Lillooet Agriculture Market Access and Growth Strategy

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upland consulting

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Executive Summary

This market access and growth strategy report has been developed to identify opportunities for Lillooet's local food and farming businesses in order for them to thrive and contribute to a resilient local economy. The findings have been informed by literature and data reviews, one-on-one interviews with key stakeholders, and feedback from the Lillooet Agriculture and Food Society (LAFS) Board of Directors.

The population of Lillooet and the surrounding area (District of Lillooet, SLRD Area A, and SLRD Area B) is approximately 3,000 individuals, and is expected to remain fairly constant over the next 20 years. There is strong community support for agriculture in Lillooet, with a rich St'at'imc history that includes fishing, hunting, and foraging and more recently the establishment of cattle ranching and vegetable production. The climate in the Lillooet region is ideal for growing a range of crops. Forage crops, fruits, vegetables, wine grapes, hops, poultry, sheep, and cattle are all being produced in the area. Despite this diversity of production, a relatively small portion of the Agricultural Land Reserve (ALR) is under production, indicating that more land can be brought into production should the right economic conditions arise.

Lillooet and the surrounding area is less than 50% food self-sufficient based to the amount of land currently under cultivation. This, combined with community support for purchasing local products indicates ample room for the agricultural sector to expand in terms of production to meet local food needs. However, due to the overall lack of population growth within the community, it makes good business sense for local producers to explore sales opportunities in markets such as the Sea-to-Sky corridor, the Lower Mainland, and Kamloops.

A number of opportunities were identified through the themes that emerged from a detailed Strengths-Weaknesses-Opportunities-Threats analysis that was conducted. These key themes and opportunities were:

Environment
- Best practices
- Climate change

Knowledge
- Partnerships
- Administration and business skills

Production
- Land base
- Economies of scale
- Labour

Value-Added
- Infrastructure
- Packaging and labelling

Marketing
- "Lillooet Grown"
- Agri-tourism and gathering events

Distribution
- Location is an asset for deliveries
- Centralized product aggregation location
- Distribution of Information

Retail
- Restaurant demand
- Broker role
- Farmers markets

Based on the results of the SWOT analysis and the information gleaned from the agriculture profile that was developed (using 2016 Agriculture Census data), a total of ten recommended actions are put forward as a road map to expanding market access and growth for Lillooet producers.

The ten recommended actions are:

Ongoing actions:

1. LAFS to provide an advocacy role for the local agriculture sector to assist in breaking down regulatory and administrative barriers.
2. The agricultural community to work together to develop criteria for the use of the "Lillooet Grown" brand and continue to leverage this marketing tool to both local residents and visitors by capitalizing on agri-tourism opportunities.
3. LAFS to develop a database of funding opportunities that could be accessed by local producers. Consider offering a service to assist producers in completing grant applications.

Short term actions:

4. LAFS to conduct an abattoir feasibility assessment to service local meat producers.
5. LAFS to host a meeting between chefs, retailers, and farmers and/or organize a tour of farms for potential buyers in order to cultivate this relationship.
6. LAFS to coordinate a meeting between local and regional distributors and farm operators who are interested in having their products delivered to wholesale, retail, and restaurant buyers in the Sea-to-Sky corridor, Lower Mainland, or other regions.
7. Farmers to test out selling products at other farmers markets such as the Vancouver Farmers market or Kamloops Farmers Market. Products between a few farms could be aggregated and sold as "Lillooet Grown" under one vendor permit.
8. Based on the results of previous actions, farmers to determine if any would like to grow collaboratively or co-operatively to meet the demands of these new markets. A first step would be to craft a production plan.

Medium term action:

9. Re-tool the online food hub platform to create a sales opportunity for chefs, produce managers, and/or wholesalers. The tool would be run by a food broker who would be paid through membership fees, delivery charges, and other fees.

Long term action:

10. Examine the opportunity to create a bricks-and-mortar food hub. This warehousing and retail facility would solve many of the challenges currently being felt by the local agriculture community. However it would require a solid business plan and would likely be a successful through a "build it and they will come" scenario. Therefore, it is important to build the relationships between producers, buyers, and a broker beforehand, as identified in the other recommended actions.

1.0 Introduction

The purpose of this report is to identify opportunities for producers in the Lillooet and surrounding area to take advantage of existing opportunities to increase their market access locally and regionally. It was developed using a review of literature and data (including Agricultural Census data); responses from interviews and questionnaires with local producers, retailers, chefs, and distributors; and feedback from the Lillooet Agriculture and Food Society (LAFS) Board. The following quote, from one of the producers who was interviewed for this project, helped set the tone for this strategy:

> "The biggest gap to growth is our own thinking. Our growth strategy is limited only by ourselves."

The report includes an agricultural snapshot of the community and a high level calculation of annual food market demand by those living in and around Lillooet. This information is combined with responses from the interviews and surveys to present a strengths-weaknesses-opportunities-threats (SWOT) analysis and food system asset visualization tool. The end result is a set of recommendations that the Lillooet farming community can use to leverage existing strengths and capture more of the market share locally and regionally.

2.0 Profile of the Lillooet Area

This information regarding population, income, land, farms, and agricultural business characteristics, sets the context for the interview results, the opportunities analysis, and final recommendations.

2.1 Population and Income Profile

The population of Lillooet has grown slowly since 1996, albeit below the average SLRD rate of 2.2% for the (Table 1) and is expected to remain fairly stable into 2036 (Table 2). The population of Electoral Area A and Electoral Area B have decreased over time.

TABLE 1. HISTORICAL POPULATION GROWTH FOR LILLOOET AND SURROUNDING AREAS.

Jurisdiction	1996	2001	2006	2011	Avg % Change 1996-2011
SLRD	29,401	33,011	35,225	39,263	+2.2%
District of Lillooet	1,988	2,886	2,741	2,373	+1.3%
Electoral Area A	277	223	207	223	-1.3%
Electoral Area B	507	428	575	362	-1.9%

TABLE 2. POPULATION PROJECTIONS TO 2036 FOR LILLOOET AND THE SURROUNDING AREA.

Jurisdiction	2016	2021	2026	2031	2036	Avg % Change 1996-2011
SLRD	42,655	46,598	50,234	53,721	56,864	+1.5%
District of Lillooet	2,404	2,435	2,466	2,498	2,530	+0.3%
Electoral Area A	220	217	214	212	209	-0.3%
Electoral Area B	355	348	342	335	329	-0.4%

According to the 2011 Stats Canada census there were 14,998 private dwellings in the SLRD, representing 2.6 persons per census family. Within in the Lillooet area, SLRD A, and SLRD B there were 2,958 individuals living in 1,351 private dwellings, representing 2.2 persons per census family in 2011[1]. Growth in income has been fairly steady in Lillooet over the last 20 years, rising from $38,829 in 1991 to $63,455 in 2011[2] (data was not

[1] SLRD Population, Employment, and Dwelling Unit Projections. Urbanics Consultants Ltd. http://www.slrd.bc.ca/sites/default/files/reports/SLRD%20-%20Final%20Report%20-%20Pop%20Employ%20Dwelling%20Unit%20Projections%20%28May%2017.17%29.pdf

[2] 2016 Census data regarding income will be released in the fall of 2017.

available for Electoral Areas).

2.2 Agricultural Sector Profile

The total number of farms[3] in the Lillooet area reporting to the Agricultural Census[4] has fluctuated over the last 15 years (Figure 1).

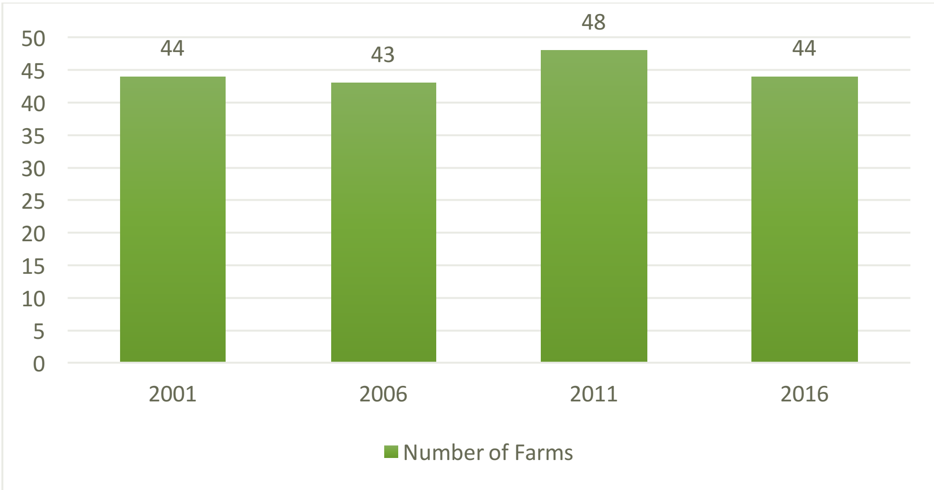

FIGURE 1. NUMBER OF FARMS IN THE LILLOOET AREA 2001-2016 (SOURCE: AGRICULTURE CENSUS, 2016).

