

Growing Knowledge



Ministry of
Agriculture

Agricultural Land Use Inventory

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FVRD – Electoral Area ‘F’ (Including Hatzic Prairie & Miracle Valley) Summer 2011



Photo Credit: Kim Sutherland, Ministry of Agriculture.

**Strengthening Farming Program
Ministry of Agriculture**

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Table of Contents

Acknowledgments.....	i
Contact Information.....	i
Table of Contents.....	ii
List of Tables	iii
List of Figures	iv
List of Tables – Appendix A	v
List of Figures – Appendix A.....	v
List of Maps – Appendix B.....	vi
Acronyms	vii
Definitions.....	viii
Executive Summary.....	1
Agrologist Comments.....	3
General Information	6
Agricultural Land Reserve.....	7
Inventory Area.....	8
Agricultural Land Use Inventory	9
Inventory Methodology.....	9
Description of the Data	10
Presentation of the Data	11
Determination of Parcels within the ALR	12
1. Land Cover and Farmed Area.....	13
2. Land Use and Farm Use	16
3. Availability of Land for Farming.....	19
Characteristics of Not Farmed but Available Lands	22
4. Farming Activities.....	25
Cultivated Field Crops.....	25
Greenhouses & Crops Barns.....	32
Irrigation	33
Livestock	35
On-Farm Value-Added.....	42
5. Condition of ALR Lands	44
Parcel Inclusion in the ALR	44
Parcel Size & Farming in the ALR.....	45
Residential Use In the ALR.....	48
Appendix A.....	53
Appendix B - Maps	

List of Tables

Table 1.	Land cover and farmed area	14
Table 2.	Land use and farming use by parcel	17
Table 3.	Parcel use and land cover in the ALR.....	18
Table 4.	Status of the land base with respect to farming.....	20
Table 5.	Land use and cover on parcels "Used for farming" with land available for farming but not farmed ...	22
Table 6.	Land use and cover on parcels "Not used for farming" with land available for farming	23
Table 7.	Main field crop types by area	25
Table 8.	Forage & pasture crops by area	27
Table 9.	Berry crops by area	29
Table 10.	Nursery & tree plantations by area	30
Table 11.	All crop types by area.....	31
Table 12.	Greenhouses by area	32
Table 13.	Main crop types and irrigation.....	33
Table 14.	All crop types and irrigation.....	34
Table 15.	All livestock activities (including equine)	36
Table 16.	Number of farmed and not farmed parcels in the ALR	46
Table 17.	Farming and residences in the ALR.....	48
Table 18.	Farming and residence type in the ALR	49
Table 19.	Main agricultural activity and largest residence on parcels "Used for farming" in the ALR.....	52
Table 20.	Main agricultural activity on parcels "Used for farming" with large or estate residences in the ALR ..	52

List of Figures

Figure 1.	General location map.....	6
Figure 2.	Agricultural Land Reserve location map	7
Figure 3.	Inventory area and Agricultural Land Reserve location map.....	8
Figure 4.	Parcel inclusion in the ALR	12
Figure 5.	Land cover and farmed area in the ALR.....	15
Figure 6.	Availability and potential of ALR lands for farming	21
Figure 7.	Land cover available for farming but not farmed on ALR parcels “Used for farming”	22
Figure 8.	Land cover available for farming but not farmed on ALR parcels “Not used for farming”	23
Figure 9.	Natural & Semi-natural land cover available for farming on ALR parcels “Not used for farming”	24
Figure 10.	Size of areas available for farming but not farmed on parcels “Not used for farming”	24
Figure 11.	Main field crop types by percentage	26
Figure 12.	All cultivated crop fields by size	26
Figure 13.	Forage & pasture, berries, and nursery & tree plantation fields by size	26
Figure 15.	Forage & pasture fields by size and type	28
Figure 16.	Blueberry fields by size	29
Figure 17.	Nursery & tree plantations by size and type	30
Figure 18.	All crop types by area.....	31
Figure 19.	Distribution of greenhouse activities by crop type.....	32
Figure 20.	Irrigation systems by percentage of cultivated land	33
Figure 21.	Livestock activities (excluding equine) by scale and type.....	37
Figure 22.	Livestock and equine activities by scale	37
Figure 23.	Livestock activities (excluding equine) by parcel size and scale	37
Figure 24.	Livestock activities (excluding equines) by parcel size and type	38
Figure 25.	Livestock and equine activities by parcel size.....	38
Figure 26.	Average area in forage, pasture and farm infrastructure on parcels with livestock activities (excluding very small scale)	39
Figure 27.	Total area in forage, pasture and farm infrastructure on parcels with livestock activities (excluding very small scale)	39
Figure 28.	Percent of parcel area utilized for forage, pasture and farm infrastructure on parcels with livestock activities (excluding very small scale)	40
Figure 29.	Land cover on parcels with equine and livestock activities (excluding very small scale)	40
Figure 30.	Land cover on parcels with livestock activities (excluding very small scale and excluding equine activities).....	41
Figure 31.	Percentage of parcels “Used for farming” with value-added activities.....	43
Figure 32.	Number of parcels with farming and value-added activities.....	43
Figure 33.	Parcel inclusion in the ALR	44
Figure 34.	Number of parcels in the ALR by parcel size.....	45
Figure 35.	Total area in the ALR by parcel size	45
Figure 36.	Number of farmed and not farmed parcels in the ALR by parcel size.....	46
Figure 37.	Number of farmed and not farmed parcels in the ALR by parcel size (line chart)	46
Figure 38.	Proportion of parcels farmed and not farmed by parcel size in the ALR.....	47
Figure 39.	Proportion of land cover by parcel size in the ALR.....	47
Figure 40.	Total area in residential footprint by parcel size	49
Figure 41.	Proportion of parcels with residences by parcel size	50
Figure 42.	Average percent of parcel area in residential footprint by parcel size.....	50
Figure 43.	Average total area in residential footprint by parcel size.....	51
Figure 44.	Total and potential area in residential footprint by parcel size.....	51

List of Tables – Appendix A

Table A1.	Distribution of crop field sizes for all cultivated land	53
Table A2.	Distribution of forage & pasture fields	53
Table A3.	Distribution of berry fields.....	54
Table A4.	Distribution of nursery & tree plantation fields	54
Table A5.	Distribution of livestock operations by type.....	55
Table A6.	Dairy activities.....	55
Table A7.	Distribution of dairy activities by parcel size and scale	56
Table A8.	Beef activities.....	57
Table A9.	Distribution of beef activities by parcel size and scale	57
Table A10.	Poultry activities	58
Table A11.	Distribution of poultry activities by parcel size and scale.....	58
Table A12.	Equine activities	59
Table A13.	Distribution of equine activities by parcel size and scale	60
Table A14.	Value added activities	61

List of Figures – Appendix A

Figure A1.	Distribution of dairy activities by parcel size and scale	56
Figure A2.	Land cover on parcels with dairy activities.....	56
Figure A3.	Distribution of beef activities by parcel size and scale	57
Figure A4.	Land cover on parcels with beef activities.....	58
Figure A5.	Distribution of poultry activities by parcel size and scale.....	59
Figure A6.	Land cover on parcels with poultry activities	59
Figure A7.	Distribution of equine activities by parcel size and scale	60
Figure A8.	Land cover on parcels with equine activities.....	61

List of Maps – Appendix B

- Map B1. Land cover and farmed area
- Map B2. Land cover and farmed area - detail
- Map B3. Land use and farming use by parcel
- Map B4. Land use and farming use by parcel – detail
- Map B5. Status of land base with respect to farming
- Map B6. Limited potential for farming - site limitations
- Map B7. Land not farmed but available and with potential for farming
- Map B8. Cultivated field crops and greenhouses
- Map B9. Forage & pasture crops
- Map B10. Berry crops
- Map B11. Nursery & tree plantation crops
- Map B12. Irrigation
- Map B13. Livestock activities – all types including equines
- Map B14. Livestock activities detailed – beef, dairy, poultry
- Map B15. Equine activities
- Map B16. Parcel size in the ALR

Acronyms

AAC	Agricultural Advisory Committee
AAP	Agricultural Area Plan
AGRI	BC Ministry of Agriculture
ALC	Agricultural Land Commission
ALR	Agricultural Land Reserve
ALUI	Agricultural Land Use Inventory
GIS	Geographic Information Systems
FVRD	Fraser Valley Regional District

Definitions

General

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.

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.

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

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

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 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.

Land Cover

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 and 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, 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, and 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.

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.

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.

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.

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 – Grassland – Land cover dominated by herbaceous plants with long, narrow leaves characterized by linear venation. Includes 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 grassland.

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 fenced area 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 – Shrubland – 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 grasses, herbs or shrubs used for grazing domestic livestock. This land cover is considered “Used for grazing” and “Not used for farming” although usually these areas are extensions of more intensive farming areas.

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.

Livestock

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.

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, 5000 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, 5000 turkeys, 10,000 chickens (over 100 animal unit equivalents)

Land Cover and Farming

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

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

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.

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.

Land Use

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

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

Water management – Areas used to actively or inactively manage water. Includes reservoirs, dikes, ditches, managed wetland.

Wildlife management – Area used to actively or inactively manage wildlife. Includes wildlife reserves, breeding areas, fishing areas, fish ladders/hatcheries, and wild harvest.

Land Use and Farming

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 50% 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)

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

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.

Unavailable for farming – “Not used for farming” parcels where future agricultural development is improbable because of a conflicting land use that utilizes the majority of the parcel area. For example, most residential parcels are considered not available 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.

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.

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.

Executive Summary

In the summer of 2011, the BC Ministry of Agriculture (AGRI) conducted an Agricultural Land Use Inventory (ALUI) in Fraser Valley Regional District (FVRD) Electoral Area F. The ALUI was funded by Mission Community Services Society and was completed with in-kind support from FVRD.

ALUIs can be used to understand which agricultural activities are occurring in the surveyed area. The data provides an estimate of the capacity for agricultural expansion and quantifies the amount of land within the Agricultural Land Reserve (ALR) that is not available for agriculture. The data can also be used to estimate agricultural water needs with the use of the BC Ministry of Agriculture's water demand model.

The ALUI for Electoral Area F was conducted using a drive-by inventory that recorded land cover and land use on a per-parcel basis, as a "snapshot in time." Included in the inventory were i) all parcels completely or partially in the ALR, ii) all parcels with "Farm" status for property tax assessment, and iii) parcels zoned to permit agriculture.

The ALR in Electoral Area F consists of 2,219 hectares. Ninety-five percent (95%) of this or 2,107 hectares was surveyed as part of this inventory. The remaining 5% or 112 hectares of ALR was in road rights of ways, unsurveyed Crown land, foreshore, or parcels <100 square meters. An additional 847 hectares of land outside the ALR was surveyed, bringing the total survey area to 2,954 hectares on 433 parcels.

The data on each parcel was collected in two ways: land cover (the biophysical material at the surface of the earth) and land use (how people utilize the land). A parcel could have numerous land covers and was assigned up to two land uses.

In the ALR by land cover, a total area of 641 hectares (29%) was farmed (both actively and inactive), 119 hectares (5%) was anthropogenically modified (e.g. landscaping, lawns), and 1,347 hectares (61%) was in a natural or semi-natural state. The remaining 112 hectares (5%) was not included in the inventory. An additional 61 hectares of land outside the ALR was farmed. See Table 1 and Map B1 for details.

In terms of land use, the entire parcel was examined, and a "Used for farming" definition was applied based on the percentage and/or scale of the parcel in cultivated crops, farm infrastructure, and/or certain scales of livestock production. For a detailed definition of "Used for farming", refer to the Definitions section. In the ALR by land use, 691 hectares (31%) was defined as "Used for farming," and 1,416 hectares (64%) was defined as "Not used for farming". In this analysis, farm residential uses and farm roads, were included in the "Used for farming" subtotal. The remaining 112 hectares (5%) was not included in the inventory. See Table 2 and Maps B3 and B4 for details.

The inventory provided insight into ALR land available and with potential for farming by looking at land cover, land use, and physical site limitations. Of the 2,219 hectares of ALR land in Electoral Area F, 618 hectares (28%) was actively farmed. Another 17 hectares supports farming (e.g. houses, farm roads, farm buildings, etc). There are 148 hectares of the ALR unavailable for farming due to land cover (e.g. it was in wetlands, non-farm residential uses, etc.). There are 437 hectares (20%) with limited potential for agriculture due to physical site limitations (e.g. drainage, topography, soils). Wetlands are characterized as being under water for much of the year, while areas with drainage limitations may be cropped or in natural vegetation but are frequently moisture saturated or flooded. Five percent or 112

hectares of the ALR was not included in the inventory. That leaves 887 hectares (40%) of the ALR that is available and has potential to be farmed. The majority of the land that is available and has potential for farming is currently in natural and semi-natural vegetation (805 hectares). See Table 4, Figure 6, and Maps B5-B7 for details.

In total, there were 636 hectares of cultivated field crops (588 hectares in the ALR and 49 hectares outside the ALR). Forage & pasture was the most common crop with 424 hectares or 67% of all cultivated land. Berries were the second most common with 135 hectares (21% of all cultivated land), followed by nursery & tree plantations with 58 hectares (9%) and bare cultivated land or fallow land with 18 hectares (3%). Within the forage & pasture category, there were 209 hectares of forage (grass) 164 hectares of pasture (grass), 40 hectares of forage & pasture, and 11 hectares of unused forage or pasture. Within the berry category, all crops were blueberries. See Tables 7-10 and Maps B8-B11 for more information.

In addition to the cultivated field crops, there were 6 greenhouse activities comprising 22 hectares of ALR land. Twenty-one of these hectares were producing nursery crops. See Table 12 and Map B8 for more information.

Irrigation use was captured by crop type and irrigation system type, to aid in developing a water demand model for agriculture. Only 18% of all cultivated field crops were irrigated. Trickle systems were the most commonly used (54 hectares) and were found exclusively on blueberries. Sprinkler systems were the next most common (35 hectares) and were used on blueberries and ornamentals and shrubs. Giant gun systems were third (28 hectares) and were used only on Christmas trees. See Table 14 and Map B12 for more information.

Livestock activities were also recorded, but are very difficult to measure using a windshield survey method. Livestock may not be visible if they are in barns or 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 are observed. No actual livestock numbers were obtainable through the survey, so the results were reported as a range in terms of animal unit equivalents for each parcel. In Electoral Area F, equine was the most common type of livestock activity (49 out of 90 activities), followed by dairy (9 out of 90 activities). All equine activities were “non-intensive” while two-thirds of all dairy activities (67%) were “intensive”. One “intensive” poultry operation was also recorded in Electoral Area F. See Table 15 and Maps B13-B15 for more information.

Further analysis of ALR lands was conducted on 300 parcels with 2,026 hectares or 91% of the ALR in Electoral Area F. Of the 300 parcels in the ALR, 76 (25%) are “Used for farming” and 224 parcels (75%) are “Not used for farming”. Of the 224 “Not used for farming” parcels, 51% are on parcels less than 4 hectares.

Summary

This report provides some of the necessary background to understand the current status of agriculture on the land base and to help make informed decision on how to best manage the agricultural land base in order to support and strengthen farming in the future.

Agrologist Comments

Electoral Area F has a very highly productive agriculture area within the Agriculture Land Reserve, comprising of two connected valleys. The area adjacent to Hatzic Lake and the Fraser River is known as “Hatzic Prairie,” and the area contiguous with Hatzic Prairie and to the north of Dureau Road, is known as “Miracle Valley.” Together, these areas make up 2,219 hectares, which is 1% of the lands in the Electoral area; most of the land in Electoral Area F is inaccessible Crown land.

The area around Hatzic Lake has been settled since ancient times. At the historic site known as “Hatzic Rock” there was a pre-contact international gathering place for the Sto:Lo people. There were as many as 17,000 people living around the area now known as Hatzic Lake. They fished, hunted and practiced agriculture in the region, growing a type of potato as well as other useful plants.

The first European farming in Hatzic was carried out in the 1860’s by cattlemen. By the 1870’s there were sheep, pigs, cattle and some fruit trees comprising 160 acres in Hatzic. The Shook farm, planted to strawberries and raspberries, was started in the 1880’s and by 1920 was well established. It also boasted a cannery. In the 1920’s, Hatzic prairie was the site of the largest berry production in Canada, and berries were shipped fresh and processed to the Western Prairie and Coastal markets. Japanese growers were very important in small fruit, particularly strawberry production, in the area from 1922 until their internment in 1942. After their internment, the strawberry production dropped to ¼ of its previous production levels. Along with small berries, a variety of agriculture ventures were present, including cattle, intensive poultry, dairy, and bulb production. There was also extensive tree fruit production.

Early reports of pioneers show the difficulties that flooding posed to this area, with the threat coming mainly from the Fraser river. Dyking to control flooding was started soon after settlement. There are frequent reports of dykes being destroyed, along with the farms they were protecting on a regular basis until the 1948 flood caused more robust dykes to be built. Flooding in Hatzic Prairie remains a problem primarily from heavy rain events when the creeks running through the valley are subject to infilling from sediment. When the creeks become too full of debris, they can easily overrun their banks during severe storms and flood the surrounding farmland.

Hatzic prairie, next to Hatzic Lake up to Dureau Road, is a highly productive agriculture zone as it has excellent soils, excellent quality groundwater for irrigation, good climate, favorable parcel sizes and good transportation routes to nearby processing and markets.

Miracle Valley is upland from Dureau Road, and has been slower to develop into an intensive agriculture zone as it is farther from transportation routes and has, in places, a high degree of parcelization. However, it also has excellent water supplies and it has more uncleared land than is found in Hatzic prairie.

The Farm Gate Receipts for Electoral Area F were \$14,605,000 in 2011 with 225 farms reporting.

The LUI accurately reports the area in cultivated crops, greenhouses, and farm infrastructure which make up 29% (or 641 hectares) of the ALR in FVRD Electoral Area F. The LUI groups the data from Hatzic Prairie and Miracle Valley. However, it is informative to look at a visual overview of the farmed and not farmed area in Appendix B, Map B5. Most of the farmed area is in Hatzic Prairie, with areas not farmed being mainly due to site limitations—looking further on Map B6, the main site limitation is drainage—on approximately 135 ha. There are also about 75 ha in wetlands that are unavailable for

farming due to their current land cover. Most of the area that is not farmed in Miracle Valley is classified as “natural and semi-natural”. Drainage is not a factor in this area.

There is considerable pressure on the land base available for agriculture within the ALR in the Fraser Valley, as farmers seek more land on which to expand their farm businesses. In addition, there are more acres being converted from low intensity agriculture use such as natural and semi-natural land in pasture to higher intensity use- such as managed forage production or berry production.

Anecdotal information gleaned from farmers show that there is not an abundance of land that farmers can access to grow their farm businesses elsewhere in the Fraser Valley. Therefore it is not surprising that with continued growth in agriculture, farmers are looking to less developed farming areas such as the FVRD Electoral areas to expand their farm businesses. Favorable parcel size, good water resources and reasonable market access are all qualities that are favorable to more investment from the agriculture sector throughout the ALR in this electoral area.

The available farmed land base in Hatzic Prairie has seen considerable intensification over the past 10 years. Land Use Inventory data collected in 2001 showed that only 17 parcels had forage or berry production in Hatzic Prairie, while in 2011, there were 59 parcels that contained forage or berry production. This intensification indicates that farmers are able to expand their farm businesses by increasing their revenue per ha. Farmers will invest in higher revenue crops if the farming area has some key factors in place such as:

- Land available with good quality soil (in the case of soil-based crops), water and favorable parcel size that is well designed for farming e.g. building are well placed)
- Favorable local and global markets for their products and good access to these markets
- Reasonable assurance that investments are secure—e.g. crops will not be flooded out.

In summary, the LUI in Electoral Area F reflects that farmers are willing to invest in this area and it will likely experience growth in response to market demand and because of general land shortages in the region.

Some resource and planning issues limiting agriculture production in Electoral Area F include:

Drainage

Drainage is a severe production issue in Hatzic Prairie. In most winters there are heavy rains which wash debris down from unstable slopes in the watershed areas of the main creeks that run through Hatzic Prairie. The debris, comprising of rocks, gravel and sand, gradually settles in the channels and fill them up. This effectively limits the capacity to drain the farmland. In addition, seepage at the base of the slopes makes the soil saturated and very difficult to cultivate.

There are at least 6 parcels, comprising 60 hectares that have not been farmed due to drainage limitations since 2001 when the first thorough LUI was conducted. The economic impact of land lost to agriculture use due to ongoing drainage issues is in the range of a few thousand dollars per year per ha.¹ The 2011 inventory found at least 161 hectares of blueberries, forage, and pasture crops that were compromised due to drainage issues. Although these areas are in production, impeded drainage can reduce crop productivity and yields. Improving drainage performance will greatly improve the economic

¹ Based on estimates derived from statistics and estimates of gross value from forage production necessary to support the dairy industry, gross value of blueberry production, Christmas tree production and beef production.

performance of Hatzic Prairie as it will optimize land productivity allowing farmers to get higher yields and encourage investment in higher value agriculture.

