nursing and pregnant women also fell under the purview of the Allowances. Recommended foods included milk, Pabulum, flour (fortified with vitamin B), rolled oats and oatmeal, sugar, eggs, canned or fresh meat ("issued only when game is scarce"), peanut butter, cheese, fruit, canned tomatoes and tomato juice, green or dehydrated vegetables, rice and beans, and more. Milk and Pabulum were considered particularly important, and Gibson supplied the general manager of Hudson's Bay Company's fur trade department with a list detailing the number of children at each post across the north registered for Family Allowances, and who therefore should have been receiving milk and Pabulum regularly.<sup>84</sup> Family Allowances dramatically increased milk consumption in the north. In one HBC report, where no milk had

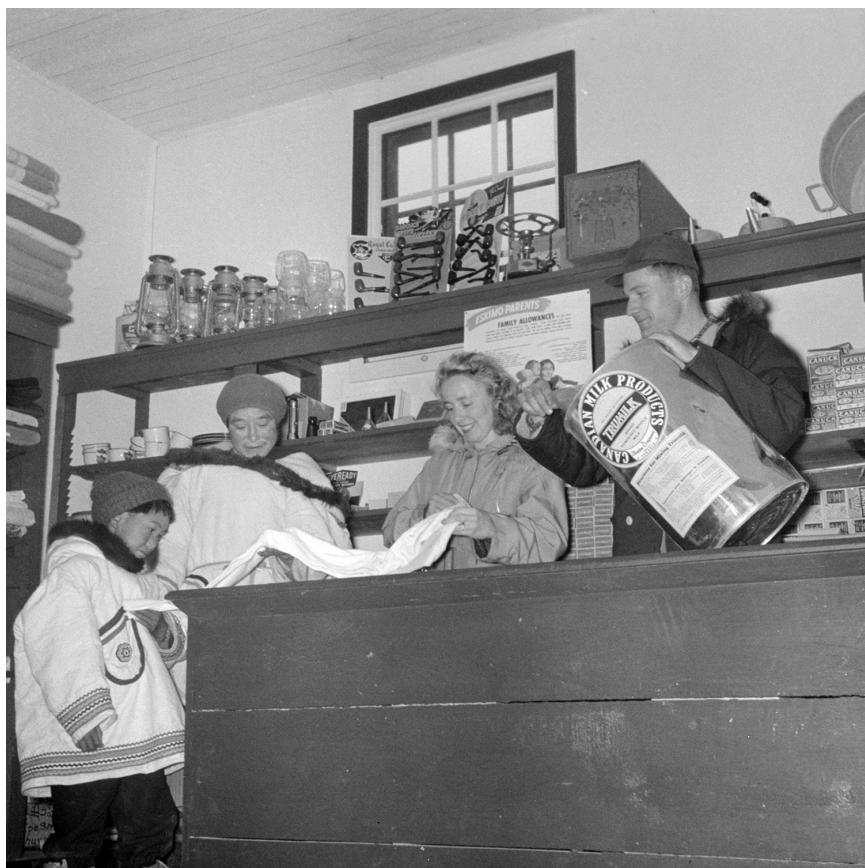


FIG. 6.2: “Mr. and Mrs. Sigvaldasson issuing Family Allowance to Inuit woman in the form of powdered milk, Cape Smith, N.W.T., 1948.” This photograph was taken and captioned by S. J. Bailey, then Regional Director, Family Allowances for the Yukon and Northwest Territories. As is apparent in the positive framing of this photograph, Bailey was convinced of the value of Family Allowances for helping Indigenous northerners (see Tester and Kulchyski, *Tammarniit (Mistakes)*, 87). Source: S. J. Bailey/Library and Archives Canada, PA-167637.

been stocked for Indigenous people in the eastern Arctic prior to 1946, 655 pounds had been distributed among Inuit by 1948.<sup>85</sup> Gibson expressed concern that Family Allowances, like relief, could cultivate dependency in Indigenous northerners, and he stressed that they were to be for the sole benefit of children. He simultaneously embraced the potential of Family

Allowances to help cultivate new dietary practices. He noted, for instance, that many northerners held an “unfounded bias” against vitamin B-enriched flour, “but it is believed that, as its use becomes more general by issue through Family Allowances credit, its popularity will grow.”<sup>86</sup> Targeting children with the fortified foods and nutritional advice available as part of the Family Allowances program reflected a larger effort focused on early diet, which included encouraging parents to administer cod liver oil and a synthetic vitamin D preparation called viosterol.<sup>87</sup>

