

# *Growing Knowledge*



Ministry of  
Agriculture

## *Agricultural Land Use Inventory*

Reference Number: 800.510-24.2013

# Fraser Valley Regional District Agricultural Land Use Inventory Summer 2011 – 2013



Strengthening Farming Program  
Ministry of Agriculture  
February 3, 2016

## Acknowledgments

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## Related Fraser Valley Publications

Agricultural Land Use Inventory – Fraser Valley Regional District Electoral Area G 2011  
Agricultural Land Use Inventory – Fraser Valley Regional District Electoral Area F 2011  
Agricultural Land Use Inventory – District of Mission 2011  
Agricultural Land Use Inventory – City of Abbotsford 2012  
Agricultural Land Use Inventory – City of Chilliwack 2012  
Agricultural Land Use Inventory – District of Kent 2013  
Agricultural Land Use Inventory – Fraser Valley Regional District East 2013<sup>1</sup>

## Acronyms

AGRI	BC Ministry of Agriculture
ALR	Agricultural Land Reserve
ALUI	Agricultural Land Use Inventory
FVRD	Fraser Valley Regional District
GIS	Geographic Information Systems
OCP	Official Community Plan

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<sup>1</sup> The Fraser Valley Regional District East ALUI includes the Village of Harrison Hot Springs, the District of Hope and the Electoral Areas of A, B, C, D, E and H.

## Executive Summary

In the summers of 2011, 2012, and 2013, the BC Ministry of Agriculture conducted a series of Agricultural Land Use Inventories (ALUIs) in the Fraser Valley Regional District (FVRD). Inventories took place in each of FVRD's eight electoral areas and six member municipalities. The following 6 jurisdictions have a specific ALUI document published: Abbotsford, Chilliwack, Kent, Mission, Electoral Area F and Electoral Area G. The following 8 jurisdictions have their ALUI results published in the FVRD – East Agricultural Land Use Inventory document: Electoral Areas A, B, C, D, E, H, Harrison Hot Springs, and Hope.

The Fraser Valley Regional District ALUI combines and summarizes data from FVRD's 14 jurisdictions to give a picture of agriculture across the Regional District. The ALUIs in the Fraser Valley had several funding partners including Fraser Valley Regional District and Mission Community Services Society.

ALUIs can be used to understand the type and extent of agricultural activities within the ALR. The ALUI data quantifies how much land is currently used for agriculture, how much land is unavailable for agriculture, and how much land may have potential for agricultural expansion. The data provides baseline information that can be used to track trends in agricultural land use and to measure changes over time. The data also enables the estimation of agricultural water requirements through the use of an irrigation water demand model.

### **Area of Interest and Methodology**

Included in the inventory were all parcels:

- completely or partially within the ALR, or
- classified by BC Assessment as having “Farm” status for tax assessment, or
- zoned by local government bylaws to permit agriculture, and greater than 1 acre (approximately 0.4 ha) and showing signs of agriculture on aerial photography.

The ALR in FVRD consists of 71,645 ha. Of this area:

- 79% or 56,436 ha met one of the inventory criteria and was included in the survey
- 11% or 8,287 ha was outside of legally surveyed parcels in rights-of-way, water, foreshore, or unsurveyed Crown land and was not inventoried.
- 10% or 6,922 ha was in Indian reserves.

This report focuses on the 79% or 56,436 ha of the ALR that is within legally surveyed parcels and outside of Indian reserves. This 79% is considered the “effective ALR” as local and provincial governments have an opportunity to influence land use decisions on this area. Although 10% of the ALR on Indian reserves was also inventoried, the findings are presented separately in Appendix A due to differences in the level of governance.

The ALUI was conducted using visual interpretation of aerial imagery combined with a drive-by “windshield” survey to capture a snapshot in time of land use and land cover. Land cover is defined as the biophysical material at the surface of the earth while land use is defined as how people utilize the land.

### **Land Cover and Farming Activities**

In the ALR by land cover, 67% of the effective ALR was farmed (37,669 ha), 9% of the effective ALR (5,363 ha) was otherwise anthropogenically modified in vegetation, waterbodies, buildings, and roads, and 24% of the effective ALR (13,404 ha) was in a natural or semi-natural state. An additional 1,076 ha of land outside the ALR was farmed.

Of the farmed land cover in FVRD, 46% occurs in Abbotsford and 30% occurs in Chilliwack. Area G has the largest proportion of its ALR in farmed land cover (78%), followed by Kent with 76% and Chilliwack with 75%. These jurisdictions are best utilizing their ALR for farming purposes.

The Fraser Valley has strong agricultural attributes that include good quality soil, an abundance of good quality water and a moderate climate. The region has an extended agricultural history and has among the highest average farm revenues per hectare in the province.

There are 36,443 ha of cultivated field crops in FVRD in 13 crop categories (35,486 ha in the ALR and 957 ha area outside the ALR). Forage & pasture was the most common crop type accounting for 70% of all cultivated land. Berries were the next most common with 16% of the cultivated land, followed by vegetables with 5% and nursery crops with 4%. Abbotsford has the highest proportion of FVRD's cultivated crops with 45% followed by Chilliwack with 30% and Kent and Electoral Area G each with 9%.

A total of 25,517 ha of forage crops were recorded in FVRD: 19,962 ha were used for forage (55% of all cultivated crops), 4,573 ha were used for pasture (13% of all cultivated crops), 581 ha were used for both forage and pasture and 400 ha were unused or unmaintained.

A total of 5,752 ha of berry crops were recorded in FVRD. The top berry crops included blueberries with 3,964 ha, raspberries with 1,274 ha and mixed berries with 297 ha. Seventy-eight percent (78%) of all berry crops are located in Abbotsford.

A total of 1,940 ha of vegetable crops were recorded in FVRD. The main vegetable crops were sweet corn with 501 ha, mixed vegetables with 382 ha, potatoes with 354 ha and Cole crops with 315 ha. Sixty-eight percent (68%) of the vegetable crops occur in Abbotsford and 30% occur in Chilliwack.

In addition to the cultivated crops, there were 262 ha in greenhouses and crop barns: 123 ha were in poly greenhouses, 111 ha were in glass greenhouses and 28 ha were in crop barns. In total, 59% of the greenhouse and crop barn area was in Abbotsford, 23% was in Chilliwack, 9% was in Electoral Area F, and 8% was in Electoral Area G.

Irrigation use was captured by crop type and irrigation system type to aid in developing a water demand model for agriculture. In total, 42% of FVRD's cultivated field crops utilize irrigation. Giant gun systems (7,551 ha) were the most common and were found primarily on forage & pasture and vegetable crops. Trickle systems were the next most common and were found primarily on berry crops. Sprinkler systems were the third most common and were found on nearly all crop types.

### **Livestock**

Livestock activities were recorded, but were difficult to measure using a windshield survey. Livestock may not be visible if they are housed in barns, or are on another land parcel. The inventory data does not identify animal movement between parcels that make up a farm unit, but reports livestock at the parcel where the animals or related structures were observed. No actual livestock numbers were obtainable through the survey, so the results are reported as a range in terms of animal unit equivalents for each parcel.

In the Fraser Valley Regional District, poultry, dairy, equine and beef are the most common types of livestock. Poultry accounts for 49% of the estimated animal unit equivalents (AUEs). Dairy accounts for 34% of the AUEs, equine accounts for 8%, beef accounts for 4%, and swine accounts for 2%.

Equines had the greatest number of individual occurrences, however, most equine operations had only a few animals.

Intensive activities utilize specialized structures for confined feeding at higher stocking densities. Nearly all of the poultry estimated AUEs (98%) are associated with intensive facilities. The remaining birds are associated primarily with backyard or small scale flocks. Dairy also has a high proportion of its estimated AUEs associated with intensive facilities (94%). In comparison, all equine and 78% of the beef estimated AUEs are considered “Non-intensive”.

The majority of the poultry estimated AUEs occur in Abbotsford (63%) and Chilliwack (34%). Nearly all of the estimated dairy AUEs occur in 4 jurisdictions: Chilliwack (39%), Abbotsford (38%), Area G (11%) and Kent (9%). Equine estimated AUEs have a broader distribution across FVRD jurisdictions.

### **ALR Utilization**

Land use was applied on a parcel basis. To determine land use, the entire parcel was examined and a “Used for farming” or “Not used for farming” category was assigned based on the percentage of the parcel in cultivated crops, farm infrastructure, and/or the scale of livestock production. Refer to the glossary for the “**Used for farming**” definition. In the ALR by land use, 54% of the parcels were “Used for farming” (5,312 parcels) and 46% of the parcels were “Not used for farming” (4,578 parcels). The average “Used for farming” parcel size was 8 ha while the average “Not used for farming” parcel size was much smaller at 4 ha. In addition, of all “Not used for farming” ALR parcels, 71% have a residential use.

### **ALR Availability**

Land cover, land use, and physical site limitations (topography, flooding, etc.) were used to assess how much land is available and may have potential for farming in the future. Of the effective ALR (56,436 ha), 67% was actively farmed or supporting farming (e.g. crops, barns, farm houses, farm roads, farm buildings, etc.). Another 8% was unavailable for farming due to an existing land use or land cover (parks, industrial buildings, wetlands, non-farm residences, etc.) and 7% had limited potential for farming due to a physical site limitations such as topography or flooding. That leaves 18% of the ALR (9,943 ha) that is available and may have the potential to be developed for agriculture.

Despite having 18% (9,943 ha) of the ALR available and with potential for farming, most of this land is comprised of relatively small areas. Thirty percent of the available land cover (3,015 ha) occurs on parcels that are already “Used for farming” and offers little opportunity to new farming entrants. In total, there are 1,754 ALR parcels that are not currently farmed and are available for farming. A parcel is considered to be available for farming if it is not already “Used for farming”, it has at least 50% of its area and at least 0.4 ha in land that is available for farming. Ownership and cost are not considered when assessing parcel availability. Of the available parcels:

- 629 parcels (36%) are less than 2 ha in size,
- 1,219 parcels (69%) are less than 4 ha in size.
- 535 parcels (31%) are greater than 4 ha in size.
- 69 parcels (4%) are greater than 16 ha in size.

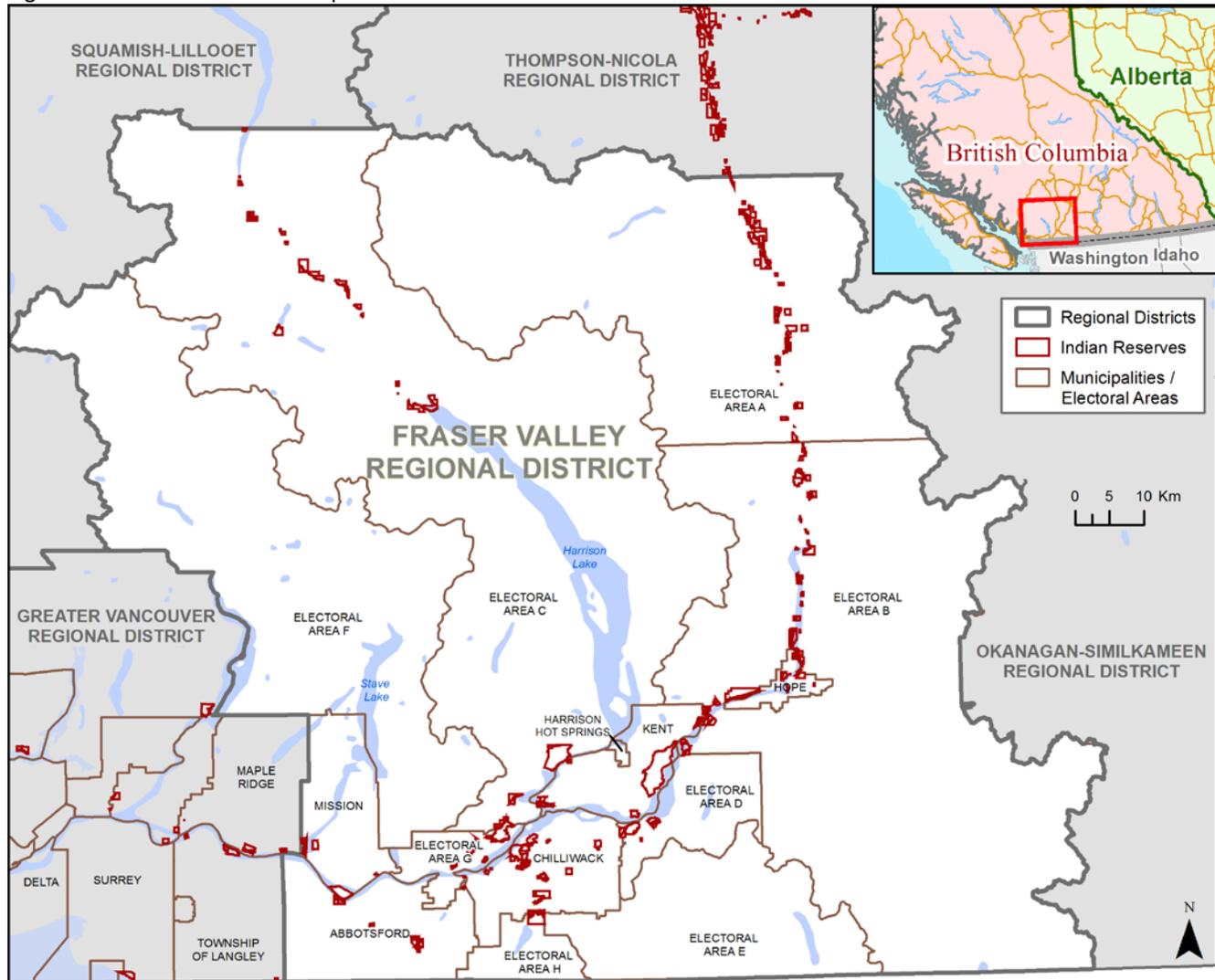
There is evidence that small parcels are less likely than larger parcels to be utilized for farming. In FVRD there are 2,602 ALR parcels less than 1 ha. Of these parcels, 16% (410 parcels) are “Used for farming”, 258 parcel (10%) are “Not used for farming but are available”, and 1,934 (74%) are “Not used for farming and are unavailable”. Furthermore, parcels less than 1 ha comprise 68% of all parcels considered unavailable for farming.

# 1. General Information

Fraser Valley Regional District (FVRD) is comprised of 8 electoral areas (A – H) and 6 member municipalities (Abbotsford, Chilliwack, Hope, Kent, Mission, Harrison Hot Springs). The region is home to some of the most agriculturally productive land in the country and boasts many attributes that are amenable to agriculture. The region also has many attributes that make it a desirable place to live. In 2011, FVRD had a population of 277,593<sup>2</sup>. FVRD is growing quickly and experienced a population growth rate of 8% between the 2006 and 2011 census years. The Regional District has a total area of 1,393,540 ha<sup>3</sup>, with 1,344,765 ha in land and 44,132 ha in waterbodies and watercourses.

Agricultural Land Use Inventories (ALUIs) provide data to help understand the current extent of agricultural activities. ALUIs have been conducted in each of FVRDs electoral areas and member municipalities. Individual ALUI reports have been published for the municipalities of Abbotsford, Chilliwack, Kent, Mission and for the Electoral Areas F and G. ALUI findings for the remaining electoral areas of A, B, C, D, E, H and Hope and Harrison Hot Springs are published under jurisdiction subheadings in the FVRD – East ALUI report.

Figure 1. General location map



<sup>2</sup> Statistics Canada, 2011 Census; <http://www12.statcan.gc.ca/census-recensement/index-eng.cfm>

<sup>3</sup> Calculated in GIS.

## AGRICULTURAL LAND RESERVE

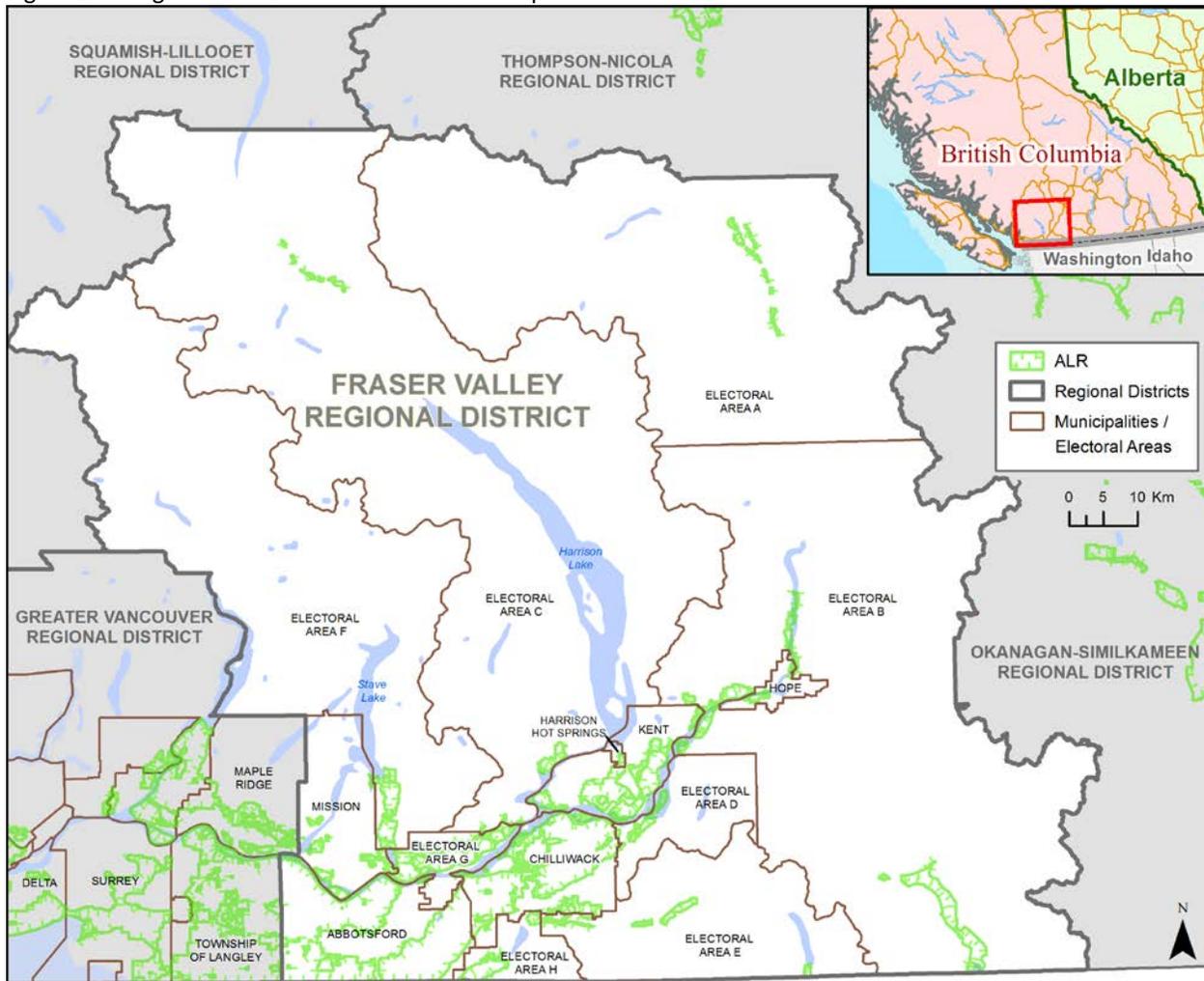
The Agricultural Land Reserve (ALR) is a provincial land use zone that was designated in 1973 in which agriculture is recognized as the priority use. Within the ALR, farming is encouraged and non-agricultural uses are controlled.

Based on Agricultural Land Commission statistics, there were 71,865 ha<sup>4</sup> of ALR land in FVRD in 2011 (see Figure 2). When calculating the ALR area in GIS, AGRI found the total area to be 71,645 ha. This difference of 220 ha, or 0.3% of the total ALR area, comes from differences in GIS calculation methods.

FVRD has a total land area of 1,344,765<sup>5</sup> ha, however, only 128,463<sup>5</sup> ha are in legally surveyed parcels. With 71,645 ha in the ALR, 5% of FVRD's total land area is in the ALR, and 64% of the legally surveyed parcel area is in the ALR. The ALR area includes:

- 56,436 ha on inventoried parcels
- 6,922 ha on Indian reserves
- 8,287 ha outside legally surveyed parcels (rights-of-way, water, foreshore, unsurveyed Crown land)

Figure 2. Agricultural Land Reserve location map



<sup>4</sup> Provincial Agricultural Land Commission (ALC), Library, ALC Reports, Annual Report 2009/10 & 2010/11 Pg 39. <http://www.alc.gov.bc.ca>

<sup>5</sup> Calculated in GIS.

Table 1. ALR inventory area by jurisdiction

Jurisdiction	% of FVRD's ALR area	Inventoried ALR area	
		In ALR (ha)	% of effective ALR*
Abbotsford	36 %	25,858	46 %
Chilliwack	21 %	14,971	27 %
Kent	6 %	4,192	7 %
Area G	6 %	4,183	7 %
Area F	3 %	2,107	4 %
Area H	2 %	1,353	2 %
Mission	1 %	1,034	2 %
Area B	1 %	868	2 %
Area D	<1 %	493	1 %
Area A	<1 %	397	1 %
Area E	<1 %	340	<1 %
Hope	<1 %	302	<1 %
Area C	<1 %	208	<1 %
Harrison Hot Springs	<1 %	129	<1 %
<b>TOTAL</b>	<b>79 %</b>	<b>56,436</b>	<b>100 %</b>
Outside legal parcels	11 %	8,287	
Indian reserves	10 %	6,922	
<b>TOTAL</b>	<b>100 %</b>	<b>71,645</b>	

\* Effective ALR is the total ALR area excluding ALR on Indian reserves and ALR outside of legally surveyed parcels.

Table 1 details the inventoried ALR area by jurisdiction. There is ALR in each of the FVRD's eight electoral areas and six municipalities.

FVRD's total ALR area includes:

- 8,287 ha that is outside of legally surveyed parcels in rights-of-way, water, foreshore, and unsurveyed Crown land
- 6,922 ha on Indian reserves

These areas are not included in the "effective ALR". The effective ALR is the total ALR area, excluding land outside of legally surveyed parcels and excluding land on Indian reserves.

Abbotsford has the most ALR land with 46% of the effective ALR, followed by Chilliwack with 27%.

Figure 3. Proportion of ALR land by category

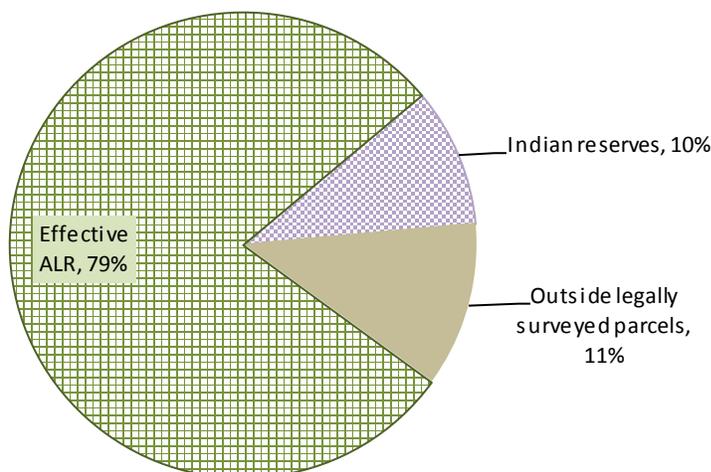


Figure 3 shows the proportion of different categories of ALR land.

Of FVRD's ALR, 10% is on Indian reserves (refer to Appendix A) and 11% is outside of legally surveyed parcels in rights-of-ways, water, foreshore and unsurveyed Crown land.

The remaining 79% is considered the "effective ALR" and is the basis of this report.