Parcels that have not been used for agriculture since 2001 may be considered for conservation purposes, or a park, as they have high biodiversity value but limited agriculture value. Without significant improvements to drainage in this area, or unless rainfall patterns shift due to climate change, these parcels may not come into agricultural use. On the other hand, removal from the ALR is not encouraged as drainage improvements could be engineered and it could be detrimental to agriculture as a whole to have a conflicting non-farm use on these parcels. Any other use, be it conservation use or otherwise should not provide conflicts for the surrounding agriculture use.

Parcelization and residential use

While there are fairly favorable parcel sizes throughout much of the Hatzic Valley portion of Electoral Area F, parcel size is an issue in Miracle Valley, where there are an abundance of parcels less than 4 hectares. Smaller sized parcels can limit the opportunity for farming, as fewer agriculture ventures are suitable on smaller parcels. The high impact of smaller parcels is exacerbated in this electoral area due to the placement of many residential homes in the center of the parcel.

In addition, there are some larger parcels that are not in agricultural use but that are in residential use. In some of these, the residence is placed in the center of the parcel which may inhibit farming activity. Requiring the residential footprint to be located near the road would likely encourage more farming activity either by owners or through the leasing of land. Adopting a residential citing and size bylaw that includes placement, footprint and/or size of residences and ancillary uses could be instrumental in encouraging further agriculture use. There is an abundance of small parcels for farmers to use in Electoral Area F and further subdivision may not be warranted.

Strengthening farming – issues management

Another side of creating a framework that encourages investment in high value agriculture production is to ensure that farmers have a way to contribute to Local Government decision making on issues that concern them as farming areas develop. The creation of an Agriculture Advisory Committee can be helpful in creating long-term, proactive, relationships between Local Government and farmers. This relationship is critical for running successful farm businesses that depend on Local Government partnerships for proper resource management. Developing and enacting an Agriculture Area Plan, with the assistance of a local agriculture advisory committee can also be helpful in finding ways to overcome issues and obstacles that are barriers to more agriculture development.

In summary, it is clear that there is an economic payoff to more investment in infrastructure that supports agriculture in this region. There are fairly strong indications that farmers want to invest in more agriculture development to meet strong market demand. However, there are also indications that there are significant barriers to development, with land that has remained unused or underutilized for a long period of time. Removing some of these barriers may be economically rewarding in the long run.

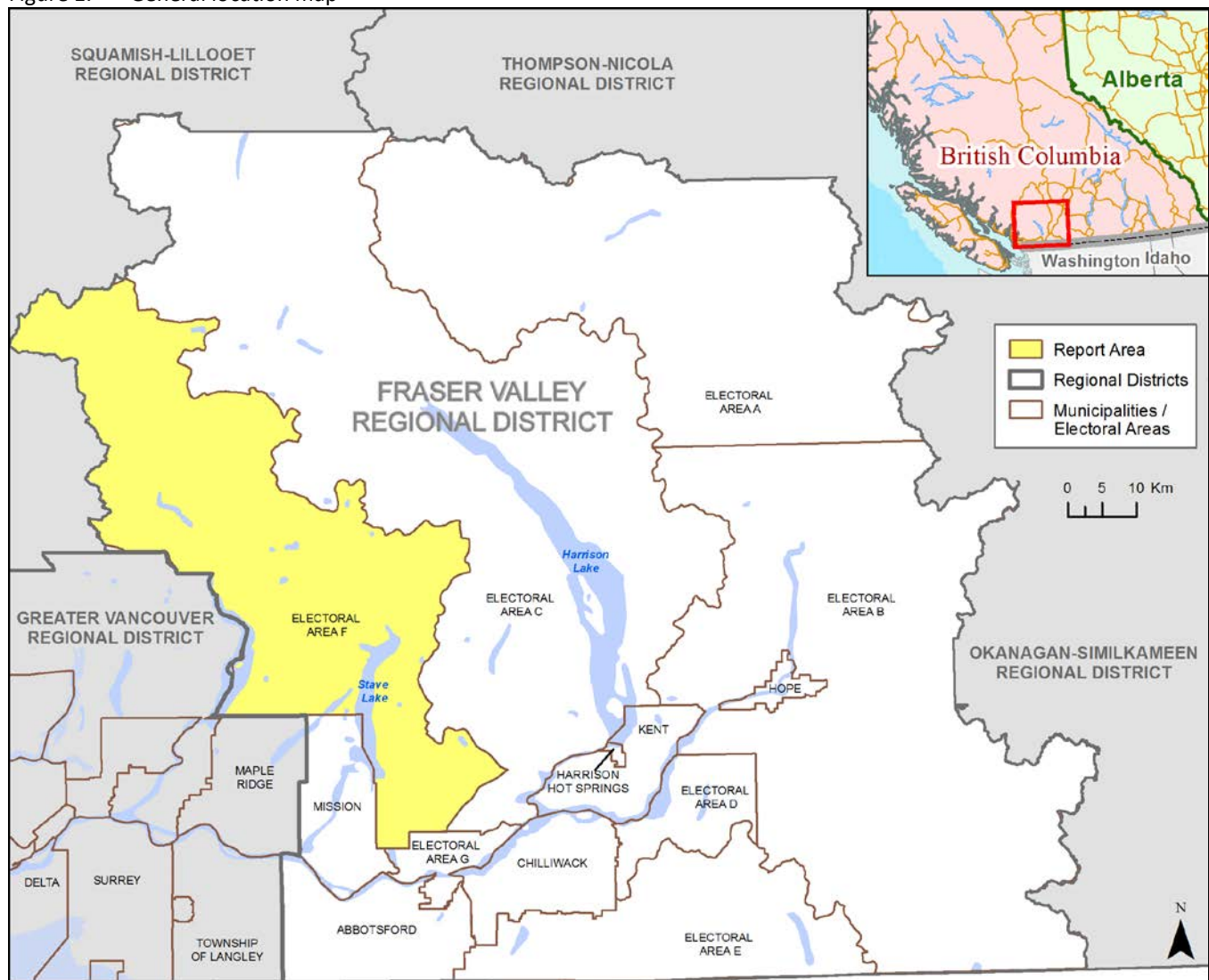
General Information

The Fraser Valley Regional District (FVRD) is located in southwestern BC and is comprised of seven electoral districts and six member municipalities. FVRD is responsible for providing many services, including planning, to the electoral areas.

Electoral Area F is located in the western region of FVRD and contains the communities of Durieu, Hatzic Prairie, and McConnell Creek. The electoral area has a total area including land and water of 211,270 hectares². The majority of this area forms part of the Coast Mountains and is inaccessible, unsurveyed Crown land.

Electoral Area F has a population of approximately 1,300¹. This population resides exclusively in the southern lowland portion of the electoral area between Hatzic Lake and the southeast end of Stave Lake.

Figure 1. General location map



² Government of British Columbia; Ministry of Community, Sport & Cultural Development, Local Government Statistics
http://www.cscd.gov.bc.ca/lgd/infra/library/regional_stats11_summary.pdf

AGRICULTURAL LAND RESERVE

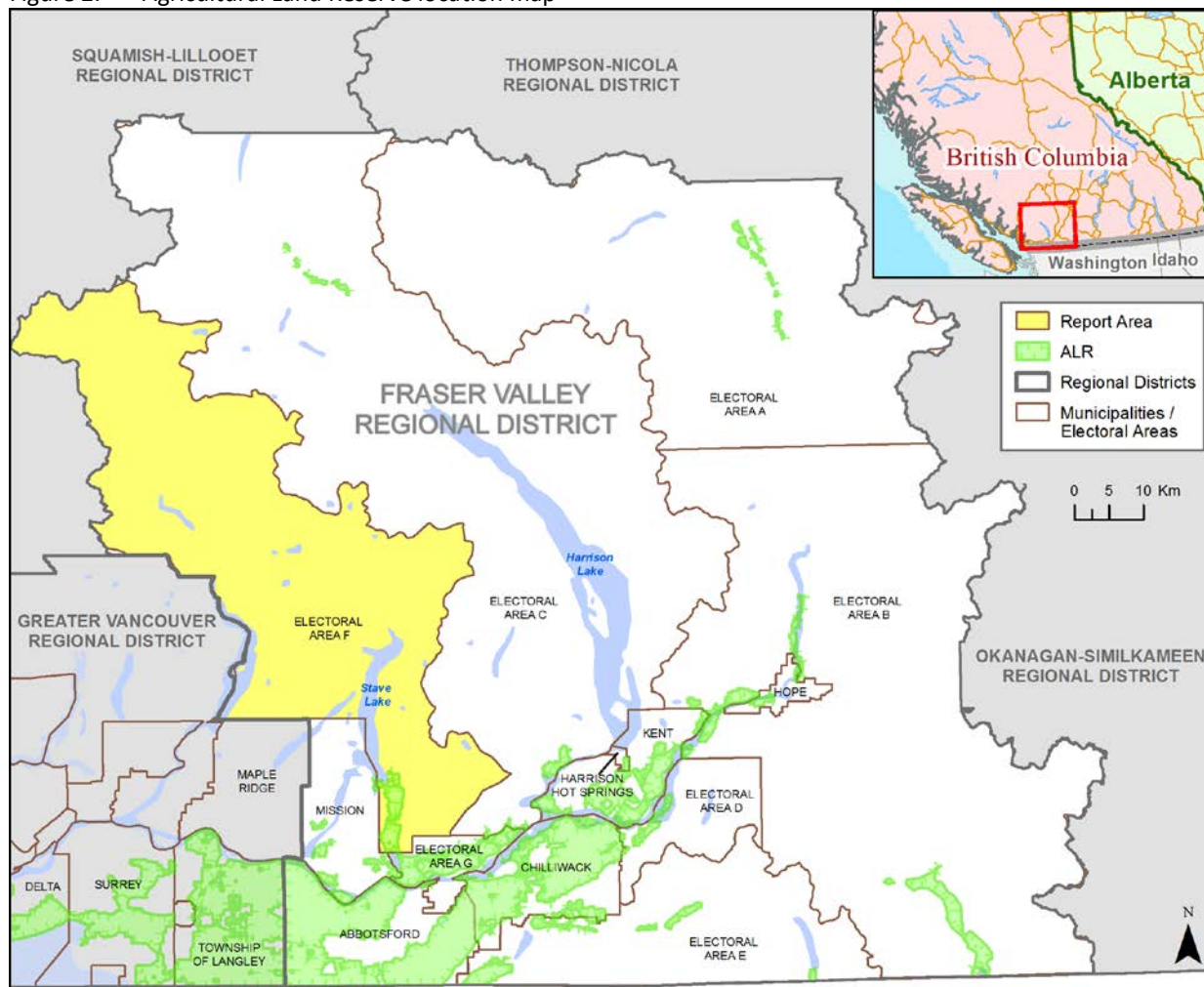
The Agricultural Land Reserve (ALR) is a provincial land use zone that was designated in 1973 in which agriculture is recognized as the priority use. Within the ALR, farming is encouraged and non-agricultural uses are controlled.

There are 71,685 hectares³ of ALR land within Fraser Valley Regional District (shown in Figure 2); 2,219 hectares⁴ or 3% is within Electoral Area F.

The land area of Electoral Area F is 200,072 hectares⁵; only 4,242 hectares⁴ of this or 2% is in legally surveyed parcels. With 2,219 hectares³ in the ALR, only 1% of the land area of Electoral Area F is in the ALR. Fifty-two percent (52%) of all legally surveyed parcels are in the ALR. This ALR area includes:

- 2,107 hectares in surveyed parcels
- 112 hectares outside surveyed parcels
 - 88 hectares of road rights-of-way
 - 24 hectare of unsurveyd Crown land
 - < 1 hectare of foreshore and parcels less than 100 sq m

Figure 2. Agricultural Land Reserve location map



³ Provincial Agricultural Land Commission (ALC) Annual Report 2009/10 & 2010/11 Pg 39. http://www.alc.gov.bc.ca/publications/Annual_Report_2009-10_and_2010-11.pdf.

⁴ Agricultural Land Commission, ALR mapping, Land and Resource Data Warehouse, 2011-01-31 (area calculated in GIS).

⁵ Calculated in GIS.

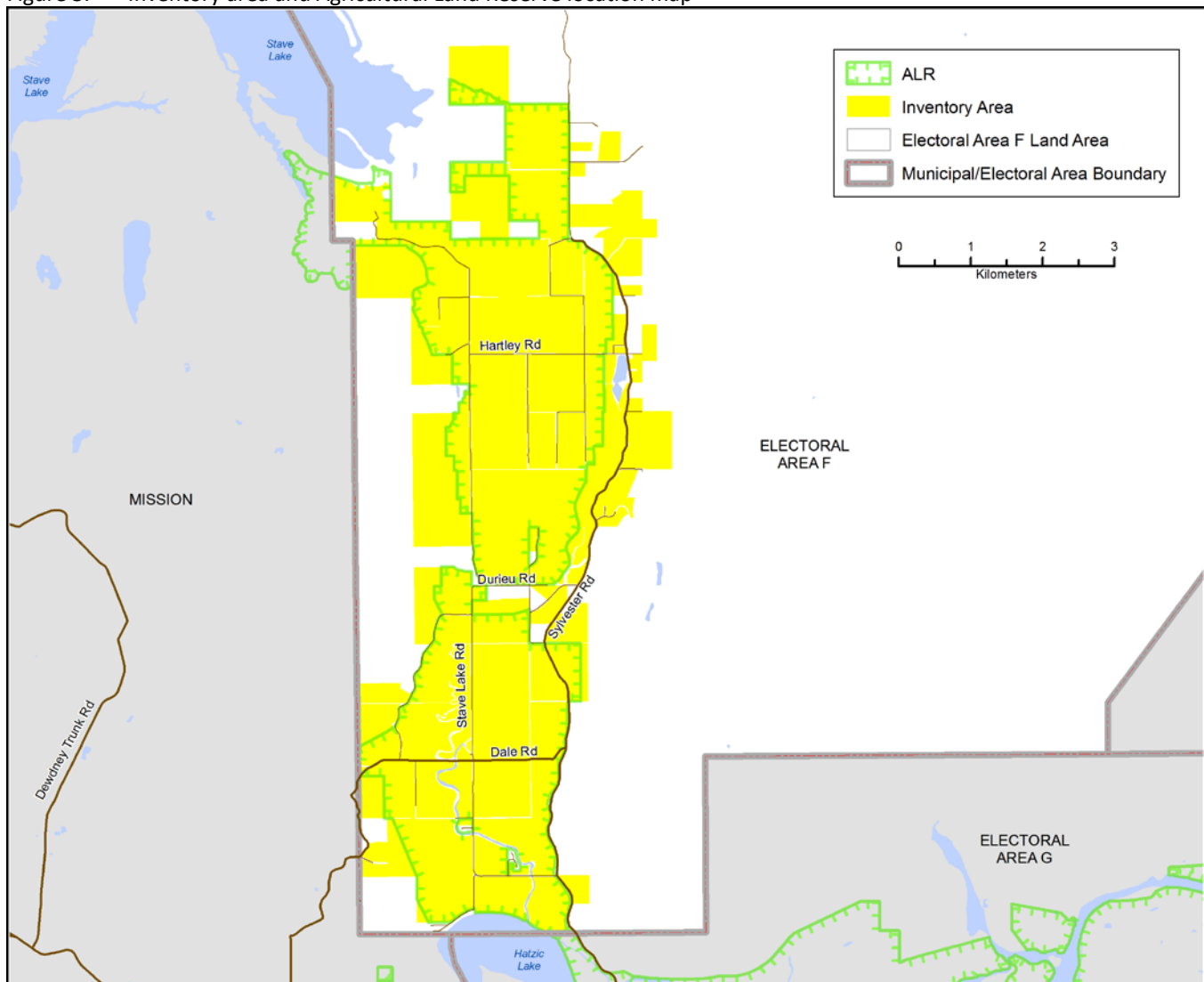
INVENTORY AREA

The total inventory area encompasses 433 parcels with a combined area of 2,954 hectares, or 70% of the legally surveyed land area in Electoral Area F. Included are all parcels:

- completely or partially within the Agricultural Land Reserve
- classified by BC Assessment as having “Farm” status for property tax assessment
- zoned to permit agricultural use by FVRD bylaws

The amount of ALR land included in the inventory area is 2,107 hectares located on 336 parcels. This area is 95% of the ALR in Electoral Area F. The remaining 5% of the ALR was excluded from the inventory as it is in designated rights-of-way, unsurveyed Crown land, foreshore, and parcels less than 100 square metres.

Figure 3. Inventory area and Agricultural Land Reserve location map



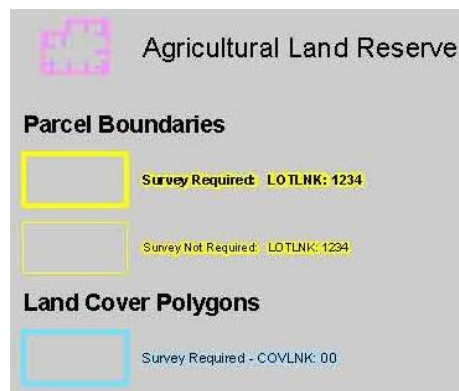
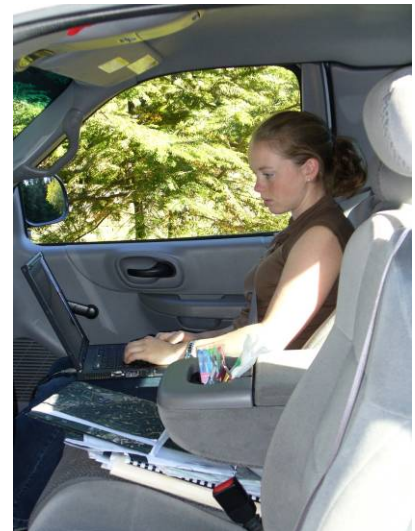
Agricultural Land Use Inventory

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 Electoral Area F land use inventory was conducted in the summer of 2011 by a professional agrologist assisted by a GIS technician and a driver⁶. 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)⁷
- 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



⁶ Vehicle and driver provided by the Fraser Valley Regional District.

⁷ Cadastre mapping (2011) was provided by the Fraser Valley Regional District through 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.

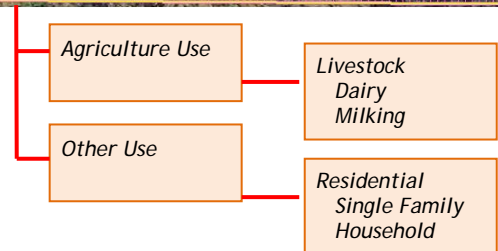
Once acquired through the survey, the data was brought into a Geographic Information System (GIS) to facilitate analysis and mapping. Digital data, in the form of a tabular database and GIS spatial layers (for maps), may be available with certain restrictions through a terms of use agreement.

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

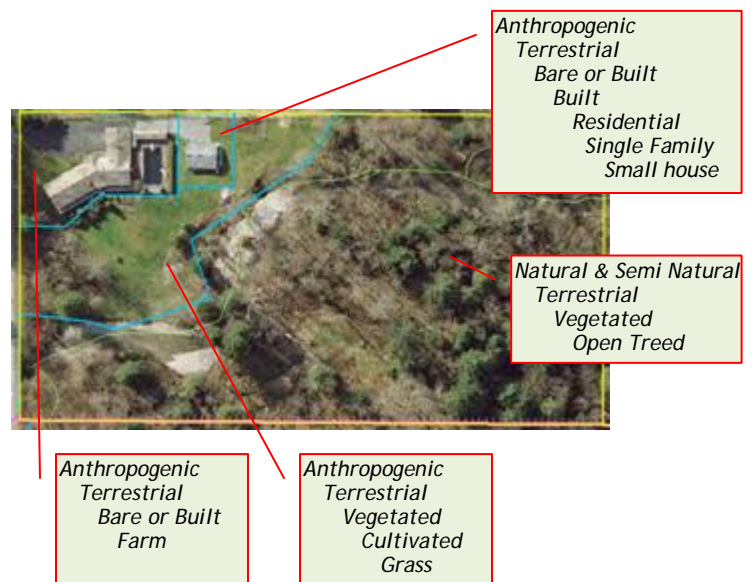
In addition, the availability of non-farm use properties for future farming was assessed based on the amount of potential land for farming on the property and the compatibility of existing uses with future farming activities.



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 the 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

The data is presented in the form of summarized tables and charts. In order to maintain data precision, absolute data values are preserved throughout the analysis and summarization processes. During the final formatting of the summarized tables and charts, data values are rounded to the nearest whole number. This can result in the tables and charts not appearing to add up correctly.