Economic advantage was part of federal government food interventions in the north, even if it was not spelled out as a nutritional policy measure. The bannock mix, for instance, was seen not only to improve diet by increasing the amount of milk consumed, it was also thought possible to link this new diet to new commerce. One proposal suggested shipping the ingredients in bulk to Rankin Inlet, and repackaging the mix into five-pound bags for distribution across the north.<sup>88</sup> This proposal foundered given that the mix could be supplied much more cost-effectively through the existing HBC transportation and post network. By the 1950s, the state also encouraged greater employment of northern Indigenous people in industrial operations. This included work in mines, on hydroelectric developments, and in the construction of new northern infrastructure, such as highways and Cold War-era defensive lines, including the DEW, Mid-Canada, and Pinetree lines. Contractors on the Mid-Canada Line hired Inuit to work at Great Whale River in the mid-1950s. These men initially took time off for hunting, but the contractors found this arrangement unsatisfactory as it interfered with “getting the work done on time.”<sup>89</sup> One alternative was to encourage the Inuit to buy seal meat from other Inuit, but this was not well received. As Sivertz wrote to a James Bay district HBC manager, “of course this is something that might be overcome in time as the Eskimos become accustomed to wage employment and buying their food requirements.”<sup>90</sup> Where northern Indigenous people did participate in the larger market for southern goods, they were typically seen as making poor consumer decisions. One RCMP officer suggested that rather than controlling the sale of food, the goods that arrived in the north should instead be more closely controlled to ensure that there were fewer non-essentials and that more be “invested in foods of high nutritional value.”<sup>91</sup> Even the use of the word “consumers” to refer both to those who purchased or ate new southern products demonstrated how the new

foods were bringing with them new socio-economic arrangements that sought to replace subsistence with markets for food.<sup>92</sup>

The earliest government nutrition survey conducted in northern Canada was completed in 1943. The Bureau of NWT and Yukon Affairs distributed a questionnaire to post managers and RCMP officers asking about subsistence practices and the availability of food. Seventeen questionnaires were returned from the central and western Arctic, but none from the east (although at least one post manager from the east mailed his comments in a letter to the Bureau).<sup>93</sup> This nutritional investigation coincided with the earliest northern TB survey, conducted along the Mackenzie River. The simultaneity of these two surveys spoke both to the federal government's increased interest in the north and the inter-connections between TB—already understood to be the foremost northern health issue—and nutrition. As mentioned above, good nutrition was central to tuberculosis treatment, especially prior to the development of effective antibiotics. In the north, malnutrition was seen as having played a direct role in the tuberculosis epidemic.<sup>94</sup> As part of the 1943 TB survey, men, women, and children were systematically X-rayed to identify active tuberculosis infections. The results, published in 1945, revealed the staggering scale of the problem: for the Inuvialuit in the Mackenzie Delta, the physician responsible for the survey found that TB had “a death-rate of 314 per 100,000 population compared with 53 per 100,000 for the rest of Canada.”<sup>95</sup> Eastern Arctic, western Arctic, and Yukon surveys followed shortly thereafter. The aim of these surveys was to X-ray the entire population, Indigenous and non-Indigenous, and then to isolate those who had active tuberculosis and send them south for treatment. Given the size of the region, the fact that most northerners lived off the land rather than being concentrated in communities, and the relative inexperience of southern doctors with subarctic and arctic environments, these comprehensive surveys were massive undertakings. New surveys followed every few years, as the federal government—including bureaucrats with the Department of National Health and Welfare (DNHW) and the Department of Northern Affairs and National Development (DNAND), and its successors—sought to assess whether or not the problem was under control.

The large-scale, comprehensive surveillance techniques and research methods developed in the TB surveys soon came to be applied to the issue of nutrition in the north. The 1943 investigation had relied on a small

number of questionnaires from non-Indigenous police officers and post managers, supplemented with descriptions from officials, and advice from doctors and dentists.<sup>96</sup> By 1961, DNAND and DNHW officials agreed to survey nutrition at large. The new surveys entailed:

- (a) A full clinical examination of selected sections of the native population;
- (b) The collection of blood and urine samples for detailed biochemical examinations for vitamin and mineral contents;
- (c) The collection of samples of native foodstuffs for analysis of protein, fat, carbohydrate and mineral content to see whether they are similar to the values obtained in Alaska studies; and
- (d) A dietary survey.<sup>97</sup>

Some of the health information, such as blood and urine samples, was collected during the annual tuberculosis surveys. The dietary surveys interrogated aspects of home and family life that pushed beyond the simple question of “what do you eat?” The 1961 surveys were much more comprehensive than those of 1943, with questionnaires distributed throughout the school system reaching children in residential schools and the families with children attending day schools. Detailed interviews were conducted with schoolchildren, family groups, and communities. Although the quotation above only mentions “native foodstuffs,” elsewhere researchers measured the nutritional content of a range of non-Indigenous and country foods. The new research methods closely probed northern bodies, both human and those of the non-human animals consumed, as well as social and cultural dimensions of diet, with particular attention to Indigenous people.

To survey a community, researchers would question local merchants, area administrators, and RCMP officers. Families were given money to purchase food (which also served as an incentive to participate in the survey), and DNHW workers monitored their food consumption for one week each month over a six-month period. In the day schools, teachers

distributed survey booklets to all children who could write. The children took the booklets home to complete for one week out of every month over a one-year period. Teachers returned the completed booklets to the Department of National Health and Welfare for analysis.<sup>98</sup> In general, the children cooperated with the survey process. Some children, teachers complained, lost their forms or forgot to fill them out. While it is not surprising that young children might lose their booklets or be less than assiduous record keepers, it is also likely that this carelessness occasionally reflected opposition to the survey. Active opposition was clearly articulated by some parents. Mrs. Cockney, an Inuvialuit mother in Inuvik, wrote the following note to a teacher, “Sister C.:

I just want to know if Margaret has to write what she eats all the time cause I don't think its not anybodys business to know what our children eats as far as I know I always give my children what's good for them.