Only about 6% of the ALR in the region is being cropped (Table 3). While much of the ALR is forested and may include steep slopes, there remains a significant opportunity for the production on the land base to be expanded over time.

TABLE 3. LAND USE IN THE LILLOOET AREA (SOURCE: AG CENSUS, 2016; AGRICULTURAL LAND USE INVENTORY, 2013)).

Land Use	Lillooet and surrounding area
	Area (ha)
Total ALR*	13,937
Land in crops	877
Tame or seeded pasture	189
Natural land for pasture	2,138
Woodlands and wetlands	274

*indicates data is from ALUI, otherwise information is from Agriculture Census.

[3] In the Agricultural Census, an agricultural operation is defined as: "a farm, ranch or other operation that produces agricultural products intended for sale."

[4] Note: Information was gathered from Agricultural Census data for years 2001 to 2016, where possible, to demonstrate trends in agricultural production, farm demographics, and agricultural revenues over time. The Agricultural Census data provides only a "snapshot" in time and data is sometimes hidden to protect privacy in areas with very low population densities. In 2016, the 2011 Census Consolidated Subdivisions (CCS) #32 (SLRD Electoral Area A) and #34 (SLRD Electoral Area B) were amalgamated into one CCS #34, therefore these Electoral Areas are reported together to maintain data integrity and consistency. This region is referred to as the "Lillooet Area" throughout this report for conciseness.

The majority of farms (57%) in the region are less than 70 acres and 14% are less than 10 acres (Table 4).

TABLE 4. SIZE OF FARMS IN THE LILLOOET AREA (SOURCE: AGRICULTURE CENSUS, 2016).

Farm Size	2001	2006	2011	2016
< 10 acres	11	6	4	6
10 to 69 acres	15	15	17	19
70 to 129 acres	2	5	4	2
130 to 179 acres	3	2	3	3
180 to 399 acres	6	6	7	6
400 to 1,119 acres	3	4	6	6
> 1,120 acres	4	5	7	2
Total farms	**44**	**43**	**48**	**44**

Land tenure is an indication of farm stability, with leased land representing less stability for the farm operator with regard to investments in infrastructure. Some farms have more than one type of tenure arrangement occurring at the same time. Most farm operators own at least a portion of the land they are farming (Table 5). In 2016 the Agriculture Census included data regarding succession planning. Within the Lillooet area, only 2 farms reported having written a succession plan for the farm operation.

TABLE 5. LAND TENURE ARRANGEMENTS FOR FARMS IN THE LILLOOET AREA (SOURCE: AG CENSUS, 2016).

Land Tenure	2001		2006		2011		2016	
	Farms	Ha	Farms	Ha	Farms	Ha	Farms	Ha
Owned	44	8,816	43	9,405	45	9,120	43	2,620
Leased from governments	6	916	9	X	13	5,694	7	x
Rented or leased from others	4	X	4	186	5	65	4	117
Crop-shared from others	1	X	2	X	3	X	1	x
Total [5]	44	10,072	43	15,123	48	14,998	44	4,179

Crop production changes in some cases year to year, but may trends emerge where commodity or sector development is taking hold. In the Lillooet area there is an increasing trend in the amount of area under fruit, berry, and nut production as well as vegetable farming (Table 6). Poultry production has risen in the past 10 years. By contrast, the cattle industry has taken a downturn, with a decrease in cattle and alfalfa and hay production. The numbers of horses and ponies has also decreased dramatically.

[5] These numbers may not add up because some farm operations have more than one type of tenure arrangement in place at the same time. For example, a farm may include a parcel that is owned and a parcel that is leased.

TABLE 6. CROP PRODUCTION IN THE LILLOOET AREA (SOURCE: AGRICULTURE CENSUS, 2016)..

	2001		2006		2011		2016	
Crop Type / Livestock	Farms	Ha	Farms	Ha	Farms	Ha	Farms	Ha
Alfalfa	21	971	21	2,254	32	1,243	22	x
Tame Hay and Fodder	6	996	5	375	2	X	3	190
Fruits, Berries & Nuts	11	10	6	7	10	15	12	21
Vegetables	6	6	3	8	7	5	6	14
Hens and Chickens	3	135	5	225	11	222	10	1,048
Cattle and Calves	13	2,112	19	2,820	23	2,785	19	1,355
Sheep and Lambs	2	X	3	X	1	X	2	X
Horses and Ponies	21	168	21	118	24	171	17	55
Llamas and Alpacas	2	X	4	X	0	0	1	X
Honeybees	0	0	1	X	3	X	4	X

2.3 Farm Labour and Employment

The most recent labour and employment figures for the SLRD are from 2011. At that time there was a total labour force of 23,086 individuals and an average income of $66,903. The majority of employment was in the following sectors:

- Accommodation and food services (15% of labour force)
- Construction (13% of labour force)
- Retail trade (11% of labour force)
- Public administration (8% of the labour force)

Agriculture, forestry, fishing, and hunting[6] represented 576 (or 5%) jobs in the SLRD in 2011 and out of this number only 80 were identified as farm operators (Table 7). The age of farmers is the Lillooet area has increased, from 52 years old in 2001 to 56 years old in 2016. This is on par with the average age of farmers in BC, however a lack of farmers under the age of 35 in Lillooet is lower than on average in the province.

There has been a slight shift in the number of hours of weekly labour that a farm operator puts in on a per farm basis (Table 7). Farms are fairly evenly split between spending less than 20 hours a week and spending more than 40 hours a week working on the farm.

TABLE 7. AMOUNT OF WEEKLY LABOUR ON A PER FARM BASIS IN THE LILLOOET AREA (SOURCE: AG CENSUS, 2016).

Hours of Weekly Labour	2011	2016
< 20 hours	20 (25%)	25 (38%)
20 to 40 hours	35 (44%)	15 (23%)
> 40 hours	25 (32%)	25 (38%)
Total number of operators	80 (100%)	65 (100%)

[6] "Agriculture" includes those jobs associated with crop production, animal production, support activities for crop and animal production

Less than a third of farms report paying salaries and wages (Table 8). This is likely due to the fact that revenues are paid directly to sole proprietors or partners, or that the income is directly reinvested into the farm. Unfortunately the amount spent on farm salaries and wages is not captured in the most recent 2016 Agriculture Census reporting.

TABLE 8. FARM SALARIES AND WAGES IN THE LILLOOET AREA (AGRICULTURE CENSUS, 2001 - 2011).

	2001			2006			2011		
	# of farms	Value per farm ($)	Value ($ in millions)	# of farms	Value per farm ($)	Value ($ in millions)	# of farms	Value per farm ($)	Value ($ in millions)
Paid to family	4	2,933	11,730	5	12,800	64,000	7	7,541	52,784
All other persons	11	13,496	148,451	11	8,327	91,593	6	97,164	582,982
Total wages and salaries	13	12,322	160,181	14	11,114	155,593	11	57,797	635,766

2.4 Farm Practices

There has been a decrease in the use of practices such as crop rotations and rotational grazing. On the other hand, there has been an increase in the use of windbreaks and/or shelterbelts (Table 9).

TABLE 9. FARMS IN THE LILLOOET AREA REPORTING BEST MANAGEMENT PRACTICES (SOURCE: AG CENSUS, 2016).

Best Management Practices (Number of Farms)	2001	2006	2011	2016
Crop rotation	5	10	8	N/A
In-field winter grazing or feeding	N/A	N/A	20	12
Rotational grazing	N/A	18	11	10
Plowing down green crops	6	4	2	4
Winter cover crops	0	2	2	3
Nutrient management planning	N/A	N/A	10	N/A
Windbreaks or shelterbelts (natural or planted)	4	9	9	14
Buffer zones around water bodies	N/A	4	5	N/A
Total	44	43	48	44

*N/A indicates the practice was not measured.

Organic production has only been measured since 2011. It is on the rise, however it still represents a small portion of the farm activity in the Lillooet area (Table 10).

TABLE 10. ORGANIC FARMING TRENDS IN THE LILLOOET AREA (SOURCE: AGRICULTURE CENSUS, 2016).

Number of Farms Reporting	2011	2016
Organic products for sale	3	7
Certified organic products for sale	3	5
Transitional organic products for sale	0	2

2.5 Farm Business

The majority of farms in the Lillooet area are run as sole proprietorships or partnerships (Table 11).

TABLE 11. FARM BUSINESS TYPES IN LILLOOET AND SURROUNDING AREA (SOURCE: AGRICULTURE CENSUS, 2016).