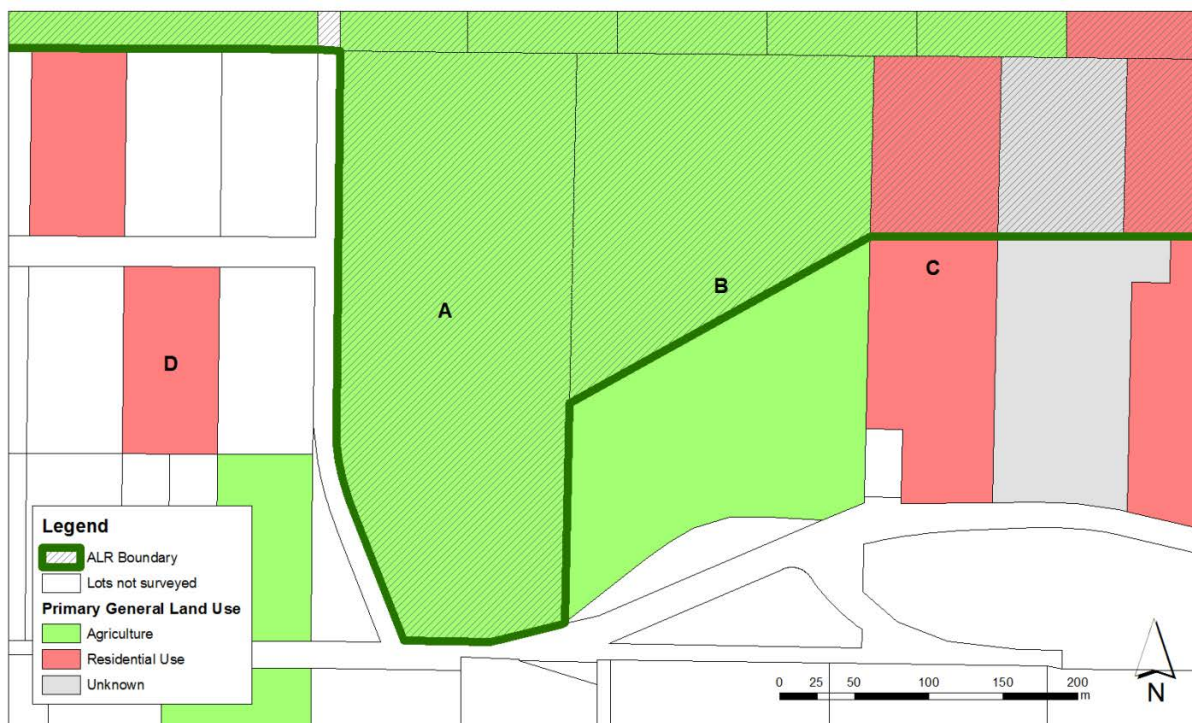
DETERMINATION OF PARCELS WITHIN THE ALR

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

Figure 4 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 4. Parcel inclusion in the ALR



1. 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. Some examples of land use are Residential, Commercial, and Industrial. Refer to Section 2 of this report 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, anthropogenic wetland, 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.

Natural pasture and rangeland are fenced areas with uncultivated (not sown) natural or semi-natural grasses, herbs or shrubs used for grazing domestic livestock. These areas are considered “Grazed” and not “Farmed” although usually these areas are extensions of more intensive farming areas.

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

Table 1. Land cover and farmed area

Land cover*		ALR		Outside ALR (ha)	Total area (ha)	% of inventory area
		In ALR (ha)	% of ALR			
Actively farmed	Cultivated field crops	564	26%	49	613	21%
	Farm infrastructure	32	1%	12	44	1%
	Greenhouses	22	1%	<1	22	< 1%
Inactively farmed	Unmaintained field crops	12	< 1%	-	12	< 1%
	Unused forage or pasture	11	< 1%	<1	11	< 1%
FARMED SUBTOTAL		641	29%	61	703	24%
Anthropogenic (not farmed)	Managed vegetation	43	2%	13	56	2%
	Residential footprint	46	2%	27	73	2%
	Settlement	11	< 1%	4	15	< 1%
	Non Built or Bare	9	< 1%	<1	10	< 1%
	Built up - Other	3	< 1%	<1	4	< 1%
	Transportation	<1	< 1%	1	2	< 1%
	Waterbodies	<1	< 1%	<1	<1	< 1%
	Utilities	4	< 1%	-	4	< 1%
SUBTOTAL		119	5%	46	165	6%
Natural and Semi-natural	Vegetated	1,236	56%	720	1,956	66%
	Wetlands	76	3%	<1	76	3%
	Waterbodies	22	1%	10	32	1%
	Natural pasture	12	< 1%	10	22	< 1%
SUBTOTAL		1,347	61%	739	2,086	71%
TOTAL		2,107	95%	847	2,954	100%
Not surveyed	Rights-of-way	88	4%			
	Unsurveyed Crown land	24	1%			
	Foreshore, parcels < 100 sq m	<1	< 1%			
SUBTOTAL		112	5%			
TOTAL		2,219	100%			

* See "Land Cover" in the Definitions section for terms used in this report.

Table 1 shows the extent of different land cover types across the entire inventory area.

In Electoral Area F, 703 hectares of land is in "Farmed" land cover although 23 of those hectares are "Inactively farmed" in unmaintained field crops and unused forage or pasture.

Refer to Maps B1 and B2 in Appendix B for more information.

Figure 5. Land cover and farmed area in the ALR

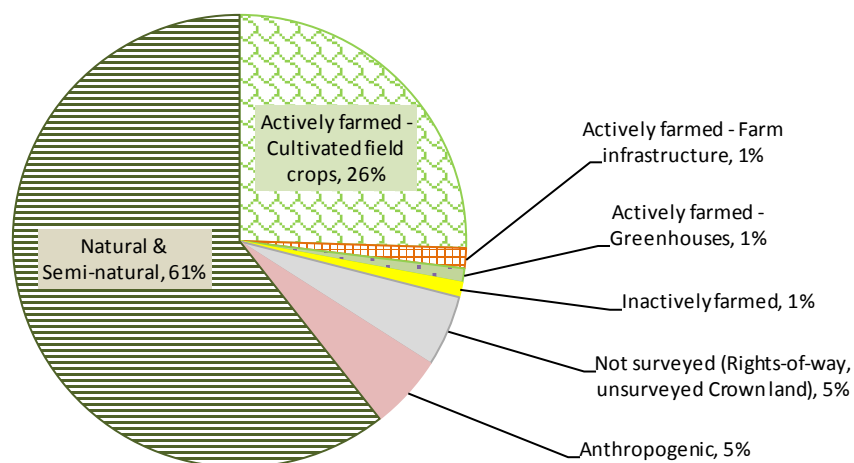


Figure 5 shows the proportion of the different land cover types across the ALR in Electoral Area F.

Of Electoral Area F's ALR land, 28% is "Actively farmed" while 1% is in unmaintained field crops or unused forage or pasture ("Inactively farmed").

Land used in support of farming such as farm residences, vegetative buffers or roadways is not included as "Farmed".

2. 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. If one parcel is a hotel and the other is a retail store, they are both considered as “Commercial” land use.

Up to two general land uses (e.g. residential, commercial) are recorded for each parcel with each considered an equally important function of the parcel. Evaluation of land uses are based on overall economic importance, the property’s tax status, 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”. For a complete definition of “Used for farming”, refer to the Definitions section of this report.

Many parcels “Used for farming” or “Used for grazing” are also used for other purposes such as “Residential” or “Industrial”. This report does not attempt to determine which use is primary.

Table 2. Land use and farming use by parcel

Parcel land use*		ALR		Outside ALR (ha)	Total area (ha)	% of inventory area	Number of parcels	% of parcels	Average parcel size (ha)
		In ALR (ha)	% of ALR area						
Used only for farming - no other use		180	8 %	22	202	7 %	22	5 %	9
Used for farming - Mixed use	Residential	478	22 %	85	563	19 %	72	17 %	8
	Transportation	17	<1 %	12	29	<1 %	1	<1 %	29
	Industrial	16	<1 %	< 1	16	<1 %	1	<1 %	16
USED FOR FARMING SUBTOTAL		691	31 %	119	810	27 %	96	22 %	
Not used for farming	Residential	861	39 %	349	1,210	41 %	256	59 %	5
	No apparent use	424	19 %	221	645	22 %	68	16 %	9
	Utilities	67	3 %	130	196	7 %	5	1 %	39
	Recreation & leisure	63	3 %	8	71	2 %	2	<1 %	36
	Institutional & community	< 1	<1 %	5	5	<1 %	3	<1 %	2
	Commercial & service	< 1	<1 %	-	< 1	<1 %	1	<1 %	< 1
	Transportation	< 1	<1 %	16	16	<1 %	2	<1 %	8
NOT USED FOR FARMING SUBTOTAL		1,416	64 %	728	2,144	73 %	337	77 %	
TOTAL		2,107	95 %	847	2,954	100 %	433	100 %	
Not surveyed	Rights-of-way	88	4 %						
	Unsurveyed Crown land	24	1 %						
	Foreshore, parcels < 100 sq m	< 1	<1 %						
SUBTOTAL		112	5 %						
TOTAL		2,219	100 %						

* See "Land Use" in the Definitions section for terms used in this report.

Table 2 shows that 691 hectares or 31% of Electoral Area F's ALR is on parcels "Used for farming".

Most "Used for farming" parcels are also used for other purposes with only 22 parcels or 8% of the ALR area exclusively "Used for farming".

One parcel associated with Kokoska Durieu forest Products is mixed use "Used for farming" and "Industrial".

Refer to Maps B3 and B4 in Appendix B for more information.

Table 3. Parcel use and land cover in the ALR

Parcel Land Use		Land Cover Category						Total	
		Farmed *		Anthropogenic (not farmed)		Natural & Semi - natural			
		In ALR (ha)	% of ALR area	In ALR (ha)	% of ALR area	In ALR (ha)	% of ALR area	In ALR (ha)	% of ALR area
Used only for farming - no other use		150	7 %	-	-	30	1 %	180	8 %
Used for farming - mixed use	Residential	357	16 %	25	1 %	97	4 %	478	22 %
	Transportation	13	<1 %	-	-	3	<1 %	17	<1 %
	Industrial	10	<1 %	< 1	<1 %	6	<1 %	16	<1 %
SUBTOTAL		530	24 %	25	1 %	136	6 %	691	31 %
Not used for farming		112	5 %	93	4 %	1,211	55 %	1,416	64 %
SUBTOTAL		641	29 %	119	5 %	1,347	61 %	2,107	95 %
Not surveyed	Rights-of-way							88	4 %
	Unsurveyed Crown land							24	1 %
	Foreshore, parcels < 100 sq m							< 1	<1 %
	SUBTOTAL							112	5 %
TOTAL ALR								2,219	100 %

* Some parcels that are "Not used for farming" have "Farmed" land cover, however, the extent or intensity is insufficient for the parcel to be considered "Used for farming". For a complete definition of "Used for farming" refer to the Definition section of the report.

Table 3 combines land use and land cover on ALR land in Electoral Area F. For example, parcels with the mixed use "Used for farming" and "Residential" have a total of 357 hectares in "Farmed" land cover, 25 hectares in "Anthropogenic" (not farmed) land cover, and 97 hectares in "Natural & Semi-natural" land cover.

Although 691 hectares or 31% of Electoral Area F's ALR is on parcels "Used for farming" (refer to Table 2), only 530 hectares or 24% of the ALR is actually in "Farmed" land cover as many "Used for farming" parcels are also used for other purposes. In fact, the majority of the "Farmed" land cover in the ALR (16%) is on parcels also used for "Residential" purposes.

3. Availability of Land for Farming

The demand for locally grown agricultural products is anticipated to grow as the population grows⁸. This demand along with a number of other factors, such as commodity types and farm management requirements (nutrient management, bio-security), will influence agricultural land needs in the future. Lands suitable for agricultural development may not be available and agriculture sectors that require large land bases, such as dairy or berry, may find it difficult to access sufficient land. Future agriculture growth may come from new commodity types and intensifying land use rather than finding new land for development.

The analysis of the availability of land for farming examines how much land is available for farming, has the potential to be farmed, and the characteristics of this land.

Properties currently “Used for farming” or with some agriculture present are considered available for farming regardless of any existing non-farm use. In addition, properties with an existing use compatible with agriculture, such as “Residential”, are considered available for farming since the existing land use can be maintained.

Properties not currently farmed with an established non-farm use that is incompatible with agriculture are considered unavailable for farming. These properties tend to have very high land values making it more difficult for a farmer to acquire and convert this land to farmland.

Land is further assessed for its farming potential based on physical and environmental characteristics. Only areas in natural and semi-natural vegetation, areas in managed vegetation (managed for landscaping, dust or soil control), and non-built or bare areas are considered to have potential for farming. Areas covered with built structures, steep slopes or rocky soils and areas with operational constraints such as a very small size, are considered not to have potential for farming. For this analysis, it is assumed that removing built structures and fill piles, filling in water bodies or remediating slopes to create land with potential for farming would likely not occur.

⁸ 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 4. Status of the land base with respect to farming

Land status		ALR		Outside ALR (ha)	Total area (ha)	% inventory area
		In ALR (ha)	% ALR Area			
Actively farmed	Cultivated field crops	564	25 %	49	613	21 %
	Farm infrastructure	32	1 %	12	44	1 %
	Greenhouses	22	1 %	< 1	22	<1 %
ACTIVELY FARMED		618	28 %	61	680	23 %
Anthropogenic areas supporting farming	Residential footprint	11	<1 %	4	15	<1 %
	Built up - Other	5	<1 %	-	5	<1 %
	Transportation	< 1	<1 %	< 1	< 1	<1 %
SUPPORTING FARMING		17	<1 %	4	21	<1 %
Unavailable for farming due to existing land use/cover	Wetlands	76	3 %	< 1	76	3 %
	Residential footprint	36	2 %	22	58	2 %
	Waterbodies	23	1 %	10	33	1 %
	Built up - Other	13	<1 %	5	18	<1 %
	Transportation	< 1	<1 %	< 1	1	<1 %
UNAVAILABLE FOR FARMING		148	7 %	38	186	6 %
Site limitations	Topography &/or soils	287	13 %	506	793	27 %
	Drainage	149	7 %	1	150	5 %
	Operational	1	<1 %	5	7	<1 %
LIMITED POTENTIAL FOR FARMING		437	20 %	512	950	32 %
Available & with potential for farming	Natural & Semi-natural - Vegetation	805	36 %	209	1,014	34 %
	Anthropogenic - Managed vegetation	42	2 %	12	54	2 %
	Unmaintained field crops	12	<1 %	-	12	<1 %
	Natural pasture	12	<1 %	10	22	<1 %
	Unused forage or pasture	11	<1 %	< 1	11	<1 %
	Anthropogenic - Non Built or Bare	4	<1 %	< 1	4	<1 %
AVAILABLE & WITH POTENTIAL FOR FARMING		887	40 %	231	1,117	38 %
TOTAL		2,107	95 %	847	2,954	100 %
Not surveyed	Rights-of-way	88	4 %			
	Unsurveyed Crown land	24	1 %			
	Foreshore, parcels < 100 sq m	< 1	<1 %			
SUBTOTAL		112	5 %			
TOTAL		2,219	100 %			

Table 4 shows that 1,117 hectares or 38% of the inventory area is available for farming and is not limited by existing land cover, land use, or other site limitations. The majority of this (79%) is in the ALR.

Topography and/or soils and drainage limitations were recorded on 436 hectares or 20% of ALR land. Although these lands have limited potential for agriculture, they are not necessarily excluded from all types of production.

Refer to Maps B5 – B7 in Appendix B for more information.

Figure 6. Availability and potential of ALR lands for farming

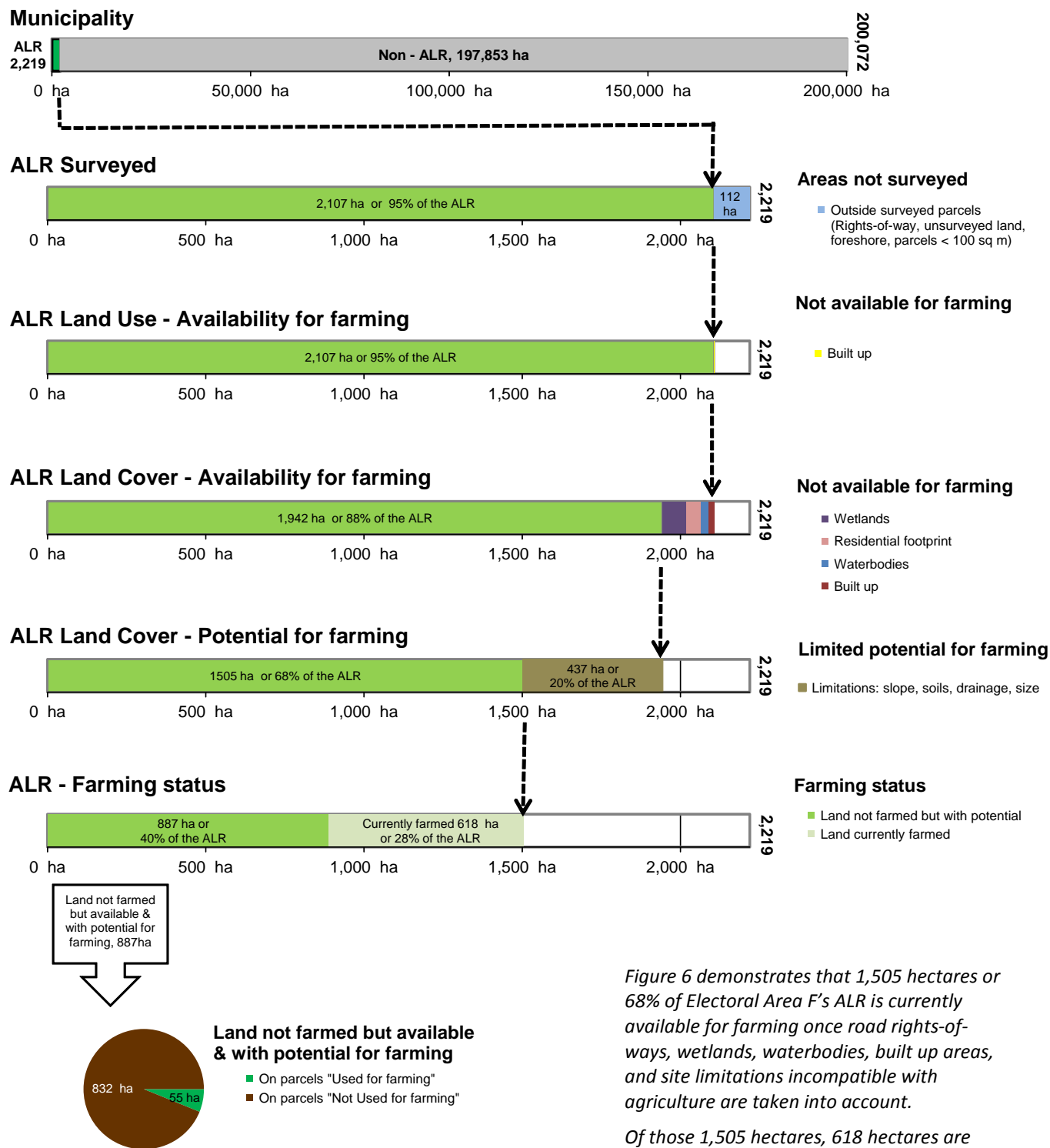


Figure 6 demonstrates that 1,505 hectares or 68% of Electoral Area F's ALR is currently available for farming once road rights-of-ways, wetlands, waterbodies, built up areas, and site limitations incompatible with agriculture are taken into account.

Of those 1,505 hectares, 618 hectares are actively farmed and 887 hectares are available and have potential for farming.

Refer to Map B7 in Appendix B for more information.

CHARACTERISTICS OF NOT FARMED BUT AVAILABLE LANDS

The potential for future agriculture expansion is affected by the size of the available areas. Small areas can effectively be used for some intensive agricultural operations such as mushrooms, floriculture, greenhouses, poultry, and container nurseries. Small areas may also be suitable for start-up farmers, horse enthusiasts, farmers testing new technologies, or established farmers wanting to expand through leases.

Despite these opportunities, small areas provide fewer farming choices than large lots. They specifically exclude dairy, hogs, berries, and a variety of field crops. For example, a dairy cow produces sufficient manure per year to fertilize 0.4 hectares of forage production which means a dairy operation consisting of 50 cows would require access to 20 hectares of land. Without sufficient land area to utilize the manure as a fertilizer, the dairy operation would have to find other, more expensive, methods to handle the manure produced on the farm.

On Parcels “Used For Farming”

Table 5. Land use and cover on parcels “Used for farming” with land available for farming but not farmed

Mixed land use on “Used for farming” parcels	Number of parcels	Land not farmed but with potential for farming			Land currently farmed			% potential increase to total ALR farmed area
		In ALR (ha)	Outside ALR (ha)	Total area (ha)	In ALR (ha)	Outside ALR (ha)	Total area (ha)	
Residential	25	43	21	65	90	19	109	7 %
Used for farming only	5	6	7	13	19	7	27	1 %
Industrial	1	6	-	6	10	< 1	10	1 %
TOTAL	31	55	29	83	119	26	145	9 %

Table 5 demonstrates that the largest potential increase in farmed land on parcels that are already “Used for farming” could come from properties that currently have “Residential” use.