So please let the Principal know.

Regards, Mrs. L. Cockney<sup>99</sup>

In her short note, Mrs. Cockney captured the larger significance of the dietary surveys: that an examination of what children ate went beyond the caloric and protein constituents of particular foodstuffs to an evaluation of “what’s good for them.” Inuvialuit mothers knew what was good for their children, and therefore did not see the need for teachers and Health and Welfare workers to interrogate their diets. Other northerners evidently expressed “opposition and hostility” to the survey, as reported by government workers in 1965 and 1966.<sup>100</sup> One school principal in Fort Resolution pointed out that the requirement for students to include their names and treaty numbers led “pupils and parents ... [to] look upon [the survey] as some type of government ‘spying.’”<sup>101</sup> The same principal went on to observe that the children often recorded what they thought teachers would like to see them eat, and not what they were actually eating.<sup>102</sup> By the latter half of the twentieth century, the state had become increasingly intrusive in the lives of northerners—and northern Indigenous people, in particular—and Mrs. Cockney’s letter, alongside evidence of wider opposition, reveals the range and spirit of resistance to these intrusions. In

their correspondence, survey administrators expressed concern that such opposition would lead to inaccurate survey results and apathetic or antagonistic attitudes toward proper nutrition. Officials with the Department of National Health and Welfare tried to assuage community concerns by holding meetings, but unsurprisingly, such consultations neither led to changes in the overall program nor alleviated individual and community resistance to escalating state and scientific surveillance.

The 1965–66 survey revealed a preference among northerners for store-bought foods (hard biscuits, lard, jams, tea, and dried milk), even as country foods (moose meat, caribou, seal, fish, and berries) continued to make up a significant portion of their diets. In most northern communities, those attending residential schools (also called hostels) ate very differently from those who continued to live with their families. The latter typically ate much more country food, but also more store-bought “junk food,” including “candy, pop, chocolate bars, bubble gum, suckers.”<sup>103</sup> The children at the hostels were characterized as “eat[ing] better” and having “more nutritionally adequate” diets.<sup>104</sup> In general, the residential school system was praised for the ways in which school administrators drew upon nutritional science in preparing weekly menus and daily meals. All the children in the hostels were, moreover, given vitamin A and D supplements in fortified bannock, although it was duly noted that the children did not like these biscuits. Among children outside the residential schools, and some inside, researchers found a range of vitamin deficiencies, most commonly anaemia.<sup>105</sup>

In designing these nutrition surveys and responding to their findings, researchers and federal government officials articulated repeatedly what can only be described as insecurity about country-food diets. Even as they praised the richness of country foods and the good health of those who continued to live in “traditional hunter societ[ies],” such comments were always qualified with concerns about the move away from such traditional diets, from the land into settlements and from “native” to “white man’s” foods.<sup>106</sup> As Stephen Bocking notes in his chapter in this volume, anxieties about country foods would continue to evolve later in the twentieth century, with mounting evidence of the contamination of such foods by a range of toxins.

A material foundation for mid-twentieth-century concerns about Indigenous diets and traditional foods lay in the environmental changes that

had come to the north in the twentieth century. Game animals, fur-bearers, marine mammals, fish, and birds had all suffered population declines. Access to these and plant-based foodstuffs met with new restrictions, as subsistence practices competed with industrial, scientific, conservationist, and military activities on northern lands and waters. Likewise, new ties to settlements (to participate in health surveys, obtain relief, pick up children from school, trade, meet with friends, and so on) interfered with seasonal rounds. Yet the perceived insecurity was not simply a response to the wholesale cultural, economic, and environmental changes that had reached across the Subarctic and Arctic. It also reflected deeply held southern Canadian values about what were reliable foodstuffs and what constituted a safe and secure diet. Foremost, this was a diet predicated upon agriculture. That trade posts and missions invariably established garden plots (and that the HBC's nutritional booklet strongly encouraged such practices) was itself evidence of the hold that agriculturally derived foodstuffs had upon southerners relocated to the north. Likewise, descriptions of northern diets often made reference to the lack of agricultural opportunities. In correspondence with Roy Gibson, J. G. Wright noted that, "In the case of the Indians, there is some suggestion that they might raise gardens and depend more upon vegetables. This solution, of course, could not apply to the Eskimos in the Arctic. It seems to me that the Eskimo problem is an even greater one than that facing the Indian Affairs [*sic*]."<sup>107</sup> By the 1960s, a safe and secure diet was also increasingly a diet that was informed by nutritional science. Hence the perceived need to study blood and urine samples from northerners, and to supplement their diets with vitamins and minerals. Finally, attitudes about appropriate diet have to be seen within their colonial context. While southerners regularly praised the ability of northern Indigenous people to obtain subsistence from the land, they did so within a profoundly racist culture that understood Indigenous people as primitive and their cultures as rooted in the past, and not appropriate to the present or the future. To rely wholly upon subsistence from the land was not a practice that came easy to relocated southerners; therefore it is not surprising that it was not seen by them as a reliable foundation upon which to build a healthy northern future.