	2001		2006		2011		2016	
Business Type	Farm #	%	Farm #	#	Farm #	%	Farm #	%
Sole proprietorship	24	55%	22	51%	19	40%	23	52%
Partnership without a written agreement	9	21%	13	30%	20	42%	9	21%
Partnership with a written agreement	2	5%	2	5%	0	0%	1	2%
Family corporation	7	16%	5	12%	7	15%	7	16%
Non-family corporation	1	2%	1	2%	2	4%	3	7%
Other operating arrangements	0	0%	0	0%	0	0%	1	2%
Total	44	100%	43	100%	48	100%	44	100%

Total farm capital has fluctuated dramatically in the region in the past 10 years, most likely due to a sharp increase in the value of land and buildings (Figure 2 and Table 12).

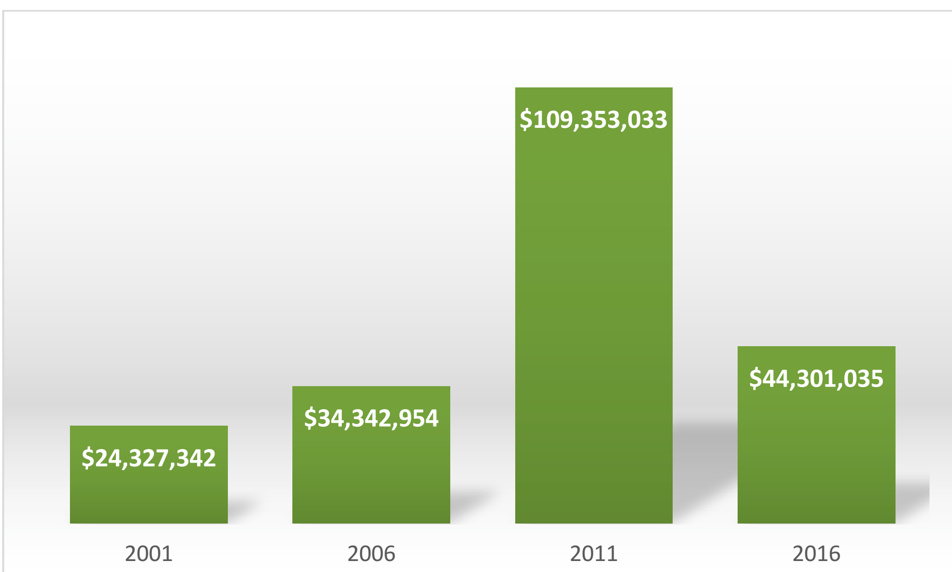

FIGURE 2. FARM CAPITAL VALUE IN LILLOOET AREA (2001 - 2016)

Table 12. Farm capital values in the Lillooet Area (Source: Agriculture Census, 2016).

		2001			2006			2011			2016	
Farm Capital Subcategory	# of farms	Value $/farm	Total Value in $M	# of farms	Value $/farm	Total Value in $M	# of farms	Value $/farm	Total Value in $M	# of farms	Value $/farm	Total Value in $M
Land and buildings	44	432,698	18.6	43	659,088	28.3	48	2,111,488	101.4	44	852,272	37.5
Farm machinery & equipment	44	74,640	3.3	43	98,869	4.3	35	24,664	0.9	44	93,182	4.1
Livestock and poultry	28	85,731	2.4	31	56,476	1.8	37	55,767	2.1	34	76,470	2.6
Total farm capital	**44**	**552,894**	**24.3**	**43**	**798,673**	**34.3**	**48**	**2,278,188**	**109.4**	**44**	**1,006,818**	**44.3**

Farm expenses have risen on a per farm basis from $29,819 in 2001 to $49,363 in 2016 (Table 13).

Table 13. Total farm business operating expenses in the Lillooet Area (Source: Ag Census, 2016).

	2001	2006	2011	2016
Number of farms	44	43	48	44
Expenses per farm ($)	29,819	39,080	54,395	49,363
Expenses total ($ millions)	1.3	1.7	2.6	2.2

Despite this rise in expenses, farm revenues overall are improving in the region (Table 14) from a gross margin of -5.7% in 2001 to over 22% in 2016. This translates into average gross farm receipts of just under $60,000 per farm (Table 15).

Table 14. Gross farm receipts and gross margin in the Lillooet area (Source: Ag Census, 2016).

	2001	**2006**	**2011**	**2016**
Gross Farm Receipts	$1,237,283	$1,365,019	$2,865,187	$2,798,829
Total Operating Expenses	$1,312,029	$1,680,434	$2,610,953	$2,171,958
Gross Margin (%)	**-5.70%**	**-18.8%**	**9.7%**	**22.4%**

Table 15. Average revenue per farm in the Lillooet area (Source: Agriculture Census, 2016).

Year	# of Farms	Gross Receipts ($)	Average per Farm ($)
2001	44	1,237,283	28,120
2006	43	1,365,019	31,745
2011	48	2,865,187	59,691
2016	44	2,798,829	63,610

For the first time, the 2016 Agriculture Census includes data regarding direct sales. A total of 17 farms in the Lillooet area indicated that they participate in direct sales. Of that 17, 14 do so using farm gate sales, stands, kiosks, and/or U-picks. 8 of the 17 use farmers markets, and 2 of the 17 participate in Community Supported Agriculture (CSAs).

3.0 Agriculture Market Analysis

3.1 BC Agrifoods Sector Outlook

Agriculture in the Lillooet area operates within the context of a global marketplace. In 2015, B.C. agrifood and seafood annual revenues reached $1.3 billion, up 18% since 2011[7]. The sector provided 63,000 jobs province-wide in 2016 and was a top producer of blueberries, mushrooms, greenhouse vegetables, nursery plants, and floriculture. Food and beverage processing is BC's second largest manufacturing sector and accounts for nearly 70% of total combined annual agrifood and seafood sector revenues. The sector contributed $4.3 billion to BC's gross domestic product (GDP) in 2015. Growing support in B.C. for locally produced food is leading to changes in eating habits and consumer choices. These changes have contributed to the number of farmers' markets across B.C. increasing from about 100 to almost 150 with total direct sales also increasing by approximately 150% between 2006 and 2012. The value of BC's agricultural and seafood exports represented $3.5 billion in value in 2015, targeting over 150 markets. However, a strong Canadian dollar and the high costs of energy and other inputs have placed pressure on the agricultural sector. International and national competitors, with similar or lower costs and larger economies of scale, will likely continue to squeeze profit margins for BC's producers and processors.

3.2 The Self-Sufficiency of the Local Food Sector

<u>Market Share</u>

Results from a survey conducted in 2014 for the Agricultural Plan indicated that the average Lillooet family is spending $400 per month, or $4,800 annually, on groceries[8]. There are 1,351 households combined in the Lillooet, Area A, and Area B communities and using those estimates they spend approximately $6.5 million on food. At the same time, the total value of farm production in the region (farm gate receipts) was only $2.8 million (Table 14). Therefore, if all the income made by Lillooet and area producers was derived from sales made to local residents, it would still only satisfy about 43% of the regional spending on food. Given the diversity of food being produced in the region this represents a real opportunity for local farms to capitalize on this market opportunity. However, this figure does not break spending down based on food product type (e.g. breads, dairy, meat, fruit, vegetables). It is therefore likely that a significant amount of Lillooet residents'

[7] BC Ministry of Agriculture Annual Report: 2017/18 and 2019/20.
[8] District of Lillooet, SLRD Area 'B', and St'at'imc Northern Territory Agricultural Plan: Phase 1 – Background Report, 2014-2015.

annual food spending occurs either within the community on products that are produced elsewhere, or on products sold outside of the community. However, it remains a useful figure to consider when examining the market opportunities for producers within the community.

Food Self-Sufficiency

In order to measure food self-sufficiency, the BC Ministry of Agriculture developed a Food Self-Reliance model, which estimates that 0.524 ha of land is required to produce an adequate and healthy diet for one person to live for one year[9]. Using the indicators above, in order to be self-sufficient with the current population in the region, a total of 1,550 ha (2,958 individuals who each require 0.524 ha of land) of land would need to be under cultivation and irrigated. By comparison, the 2014 Agricultural Land Use Inventory noted that only 877 ha in Lillooet and the surrounding area were reported being cultivated. This corresponds to only 57% self-sufficiency. This figure is likely an overestimate due to the fact that some of the food being produced is shipped out of the region. Therefore we can assume that actual regional food self-sufficiency is likely below 50%. This, combined with a market share of 43%, indicates significant room for the agricultural sector to expand in terms of production to meet local food needs.

4.0 Opportunities Analysis

Through a survey conducted in 2013 for the Agricultural Plan, farmers were asked to indicate what they felt to be the benefits to farming in Lillooet. Climate and the lack of pests or diseases in the region, figured prominently, followed by the supportive nature of fellow farmers and relative affordability of land. Other benefits noted included good range land for cattle.