## INVENTORY AREA

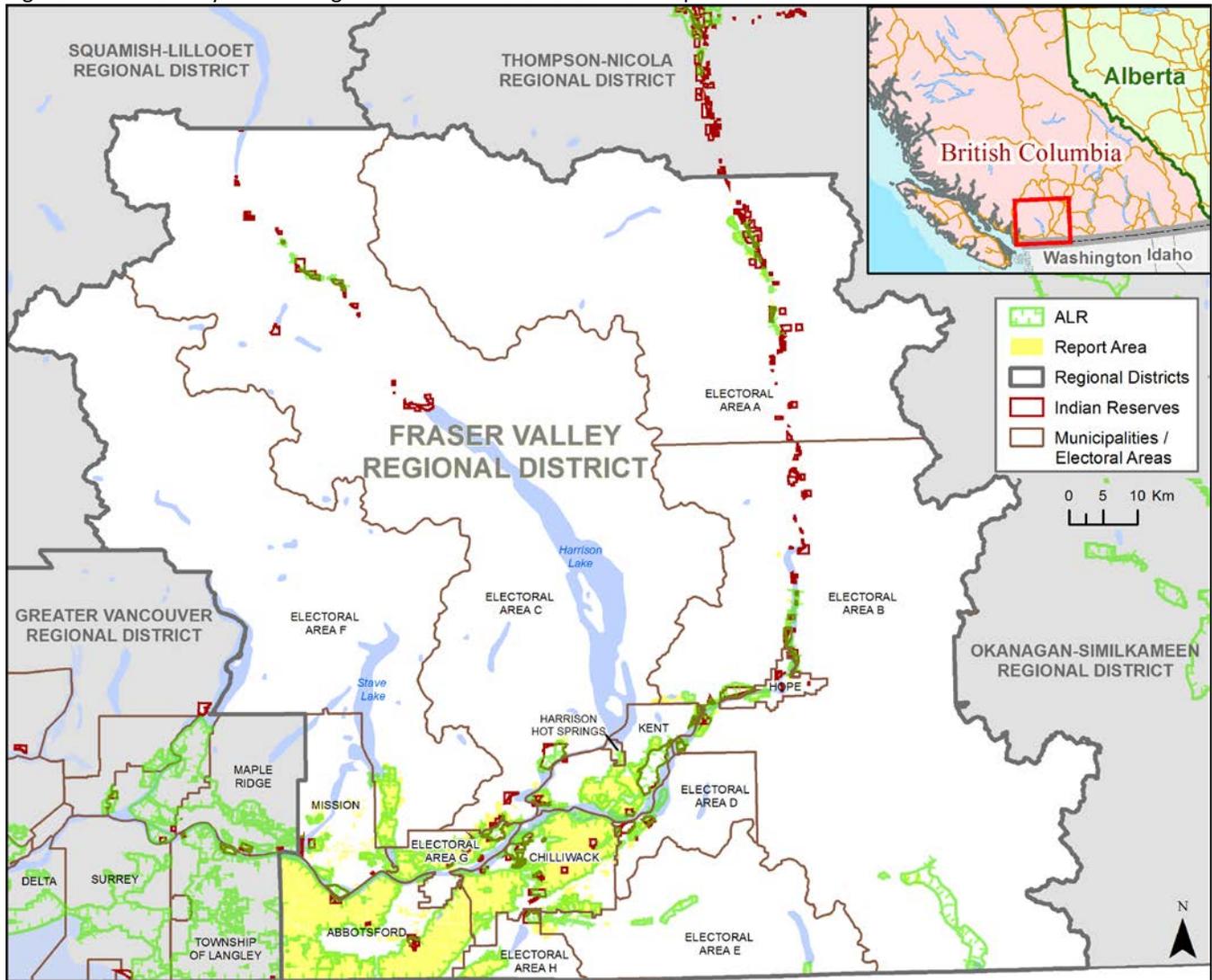
The total inventory area (excluding Indian reserves) encompasses 11,578 parcels with a combined area of 67,780 ha. Included were all parcels:

- completely or partially within the Agricultural Land Reserve, or
- classified by BC Assessment as having “Farm” status for property tax assessment, or
- zoned to permit agriculture by local government bylaws and/or exhibiting signs of agriculture on aerial photography

The amount of ALR land included in the inventory area is 56,436 ha located on 10,160 parcels. The other 1,418 inventoried parcels were completely outside the ALR but had either Farm status or signs of agriculture.

In addition, Indian reserves were inventoried if they met one of the above inventory criteria. A total of 6,527 ha associated with 26 First Nations was inventoried (5,781 ha in the ALR and 745 ha outside). ALUI findings for these areas are presented in Appendix A due to differences in levels of governance.

Figure 4. Inventory area and Agricultural Land Reserve location map



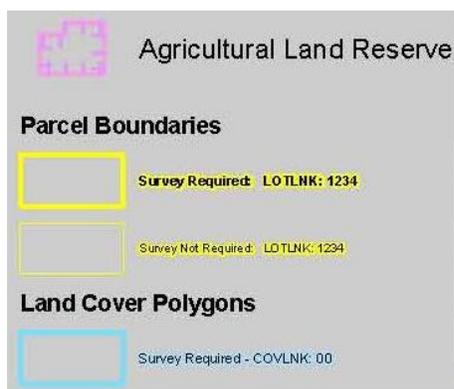
## 2. Methodology

### INVENTORY METHODOLOGY

AgFocus is an Agricultural Land Use Inventory System developed by BC Ministry of Agriculture's Strengthening Farming Program. AgFocus employs a "windshield" survey method designed to capture a snapshot in time of land use and land cover on legal parcels. For more information on AgFocus, please refer to these documents available from the Strengthening Farming Program:

- AgFocus – A Surveyor's Guide to Conducting an Agricultural Land Use Inventory
- AgFocus – Field Guide to Conducting an Agricultural Land Use Inventory
- AgFocus – A GIS Analyst's Guide to Agricultural Land Use Inventory Data

The Fraser Valley Regional District Agricultural Land Use Inventory project is comprised of a series of ALUIs in 14 FVRD jurisdictions. The inventories were conducted in the summers of 2011, 2012, and 2013 by professional agrologists. A GIS technician and driver<sup>6</sup> assisted the agrologist for each inventory area. The survey crew visited each property and observed land use, land cover, and agriculture activity from the road. Where visibility was limited, data was interpreted from aerial photography in combination with local knowledge. The technician entered the survey data into a database on a laptop computer.



Field survey maps provided the basis for the survey and included:

- The legal parcel boundaries (cadastre)<sup>7</sup>
- Unique identifier for each legal parcel
- The preliminary land cover polygon boundaries (digitized prior to field survey using aerial photography)
- Unique identifier for each preliminary land cover polygon
- The boundary of the Agricultural Land Reserve (ALR)
- Base features such as streets, street names, watercourses and contours
- Aerial photography



<sup>6</sup> Vehicle and drivers provided by Fraser Valley Regional District.

<sup>7</sup> Cadastre mapping was provided by Fraser Valley Regional District, City of Chilliwack, District of Kent, and the Integrated Cadastral Information Society.

## DESCRIPTION OF THE DATA

For each property in the study area, data was collected on general land use and land cover. For properties with agriculture present, data was collected on agricultural practices, irrigation, crop production methods, livestock, agricultural support (storage, compost, waste), and activities which add value to raw agricultural products.

Once acquired through the survey, the data was brought into a Geographic Information System (GIS) to facilitate analysis and mapping. Digital data, in the form of a tabular database and GIS spatial layers (for maps), may be available with certain restrictions through a terms of use agreement.

### General land use:

Up to two general land uses (e.g. residential, commercial) were recorded for each property based on an assessment of overall economic importance, the property's tax status, and/or the extent of the land use. The survey for general land use focuses solely on human use and considers:

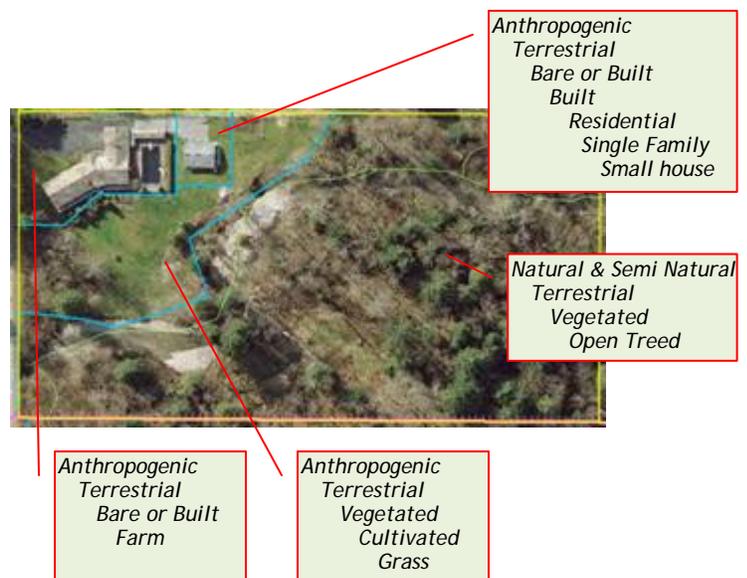
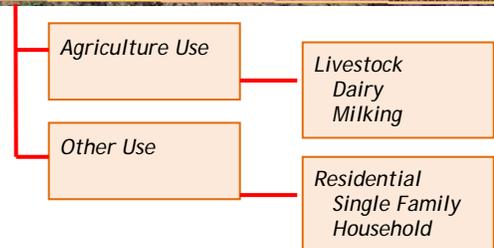
- The actual human use of land and related structures and modifications to the landscape
- Use-related land cover (where land cover implies a use or is important to interpreting patterns of use)
- Declared interests in the land (which may limit use) such as parks

In addition, the availability of properties for future farming was assessed based on the amount of potential land for farming on the property and the compatibility of existing uses with future farming activities.

### Land cover:

Land cover refers to the biophysical features of the land (e.g. crops, buildings, forested areas, woodlots, streams). Land cover was surveyed by separating the parcel into homogeneous components and assigning each a description. Prior to field survey, polygons were delineated in the office using orthophotography. Further delineation occurred during the field survey until one of the following was achieved:

- Minimum polygon size (500 sq m ~5400 sq ft) or minimum polygon width (10 m ~33 ft)
- Polygon is homogeneous in physical cover and homogeneous in irrigation method
- Maximum level of detail required was reached



In most cases, more than one land cover was recorded for each parcel surveyed.

*Agricultural practices:* Surveyors recorded agricultural practices associated with crops or livestock activities. For example, if a forage crop was being harvested for hay, it was recorded. Irrigation was also recorded, including the type of system used.

*Agricultural crop production:* Crop production and crop protection methods observed on the parcel were recorded such as wildlife scare devices, temperature or light control, or organic production. Organic production is not always visible and may have been recorded based on local knowledge or farmer interviews.

*Livestock:* Livestock operations and confinement methods along with the scale of the activity were estimated and recorded. Livestock not visible at the time of survey may have been inferred based on grazed pastures, manure storage, size of barn and other evidence.

*Agricultural support:* Ancillary agricultural activities, such as storage, compost or waste, supporting the production of a raw commodity on a farm unit were recorded.

*Agricultural value added:* Activities that add value to a raw commodity where at least 50% of the raw commodity is produced on the farm unit were recorded. This value-added activity included processing, direct sales and agri-tourism activities.

## ***PRESENTATION OF THE DATA***

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The data is presented in the form of summarized tables and charts. Absolute data values are preserved throughout the summarization process to maintain precision. In the final formatting of the summarized tables and charts, data values are rounded to the nearest whole number. As a result, data presented in the summarized tables and charts may not appear to add up correctly.

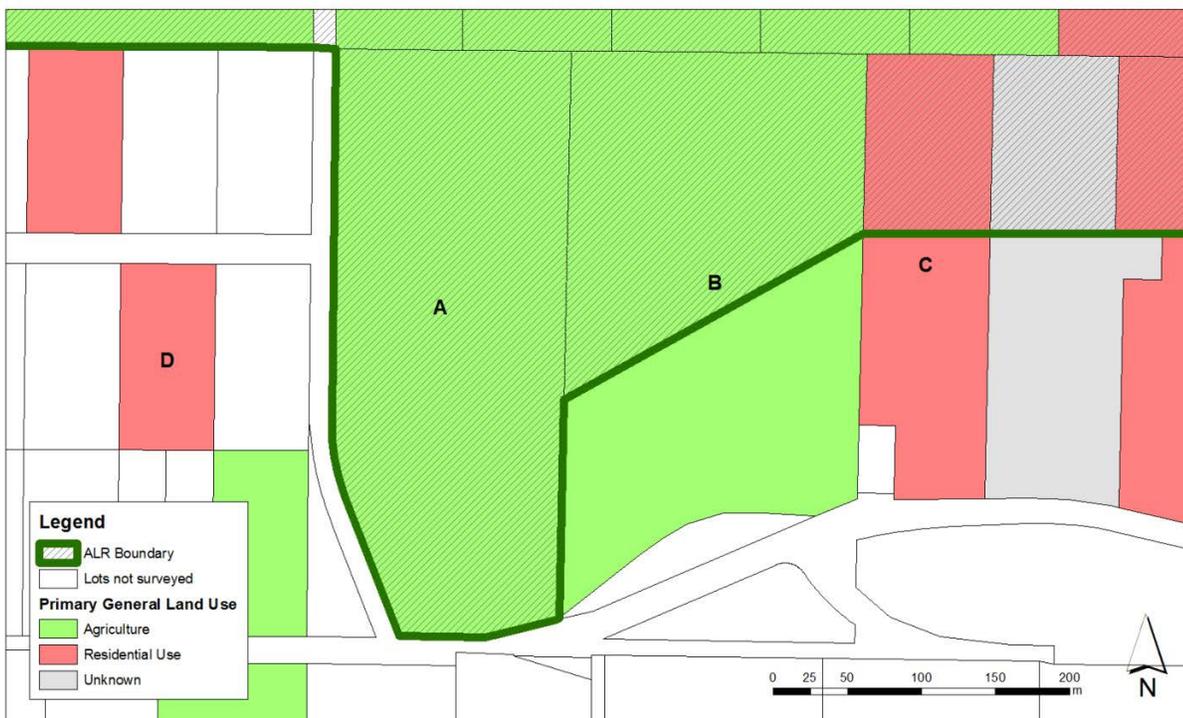
## ***DETERMINATION OF PARCELS WITHIN THE ALR***

Since much of the following analysis is parcel based, it is important to note that the ALR boundaries do not always align with parcel boundaries. As a result, many parcels have only a portion of their area in the ALR.

Figure 5 illustrates the frequent misalignment between parcel boundaries and the ALR boundary. Given that the dark green line represents the ALR boundary, Lot A is completely in the ALR and Lots B and C have a portion of their area in the ALR. Lot D is completely outside the ALR.

Many of the results presented in this report include 3 separate totals: the total parcel area, the portion of the parcel inside the ALR, and the portion of the parcel outside the ALR.

Figure 5. Parcel inclusion in the ALR



### 3. Land Cover and Farmed Area

Land cover describes the biophysical material at the surface of the earth and is distinct from land use which describes how people utilize the land. Land use is surveyed by assigning the parcel up to two land uses. Examples of land use include residential, commercial, and industrial. Refer to Section 5 for more information on land use.

Land cover is surveyed by separating the parcel into homogeneous components and assigning each a description such as landscape lawn, natural open treed, natural waterbody, blueberries, road, or small single family house. Most surveyed parcels have numerous different land cover types with each describing a different area of the parcel. Land cover more closely approximates the actual area of land in agricultural production or “Farmed” than land use.

Four land cover types are considered “Farmed”:

- **Cultivated field crops:** vegetation under cultivation for harvest or pasture including land temporarily set aside from farming and perennial crops that were not harvested or grazed in the current growing season
- **Farm infrastructure:** built structures associated with farming such as barns, stables, corrals, riding rings, and their associated yards
- **Greenhouses:** permanent enclosed glass or poly structures with or without climate control facilities for growing plants and vegetation under controlled environments
- **Crop barns:** permanent enclosed structures with non-translucent walls for growing crops such as mushrooms or bean sprouts

Forage and pasture field crops which have not been cut or grazed during the current growing season (unused), unmaintained field crops, and unmaintained greenhouses are considered “Farmed” land covers but are considered inactive.

Land cover types which may support farming, such as farm residences, vegetative buffers and farm road access, are not considered “Farmed” land cover.

Table 2. Land cover and farmed area

Land cover*		In ALR (ha)	% of effective ALR	Outside ALR (ha)	Total area (ha)
Actively farmed	Cultivated field crops	34,987	62%	928	35,914
	Farm Infrastructure	1,924	4%	115	2,040
	Greenhouses	229	< 1%	4	233
	Crop barns	28	< 1%	<1	28
Inactively farmed	Unused forage or pasture	343	< 1%	18	361
	Unmaintained field crops	157	< 1%	11	168
	Unmaintained greenhouses	2	< 1%	<1	2
<b>FARMED SUBTOTAL</b>		<b>37,669</b>	<b>67%</b>	<b>1,076</b>	<b>38,744</b>
Anthropogenic (not farmed)	Managed vegetation	2,405	4%		
	Residential footprint	1,163	2%		
	Non Built or Bare	533	1%		
	Transportation	378	1%		
	Settlement	326	< 1%		
	Waterbodies	311	< 1%		
	Utilities	226	< 1%		
	Built up - Other	21	< 1%		
<b>SUBTOTAL</b>		<b>5,363</b>	<b>9%</b>		
Natural and Semi-natural	Vegetated	11,989	21%		
	Wetlands & waterbodies	1,404	2%		
	Natural bare areas	11	< 1%		
<b>SUBTOTAL</b>		<b>13,404</b>	<b>24%</b>		
<b>TOTAL</b>		<b>56,436</b>	<b>100%</b>		

\* Refer to the glossary for terms used in this table.

Table 2 shows the extent of different land cover types across the ALR in FVRD.

In the ALR, there are 37,669 ha of "Farmed" land cover. Five-hundred of these ha are "inactively farmed" in unused or unmaintained crops.

An additional 1,076 ha of "Farmed" land cover outside the ALR was identified.

Figure 6. Land cover in FVRD's effective ALR

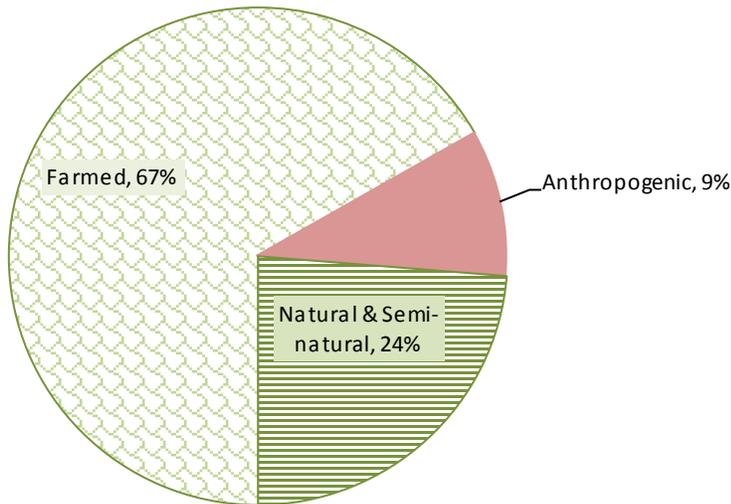


Figure 6 shows the proportion of different land cover categories across FVRD's effective ALR.

Sixty-seven percent (67%) of the effective ALR is in "Farmed" land cover.

Land used in support of farming such as farm residences, vegetative buffers or roadways is not included as farmed land cover.

Table 3. Land cover categories in the ALR by jurisdiction

Jurisdiction	Land Cover in the effective ALR						Total ALR area (ha)
	Farmed		Anthropogenic (not farmed)		Natural & Semi-natural		
	In ALR (ha)	% of FVRD ALR area	In ALR (ha)	% of FVRD ALR area	In ALR (ha)	% of FVRD ALR area	
Abbotsford	17,380	31%	2,832	5%	5,646	10%	25,858
Chilliwack	11,296	20%	1,620	3%	2,056	4%	14,971
Area G	3,246	6%	162	< 1%	775	1%	4,183
Kent	3,169	6%	294	< 1%	730	1%	4,192
Area H	668	1%	58	< 1%	627	1%	1,353
Area F	641	1%	119	< 1%	1,347	2%	2,107
Mission	400	1%	102	< 1%	532	1%	1,034
Area D	297	< 1%	16	< 1%	180	< 1%	493
Area B	235	< 1%	51	< 1%	582	1%	868
Hope	115	< 1%	66	< 1%	121	< 1%	302
Area E	112	< 1%	29	< 1%	199	< 1%	340
Area A	63	< 1%	11	< 1%	324	< 1%	397
Area C	47	< 1%	3	< 1%	158	< 1%	208
Harrison Hot Springs	-	-	<1	< 1%	129	< 1%	129
<b>TOTAL</b>	<b>37,669</b>	<b>67%</b>	<b>5,363</b>	<b>9%</b>	<b>13,404</b>	<b>24%</b>	<b>56,436</b>

Table 3 shows the proportion of each land cover category across FVRD’s ALR by jurisdiction. In total, 67% of FVRD’s ALR is in “Farmed” land cover.

Of all FVRD jurisdictions, Abbotsford has the greatest amount of farmed land cover in the ALR (17,380 ha and 31% of FVRD’s ALR area). Chilliwack is second with 11,296 ha of farmed land cover in the ALR and 20% of FVRD’s ALR area.

Electoral Area G and Kent each have 6% of FVRD’s ALR area in farmed land cover.

Refer to Figure 8 for a comparison of the jurisdictions that are best utilizing their ALR area for farming.

Figure 7. Farmed land cover in FVRD by jurisdiction

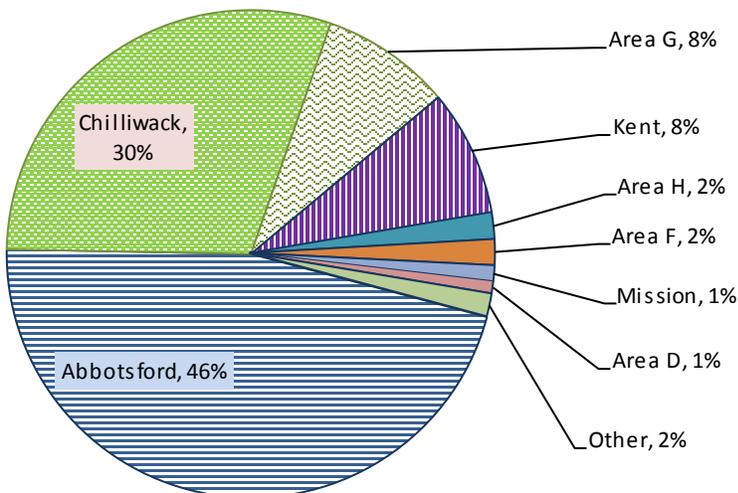


Figure 7 shows the location of the farmed land cover in FVRD’s ALR.

Of the 37,669 ha of farmed land cover in FVRD, 46% occurs in Abbotsford, 30% occurs in Chilliwack, and 8% occurs in each of Kent and Electoral Area G.