## Conclusions

The authors of the 1965–66 nutritional survey report, including distinguished physician Otto Schaefer, wrote:

Experience in other parts of the world has indicated that cultural change is almost invariably accompanied by a nutritional inadequacy of diet and the consequent appearance of clinical disorders in the native people resulting from malnutrition and metabolic change.<sup>108</sup>

Schaefer was very sympathetic to the experiences of Indigenous northerners and was well respected by northerners and southerners alike.<sup>109</sup> Nevertheless, he and his fellow survey authors articulated views held widely across the federal administration that saw northerners as caught up in a unidirectional and inevitable process of modernization: a series of changes that led away from the land and into the communities, and which were already apparent across the north beginning in the late nineteenth century. Perceptions of the process of modernization among northern Indigenous peoples were rooted in culturally dominant ideas about race and culture, namely the forward progress of northern Indigenous peoples from primitive, traditional lives to civilized, modern ones. Yet the process that was underway was neither inevitable nor solely cultural; it was, instead, historical, and therefore could potentially have moved along any of a number of paths, as directed in the twentieth century through the actions of the state, missionaries, trading companies, resource operators, and northerners themselves.

In the early part of the century, the Dominion government's influence in the north was relatively circumscribed. Its nutrition policy dovetailed with wildlife regulation efforts and a basic goal to "keep the native, native." State intervention before 1940 was primarily in response to epidemics, where its role in providing rations ultimately grew into a significant intervention in northern diets. Government efforts were directly complemented by the role of the churches in establishing and operating the residential schools. Countless other newcomers influenced northern subsistence practices and diets in the early part of the twentieth century through increased and changed demand upon the range of northern resources.

New pressures were placed on game animals and fish for subsistence, recreational, and commercial harvesting. Demand for other northern resources, whether fur-bearers, minerals, or oil, intensified pressures on subsistence resources while simultaneously introducing new foodstuffs and influencing changes in settlement and transportation geographies.

The relocation of northern Indigenous peoples—such as the Inuit from Baffin Island, who found themselves at Creswell Bay in the summer of 1948—signalled a turning point in the federal government's role in the north. The relocations exemplified an interventionist approach by Ottawa, one that sought to manage directly the changing relations between northerners and their environments. The health consequences of these relocations, including hunger, starvation, and the illness suffered by those at Creswell Bay, highlight two key aspects in the history of northern diet: first, that subsistence represented an intimate relationship with the land and animals, and one not easily transferred from place to place; and second, that the federal government would meet with greater success in achieving its objectives when it did not intervene so aggressively, but rather pursued a more bureaucratic approach.<sup>110</sup> Such an approach would rely upon regular interactions between government officials and northerners, such as relief payments and Family Allowances; would focus upon children and educational efforts among northerners; and would see the formulation of policy that was directly informed by comprehensive scientific research.

These latter measures came to the forefront after the Second World War, when the federal government turned to diet and nutrition as tools to manage the changing relations between northerners and nature. State administrators used relief, rations, and Family Allowances to guide northerners away from subsistence and country foods, and toward diets heavy in dairy products and grains that depended upon agriculture and new relationships with southern producers and food networks. Northerners resisted this shift in different ways, ways that were particularly evident in their responses to the large-scale nutrition survey undertaken in the early 1960s. Children, the main target of the survey and of dietary interventions in general, recognized that the survey questionnaires were not objective inquiries into what they ate, but rather loaded with expectations about what they should eat. At times, they completed the questionnaires accordingly. Mothers articulated their anger at state surveillance methods, while

community leaders—both Indigenous and non-Indigenous—relied on the same science that informed state policy to develop alternative representations of dietary health. Ultimately, resistance was also apparent whenever northerners continued to practice subsistence and to eat country foods.

A profound sense of insecurity about the possibilities for healthy living in the north permeated federal government nutrition policy. This insecurity, although rooted in broad cultural perceptions about what constituted food, and good food in particular, was markedly reinforced by the health crises at mid-century, including the famine in the Keewatin and the belated recognition of the northern TB epidemic. This insecurity was also inseparable from understandings of northern environments as imperfectly controlled by the Canadian government. Federal policy was not solely predicated upon negative perceptions of Indigenous diets, however, but also upon aspirations that Indigenous northerners could be assimilated into the mainstream of Canadian social and economic life. This would be realized through participation in wage economies that enabled northerners to procure foods through a shared marketplace overseen by federal regulators and informed by nutritional science. Government officials focused on children who could be educated to comply with what were understood to be the best dietary practices, and among whom new tastes could be most effectively cultivated. Diet was thus a dimension of ethical citizenship, a means to bring northerners into the mainstream of Canadian society by eating in common with their southern counterparts, and doing so under the state's watchful eye.

