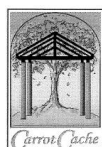


Northern Ontario Food Systems: A Scan of Infrastructure and Transportation



A report prepared for Local Food and Farm Co-ops and Food Locally Embedded Globally Engaged (FLEdGE) by Alison Earls MEDI Candidate



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Introduction

In recent years support for Northern Ontario's local food movement has risen: Throughout the region businesses and support organizations dedicated to improving local food security have opened; both provincial and federal governments have funded projects which aim to make local food more accessible; and residents continue to support these movements by shopping local and championing sustainable food projects in their communities. Although the presence of these activities shows the region is moving in the right direction, more still needs to be done. In order to assess what steps need to be taken next to improve both infrastructure and transportation as it relates to food systems a scan of existing literature was completed. Local Food and Farm Co-ops identified 28 key documents that should be reviewed in this scan (see appendix for more details) and of these, 21 were cited. Information was also provided by Sally Miller through personal correspondence, and two outside sources were reviewed to add context to her comments.

From this scan it was identified that Northern Ontario is experiencing four key problems in terms of food security pertaining to transportation and infrastructure:

- first, not all wholesalers, retailers, food co-ops, food hubs and online distribution hubs have been identified across Northern Ontario
- next, there are problems surrounding transportation, as currently, more research needs to be done in order to have a full understanding of existing road infrastructure, existing delivery options, and existing logistics plans
- additionally, more research needs to be conducted to identify a complete list of support organizations in Northern Ontario and communication channels between these organizations and local food producers need to be opened in order to develop a more functioning food system
- finally, a more in depth scan needs to be completed to identify key physical infrastructure throughout Northern Ontario which is integral to local food systems.
- Once this is done connecting and coordinating between these organizations will become plausible.

Distribution Options

Wholesale & Retail Opportunities and Challenges

Knowing the benefits and challenges associated with both retail and wholesale distribution systems allows local consumers and communities to improve local food security, as they can begin to combat these issues. When examining the benefits and challenges associated with retail and wholesale opportunities generally, "higher volumes of products were moved through wholesale, internet and trade shows, while much lower volumes were through farm gate and farmers markets" (WCM Consulting, 2005: p.11). Additionally, most grocery stores have become, "affiliated with a major chain or with a major buying group. These arrangements

leave little room for local retail to purchase local product” (WCM Consulting, 2005: p.39). A major challenge for smaller retail operations is moving large quantities of food, as often grocery stores or distributors do not look to retailers who are not affiliated with major chains or buying groups for products. Also although it is positive that wholesalers are able to sell larger quantities of food, if they are not affiliated with a major chain or buying club they may struggle to have their food featured in grocery stores which is problematic as this is a key market. Next both wholesalers and retailers who only sell their products in Northern Ontario often use lower volume channels than those who sell outside of Northern Ontario (WCM Consulting, 2005). This is a major problem for producers as individuals who want to have their products remain local, may not have a large enough market to offload all of their products. Finally, in a survey conducted by WCM Consulting, a significant portion of respondents suggested that both retail and wholesale distributors viewed each other as competition when selling products inside and outside of Northern Ontario (WCM Consulting, 2005). This is a key challenge when developing food systems because if these groups view each other as competition regional collaboration will prove more difficult.

Scan of Existing Wholesale & Retail Distributors

North Western Ontario

In Northwestern Ontario, an extensive list of both wholesale and retail opportunities has been established. First, in the Rainy River District, there is a wholesale distributor called Webb’s Wholesale, which is the largest distributor in the region (Cawston & Darby, 2013). Webb’s Wholesale is located about 1 hour East of Rainy River and has a variety of distribution locations ranging from Thunder Bay in the East, Sioux Lookout in the North and near the Manitoba border in the West (Cawston & Darby, 2013). Another distributor that is present in this region is Rainy River Meats. This business works with local farmers, retail restaurants and businesses and food co-operatives to distribute its meat products directly to consumers (Nourishing Ontario, 2017). They do this mainly through their retail locations in Emo and also through local farmers markets in Kenora, Sioux Lookout, Dryden, Red Lake and Fort Frances (Nourishing Ontario, 2017). Additional products are sold at retail outlets including Cloverbelt Food Co-op which services Dryden, Ignace and Upsala and restaurants in Balmertown, Ear Falls and Kenora. The region also has additional retail options: in Thunder Bay, Thunder Oak Cheese Farm has a processing plant and store (Harry Cummings & Associates, 2009); Honey Mill Farm in Waldhof produces and sells honey (Harry Cummings & Associates, 2009); Hutchinson Farms in Dryden produces vegetables and berries (Harry Cummings & Associates, 2009); Cornell Farms in Delvin ‘raises beef breeding stock’ and ‘produces naturally raised beef products’ (Cummings & Associates 2009: p 76); Rainy River Elk in Devlin also raises elk and sells elk meat products (Cummings & Associates 2009; and Belluz Farms allows consumers to pick their own produce (Cummings & Associates 2009), in addition to offering food boxes and delivery services (Super Seasons, 2017).

North Eastern Ontario

In Northeastern Ontario, there are more wholesale and retail opportunities in comparison to Northwestern Ontario. In this region the following wholesale opportunities were identified: Crofters Foods outside of Parry Sound supplies organic products to Presidents Choice in Canada and the U.S. (WCM Consulting, 2005); Bavarian Meat Products in Nipissing produces over 100 varieties of processed meats and ships them to over 400 retail stores in Canada and the U.S. (WCM Consulting, 2005); and Goat Milk Cheese in Temiskaming is a raw goat milk producer that ships to retail chains in Canada and the U.S. (WCM Consulting, 2005).