Figure 7. Land cover available for farming but not farmed on ALR parcels “Used for farming”

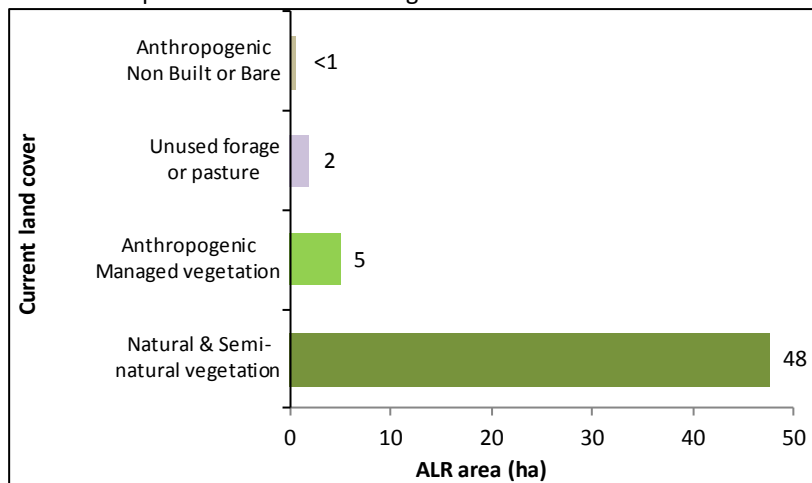


Figure 7 indicates that clearing land covered with “Natural & Semi-natural” vegetation would provide the greatest gains in farmed land on parcels that are already “Used for farming”.

On Parcels “Not Used For Farming”

Table 6. Land use and cover on parcels “Not used for farming” with land available for farming

Parcel Land use		Number of parcels	Land not farmed but with potential for farming			% potential increase to total ALR farmed area
			In ALR (ha)	Outside ALR (ha)	Total area (ha)	
Not used for farming	Residential	163	523	82	605	85 %
	No apparent use	31	188	49	236	30 %
	Utilities	3	62	72	133	10 %
	Recreation & leisure	1	59	< 1	59	10 %
TOTAL		198	832	202	1034	135 %

Table 6 illustrates that for parcels currently “Not used for farming”, the greatest potential for increasing actively farmed land would come from parcels with “Residential” use and parcels with “No apparent use”.

Figure 8. Land cover available for farming but not farmed on ALR parcels “Not used for farming”

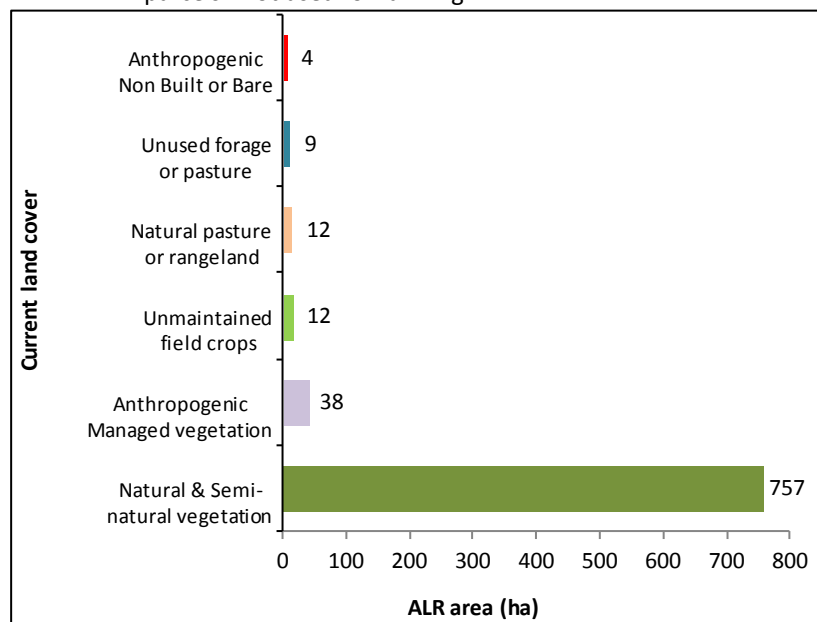


Figure 8 indicates that clearing land covered with “Natural & Semi-natural” vegetation would provide the greatest gains in farmed land on parcels currently “Not used for farming”.

Figure 9. Natural & Semi-natural land cover available for farming on ALR parcels “Not used for farming”

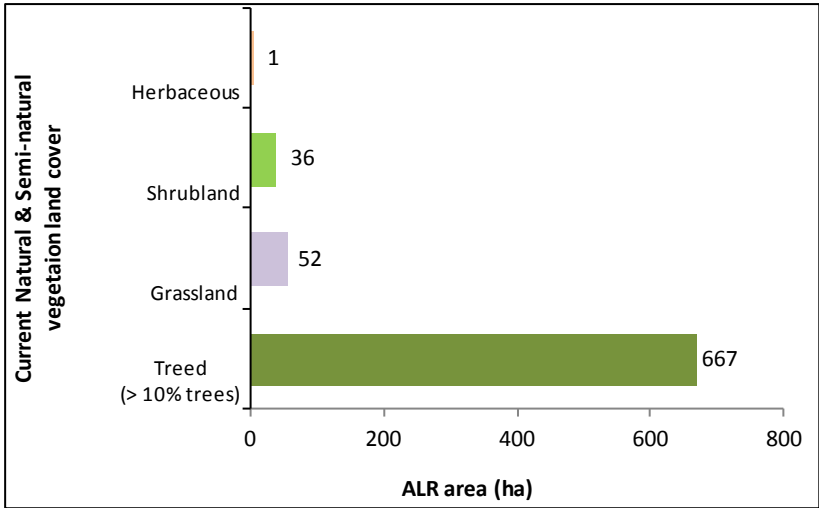


Figure 9 illustrates the types of Natural & Semi-natural land cover available for farming on parcels “Not used for farming”. The majority of all available for farming land is in treed land cover.

Figure 10. Size of areas available for farming but not farmed on parcels “Not used for farming”

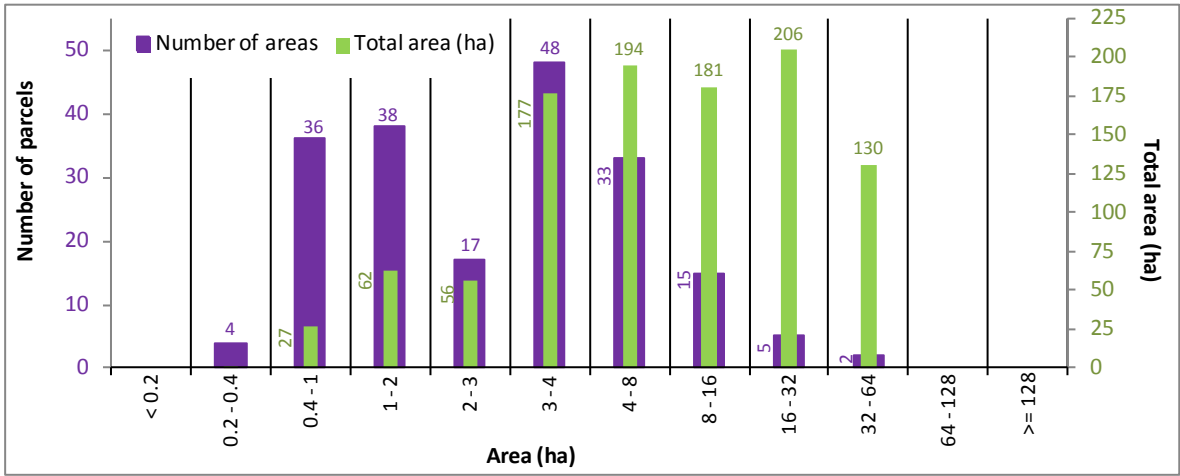


Figure 10 demonstrates that the majority of areas available for farming (143 of 198 or 72%) are less than 4 hectares in size. The smaller the area, the fewer options are available to efficiently farm. In general, areas should be 4 hectares or more to provide the widest range of farming options.

In Electoral Area F, there are 55 areas greater than 4 hectares with a combined area of 711 hectares that are available, have potential for farming, and are not currently farmed. This is 69% of the 1,034 hectares (refer to Table 6) that are available and have potential for farming in the Electoral Area F inventory area.

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 (vegetables, forage or pasture, berries, etc.). Each crop type is then summarized to total land area and evaluated for field size characteristics.

Included with cultivated field crops is fallow farmland, “inactively farmed” land (i.e. 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 Electoral Area F are described by four crop groupings:

- **Forage & pasture:** grass
- **Berries:** blueberries
- **Nursery & tree plantations:** ornamentals & shrubs, mixed nursery, cedar hedging, Christmas trees, pulp/fibre/veneer trees
- **Other:** fallow land (cultivated land that has not been seeded or planted for one or more growing seasons) and bare cultivated land

Table 7. Main field crop types by area

Type	ALR		Outside ALR (ha)	Total area (ha)	% of cultivated land
	In ALR (ha)	% of ALR			
Forage & pasture	386	17%	38	424	67%
Berries	134	6%	2	135	21%
Nursery & tree plantations	50	2%	9	58	9%
Other*	18	< 1%	< 1	18	3%
TOTAL	588	26%	49	636	100%

* Other includes bare cultivated land and fallow land (cultivated land that has not been seeded or planted for one or more growing seasons).

Table 7 shows the 4 main field crop types produced on the 636 hectares of cultivated land in Electoral Area F.

“Forage & pasture” is the most common type of field crop accounting for 67% of all cultivated land and 17% of the ALR in the electoral area.

Berries are the second most common type of field crop accounting for 21% of all cultivated land and 6% of the ALR.

Refer to Map B8 in Appendix B for more information.

Figure 11. Main field crop types by percentage

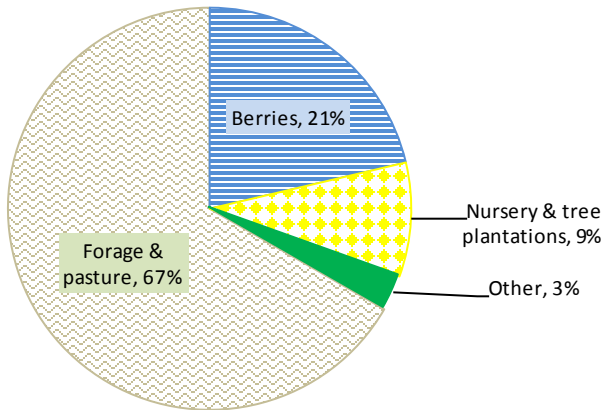


Figure 11 shows the proportion of main field crop types across Electoral Area F’s cultivated land.

“Forage & pasture” combined with “Berries” comprise 88% of all cultivated land in the electoral area.

Figure 12. All cultivated crop fields by size

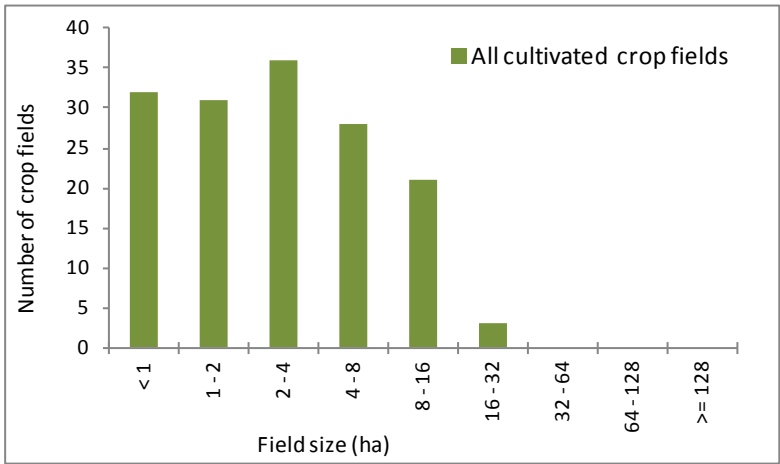


Figure 12 illustrates the number and size distribution of cultivated field crops.

In Electoral Area F, there are 151 individual crop fields with an average area of 4 hectares and a median area of 3 hectares.

Field crops occur on 141 parcels with an average parcel size of 10 hectares and a median parcel size of 7 hectares.

Refer to Table A1 in Appendix A for more information.

Figure 13. Forage & pasture, berries, and nursery & tree plantation fields by size

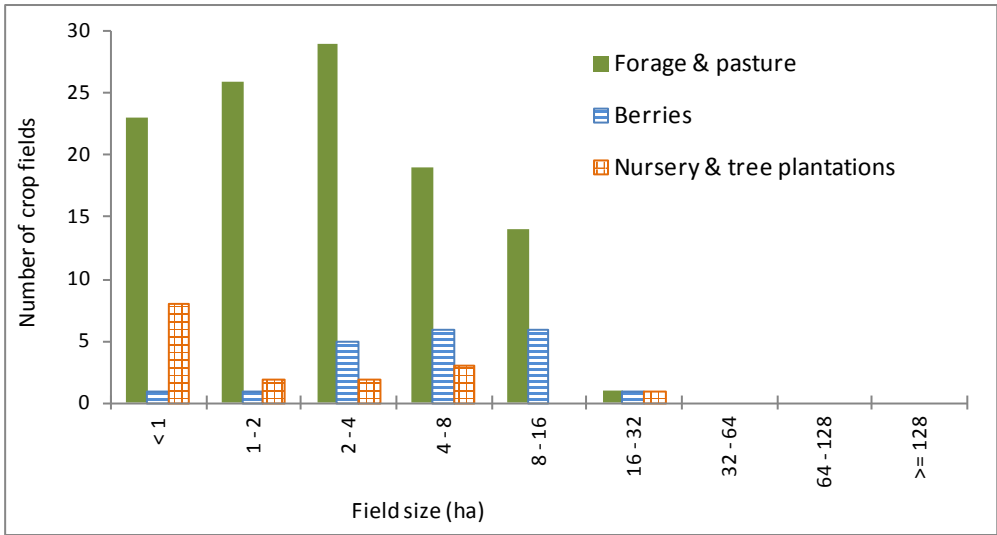


Figure 13 compares the top three main crop types by field sizes.

“Forage & pasture” fields dominate most field size categories with cultivated crops.

Forage & pasture, berries, and nursery & tree plantation crops occur across a variety of parcel sizes including parcels < 1 hectare.

Refer to Table A1 in Appendix A for more information.

Forage & pasture crops

Forage is a cultivated crop that is cut and made into silage or hay for livestock feed. Three levels of forage management are described:

- **Forage (intensively managed):** Management includes weed control & fertilizer / manure applications and crop is cut 4-8 times per year. Often there is no fencing and crop growth is vigorous, even and thick.
- **Forage (managed):** Management includes weed control & fertilizer / manure applications and crop is cut several times per year. Often there is no fencing and crop growth is generally healthy and even.
- **Forage (unmanaged):** Weed management & fertilizer / manure applications are minimal. Crop is cut only once per year. Crop growth is uneven with weeds.

Pasture is a cultivated crop that is used for grazing only and is not cut. Two levels of management are described:

- **Pasture (managed):** Management includes weed control & fertilizer / manure applications. Usually fields are large to accommodate equipment. Fencing is in good condition and crop growth is vigorous with few weeds.
- **Pasture (unmanaged):** Weed management & fertilizer / manure applications are minimal. Fencing is in good condition. Crop is varied (some weeds) and growth is uneven with signs of animal dung.

Some areas are used for both forage & pasture:

- **Forage & pasture (managed):** Crop is cut 1 to 3 times per year and made into silage or haylage. Also used for grazing for 1 to 3 months per season. Fencing is in good condition and crop growth is reasonably even with few weeds. Usually associated with dairy operations.

Areas previously used for forage or pasture are considered inactively farmed:

- **Unused** refers to forage or pasture which has not been cut or grazed during the current growing season.
- **Unmaintained** refers to forage or pasture which has not been cut or grazed during the current growing season, has not been maintained for several years, and probably would not warrant harvest.

Table 8. Forage & pasture crops by area

Forage & pasture crops		ALR		Outside ALR (ha)	Total area (ha)	% of cultivated land
		In ALR (ha)	% of ALR			
Forage (intensively managed)	Grass	48	2%	< 1	48	8%
Forage (managed)	Grass	111	5%	4	115	18%
Forage (unmanaged)	Grass	19	< 1%	< 1	19	3%
Forage [^]	Grass	27	1%	-	27	4%
Subtotal		205	9%	5	209	33%
Pasture (managed)	Grass	4	< 1%	11	14	2%
Pasture (unmanaged)	Grass	127	6%	23	150	24%
Subtotal		131	6%	33	164	26%
Forage & pasture (managed)	Grass	40	2%	< 1	40	6%
Subtotal		40	2%	< 1	40	6%
Unused	Grass	11	< 1%	< 1	11	2%
Subtotal		11	< 1%	< 1	11	2%
TOTAL		386	17%	38	424	67%

Table 8 shows that there is more forage than pasture in Electoral Area F.

Grass is the only recorded forage & pasture crop type.

Refer to Map B9 in Appendix B for more information.

[^] Forage or pasture where the level of management could not be determined.

Figure 14. Forage & pasture fields by size and type

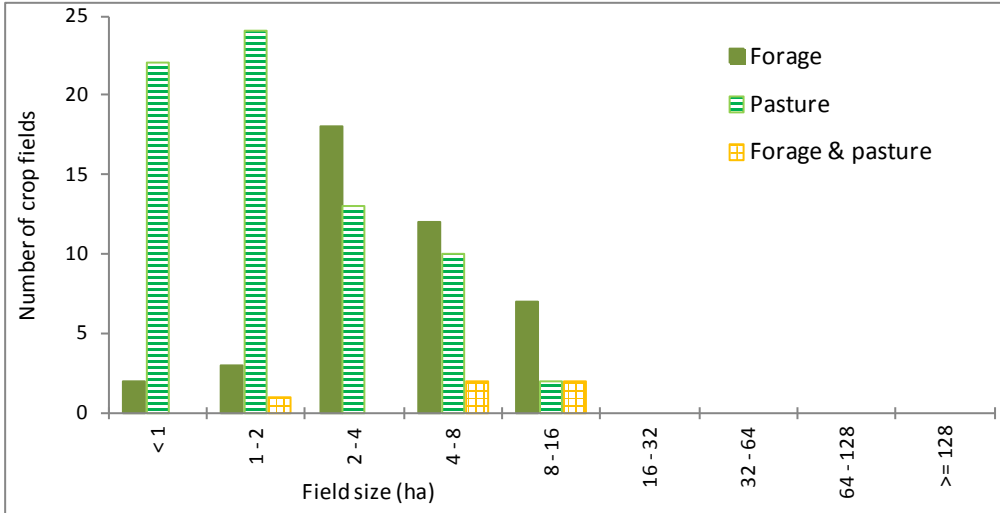


Figure 15 illustrate the variation between forage and pasture field sizes. Pastures tend to have smaller field sizes while forage fields tend to have larger field sizes.

There are 42 forage fields with an average crop area of 5 hectares, a median area of 4 hectares, and an average parcel size of 10 hectares.

By comparison, there are 71 pasture fields with an average area of 2 hectares, a median area of 1 hectare, and an average parcel size of 9 hectares.

Forage fields are generally larger than pasture fields mainly due to equipment requirements for efficient field management.

Berry crops

Berry crops are primarily perennials. Perennial berry crops do not change frequently as they require several years to mature and some crop types require extensive land preparation.

Two plant age categories are described:

- **Young:** Plants are young and have not reached peak production
- **Mature:** Plants are mature and are capable of reaching peak production

Table 9. Berry crops by area

Berry crops		ALR		Outside ALR (ha)	Total area (ha)	% of cultivated land
		In ALR (ha)	% of ALR			
Blueberries	Mature	74	3%	2	76	12%
	Young	54	2%	< 1	54	9%
	Unmaintained	5	< 1%	-	5	< 1%
	Subtotal	134	6%	2	135	21%
TOTAL		134	6%	2	135	21%

Table 9 shows that Electoral Area F has 135 hectares in blueberry crops. Five of these hectares are unmaintained.

Refer to Map B10 in Appendix B for more information.

Figure 15. Blueberry fields by size

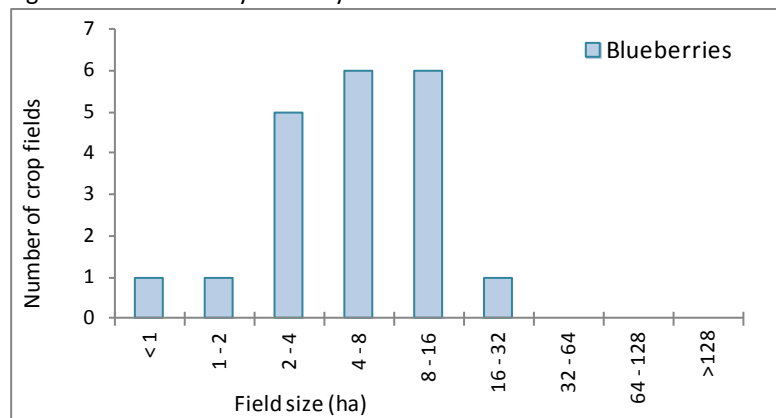


Figure 16 shows the field size distribution of blueberry fields in Electoral Area F.

There are 20 blueberry fields with an average crop area of 7 hectares, a median area of 6 hectares, and an average parcel size of 10 hectares.

Refer to Table A3 in Appendix A for more information.

Nursery & tree plantations

Nursery operations produce a variety of plants, trees, and shrubs that can be grown under a range of conditions. Nursery crops are cultivated for transplant and can be soil or container based. An intensive container based nursery has the potential to thrive on a relatively small or marginalized parcel.