## Notes

- 1 The author gratefully acknowledges the Inuvialuit Cultural Resource Centre and the Gwich'in Tribal Council Department of Cultural Heritage for granting access to unpublished interview transcripts with Inuvialuit and Gwich'in elders as part of the research for the larger project of which this chapter is a part. In particular I wish to thank Cathy Cockney and Ingrid Kritsch for their support and assistance. The Social Sciences and Humanities Research Council of Canada and the Killam Trusts funded this research. I also thank Stephen Bocking, Brad Martin, and the workshop participants (in both the June 2009 and October 2011 workshops) for their suggestions and insights into northern environmental history.  
Myra Moses as quoted in Vuntut Gwich'in First Nation and Shirleen Smith, *People of the Lakes: Stories of our Van Tat Gwich'in elders = googwandak nakhwach'anjòo Van Tat Gwich'in* (Edmonton: University of Alberta Press, 2009), 74.
- 2 Marianne Lien, "Introduction," in *The Politics of Food*, ed. Marianne Elisabeth Lien and Brigitte Nerlich (Oxford and New York: Berg, 2004), 5.
- 3 Environmental historians have explored the consequences of such masking to the environments of origin for foodstuffs and natural resource products. See, for example, L. Piper, *The Industrial Transformation of Subarctic Canada* (Vancouver: UBC Press, 2009), 102.
- 4 The salience of these divides was highlighted during the writing of this chapter with the visit of the United Nations Special Rapporteur on the Right to Food, who grouped some of the issues facing Aboriginal and northern Canadians. See "Aboriginal access to food under scrutiny," *Edmonton Journal*, 13 May 2012.
- 5 See Robert N. Chester III and Nicolaas Mink, "Having Our Cake and Eating It Too: Food's Place in Environmental History, A Forum," *Environmental History* 14, no. 2 (2009): 309–11; Nancy Shoemaker, "Food and the Intimate Environment," *Environmental History* 14, no. 2 (2009), 341.
- 6 Sidney Mintz, *Sweetness and Power: The Place of Sugar in Modern History* (New York: Viking, 1985); Mary Douglas, *Purity and Danger: An Analysis of Concepts of Pollution and Taboo* (New York: Praeger, 1966).
- 7 "Food colonialism" is a variation upon Nancy Shoemaker's use of "food imperialism." Shoemaker, "Food and the Intimate Environment," 342.
- 8 Chase Hensel, *Telling Our Selves: Ethnicity and Discourse in Southwestern Alaska* (New York and Oxford: Oxford University Press, 1996), 3.
- 9 And is in the anthropological literature: See, for instance, George Wenzel, *Animal Rights, Human Rights: Ecology, Economy and Ideology in the Canadian Arctic* (Toronto: University of Toronto Press, 1991), especially ch. 3, "The Culture of Subsistence," 56–63; Carol Zane Jolles, with the assistance of Elinor Mikaghaq Oozeva, *Faith, Food, and Family in a Yupik*

- Whaling Community* (Seattle: University of Washington Press, 2002); June Helm, *The People of Denendeh: Ethnohistory of the Indians of Canada's Northwest Territories* (Montreal: McGill-Queen's University Press, 2000), especially "Part I: Community and Livelihood at Midcentury."
- 10 Peter J. Usher, "Socio-economic effects of elevated mercury levels in fish on sub-arctic native communities," in *Les Contaminants dans l'environnement marin du Nunavik : actes du colloque, Montréal, 12 au 14 septembre 1990 = Contaminants in the marine environment of Nunavik : proceedings of the conference, Montreal, September 12–14, 1990* (Sainte-Foy, QC: Université Laval, Centre d'études nordiques, 1992), 47.
  - 11 Lien, "Introduction," 6. Emphasis in the original.
  - 12 Mary-Ellen Kelm, *Colonizing Bodies: Aboriginal Health and Healing in British Columbia* (Vancouver: UBC Press, 1998); and Maureen Lux, *Medicine that Walks: Disease, Medicine, and Canadian Plains Native People, 1880–1940* (Toronto: University of Toronto Press, 2001). See also Margery Fee, "Stories of Traditional Aboriginal Food, Territory, and Health," in *What's to Eat? Entrées in Canadian Food History*, ed. Nathalie Cooke (Montreal: McGill-Queen's University Press, 2009), 55–78; Margery Fee, "Racializing Narratives: Obesity, Diabetes, and the 'Aboriginal' Thrifty Genotype," *Social Science & Medicine* 62 (2006): 2988–97; Ian Mosby, "Administering Colonial Science: Nutrition Research and Human Biomedical Experimentation in Aboriginal Communities and Residential Schools, 1942–1952," *Histoire sociale / Social history* 46, no. 91 (2013): 145–72; James Daschuk, *Clearing the Plains: Disease, Politics of Starvation, and the Loss of Aboriginal Life* (Regina: University of Regina Press, 2014); as well as ongoing work by Paul Hackett on diabetes and First Nations populations.
  - 13 The issue of toxic contamination of country foods in the north falls outside the scope of this study. It came to the fore after 1970, when mercury first appeared as a significant contaminant in freshwater fisheries. For discussions of food contamination, see Usher. "Socio-economic effects of elevated mercury levels," and Peter J. Usher, Maureen Baikie, Marianne Demmer, Douglas Nakashima, Marc G. Stevenson, and Mark Stiles, *Communicating about contaminants in country food: The experience in Aboriginal communities* (Ottawa: Inuit Tapirisat of Canada, 1995).
  - 14 Fikret Berkes, "Native Subsistence Fisheries: A Synthesis of Harvest Studies in Canada," *Arctic* 43, no. 1 (1990), 40.
  - 15 See Piper, *Industrial Transformation*, ch. 7.
  - 16 Frank Tough, "As Their Natural Resources Fail": *Native Peoples and the Economic History of Northern Manitoba 1870–1930* (Vancouver: UBC Press, 1996), 24–25.
  - 17 Renée Fossett, *In Order to Live Untroubled: Inuit of the Central Arctic, 1550–1940* (Winnipeg: University of Manitoba Press, 2001), 190.
  - 18 Anthony G. Gulig, "Determined to Burn off the Entire Country": Prospectors, Caribou, and the Denesuliné in Northern Saskatchewan, 1900–1940," *American Indian*