Top challenges as identified by farmers during the 2013 survey included water quantity (irrigation/livestock watering), cost of land and taxes, cost of transportation & distribution, and a small local market.

The top three issues raised by members of St'at'imc First Nation who responded to the survey include:

- The need for job opportunities
- Use or control of water for irrigation
- Potential impacts on salmon, grizzly, and other culturally-significant species

As part of this investigation, these questions and others were used in interviews with key stakeholders during April 2017 to drill down further into some of these issues to determine strengths, weaknesses, opportunities, and threats. The results are presented in detail below.

[9] BC's Food Self Reliance Report. BC Ministry of Agriculture, 2006.

4.1 Market Access and Growth – Strengths, Weaknesses, Opportunities, and Threats

A Strengths-Weaknesses-Opportunities-Threats (SWOT) analysis allows for the study of internal and external influences on the local food system. Over 20 interviews were conducted with producers, retailers, restaurant chefs, and distributors in April 2017. The results of the SWOT will allow key recommendations to be identified. The issues identified were categorized as follows, listed generally in the order of seed to plate:

- E – environment (climate, soil, water)
- K – knowledge transfer (partnerships, community support, extension services)
- P – production (landbase, farming practices, labour)
- V – value-added (storage, packaging & processing)
- M – marketing (branding, advertising)
- D – distribution
- R – retail (direct sales, grocers, restaurants)

TABLE 16. SWOT ANALYSIS: ENVIRONMENT CATEGORY.

Issue	Strengths (current state)	Weaknesses (current state)	Opportunities (external possibility)	Threats (external possibility)
E – Environment	Many producers are using best management practices to minimize impacts on the environment. Some producers are certified organic.	Lack of Land in the 10-20 acre parcel sizes.	A combination of surface water, well water, and rainfall meets the needs of the vast majority of producers for both irrigation and livestock watering. Soil is good quality in the valleys and benchlands. Climate change may increase growing degree days and the diversity of what can be grown in the region.	Climate change may lead to increases in drought, flooding, wildfires. Wildlife (and noxious weeds) threaten livestock and crops.

TABLE 17. SWOT ANALYSIS: KNOWLEDGE CATEGORY.

Issue	Strengths (current state)	Weaknesses (current state)	Opportunities (external possibility)	Threats (external possibility)
K – Knowledge	"Do it yourself" community ethic. Strong cultural history of farming in the area and open dialogue and support between farmers and ranchers. Relationships and support being developed between the T'it'q'et Food Sustainability Program and LAFS projects. Relationships are being developed between Blue Goose ranch and the Ts'kw'aylaxw community.	Farmers and ranchers lack business development skills. Only a few small and medium scale farm operations have business plans. Farmers are growing what they want to grow, or know how to grow, rather than what the market demands. Most farmers need to work at jobs off-farm to compensate for growing pains and mistakes made on the farm due to "learn as you go". Underutilization of existing resources within the community, such as knowledge around distribution, is not being capitalized on. Lack of structured social and support network for producers.	Funding opportunities exist and producers can take advantage of existing grants, loans, and other funding programs. Role of LAFS could expand to act as a catalyst and connection between farms and funding agencies. Connections could be made with the high school to talk to students about the business side of food production and retail industry. It can expose them to career options as well as an understanding of the intricacies of the food system. Can tap into Ministry of Agriculture support through skill development workshops and extension through the Regional Agrologist.	Government regulations at the provincial and federal level create barriers to distribution and sales for small and medium producers. For example, organic certification process is changing and paperwork is time consuming. The provincial meat inspection regulations continue to be a major constraint for local meat producers who have very little options in terms of sales. Liability, food safety are causing many certification and administrative challenges. Concern that farming evolve towards large land holders who don't live locally. This could lead to disinterested tenants who may not prioritize the farming community, soil and water quality, etc. Extension services from the provincial government have been scaled back in recent years. As a result, some small and medium scale farmers struggle around crop production and animal husbandry issues.

Table 18. SWOT Analysis: Production Category.

Issue	Strengths (current state)	Weaknesses (current state)	Opportunities (external possibility)	Threats (external possibility)
P - Production	Diversity of crops and livestock being produced in the Lillooet area is fairly high. Most producers own their own farmland. A good number of existing ranching operations exist locally for the next generation. New farmers have established themselves in the Lillooet region recently – both large and small producers. These new farmers bring new energy and new ideas. Fort Berens hosts a local Harvest Festival in part to bring people to town to show them what Lillooet has to offer in the hopes that they might move here and bring their skills, passion and ideas.	Lack of large-scale production (aside from wine, hops, beef, and cantaloupes). Need economies of scale to increase farm viability for many crops. Labour represents a large proportion of the cost of producing food. Finding and retaining skilled labour force is a big challenge. Very few youth from (15-30) in the region are interested in this type of work. Lack of farmland availability in certain sizes of parcels (typically the 20-40 acre parcels).	Farmland is affordable and accessible through either purchase or lease in comparison to the Lower Mainland and Okanagan. Many producers could expand production on their current site. There is also room in the local sector for many additional agricultural products (e.g. honey, more wine grape production in the area). Partnerships with organizations who can match labour needs on farms with those who are under-employed. A labour co-op may be able to help - if a farmer needed help to weed, plant, harvest, build a barn, then he or she could hire through the coop for this type of project. Temporary Foreign Farm Worker program has been a successful solution for many farms in the area and local farmers could tap into this resource. A registry of land that is available for lease for farming would help decrease the time required for farmers to find available land.	The gentrification of Lillooet (both the town and the farming area). Difficulties accessing land for farming or ranching due to high costs and capital inputs. Government owns and controls Crown land that could be utilized for growing crops and forages.

TABLE 19. SWOT ANALYSIS: VALUE-ADDED CATEGORY.

Issue	Strengths (current state)	Weaknesses (current state)	Opportunities (external possibility)	Threats (external possibility)
V – Value-added	The T'it'q'et community is involved in local food production and processing both for economic stimulation and food security within the community (e.g. dried garlic powder). The T'it'q'et project employed people through the winter in 2016 by processing food. Fort Berens kitchen makes approximately 3000 jars of a variety of products like pickles, dry rubs, jams and jellies (all with local food). Several other farms make canned jams and other preserves.	Few cold storage, value added or other processing facilities for local products (other than basic packaging). Preparing produce and packaging it in a way that is presentable for retailers is a challenge. Lack of a local abattoir and butcher shop.	Opportunities for producers to pool resources to maximize use of existing infrastructure (e.g. JAR has built a cold storage facility and acquired industrial kitchen equipment). The building next the railway crossing across from the Reynolds Hotel could be a suitable location for bricks-and-mortar food hub, including cold storage and/or a community root cellar, a store and an office. T'it'q'et is working on creating cold storage facilities for all farmers. Lower grade vegetables could be sold to local processing projects. An abattoir feasibility study could determine if a local means of slaughter is viable and will would reduce costs and workloads for farmers.	Cross-contamination between farms may be a concern if producers aggregate goods together for combined storage, distribution, or sales (food safety and traceability). Lack of investment capital and/or inexpensive leading options is a threat to expansion of farm businesses.

TABLE 20. SWOT ANALYSIS: MARKETING CATEGORY.

Issue	Strengths (current state)	Weaknesses (current state)	Opportunities (external possibility)	Threats (external possibility)
M - Marketing	"Lillooet Grown" is in the early stages of branding and it is beginning to take hold in the marketplace. Lillooet-grown garlic is in demand. Last year, Lillooet garlic was sold in many places including Summerland, Port Hardy, Vancouver and the Sea to Sky corridor.	Lack of coordination around sales and distribution logistics. Some producers rely entirely on farm gate sales, but there are not enough agri-tourism, gathering events or farm gate retail in the area to attract consumers for direct sales through the farm gate. Very few operators have time or skill set required for marketing and branding. Local producers have tried to sell via CSA but there is not enough demand locally. The "Lillooet Grown" brand is not being used by producers consistently and there are no criteria assigned to who can use it and how it can be used.	The food hub co-operative that was first established a few years ago remains in nascent phases. Opportunity to capitalize on agri-tourism and to implement recommendations in the LAFS agri-tourism report. Could craft criteria for "Lillooet Grown" products so that there will be a consensus about when and how it can be used. This branding can be used consistently to raise the profile of Lillooet producers. Opportunity for farms to treat their operations in a business-like way to increase sales and income. There has been an increase in traffic coming through Lillooet, possibly due to upgrades to the Duffey Lake Road.	Producers may use packaging or labeling that does not meet health regulations. Competition with growers in Pemberton, Lower Mainland. Residents are wiling to bypass local fruit stands and drive to Kamloops, Chilliwack, Vancouver for a deal on groceries. Lillooet is still unknown my many outside the region - still some education to do in order for people to understand where Lillooet is located. Concern about contamination between farms with agri-tourism and ways to prevent the movement of pests, disease and invasives.