In the Temiskaming District retail opportunities are also available (see figure 1 for more details)

Figure 1. Retail Opportunities in the Temiskaming District

Producer Name	Services Offered
Thornloe Cheese in Temiskaming	Features a local retail store and services a variety of wholesale customers
Boreal Cuisine in Earlton	Features retail opportunities for local foods and handicrafts
Board's Honey Farm in the Parry Sound District	Produces and distributes honey and honey products
Becker's Berry Patch in Nipissing	Operates a pick-your-own strawberry field
Commanda Country Gardens in Parry Sound	Grows perennial plants
Leisure Farms in Sturgeon Falls	Grows a variety of products including raspberries, sweet corn, and pumpkins
Graywalk Buffalo Ranch in Noelville	Raises grass fed buffalo and produces value added products from these animals
Ruby Berry Farms in Chelmsford	Features a pick your own strawberry field and additionally sells asparagus
Green Zone Farms in Chelmsford	Raises grass fed red deer and elk, in addition to developing value added products from these animals
Guse Farms near Chelmsford	Has a pick your own raspberry field
Farme Beaulieu in Chelmsford	Sells fruits, vegetables, and raspberries
Valley Veggies in Blezard Valley	Grows and sells a multitude of vegetables

Source: Harry Cumming & Associates, 2009

Remote Northern Ontario

Finally in Remote Northern Ontario wholesale and retail distributors are present. One retail and wholesale opportunity that is present in remote Northern Ontario is the North West Company (NWC). The North West Company, “operates six branded retail chains and a wide range of wholesale companies that trade in food products, financial and medical services, and fur and Inuit art” (Prentice & Adaman, 2015: p.2)

Next Arctic Co-op is located in Northern Ontario (Sally Miller, personal communications, August 1f, 2017) which is a, “service federation that is owned and controlled by 32 community-based Co-operative business enterprises that are located in Nunavut, Northwest Territories, and Yukon” (Arctic Co-ops, 2007: p.1).

In the Nishnawbe Aski Nation (NAN) community called Aroland, the Aroland Youth Blueberry Initiative was started where youth picked wild blueberries and then sold them (Nishnawbe Aski Nation, 2015-2016). Although this currently is not a large scale retail operation, the opportunity to expand this program, or run similar initiatives is present. Similar projects are occurring in the Boreal Forest Region of Northwestern Ontario (Milne, 2013). One researcher suggested that if baskets of blueberries were sold in Ignace that individuals could earn a gross income of \$1,500 to \$12,500 per season (Milne, 2013). One barrier to this project is that in the past individuals have only been able to sell their products through co-operatives (Milne, 2013). Additionally, in smaller centers, there may be fewer consumers interested in purchasing this niche product (Milne, 2013).

Finally, other NAN communities have identified a need for more wholesale opportunities. Mainly these regions are interested in participating in buying clubs where they can bulk order food (Nourishing Ontario, 2015). This community was also interested in accessing food box programs (Nourishing Ontario, 2015). Although no specific distributors have been identified, a need for these services in remote Northern Ontario is present. Although there are currently limited wholesale and retail opportunities in Northern Ontario untraditional models that are better suited to many Northern communities are being developed and pursued like the Aroland Youth Blueberry Initiative. Pursuing retail and wholesale opportunities similar to this in other remote Northern Ontario communities is encouraged.

Local Co-operatives Opportunities and Challenges

When examining local food co-operatives some benefits and challenges were identified. Primarily one of the benefits associated with co-operatives is that often they provide consumers with the opportunity to connect directly with local food, through retail operations. Many co-operatives, like Eat Local Sudbury, have a grocery storefront (Nourishing Ontario, 2015), and often co-ops like this, “positively affected revenue sources for farmers and provided local people with access to food from their region” (Lang, Ferguson & Harrison, 2016: p.79)

Additionally, co-ops impact local producers as:

- they are able to access markets that are generally designed for large scale agriculture (Lang, Ferguson & Harrison, 2016).

- their “structure offers price and supply stability for both producer and processor” (Dungannon Consulting, 2004: p.48).
- additionally, marketing services are offered to producers who are not directly selling their product to consumers (Business Plan for Meat Processing Plant in Dryden Ontario, N.D).
- some hesitations purchasers often have about buying local food include lack of quality, lack of consistent quantity and lack of competitive pricing (Cawston & Darby, 2013).

Scan of Existing Co-operatives

Northwestern Ontario

In terms of distribution Northwestern Ontario also has a significant number of co-operatives. The first of these is Cloverbelt Co-operative in Dryden Ontario which operates an online storefront (Nourishing Ontario, 2017), in addition to aggregating and distributing products from local producers (S. Miller, personal communications, August 16, 2017). Cloverbelt Co-operative focuses on serving Northwestern Ontario and functions as a multi-stakeholder co-operative which includes producer, consumer and institution members (Lang, Ferguson & Harrison, 2016). One of the key features of this co-operative is that it encourages local producers to share transportation to their site (Nourishing Ontario, 2017). Another unique feature of this co-operative is that a local producer has arranged a freezer space in Dryden that other co-operative producers can use (Nourishing Ontario, 2017). The co-op also plans to establish regional pickup points for distribution, (Nourishing Ontario, 2017) as its main objective is to, “become the central hub for production and distribution of local goods in Northwestern Ontario” (Lang, Ferguson & Harrison, 2016: p.39).

Northeastern Ontario

In Northeastern Ontario, co-operatives are also present. First Eat Local Sudbury is located in Sudbury Ontario. This organization has a retail space downtown where consumers can buy products that are produced within a 150-mile radius of the city (Harry Cummings & Associates, 2009). The co-op currently connects with the community through three main avenues: their wholesale operation, their retail storefront and through their food literacy and education centre (Nourishing Ontario, 2017). Eat Local Sudbury currently works with 55 producers and sells produce, meat, flour, dairy products, honey and preserves, prepared foods, and beauty products (Nourishing Ontario, 2017). The hub also offers a transportation service for a fee (Nourishing Ontario, 2017). Eventually, the organization would like to operate as a food hub in the Greater Sudbury Area (Nourishing Ontario, 2017).