Figure 8. Proportion of land cover categories in the ALR by jurisdiction

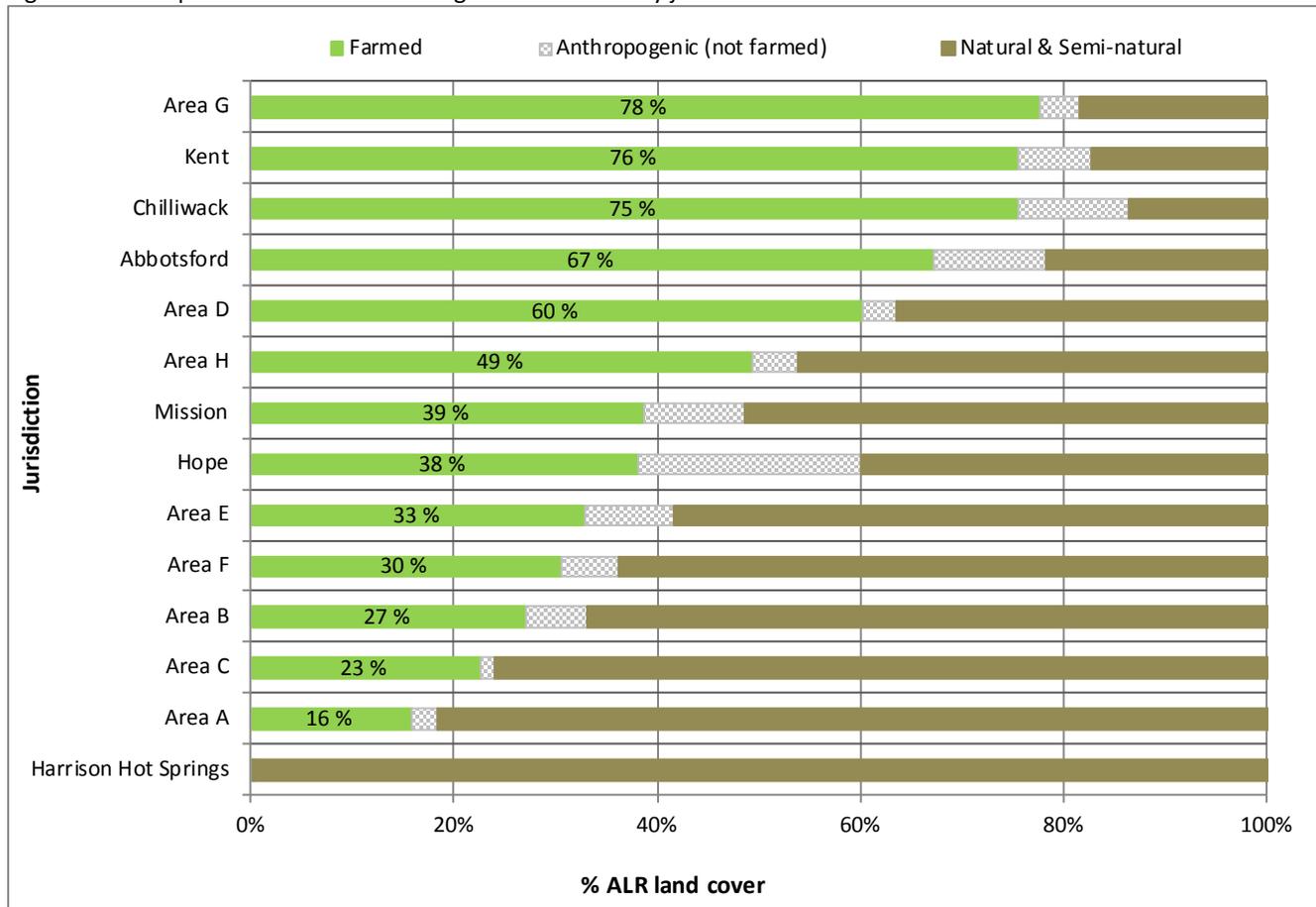


Figure 8 shows the proportion of ALR land in “Farmed”, anthropogenic (not farmed), and natural & semi-natural land cover by FVRD jurisdiction.

Electoral Area G, Kent, and Chilliwack are the jurisdictions which best utilize their ALR land for farming and have the highest proportions of farmed land cover.

Although Abbotsford has the greatest area in farmed land cover (refer to Table 3), the City ranks fourth when compared to other jurisdictions that utilize a higher proportion of their ALR land for farming.

One hundred percent of the effective ALR in Harrison Hot Springs is in “Natural and semi-natural” land cover. Area A, Area B, Area C, Area E, and Area F all also have large proportions of ALR in “Natural and semi-natural” land cover.

Hope has the highest proportion of “anthropogenic” (not farmed) land cover with 22% of the municipality’s effective ALR. Much of this is in managed vegetation and is associated with the Hope Regional Airpark.

Refer to Table 3 for the total area in each land cover category.

## STATUS OF THE EFFECTIVE ALR

Land cover, land use and physical site limitations (e.g. topography, flooding) were used to assess how much land is available and may have potential for farming in the future.

**Farmed** or supporting farming: includes “**actively farmed**” land cover as well as farm houses, farm roads, and other built structures on farmed parcels. Actively farmed land cover includes cultivated crops, farm infrastructure, greenhouses and crops barns, but excludes unused / unmaintained crops and greenhouses.

Not farmed – **unavailable for farming**: Areas where future agricultural development is improbable because of a conflicting land use or land cover. Examples of unavailable for farming land uses include golf courses, parks, and small lot residential. Examples of unavailable for farming land covers include wetlands, waterbodies, and industrial or commercial buildings.

Not farmed – **limited potential for farming**: land with significant physical or operational constraints to farming. Included are areas with steep terrain, rocky soils, riparian areas, or a very small (less than 0.4 ha) or awkward shape.

Not farmed – **available for farming**: areas that can be used for agriculture without displacing a current use. Includes natural and semi natural land cover, managed vegetation (managed for landscaping, dust or soil control), and non-built or bare areas. These areas must be free from physical and operational constraints.

Figure 9. Status of the effective ALR with respect to farming

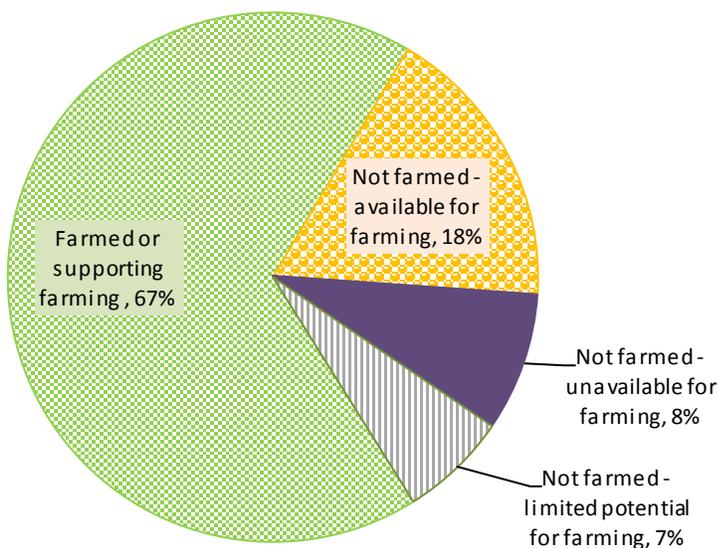


Figure 9 shows the status of the effective ALR in relation to farming in FVRD.

Sixty-seven percent (67%) of the effective ALR is actively farmed or is supporting farming.

Seven percent (7%) has limited potential for farming due to physical site limitations such as soils &/or topography and 8% is unavailable for farming due to an existing land use or land cover.

Another 18% is available and may have potential for farming as it is not limited by significant physical constraints or built areas.

Available for farming land cover is further described in Section 6: ALR Availability for Farming.

## 4. Farming Activities

### CULTIVATED FIELD CROPS

Cultivated field crops are captured in a geographical information system (GIS) at the field or land cover polygon level by crop type (e.g. vegetables, forage or pasture, berries). The total land area was then evaluated for each crop.

Included with cultivated field crops is fallow farmland, inactively farmed land (e.g. forage or pasture crops which have not been harvested or grazed this season) and land temporarily set aside for wildlife or other purposes. Also included is bare cultivated land or land under preparation for planting as it is assumed these lands will be planted during the survey season. Excluded are crops grown in crop cover structures such as greenhouses or mushroom barns.

Cultivated field crops in FVRD are described by thirteen crop groupings and are listed by descending order of significance:

- **Forage & pasture:** grass, mixed grass/legume, forage corn, forage cereal/peas.
- **Berries:** blueberries, raspberries, mixed berries, cranberries, blackberries, strawberries
- **Vegetables:** sweet corn, mixed vegetables, potatoes, Cole crops, carrots, legumes, cucurbits, misc. vegetables, leafy vegetables, Asian vegetables
- **Nursery:** ornamentals and shrubs, cedar hedging, mixed, forestry stock
- **Trees (plantation):** fibre/ pulp/ veneer trees, Christmas trees, Holly
- **Turf**
- **Other:** bare cultivated land (land that is tilled or plowed, but with no visible crop) , fallow land (cultivated land that has not been seeded or planted for one or more growing season), land in crop transition and land planted in cover grass or under mulch to manage soil moisture/erosion associated with a cultivated crop.
- **Nut trees:** hazelnut/filbert, walnut
- **Floriculture**
- **Cereals, pulses, oilseeds:** rye, barley, field peas, canola
- **Vines:** grapes, kiwis
- **Tree fruits:** apple, mixed
- **Specialty:** hops, rhubarb, medicinal plants

Figure 10. Main field crop types by percentage

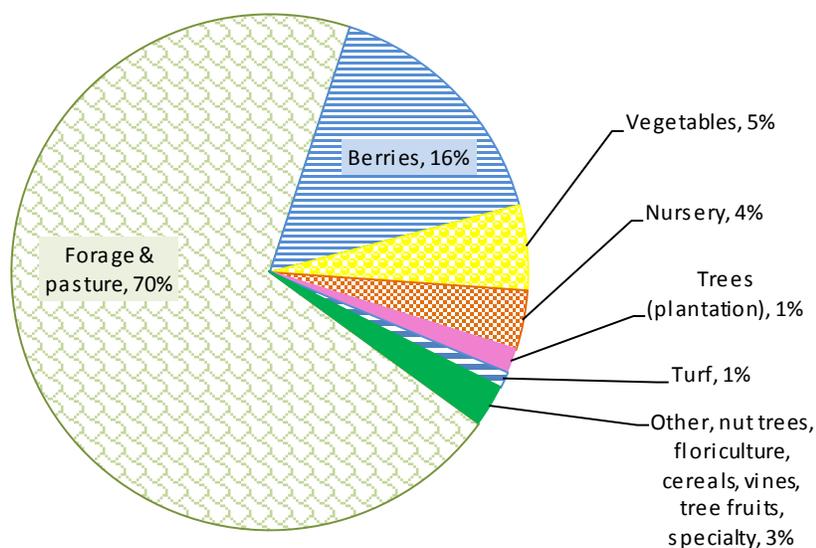


Figure 10 shows the proportion of the main field crop types across FVRD's cultivated land.

"Forage & pasture" combined with "berries" account for 86% of all cultivated land.

Table 4. Cultivated crop area by jurisdiction

Jurisdiction	Cultivated field crops (ha)			% of all cultivated land
	In ALR (ha)	Outside ALR (ha)	Total area (ha)	
Abbotsford	16,239	176	16,415	45%
Chilliwack	10,603	241	10,845	30%
Kent	3,073	83	3,156	9%
Area G	3,109	32	3,141	9%
Area H	649	15	664	2%
Area F	588	49	636	2%
Mission	384	197	581	2%
Area D	287	72	359	1%
Area B	228	18	246	< 1%
Area E	110	14	124	< 1%
Hope	111	9	120	< 1%
Area C	45	38	83	< 1%
Area A	61	12	72	< 1%
<b>TOTAL</b>	<b>35,486</b>	<b>957</b>	<b>36,443</b>	<b>100%</b>

Table 4 shows the distribution of cultivated crops by jurisdiction.

Abbotsford and Chilliwack have the greatest amounts of cultivated field crops. Combined, Abbotsford and Chilliwack contain 75% of the field crops in FVRD.

Table 5. Main field crop types by area

Jurisdiction	Cultivated crops (ha)												Total Area
	Forage & pasture	Berries & Vines	Vegetables	Nursery	Trees (plantation)	Turf	Other*	Nut trees	Floriculture	Cereals, pulses, oilseeds	Tree fruits	Specialty	
Abbotsford	9,498	4,547	1,307	344	63	235	178	16	157	48	20	<1	16,415
Chilliwack	8,411	576	588	894	93	-	61	137	9	52	12	10	10,845
Kent	2,746	154	40	46	75	-	6	83	-	5	2	-	3,156
Area G	2,619	297	2	62	4	142	3	<1	-	-	2	8	3,141
Area H	501	82	-	<1	25	-	39	6	3	-	<1	7	664
Area F	424	135	-	13	45	-	18	-	-	-	-	-	636
Mission	540	4	2	6	20	-	3	-	6	-	1	-	581
Area D	147	-	-	-	212	-	-	-	-	-	-	-	359
Area B	232	12	<1	<1	-	-	-	-	-	-	<1	-	246
Area E	122	-	-	-	1	-	-	-	-	-	-	-	124
Hope	119	-	-	-	-	-	<1	-	-	-	-	-	120
Area C	83	-	-	-	-	-	-	-	-	-	-	-	83
Area A	72	-	-	-	-	-	-	-	-	-	<1	-	72
<b>TOTAL</b>	<b>25,517</b>	<b>5,807</b>	<b>1,940</b>	<b>1,365</b>	<b>540</b>	<b>377</b>	<b>309</b>	<b>243</b>	<b>175</b>	<b>106</b>	<b>38</b>	<b>27</b>	<b>36,443</b>

\* Other. Includes bare cultivated land, fallow land (cultivated land that has not been seeded or planted for one or more growing season), land in crop transition, and land planted in cover grass or under mulch to manage soil moisture/erosion associated with a cultivated crop.

Table 5 details the crop types in each FVRD jurisdiction. Forage & pasture is the dominant crop type in most jurisdictions. In Electoral Area D, tree plantations are the dominant crop type followed by forage & pasture.

## Forage & pasture crops

Forage & pasture is the main crop type in the Fraser Valley Regional District.

- Forage is a cultivated crop that is cut and made into silage or hay for livestock feed.
- Pasture is a cultivated crop that is used for grazing only and is not cut.
- Forage & pasture is grazed for 1 - 3 months per year and is also cut for silage or hay.
- Unused forage or pasture has not been cut or grazed during the current growing season, but is in good condition. Unused crops are considered “Inactively farmed”.
- Unmaintained forage or pasture has not been cut or grazed during the current growing season, have not been maintained for several years, and probably would not warrant harvest. Unmaintained crops are considered “Inactively farmed”.

Figure 11. Forage & pasture types by percentage

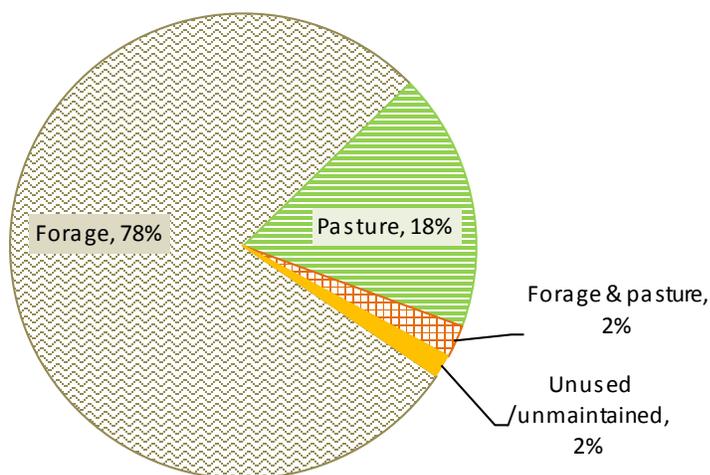


Figure 11 shows the proportion of forage & pasture types in FVRD.

Of all forage & pasture, 78% is used exclusively for forage while 18% is used for pasture.

Table 6. Forage crops by total area and jurisdiction

Jurisdiction	Forage & pasture (ha)						Total area (ha)	% of forage & pasture crops (ha)
	Forage	Pasture	Forage & pasture	Unused	Unmaintained	Unknown		
Abbotsford	7,413	1,702	270	104	9	-	9,498	37%
Chilliwack	6,939	1,310	26	136	-	-	8,411	33%
Kent	2,358	316	26	43	3	-	2,746	11%
Area G	2,275	280	59	6	-	-	2,619	10%
Mission	252	279	-	< 1	7	1	540	2%
Area H	175	196	64	49	17	-	501	2%
Area F	209	164	40	11	-	-	424	2%
Area B	191	39	2	-	-	-	232	1%
Area D	15	103	27	2	-	-	147	< 1%
Area E	54	60	2	5	1	-	122	< 1%
Hope	38	64	11	5	< 1	-	119	< 1%
Area C	21	52	10	-	-	-	83	< 1%
Area A	21	8	44	-	-	-	72	< 1%
<b>TOTAL</b>	<b>19,962</b>	<b>4,573</b>	<b>581</b>	<b>361</b>	<b>38</b>	<b>1</b>	<b>25,517</b>	<b>100%</b>

Table 6 details the amount of forage and pasture in FVRD by jurisdiction.

Abbotsford, Chilliwack, Kent and Area G all have significantly more forage than pasture. These jurisdictions have many intensive livestock operations and are growing large amounts livestock feed. These 4 jurisdictions account for 91% of all forage and pasture crops in FVRD.

Area D, Hope, and Area C, have significantly more pasture than forage.

## Berries

Berries are primarily perennial crops. These crops do not change frequently as most require several years to mature and some crop types require extensive land preparation. Strawberries are a perennial plant which is usually rotated to minimize build-up of crop-specific pest and disease problems. Since this inventory is a snapshot in time, the strawberry crops seen during the survey year may not be present in the same location the following year.

Figure 12. Berry types by percentage

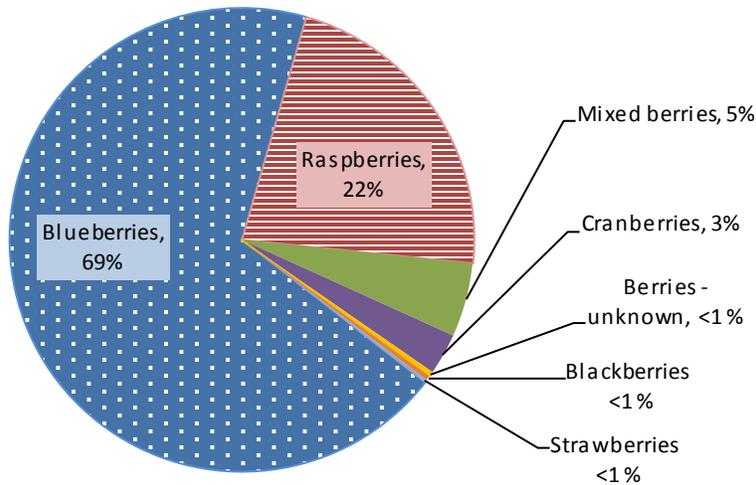


Figure 12 shows the proportion of berry types in FVRD.

Blueberries combined with raspberries account for 91% of all the berries in the Fraser Valley Regional District.

Table 7. Berry crops by total area and jurisdiction

Jurisdiction	Berries (ha)					Total area (ha)	% of berry crops (ha)
	Blueberries	Raspberries	Mixed berries	Cranberries	Other berry		
Abbotsford	2,911	1,154	296	124	21	4,506	78%
Chilliwack	432	91	< 1	19	25	567	10%
Area G	295	-	-	-	1	296	5%
Kent	127	2	-	22	< 1	152	3%
Area F	135	-	-	-	-	135	2%
Area H	51	28	-	-	2	80	1%
Area B	12	-	-	-	-	12	< 1%
Mission	< 1	-	< 1	-	3	4	< 1%
<b>TOTAL AREA</b>	<b>3,964</b>	<b>1,274</b>	<b>297</b>	<b>165</b>	<b>52</b>	<b>5,752</b>	<b>100%</b>

Table 7 details the amount and type of berries in FVRD by jurisdiction.

Blueberries are the main berry crop in FVRD with 3,964 ha, followed by raspberries with 1,274 ha.

Seventy-eight percent (78%) of the berries in FVRD occur in Abbotsford.

## Vegetables

Vegetable crops are either annual, such as potatoes or lettuce, or perennial such as rhubarb and asparagus. Annual vegetable crops are usually rotated or grown on different land each year to minimize the build-up of crop-specific pest and disease problems and to avoid exhausting soil nutrients. Since this inventory is a snapshot in time, the annual vegetable crops seen during the survey year may not be present in the same location the following year.

- **Mixed vegetables:** a variety of vegetable types cultivated in a field
- **Cole crops:** includes broccoli, Brussels sprouts, cabbage, cauliflower, kale, collards, kohlrabi
- **Cucurbits:** includes squash, cucumber, zucchini, melons, watermelon, pumpkin
- **Misc. Vegetables:** includes peppers, leeks, tomatoes, asparagus, eggplant, shallots, green onions, okra.
- **Leafy vegetables:** includes lettuce, spinach, Swiss chard, celery
- **Unknown:** the vegetable type could not be determined from the road
- **Asian vegetables:** includes bok choy, choy sum, gai choy, sui choy, gai lan, Chinese cabbage, daikon, lotus root

Figure 13. Vegetable types by percentage

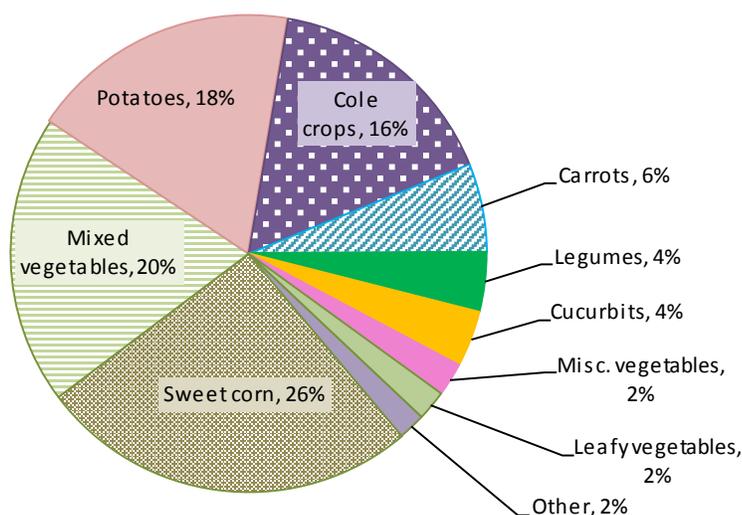


Figure 13 shows the proportion of vegetable types in FVRD.

The top vegetable crops are sweet corn, mixed vegetables, potatoes, and Cole crops. These 4 crops account for 80% of the vegetables produced in FVRD.

Table 8. Vegetable crops by total area and jurisdiction

Jurisdiction	Vegetables (ha)										Total area (ha)	% of vegetable crops (ha)
	Sweet corn	Mixed vegetables	Potatoes	Cole crops	Carrots	Legumes	Cucurbits	Misc. vegetables	Leafy vegetables	Other		
Abbotsford	225	285	302	172	117	62	72	28	21	22	1,307	68%
Chilliwack	257	74	52	142	-	15	< 1	15	18	14	588	30%
Kent	18	20	< 1	-	-	< 1	1	-	-	-	40	2%
Area G	< 1	1	-	-	-	-	-	-	-	-	2	< 1%
Mission	-	2	-	-	-	-	-	-	-	-	2	< 1%
Area B	-	< 1	-	-	-	-	-	-	-	-	< 1	< 1%
<b>TOTAL AREA (HA)</b>	<b>501</b>	<b>382</b>	<b>354</b>	<b>315</b>	<b>117</b>	<b>79</b>	<b>74</b>	<b>43</b>	<b>40</b>	<b>36</b>	<b>1,940</b>	<b>100%</b>

Table 8 details the type of vegetables in FVRD by jurisdiction. Sixty-eight percent 68% of all vegetable in FVRD are grown in Abbotsford.

## GREENHOUSES & CROP BARN

Greenhouses are structures covered with translucent material and of sufficient size for a person to work inside<sup>8</sup>. They are permanent enclosed glass or polyethylene (poly) structures with or without climate control facilities for growing plants under controlled environments. Crop barns are permanent structures with non-translucent walls that are used for growing mushrooms or specialty crops such as bean sprouts. Non permanent structures such as hoop covers are considered an agricultural practice and are not included here.

Greenhouse and crop barn activities are delineated to the exact footprint to enable agricultural water demand calculations. A single greenhouse activity may have more than one greenhouse of the same type (e.g. poly or glass) if the buildings are adjacent to one another.

Figure 14. Distribution of greenhouse and crop barn area by jurisdiction

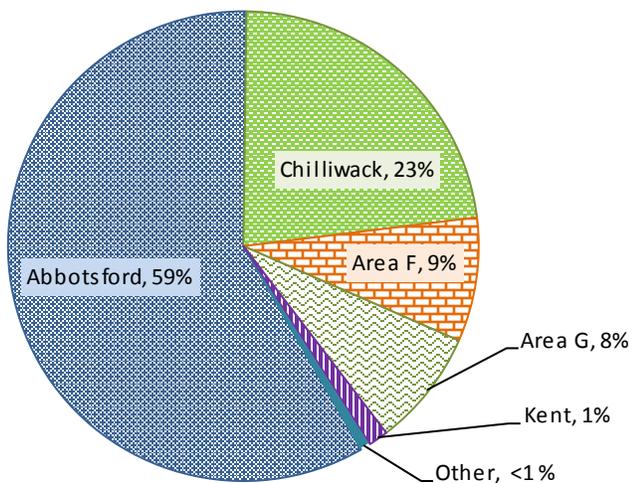


Figure 14 shows the location of the greenhouses and crop barns in FVRD.

Fifty-nine percent (59%) of FVRD's greenhouse and crop barn area occurs in Abbotsford. Another 23% occurs in Chilliwack.