TABLE 21. SWOT ANALYSIS: DISTRIBUTION CATEGORY.

Issue	Strengths (current state)	Weaknesses (current state)	Opportunities (external possibility)	Threats (external possibility)
D - Distribution	Some producers have already tapped into regional, provincial, national, and even international markets. While some of these routes are industry (or product) specific, others have lain the groundwork for goods to be shipped from Lillooet to existing restaurants, farmers markets, and storefronts in the Sea-to-Sky and Lower Mainland. Local retailers have a wealth of knowledge regarding distribution options.	Lack of centralized distribution location or hub for small and medium scale producers. Larger operations have restrictions regarding sharing truck space with other farm products. Individual farms may not be able to afford to own a delivery truck or a refrigerated vehicle.	Transportation needs can be pooled to reduce costs. Can aggregate with other small to medium farm operations who already have coordinated distribution to Kamloops, Sea-to-Sky, or Vancouver markets. Could use these distribution routes to disseminate LAFS or other producer-related brochures or other information to outside markets. Producers that are selling a bulk of one product (like garlic) can take advantage of selling to West Coast Produce that will ship directly from Lillooet. Lillooet is remote but it is also has a nexus of roads. One heads down towards Pemberton and Whistler, another towards Kamloops, and one down to the Fraser Valley. Gaps in niche product availability could be filled at farmers markets in Pemberton and Kamloops.	Road closures due to slides or other impediments or for upgrades. Roadwork tends to happen during the summer and at times of the day that impact the distribution of perishable goods. Bumpy roads are hard on the products being distributed - there is a risk that the product's value will diminish through the transportation process. CN Rail option is prohibitively expensive. Farmers markets in Sea-to-Sky and Fraser Valley are much more successful by comparison.

TABLE 22. SWOT ANALYSIS: RETAIL CATEGORY.

Issue	Strengths (current state)	Weakness (current state)	Opportunity (external possibility)	Threat (external possibility)
R - Retail	There is a great demand for Lillooet product (primarily veggies) in the Sea to Sky communities like Whistler and Squamish. The location and brand of Lillooet is unique. Lillooet producers have quality product, a good supply and reasonable prices. Buy-Low Foods, in Lillooet, has supported local producers for over 15 years. Some producers are already selling directly to restaurants and are generating a good income that way. Chefs at Fort Berens Estate and Tyax Lodge are very supportive of buying local products. The food hub co-operative that was started a few years ago has had a good amount of planning and research placed behind it and it included an online ordering platform.	The local farmers market is not used by most of the farmers in the region. Not many small to medium scale producers have completed requirements around food safety and that limits their retail options. Producers may use packaging or labeling that does not meet health regulations or what is required by retailers. Chefs have to spend inordinate amounts of time using multiple communication forms (email, social media, messaging), to acquire local food.	A local food broker could be established to streamline the sales and distribution process for producers. A local food broker could also take orders from local chefs and fill them (including delivery coordination). Bob at Buy-Low has the ability to look up the price at which a product would sell for retail. This information is sent to him twice a week and he is willing to share this information with producers so they can understand what prices are competitive from a grocer's standpoint. Contract growing for local retailers for larger quantities of a single product (i.e. garlic) for the wholesale market. Demand is high from restaurants in Whistler and Vancouver. Chefs like to have diversity want products that are not from the Okanagan or Fraser Valley. Menus are flexible. Producers shouldn't be afraid about consistent supply. Menus can be built around availability. Quality of the product is key, the amount or frequency is less of an issue for high-end restaurants.	Price competition from US and Mexico markets. Quality competition from other small-medium scale farms. Lack of ability to sell cut & wrap meat products through grocers. Products need to be supplied to retailers every week, twice a week. Restaurants need fresh produce daily, if possible, ideally shipped to arrive before 1-2pm in time to be used for a dinner menu. There will always be some consumers who want inexpensive products and are not willing to purchase high quality, higher priced local products.

5.0 Food System Asset Mapping

Figure 3. Top Food System Assets for Lillooet and the Surrounding Region.

5.1 Themes Emerging from SWOT Analysis Results

Environment

- **Best Practices**: Many producers have adopted land management practices, including soil conservation and organic production, that minimize the overall impact of agriculture on soil, water, and air quality.

- **Climate Change**: Farmers are keen to adopt strategies that will allow them to prepare and adapt for climate change but are unsure where to turn for assistance. Some acknowledge that the changing climate could open up new opportunities for crop diversification.

Knowledge

- **Partnerships**: Relationships between St'at'imc and non-St'at'imc community members are being established around food production, processing, and distribution. It has become a gathering point for conversation and business planning.

- **Administration and business skills**: While there may be some resources and training opportunities available from the Ministry of Agriculture and other agencies, many producers lack the time or interest in developing business plans or marketing and sales plans for their products. Additionally, many farm operators must hold down other jobs in order to subsidize the farm business. A fair amount of time and skill is required to navigate the administrative landscape that owning and operating a farm necessitates.

Production

- **Land base**: There is adequate land for the agriculture sector to expand locally and regionally, however a lack of parcels in the mid-size range is a limitation. This may be hindering the establishment of medium-large farm operations and/or creating a barrier for those wishing to expand existing operations. Generally speaking farmland is relatively affordable (as compared to the Okanagan or Lower Mainland), and a significant proportion of farm operators own their land. This speaks to the stability of the land base and the opportunity for small and medium sized operations to expand production.

- **Economies of scale**: The relatively small size of produce farms, and minimal markets for local meat sales (due to meat processing regulations), reduces the opportunity for higher returns based on economies of scale that influence overhead costs (administrative and inputs). Economies of scale could be gained by some farms focusing on two or three products.

- **Labour**: Not only does labour represent a significant expense, finding individuals who are willing to do the physical labour that farming requires is a real challenge. Many farmers have tried unsuccessfully to hire locals and even pay them a highly competitive wage, without success. The temporary foreign farmworker program, as coordinated by the federal and provincial levels of government, has proven to be a good solution for many operators, but housing these individuals can be a challenge. Opportunities may exist to more formally partner with local and regional training initiatives and jobs programs.

Value-Added

- **Infrastructure**: A lack of access to local cold storage or processing (food safe kitchen) facilities is a challenge. However, opportunities exist to more fully utilize the infrastructure that already exists. JAR has a cold storage unit and has purchased industrial kitchen equipment and the T'it'q'et food security initiative is working on establishing a cold storage facility that could be accessed by all farmers. The lack of a licensed abattoir in the area remains a big challenge for meat producers. A local slaughtering facility or mobile abattoir could help to support livestock producers. A feasibility study to explore the development of a provincially-licensed facility within the community could help determine if this is a viable option.

- **Packaging and labelling**: Proper packaging and labelling is an important step in ensuring that local products will be accepted by retailers both within and outside the community. Currently, only a handful of farms are putting resources into packaging. Local expertise exists at both the producer end and retailer end. A workshop or training session regarding packaging and labelling could help add value to many products and help them gain access to new markets.

Marketing

- **"Lillooet Grown"**: A good amount of effort was placed into the early stages of this logo development and it is beginning to take hold. Criteria is needed to assist both suppliers and buyers in determining when and how producers can apply the logo to their products. Local marketing would benefit from a consistent approach to the use of the logo, particularly when products are being advertised outside the community (e.g. through grocery stores, farmers markets, restaurants, etc). LAFS could improve information and knowledge transfer between farmers and assist in producing communications materials under the "Lillooet Grown" brand.

- **Agri-tourism and gathering events**: An Agritourism Strategy has recently been developed for LAFS. Some agritourism options that were discussed included U-Pick promotions, Slow Food Cycle Tours, Chef Tours, Farm Crawls, and more. It will take another level of discussion and/or decision-making to determine which farm businesses are interested in adding this revenue stream to their operation. The Ministry of Agriculture and Agricultural Land Commission recently clarified the rules and regulations associated with hosting agri-tourism events and gathering events on farmland. Establishing an agri-tourism market would raise the profile of Lillooet as a community and the “Lillooet Grown” brand and could increase the number of farm gate sales across the entire region.

Distribution

- **Location is an asset for deliveries**: Although Lillooet is considered a somewhat remote community, there are several direct routes to populated regions that lead to and from the centre of Lillooet. These routes should be leveraged to maximize retail opportunities.
- **Centralized product aggregation location**: An opportunity exists for a dedicated warehouse or hub, where small and medium sized operations could deliver their products that would then go out to delivery toward the Sea-to-Sky, Kamloops, or Lower Mainland. If bricks-and-mortar location is not feasible in the immediate term then collaboration between 2 or 3 farms and a local distributor may be a good starting point.
- **Distribution of information**: LAFS provides a great platform for the distribution of information regarding Lillooet products and the Lillooet Grown brand. This information currently exists online through the website and social media platforms. A brochure or one-pager could be developed, printed, and distributed by LAFS to produce managers, chefs, and other buyers outside the Lillooet community.