Additionally in Haliburton Abby’s Gardens functions as a sustainable food production hub (Lang, Ferguson & Harrison, 2016). Abby’s Gardens also acts as an incubator for small food related businesses (Lang, Ferguson & Harrison, 2016). Some of these businesses include a microbrewery called Haliburton Highlands Brewing, a free trade coffee roastery called Country

Coffee, a bakery and pizza business called Into the Blue Bakery and finally an apiary for honey production (Lang, Ferguson & Harrison, 2016).

La Maison Verte is also located in Northeastern Ontario in the town of Hearst. The organization is not exactly a co-op but provides community supported agriculture programming to the town of Hearst (Nourishing Ontario, 2017). The organization grows produce and develops food baskets that are distributed to five local restaurants and eight smaller grocery stores (Nourishing Ontario, 2017). They also operate a retail space (Nourishing Ontario, 2017).

Finally, a feasibility study was conducted to assess the plausibility of developing a co-op in Moose Factory Ontario. The study suggested that the project could proceed, however, minimal infrastructure should be leased and limited inventory should be kept (Nishnawbe Aski Nation, 2015-2016). Since then this co-op has opened (Sally Miller, personal correspondence, August 16, 2017).

Additionally, in the Algoma Region, the Rural Agri Innovation Network has shown interest in developing a food hub (Nourishing Ontario, 2017). Currently, the region has four farmers markets and they are looking to build on this food system to develop a food hub which would allow them to distribute products more efficiently and effectively (Nourishing Ontario, 2017).

Remote Northern Ontario

No co-operatives were identified in Remote Northern Ontario.

Food Hubs and Online Ordering Systems Opportunities & Challenges

There have been a variety of benefits and challenges associated with food hubs and online ordering systems. First, both food hubs and online systems provide a, “marketing and distribution system for local producers and processors” (Nourishing Ontario, 2017). Additionally, some online ordering systems (like Cloverbelt Co-ops) allows producers and processors to determine the products they sell, the price of these products, the quantity of these products and the number of weeks they want to participate in the program (Nourishing Ontario, 2017). Organizations like Rainy River Meats have suggested systems like Cloverbelt Co-ops, “will remove some of the current challenges of transportation and distribution so [producers and processors] can focus their efforts on [...] [readying] products for sale” (Nourishing Ontario, 2017). Since food hubs and online ordering systems also deal with local food, concerns are consistent with those associated with local co-operatives. These include lack of quality, lack of consistent quantity and lack of competitive pricing (Cawston & Darby, 2013). These concerns though are not necessarily justified, particularly for an organization like CLFC, “where the centralizing organization is probably monitoring quality and market pricing” (S. Miller, personal communications, August 16, 2017).

Scan of Existing Food Hubs and Online Ordering Systems

Northwestern Ontario

Northwestern Ontario also has a multitude of food hubs and online ordering systems. One of these is called Super Season Farmers Market which is an online marketplace that is operated out of Belluz Farms in Slate River Valley (Nourishing Ontario, 2017). This community chose to develop an online ordering system as it has low overhead costs and requires less staff (Nourishing Ontario, 2017). Superior Season Farmers Market does encounter some obstacles though as often delivery logistics are difficult especially due to the long distances between communities, which in itself is a hurdle (Nourishing Ontario, 2017). The company currently sells online to individuals and organized buying groups, restaurants, direct retailers and wholesale distributors (Nourishing Ontario, 2017). As of late Superior Season Farmers Market has “started working with a food distributor in order to facilitate sales to bigger institutions like long-term care facilities and schools” (Nourishing Ontario, 2017). The organization's main competition is other food hubs, retailers and corporate distributors (Nourishing Ontario, 2017). Rainy River District Regional Abattoir Incorporated also has developed a distribution network for local meats and produce (Cawston & Darby, 2013). The goal of the project was to “increase sales of quality local meats and vegetables produced in the Rainy River District, to institutions such as hospitals, long-term care facilities, schools and detention centres” (Cawston & Darby, 2013: p.2). Currently, Riverside Health Care Institution and Atikokan General Hospital purchases from the local organization. More buyers are interested in the project but have concerns regarding their ability to purchase products outside of their other contracts, the absence of a purchasing coordinator for the organization, their lack of retail facility, their traceability measures, their food regulations in regards to inspecting and labelling, their ability to supply food on a consistent basis, their convenience and price and their ability to stagger growing periods. (Cawston & Darby, 2013). Institutions are also concerned with the organization's ability to, “[Synchronize] production with demand, and developing production facilities that can lengthen the growing season” (Cawston & Darby, 2013: p.8)

Northeastern & Eastern Ontario

First Penokean Hills in Bruce Mines Ontario processes and distributes meat for producers (Sally Miller, personal communication, August 16, 2017). Additionally, in Eastern Ontario, a study was conducted to determine the feasibility of developing a food hub in Perth County. The proposed name for this hub is The Perth County Regional Food Hub. Ideally, this hub would distribute food for producers (Turbull, Ferguson, & Lang, 2013). The hub would provide marketing services, pickup programs, cold storage facilities and they would also deliver regular orders (Turbull, Ferguson & Lang, 2013). Also, washing and packaging services would be offered for a fee (Turbull, Ferguson & Lang, 2013). Producers also identified a need to be connected to large scale customers, which could be done through the hub (Turbull, Ferguson & Lang, 2013). Some barriers for this project were also identified. They include, “food safety regulations, time away from [the] farm, limited processing capacity, lack of connection with buyers and the inability to produce consistent [volumes]” (Turbull, Ferguson & Lang, 2013:

p.24). Producers were most concerned with being unable to produce a specific quantity of food, the price of products, the uncertainty of demand and the fact consumers may be unaware of where their products came from (Turbull, Ferguson & Lang, 2013). Although this system would not be located in Northern Ontario the feasibility study was listed in the literature to be reviewed as it provides a sound example of an online ordering system.