Table 9. Greenhouse and crop barn area by jurisdiction

Jurisdiction	Total area (ha)			Total area (ha)	% of covered crops
	Glass greenhouse	Poly greenhouse	Crop barn		
Abbotsford	87	40	26	153	59%
Chilliwack	21	37	2	60	23%
Area F	-	22	-	22	9%
Area G	1	20	-	21	8%
Kent	2	1	< 1	4	1%
Mission	-	1	-	1	< 1%
<b>TOTAL</b>	<b>111</b>	<b>123</b>	<b>28</b>	<b>262</b>	<b>100%</b>

Table 9 summarizes the total area in greenhouse and crop barn footprints by jurisdiction.

Abbotsford and Chilliwack have the largest areas in greenhouse and crop barn footprints.

<sup>8</sup> Source: *Guide for Bylaw Development in Farming Areas*, 2013. Ministry of Agriculture.

Table 10. Number of parcels with greenhouses and crop barns by jurisdiction

Jurisdiction	Number of parcels			Parcel count	% of parcels with covered crops
	Glass greenhouse	Poly greenhouse	Crop barn		
Abbotsford	44	144	18	206	55%
Chilliwack	26	97	3	126	33%
Area G	1	12	-	13	3%
Kent	4	8	1	13	3%
Mission	-	11	-	11	3%
Area F	-	8	-	8	2%
<b>TOTAL</b>	<b>75</b>	<b>280</b>	<b>22</b>	<b>377</b>	<b>100%</b>

Table 10 summarizes the number of parcels with greenhouses and crop barns by jurisdiction.

Abbotsford and Chilliwack have the most parcels with greenhouses and crop barns.

Most crop barns are located in Abbotsford.

## IRRIGATION

Irrigation is the artificial application of water to the land or soil and may be used to assist in the growing of agricultural crops, the maintenance of managed vegetation, and the control of soil erosion or dust. The availability of water delivery infrastructure and good quality water for irrigation are often requirements for growing high-value crops. Insufficient water sources or water delivery infrastructure can limit the potential to increase agricultural production through irrigation.

Irrigation is captured at the field or land cover level by system type (e.g. giant gun, trickle, sprinkler) and then summarized by crop type to the total land area under irrigation. Irrigated land includes all irrigated field crops and may also include irrigated fallow farmland, land set temporarily set aside for wildlife or other purposes, and land under preparation for planting. Also included are crops grown in greenhouses and crop barns. In addition, individual cultivated field crops are evaluated for percent of crop area under irrigation.

An Agricultural Water Demand Model (AWDM) has been created for the Fraser Valley Regional District. The AWDM is a water management planning tool that estimates current and future agricultural water needs. The model utilizes Agricultural Land Use Inventory crop and irrigation data, as well soil and climate data from external sources. The Fraser Valley Regional District AWDM Report<sup>9</sup> highlights the results from 3 climate change scenarios and 3 water management practices.

<sup>9</sup> Fraser Valley Regional District Agriculture Water Demand Model 2015. <http://www2.gov.bc.ca/gov/content/industry/agriculture-seafood>

Figure 15. Irrigation systems by percentage of cultivated land

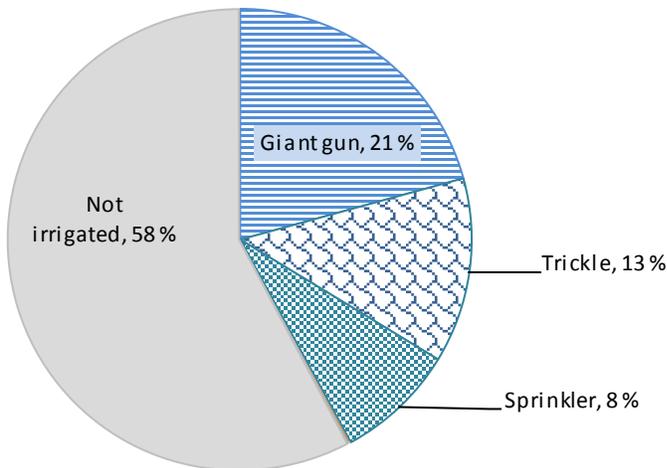


Figure 15 illustrates the proportion of different irrigation systems on cultivated crops in FVRD.

Fifty-eight percent of all cultivated field crops were not irrigated.

Table 11. All crop types and irrigation

Cultivated field crop	Irrigation system in use (ha)					Total area irrigated (ha)	% of crop area irrigated
	Giant gun	Trickle	Sprinkler	Centre pivot	Surface		
Forage & pasture	5,895	15	733	-	25	6,668	26%
Berries	204	4,636	558	-	-	5,398	94%
Vegetables	1,095	28	319	-	-	1,443	74%
Nursery	189	2	971	-	-	1,163	85%
Turf	-	-	330	47	-	377	100%
Floriculture	34	3	103	-	-	140	80%
Other*	63	-	6	-	-	69	22%
Trees (plantation)	32	1	12	-	< 1	46	8%
Cereals, pulses, oilseeds	38	-	-	-	-	38	36%
Vines	-	33	< 1	-	-	34	62%
Tree fruits	-	8	11	-	-	19	51%
Nut trees	-	-	8	-	-	8	3%
<b>TOTAL CROP AREA IRRIGATED</b>	<b>7,551</b>	<b>4,727</b>	<b>3,052</b>	<b>47</b>	<b>26</b>	<b>15,402</b>	<b>42%</b>
Greenhouses and crop barns	Mix of flood and trickle irrigation					261	100%

\* Other. Includes bare cultivated land, fallow land (cultivated land that has not been seeded or planted for one or more growing season), land in crop transition, and land planted in cover grass or under mulch to manage soil moisture/erosion associated with a cultivated crop.

Table 11 outlines the types of irrigation systems used on cultivated field crops in FVRD.

The inventory found that high proportions of all berry, vegetable, nursery, turf, and floriculture fields used some type of irrigation. In total, only 42% of FVRD's cultivated crop area is irrigated (15,402 ha out of 36,443 ha of cultivated field crops).

Table 12. Irrigation by jurisdiction

Jurisdiction	Irrigated area (ha)	Crop area (ha)	% of jurisdiction crop area that is irrigated
Abbotsford	10,579	16,415	64%
Chilliwack	3,022	10,845	28%
Area G	752	3,141	24%
Kent	707	3,156	22%
Area F	117	636	18%
Area B	81	246	33%
Area H	74	664	11%
Area A	55	72	76%
Mission	13	581	2%
Hope	1	120	< 1%
Area E	-	124	-
Area D	-	359	-
Area C	-	83	-
<b>TOTAL AREA</b>	<b>15,402</b>	<b>36,443</b>	<b>42%</b>

Table 12 details the total crop area under irrigation by jurisdiction.

Abbotsford has the greatest cropped area under irrigation. Much of this is due to Abbotsford's high proportion of berry fields.

Of all jurisdictions, Area A has the largest proportion its cropped area under irrigation (76%). Forage & pasture was the only crop in Area A (refer to Table 5)

Figure 16. Distribution of FVRD's irrigated crop area by jurisdiction

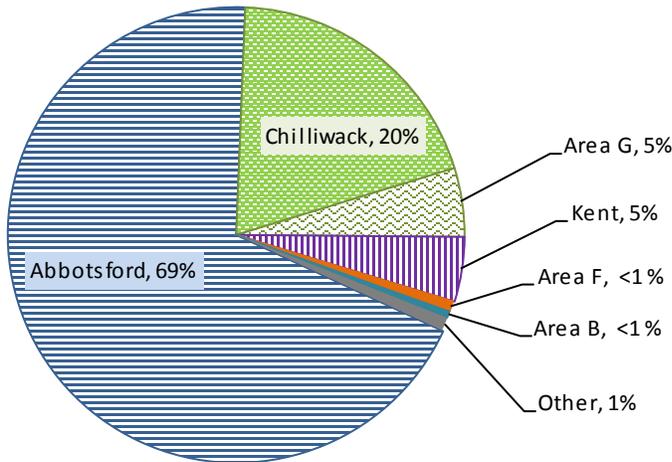


Figure 16 illustrates the distribution of the irrigated crop area by jurisdiction.

Of the irrigated crops in FVRD, 69% occur in Abbotsford and 20% occur in Chilliwack.

## LIVESTOCK

Livestock activities are challenging to measure using a windshield survey. Livestock are often confined to structures making it difficult to see the animals. Local knowledge and other indicators such as animal confinement type (barn type), feeder system type, manure handling system type, and other visible elements may be used to infer the type of livestock and scale of activity that exist on a parcel. In addition, livestock are mobile and may utilize more than one land parcel. This inventory reports livestock on the parcel where the animals or related structures were observed.

"**Intensive**" livestock activities utilize specialized structures such as barns, feedlots and stockyards designed for confined feeding at higher stocking densities. "**Non Intensive**" livestock activities allow animals to graze on a pasture and often utilize non intensive barns and corrals/paddocks.

"**Unknown livestock**" refers to activities where non specialized livestock related structures were present but the livestock were not visible and therefore the specific type of livestock could not be determined.

The scale system used to describe livestock operations relies on animal unit equivalents (AUE) which is a standard measure used to compare different livestock types. One animal unit equivalent is approximately equal to one adult cow or horse. The scale system includes 4 levels:

- "**Very Small**" Approximately 1 cow or horse or bison, 3 hogs, 5 goats or deer, 10 sheep, 50 turkeys, 100 chickens (1 animal unit equivalent). Estimated AUE: 1
- "**Small**" LESS THAN 25 cows or horses or bison, 75 hogs, 125 goats or deer, 250 sheep, 1250 turkeys, 2500 chickens (2 - 25 animal unit equivalents). Estimated AUE: 13
- "**Medium**" LESS THAN 100 cows or horses or bison, 300 hogs, 500 goats or deer, 1000 sheep, 5000 turkeys, 10,000 chickens (25 - 100 animal unit equivalents). Estimated AUE: 63
- "**Large**" MORE THAN 100 cows or horses or bison, 300 hogs, 500 goats or deer, 1000 sheep, 5000 turkeys, 10,000 chickens (over 100 animal unit equivalents). Estimated AUE: 150

**Estimated animal unit equivalents** are calculated using the midpoint of each scale range. This method provides a number that ranks the relative importance and impact of each type of livestock. The actual number of livestock may be under estimated, especially for large operations.

**Number of activities.** Each occurrence of livestock on a parcel is counted as one activity. A small mixed farm with 1-2 cows and a large commercial milking operations are each counted as one activity.

Table 13. Livestock activities

Livestock group	Estimated animal unit equivalents	Count of activities
Poultry	58,820	620
Dairy	41,290	460
Equine	10,010	923
Beef	6,150	305
Swine	2,470	28
Sheep / lamb / goat	1,150	191
Unknown livestock	1,110	124
Specialty livestock*	550	17
Llama / alpaca	360	58
<b>TOTAL</b>	<b>121,910</b>	<b>2,726</b>

*Table 13 details the number of estimated animal unit equivalents by livestock type.*

*Poultry activities have the highest estimated animal unit equivalents.*

*Although equine has the greatest number of individual activities (923), equine ranks third in terms of estimated animal unit equivalents.*

\* Specialty livestock includes ratites (e.g. emu, ostrich, peacock); game birds (e.g. partridge, pheasant, pigeon, quail); fur bearing; and deer.

## Estimated Animal Unit Equivalents

Figure 17. Proportion of livestock activities by estimated animal unit equivalents

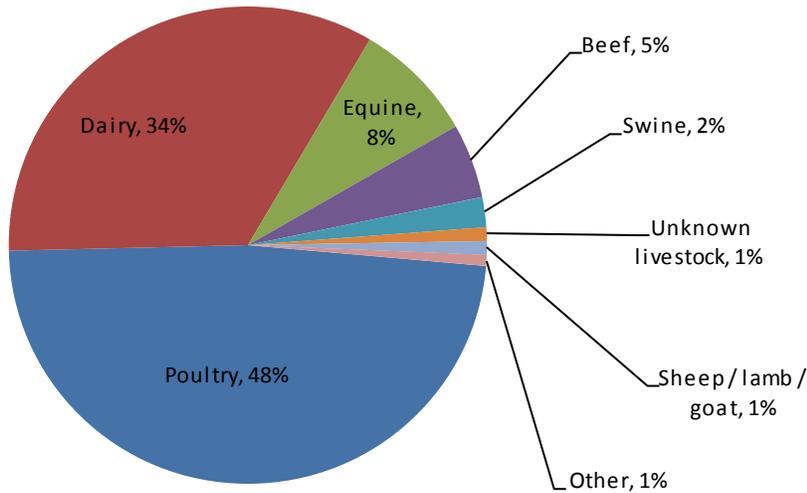


Figure 17 illustrates the proportion of livestock in FVRD by estimated animal unit equivalents. This unit of measure better reflects livestock distribution than the number of activities.

When using estimated AUEs, 48% of livestock are poultry and 34% are dairy.

Figure 18. Estimated animal unit equivalents by livestock type and intensity

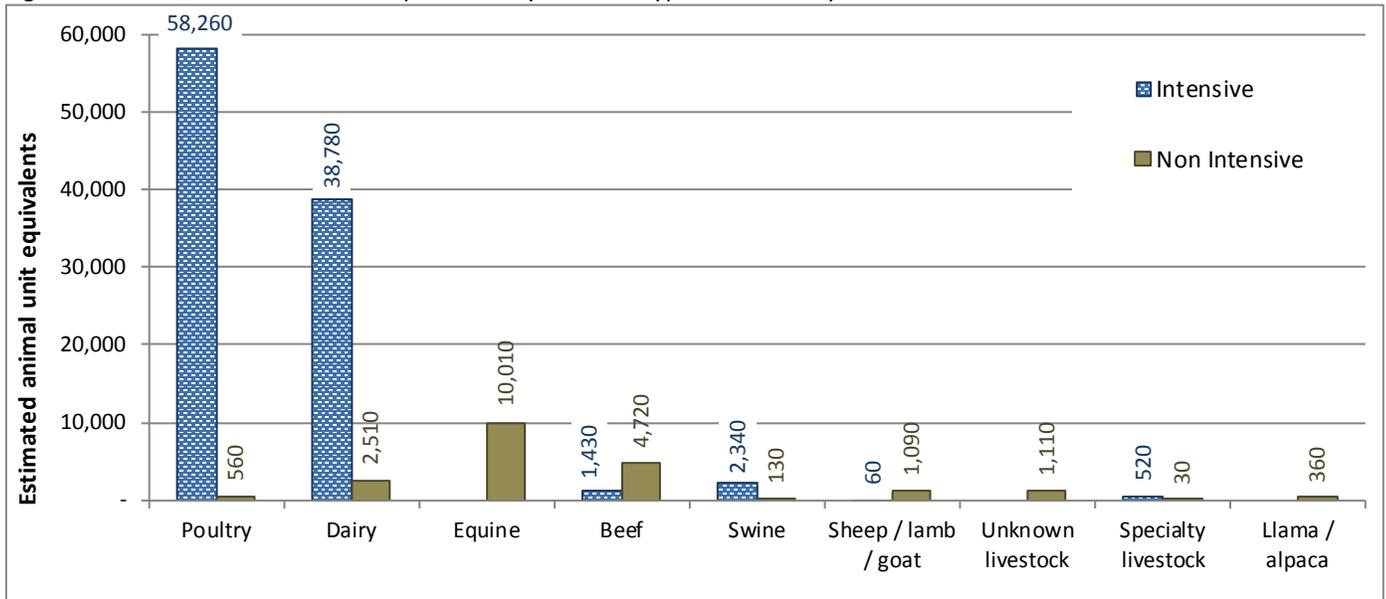


Figure 18 illustrates the number of estimated animal unit equivalents by livestock type and intensity in FVRD. The majority of all poultry and dairy animals are found in “intensive” facilities with specialized infrastructure designed for confined feeding at higher stocking densities.

All equines and most beef cattle are found in “non-intensive” facilities.

Figure 19. Estimated animal unit equivalents by livestock type and scale

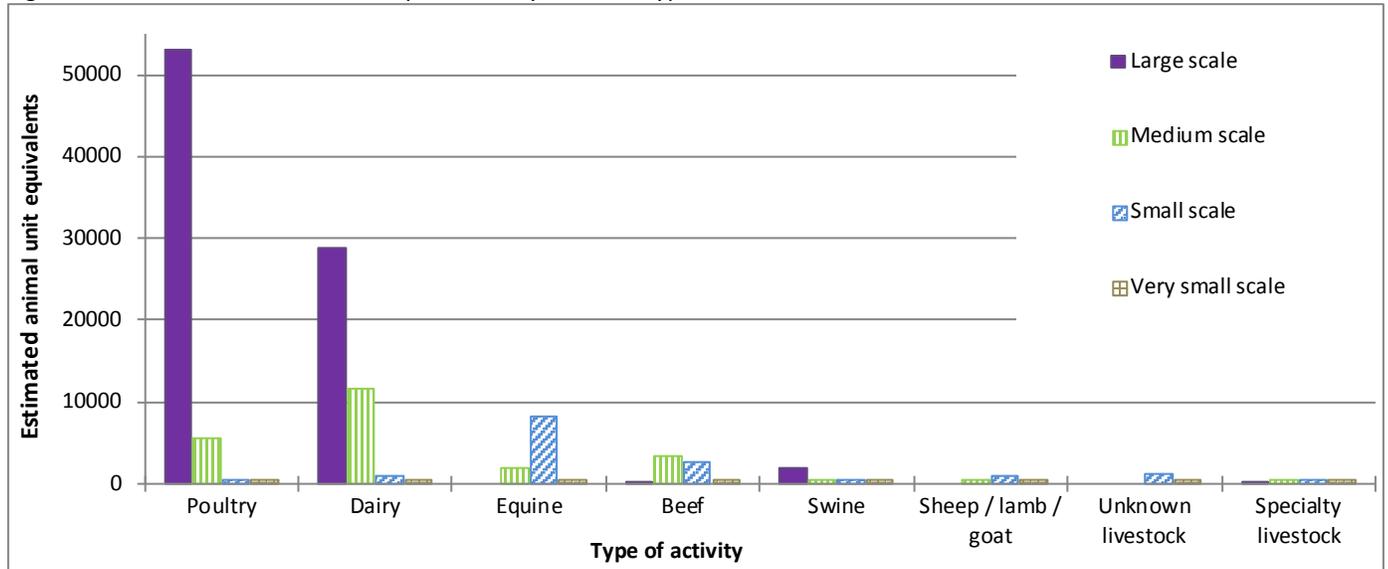


Figure 19 illustrates the number of estimated animal unit equivalents by scale and livestock type in FVRD. The majority of all poultry and dairy animals are found in “large” scale operations. Most equines are in “small” scale activities ( 2 -25 equines).

Table 14. Estimated animal unit equivalents by livestock type and jurisdiction

Jurisdiction	Type of livestock activity									Estimated animal unit equivalents
	Poultry	Dairy	Equine	Beef	Swine	Sheep / lamb / goat	Unknown livestock	Specialty livestock	Llama / alpaca	
Abbotsford	36,840	16,150	3,110	2,310	1,540	380	910	520	170	61,930
Chilliwack	20,570	15,840	2,780	1,660	610	420	-	20	60	41,960
Area G	220	4,680	710	330	10	60	50	-	20	6,080
Kent	620	3,530	510	120	-	110	-	-	-	4,890
Mission	140	60	850	370	20	110	110	10	70	1,740
Area F	170	450	810	150	10	30	30	-	20	1,670
Area H	130	60	490	420	280	20	-	-	-	1,400
Area D	60	300	40	330	-	-	-	-	10	740
Area B	70	210	160	90	-	10	-	-	-	540
Hope	-	-	240	120	-	-	-	-	-	360
Area E	-	-	90	120	-	-	-	-	-	210
Area C	-	10	160	-	-	10	10	-	10	200
Area A	-	-	60	130	-	-	-	-	-	190
<b>ESTIMATED AUEs</b>	<b>58,820</b>	<b>41,290</b>	<b>10,010</b>	<b>6,150</b>	<b>2,470</b>	<b>1,150</b>	<b>1,110</b>	<b>550</b>	<b>360</b>	<b>121,910</b>

Table 14 details number of estimated animal unit equivalents by livestock type and jurisdiction. Abbotsford and Chilliwack have the highest numbers of estimated animal unit equivalents.

Figure 20. Estimated animal unit equivalents by jurisdiction

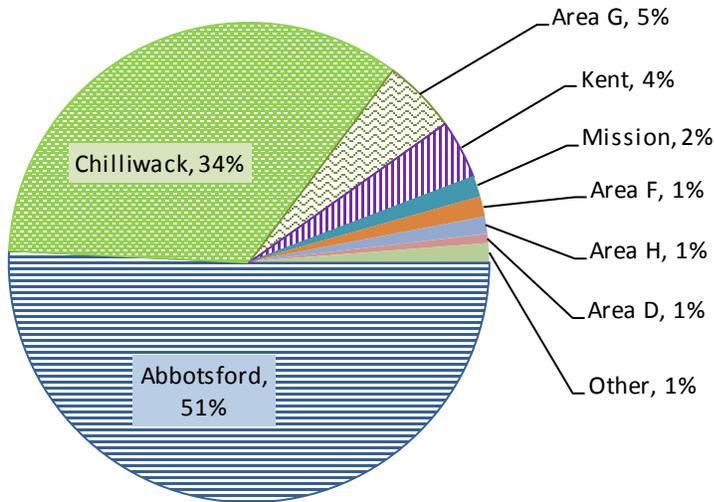
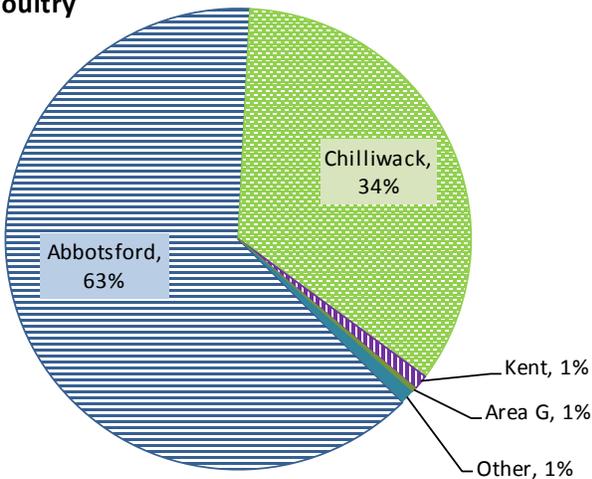


Figure 20 illustrates the proportion of estimated animal unit equivalents by jurisdiction.

The estimated animal unit equivalents in Abbotsford and Chilliwack account for 85% of all livestock in FVRD.

Figure 21. Poultry and dairy estimated animal unit equivalents by jurisdiction

**Poultry**



**Dairy**

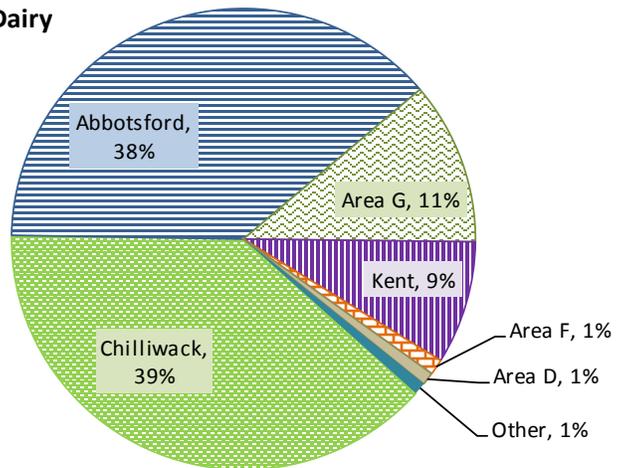


Figure 21 illustrates the proportion of poultry and dairy estimated animal unit equivalents by jurisdiction. Nearly all poultry AUEs occur in Abbotsford and Chilliwack.

Ninety-seven percent (97%) of the dairy estimated AUEs occur in 4 jurisdictions: Chilliwack, Abbotsford, Area G and Kent.