Tree plantations are characterized by trees and woody shrubs that are harvested on site for fibre or other products. Tree plantations are not cultivated for transplant except in rare cases such as ball & burlap Christmas trees.

Nursery and tree plantations in Electoral Area F include:

- **Nursery** : ornamentals and shrubs, cedar hedging and mixed operations
- **Tree plantations** : Christmas trees, fibre/pulp/veneer trees, and unidentified plantation types

Table 10. Nursery & tree plantations by area

Nursery & tree plantations		ALR		Outside ALR (ha)	Total area (ha)	% of cultivated land
		In ALR (ha)	% of ALR			
Nursery	Ornamentals and shrubs	-	-	3	3	< 1%
	Cedar hedging	2	< 1%	-	2	< 1%
	Nursery - mixed	-	-	< 1	< 1	< 1%
	Nursery - unmaintained	7	< 1%	-	7	1%
Subtotal		9	< 1%	4	13	2%
Tree plantation	Christmas trees	37	2%	< 1	37	6%
	Fibre/pulp/veneer trees	-	-	5	5	< 1%
	Trees (plantation) - unknown	3	< 1%	< 1	3	< 1%
Subtotal		40	2%	5	45	7%
TOTAL		50	2%	9	58	9%

Table 10 shows that Electoral Area F has 13 hectares in nursery crops and 45 hectares in tree plantations.

The majority of all nursery & tree plantations are in Christmas trees (37 hectares)

Refer to Map B11 in Appendix B for more information.

Figure 16. Nursery & tree plantations by size and type

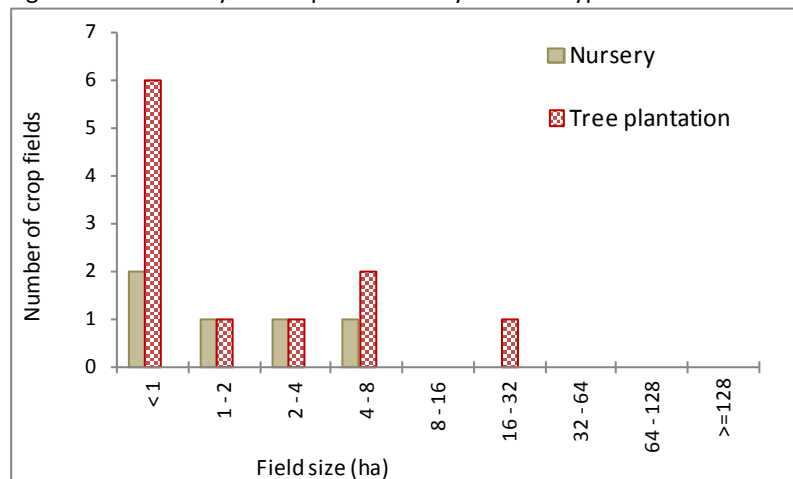


Figure 17 shows that most nursery & tree plantations in Electoral Area F are small.

There are 16 individual nursery & tree plantation fields with an average area of 4 hectares and a median area of 1 hectare.

Nursery & tree plantations occur on 15 parcels with an average parcel size of 12 hectares and a median size of 8 hectares.

Refer to Table A4 in Appendix A for more information.

All Crops

Table 11. All crop types by area

Cultivated field crop	ALR		Outside ALR (ha)	Total area (ha)	% of cultivated land
	In ALR (ha)	% of ALR			
Pasture (unmanaged)	127	6%	23	150	24%
Blueberries	128	6%	2	130	20%
Forage (managed)	111	5%	4	115	18%
Forage (intensively managed)	48	2%	< 1	48	8%
Forage & pasture (managed)	40	2%	< 1	40	6%
Christmas trees	37	2%	< 1	37	6%
Forage^	27	1%	-	27	4%
Forage (unmanaged)	19	< 1%	< 1	19	3%
Bare cultivated land*	17	< 1%	< 1	17	3%
Pasture (managed)	4	< 1%	11	14	2%
Unused forage/pasture	11	< 1%	< 1	11	2%
Nursery (Unmaintained)	7	< 1%	-	7	1%
Blueberries (Unmaintained)	5	< 1%	-	5	< 1%
Fibre/pulp/veneer trees	-	-	5	5	< 1%
Tree plantation (unknown)	3	< 1%	< 1	3	< 1%
Ornamentals and shrubs	-	-	3	3	< 1%
Cedar hedging	2	< 1%	-	2	< 1%
Fallow land	1	< 1%	-	1	< 1%
Nursery - mixed	-	-	< 1	< 1	< 1%
TOTAL	588	26%	49	636	100%

^ Forage or pasture where the level of management could not be determined.

* Cultivated is land that has been prepared for planting (plowed or tilled) but nor crop is visible.

Table 11 shows the 19 crop types that account for 100% of the cultivated land in Electoral Area F.

Figure 17. All crop types by area

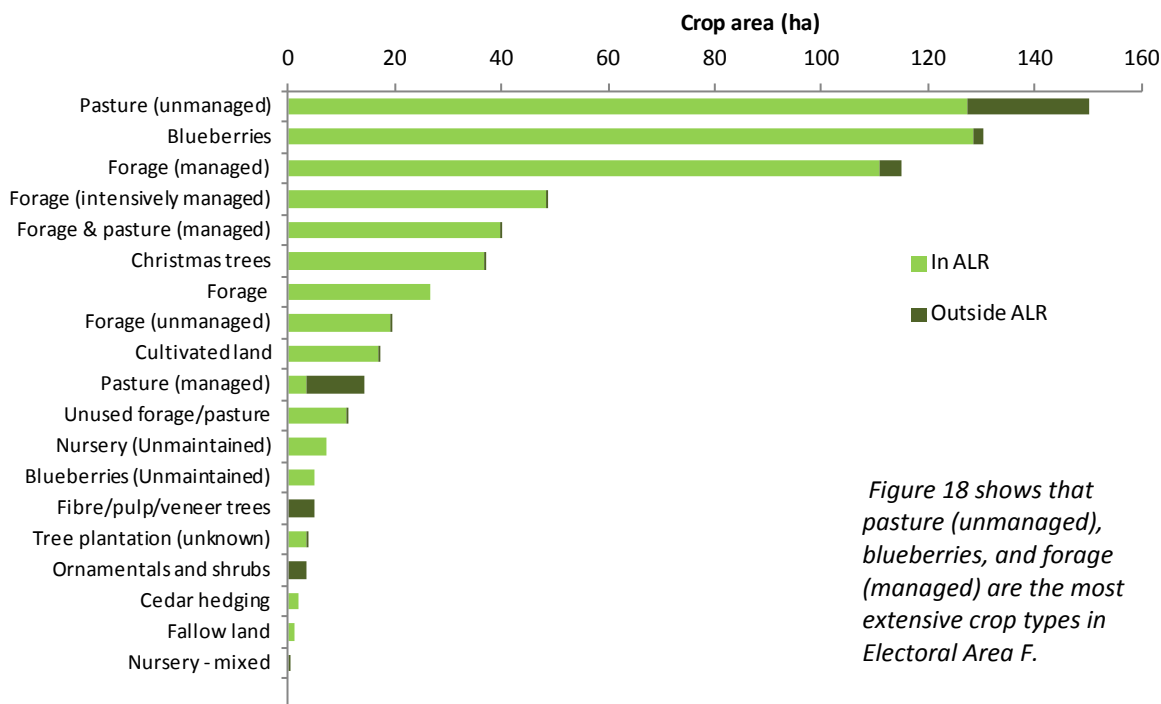


Figure 18 shows that pasture (unmanaged), blueberries, and forage (managed) are the most extensive crop types in Electoral Area F.

GREENHOUSES & CROPS BARNs

Greenhouses are structures covered with translucent material and of sufficient size for a person to work inside⁹. They are permanent enclosed glass or polyethylene (poly) structures with or without climate control facilities for growing plants under controlled environments. Non permanent structures such as hoop covers are considered an agricultural practice and are not included here.

Crop barns are permanent structures with non-translucent walls that are used for growing crops such as mushrooms.

Table 12. Greenhouses by area¹⁰

Greenhouse type		ALR		Outside ALR (ha)	Total area (ha)	% of greenhouse area
		In ALR (ha)	% of ALR			
Poly greenhouse	Nursery	21	0.9%	< 1	21	94%
	Unknown	< 1	< 0.1%	< 1	1	6%
TOTAL		22	1%	< 1	22	100%

Table 12 shows that 22 hectares of ALR land is covered by poly greenhouses.

No glass greenhouses or crop barns were recorded in Electoral Area F.

Refer to Map B8 in Appendix B for more information.

Figure 18. Distribution of greenhouse activities by crop type¹¹

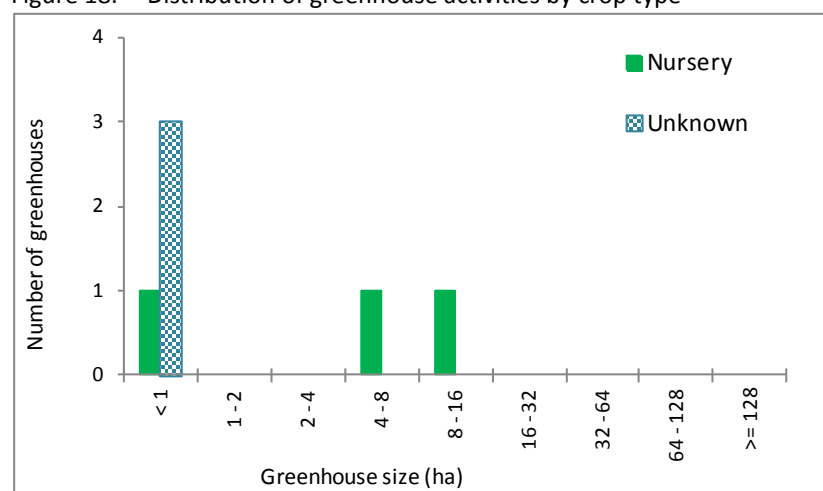


Figure 19 shows that 6 greenhouse activities were reported in Electoral Area F, 3 with nursery crops and 3 with unknown crops.

The largest 2 nursery greenhouse activities are associated with Sidhu and Sons Nursery while the < 1 hectare greenhouse nursery activity is associated with Peel's Nursery.

⁹ Source: *Guide for Bylaw Development*, 1998 Issue (Working Copy) by Ministry of Agriculture and Food.

¹⁰ The areas reported in this table exclude external yards, parking, warehouses and other infrastructure related to the greenhouse or crop barn operation. Poly refers to polyethylene.

¹¹ Each distinct greenhouse type on a parcel is counted as one activity. Each greenhouse activity will include at least one and perhaps more greenhouse land covers. Multiple greenhouses of the same building type may be present on a single land cover.

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, maintenance of managed vegetation, and control of soil erosion or dust. Good quality and abundant water for irrigation is a valuable asset in an intensive agriculture zone. The potential to irrigate is often limited by the quality and quantity of available irrigation water.

Irrigation is captured at the field or land cover level by system type (sub-surface, sprinkler, giant gun, trickle) 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 and land under preparation for planting. Also included are crops grown in greenhouses and crop barns. In addition, the all cultivated field crops are evaluated for percent of crop area under irrigation.

Table 13. Main crop types and irrigation

Cultivated field crop	Irrigation system in use (ha)			Total area irrigated (ha)	% of crop area irrigated
	Sprinkler	Giant gun	Trickle		
Berries	31	-	54	85	63%
Nursery & tree plantations	3	28	-	31	54%
Forage & pasture	-	-	-	-	-
Other*	-	-	-	-	-
TOTAL FIELD CROP AREA IRRIGATED	35	28	54	117	18%
Greenhouses - Mix of flood and trickle irrigation				22	100%

* Other includes bare cultivated land and fallow land (cultivated land that has not been seeded or planted for one or more growing seasons).

Table 13 illustrates that only berry and nursery & tree plantation crops are irrigated. No irrigation was recorded on forage & pasture crops.

Refer to Map B12 in Appendix B for more information.

Figure 19. Irrigation systems by percentage of cultivated land

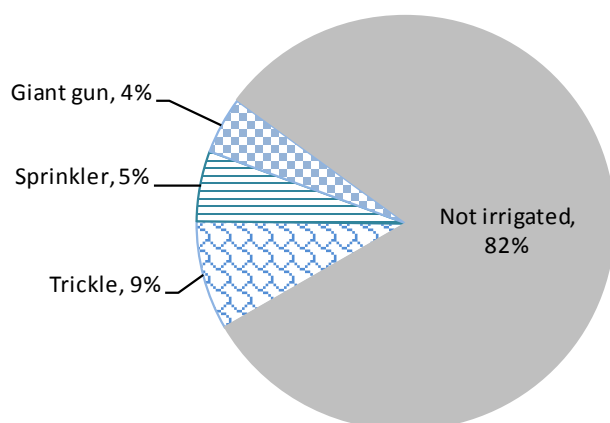


Figure 20 shows that there is little irrigation in Electoral Area F.

Trickle irrigation systems occur on 9% of all cultivated land, followed by giant gun systems at 8% and sprinkler systems at 7%. Eighty-two percent of all crops are not irrigated.

Table 14. All crop types and irrigation

Cultivated field crop	Irrigation system in use (ha)			Total area irrigated (ha)	% crop area irrigated
	Sprinkler	Giant gun	Trickle		
Pasture (unmanaged)	-	-	-	-	-
Blueberries	31	-	54	85	66
Forage (managed)	-	-	-	-	-
Forage (intensively managed)	-	-	-	-	-
Forage & pasture (managed)	-	-	-	-	-
Christmas trees	-	28	-	28	76
Forage^	-	-	-	-	-
Forage (unmanaged)	-	-	-	-	-
Cultivated land*	-	-	-	-	-
Pasture (managed)	-	-	-	-	-
Unused forage/pasture	-	-	-	-	-
Nursery (Unmaintained)	-	-	-	-	-
Blueberries (Unmaintained)	-	-	-	-	-
Fibre/pulp/veneer trees	-	-	-	-	-
Tree plantation (unknown)	-	-	-	-	-
Ornamentals and shrubs	3	-	-	3	100
Cedar hedging	-	-	-	-	-
Fallow land	-	-	-	-	-
Nursery - mixed	-	-	-	-	-
TOTAL	35	28	54	117	

^ Forage or pasture where the level of management could not be determined.

Table 13 outlines the irrigations system types used on the 19 field crop types in Electoral Area F.

Trickle systems are the most common with 54 hectares and are found exclusively on blueberries. Sprinkler systems are the second most common with 35 hectares and are found on blueberries and ornamentals and shrubs. Giant gun systems are third and are found exclusively on Christmas tree plantations.

LIVESTOCK

Livestock activities are very difficult to measure using a windshield survey method. Livestock are often confined in structures making it difficult for the surveyor 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. Livestock visible on a certain parcel one day may be visible on a different parcel the next day. This inventory does not attempt to 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.

"Main Type" and **"Secondary Type"** of livestock are determined by comparing the scale of different livestock activities on the parcel. The **"Main Type"** of livestock does not represent the primary agricultural activity, but only the main type of livestock activity.

"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 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)
- **"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, 5000 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, 5000 turkeys, 10,000 chickens (over 100 animal unit equivalents)

Table 15. All livestock activities (including equine)

Livestock group	Livestock detail *	By parcel		Total activities	By activity type	
		Main type	Secondary type		Intensive	Non Intensive
Beef	Beef total	7	1	8	-	8
Dairy	Dairy total	9	-	9	6	3
Poultry	Chicken	3	2	5	1	4
	Chicken (Game bird)	1	-	1	-	1
	Duck (Goose)	1	-	1	-	1
	Poultry total	5	2	7	1	6
Swine	Swine total	1	-	1	-	1
Sheep / lamb / goat	Sheep / lamb	1	2	3	-	3
	Sheep / lamb (Goat)	1	-	1	-	1
	Goat	1	2	3	-	3
	Sheep / lamb / goat total	3	4	7	-	7
Llama / alpaca	Llama	2	1	3	-	3
	Alpaca	1	-	1	-	1
	Llama / alpaca total	3	1	4	-	4
Bison	Bison total	1	-	1	-	1
Unknown livestock	Unknown livestock total	3	-	3	-	3
Inactive operation	Inactive operation total	1	-	1	-	1
Equine	Horse	35	1	36	-	36
	Horse (Miniature horse)	1	-	1	-	1
	Equine - unknown type	12	-	12	-	12
	Equine total	48	1	49	-	49
TOTAL		81	9	90	7	83

* When livestock type appears in parentheses, it indicates the livestock activity is a mixed herd or flock.

Table 15 shows that equine is the most common type of livestock activity in Electoral Area F accounting for over half of all livestock activities (49 out of 90 or 54%). Dairy is the second most common type of livestock with 9 activities or 10%, followed by beef with 8 activities or 9%.

All equine activities are “non-intensive” while two-thirds of all dairy activities are “intensive”. There is also 1 “intensive” poultry activity associated with VB Kunze Farm.

One former swine activity was recorded as an inactive livestock activity.

Refer to Maps B13, B14, and B15 in Appendix B for more information.

Figure 20. Livestock activities (excluding equine) by scale and type

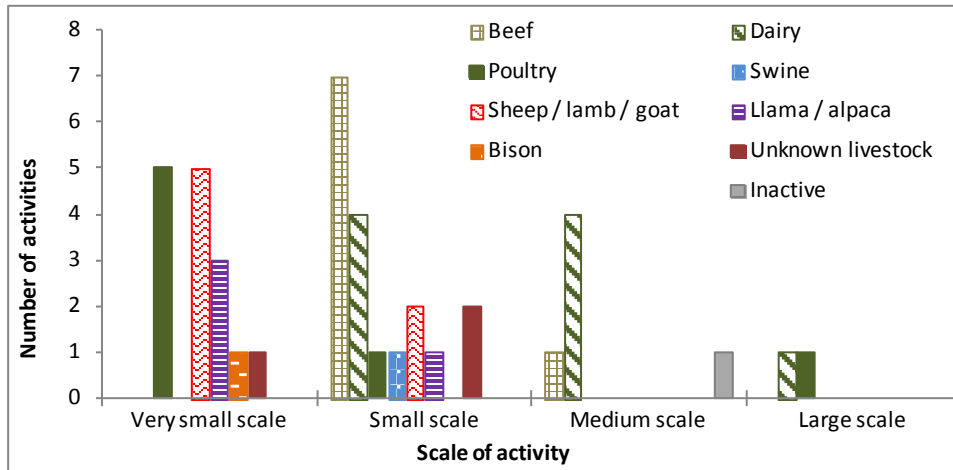


Figure 21 illustrates the scale of livestock activities (excluding equine) in Electoral Area F.

Most livestock activities are “very small” or “small” scale.

Of the 7 active “medium” and “large” scale activities, 5 are dairy, 1 is beef, and 1 is poultry.

Dairy and poultry are supply managed industries.

Refer to Tables A6, A8, and A10 in Appendix A for more information.

Figure 21. Livestock and equine activities by scale

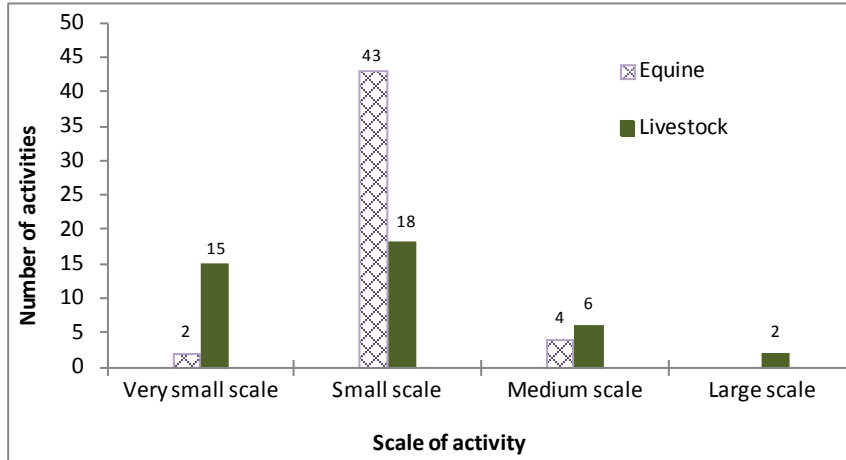


Figure 22 compares the scale of livestock activities with equine activities.

The majority of all equine activities are “small” scale. There are no “large” scale equine activities while there are 2 “large” scale livestock activities

Refer to Tables A6, A8, A10 and A112 in Appendix A for more information.