Remote Ontario

Finally this scan did not identify any food hubs or online ordering systems in Remote Northern communities, however as of 2011 Aboriginal Affairs and Northern Development Canada implemented a nutrition box program called Nutrition North Program which replaced the Food Mail Program (Nishnawbe Aski Nation, 2015/ 2016). This program helped remote northern communities gain access to fresh local food (Nishnawbe Aski Nation, 2015/ 2016).

Transportation

Transportation Opportunities & Challenges

Currently, a variety of methods are used to distribute food across Northern Ontario, however, road transportation will be the focus of this section. One key benefit of road transportation is cost, as it is less expensive than other transportation options such as airship (Prentice & Adaman, 2015). Some challenges are also associated with ground transportation including transporting small volumes of products is very expensive (WCM Consulting, 2005); when working with a food distributor often they have high minimum order requirements (WCM Consulting, 2005); and there are few distribution channels outside of retail and large food service companies to distribute food and these channels are often tightly controlled (WCM Consulting, 2005).

Scan of Existing Transportation Infrastructure

Northwestern Ontario

In Northwestern Ontario, infrastructure is present that increases the ease by which food is transported. Highways 11 and 17 both run through the Kenora region as part of the Trans Canada Highway (Harry Cummings & Associates, 2009). Highway 11 travels east and connects the cities of Thunder Bay to Fort Frances and the Town of Rainy river, while highway 17 runs west linking Thunder Bay to Dryden, Kenora and eventually connects to Winnipeg in Manitoba (Harry Cummings & Associates, 2009). Highway 71 also runs north to south and connects The City of Kenora to the Town of Fort Frances. Also, highway 72 runs north and south and connects Sioux Lookout to highway 11 (Harry Cummings & Associates, 2009). Northwestern Ontario also borders the United States at Fort Frances, Rainy River and south of Thunder Bay (on highway 61) (Harry Cummings & Associates, 2009). Thunder Bay also has rail, marine and airport infrastructure (Harry Cummings & Associates, 2009).

Northeastern Ontario

In Northeastern Ontario major highway infrastructure has been developed. In the Temiskaming District major highways include Trans Canada Highway 11, Highway 66 and Highway 65 (Harry Cummings & Associates, 2009). The district is also home to rail and air transportation (Harry Cummings & Associates, 2009). In the Blue Sky, region major highways include 11, 17, 64, and 69. Highway 64 runs southwest from the Town of Verner to the French River area which connects to Highway 69 (Harry Cummings & Associates, 2009). Highway 34 also runs south from Highway 11 at the town of Sundridge to connect with Parry Sound at Highway 69 (Harry Cummings & Associates, 2009). The Blue Sky, Region is also home to Sudbury, and North Bay which is about a half a day's drive away from Toronto (Harry Cummings & Associates, 2009). Additionally Sudbury and North Bay also have major rail transit, and two major airports (Harry Cummings & Associates, 2009). Finally Parry Sound has a harbour which is a St. Lawrence Seaway port (Harry Cummings & Associates, 2009).

Remote Northern Ontario

In remote Northern Ontario there is some road infrastructure, however, a significant portion of these communities are dependent on air and ice roads (Prentice & Adaman, 2015). In Northwestern Ontario annually the province constructs 3,000 kilometers of ice roads in order to get food to remote communities (Prentice & Adaman, 2015). This road construction costs approximately 4.5 million dollars annually (Prentice & Adaman, 2015). At this point, neither the federal or provincial government has taken any action to construct all season roads (Prentice & Adaman, 2015). Finally in addition to mainstream retail, in many Northern towns like NAN communities, trading and sharing products are still key methods of accessing and circulating food (Nishnawbe Aski Nation, 2015/ 2016).

Delivery Options Opportunities & Challenges

In the literature reviewed two main delivery options were identified. First of these is conventional delivery where a food organization or producer owns or leases their own truck or hires a company to deliver their goods; the second is shared delivery where multiple producers or food organizations share the costs of a truck and deliver all parties products. In a study conducted by Dungannon (2004) conventional delivery was identified as more expensive, however, shared delivery had the potential to be less convenient. One of the reasons shared delivery is highlighted as being less opportune is because farmers often have to accommodate multiple individuals' schedules and expand their delivery regions in order to meet all participants' needs (MacDonald, 2015). Also, if your product is sensitive to temperature this may affect delivery sharing (MacDonald, 2015). Another issue identified with hiring a company to deliver products is often that connection with the consumer is lost (MacDonald, 2015).

Scan of Delivery Options

Northwestern Ontario

In Sioux Lookout, Lac Seul First Nations community and Kitchenuhmaykoosib Inninuwug (KI) First Nations community participated in a pilot program where these districts pooled resources in order to ship food to regional distribution centres (Breaking Down Barriers, N.D). The name of this program is First Nations Municipal Community Economic Development Initiative (Breaking Down Barriers, N.D). It was decided by these communities that costs could be lowered by procuring and consolidating local shipments (Breaking Down Barriers, N.D). These communities often combined a number of different products, from different vendors into one shipment, therefore, reducing travel and administration costs (Breaking Down Barriers, N.D.). In Kenora, another delivery barrier was also highlighted. Stakeholders in this region suggested that interprovincial trading was a barrier as individuals could not easily transport food between Ontario and Manitoba (Harry Cummings & Associates, 2009). They also suggested that maintaining the integrity of roads was crucial in order to transport and distribute local foods effectively to residents and tourists at agri tourism events, and entertainment activities (Harry Cummings & Associates, 2009).