Retail

- **Restaurant demand**: There is strong demand from restaurants in Lillooet and interest from chefs the Whistler and Vancouver areas. These potential buyers could be accessed by producers individually or collectively.
- **Broker role**: In alignment with the centralized distribution location, there is an opportunity to create a local food broker role whereby individual farms could sell specific items directly to the broker, who would then coordinate orders from grocery stores, restaurants, and/or wholesale buyers. The broker could coordinate a crop planning meeting for farmers growing for these buyers. The result would be that farmers would spend less time organizing sales and more time producing their crops and livestock.
- **Farmers markets**: Most producers agree that the Lillooet farmers market, in its current location and design, is not a viable retail opportunity for them. It may be worthwhile to consider accessing the farmers markets of Kamloops, Sea-to-Sky, or Vancouver. If several operators pooled their delivery it could become cost-effective.

6.0 Recommendations

These recommendations are informed by the research completed for this market access and growth strategy. They are presented as a roadmap, such that the actions listed at the bottom of the list may be more likely to succeed if those at the top of the list are completed first. Some actions will necessarily take place over a long term while others are short term. The roadmap is presented visually in Figure 4.

Recommendation 1: Advocate for Government Extension and Support Services

Priority level: High
Timeline: Ongoing
Cost: Low to Medium
Description: Several of the challenges identified in the SWOT analysis are based on regulatory barriers at the provincial (and sometimes federal) level. LAFS could play a role in representing the concerns of Lillooet area farmers to government on issues such as meat inspection regulations, Crown Land access, and other issues as they arise. With a changing political landscape in the province this could be an opportune time to develop some communications and messaging around these issues. This level of advocacy would involve letter writing and/or requesting meetings with government representatives regarding issues of regional concern. This could also be accomplished by organizing a farm tour for elected officials and staff and use the event as a learning opportunity regarding issues that the local agricultural community is facing.

Recommendation 2: Develop Criteria for "Lillooet Grown" and Leverage the Brand

Priority level: High
Timeline: Ongoing
Cost: Medium
Description: Marketing the Lillooet agriculture industry and linking it to tourism and/or customers living outside the community, is key to overall success. Marketing takes time on an individual basis but can be pooled and leveraged to create gains collectively. Criteria for using the "Lillooet Grown" brand should be developed. The criteria could include sustainable farm practices that include and respect the St'at'imc land ethic. LAFS could work with St'at'imc Eco-resources to develop this process. The "Lillooet Grown" brand should then be used consistently through online and print materials by farmers, ranchers, LAFS, local food security projects, and tourism agencies.

Recommendation 3: Provide Targeted Funding Support

Priority level: Medium
Timeline: Ongoing
Cost: Low to Medium
Description: To some extent, LAFS is already filling this role and providing this service. However, it could develop a database of information about existing grants or other funding opportunities and share this with local producers. This would require LAFS to connect with government and non-government funding agencies to determine which grants and other funding may be available to local farmers on a variety of topics. Often farmers simply don't have the time to investigate what funding exists, and how to apply for it. LAFS could identify where the funding is, what grants exist. Depending on capacity, LAFS may also be able to take on a role of grant-writing assistance.

Recommendation 4: Conduct a Feasibility Study for a Local Abattoir

Priority level: High
Timeline: Short to Medium
Cost: Medium to High
Description: An abattoir built for local farmers and ranchers to sell legal cut & wrap meats has been identified as a key way to expand market access. LAFS has indicated support for conducting a feasibility study regarding the opportunity to establish either a centralized abattoir or a mobile abattoir to service the region. The feasibility study could then help establish a new support service in the community while also creating local jobs.

Recommendation 5: Host a Meeting Between Producers and Chefs

Priority level: High
Timeline: Short
Cost: Low to Medium
Description: Results from interviews conducted for this report indicate a strong desire by chefs to showcase Lillooet products. LAFS could host a meeting and farm tour for invited chefs and interested farm operators. The meeting or tour would provide growers with an opportunity to highlight the diversity and quality of products being grown in Lillooet. It is expected that this type of meeting would lead to an enhancement of the relationship between Lillooet producers and chefs in the Sea-to-Sky, which in turn could lead to the development of purchase agreements. This will change the focus from "what do I want to grow" to "what does the market (restaurants, retailers) want us to grow"?

Recommendation 6: Host a Meeting Between Producers and Distributors

Priority level: High
Timeline: Short
Cost: Low
Description: There are generally three ways for producers to distribute their products to the Sea-to-Sky and Lower Mainland, all of which involve trucking:

- The farmer brings goods directly to buyers using their own vehicle;
- The farmer hires a small-medium scale delivery operator distribute products; or
- Buy-Low assists in getting farm goods shipped through West Coast Produce.

Some producers are already using delivery services, while others are unaware of them. Pooling the distribution needs of farmers can help to reduce costs and increase access to distribution opportunities that may not be viable with smaller amounts of goods. LAFS and Buy-Low could work together to host a meeting between producers and distributors to determine how to best match needs with existing services, as well as explore if new distribution methods are warranted.

Recommendation 7: Test Collaborative Sales at Kamloops, Pemberton, and Vancouver Farmer Markets

Priority level: Medium
Timeline: Short
Cost: Medium
Description: Once some of the questions surrounding product demand and distribution are answered through meetings with buyers and distributors, producers should collectively explore retail opportunities at outside farmers markets. Under the umbrella of the "Lillooet Grown" brand, operators could take turns representing a collective of farms wishing to sell at these outside locations through a single vendor stall. Well-attended markets exist within a 2 to 3 hour drive from Lillooet. Producers could test out these markets and also use the time to deliver food orders to retail outlets and restaurants in these communities. There are a number of Lillooet producers who are planning to access (or considering attending_ farmers markets in the Vancouver area and they may be willing to sell other Lillooet products at their stall. This is a similar approach to that used by Merville Organics in the Comox Valley.

Recommendation 8: Host a Meeting for Producers Interested in Collaborative Growing

Priority level: Low
Timeline: Short
Cost: Low
Description: Farmers can benefit by collaborating on growing food at supply levels that are large enough to access commercial retail markets. These can lead to multi-year contracts with growers that supply the market year to year with a particular type of product. LAFS could play a role in hosting a meeting for farmers, including representatives of food initiatives such as the T'it'q'et food security project, who are interested in collaborative growing. The results from meetings with buyers and distributors as well as some testing of regional farmers markets, should occur prior to this meeting so that farmers would be informed as to what could be produced that would sell well, and what the expected price range might be. This type of meeting could then expand into a monthly (or other frequency) meeting for farmers to take advantage of the social aspect of local food production. When there is a stronger social element then ideas are shared better. Face time with other farmers can be an invaluable way to share information, success stories, and solve problems together.

Recommendation 9: Re-Tool the Online Food Hub Cooperative

Priority level: High
Timeline: Medium
Cost: Medium
Description: The food hub co-operative that was first established by Spray Creek Ranch should be re-tooled and used to connect suppliers (farmers) to chefs and retailers, rather than individuals and families, through a third-party food broker. Farmers would input their products on a regular (weekly) basis and pay a small fee to a food broker. The broker would then develop a 'fresh sheet' and communicate that document with a list of established chefs and retailers in the Lillooet and Sea-to-Sky area. The broker would then coordinate collection and distribution of the orders. While the bulk of the orders would take place during the summer and fall, some value-added products, meats, or non-perishables could be made available year-round. The buyers price of the food products would include a portion of the broker's fees and delivery charges.

Recommendation 10: Explore a Brick and Mortar Food Hub Model

Priority level: Medium
Timeline: Long
Cost: High
Description: Many of the distribution and marketing challenges could be solved with a centralized food hub that would accommodate cold storage, packaging, retail sales, and drop-off and pick-ups for sales orders. While this infrastructure may not be fully utilized in it's first year, it would demonstrate it's usefulness over time. The approach can be described as "build it and they will come". The hub would be staffed full time during the growing season and part time during the winter months. It could be run as a private business, or as an enterprising non-profit by LAFS. Partners could include the T'it'q'et food security initiative. It would require a solid business plan and seed funding. Existing locations have been previously identified. While they would likely need to be renovated it is not expected than any new buildings would need to be built per se. The central hub could also tied into agri-tourism, outreach, and education about the history of Lillooet's agriculture industry.