Figure 22. Equine and beef estimated animal unit equivalents by jurisdiction

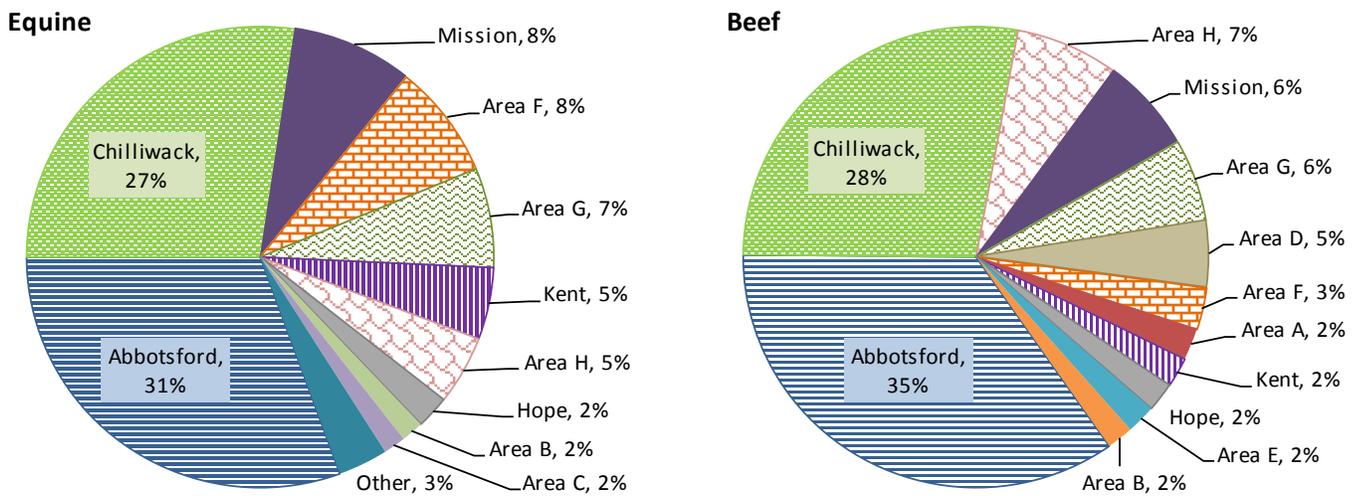


Figure 22 illustrates the proportion of equine and beef estimated animal unit equivalents by jurisdiction. Equine and beef AUEs both have a broad distribution across jurisdictions.

### Number of livestock activities (occurrences)

Figure 23. Number of livestock activities by scale

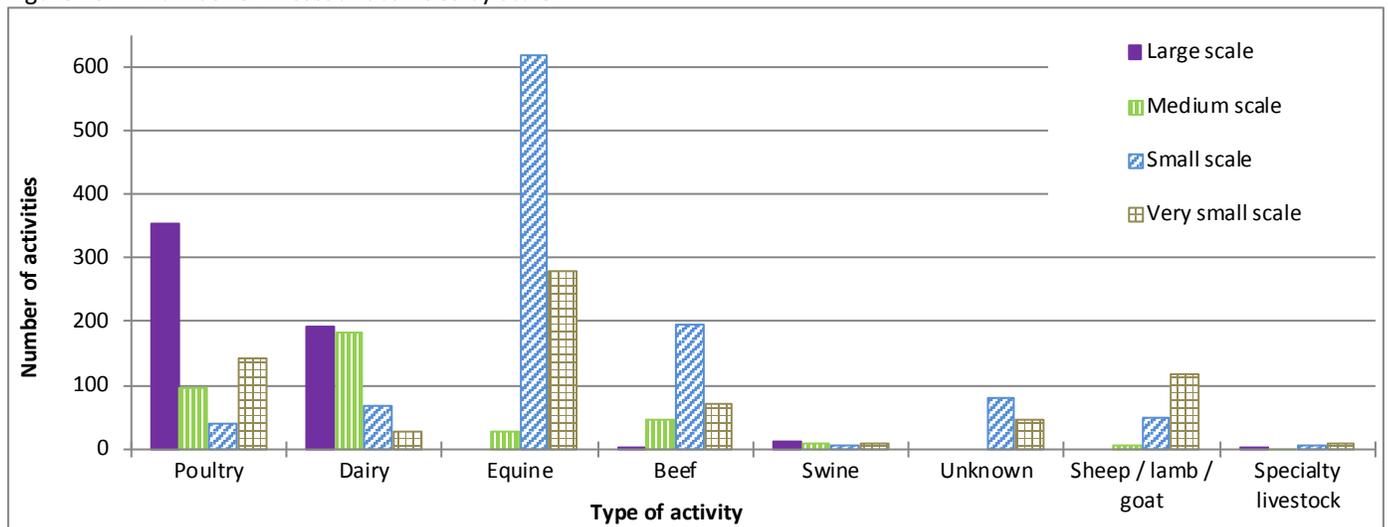


Figure 23 illustrates the number of livestock activities by scale and livestock type in FVRD. Equine activities occur the most frequently, however, nearly all occurrences are “small” or “very small” scale with less than 25 animals.

Figure 24. Number of poultry activities by scale and intensity

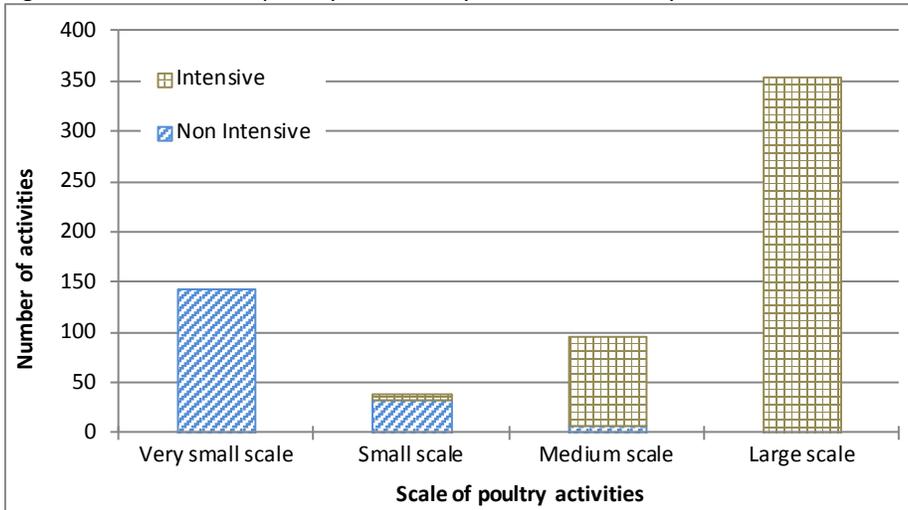


Figure 24 illustrates the scale and intensity of poultry activities in FVRD.

All large and most medium activities are “intensive” and use specialized structures for confined feeding at higher stocking densities.

Figure 25. Number of dairy activities by scale and intensity

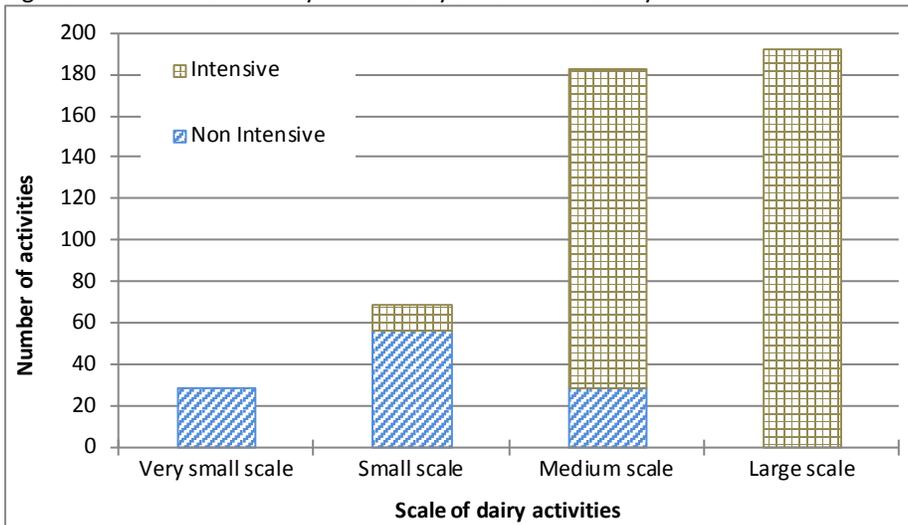


Figure 25 illustrates the scale and intensity of dairy activities in FVRD.

All large and most medium activities are “intensive” and use specialized structures for confined feeding at higher stocking densities.

Figure 26. Number of beef activities by scale and intensity

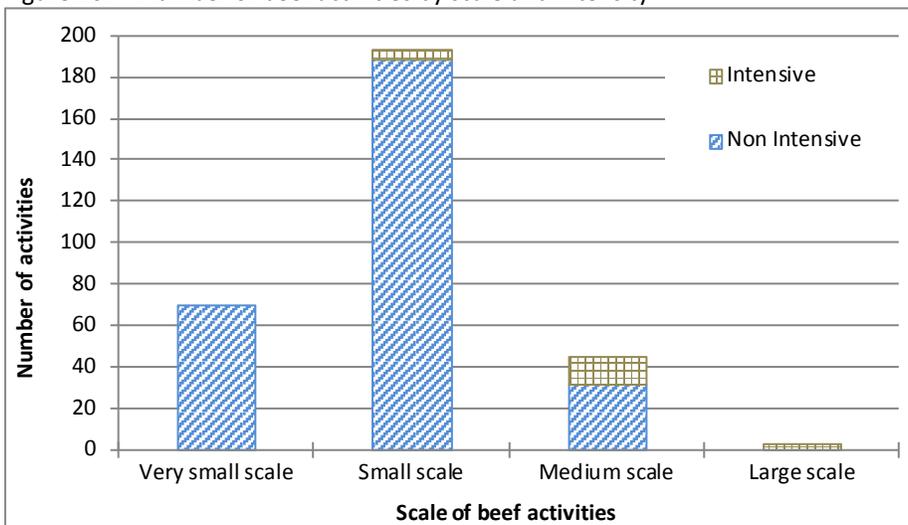


Figure 26 illustrates the scale and intensity of beef activities in FVRD.

Most beef activities are non-intensive.

Figure 27. Number of large and medium scale livestock activities by jurisdiction

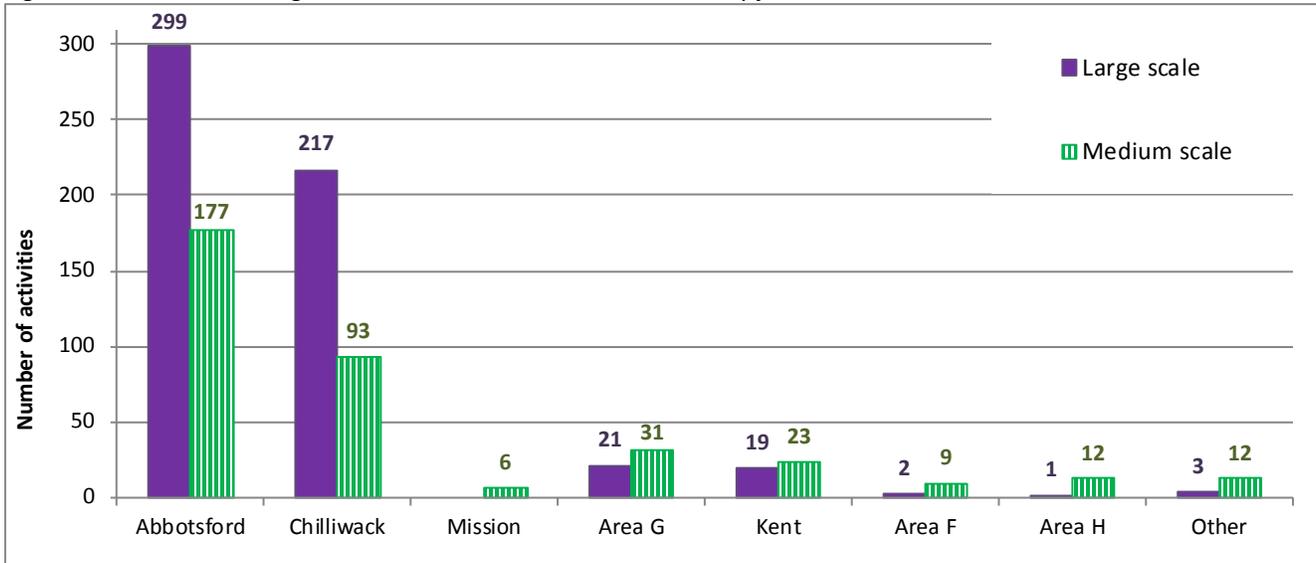


Figure 27 illustrates the distribution of “medium” and “large” scale livestock activities in FVRD. The majority of all “large” and “medium” scale activities occur within Abbotsford and Chilliwack.

## 5. ALR Utilization

### PARCEL INCLUSION IN THE ALR

The inventory area included 56,436 ha of ALR on 10,160 parcels which is 79% of the total ALR area and 100% of the 'effective ALR' within the Fraser Valley Regional District.

ALR boundaries do not always align with parcel boundaries which results in many parcels having only a portion of their area in the ALR. To achieve an accurate picture of the ALR in FVRD, only parcels that meet the following criteria are included in this section of the report:

- parcels > 0.05 ha in size with at least half their area ( $\geq 50\%$ ) in the ALR, or
- parcels with at least 10 ha ( $\geq 10$  ha) of ALR land.

In total, 9890 parcels, with 55,908 or 63% of the total ALR land and 98% of the effective ALR met the above criteria and were included in the further analysis of the ALR.

Figure 28. Parcel inclusion in the ALR



Figure 28 illustrates the distinction between parcels considered to be within or outside the ALR:

**Considered to be within the ALR:**

- lot A is completely in the ALR
- lot B has 50% or more of its area in the ALR.

**Considered to be outside the ALR:**

- lot C has less than 50% of its area and less than 10 ha in the ALR
- lot D is completely outside the ALR.

## LAND USE AND FARM USE

Land use focuses solely on human use and describes the economic function or type of establishment using the parcel. A parcel can have a variety of activities on the land, yet serve a single use. For example, two parcels are said to be “Used for farming”, even if one is a dairy farm and the other is in blueberries. Another example is “Commercial” land use; if one parcel is a hotel, another is a retail store, and a third is a gas station, all are considered to have “Commercial” land use.

Up to two general land uses (e.g. residential, commercial, protected area) are recorded for each parcel. Evaluation of land uses are based on the overall economic importance and/or the extent of the land use.

Parcels where the majority of the parcel area is utilized for farming or parcels which exhibit significant evidence of intensive farming are considered “Used for farming”. Refer to the glossary for a complete definition of the term. Many “Used for farming” parcels are also used for other purposes such as “Residential”. This report does not attempt to determine which use is primary.

Table 15. Land use and farming use in the ALR

Parcel land use*		Number of ALR parcels	% of ALR parcels	Average parcel size (ha)	Median parcel size (ha)
Used only for farming - no other use		1,006	10 %	9	7
Used for farming - Mixed use	Residential	4,235	43 %	7	2
	Utilities	25	<1 %	12	5
	Transportation & communication	15	<1 %	5	1
	Industrial	8	<1 %	11	3
	Institutional & community	6	<1 %	8	1
	Protected area / park / reserve	5	<1 %	10	4
	Gravel extraction	4	<1 %	26	10
	Research	3	<1 %	262	25
	Commercial & service	3	<1 %	7	<1
	Recreation & leisure	2	<1 %	9	3
<b>USED FOR FARMING SUBTOTAL</b>		<b>5,312</b>	<b>54 %</b>	<b>8</b>	<b>4</b>
Not used for farming	Residential	3,253	33 %	33	2
	No apparent use	612	6 %	7	2
	Transportation & communication	188	2 %	5	1
	Water management	138	1 %	6	1
	Institutional & community	94	<1 %	5	1
	Protected area / park / reserve	70	<1 %	16	4
	Utilities	52	<1 %	10	5
	Commercial & service	43	<1 %	2	<1
	Industrial	40	<1 %	5	3
	Gravel extraction	33	<1 %	16	10
	Recreation & leisure	31	<1 %	10	3
	Golf	14	<1 %	21	19
	Dumps & deposits	4	<1 %	4	1
	Forestry	2	<1 %	17	29
	Land in transition	2	<1 %	6	10
	Military	1	<1 %	93	93
First Nations	1	<1 %	4	4	
<b>NOT USED FOR FARMING SUBTOTAL</b>		<b>4,578</b>	<b>46 %</b>	<b>4</b>	<b>1</b>
<b>TOTAL</b>		<b>9,890</b>	<b>100 %</b>	<b>6</b>	<b>2</b>

Table 15 shows the number of ALR parcels that are “Used for farming” and “Not used for farming” by land use in FVRD.

In total, 54% of the ALR parcels (5,312 parcels) are “Used for farming” and 46% (4,578 parcels) are “Not used for farming”. The “Used for farming” parcels have an average parcel size of 8 ha while the “Not used for farming” parcels are statistically smaller and have an average parcel size of 4 ha.

Figure 29 provides more information on “Used for farming” parcels and Figure 30 provides more information on “Not used for farming” parcels.

\* See “Land Use” in the definitions section for terms used in this table.

Figure 29. Proportion of “Used for farming” ALR parcels by land use

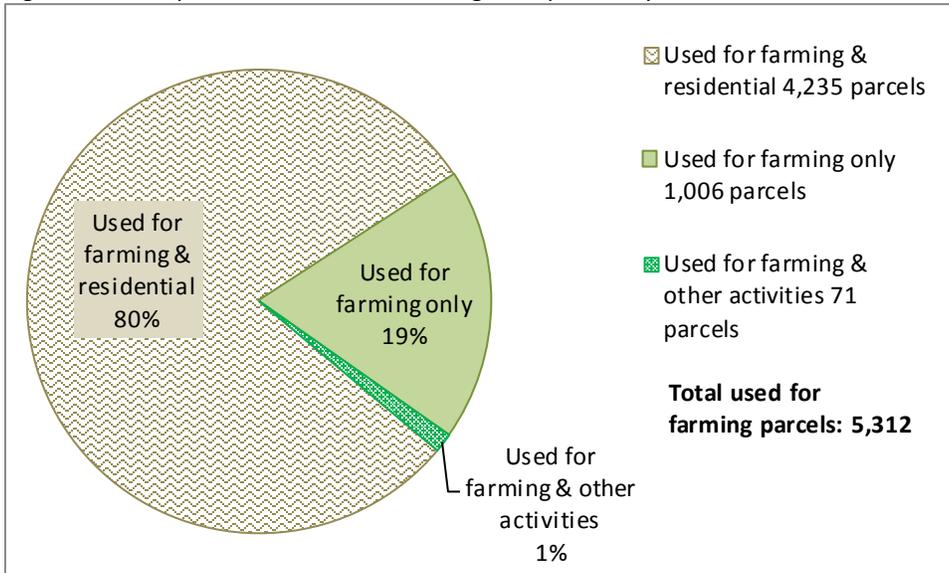


Figure 29 illustrates the proportion of “Used for farming” ALR parcels by their land use.

Eighty percent of the ALR parcels that are “Used for farming” are also used for residential purposes.

Another 19% of the “Used for farming” parcels are exclusively used for agriculture, with no other uses.

Figure 30. Proportion of “Not used for farming” ALR parcels by land use

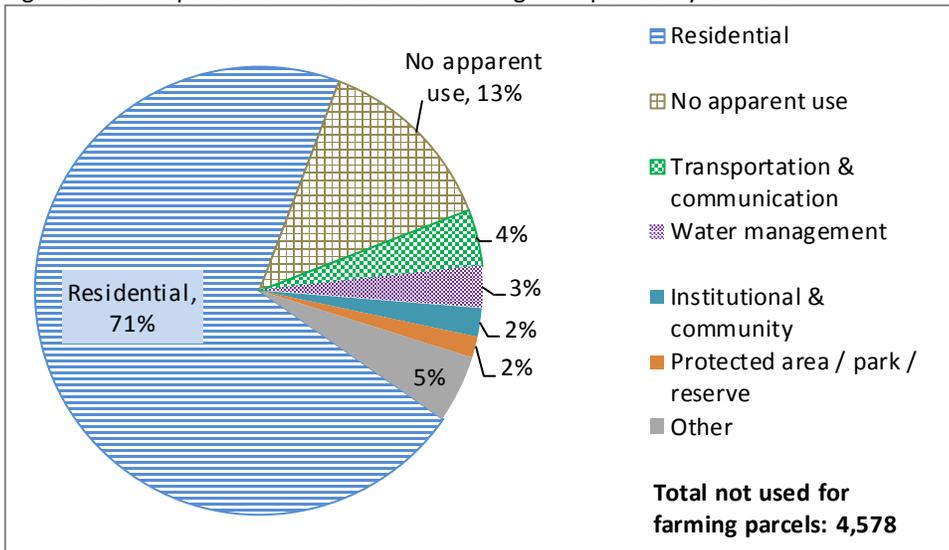


Figure 30 illustrates the proportion of “Not used for farming” ALR parcels by their land use.

The largest proportion of all “Not used for farming” ALR parcels (71%) have a residential use.

## RESIDENTIAL USE

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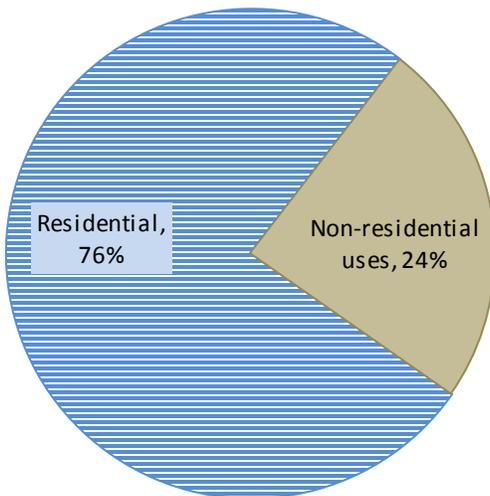
The ALR is a provincial zone in which agriculture is the priority use and some “Residential” use is considered a necessary accessory to the agricultural use of a property. However, “Residential” use which is not an accessory to agriculture can effectively limit the ability of agriculture to grow, intensify and respond to market demands. When the primary motivation for ownership of ALR land is residential use, the residence is often placed to maximize privacy and views, with little consideration for agricultural opportunities on the parcel. Houses that are not adjacent to the frontage road alienate portions of land from future agriculture. If the occupants are non-farmers, they are more likely to be affected by noise, odour, or dust from neighbouring farm operations.

The size of the residence may be another factor to consider. Properties with larger residences tend to have higher property values which can make it more difficult for a farmer to acquire and convert this land to farmland in the future.

In the following analysis cabins/cottages, mobile homes, single-family houses, duplexes, townhouses, apartments, dormitories, and institutional living buildings are included.

Residential footprint includes the main residence plus its associated yard, driveway, parking and any auxiliary buildings or structures. When two residences are on a property, areas associated to both (such as shared driveways, parking or yard), are assigned to the closest residence.

Figure 31. Residential land use on parcels in the ALR



*Figure 31 shows that over three quarters (76%) of all ALR parcels are used for residential purposes. These parcels may also have other land uses and/or farming activities on them.*

*The size and placement of residential footprints on a parcel can impact the suitability of the remaining parcel area to be used for farming purposes.*

Figure 32. Farming status of parcels in the ALR with residential land use

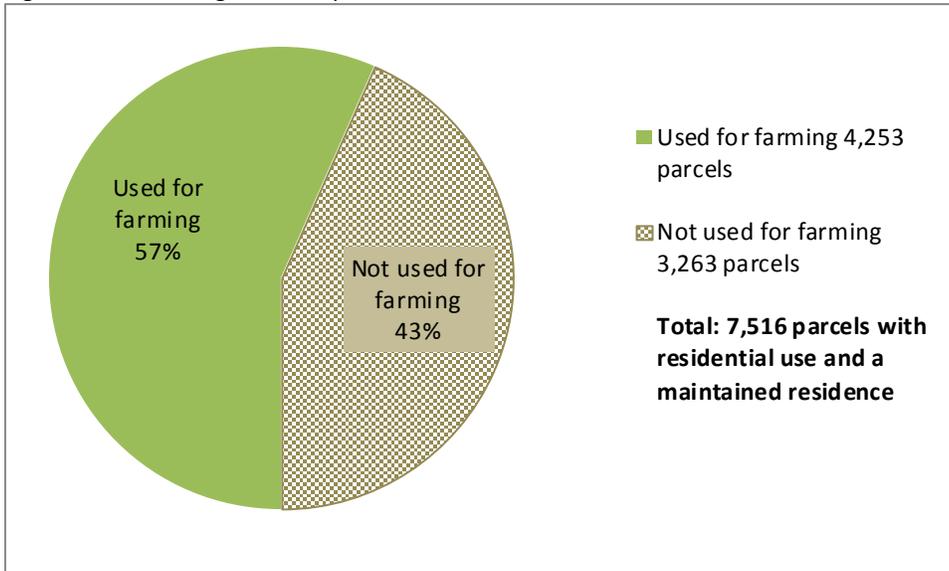


Figure 32 illustrates the proportion of ALR parcels with a maintained residence by farming status.