Northeastern & Eastern Ontario

Eat Local Sudbury uses a conventional delivery system as they own a refrigerated truck which they use for deliveries (Nourishing Ontario, 2017). In Eastern Ontario, delivery options were also identified. Although Perth Region is not in Northern Ontario, their model of delivery is unique, and this feasibility study was also included in the literature list. In the Perth Region, a producer called Windham Farm and Food Network also functions as a non-profit organization which delivers products by piggybacking on existing infrastructure (Turbull, Ferguson & Lang, 2013). They lease a delivery truck from a regional farmer and deliver products from about 30 different farmers and producers to approximately 30 nonprofit organizations (Turbull, Ferguson & Lang, 2013).

Remote Northern Ontario

In some remote regions in Northern Ontario, communities choose to receive their food products by freight and then distribute them themselves (Prentice & Adaman, 2015). When freights come into communities they generally contain 88 percent food and 12 percent general merchandise (Prentice & Adaman, 2015). Of the remote communities in Northern Ontario, “Sandy Lake receives the greatest total amount of food at 973.6t while Peawanuck receives the least with 41.4t” (Prentice & Adaman, 2015: p.15). Additionally, the majority of NAN communities are in remote regions in Ontario as 32 of these places are accessible only by air in the winter as there are no all season roads. From January to March these communities depend on winter road access for their “community, social, economic and business development needs” (Nishnawbe Aski Nation, 2015/ 2016: pg. 5). The fly in or winter road communities include: Attawapiskat, Fort Severn, Kasabonika, Peawanuck, Poplar Hill, Wunnumin Lake,

Pikangikum, and Summer Beaver. Communities that have year round access include Mishkeegogamang, Aroland, Constance Lake, Mattagami, and Wahgoshig (Nishnawbe Aski Nation, 2015/ 2016: p.15). In these NAN communities the three largest delivery barriers are the costs of transporting construction materials (coolers and freezers); the second is regular maintenance and electricity demands; and finally the lack of storage units upstream at crucial shopping hubs (Nishnawbe Aski Nation, 2015/ 2016). Sally Miller also added that recently many, “residents of remote communities have raised the question of how much food they could produce locally, [therefore] avoiding the need for delivery from the south” (Sally Miller, personal communications, August 16, 2017).

Delivery Logistics Opportunities & Challenges

In the literature reviewed, there was no information provided on the opportunities and challenges associated with delivery logistics. Although no specific challenges associated with the process were highlighted, transportation logistics was identified by a few groups as a very challenging aspect of food systems (Northern Ontario Farm Alliance, 2014); (MacDonald, 2015)

Scan of Delivery Logistics

Northwestern Ontario

In the town of Sudbury a trade area has been developed, which could also be used when determining delivery logistics for local food systems. For the purposes of this report a trade area is identified as, “the geographic area in which the majority of customers for the business district reside” (OMAFRA, 2010: p.10). Determining this for towns or communities in Northern Ontario can help to assess the number of customers that may visit a business (OMAFRA, 2010). Having this information also allows businesses to collect demographic and lifestyle information for individuals who may frequent a specific region, and act as a consumer (OMAFRA, 2010). What was determined from the trade routes project in Sudbury was that there are generally two different types of shopping trips consumers make. The first of these trips is a convenience trip, which is generally characterized by ease of access to goods, therefore individuals often choose to shop at stores that are close in distance or take little time to travel to (OMAFRA, 2010). Comparison shopping is another type of trip, in which, “shopping trade areas are based on price, selection, quality and style” (OMAFRA, 2010: p.5). Also, individuals often choose their product only after doing a comparison (OMAFRA, 2010). Additional things to remember when determining a trade route is that different customers are present: there are residents, community employees and also tourists (OMAFRA, 2010). In most circumstances, residents spend the most on local businesses (OMAFRA, 2010). Employees may be in the trades area frequently, but also may commute in from another region, therefore their spending could be split between these two areas (OMAFRA, 2010). Finally tourists are potential consumers, however these groups are often more ‘fluid’ customers (OMAFRA, 2010).

Dryden’s trading area has also been identified as, “the City of Dryden and [...] [it also] extends to the west as far as Vermillion Bay, to the east [to the] municipality of Ignace and to

the North Sioux Lookout and the town of Pickle Lake” (Dungannon Consulting Services 2004: p.9). In Rainy River, the Rainy River Abattoir is looking to deliver their meat products to local first nations communities. Some of the barriers in this process include delivering products in the most cost-effective way; the effect hiring a local trucking company has on the business’ connection with consumers; if you are delivery sharing with other local businesses how do you accommodate all parties’ schedules; and if your product is sensitive to temperature how does this affect delivery sharing (MacDonald, 2015).

Northeastern Ontario

No information on logistics was provided for Northeastern Ontario in the documents reviewed.

Remote Northern Ontario

In remote regions of Northern Ontario both highways and ice roads are less expensive than other means of transportation (Prentice & Adaman, 2015). Six stores in Northern communities use ice-road trucking during the winter months to transport their goods, while the others rely on air transit (Prentice & Adaman, 2015). The North West Company which is one of these companies has 11 stores in remote locations (Prentice & Adaman, 2015). When trucking in products all of the freights travel from Winnipeg to regional stores and the average freight contains approximately 366 tonnes of food and 43.5 tonnes of general merchandise (Prentice & Adaman, 2015). Additionally, many NAN communities have looked into transporting food regionally, “to improve logistics and transportation infrastructure or capacity” (Nishnawbe Aski Nation, 2015/ 2016: p.6). The community plans to invest in storage, transportation and aggregation infrastructure that will be collectively owned (Nishnawbe Aski Nation 2015/2016). In the Wunnumin Lake Community, the general store has been looking into purchasing a truck that would help the community pick up products from Pickle Lake (Nishnawbe Aski Nation, 2015/ 2016). One obstacle though is that they have little cold storage, therefore they would be unable to store any surplus (Nishnawbe Aski Nation, 2015/ 2016). In Fort Severn First Nations community they have been chartering two semi-trucks that bring household supplies and food from Thompson Manitoba into the town (Nishnawbe Aski Nation, 2015/ 2016). This has been happening for three years now (Nishnawbe Aski Nation, 2015/ 2016). Additionally, the community of Attawapiskat purchased a trucking service that brings food to the region once a day five times a week (Nishnawbe Aski Nation, 2015/ 2016). A truck service brings food from Toronto to Cochrane, a train transports the goods from Cochrane to Moosonee and a chartered air service then delivers the food to Attawapiskat (Nishnawbe Aski Nation, 2015/ 2016).