- Quarterly* 26, no. 3 (2002): 335–59; Kenneth S. Coates and William R. Morrison, *The Alaska Highway in World War II: The U.S. Army of Occupation in Canada's Northwest* (Toronto: University of Toronto Press, 1992), 86–88. See also Stephen J. Pyne, *Awful Splendour: A Fire History of Canada* (Vancouver: UBC Press, 2007).
- 19 Michael K. Heine and the Elders of Tsiigehtshik, et al., *Gwichya Gwich'in Googwandak. The History and Stories of the Gwichya Gwich'in, As Told by the Elders of Tsiigehtshik* (Tsiigehtshik, NT: Gwich'in Social and Cultural Institute, 2007).
- 20 Fossett, *In Order to Live Untroubled*, 33.
- 21 For details on the rich fishery and whaling in the Mackenzie Delta, see David Morrison, "Inuvialuit Fishing and the Gutchiak Site," *Arctic Anthropology* 37, no. 1 (2000): 1–42.
- 22 Scott Polar Research Institute (hereafter cited as SPRI), BJ, MS 699/2, David Theophilus Hanbury, *Journal Kept During his Explorations of the Keewatin District of Canada*, 18 April 1902; vol. 2: 2 December 1901–12 May 1902.
- 23 See Greg Gillespie, *Hunting for Empire: Narratives of Sport in Rupert's Land* (Vancouver: UBC Press, 2007). For a description of a hunt for musk ox by members of the British Arctic Expedition, see SPRI, BJ, MS 41, George Gifford Journal—British Arctic Expedition, Bellot Bay, Lady Franklin Straits, 25 August 1875.
- 24 See, for example, meteorological research conducted by the British Polar Year Expedition to Fort Rae under J. M. Stagg, with its relationship to land and communities detailed in journals kept by expedition member Alfred Stephenson (SPRI, BJ, MS 432/2).
- 25 John R. Bockstoce, "The Consumption of Caribou by Whalers at Herschel Island, Yukon Territory, 1890–1908," *Arctic and Alpine Research* 12 (1980): 383; T. Max Friesen, *When Worlds Collide: Hunter-Gatherer World-System Change in the Nineteenth-Century Canadian Arctic* (Tucson: University of Arizona Press, 2013), 188.
- 26 I use the term "country food" anachronistically in this essay (as it was not employed until the late twentieth century) to refer to foods harvested from the land in contrast to food purchased at the HBC store or elsewhere. For a description of the decline in animal and bird life, see Library and Archives Canada (hereafter cited as LAC), George Mellis Douglas Fonds, George Douglas to P. G. Downes, 24 April 1955.
- 27 This concern was for both northern and southern interests. For example, the Migratory Birds Act was a response to pressure from southern hunters. To see these subjects addressed in detail, see John Sandlos, *Hunters at the Margin: Native People and Wildlife Conservation in the Northwest Territories* (Vancouver: UBC Press, 2007); Tina Loo, *States of Nature: Conserving Canada's Wildlife in the Twentieth Century* (Vancouver: UBC Press, 2006); Kurkpatrick Dorsey, *The Dawn of Conservation Diplomacy: U.S.-Canadian Wildlife Protection Treaties in the Progressive Era* (Seattle: University of Washington Press, 1998).

- 28 LAC, RG 85, vol. 1416, file 252-1-2, Charles V. Sale, HBC, London, to O. S. Finnie, 30 July 1928; O. S. Finnie to W. W. Cory, Deputy Minister, Department of the Interior, 25 June 1928. Finnie was apparently quoting comments made by Frederick Banting where he advocated for "keeping the native, native."
- 29 LAC, RG 85, vol. 768, file 5208, O. S. Finnie, "A Letter from the Government to the Indian People," 1 April 1924; and Yukon Archives (hereafter cited as YA), COR 261, file 4, O. S. Finnie, "A Letter from the Government to the Eskimo People," 19 November 1926.  
LAC, RG 85, vol. 1416, file 252-1-2, O. S. Finnie to C. H. French, Fur Trade Commissioner, HBC, Winnipeg, 22 June 1928.  
Finnie to Cory, 25 June 1928.
- 30 Emphasis in the original.
- 31 A fuller examination of these processes is the main focus of the larger project from which this essay draws.
- 32 For the most devastating overview of this relationship, see Mike Davis, *Late Victorian Holocausts: El Niño Famines and the Making of the Third World* (London, New York: Verso, 2001).
- 33 For an estimate of winter fish requirements for dog teams at Lac La Martre, see Helm, *The People of Denendeh*, 57. On the need to account for dog food on relief expeditions, see LAC, RG 85, vol. 1118, file 1000/128-1, H. H. Cronkhite, Insp., O.C., "G" Division telegram to Officer Commanding, RCAF, Northwest Air Command, Edmonton, 25 January 1949.
- 34 CBC Radio 1 North, *Trailbreaker*, Radio Interview with Marc Winkler, Tuktoyaktuk elder Tom Thrasher, and Liza Piper on tuberculosis and influenza epidemics in northern history, 6 October 2009.
- 35 Helge Ingstad, *Land of Feast and Famine*, trans. Eugene Gay-Tiffit (New York: A. A. Knopf, 1933), 149–55.
- 36 LAC, RG 85, C-1-a, vol. 789, file 6099, Extracts from the report of Insp. M. Royal Gagnon dated at Fort Smith N.W.T., 11 Aug 1928, on his summer inspection patrol to Reliance.
- 37 LAC, RG 85, vol. 640, file 552-1-1-3, Const. C. J. Dent, Baker Lake Detachment, "Destitution and Deaths Amongst Eskimos Garry Lake and Back River Districts, N.W.T.," 14 September 1954. The Garry Lake famine is also described in Frank J. Tester and Peter Kulchyski, *Tam-marniit (Mistakes): Inuit Relocation in the Eastern Arctic, 1939–63* (Vancouver: UBC Press, 1994), ch. 6.
- 38 See, for example, René Fumoleau, *As Long as this Land Shall Last: A History of Treaty 8 and Treaty 11, 1870–1939*, rev. ed. (Calgary: University of Calgary Press, 2004), 225, 240.
- 39 The earliest residential schools in Canada opened in the 1840s. For a comprehensive history of the residential school system, see James R. Miller, *Shingwauk's Vision: A History of Native Residential Schools* (Toronto: University of Toronto Press, 1996). For more specifics on food in residential schools, see John Milloy, *A National Crime: The Canadian Government and the Residential School System* (Winnipeg: University of Manitoba Press, 1999), 121; Fee, "Stories