In total, 57% of all ALR parcels with a residence are “Used for farming”. This reflects FVRD’s strong agricultural presence.

Forty-three percent of the ALR parcels with a residence are “Not used for farming”. If the assumption is made that most farmers do not leave agricultural land idle, this could indicate that there is a significant proportion of non-farming land owners living in the ALR.

Figure 33. Average percent of parcel area in residential footprint by parcel size

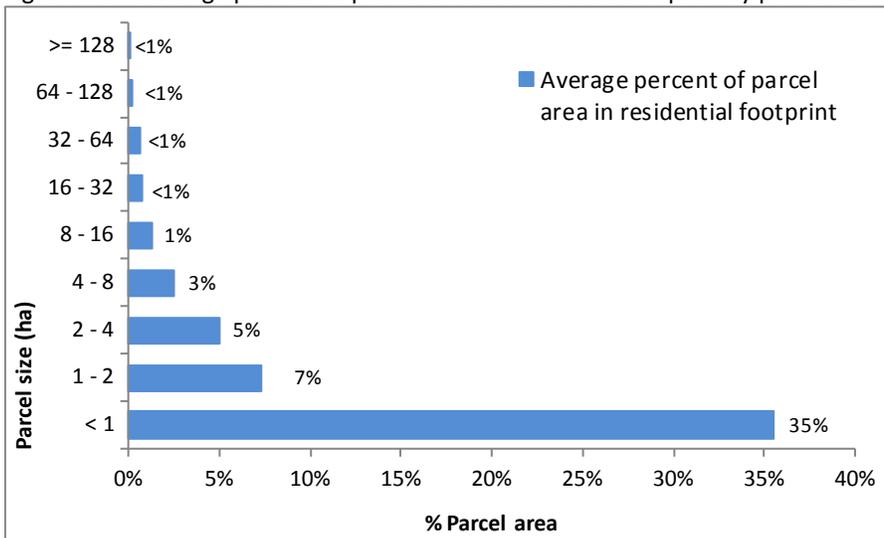


Figure 33 demonstrates that residential footprints on smaller parcels use a much greater proportion of the parcel area than those on larger parcels.

## FARM USE & PARCEL SIZE

Parcel size must be considered when determining the agricultural potential of a parcel. Larger parcels usually allow farmers greater flexibility to expand or change their type of operation as the economy and markets change. Although some types of agriculture can be successful on small parcels, (e.g. intensive market gardens, nurseries, poultry), the number of viable farming options generally decreases with a reduced parcel size. Small parcel may also be suitable for start-up farmers and established farmers wanting to expand through leases.

A farming operation may utilize more than one parcel as a farm unit<sup>10</sup>, however, it is generally more cost efficient to acquire fewer larger parcels for a farm than many smaller parcels. Smaller parcels are generally more costly than larger parcels and can easily be disassembled from larger farm units and sold. Larger parcels accommodate equipment more efficiently and reduce the need to move farm equipment on public roads. Furthermore, smaller parcels are more impacted by bylaws designed to reduce potential land use conflicts, such as setbacks from lot lines and road allowances.

Figure 34. Number of parcels in the ALR by farming status and parcel size

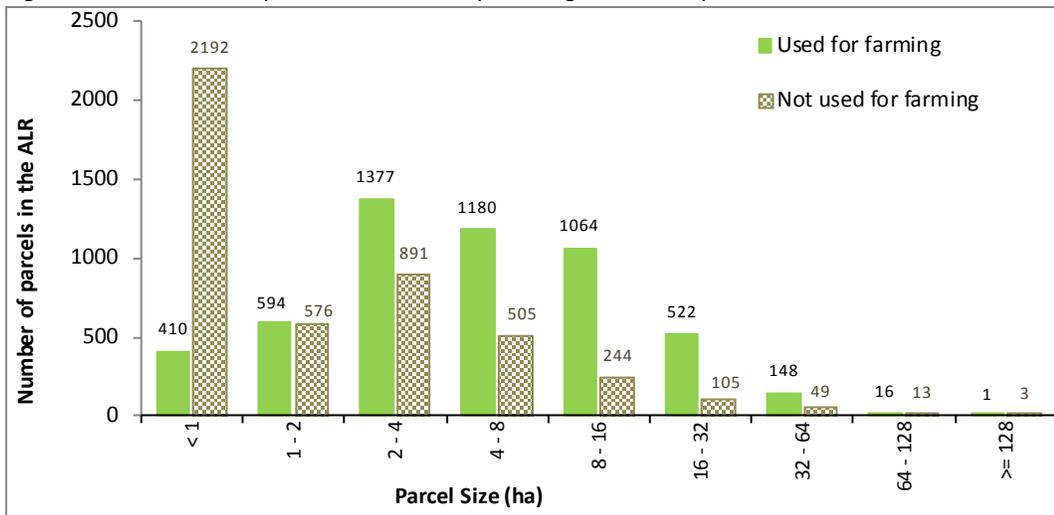


Figure 34 compares the distribution of “Used for farming” parcels with other parcels in the ALR.

The largest proportion of “Not used for farming” parcels occurs on parcels less than 1 ha. In addition, 84% of all parcels less than 1 ha are “Not used for farming”. This indicates that small parcels are less likely to be “Used for farming”.

<sup>10</sup> Farm Unit – An area of land used for a farm operation consisting of one or more contiguous or non-contiguous parcels, that may be owned, rented or leased, which form and are managed as a single farm.

Table 16. Number of parcels in the ALR by farming status and jurisdiction

Jurisdiction	Number of ALR Parcels			% of FVRD farmed parcels
	Used for farming	Not used for farming	Total number	
Abbotsford	2,558	1,983	4,541	48 %
Chilliwack	1,784	1,387	3,171	34 %
Kent	343	345	688	6 %
Area G	318	151	469	6 %
Area F	76	224	300	1 %
Mission	42	172	214	1 %
Area H	83	99	182	2 %
Area B	38	79	117	1 %
Hope	26	29	55	<1 %
Area D	21	26	47	<1 %
Area E	13	34	47	<1 %
Area A	7	37	44	<1 %
Area C	3	6	9	<1 %
Harrison Hot Springs	-	6	6	-
<b>TOTAL</b>	<b>5,312</b>	<b>4,578</b>	<b>9,890</b>	<b>100 %</b>

Table 16 details the number of “Used for farming” and “Not used for farming” parcels in FVRD’s ALR by jurisdiction.

Nearly half of the “Used for farming” parcels (48%) occur in Abbotsford.

Figure 35. Number of parcels in the ALR by farming status and jurisdiction

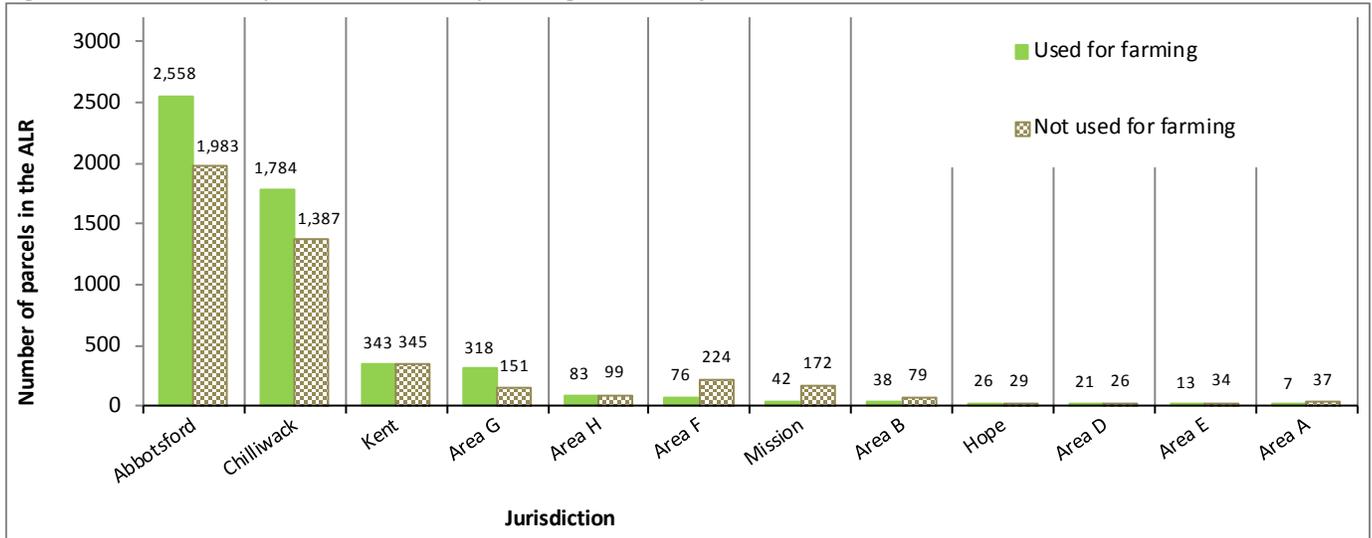


Figure 35 illustrates the number of parcels in the ALR by farming status and jurisdiction.

Abbotsford, Chilliwack and Area G all have a higher proportion of “Used for farming” parcels than “Not used for farming” parcels.

Figure 36. Average size of farmed and not farmed parcels in the ALR by jurisdiction

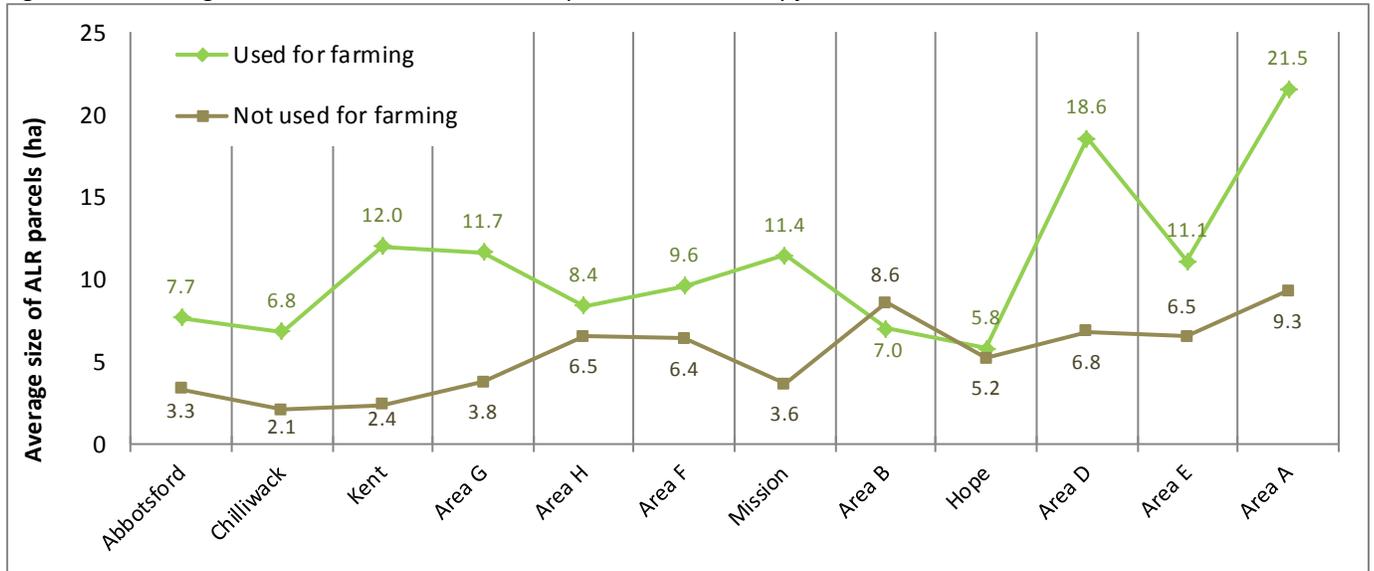


Figure 36 graphs the average parcel size of used and not used for farming parcels by jurisdiction. The average parcel size of “Used for farming” parcels is generally greater than the average parcel size of “Not used for farming” parcels. Overall, “Used for farming” parcels have an average parcel size of 8 ha while “Not used for farming” parcels have an average parcel size of 4 ha.

Figure 37. Median size of farmed and not farmed parcels in the ALR by jurisdiction

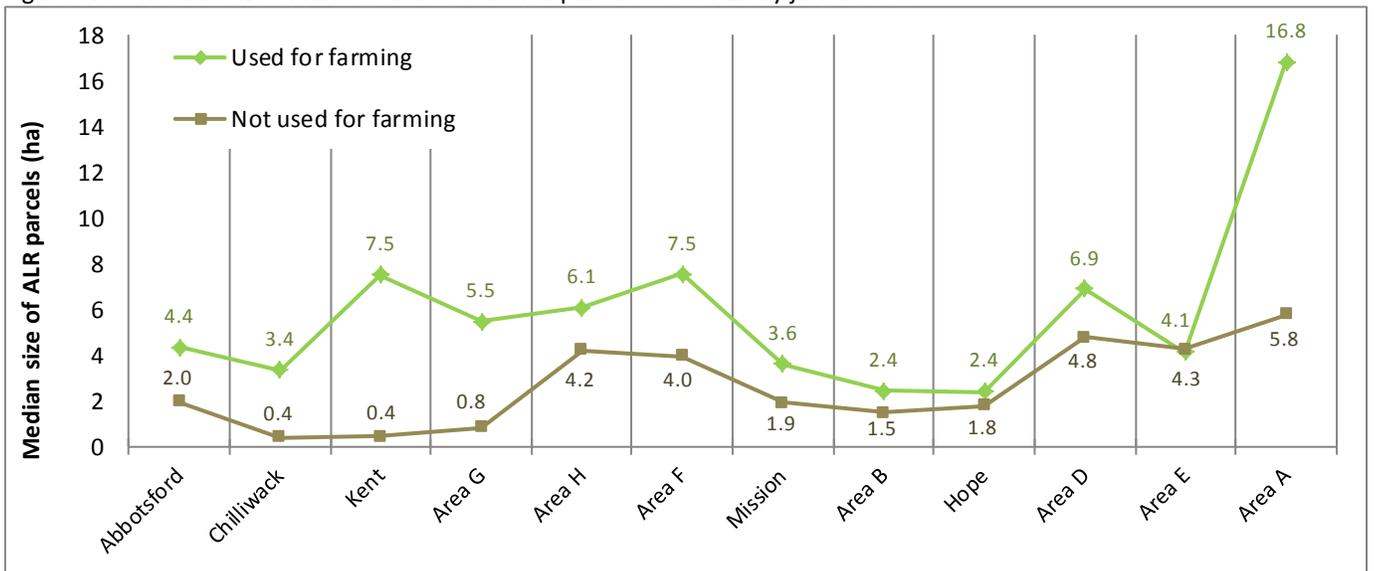


Figure 37 graphs the median parcel size of used and not used for farming parcels by jurisdiction. In almost all cases, the median parcel size of “Used for farming” parcels is greater than the median parcel size of “Not used for farming” parcels.

In Chilliwack, Kent, and Area G, the median parcel size of “Not used for farming” parcels is less than 1 ha.

Overall, “Used for farming” parcels have a median parcel size of 4.1 ha while “Not used for farming” parcels have a median parcel size of 1.1 ha.

Figure 38. Proportion of farmed and not farmed parcels in the ALR by jurisdiction

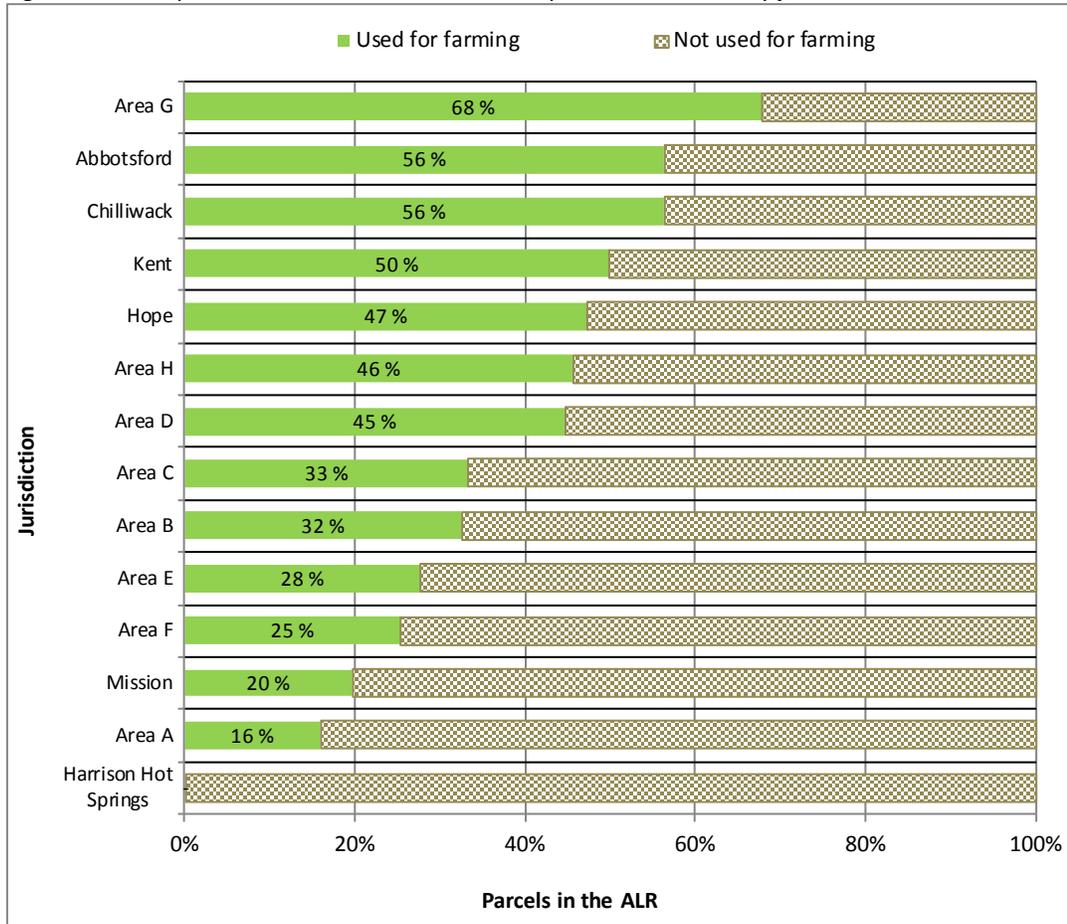


Figure 38 compares the proportion of “Used for farming” and “Not used for farming” parcels by jurisdiction.

Area G, Abbotsford and Chilliwack have the highest proportions of ALR parcels that are “Used for farming”. These jurisdictions are best utilizing their ALR parcels for farming purposes.

## 6. ALR Availability for Farming

There is a strong demand for agricultural products produced in the lower mainland. This demand is expected to increase with population growth<sup>11</sup>. Future agricultural land needs will be influenced by the increase in demand for agricultural products, as well as farm management requirements such as nutrient management and bio-security. Agricultural growth may have to take place on a fixed land base as lands that are suitable to increase output may not be available. Agricultural sectors that require large land bases, such as dairy or berry, may find it difficult to access land for farm expansion or for starting new operations. Future agriculture growth may come from new commodity types and intensifying land use rather than finding new land for development.

The analysis in this section examines the number of parcels that are used for farming, available for farming, and unavailable for farming. The proportion of land available for farming on these parcels, and the characteristics of this land is also examined.

Properties currently “Used for farming” or with some agriculture present are considered available for farm expansion. Properties currently “Not used for farming” but with an existing land use compatible with agriculture, such as residential, are considered available for farming. In both cases, it is assumed that any existing non-farm land uses will be maintained and will not be displaced by agriculture expansion.

Properties that are currently “Not used for farming” and with an established non-farm use that is incompatible with agriculture (e.g. a golf course, a school, or small lot residential) are considered to be unavailable for farming. These properties may be altered in a way that is incompatible with agriculture, may have little land available, and/or tend to have very high land values. It is usually uneconomical for a farmer to acquire and convert these properties to farmland given the limited potential for farming. Also, if there is insufficient land available on a parcel with an existing non-farm use, it will not likely be considered for lease by farmers.

In order for a parcel to be considered “available for farming”, it must have at least 0.4 ha and at least 50% of the parcel area in land cover that is available and has potential for farming. Areas considered to have potential for farming include:

- natural and semi-natural vegetation,
- areas in managed vegetation (managed for landscaping, dust or soil control), and
- non-built or bare areas

Built structures, fill piles, waterbodies, and wetlands are considered to not have potential for farming. It is assumed these areas would not likely be removed or filled in to create land with cultivation potential. In addition, areas with steep slopes, rocky soils or operational constraints such as a very small size are considered to have limited potential for farming and are excluded from the available land cover.

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<sup>11</sup> In BC, the regulated marketing system requires that over 95% of our milk, eggs, chicken and turkey be produced in BC. The need to produce these products increases in direct proportion to the population growth.

Table 17. Farm and availability status of parcels in the ALR

Parcel availability for farming	Number of ALR parcels	% of parcels in the ALR
Used for farming	5,312	54 %
Not used for farming and unavailable	2,824	29 %
Not used for farming and available	1,754	18 %
<b>TOTAL</b>	<b>9,890</b>	<b>100 %</b>

Table 17 demonstrates that of the 9,890 parcels in the ALR, over half are “Used for farming” ( 5,312 parcels or 54% of all ALR parcels).

Twenty-nine percent (29%) of the ALR parcels are unavailable for farming and 18% are potentially available for farm expansion.

### ON PARCELS USED FOR FARMING

Parcels that are “Used for farming” do not always utilize 100% of their land area. Areas in natural and semi-natural vegetation or in anthropogenic managed vegetation may be available to bring into agricultural production. Some of these area may be amalgamated into existing fields or may already be used for natural grazing. If the assumption is made that farmers generally do not leave productive land idle, it may indicate that these areas are serving a purpose that was not apparent in the field survey (e.g. wildlife habitat, stream buffers), or may have an unobserved physical limitation (e.g. soils, drainage).

Although there is some available land cover on “Used for farming” parcels, these areas are generally small and offer little opportunity to increase the overall amount of farmed area in FVRD. In addition, these areas do not represent parcels available to new farming entrants.

The size distribution of “Used for farming” parcels in detailed in Section 5. Refer to Figure 29 for details on land use on “Used for farming” parcels.

Figure 39. Proportion of land cover categories on “Used for farming” parcels in the ALR

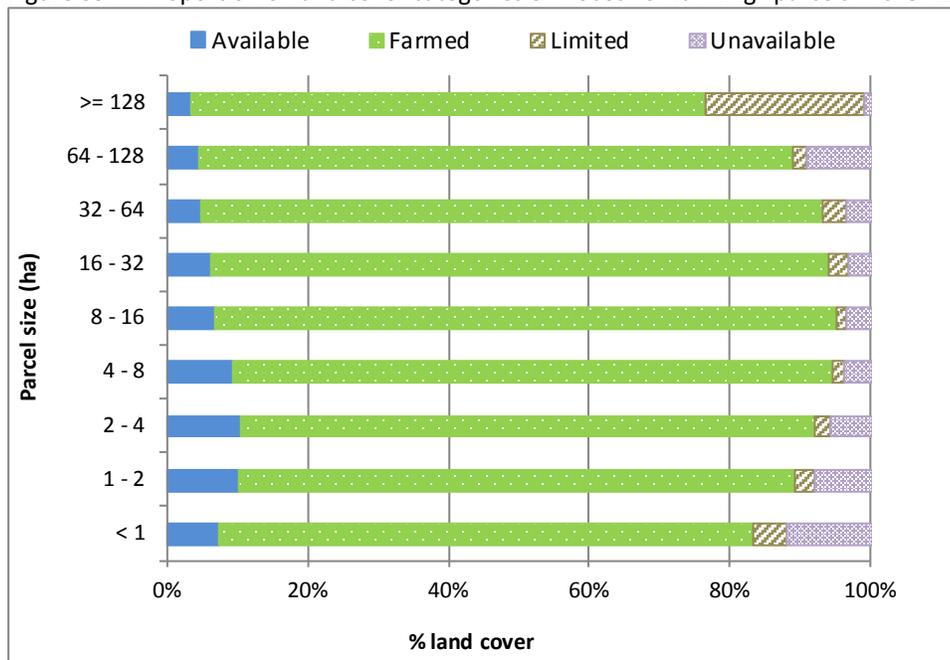


Figure 39 illustrates the proportion of land cover categories on parcels that are already “Used for farming”.