Infrastructure

Support Infrastructure Opportunities & Challenges

No benefits or challenges were identified in terms of support infrastructure.

Scan of Support Infrastructure

Northwestern Ontario

In Northwestern Ontario, the Nishnawbe-Aski Nation has strong support infrastructure. Currently, in their communities, they have activities that support and promote local food. Some of this infrastructure includes community-based gardens, hunter supports, collective harvests and community freezers (Nishnawbe Aski Nation, 2017). The communities also have developed learning initiatives like kitchens, cooking classes, recipe sharing programs and education on Nishnawbe Aski Nation nutrition (Nishnawbe Aski Nation, 2017). Additionally, throughout Northwestern Ontario, there are three Soil and Crop Improvement Associations that represent each district (Harry Cummings & Associates, 2009). Next, Northwestern Ontario is also represented by three agriculture federations one in Thunder Bay, one in Rainy River and one in Kenora (Harry Cummings & Associates, 2009). Finally the Thunder Bay District Health Unit also has developed the Good Food Box program, the Thunder Bay Food Charter, the Community Garden Collective, the Nutritious Food Basket program, the school nutrition program, and the Get Fresh Guide which is a local producer directory (Nourishing Ontario, 2017).

Additionally, in Northwestern Ontario Harry Cummings and Associates (2009) suggested that there was interest in a local food basket program being developed in the Kenora region. The study also suggested these initiatives should be developed in other regions throughout Northern Ontario (Harry Cumming & Associates, 2009). Additionally, the Nishnawbe Aski Nation identified food issues which need to be addressed in Northwestern Ontario. They suggested that food policies need to be established that meet the needs of Indigenous peoples and their government so they can be more food sovereign (Nishnawbe Aski Nation, 2015-2016). The key way this could be done is through reducing regulations surrounding food that is sold in stores so these communities could be more reliant on food that is collected by more traditional means (ie. Hunting, fishing, gathering and growing).

Northeastern Ontario

In Northeastern Ontario food and agriculture support organizations are present. The Temiskaming region is home to The Northern Ontario Heritage Fund Corporation, The North Eastern Ontario Soil and Crop Improvement Association and The Futures Development Corporation, which is an agri-sector stakeholder (Harry Cummings & Associates, 2009). Finally, Northern Lights is based out of Temiskaming and promotes local products and food services (Nishnawbe Aski Nation, 2015/ 2016). The Blue Sky Region is also supported by The Northern Ontario Heritage Fund Corporation, who funds land improvement and farm expansion projects (Harry Cummings & Associates, 2009); by the Sudbury Food Connections Network who aims to

improve access to healthy food, increase food security in communities and aid local food production and distribution (Harry Cummings & Associates, 2009); and The Foodshed Project which works to improve the local foodshed in the Sudbury region and increase access to healthy food (Harry Cummings & Associates, 2009). Finally, the region is also home to the West Nipissing Holstein Club, Nipissing Hay Producers Association, Muskoka-Nipissing-Parry Sound Cattlemen's Association and the Sudbury-West Nipissing Cattlemen's Association who all support and promote local agriculture in the region (Harry Cummings & Associates, 2009).

Additionally, the Sudbury District Health Unit also aims to increase food access and security in the North by:

- offering the Healthy Living Food Box program in Kenora (Nourishing Ontario, 2017)
- providing Clover Valley Food Boxes in Fort Frances (Nourishing Ontario, 2017)
- developing the Rainy River Valley Food for All initiative in the Rainy River District (Nourishing Ontario, 2017)
- providing Apple Core programming in Atikokan (Nourishing Ontario, 2017).
- developing community gardens and nutritious food baskets (Nourishing Ontario, 2017).

Similarly, The Sudbury District Health Unit also offers support services which include:

- the Sudbury and Manitoulin District Community Food Security Directory (Nourishing Ontario, 2017)
- the Sudbury Food Charter (Nourishing Ontario, 2017)
- the Nutritious Food Basket program (Nourishing Ontario, 2017)
- the Community Gardens (Nourishing Ontario, 2017).
- the school nutrition programs (Nourishing Ontario, 2017).

Remote Northern Communities

One volunteer support organization is present in the remote NAN communities. This organization is called CAM. They use imperfect vegetables from local producers to make soup mixes (Nishnawbe Aski Nation, 2015-2016). Additionally, there are two organizations that serve all of Northern Ontario that may support initiatives occurring in remote northern regions. These include Northern Ontario Agri- Food Education & Marketing Inc who work to foster growth and development in the North and The Northern Ontario Aquaculture Association whose purpose is to develop new partnerships and to help meet the needs of aquaculture businesses (WCM Consulting, 2005). In the NAN communities, some desired programming was identified: these communities recognized a need for local organizations such as entrepreneurs, groups, and networks to support and encourage local food systems (Nishnawbe Aski Nation, 2015-2016).

Government Organizations Opportunities & Challenges

No benefits or challenges were associated with the presence of government organizations in this literature.

Scan of Support Infrastructure

Northwestern Ontario

No notable information was found on supports provided by government organizations in Northwestern Ontario.

Northeastern Ontario

In Northeastern Ontario, some government organizations are present that help support agriculture. In the Temiskaming District OMAFRA has a greater presence in comparison to other Northern regions (Harry Cummings & Associates, 2009).

Remote Northern Ontario

No notable information was found on supports provided by government organizations in Northeastern Ontario.

Research Institutions and Universities Opportunities & Challenges

No benefits or challenges surrounding the presence of research institutions and universities were provided in this literature.