Figure 22. Livestock activities (excluding equine) by parcel size and scale

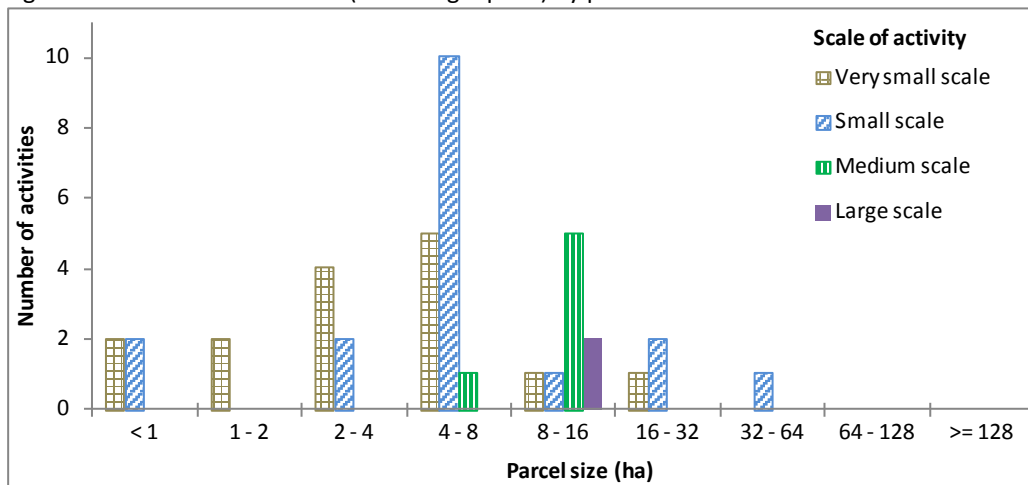


Figure 23 illustrates the distribution of livestock activities (excluding equine) by scale across parcel size categories.

“Small” and “very small” scale activities occur on a wide range of parcel sizes including larger parcels. Most “medium” and “large” scale livestock activities occur on parcels 8 – 16 hectares in size.

Refer to Tables A6, A8, A10 and Figures A1, A3, and A5 in Appendix A for more information.

Figure 23. Livestock activities (excluding equines) by parcel size and type

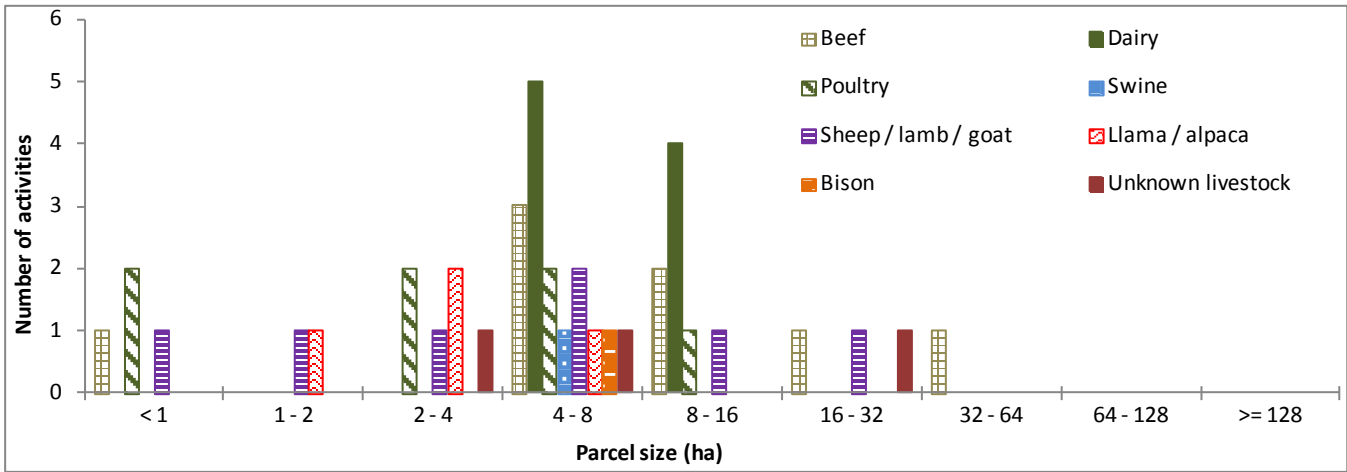


Figure 24 compares the distribution of different livestock types across parcel size categories. The majority of all livestock activities are clustered on parcels 4 - 8 hectares in size. One “small” scale beef activity occurs on a parcel of 35 hectares. Four “small” or “very small” livestock activities occur on parcels < 1 hectare. Refer to Table A4 in Appendix A for more information.

Figure 24. Livestock and equine activities by parcel size

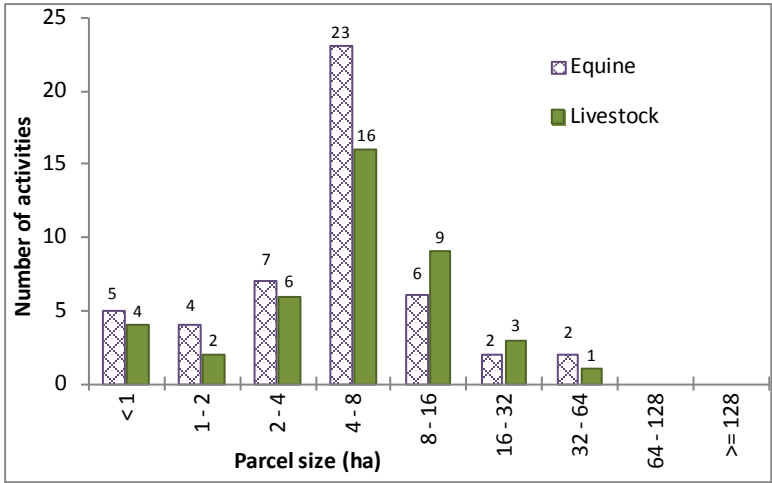


Figure 25 compares the distribution of equine and livestock activities across parcel size categories. Equine activities occur more frequently than other livestock activities on smaller parcels. Both livestock and equine activities occur on parcels < 1 hectare. Refer to Table A4 in Appendix A for more information.

Figure 25. Average area in forage, pasture and farm infrastructure on parcels with livestock activities (excluding very small scale)

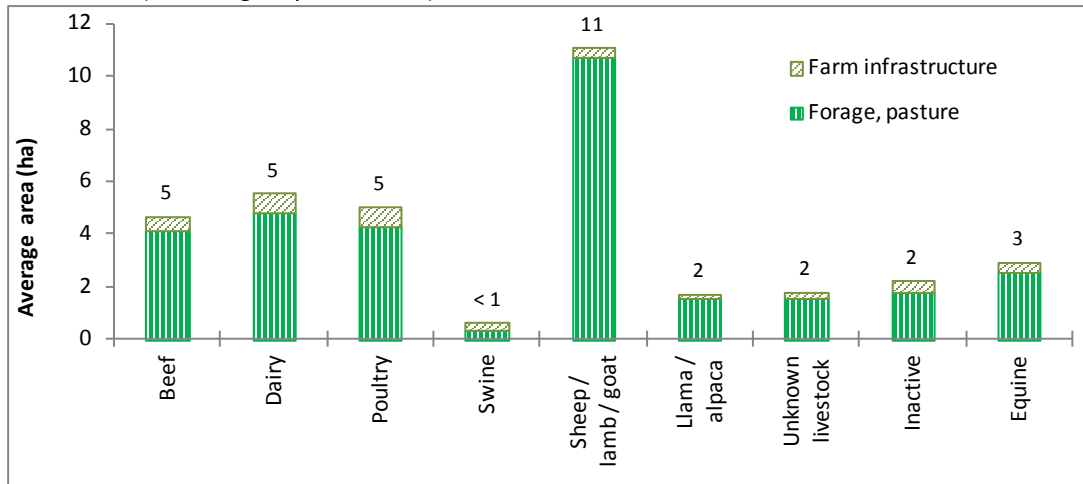
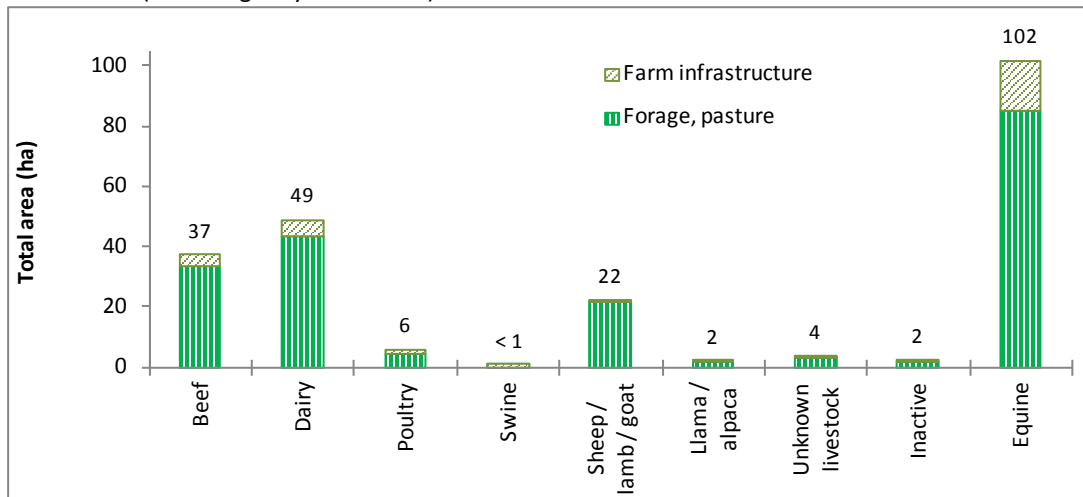


Figure 26 shows that on average, a sheep / lamb / goat activity is associated with 11 hectares of forage or pasture land which is more than any other type of livestock activity.

KS COMMENTS.

Discuss dairy. Sheep economically insignificant. Check LOT with SHEEP. Anything else happening?

Figure 26. Total area in forage, pasture and farm infrastructure on parcels with livestock activities (excluding very small scale)



Even though each sheep/ lamb/ goat activity in Electoral Area F uses on average more forage or pasture than other livestock types (see Figure 26 above), Figure 27 shows that equine activities use a much greater total area for forage or pasture. Dairy and beef activities also use a total greater area for forage or pasture than sheep / lamb / goat activities.

The actual forage area for dairy is often underestimated since not all dairy forage fields are located on the same parcel as the livestock.

Refer to Figures A2, A4, A6, and A8 in Appendix A for more information.

Figure 27. Percent of parcel area utilized for forage, pasture and farm infrastructure on parcels with livestock activities (excluding very small scale)

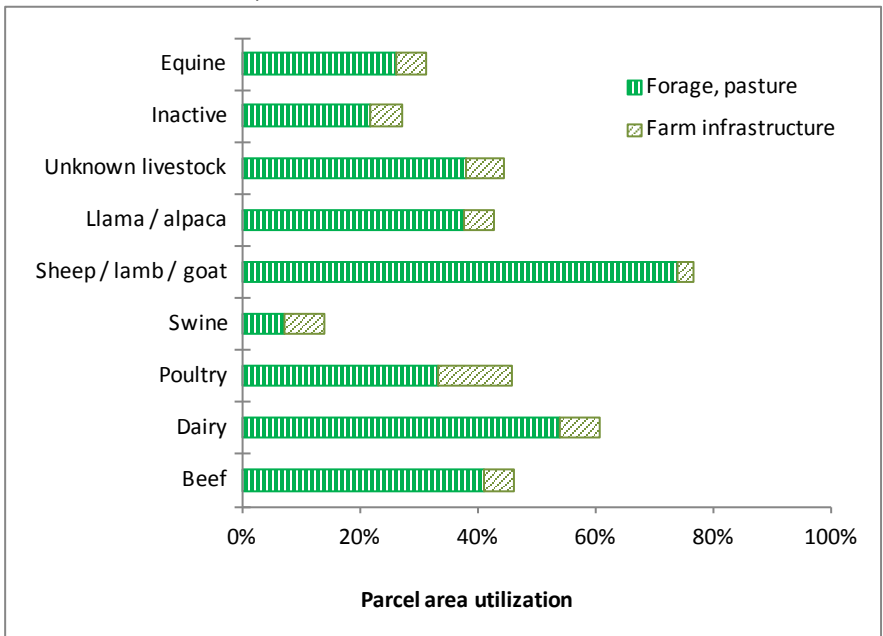
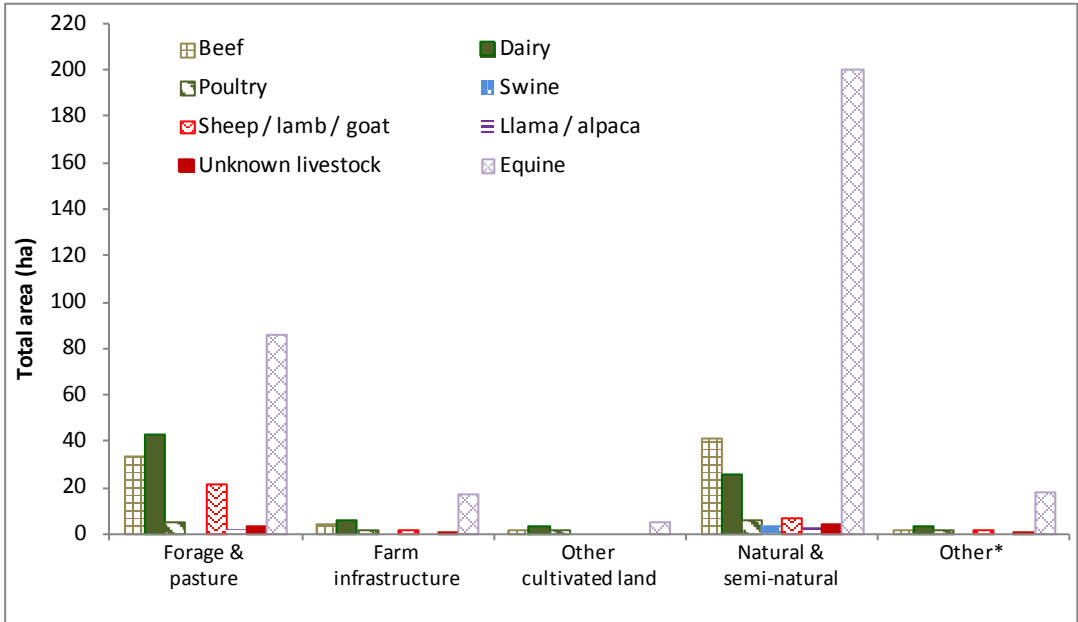


Figure 28 shows that on average, a sheep / lamb / goat activity in Electoral Area F utilizes 77% of its parcel area for forage, pasture or farm infrastructure while an equine activity utilizes only 31%.

Figure 28. Land cover on parcels with equine and livestock activities (excluding very small scale)



* Other includes vegetated lands seeded or planted for landscaping, dust, or soil control but not cultivated for harvest or pasture, lands covered by built objects but not farm infrastructure, and bare areas such as piles, pits, fill dumps.

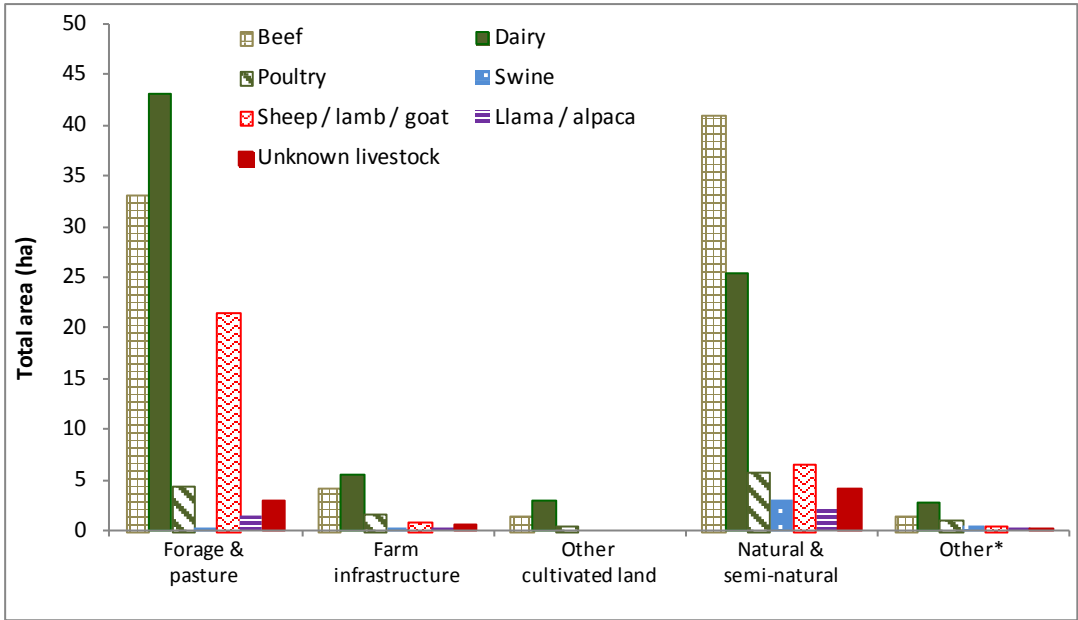
Figure 29 shows the land cover on parcels with livestock and equine activities.

The land cover associated with equine activities is primarily Natural & Semi-natural vegetation. Many of these activities are associated with rural residential properties.

Equine activities are also associated with significant amounts of forage & pasture and are growing some of their own feed.

Refer to Figures A2, A4, A6, and A8 in Appendix A for more information.

Figure 29. Land cover on parcels with livestock activities (excluding very small scale and excluding equine activities)



* Other includes vegetated lands seeded or planted for landscaping, dust, or soil control but not cultivated for harvest or pasture, lands covered by built objects but not farm infrastructure, and bare areas such as piles, pits, fill dumps.

Figure 30 shows the land cover on parcels with livestock activities (excluding equine).

Most livestock types are associated with some forage & pasture and are growing some of their own feed.

Refer to Figures A2, A4, A6 in Appendix A for more information.

ON-FARM VALUE-ADDED

Activities which add value to raw commodities produced on the farm are reported in this section. At least 50% of the commodity utilized must be produced on farm¹² or the activity is considered non-agricultural. In many cases, local knowledge in combination with the field survey is used to determine if an activity meets the criteria to be considered on-farm value-added. The three main categories of value-added are: processing, direct sales, and agri-tourism.

Processing is an activity that maintains or raises the quality or alters the physical or chemical characteristics of a raw farm commodity, or adds value to it in any way. Processing includes grain mill or oilseed crushing, meat processing, wine or cider, kitchen / bakery, and canning. This category does not include crop washing and packaging.

Direct sales to the public occur through permanent stores, temporary stores such as fruit stands, U-pick, or restaurant / take out service located on the farm. Direct farm marketing sites are considered ambassadors of agriculture. Direct farm marketing engages the public's interest in food production and increases awareness of the benefits of local agriculture.

Agri-tourism promotes visits to the operation for the purpose of recreation, education or active involvement in the operation - a tourism experience. Agri-tourism must be in a farm setting and secondary to primary agricultural operation to be considered value-added. Included are corn mazes, petting zoos, bed & breakfasts, campsites, winery or orchard tours, guest ranches offering equestrian related activities, horse or donkey rental for trail riding / outfitting, and seasonal events such as farm festivals or pumpkin patches.

The scale system used to describe value-added activities reflects the human effort need to support the activity. The scale system includes 3 levels:

- “**Small**” scale represents a predominantly single household endeavour with management requiring less than one full time worker. Examples of small scale include a temporary roadside fruit stand, a small field u-pick, or egg sales from a backyard flock.
- “**Medium**” scale is sufficient to add value to on-farm products for sale to small local markets or serve a moderate number of people. Usually includes designated parking for customers and requires at least one full-time worker to manage. An example is 3-10 tourist accommodation spots.
- “**Large**” scale is intended to add value to large amounts of on-farm generated products or serve large numbers of people. Requires multiple workers to operate value-added components of the farm operation. An example is more than 10 tourist accommodation spots.

¹² On-farm refers to the farm unit which includes all the property belonging to the farm and may incorporate more than one parcel.

Figure 30. Percentage of parcels “Used for farming” with value-added activities

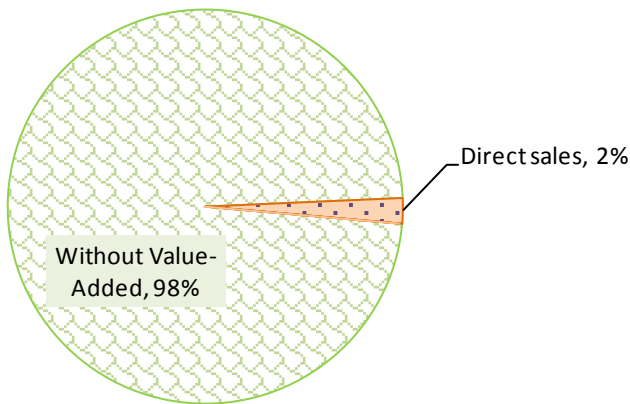
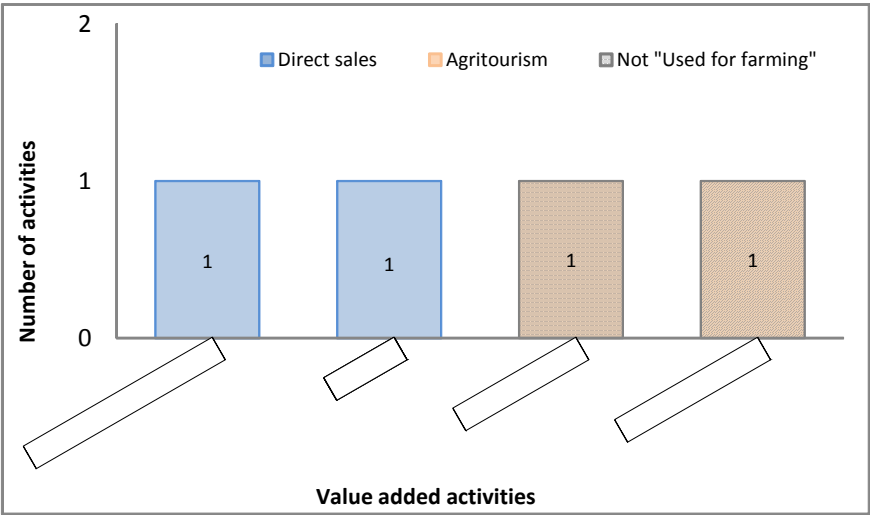


Figure 31. Only 2 or 2% of all parcels “Used for farming” are also being used for value-added activities. Given the relatively close proximity to a large urban population, there are opportunities to increase activities such as agri-tourism, processing, and direct sales.