1. Advocacy for the local agriculture sector.
2. Leverage existing branding.
3. Provide funding information & support.
4. Determine abattoir feasibility.
5. Meet with chefs and retailers.
6. Meet with distributors.
7. Test sales at other farmers markets.
8. Explore collaborative growing.
9. Re-tool online sales platform.
10. Brick and mortar food hub.

Figure 4. Road Map for the 10 Recommended Actions.

7.0 Conclusion

The Lillooet agricultural community is in an enviable position: the soil and climate are ideal for a variety of crops; there is a close-knit and supportive community; an agricultural plan is in place and endorsed by local and regional governments; the "Lillooet Grown" brand has been developed; and a supporting non-profit society, the Lillooet Agriculture and Food Society, has been established. Now that the ingredients are in place, the time is right for small and medium scale producers to come together to capture more of the local and regional market. By taking a collaborative approach and focusing sales on high-end buyers, such as restaurants and niche retailers, producers will spend less time on marketing and sales and more time in the field. This will lead to an increase in production, thereby resulting in a natural increase in the growth of the agricultural sector. This report provides a roadmap for the next steps in achieving this growth, with recommendations for the short, medium, and long term based on data research and interviews with food system stakeholders. Taken together, these recommendations will result both in quick 'wins' for the local food sector (such as meetings with restaurant representatives to negotiate contract growing), as well as longer commitments to online and warehouse-based food hubs.

Appendix I: Success Stories

The following vignettes offer examples of small and medium-sized farm operation success for many of the themes identified through the SWOT analysis. They are presented here to provide inspiration and to inform the recommendations. The majority of these examples are from within BC.

Knowledge, Partnership, and Collaboration Success

Fields Forward

Fields Forward is a food and agriculture initiative in Creston. “Fields Forward envisions a vibrant productive local agri-food system that builds genuine community wealth by supporting and sustaining the community’s environmental, indigenous, social, cultural, economic and aesthetic values.” The goals of Fields Forward are to:

1. Increase economic development in Creston and District food and farm sector;
2. Create and maintain meaningful, sustainable local jobs in the farm and food economy;
3. Develop locally appropriate food production, processing, storage, distribution and sales;
4. Improve access to healthy local food for all Creston & District residents; and
5. Support an arts and culture community that celebrates food and agriculture.

Fields Forward is in the process of creating the Food Venture Collaborative, an enterprise-driven value-adding social benefit project for communities from Yahk to Yaqan Nukiy to Riondel. The first phase is a mobile juice press and cherry juice enterprise. The mobile press is a single unit that can process, pasteurize, and package 900 litres of apple, pear, carrot, beet, cherry, or berry juice per hour, or up to 20,000 lb. of fruit daily. The juice is packaged into boxed bags (like wine bags) and is shelf stable for one year. This service is being provided to orchardists, community groups, and anyone else interested in producing their own juice. http://www.fieldsforward.ca/

Hornby/Denman Growers and Producers Alliance

The Hornby/Denman Growers and Producers Alliance is a group of farmers that came together to advocate for all Hornby and Denman agricultural sectors and their offshoots, and to provide a forum for cooperation, communication and support among island growers and producers. The group works to establish year-round marketing opportunities for island agricultural products and develop local processing options for adding value to local products. They also provide educational opportunities for the local communities regarding agriculture and food. The Alliance runs many initiatives and events including:

- Denman Island Apple Fest;
- A gleaning program for apple and pears;
- Educational workshops focused on issues such as marketing, animal husbandry, farm safety, organic certification and more;
- Local food and film night;

- Purchasing of small-scale processing equipment such as a juice press and chicken plucker; and
- Website listing for local farms on both Denman and Hornby.

The organization is very active and always looking for new opportunities. Currently, they are working on obtaining a portable cooler to store food. More information and the farm directory can be found on their website at: https://islandagriculture.wordpress.com/.

San Juan Islands Agricultural Guild

The San Juan Island Agricultural Guild (Ag Guild) is a community-based volunteer organization dedicated to fostering a vibrant, resilient and sustainable local food system in San Juan County, Washington. The organization was formed as a result of a San Juan County Council initiative in 2007 to help local farmers establish permanent farmers' market facilities and market goods in the islands. Their first major project was to establish a year-round facility to house the San Juan Islands Farmers' Market at the Brickworks. The building has become a home for other community, educational, and cultural events as well as a meeting room for community organizations. A community kitchen was recently established at this locale as well. Currently, they are working on developing an education program for producers, processors, and consumers as well a branding program called Island Grown in the San Juans. More information on the Guild and their activities can be found here: http://sjiagguild.com/.

Salt Spring Island Agricultural Alliance

The Salt Spring Island (SSI) Agricultural Alliance is an incorporated non-profit society that was developed in 2008 to oversee the implementation of the SSI Area Farm Plan. The members of the organization represent interests in agriculture, food production, and sustainable economic development. The Agricultural Alliance also acts as an advocacy organization by representing agricultural interests to all levels of government and works to find secure funding to support agriculture and agricultural infrastructure on SSI. In 2012, an abattoir was opened for slaughter of poultry and lamb. A separate organization was created (Salt Spring Abattoir Society) to manage the facility, but the Agricultural Alliance was instrumental in pulling together funding for the facility through grassroots efforts and support from the Vancity Envirofund grant. More information about the Alliance and their programs can be found here: http://plantofarm.org/.

Production Success

Merville Organics Growers' Cooperative

Merville Organics Growers' Cooperative is located in the Comox Valley and is cooperative of five local farmers on three farms. All farms are transitional to organic or certified organic and sell mainly through the Comox Valley Farmers' Market and a Community Supported Agriculture (CSA) box program. The farms that make up the cooperative include Amara Farm, Ripple Farm, and Kloverdalen Farm. Merville Organics began when Amara Farm and Ripple Farm were first starting to grow in the Valley. They were not producing enough product on their own farms to supply the local farmers market or a full CSA box program. They decided to combine forces to share marketing efforts and increase efficiencies in other aspects of their production such as labour, tools, and input purchases. The majority of the income is derived from sales to restaurants in Tofino. In 2015, Merville Organics became a combination of a market and production cooperative and incorporated through the BC Cooperative Association. More information about Merville Organics can be found here: http://mervilleorganics.ca/.

Okanagan Spirits

Okanagan Spirits is an internationally acclaimed craft distillery featuring a unique selection of specialty spirits such as fruit brandies, liqueurs, marc (grappa), vodka, whisky and Taboo Genuine Absinthe. They use local ingredients (100% BC fruit) where possible and produce their products in copper stills without the use of additives, chemicals or artificial flavours. Okanagan Spirits sells direct to restaurants and resorts, as well as globally at Canadian Embassies. They have two distilleries located in downtown Vernon and downtown Kelowna and offer tours and tastings at both. Learn more about them here: http://www.okanaganspirits.com/.

The Village Cheese Company

The Village Cheese Company is located in the City of Armstrong. They are a small family-owned cheese company that makes artisan cheese from local whole milk from the Okanagan Valley. They do all of their own pasteurization and packaging in their cheese plant in Armstrong and operate an extensive store with other local products available for purchase. They also operate a small café on site. Village Cheese provides products for other retail outlets and sell at the local farmers' markets in the region as well. They offer tours of their facility and are open 7 days a week. You can learn more about them here: http://villagecheese.com/.

Raven Rock Farm

Raven Rock Farm is located on Pender Island focusing on producing a variety of vegetables, fruit, nuts, and seedlings. Sales are through the Saturday Farmers' Market, the Wednesday Winery Market, local restaurants, and through an active CSA box program from May to October. They use sustainable and pesticide-free methods and are working towards transitioning to organic certification. http://ravenrockfarm.com/

Value-Added Success

Cawston Cold Storage Ltd./Natures First Fruit

Cawston Cold Storage (CCS), under the brand name of Natures First Fruit, is located in the Similkameen Valley and handles only certified organic fruits and vegetables. The 28 grower-members of CCS grow, pack, and sell organic tree fruits throughout North America, in Europe and in Asia. In 2012, CCS built a new cold storage facility that holds 8,400 bins of apples, with a combination of 8 smaller-sized storage rooms that cater specifically to the organic market. CCS does the bulk of the marketing for the growers. http://naturesfirstfruit.com/

Campbell Farm

Located on Saturna Island, the Campbell Farm has been producing beef since 1945 and lamb since 1960. The farm constructed an abattoir in 1959 to meet the meat inspection regulations at the time. It has since been upgraded to meet current regulations and operates as a Class A facility. The farm mainly raises its own animals for processing, and custom cut and wrap of beef and lamb. Products are marketed primarily to local businesses on Saturna, including the café and the Saturna General Store. The annual Saturna Lamb Barbeque also provides an opportunity for Campbell Farm, and other Gulf Island lamb producers, to market a good quantity of lamb. The abattoir also does provide some custom slaughter services for lamb and beef for producers on Mayne, Galiano, and Pender Islands. The abattoir is a member of the BC Association of Abattoirs and the farm is a member of the BC Sheep Federation. The abattoir is also part of the Premium BC Lamb program and is able to score lambs for quality. More information can be found here: http://bcabattoirs.org/member/campbell-farm/.