Scan of Research Institutions and Universities

Northwestern Ontario

In Northwestern Ontario, some notable research institutions and universities have been identified. At Lakehead University faculty, students and staff address issues of food security through four main approaches: Community Shared Agriculture (CSA), Community Gardens, Learning Gardens, and AgroForestry (Harry Cummings & Associates, 2009). Their Food Security Network is located in Kenora and conducts research in Thunder Bay and Dryden (Harry Cumming & Associates, 2009). They also just added a Canada Research Chair in Sustainable Food Systems (Sally Miller, personal communications, August 16, 2017). Additionally, there are two Agriculture Research Stations located in Emo and Thunder Bay (Harry Cummings & Associates, 2009). At the Emo Station, there are both agronomy and horticulture units (Harry Cummings & Associates, 2009). The horticulture unit focuses on adapting various crop species to Northern climates including spring wheat, barley and oats, canola, soybeans, and perennial forages such as alfalfa, clovers, and grasses (Harry Cummings & Associates, 2009). The Agriculture Research Station at Thunder Bay mainly focuses on dispersing agriculture research, however, they do study crop diversification (Harry Cummings & Associates, 2009). Finally, the

region is also home to Confederate College and Lakehead University (Harry Cummings & Associates, 2009).

Northeastern Ontario

The Blue Sky Region and the Temiskaming region have access to the New Liskeard Agricultural Research Station (Harry Cummings & Associates, 2009). Additionally, College Boreal in Sudbury is doing research on local food procurement and the Rural Agri-Innovation Network in Sault Ste. Marie is conducting research on farm growing conditions (Sally Miller, personal communications, August 16, 2017).

Remote Northern Ontario

No notable information was found regarding key research institutions in Remote Northern Ontario.

Physical Infrastructure

Cold Storage Opportunities and Challenges

One key benefit of having a cold storage facility is that it allows communities to store a surplus of food (Nishnawbe Aski Nation, 2015/ 2016). If communities or organizations do not have these facilities then the food they receive needs to be distributed to the consumer almost immediately.

Scan of Cold Storage Facilities

Northwestern Ontario

In Northwestern Ontario in the township of Emo, Rainy River Meats has cold storage infrastructure. Currently, the business has a mobile market with a freezer in addition to cold storage on their site (Nourishing Ontario, 2017). This storage facility travels to farmers markets in Kenora and also to the Cloverbelt Food Co-op (Nourishing Ontario, 2017). Finally, if Cloverbelt Co-op develops their Northwestern Ontario food distribution system as planned, “there will be [improved] access to vans with freezers” (Nourishing Ontario, 2017). Additionally, in the Rainy River District, the local abattoir has the capacity to expand their consumer base if they purchase a refrigerated vehicle. Local First Nation communities suggested they would purchase products from them if they could be delivered (MacDonald, 2015). Rainy River Abattoir suggested they could deliver these products to local farmers markets if they used a refrigerated truck (MacDonald, 2015), therefore this infrastructure may be put into place in the near future. Local First Nations communities also suggested that the local band office could purchase a few chest freezers in order to facilitate this distribution (MacDonald, 2015). In The City of Kenora, agri-sector stakeholders have also suggested that in order to develop a more succinct food system local storage space needs to be improved (Harry Cumming &

Associates, 2009), such as cold storage facilities. Overall the goal of implementing this storage would be to make transportation and distribution networks more efficient (Harry Cumming & Associates, 2009). The barriers to implementing this infrastructure include cost and government regulations surrounding the implementation of these facilities (Harry Cumming & Associates, 2009). Finally, in Dryden storage plants for field crops are required. In a feasibility study that was conducted in 2004, this was identified as a need as farmers required a site that provided storage and refrigeration (Dungannon Consulting Services, 2004).

Northeastern Ontario

In Northeastern Ontario, Desbarats Produce has built ice houses which act as cold storage facilities (Sally Miller, personal correspondence, August 17, 2017).

Remote Northern Ontario

Finally, in remote Northern Ontario, one local grocery store has been identified as having significant cold storage facilities. In Constance Lake, a grocery store called J.G. Grocery sells a variety of merchandise and is equipped with walk-in freezers (Nishnawbe Aski Nation, 2015-2016). In addition to having several freezers the store also has a refrigerated truck, produce coolers and drink coolers (Nishnawbe Aski Nation, 2015-2016). Each month currently the community receives approximately 900lbs of fruit and vegetables, which they store here (Nishnawbe Aski Nation, 2015-2016). The store is hoping to expand its storage capacity in the next few years (Nishnawbe Aski Nation, 2015-2016).

Processing Plants Opportunities & Challenges

In Northern Ontario, there is a lack of processing facilities (WCM Consulting, 2005). This puts the region at a disadvantage as they need to travel further to get local food processed. Competitors outside the North do not have these difficulties as there are multiple processing plants in the Greater Toronto Area (WCM Consulting, 2005). Often there are also stringent rules associated with opening one of these operations (Turbull, Ferguson & Lang, 2013). Communities frequently benefit from the presence of processing plants as they allow value added food to be produced, in addition to creating jobs which is a proven growth strategy (WCM Consulting, 2005).