In general, the opportunities to expand agriculture on these parcels is limited. Only 7% of the total area of all parcels “Used for farming” are considered available for farming expansion. The majority of these available areas are in natural and semi-natural vegetation (refer to Figure 41).

Figure 40. Size of available areas on “Used for farming” parcels in the ALR

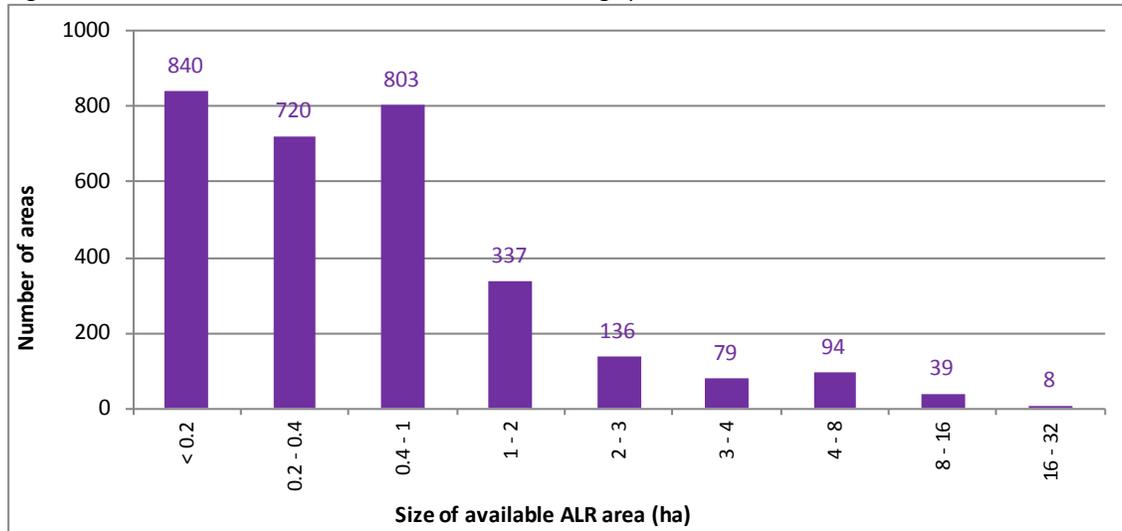


Figure 40 illustrates the size of the areas available for farming on “Used for farming” parcels. Most areas are small with 88% of the available land cover areas being less than 2 ha. These areas would have little influence on increasing the total area under cultivation.

Figure 41. Available for farming land cover types on “Used for farming” parcels in the ALR

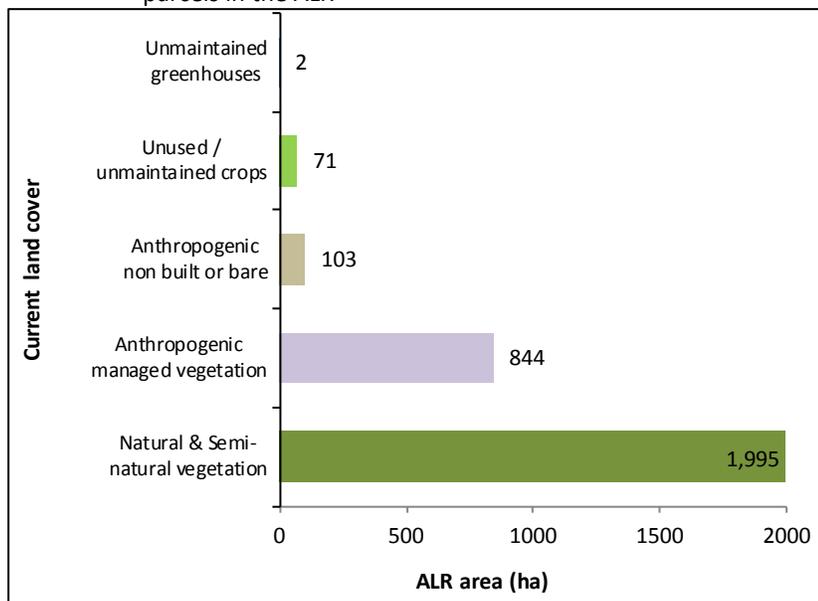


Figure 41 shows the type of land cover on available for farming ALR land on parcels already “Used for farming”.

Land currently in “Natural & Semi-natural” vegetation could provide the greatest gains in cultivated land.

Most land in “Natural & Semi-natural” land cover is treed (78% or 1,575 ha out of 1,995 ha) and would need to be cleared before cultivation could begin.

Any increase in agriculture would have to be measured against ecological values such as wildlife habitat and societal values such as privacy and views.

## ON PARCELS AVAILABLE FOR FARMING

Parcels with ALR land available for farming that are currently “Not used for farming” offer the greatest potential for agricultural expansion. These parcels are a subset of the “Not used for farming” parcels described in Section 5. Parcels considered available for farming:

- Must not already be “Used for farming”
- Must not have an existing use that excludes agricultural development (e.g. parks, golf courses)
- Must have at least 50% of the parcel area and at least 0.4 ha in land that is available for farming

Figure 42. Proportion of land cover categories on available for farming parcels in the ALR

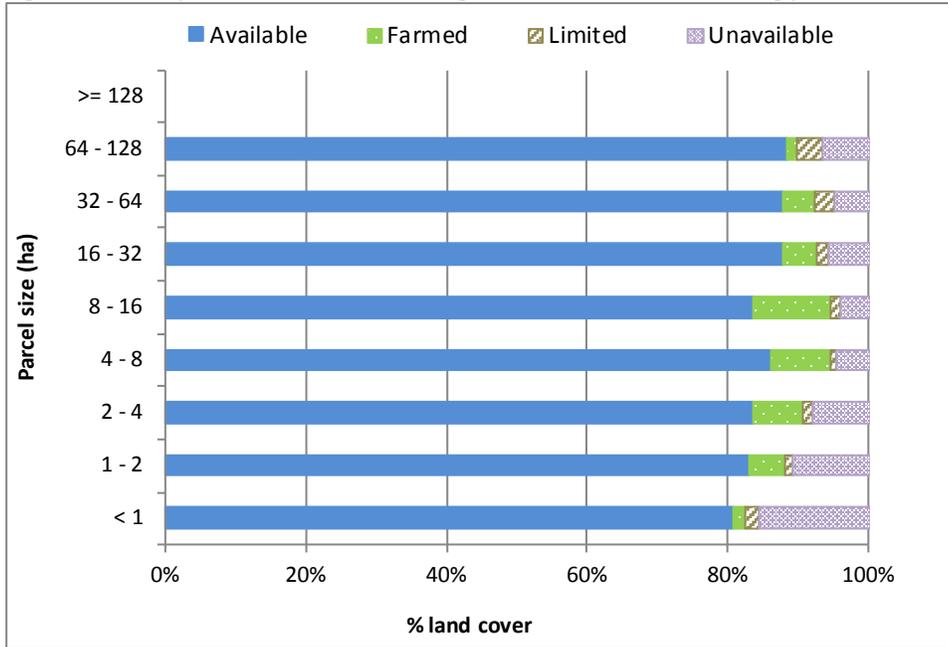


Figure 42 illustrates the proportion of land cover categories on parcels that are available for farming.

In general, these parcels have a large proportion of their area in land cover that is available for farming. These parcels offer the greatest potential to increase agricultural production in the future.

In addition, there is very little land constrained by physical limitations (e.g. soils, slope), on these parcels.

Figure 43. Size of available areas on available for farming parcels in the ALR

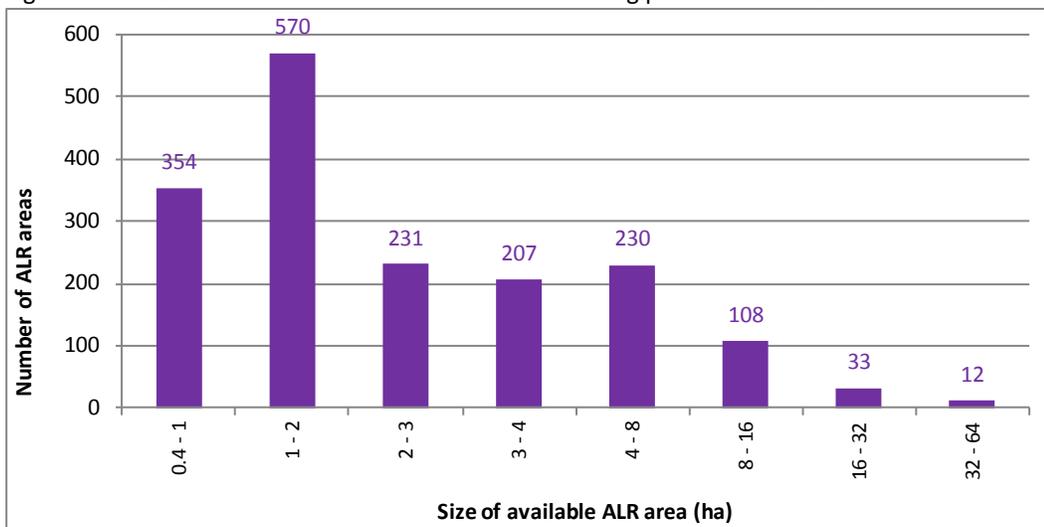


Figure 43 illustrates the size of the available areas on parcels that are considered available for farming. Of these areas:

- 20% are less than 1 ha (354 areas)
- 53% are less than 2 ha (924 areas)
- 78% are less than 4 ha (1,362 areas)
- 22% are greater than 4 ha (383 areas)

Refer to Figure 45 for the size of parcels in the ALR that are available for farming.

Figure 44. Available for farming land cover types on available parcels in the ALR

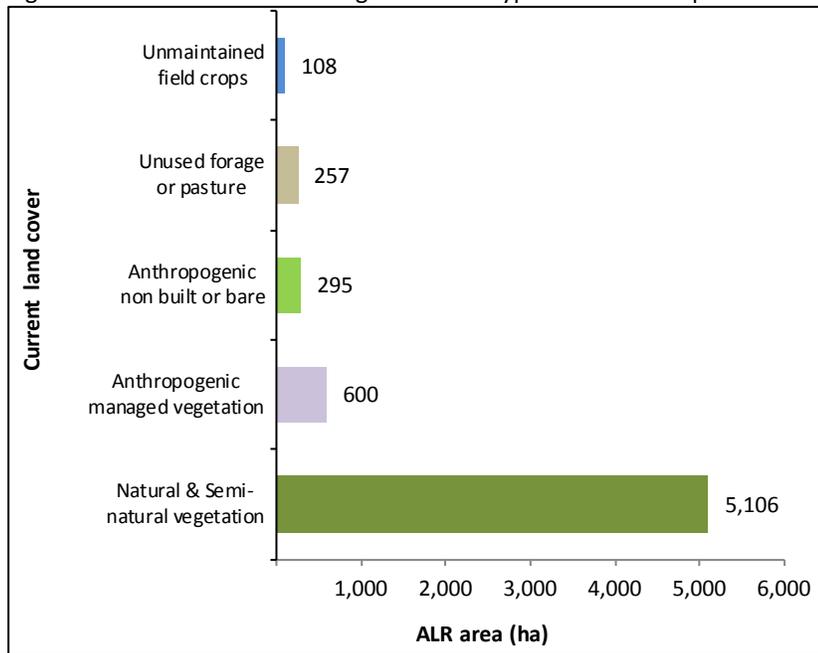


Figure 44 shows the type of land cover on available land on parcels that are available for farming.

Land currently in “Natural & Semi-natural” vegetation could provide the greatest gains in cultivated land.

Most land in “Natural & Semi-natural” land cover is treed (72% or 3,692 ha out of 5,106 ha) and would need to be cleared before cultivation could begin. The remaining natural vegetation is in grass, herbs, and shrubs.

These gains would have to be measured against ecological values such as wildlife habitat and societal values such as privacy and views.

Figure 45. Parcel size distribution of available for farming parcels in the ALR

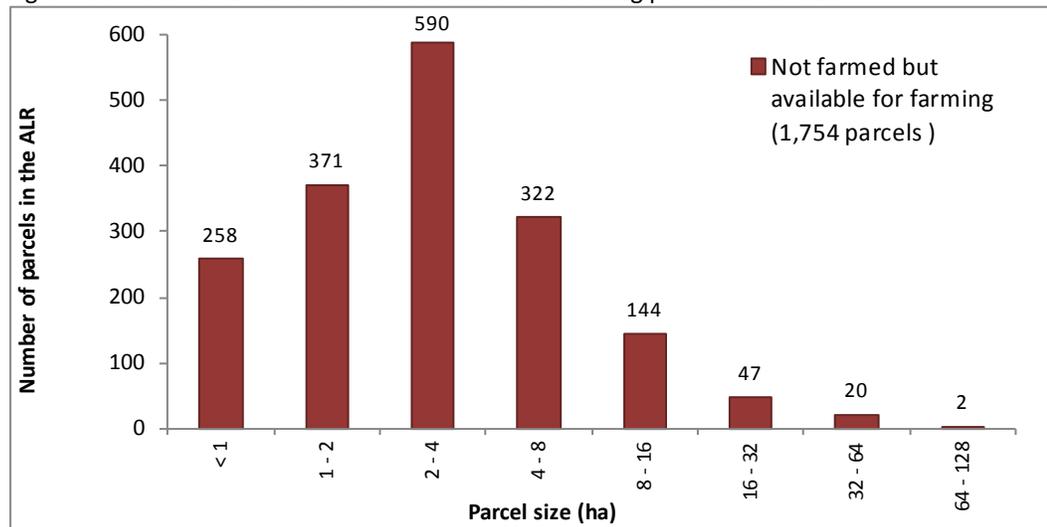


Figure 45 shows the number of ALR parcels that are available for farming. In total, there are 1,754 ALR parcels considered available for farming. These parcels may provide opportunities to expand agriculture in the region. Of the available parcels:

- 629 parcels (36%) are less than 2 ha
- 1,219 parcels (69%) are less than 4 ha
- 535 parcels (31%) are greater than 4 ha
- 69 parcels (4%) are greater than 16 ha

The land uses on these parcels are shown in Figure 46 and Figure 47.

Figure 46. Parcel size distribution and land uses on available for farming parcels in the ALR

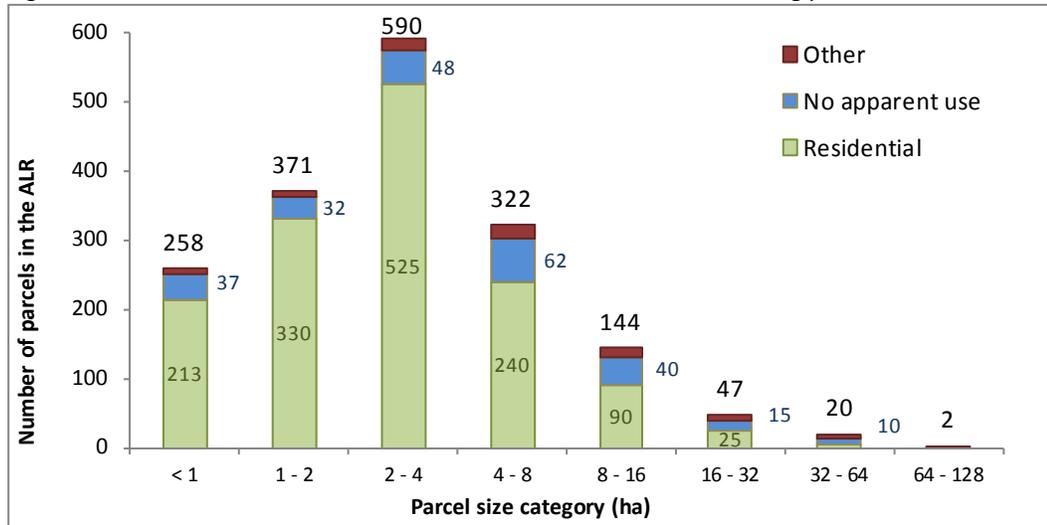


Figure 46 depicts the existing land uses on parcels in the ALR that are available for farming. In total, 81% of the available parcels have a residential land use, 14% have no apparent use, and the remaining 5% have other uses including gravel extraction, utilities, and industrial.

Figure 47. Parcel size distribution of available for farming parcels in the ALR with no apparent use

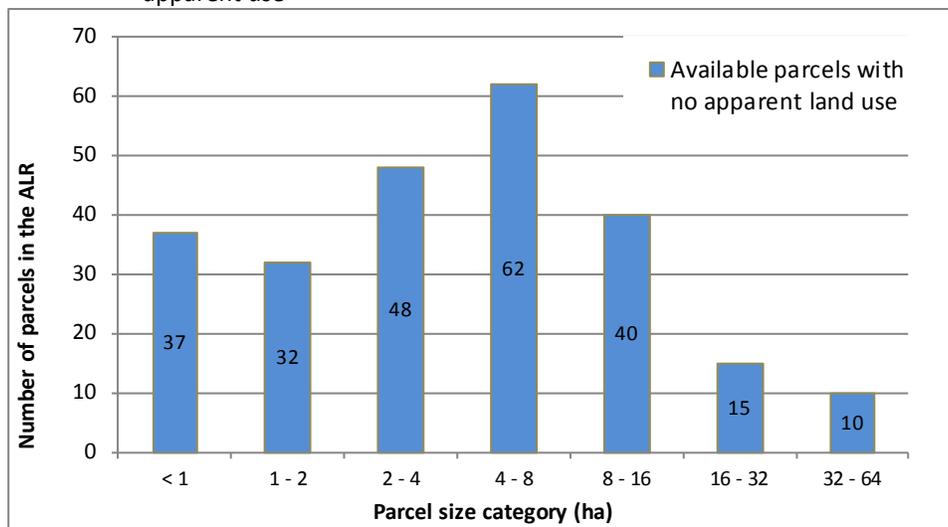


Figure 47 shows the number of ALR parcels that that are available for farming and that have no apparent land use. Of these 244 parcels:

- 69 parcels are less than 2 ha
- 117 parcels are less than 4 ha
- 127 parcels are greater than 4 ha
- 25 parcels are greater than 16 ha

## Available Parcels By Jurisdiction

Table 18. Available for farming parcels in the ALR by jurisdiction

ALR parcels available for farming with >=50% of their parcel area in land available and with potential farming			
Jurisdiction	Number of ALR parcels	% of available parcels	Total parcel area (ha)
Abbotsford	973	55 %	3,915
Chilliwack	295	17 %	946
Area F	132	8 %	887
Kent	79	5 %	332
Mission	77	4 %	226
Area H	51	3 %	420
Area B	37	2 %	259
Area G	32	2 %	93
Area E	23	1 %	157
Area A	20	1 %	183
Area D	16	<1 %	99
Hope	13	<1 %	82
Harrison Hot Springs	5	<1 %	128
Area C	1	<1 %	10
<b>TOTAL</b>	<b>1,754</b>	<b>100 %</b>	<b>7,737</b>

Table 18 details the ALR parcels that are currently “Not used for farming” but that are available and have potential to be brought into production.

In total, 55% of the available parcels are in Abbotsford and 17% are in Chilliwack.

Figure 48. Available for farming parcels in the ALR by jurisdiction

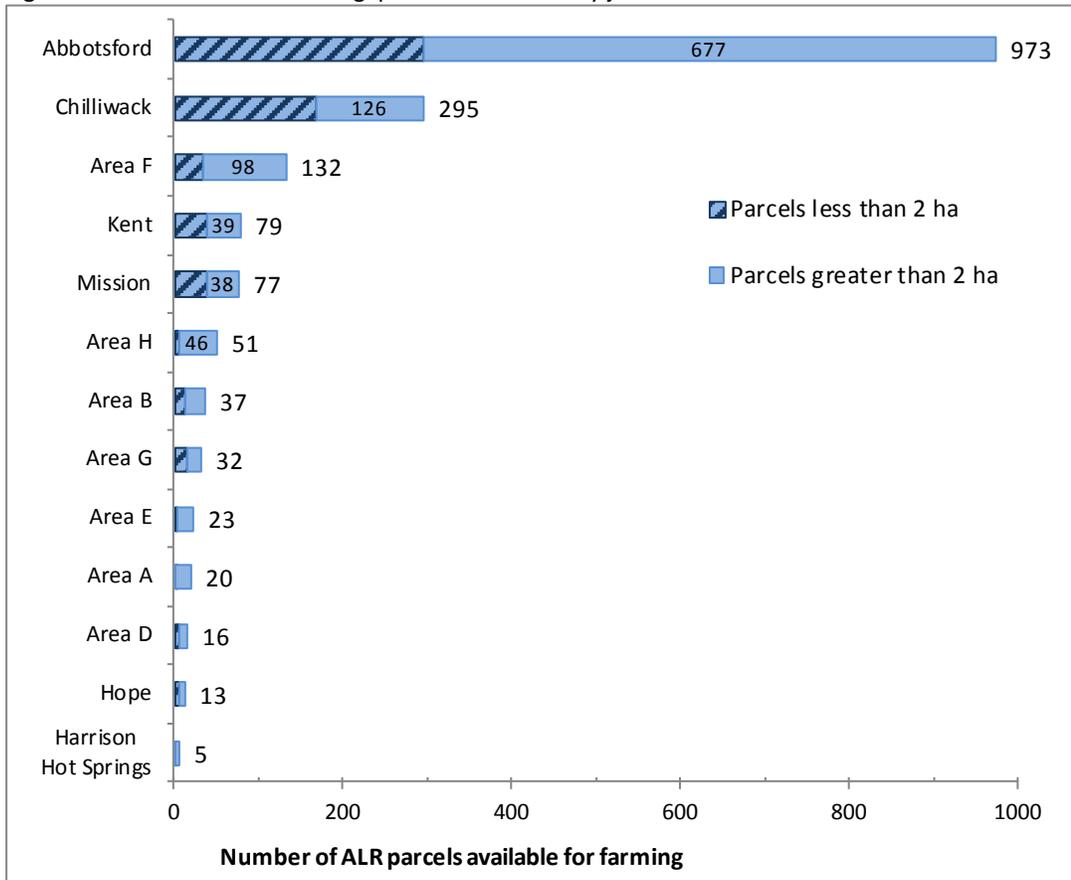


Figure 48 shows the number of ALR parcels that are currently “Not used for farming” but that are available and have potential to be brought into production.

All available parcels have at least 0.4 ha and 50% of the parcel area in land that is available for farming. If an available parcel is 2 ha in size, it will have at least 1 ha (50% of the parcels area) of available land.

## ON PARCELS UNAVAILABLE FOR FARMING

Parcels that are “Not used for farming and are unavailable for farming” have an existing land use that excludes agricultural development (e.g. golf courses, schools, small lot residential), or lack land cover that is available and has potential for farming. A parcel covered in trees with steep topography is considered unavailable for farming because it does not have any available land cover. Parcels that do not meet the minimum parcel availability criteria (>50% of the parcel area and >0.4 ha in available land cover) are considered unavailable for farming. These parcels are a subset of the “Not used for farming” parcels described in Section 5.

Figure 49. Parcel size distribution of unavailable for farming parcels in the ALR

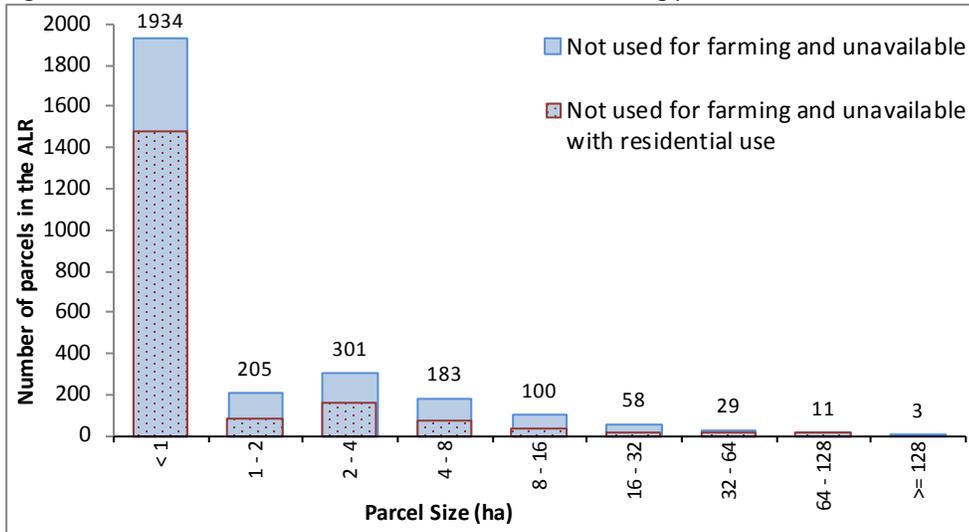


Figure 49 shows the number of ALR parcels that are unavailable for farming. These parcels have an existing land use or low availability of suitable land.