Fieldstone Organics

Fieldstone Organics is BC's only certified organic grain handling facility. They provide whole grains, legumes and seeds for bulk, wholesale and retail customers. They are certified organic for handling and work with a number of local organic Okanagan growers to supply the majority of their needs. They do source from other areas in Canada as well, when needed to supplement their supply. Fieldstone Organics began as a cooperative of organic growers in Armstrong in the early 2000s who required grain processing equipment and support for their individual businesses. Today, they offer those same custom services to other growers in addition to the products that they sell through retail and wholesale markets. Check them out at: http://www.fieldstoneorganics.ca/.

Marketing Success

The BX Press

The BX Press is a cidery that opened in 2014 on East Vernon Road in the BX region. They have created 4 hand-crafted ciders that have received an excellent response in their short time under production. The owners are third-generation farmers on that land growing apples that are used in the ciders they produce. The cidery hosts a tasting room on site to sample ciders and, when they are sold out, offer fresh apples for sale as well. They also sell to a number of local liquor stores and restaurants in both Vernon and Kelowna. Find out more about The BX Press here: http://thebxpress.com/

Davison Orchards

Davison Orchards is also located on Bella Vista Road in Vernon and is a family business has grown substantially over the last 60 years. There are currently three generations living and working together on the farm. The farm produces a wide variety of tree fruits that they process on site into value-added products such as preserves, baked goods, syrups and much more. They also produce mixed vegetables on site with u-pick options. The family has capitalized on their agritourism capacity by providing a café, store, petting farm, play area and tours for visitors. They employ a large number of individuals from the local community. You can learn more about Davison Orchards on their website at: http://www.davisonorchards.ca/.

Blue Roots Farm

Blue Roots Farm is located in the Cowichan Valley in the Glenora area. They are currently developing an aquaponics operation that will include rainbow trout. Presently, they are producing leafy greens, microgreens, and culinary herbs through a hydroponic Zipgro tower system. These products are being marketing to commercial clients that operate restaurants, food trucks, juice bars, and grocery stores, mainly in the Victoria area. Unlike the produce typically available from one of the large distribution companies, they deliver their product directly to their customers within 24 hours of harvest so it is fresh, vibrant, and full of nutrients. They engage in contract growing arrangements to grow custom artisanal salad blends, hard to find ingredients, and just plain amazing produce. More information and a short video about their system can be found at: https://bluerootsfarm.ca/

New York Wine and Culinary Centre

The New York Wine and Culinary Centre is run by a non-profit organization located in the Finger Lakes on the Canandaigua Lake Pier. The facility includes a Hands-On kitchen, demonstration theatre, tasting room, private dining room, taste of New York boutique, and restaurant. The Centre is designed to educate, engage, and excite people in a celebration of New York's incredible beverage, agriculture, and culinary industries and involves partnerships with farmers, wineries, breweries, distilleries, artisans, and entrepreneurs. They also have a community kitchen where culinary classes are offered and a tasting room on site with wine and beer sales. The space is open to private gatherings and events such as team-building cooking classes. There is also a Bistro on the top floor overlooking the lake, which serves locally sourced ingredients and beverages. Additionally, they have a culinary boutique and food truck that travels to events and farmers' markets in the area. **https://www.nywcc.com/**

Nelson Farms – Morrisville State College – New York

Nelson Farms is located at Morrisville State College in New York and provides a place for entrepreneurial agri-business opportunities for specialty food processors, farmers, growers, and producers. The Nelson Farms Country Store is also located on site and offers specialty food products produced in the kitchens of Nelson Farms (pancake, muffin and other mixes, syrups, jams and jellies, BBQ sauces, salsas, salad dressing, chocolates, etc.). Educational training is also offered in food safety for food processors. http://www.nelsonfarms.org/index.aspx

Retail Success

Cow-Op.ca

The Cowichan Valley Cooperative Marketplace (CVCM) in partnership with Cowichan Green Community established the Cow-op.ca. The CVCM is a non-profit cooperative made up of local farmers, business owners, and community partners. As part of the development of a food hub in the region, it was decided that an online marketplace would be a good first step to promote food sustainability, farm viability, and consumer access to local food in the Cowichan region. The Cow-op marketplace features a variety of produce, meat, eggs, seafood, cheeses, honey and more that are grown and produced throughout Cowichan. The service is open to anyone, including retailers and wholesalers and the system accepts VISA and Mastercard for ease of use.

The market opens every Friday at noon and closes Tuesday at midnight. The orders are emailed to the farmers on Wednesday morning and delivered to the pick-up location on Thursday morning. Any orders that are not picked up are donated to the local Food Bank or Soup Kitchen. More information about the Cow-op can be found at: http://www.cow-op.ca/.

Mayne Island Farm Gate Store

The Mayne Island Farm Gate Store is operated by Deacon Vale Farm. The store offers a variety of food staples as well as prepared foods and preserves from Deacon Vale. The store purchases from other local farms on Mayne Island when possible, as well as suppliers from Vancouver Island to supplement their own farm produce and meat. The store also features a deli that offers prepared foods and lunch items. Deacon Vale Farm produces a wide variety of crops and meat, including pork, lamb, beef and chicken. The farm also produce a wide variety of value-added products including: tomato sauce, relish, pickles, chutney, jellies, and jams. More information about the Farm Gate Store can be found here: http://www.farmgatestore.com/.

Islands West Produce

Islands West Produce is a wholesale produce and distribution centre. They provide fresh fruit, vegetables, and herbs to grocery stores, restaurants, hotels, hospitals, schools and Government facilities. They also have a fruit and vegetable processing facility where they produce salad varieties, stir fry mixes and other cut vegetable mixes. They offer an online ordering system for their customers, which can be accessed 24 hours a day. Their local sheet provides a breakdown of produce they purchase locally and from what farms. They aslo offer a market newsletter that provides background information on their suppliers, what is in season, and what is currently in stock. http://www.islandswest.com/index.htm

Appendix II: Growing Conditions of the Lillooet Area

There are no serious biophysical limitations to growing a diversity of crops in the Lillooet area, as detailed in the background report of the 2014 Agricultural Plan. The Coast Mountains prevent the flow of moist air into the Lillooet area and traps the movement of cold Arctic air from the Interior to the Coast. As a result, the climate is generally dry with periods of intense cold during winter months. Inversions and deep fog are common during the fall and winter. Information regarding weather and growing degree days are summarized here.

At the Environment Canada weather station in Lillooet, total annual rainfall has been recorded as 297.1 mm with total annual snowfall at 32.4 cm. Unlike coastal regions, rainfall is fairly consistent year round, with slightly less rain during spring months (February to May) and slightly more rain and snow during November, December, and January. From an agricultural perspective, there is likely not enough rainfall in the summer, requiring irrigation systems to be kept in place. Other climatic characteristics based on climate normals data from 1970-2001 at the Lillooet weather station include:

TABLE 23. WEATHER CHARACTERISTICS IN LILLOOET (ENVIRONMENT CANADA, 2013).

	Lillooet
Station Elevation (m)	198.10
Longitude	121°55'27.000" W
Latitude	50°40'24.000" N
Days per year with minimum temperatures less than 0°C	123.7
Days per year with maximum temperatures greater than 20°C	122.1
Days per year with maximum temperatures greater than 0°C	325.3
Days per year of rain	94.2
Days per year of snow	11.0
Degree days greater than 10°C	1307.1
Degree days greater than 5°C	2337.4

Growing degree days (GDD) is a weather-based indicator for assessing crop development potential. It is a measure of heat accumulation used to predict plant and pest development rates such as the date that a crop reaches maturity. Daily growing degree day values are added together from the beginning of the season, providing an indication of the energy available for plant growth. Growing degrees are defined as the mean daily temperature (average of daily maximum and minimum temperatures) above a certain threshold base temperature accumulated on a daily basis over a period of time. GDD units can be used to assess the suitability of a region for production of a particular crop; estimate the growth-stages of crops, weeds or the life stages of insects; predict maturity and cutting dates of forage crops; estimate the heat stress on crops; plan spacing of planting dates to produce separate harvest dates. The following GDDs are calculated for the Lillooet region using a base temperature of 10°C (Table 17).

TABLE 24. GROWING DEGREE DAYS (GDDS) FOR THE LILLOOET AREA (ENVIRONMENT CANADA, 2013).

Month	Lillooet
January	0
February	0
March	0
April	0
May	136.4
June	252.0
July	350.3
August	341.0
September	171.0
October	0
November	0
December	0
TOTAL	1,250.7