- of Traditional Aboriginal Food, Territory, and Health,” 66–68.
- 40 L. Piper and J. Sandlos, “A Broken Frontier: Ecological Imperialism in the Canadian North,” *Environmental History* 12, no. 4 (October 2007): 778–79.
- 41 James E. Woollett, et al., “Palaeo-ecological Implications of Archaeological Seal Bone Assemblages: Case Studies from Labrador and Baffin Island,” *Arctic* 53, no. 4 (2000): 409.
- 42 NWT Archives (hereafter cited as NWTA), N-1992-012, file 1–4, Doug Wilkinson Daily Journal, 6 December 1953.
- 43 Tester and Kulchyski, *Tammarniit (Mistakes)*, 359; this example is also cited in a brief discussion in Fee, “Stories of Traditional Aboriginal Food, Territory, and Health,” 68–69.
- 44 Usher et al., *Communicating about Contaminants*, iii.
- 45 “Order Mercy Hop After Dog Team Brings Out Message,” *Ottawa Evening Journal*, 22 January 1949, 1, 11; “Groom Two Planes To Fly To Remote Arctic Village,” *Edmonton Journal*, 31 January 1949, 1–2 (quotation on p. 2); “Two Planes Fly to Aid Plague-Ridden Eskimos,” *Edmonton Journal*, 1 February 1949, 1–2 (toothache quotation on p. 1); “North Mercy Flight Enters 2nd Phase,” *Edmonton Bulletin*, 17 March 1949, 13 (“properly fed” quotation).
- 46 “Two Planes Fly to Aid Plague-Ridden Eskimos,” *Edmonton Journal*, 1 February 1949, 1–2 (quotation on p. 1).
- 47 “Eskimo ‘Plague’ Gangrene, Two of Stricken Flown Out,” *Winnipeg Citizen*, 15 February 1949, [n.p.].
- 48 “Whale Meat Blamed for Mystery Ills,” *Edmonton Bulletin*, 22 February 1949.
- 49 LAC, RG 85, vol. 1511, file 1000/128-1, pt. 2, Extract from report of Mr. A. Stevenson, Northern Administration, Western Arctic, March 1949.
- 50 Francis H. Fay, “Carnivorous Walrus and some Arctic Zoonoses,” *Arctic* 13, no. 2 (1960): 114.
- 51 Fay, “Carnivorous Walrus,” 115.
- 52 Peter Evans, “Aunt Kate’s Map, or, How the Moravians Made the Labrador Inuit Legible to the Liberal Welfare State,” ASEH Conference, Portland, OR, March 2010 (audio recording available at: <http://niche-canada.org/resources/conference-workshop-archive/american-society-for-environmental-history-annual-meeting-2010/>). One of these instances is described in John C. Brocklehurst, “Fatal Outbreak of Botulism Among Labrador Eskimos,” *British Medical Journal* 2, no. 5050 (19 October 1957): 924.
- 53 LAC, RG 85, vol. 1416, file 252-1-2, pts. 1–2, D. L. McKeand to [R.] Gibson, 3 March 1944.
- 54 See materials in LAC, RG 29, vol. 203, file 311-P11-22, pt. 2, “Epidemiology Diseases Poliomyelitis—Poliomyelitis Epidemic, Chesterfield Inlet, NWT.”
- 55 Toby Morantz, *The White Man’s Gonna Getcha: The Colonial Challenge to the Crees in Quebec* (Montreal: McGill-Queen’s University Press, 2002), 5.
- 56 One of the photographs was included in a 1955 exhibition, *Family of Man*, at New York’s Museum of Modern Art. See Harrington’s obituary by John Goddard, “Richard