Figure 31. Number of parcels with farming and value-added activities



There are 4 value-added activities on 4 parcels in Electoral Area F. Two activities are on parcels that do not meet the “Used for farming” criteria (refer to the Definition section of the report).

Figure 32 shows 2 activities are direct sales and 2 activities are agritourism. Both agritourism activities are on parcels that are “Not used for farming”.

The u-pick activity is associated with Beckmann Berry Farm while the seasonal event activity is associated with Cnoccarne B&B and Circle Farm Tour events.

Refer to Table A13 Appendix A for more information.

5. Condition of ALR Lands

This section presents a parcel based analysis of parcel size and residential uses in the ALR.

PARCEL INCLUSION IN THE ALR

The inventory area included 2,107 hectares of ALR on 336 parcels, which is 95% of the ALR area within Electoral Area F. The remaining 5% of the ALR was excluded from the inventory as it is in rights-of-ways, unsurveyed Crown land, foreshore, or parcels less than 100 square metres in size.

ALR boundaries do not always coincide 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 land in Electoral Area F, only parcels that meet the following criteria are included in this section of the report:

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

In total, 300 parcels with 2,026 hectares or 91% of Electoral Area F's ALR land area meets the above criteria and are included in the further analysis of the ALR. This includes 2 parcels that each have less than 50% of their area in the ALR, but contain a combined area of 23 hectares of ALR land.

Figure 32. Parcel inclusion in the ALR



Figure 33 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:

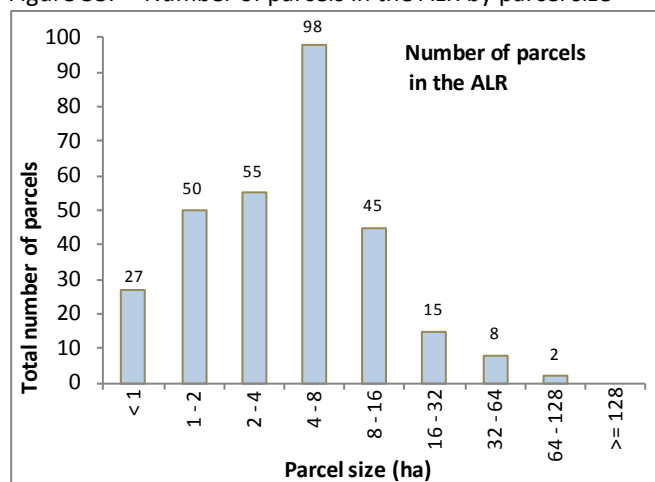
- lot C has less than 50% of its area and less than 10 hectares in the ALR
- lot D is completely outside the ALR.

PARCEL SIZE & FARMING IN THE ALR

Parcel size must be considered when determining the agricultural potential of a land 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, such as intensive organic market gardens, greenhouse operations and nurseries, generally the smaller the parcel is, the fewer viable options there are for farming.

A farming operation may utilize more than one parcel as a farm unit¹³, however it is generally more efficient to run a farm on fewer larger parcels than many smaller parcels. Larger parcels accommodate equipment more efficiently and reduce the need to move farm equipment on public roads. Smaller parcels are more impacted by bylaws designed to reduce potential land use conflicts, such as setbacks from lot lines and road allowances, and may encourage alternative land uses such as residential.

Figure 33. Number of parcels in the ALR by parcel size



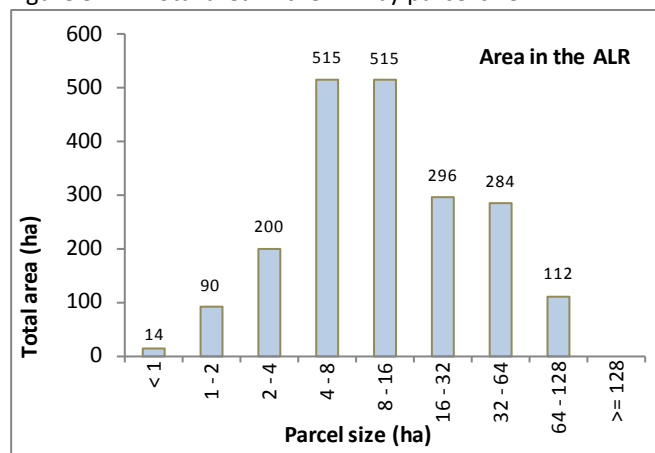
The average ALR parcel size in Electoral Area F is 7.2 hectares and the median ALR parcel size is 4.1 hectares.

Figure 34 illustrates that of the 300 parcels in the ALR:

- 9% (27 parcels) are less than 1 hectare.
- 44% (132 parcels) are less than 4 hectares.
- 33% (98 parcels) are between 4 and 8 hectares.
- 15% (45 parcels) are between 8 and 16 hectares.
- 8% (25 parcels) are greater than 16 hectares.

Refer to Map B16 in Appendix B for more information.

Figure 34. Total area in the ALR by parcel size



Even though Electoral Area F has a significant number of small parcels, most of its ALR area is in parcels larger than 4 hectares.

Figure 35 illustrates that of the 2,026 hectares in the ALR:

- 1% (14 hectares) is on parcels less than 1 hectare.
- 15% (304 hectares) is on parcels less than 4 hectares.
- 25% (515 hectares) is on parcels between 4 and 8 hectares.
- 25% (515 hectares) is on parcels between 8 and 16 hectares.
- 34% (692 hectares) is on parcels greater than 16 hectares.

¹³ 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 farmed and not farmed parcels in the ALR

Parcel status with respect to farming	Number of parcels	% of parcels in the ALR
Used for farming	76	25 %
Not used for farming	224	75 %
TOTAL	300	100 %

Table 16 demonstrates that of the 300 parcels in the ALR, only 76 or 25% are "Used for farming".

Figure 35. Number of farmed and not farmed parcels in the ALR by parcel size

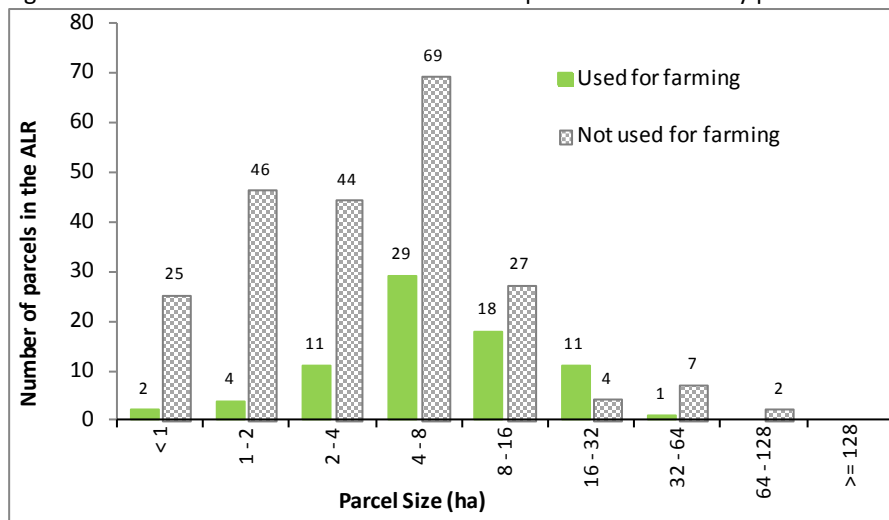


Figure 36 shows that of the 224 "Not used for farming" parcels in the ALR, 115 parcels or 51% are less than 4 hectares.

Figure 36. Number of farmed and not farmed parcels in the ALR by parcel size (line chart)

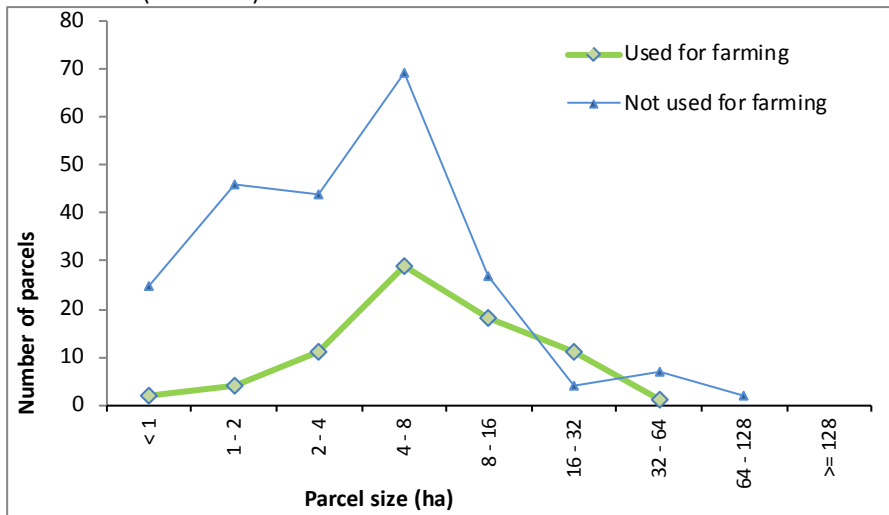


Figure 37 illustrates that small parcels are far less likely to be "Used for farming".

Figure 37. Proportion of parcels farmed and not farmed by parcel size in the ALR

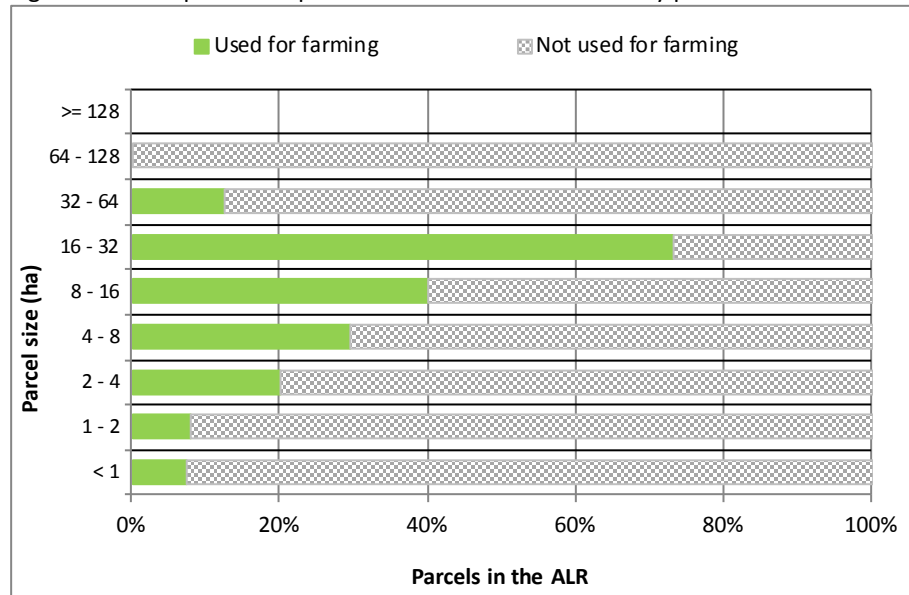
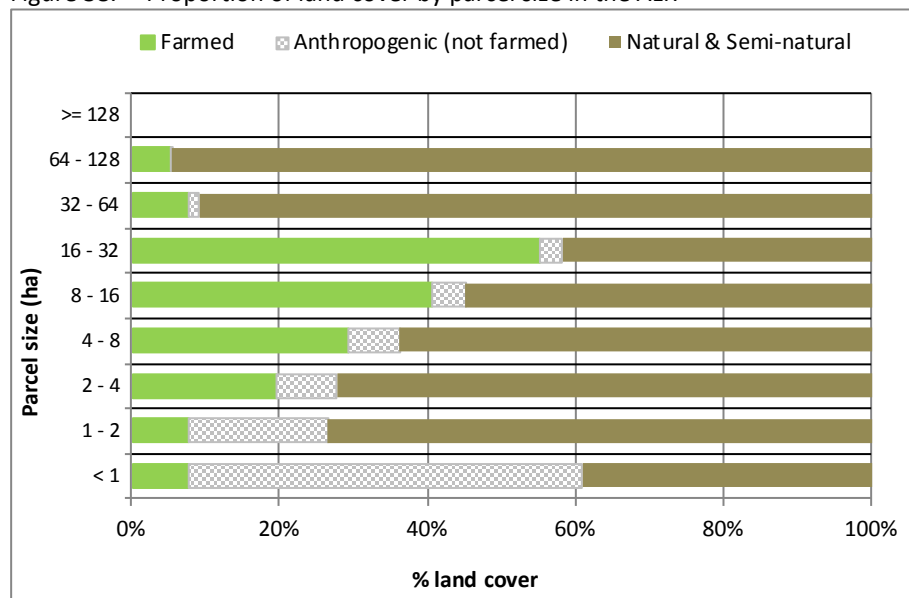


Figure 38 shows that in Electoral Area F, the proportion of parcels “Used for farming” is small across most parcel sizes.

The proportion of parcels “Used for farming” generally increases as the parcel size increases.

There are 2 parcels in the 64 – 128 hectares category. One of these parcels is associated with some pasture, however the extent of the “farmed” land cover is insufficient to meet the “Used for farming” definition.

Figure 38. Proportion of land cover by parcel size in the ALR



Similar to Figure 38 above, Figure 39 shows that the proportion of farmed land cover on ALR land generally increases as parcel size increase.

On parcels < 1 hectare, anthropogenic (not farmed) land cover comprises 53% of the total land area.

RESIDENTIAL USE IN THE ALR

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 have higher property values making it more difficult for a farmer to acquire and convert this land to farmland in the future.

Average land improvement values of Electoral Area F properties with residences in the ALR were as follows:

- estate single family house \$1,460,000
- large single family house \$344,533
- medium single family house \$186,923
- small single family house \$88,360
- single mobile home \$63,800

(Calculated using 2011 BC Assessment database - Last improvement value)

In the following analysis cabins/cottages, mobile homes, single-family houses, duplexes, townhouses, apartments, motels, dormitories, and institutional living buildings are included. Single-family houses are further described by estimated size of the building:

- Small single-family house < 1,500 sq. ft.
- Medium single-family house 1,500 – 3,500 sq. ft.
- Large single-family house 3,500 – 5,000 sq. ft.
- Estate (very large) single-family house > 5,000 sq. ft.

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.

Table 17. Farming and residences in the ALR

Parcel status	With residence		Without residence		Total number of parcels
	Number of parcels	% of parcels	Number of parcels	% of parcels	
Used for farming	55	18%	21	7%	76
Not used for farming but available	174	58%	49	16%	223
Not used for farming and unavailable	-	-	1	< 1%	1
TOTAL	229	76%	71	24%	300

Table 17 shows that 229 parcels or 76% of ALR parcels have residences and that 174 of these parcels are “Not used for farming”.

Table 18. Farming and residence type in the ALR

Parcel status	Residences *						Total residences	Total number of parcels
	Single mobile home	Small house	Medium house	Large house	Estate house	Dormitory		
Used for farming	6 (3)	22 (17)	32 (27)	6 (6)	1 (1)	2 (1)	69	55
Not used for farming but available	14 (8)	65 (50)	100 (94)	22 (22)	-	-	201	174
Not used for farming and unavailable	-	-	-	-	-	-	-	-
TOTAL RESIDENCES	20	87	132	28	1	2	270	
TOTAL PARCELS	11	67	121	28	1	1		229

* xx (yy) - xx indicates the number of residences and (yy) indicates the number of parcels where the residence type is the largest on that parcel.

Table 18 demonstrates that there are 229 parcels in the ALR with 270 residences (some parcels have more than one residence). Most residences are “medium” houses. Only 7 or 24% of the 29 “large” and “estate” houses are on parcels “Used for farming”.

Figure 39. Total area in residential footprint by parcel size

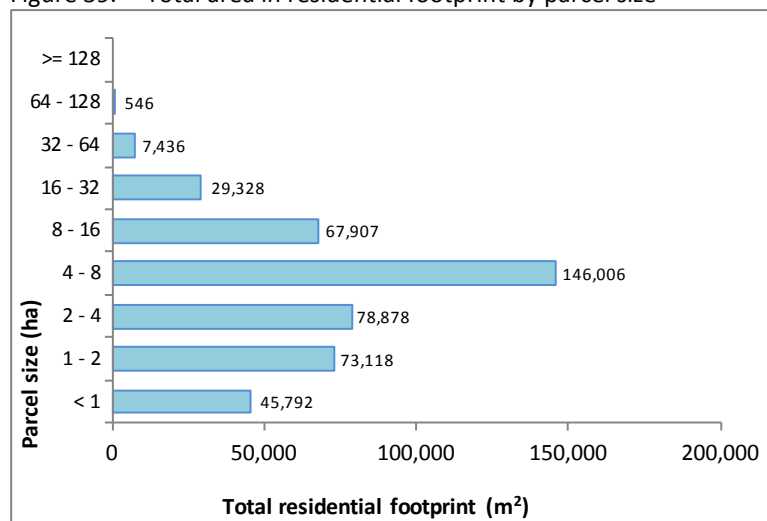


Figure 40 illustrates that there are nearly 45 hectares (449,010 m²) of ALR land in residential footprints distributed across all parcel sizes less than 128 hectares.

Figure 40. Proportion of parcels with residences by parcel size

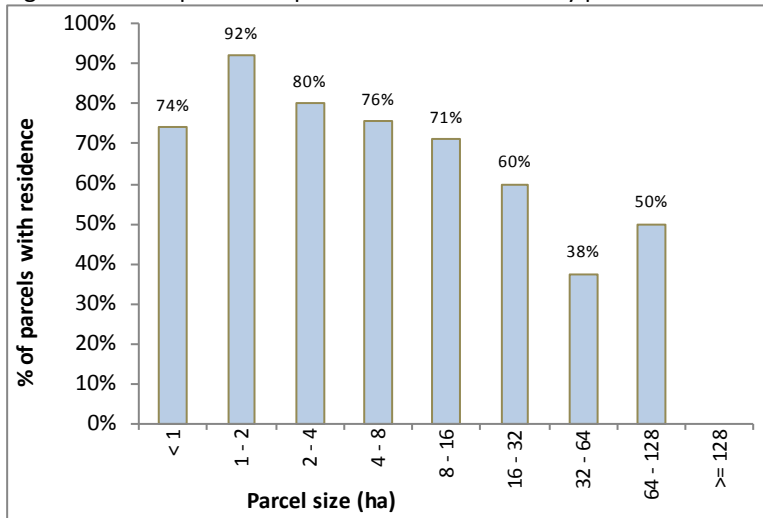


Figure 41 shows that there is a high proportion of parcels with residences across most parcel sizes in the ALR.

There are no parcels ≥ 128 hectares.

Figure 41. Average percent of parcel area in residential footprint by parcel size

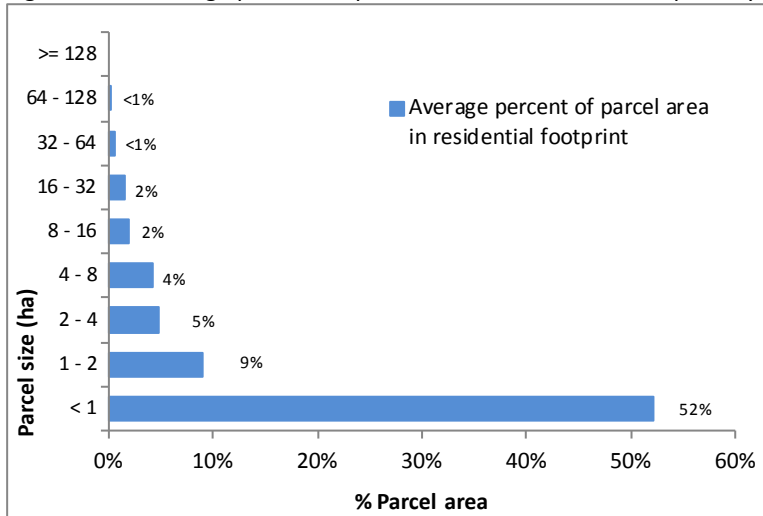


Figure 42 demonstrates that residential footprints on smaller parcels use a much greater proportion of the parcel area than those on larger parcels.