Scan of Processing Plants

Northwestern Ontario

Finally, in Northwestern Ontario there are a variety of facilities that process local food. In Rainy River there is a growing need for finished meats, however, local processing plants may not have the capacity to meet the region's needs which will inhibit growth (MacDonald, 2015). In Emo, Rainy River Abattoir provides services but does not distribute products (MacDonald, 2015). They are also struggling financially (MacDonald, 2015). In order for this business to survive, they will need to process more animals so they can cover debt and expenses

(MacDonald, 2015). Currently many local producers who finish their animals themselves are getting close to retirement age (MacDonald, 2015), therefore there will be an increased need for this service. Some issues consumers have with Rainy River Abattoir is the high fees associated with processing animals, however researchers speculate high costs are associated with the fact that the abattoir only kills and chills its animals while providing few other services (MacDonald, 2015). In order to be more effective researchers recommended that Rainy River Abattoir construct a holding facility for animals prior to slaughter (MacDonald, 2015). Rainy River Abattoir could also provide services such as cutting, wrapping and grinding (MacDonald, 2015). Additionally there are abattoirs in Dryden. Currently, “Wall's Pork operates the only licensed abattoir in Northwestern Ontario” (Business Plan for Meat Processing Plant in Dryden Ontario, (N.D.): p.9). This abattoir currently has limited cold space as the cooler can only hold approximately 6 carcasses (Business Plan for Meat Processing Plant in Dryden Ontario, (N.D.). A feasibility study was done which suggested Wall's Pork could expand their operation to Griffiths County Meats, which was a former abattoir that currently operated seasonally and offered cut and wrapping services (Business Plan for Meat Processing Plant in Dryden Ontario, (N.D.). Griffith Meats also have an overhead rail system, two large coolers and a walk in freezer (Business plan for meat processing plant in Dryden Ontario, (N.D.). Overall though, “the viability of slaughtering animals in the North is being threatened” (WCM Consulting, 2005: p.39). This is because many provincial plants in Northern Ontario are being forced to upgrade their facilities, and due to the costs associated with these required upgrades many plants will likely be closed (WCM Consulting, 2005). Finally Dryden is also lacking fish processing facilities as there are no small scale fish facilities, and “Dryden does not have the economies of scale that allow for large scale feed production in the area” (Dungannon Consulting Services, 2004: p.49).

Northeastern Ontario

In Northeastern Ontario, the Waubetek Business Development Corporation also did a study on the feasibility of developing fish processing infrastructure in the region (Sally Miller, personal communications, August 16, 2017).

Remote Northern Ontario

In Remote Northern Ontario, no processing infrastructure was identified

Finally in terms of infrastructure warehouse charges associated with storing food have been identified. These costs are based on prices set out by Responsible Distribution Canada.

Table. 1 – Costs associated with warehouse services based on RDC prices

Type of Charge	Price	Size	Additional Information
Incoming Charges	\$3.50	Per Pallet	Palletized Product - Receiving & put-away
	\$275.00	Per 20' Container	Destuffing
	\$425.00	Per 20' Container	Destuffing
Outgoing Charge	\$3.50	Per Pallet	Order Fulfillment
Storage	\$8.50	Per Pallet	Per Month or Part Thereof
Administration	\$36.00	Per hour	Customer Service (Billed in ¼ hour increments)
Hourly Charges	\$25.20	Per man hour w/o machines	To be applied for any non-standard activity such as stickering, tagging, repacking, general labor requirements beyond the specified staffing levels.
	\$39.30	Per Man-hour with machine.	To be applied for any non-standard activity such as stickering, tagging, repacking, general labor requirements beyond the specified staffing levels.
Shrink Wrap	\$3.75	Per Pallet	Inbound or Outbound
Supply Pallets	\$6.00	Per Pallet	
Packaging Material			Cost plus management fee.
EDI Transactions			To be billed separately on an 'As Need' basis.

Source: Excel Document

Conclusion

In conclusion in Northern Ontario, there are four main issues that impact local food security. First not all wholesalers, retailers, food co-ops, food hubs and online distribution hubs have been identified across Northern Ontario. The next problems surround transportation as currently more research needs to be done in order to have a full understanding of existing road infrastructure, existing delivery options, and existing logistics plans. Another issue is support infrastructure: currently more research needs to be done to identify a complete list of support organizations in Northern Ontario. The final issue is physical infrastructure. Currently a more in-depth scan needs to be developed to determine other infrastructure throughout Northern Ontario which is integral to local food systems. Once this is done connecting and coordinating between these organizations will become plausible. Overall all these areas of study require further research, however once this research is completed communities in Northern Ontario will be able to develop more effective food systems.

Appendix

The following articles were included in the scope of the project:

Article Name	Author
Business plan for meat processing plant in Dryden Ontario	No Author
Breaking Down Barriers: Building New Economies- Hub of the North	No Author
Developing a Value Chain for Local Food with the Broader Public Sector In North Western Ontario	Jeanette Cawston and William Darby
Dryden Rural Infrastructure Project	Dungannon Consulting Services
Towards a feasible co-operative	Dungannon Consulting Services
Excel Sheet- Warehouse Fees	No author
Temiskaming District Agricultural Economic	Harry Cummings and Associates
Blue Sky Region Agricultural Sector Economic Profile	Harry Cummings and Associates
Kenora District Agricultural Economic Impact Study	Harry Cummings and Associates
Rural Social Enterprise and Community Ecosystem Development: Policy Leverage Points	Catherine Lang, Mary Ferguson, Barbara Harrison
Local Food Hub Project	Jennifer MacDonald
Exploring wild blueberries as a placed based socio-economic development opportunity in Ignace Ontario	Ryan Milne
Downtown Sudbury, Trade Area Report	Ministry of Agriculture Food and Rural Affairs
Nourishing Communities	Nourishing Ontario
Nishnawbe Toolkit	Nourishing Ontario
Nishnawbe Six Pillars	Nourishing Ontario
Kitigan Aski Food Distribution Pre-feasibility Study	Nishnawbe Aski Nation
Toolkit & Nishnawbe Six Pillars	Nishnawbe Aski Nation
Northern Ontario Agricultural Round Table Summary	Northern Ontario Farm Alliance
Economics of Transport Airships for Food Distribution to Isolated Communities in Northern Manitoba and Ontario	Barry Prentice Matthew Adaman
Perth County Regional Food Hub	Ryan Turbull, Mary Ferguson & Cathy Lang
Northern Ontario Agri- Food Education and Marketing: A study to develop community infrastructure that meets the needs to agriculture producers/ processors in Northern Ontario	WMC Consulting

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