- Harrington, 94: A photographer to the end," *Toronto Star*, 20 December 2005. Tester and Kulchyski describe the impact of Mowat's book in *Tammarniit (Mistakes)*, 56–57.
- 57 Aleck Samuel Ostry, *Nutrition Policy in Canada, 1870–1939* (Vancouver: UBC Press, 2006), 3–6.
  - 58 The last two eras cover the decades from 1973 to the present, which saw the publication of modern dietary guidelines in the 1990s, and the paradigm shift from concerns about malnutrition to concerns about overeating and its health consequences. The period from the 1990s to the present has been dominated by international pressures on Canadian food supply and policy, with the internationalization of markets and efforts to similarly internationalize food standards and dietary guidelines.
  - 59 Frederick F. Tisdall and Associates, *Your Food and Health in the North* (Winnipeg: Hudson's Bay Company, 1940), Introduction.
  - 60 Tisdall, Introduction.
  - 61 Tisdall, Introduction.
  - 62 For discussions of the dramatic changes that attended and followed the Second World War, see Stephen Bocking, "Science and Spaces in the Northern Environment," *Environmental History* 12, no. 4 (2007): 867–94; P. Whitney Lackenbauer and Matthew Farish, "The Cold War on Canadian Soil: Militarizing a Northern Environment," *Environmental History* 12, no. 4 (2007): 920–50; Edward Jones-Imhotep, "Nature, Technology, and Nation," *Journal of Canadian Studies* 38 (2004): 5–36; Matthew Farish, "Frontier Engineering: From the Globe to the Body in the Cold War Arctic," *Canadian Geographer* 50, no. 2 (2006): 177–96; Shelagh D. Grant, *Sovereignty or Security? Government Policy in the Canadian North, 1936–1950* (Vancouver: UBC Press, 1988).
  - 63 Arthur Ray, *The Canadian Fur Trade in the Industrial Age* (Toronto: University of Toronto Press, 1990), *passim*.
  - 64 LAC, RG 85, vol. 103, file 253-2/145, pt. 1B, R. A. Gibson to The Commissioner, RCMP, Ottawa, 28 July 1945.
  - 65 Tester and Kulchyski, *Tammarniit (Mistakes)*, 238.
  - 66 LAC, RG 85, vol. 463, file 1003-1-8, pt. 1, "Relief to Destitute Eskimos [circular]," 22 April 1953.
  - 67 LAC, RG 85, vol. 103, file 253-2/145, pt. 1B, E. L. Hadley, Coppermine Detachment, to O.C. Fort Smith, 24 April 1945.
  - 68 LAC, RG 85, vol. 463, file 1003-1-8, pt. 1, B. G. Sivertz, Memo for L.A.C.O. Hunt, District Administrator, Fort Smith, 22 August 1956. The specifics of this policy were revised over time, extending the period of rations from six months to one year and changing who was eligible.
  - 69 LAC, RG 85, vol. 463, file 1003-1-8, pt. 1, "Minutes of a meeting on rations for Eskimos held at 3:00 PM Tuesday, October 25, 1955, Room 302, Vimy Building, Ottawa."
  - 70 Minutes of a meeting on rations.
  - 71 LAC, RG 85, vol. 1416, file 252-1-2, pts. 1–2, L. B. Pett, Chief, Nutrition Division, to R. A. Gibson, 24 April 1950.
  - 72 Minutes of a meeting on rations.
  - 73 Minutes of a meeting on rations.

- 74 See, for example, LAC, RG 85, vol. 463, file 1003-1-8, pt. 1, G. W. Rowley, Study on the Issue of Relief, 11 May 1956.
- 75 "Relief Schedule of Monthly Rations," printed in "Relief to Destitute Eskimos [circular]."
- 76 Pett to Gibson, 24 April 1950.
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- 78 LAC, RG 85, vol. 463, file 1003-1-8, pt. 1, "Council of the Northwest Territories Report, Relief and Rehabilitation Ration for Eskimos and Indians," n.d.
- 79 See LAC, RG 85, vol. 463, file 1003-1-8, pt. 1, letter re: Relief Rations for Eskimos, 27 January 1956.
- 80 Sivertz to Hunt, 22 August 1956.
- 81 LAC, RG 85, vol. 463, file 1003-1-8, pt. 1, F. J. G. Cunningham, Memorandum for C. L. Merrill, District Administrator, Fort Smith, 20 February 1957.
- 82 Dennis Guest, *The Emergence of Social Security in Canada*, 3rd ed. (Vancouver: UBC Press, 1997).
- 83 LAC, RG 29, vol. 203, file 311-P11-22, R. A. Gibson, Circular Letter to Traders, R.C.M. Police, Missionaries and Doctors in the Eastern Arctic, 21 July 1947.
- 84 R. A. Gibson, Circular Letter to Traders, R.C.M. Police, Missionaries and Doctors in the Eastern Arctic.
- 85 Extract from LAC, RG 85, vol. 1416, file 252-1-2, pts. 1-2, S. J. Bailey's Report, Eastern Arctic Patrol, dated at Chesterfield Inlet, 27 July 1948.
- 86 LAC, RG 29, vol. 203, file 311-P11-22, R. A. Gibson, Instructions to District and Sub-District Registrars for Family Allowances and Vital Statistics, 20 March 1948.
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