The majority of the unavailable parcels are less than 1 ha in size (68%). Furthermore, the majority of all unavailable parcels have a residential use (65%).

Figure 50. Land uses on unavailable parcels in the ALR

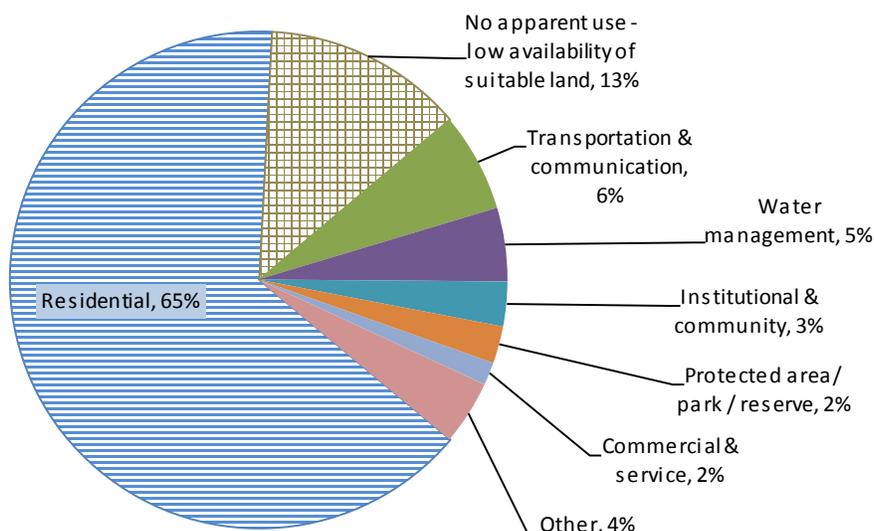


Figure 50 shows the proportion of unavailable for farming ALR parcels by their land use.

Most unavailable for farming parcels have residential land use.

Parcels with low availability of suitable land have insufficient available land cover. The natural and semi-natural land on these parcels may have physical limitations such as topography or soils.

## Appendix A – Indian reserves

Table A1. Inventoried area on Indian reserves within FVRD

Band name	Inventoried Area		
	In ALR (ha)	Outside ALR (ha)	Total area (ha)
Aitchelitz	19	2	21
Boothroyd	47	201	248
Boston Bar	71	59	130
Chawathil	524	9	533
Cheam	142	14	157
Kwaw-kwaw-Apilt	68	1	69
Leq'a: mel	89	23	112
Matsqui	139	10	149
Multiple bands - Grass 15*	443	20	463
Multiple bands - Skumalasp 16^	64	-	64
Peters	147	5	152
Popkum	103	32	135
Scowlitz	81	47	128
Seabird Island	1,566	4	1,570
Shxwhá:y Village	258	4	262
Shxw'ow'hamel	225	<1	226
Skatin Nations	205	103	308
Skawahlook	59	12	71
Skowkale	67	<1	68
Skwah	346	3	350
Soowahlie	267	15	282
Squiala	89	21	110
Sts'ailes	56	5	61
Sumas	166	<1	166
Tzeachten	166	14	180
Union Bar	227	133	360
Yakweakwioose	20	-	20
Yale	126	5	131
<b>TOTAL</b>	<b>5,781</b>	<b>745</b>	<b>6,527</b>

Table A1 shows the total area inventoried on Indian reserves by band name.

\*The Grass 15 reserve is associated with 9 bands (Aitchelitz, Kwaw-kwaw-Apilt, Shxwhá:y Village, Skowkale, Skwah, Soowahlie, Squiala, Tzeachten, and Yakweakwioose).

^ The Skumalasp 16 reserve is associated with 5 bands (Aitchelitz, Kwaw-kwaw-Apilt, Shxwhá:y Village, Skwah, and Squiala).

Table A2. Land cover and farmed area on Indian reserves

Land cover*		In ALR (ha)	Outside ALR (ha)	Total area (ha)
Actively farmed	Cultivated field crops	1,386	2	1,388
	Farm Infrastructure	5	<1	5
	Greenhouses	<1	-	<1
Inactively farmed	Unused forage or pasture	17	<1	17
	Unmaintained field crops	19	-	19
<b>FARMED SUBTOTAL</b>		<b>1,427</b>	<b>2</b>	<b>1,430</b>
Anthropogenic (not farmed)	Managed vegetation	199	3	202
	Residential footprint	123	14	137
	Non Built or Bare	67	<1	68
	Transportation	157	21	178
	Settlement	42	6	48
	Waterbodies	49	<1	49
	Utilities	4	<1	5
	Built up - Other	1	-	1
<b>SUBTOTAL</b>		<b>643</b>	<b>45</b>	<b>688</b>
Natural and Semi-natural	Vegetated	3,630	643	4,274
	Wetlands & waterbodies	75	54	129
	Natural bare areas	6	<1	7
<b>SUBTOTAL</b>		<b>3,711</b>	<b>698</b>	<b>4,409</b>
<b>TOTAL</b>		<b>5,781</b>	<b>745</b>	<b>6,527</b>

See "Land Cover" in the glossary for terms used in this table.

Table A2 shows the extent of different land cover types across the surveyed Indian reserves in FVRD. Within the ALR, there was 1,427 ha of "Farmed" land cover. Five ha was in farm infrastructure, 1386 ha was actively farmed in cultivated crops, and 36 ha was inactively farmed in unused and unmaintained crops. An additional 2 ha of cultivated field crops were identified outside of the ALR.

Table A3. ALR land cover and farmed area by band name

Band Name	Land Cover Category			Total ALR area (ha)
	Farmed (ha)	Anthropogenic (not farmed) (ha)	Natural & Semi-natural (ha)	
Aitchelitz	-	9	10	19
Boothroyd	-	12	34	47
Boston Bar	-	11	60	71
Chawathil	2	25	496	524
Cheam	91	12	39	142
Kwaw-kwaw-Apilt	-	13	55	68
Leq'a: mel	53	3	34	89
Matsqui	20	19	100	139
Multiple bands - Grass 15*	64	-	-	64
Multiple bands - Skumalasp 16^	-	-	443	443
Peters	44	3	101	147
Popkum	26	<1	77	103
Scowlitz	-	10	71	81
Seabird Island	718	140	709	1,566
Shxwhá:y Village	79	99	80	258
Shxw'ow'hamel	4	9	212	225
Skatin Nations	-	15	190	205
Skawahlook	<1	6	53	59
Skowkale	20	46	2	67
Skwah	172	42	133	346
Soowahlie	<1	32	234	267
Squiala	14	42	32	89
Sts'ailes	-	27	29	56
Sumas	98	4	63	166
Tzeachten	7	52	107	166
Union Bar	-	<1	226	227
Yakweakwioose	15	4	<1	20
Yale	-	7	119	126
<b>TOTAL</b>	<b>1,427</b>	<b>643</b>	<b>3,711</b>	<b>5,781</b>

\*The Grass 15 reserve is associated with 9 bands (Aitchelitz, Kwaw-kwaw-Apilt, Shxwhá:y Village, Skowkale, Skwah, Soowahlie, Squiala, Tzeachten, and Yakweakwioose).

^ The Skumalasp 16 reserve is associated with 5 bands (Aitchelitz, Kwaw-kwaw-Apilt, Shxwhá:y Village, Skwah, and Squiala).

Table A3 summarizes the ALR land cover type on Indian reserves by band name. In total, there was 1,427 ha of farmed land cover recorded across 18 bands.

“Farmed” land cover includes cultivated crops and farm infrastructure.

## Cultivated crops on Indian reserves

Table A4. Main field crop types on Indian reserves

Crop type	ALR		Outside ALR (ha)	Total area (ha)
	In ALR (ha)	% of ALR		
Forage & pasture	1,010	1%	2	1,012
Nursery	138	< 1%	< 1	138
Vegetables	136	< 1%	-	136
Nut trees	49	< 1%	-	49
Other	46	< 1%	< 1	46
Trees (plantation)	20	< 1%	-	20
Berries	19	< 1%	-	19
Tree fruits	4	< 1%	< 1	4
<b>TOTAL</b>	<b>1,422</b>	<b>2%</b>	<b>2</b>	<b>1,425</b>

Table A4 shows that 1,425 ha of cultivated crops were recorded on Indian reserves.

The main crop type was forage & pasture with 1,012 ha. Nursery crops were second with 138 ha followed by and vegetables with 136 ha.

Table A5. Main field crop types by band name

Band name	Cultivated crops in the ALR (ha)								Total area (ha)
	Forage & pasture	Nursery	Vegetables	Nut trees	Other	Trees (plantation)	Berries	Tree fruits	
Seabird Island	497	126	-	48	46	-	-	-	717
Skwah	161	9	-	-	-	-	-	-	171
Sumas	32	2	64	-	-	-	-	-	98
Cheam	69	-	22	-	< 1	-	-	-	91
Shxwhá:y Village	3	-	35	-	-	20	19	< 1	78
Multiple bands - Grass 15	64	-	-	-	-	-	-	-	64
Leq'a: mel	52	-	-	-	-	-	-	-	52
Peters	43	-	-	-	-	-	-	-	43
Popkum	26	-	-	-	-	-	-	-	26
Matsqui	20	-	-	-	-	-	-	-	20
Skowkale	4	-	15	-	-	-	-	-	20
Yakweakwoose	15	-	-	-	-	-	-	-	15
Squiala	14	-	-	-	-	-	-	-	14
Tzeachten	7	-	-	-	-	-	-	-	7
Shxw'ow'hamel	-	-	-	2	-	-	-	2	4
Chawathil	2	-	-	-	-	-	-	< 1	2
Soowahlie	-	< 1	-	-	-	-	-	< 1	< 1
Skawahlook	-	-	-	-	-	-	-	< 1	< 1
<b>TOTAL</b>	<b>1,010</b>	<b>138</b>	<b>136</b>	<b>49</b>	<b>46</b>	<b>20</b>	<b>19</b>	<b>4</b>	<b>1,422</b>

Table A5 details the crop types in the ALR by Indian reserve band name.

Half of all cultivated crops on Indian reserves occur on Seabird Island (717 ha out of 1,422 ha of cultivated fields).

Table A6. Irrigation systems by crop type and band name

Band name	Cultivated field crop	Irrigation system (ha)		Total area irrigated (ha)
		Giant gun	Sprinkler	
Cheam	Forage & pasture	16	-	16
	Vegetables	22	-	22
<b>SUBTOTAL</b>		<b>37</b>	<b>-</b>	<b>37</b>
Popkum	Forage & pasture	17	-	17
	<b>SUBTOTAL</b>	<b>17</b>	<b>-</b>	<b>17</b>
Seabird Island	Forage & pasture	203	-	203
	Nursery	88	39	126
<b>SUBTOTAL</b>		<b>291</b>	<b>39</b>	<b>330</b>
Shxwhá:y Village	Vegetables	20	-	20
	<b>SUBTOTAL</b>	<b>20</b>	<b>-</b>	<b>20</b>
Skawahlook	Tree fruits	-	< 1	< 1
	<b>SUBTOTAL</b>	<b>-</b>	<b>&lt;1</b>	<b>&lt;1</b>
Skowkale	Vegetables	14	-	14
	<b>SUBTOTAL</b>	<b>14</b>	<b>-</b>	<b>14</b>
Skwah	Nursery	-	9	9
	<b>SUBTOTAL</b>	<b>-</b>	<b>9</b>	<b>9</b>
Sumas	Forage & pasture	17	-	17
	Nursery	2	-	2
	Vegetables	64	-	64
<b>SUBTOTAL</b>		<b>84</b>	<b>-</b>	<b>84</b>
<b>TOTAL FIELD CROP AREA IRRIGATED</b>		<b>463</b>	<b>48</b>	<b>512</b>

Table A6 shows that of the 1,422 ha of cultivated crops on Indian reserves (See Table A5), 512 ha (36%) are irrigated.

Giant gun systems are used to irrigate 463 ha while sprinkler systems are used to irrigate 48 ha.

## Appendix B – Glossary

**Actively farmed** – Land cover considered **Farmed** but excludes unused / unmaintained field crops, and unmaintained greenhouses. Does not include natural pasture or rangeland.

**Agricultural Land Reserve (ALR)** – A provincial zone in which agriculture is recognized as the priority use. Farming is encouraged and non-agricultural uses are controlled.

**Animal Unit Equivalent** – A standard measurement used to compare different livestock types. One animal unit equivalent is approximately equal to one adult cow or horse.

**Anthropogenic** – The term *anthropogenic* describes an effect or object resulting from human activity. In this report, the term anthropogenic refers to land cover originating and maintained by human actions but excludes farmed land cover; cultivated field crops, farm infrastructure, and crop cover structures.

**Anthropogenic – Built up - Other** – Lands covered by various unused or unmaintained built objects (structures) and associated yards that are not directly used for farming.

**Anthropogenic – Managed vegetation** – Lands seeded or planted for landscaping, dust or soil control but not cultivated for harvest or pasture. Includes parklands, golf courses, landscaping, lawns, vegetated enclosures, remediation areas.

**Anthropogenic – Non Built or Bare** – Human created bare areas such as extraction or disposal sites. Includes piles, pits, fill dumps, dirt parking or storage areas.

**Anthropogenic – Residential** – Lands covered by built objects (structures) and their associated auxiliary buildings, yards, roads, and parking. Includes single family dwellings, multifamily dwellings, and mobile homes.

**Anthropogenic – Residential footprint** – Includes the main residence plus its associated yard, driveway, parking and any auxiliary buildings or structures. When two residences are on a property, areas associated to both (such as shared driveways, parking or yard), are assigned to the closest residence.

**Anthropogenic – Settlement** – Lands covered by built objects (structures) and their associated yards, roads, and parking. Includes institutional, commercial, industrial, sports / recreation, military, non linear utility areas and storage / parking.

**Anthropogenic – Transportation** – Lands covered by built objects (structures). Includes roads, railways, airports and associated buffers and yards.

**Anthropogenic – Utilities** – Lands covered by built objects (structures). Includes linear features such as pipelines or transmission lines.

**Anthropogenic Waterbodies** – Areas covered by water, snow or ice due to human construction. Includes reservoirs, canals, ditches, and artificial lakes - with or without non cultivated vegetation.

**Available for farming** – Parcels that can be used for agricultural purposes without displacing a current use. Includes all parcels that do not meet the “Unavailable for farming” criteria.

**BC Assessment** – The Crown corporation which produces annual, uniform property assessments that are used to calculate local and provincial taxation. The database purchased from BC Assessment

contains information about property ownership, land use, and farm classification, which is useful for land use surveys.

**Cadastral** – The GIS layer containing parcel boundaries, i.e. legal lot lines.

**Crop cover structures** – Land covered with built objects including permanent enclosed glass or poly structures (**greenhouses**) with or without climate control facilities for growing plants and vegetation under controlled environments, and barns used for growing crops such as mushrooms. Excludes non-permanent structures such as hoop or tunnel covers.

**Crown ownership** – Crown ownership includes parcels which are owned by provincial or federal governments. Parcel ownership is determined by the Integrated Cadastral Fabric maintained by the Parcel Fabric Section of the BC Government.

**Cultivated field crops** - Land under cultivation for harvest or pasture. Includes crop land, fallow farmland, unused forage or pasture, un-housed container crops and crops under temporary covers. Excludes natural pasture, rangeland, greenhouses, mushroom barns and other crop houses.

**Effective ALR** – The **Agricultural Land Reserve** area that is in legally surveyed parcels and under the jurisdiction of the area of interest. The effective ALR is the total ALR excluding ALR on Indian reserves and ALR outside of legally surveyed parcels. Effective ALR can be used to compare land cover categories across different jurisdictions.

**Farm classification for tax assessment** – Applies to parcels producing the minimum dollar amount to be classified as a farm by BC Assessment. Local governments apply a tax rate to farmland which is usually lower than for other land. To receive and maintain the farm classification, the land must generate annual income from agricultural production.

**Farm infrastructure** – Land covered by farm related built objects (structures) and their associated yards, roads, parking. Includes barns, storage structures, paddocks, corrals, riding rings, farm equipment storage, and specialized farm buildings such as hatcheries. Excludes greenhouses, mushroom barns and other crop houses.

**Farm Unit** – An area of land used for a farm operation consisting of one or more contiguous or non-contiguous parcels, that may be owned, rented or leased, which form and are managed as a single farm.

**Farmed** – Land cover directly contributing to agricultural production (both actively farmed and inactively farmed) and intentionally planted or built. Includes land in **Cultivated field crops**, **Farm infrastructure** and **Crop cover structures** (see individual definitions). Does not include natural pasture or rangeland.

**Grazed** – Land in **natural pasture or rangeland** that is used for grazing domestic livestock. These areas are considered separate from **Farmed** land cover.

**Homesite (livestock)** – The homesite is the primary location of a farm unit or livestock operation where most livestock management occurs. It is the location of the main ranch or main barn of a **farm unit**.

**Inactively farmed** – Land cover considered “Farmed” but is currently inactive. Includes unused / unmaintained forage and pasture, unmaintained field crops, and unmaintained greenhouses or crop barns. Does not include natural pasture or rangeland.

**Intensive livestock** – Intensive livestock have specialized structures such as barns, feedlots, or stockyards designed for confined feeding at high stocking densities.

**Land use – Dumps & deposits** – Parcels with landfills, green waste, or outdoor composting facilities. Also includes parcels with significant fill deposits.

**Land use – First Nations** – Parcels designated for ceremonial use, food & material harvesting, or cultural landforms. These parcels are outside of federally designated Indian reserves.

**Land use – Institutional & community** – Parcels with churches, cemeteries, hospitals, medical centers, education facilities, correctional facilities, or government and First Nation administration.

**Land use – No apparent use** – Parcel with no apparent human use; natural areas, long term fallow land, cleared land not in production, abandoned or neglected land, abandoned or unused structures.

**Land use – Protected area / park / reserve** – Includes provincial parks, other parks, and ecological reserves. Areas may have passive recreation such as hiking, nature viewing, or camping.

**Land use – Recreation & leisure** – Parcels with intensive recreation (such as zoos, rinks, courts, walking/biking trails), or extensive recreation (such as horseback riding, wilderness camping sites, fishing, hunting, skiing, etc.). Golf course are reported separately.

**Land use – Water management** – Areas used to actively or inactively manage water. Includes reservoirs, managed wetlands, dykes and land which provides natural flood/erosion protection (land outside dyke).

**Land use – Wildlife management** – Areas used to actively or inactively manage wildlife. Includes wildlife reserves, breeding areas, fishing areas, and fish ladders/hatcheries.

**Limited potential for farming** – See **potential for farming**.

**Livestock operation scale** – See **Scale of livestock operations**.

**Natural and Semi-natural** – Land cover which has not originated from human activities or is not being maintained by human actions. Includes regenerating lands, and old farm fields.

**Natural and Semi-natural – Grass** – Land cover dominated by herbaceous plants with long, narrow leaves characterized by linear venation; including grasses, sedges, rushes, and other related species.

**Natural and Semi-natural – Herbaceous** – Land cover dominated by low, non woody plants such as ferns, grasses, horsetails, closers and dwarf woody plants. If greater than 50% cover is grass, the land is categorized as grass.

**Natural and Semi-natural – Natural bare areas** – Includes bare rock areas, sands and deserts.

**Natural and Semi-natural – Natural pasture** – Smaller fenced areas usually on private land with uncultivated (not sown) natural or semi-natural grasses, herbs or shrubs used for grazing domestic livestock.

**Natural and Semi-natural – Rangeland** – Larger areas usually on crown land with uncultivated (not sown) natural or semi-natural grasses, herbs or shrubs used for grazing domestic livestock.

**Natural and Semi-natural – Shrubs** – Land where less than 10% crown cover is native trees and at least 20% crown cover is multi-stemmed woody perennial plants, both evergreen and deciduous.

**Natural and Semi-natural – Treed - closed** – Land where between 60 and 100% of crown cover is native trees.

**Natural and Semi-natural – Treed - open** – Land where between 10 and 60% of crown cover is native trees.

**Natural pasture or rangeland** – Land with uncultivated (not sown) natural or semi-natural vegetation used for grazing domestic livestock. This land cover is considered “Used for grazing” and “Not used for farming” although these areas are usually extensions of more intensive farming areas.

**Non homesite (livestock)** – A location where livestock are present, but related infrastructure is minimal. Non homesites are used for pasturing and are secondary to the farm units primary (homesite) location.

**Non intensive livestock** – Non intensive livestock have the ability to graze on pasture and often utilize non intensive barns and corrals/paddocks.

**Not used for farming** – Parcels that do not meet the “Used for farming” criteria.

**Not used for farming but available** – Parcels that do not meet the “Used for farming” criteria but can be used for agricultural purposes without displacing a current use.

**Scale of livestock operations** – The scale system used in this report to describe livestock operations includes 4 levels:

- **“Very Small** Approximately 1 cow or horse or bison, 3 hogs, 5 goats or deer, 10 sheep, 50 turkeys, 100 chickens (1 animal unit equivalent)
- **“Small”** LESS THAN 25 cows or horses or bison, 75 hogs, 125 goats or deer, 250 sheep, 1250 turkeys, 2500 chickens (2 - 25 animal unit equivalents)
- **“Medium”** LESS THAN 100 cows or horses or bison, 300 hogs, 500 goats or deer, 1000 sheep, 5,000 turkeys, 10,000 chickens (25 - 100 animal unit equivalents)
- **“Large”** MORE THAN 100 cows or horses or bison, 300 hogs, 500 goats or deer, 1000 sheep, 5,000 turkeys, 10,000 chickens (over 100 animal unit equivalents)

**Potential for farming** – Land without significant topographical, physical or operational constraints to farming such as steep terrain, land under water, or built structures. For example, land with little slope, sufficient soils and exhibiting a natural treed land cover would be considered as having potential for farming. Areas less than 1 acre in size are considered to have limited potential for farming.

**Unavailable for farming** – “Not used for farming” parcels where future agricultural development is improbable because of a conflicting land use or land cover that utilizes the majority of the parcel area. For example, most residential parcels are considered unavailable for farming if the parcel size is less than 0.4 hectares (approximately 1 acre) since most of the parcel is covered by built structures, pavement and landscaping.

**Unmaintained field crops** – Land under cultivation for field crops which has not been maintained for several years and probably would not warrant harvest.

**Unmaintained forage or pasture** – Land under cultivation for forage or pasture which has not been cut or grazed during the current growing season and has not been maintained for several years.

**Unused forage or pasture** – Land under cultivation for forage or pasture which has not been cut or grazed during the current growing season.

**Used for farming** – See final page of glossary.

**Used for grazing** – Parcels “Not used for farming” with a significant portion of their area in natural pasture or rangeland and evidence of active grazing domestic livestock.

**Used for farming** – Parcels where the majority of the parcel area is farmed OR parcels which exhibit significant intensity of farming are considered “Used for farming”. Specifically, parcels that meet at least one of the following criteria:

- medium or large scale livestock, apiculture or aquaculture operations
- at least 45% parcel area in cultivated field crops (excluding unused forage or pasture)
- at least 50% parcel area built up with farm infrastructure
- at least 25% parcel area built up with crop cover structures (excluding unmaintained structures)
- at least 40% parcel area in cultivated field crops (excluding unused forage or pasture) or farm infrastructure and small scale livestock, apiculture or aquaculture operations
- at least 33% parcel area in cultivated field crops (excluding unused forage or pasture) and at least 55% parcel area in cultivated field crops (excluding unused forage or pasture) or farm infrastructure
- at least 10% parcel area in crop cover structures (excluding unmaintained structures) and at least 40% parcel area in cultivated field crops (excluding unused forage or pasture) or farm infrastructure
- at least 20% parcel area and at least 20 ha in cultivated field crops (excluding unused forage or pasture)
- at least 25% parcel area and at least 10 ha in cultivated field crops (excluding unused forage or pasture)
- at least 30% parcel area and at least 5 ha in cultivated field crops (excluding unused forage or pasture)
- at least 10% parcel area and at least 2 ha built up with crop cover structures (excluding unmaintained structures)
- at least 20% parcel area and at least 1 ha built up with crop cover structures (excluding unmaintained structures)