Figure 42. Average total area in residential footprint by parcel size

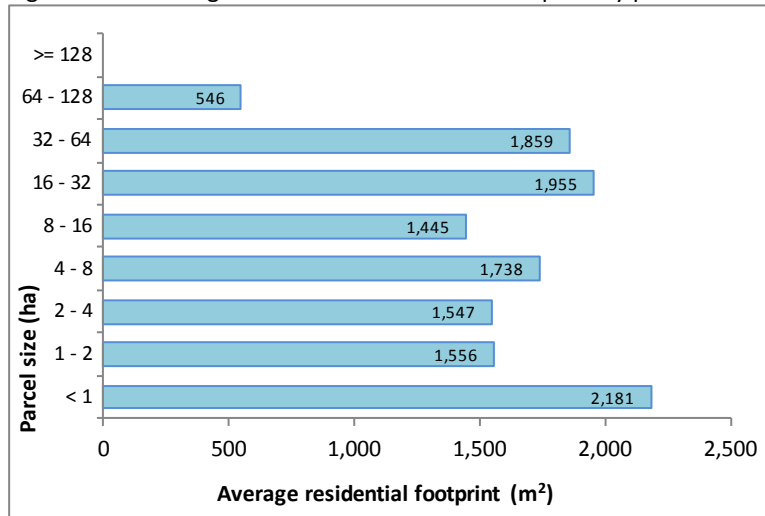
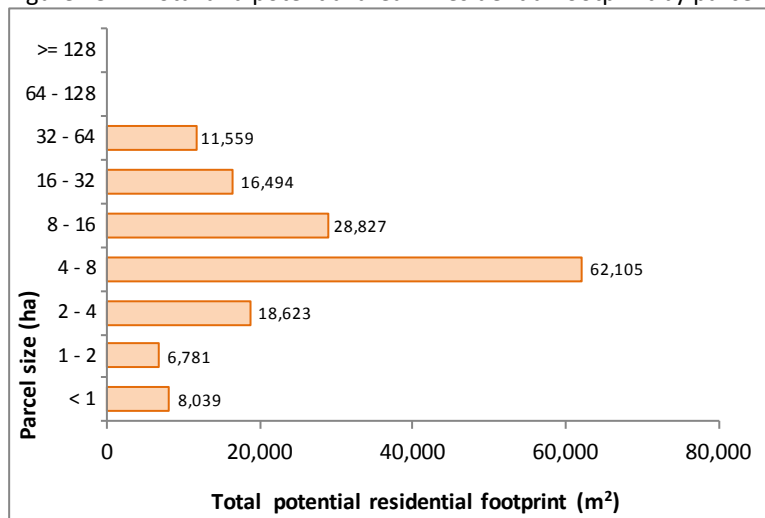


Figure 43 illustrates that even though residential footprints on small parcels use a greater proportion of the parcel area, the average size of the footprint is similar compared to the footprint on larger parcels.

Figure 43. Total and potential area in residential footprint by parcel size



There are 70 parcels in the ALR that are "Used for farming" or "Not used for farming but available" that do not yet have a residence (refer to Table 17).

If all 70 parcels built a residence using the average percent of parcel area in residential footprint presented above, Figure 44 shows that an additional 15 hectares (152,427 m²) of ALR land would be permanently removed from potential production.

Table 19. Main agricultural activity and largest residence on parcels "Used for farming" in the ALR

Main agricultural activity	Largest residence on the parcel						Number of parcels
	Single mobile home	Small house	Medium house	Large house	Estate house	Dormitory	
Livestock	-	3	10	2	-	-	15
Berries	2	4	6	1	-	-	13
Forage & pasture	-	5	5	1	-	-	11
Equine	1	3	4	2	-	-	10
Nursery & tree plantations	-	2	2	-	-	-	4
Poly greenhouse	-	-	-	-	1	1	2
TOTAL PARCELS	3	17	27	6	1	1	55

*there are 55 parcels "Used for farming" with residences

There are 55 parcels with residences that are "Used for farming" in the ALR (refer to Table 18).

Table 19 shows that 15 of these parcels have livestock activities as the main agricultural activity.

Table 20. Main agricultural activity on parcels "Used for farming" with large or estate residences in the ALR

Main agricultural activity	Parcels with "Large" or "Estate" residences			
	Number of parcels	Crop area utilized (ha)	Average % of parcel area in crop	Average parcel area (ha)
Livestock	2	22	45 %	27
Equine	2	6	70 %	4
Poly greenhouse	1	17	90 %	19
Forage & pasture	1	7	89 %	8
Berries	1	5	83 %	6
TOTAL	7	56		

There are 7 parcels with "large" or "estate" residences in the ALR that are "Used for farming" (see Table 19 above).

Table 20 illustrates the type of farming activities associated with these "large" and "estate" residences. There are 4 parcels using a combined area of 28 hectares to support livestock and equine activities.

Appendix A

CULTIVATED FIELD CROPS

Table A1. Distribution of crop field sizes for all cultivated land¹

Crop area (ha)	Number of crop fields				Total number
	Forage & pasture	Berries	Nursery & tree plantations	Other*	
< 1	23	1	8	-	32
1 - 2	26	1	2	2	31
2 - 4	29	5	2	-	36
4 - 8	19	6	3	-	28
8 - 16	14	6	-	1	21
16 - 32	1	1	1	-	3
32 - 64	-	-	-	-	-
64 - 128	-	-	-	-	-
>= 128	-	-	-	-	-
TOTAL NUMBER OF FIELDS	112	20	16	3	151
AVERAGE CROP AREA (ha)	4 ha	7 ha	4 ha	6 ha	4 ha
MEDIAN CROP AREA (ha)	2 ha	6 ha	1 ha	1 ha	3 ha
AVERAGE PARCEL SIZE (ha)	9 ha	10 ha	12 ha	13 ha	10 ha

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

Table A2. Distribution of forage & pasture fields

Field size (ha)	Number of forage & pasture fields				Total number
	Forage	Pasture	Forage & pasture	Unused*	
< 1	2	22	-	-	24
1 - 2	3	24	1	1	29
2 - 4	18	13	-	-	31
4 - 8	12	10	2	-	24
8 - 16	7	2	2	1	12
16 - 32	-	-	-	-	-
32 - 64	-	-	-	-	-
64 - 128	-	-	-	-	-
>= 128	-	-	-	-	-
TOTAL NUMBER OF FIELDS	42	71	5	2	120
AVERAGE CROP AREA (ha)	5 ha	2 ha	8 ha	5 ha	4 ha
MEDIAN CROP AREA (ha)	4 ha	1 ha	8 ha	5 ha	2 ha
AVERAGE PARCEL SIZE (ha)	10 ha	9 ha	14 ha	10 ha	9 ha

* Unused refers to forage or pasture which has not been cut or grazed during the current growing season.

¹ Each distinct crop type on one parcel is counted as one crop activity. Each crop activity will include at least one and perhaps more crop fields. A parcel may have more than one crop activity if there is more than one distinct type of crop on that parcel.

Table A3. Distribution of berry fields

Field size (ha)	Number of berry fields	
	Blueberries	Total number
< 1	1	1
1 - 2	1	1
2 - 4	5	5
4 - 8	6	6
8 - 16	6	6
16 - 32	1	1
32 - 64	-	-
64 - 128	-	-
>128	-	-
TOTAL COUNT	20	20
AVERAGE CROP AREA (ha)	7 ha	7 ha
MEDIAN CROP AREA (ha)	6 ha	6 ha
AVERAGE PARCEL SIZE (ha)	10 ha	10 ha

Table A4. Distribution of nursery & tree plantation fields

Field size (ha)	Number of nursery activities				Number of tree plantation activities				Total number
	Ornamentals and shrubs	Cedar hedging	Nursery - mixed	Nursery total	Christmas trees	Fibre/pulp/ veneer trees	Trees (plantation)	Plantation total	
< 1	-	1	1	2	3	-	3	6	8
1 - 2	-	1	-	1	1	-	-	1	2
2 - 4	1	-	-	1	-	-	1	1	2
4 - 8	-	-	1	1	1	1	-	2	3
8 - 16	-	-	-	-	-	-	-	-	-
16 - 32	-	-	-	-	1	-	-	1	1
32 - 64	-	-	-	-	-	-	-	-	-
64 - 128	-	-	-	-	-	-	-	-	-
>=128	-	-	-	-	-	-	-	-	-
TOTAL ACTIVITY COUNT	1	2	2	5	6	1	4	11	16
AVERAGE CROP AREA (ha)	3 ha	< 1 ha	4 ha	3 ha	6 ha	5 ha	< 1 ha	4 ha	4 ha
MEDIAN AREA (ha)	3 ha	< 1 ha	4 ha	1 ha	1 ha	5 ha	< 1 ha	< 1 ha	1 ha
AVERAGE PARCEL SIZE (ha)	5 ha	13 ha	7 ha	9 ha	13 ha	35 ha	8 ha	13 ha	12 ha

LIVESTOCK

Table A5. Distribution of livestock operations by type

Parcel size (ha)	Type of activity										Total number of activities
	Beef	Dairy	Poultry	Swine	Sheep / lamb / goat	Llama / alpaca	Bison	Unknown livestock *	Inactive	Equine	
< 1	1	-	2	-	1	-	-	-	-	5	9
1 - 2	-	-	-	-	1	1	-	-	-	4	6
2 - 4	-	-	2	-	1	2	-	1	-	7	13
4 - 8	3	5	2	1	2	1	1	1	-	23	39
8 - 16	2	4	1	-	1	-	-	-	1	6	15
16 - 32	1	-	-	-	1	-	-	1	-	2	5
32 - 64	1	-	-	-	-	-	-	-	-	2	3
64 - 128	-	-	-	-	-	-	-	-	-	-	-
>= 128	-	-	-	-	-	-	-	-	-	-	-
TOTAL NUMBER OF ACTIVITIES	8	9	7	1	7	4	1	3	1	49	90
MEDIAN PARCEL SIZE (ha)	6 ha	8 ha	4 ha	4 ha	4 ha	4 ha	5 ha	4 ha	8 ha	4 ha	4 ha
AVERAGE PARCEL SIZE (ha)	11 ha	10 ha	5 ha	4 ha	7 ha	3 ha	5 ha	8 ha	8 ha	7 ha	8 ha

* Unknown livestock is where livestock structures were present but the specific type of livestock could not be determined.

Table A6. Dairy activities

Scale of dairy activity	By parcel		Total number of activities	By activity type	
	Main type	Secondary type		Intensive	Non intensive
Small scale (2 - 25 cattle)	3	-	3	-	3
Small scale (2 - 25 cattle) - Dry cow	1	-	1	1	-
Medium scale (25 - 100 cattle)	3	-	3	3	-
Medium scale (25 - 100 cattle) - Milking	1	-	1	1	-
Large scale (>100 cattle)	1	-	1	1	-
TOTAL	9	-	9	6	3

"Main Type" and "Secondary Type" of livestock are determined by comparing the scale of different livestock activities on the parcel and does not represent primary agricultural activity.

"Intensive" livestock activities utilize specialized structures such as barns, feedlots and stockyards designed for confined feeding at high stocking densities.

"Non Intensive" livestock activities allow animals to graze on a pasture and often utilize non intensive barns and corrals/paddocks.

Table A7. Distribution of dairy activities by parcel size and scale

Parcel Size (ha)	Scale of dairy activities				Total number of activities
	Very small (1 cow)	Small (2-25 cattle)	Medium (25-100 cattle)	Large (> 100 cattle)	
< 1	-	-	-	-	-
1 - 2	-	-	-	-	-
2 - 4	-	-	-	-	-
4 - 8	-	4	1	-	5
8 - 16	-	-	3	1	4
16 - 32	-	-	-	-	-
32 - 64	-	-	-	-	-
64 - 128	-	-	-	-	-
>= 128	-	-	-	-	-
TOTAL NUMBER OF ACTIVITIES	-	4	4	1	9
AVERAGE PARCEL SIZE (ha)	-	7 ha	11 ha	13 ha	10 ha

Figure A1. Distribution of dairy activities by parcel size and scale

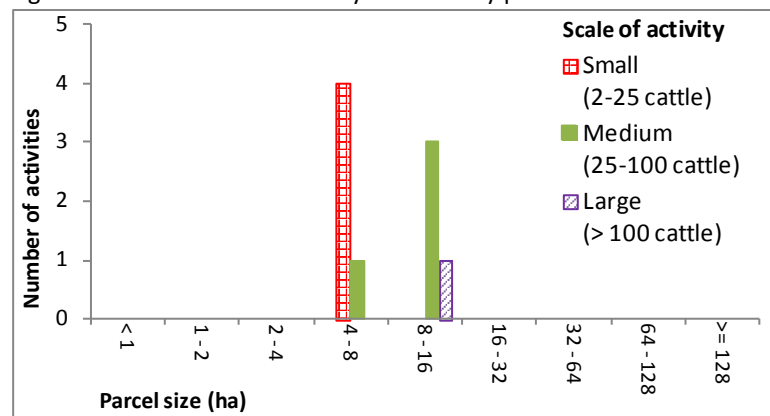
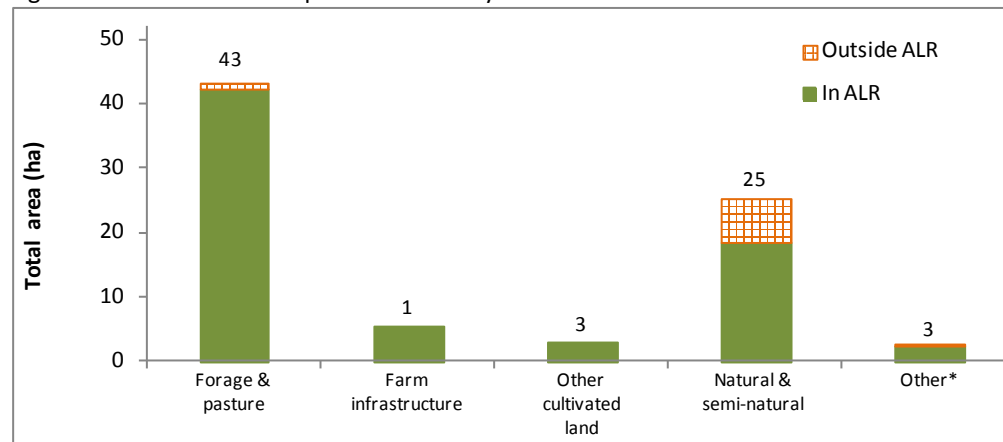


Figure A2. Land cover on parcels with dairy activities



* Other includes vegetated lands seeded or planted for landscaping, dust, or soil control but not cultivated for harvest or pasture, lands covered by built objects but not farm infrastructure, and bare areas such as piles, pits, fill dumps.

Table A8. Beef activities

Scale of Beef Activity	By parcel		Total number of activities	By activity type	
	Main type	Secondary type		Intensive	Non Intensive
Small scale (2 - 25 cattle)	6	1	7	-	7
Medium scale (25 - 100 cattle)	1	-	1	-	1
TOTAL	7	1	8	-	8

"Main Type" and "Secondary Type" of livestock are determined by comparing the scale of different livestock activities on the parcel and does not represent primary agricultural activity.

"Intensive" livestock activities utilize specialized structures such as barns, feedlots and stockyards designed for confined feeding at high stocking densities.

"Non Intensive" livestock activities allow animals to graze on a pasture and often utilize non intensive barns and corrals/paddocks.

Table A9. Distribution of beef activities by parcel size and scale

Parcel size (ha)	Scale of beef activities				Total number of activities
	Very small (1 cow)	Small (2-25 cattle)	Medium (25-100 cattle)	Large (> 100 cattle)	
< 1	-	1	-	-	1
1 - 2	-	-	-	-	-
2 - 4	-	-	-	-	-
4 - 8	-	3	-	-	3
8 - 16	-	1	1	-	2
16 - 32	-	1	-	-	1
32 - 64	-	1	-	-	1
64 - 128	-	-	-	-	-
>= 128	-	-	-	-	-
TOTAL NUMBER OF ACTIVITIES	-	7	1	-	8
AVERAGE PARCEL SIZE (ha)	-	11 ha	15 ha	-	11 ha

Figure A3. Distribution of beef activities by parcel size and scale

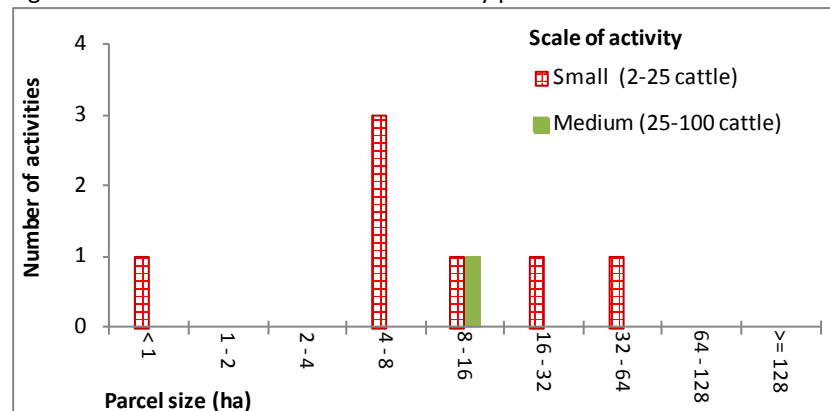
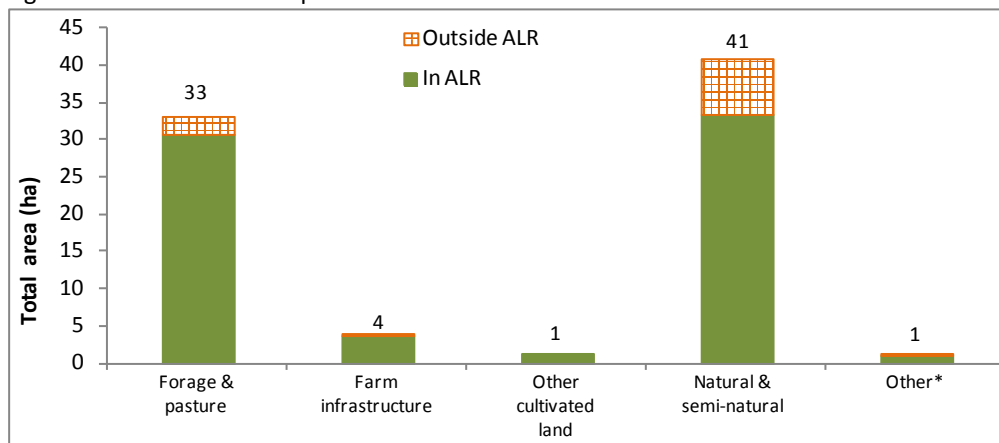


Figure A4. Land cover on parcels with beef activities



* Other includes vegetated lands seeded or planted for landscaping, dust, or soil control but not cultivated for harvest or pasture, lands covered by built objects but not farm infrastructure, and bare areas such as piles, pits, fill dumps.

Table A10. Poultry activities

Poultry activity	Scale	By parcel		Total number of activities	By activity type	
		Main type	Secondary type		Intensive	Non intensive
Chicken	Very small scale (< 100 birds)	2	2	4	-	4
Chicken	Small scale (100 - 2,500 birds)	1	-	1	-	1
Chicken	Large scale (> 10,000 birds)	1	-	1	1	-
Duck	Very small scale (< 50 birds)	1	-	1	-	1
TOTAL	TOTAL	5	2	7	1	6

"Main Type" and "Secondary Type" of livestock are determined by comparing the scale of different livestock activities on the parcel and does not represent primary agricultural activity.

"Intensive" livestock activities utilize specialized structures at high stocking densities.

"Non Intensive" livestock activities allow animals to graze on a pasture and often utilize non intensive barns.

Table A11. Distribution of poultry activities by parcel size and scale

Parcel size (ha)	Scale of poultry activities				Total number of activities
	Very small (< 100 birds)	Small (100 - 2,500 birds)	Medium (2,500 - 10,000 birds)	Large (> 10,000 birds)	
< 1	1	1	-	-	2
1 - 2	-	-	-	-	-
2 - 4	2	-	-	-	2
4 - 8	2	-	-	-	2
8 - 16	-	-	-	1	1
16 - 32	-	-	-	-	-
32 - 64	-	-	-	-	-
64 - 128	-	-	-	-	-
>= 128	-	-	-	-	-
TOTAL NUMBER OF ACTIVITIES	5	1	-	1	7
AVERAGE PARCEL SIZE (ha)	4 ha	1 ha	1 ha	12 ha	3 ha

Figure A5. Distribution of poultry activities by parcel size and scale

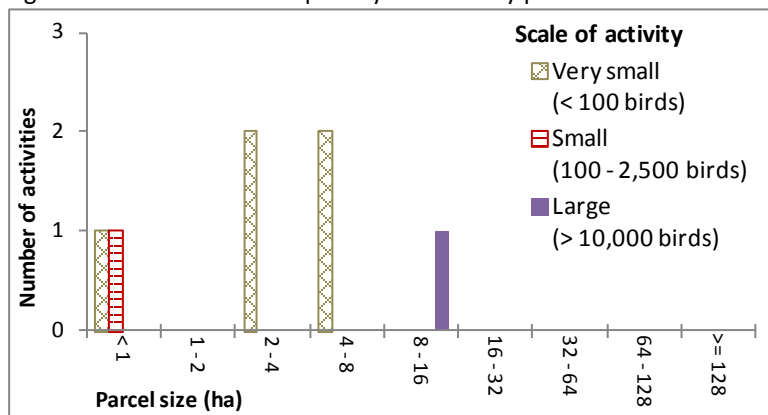
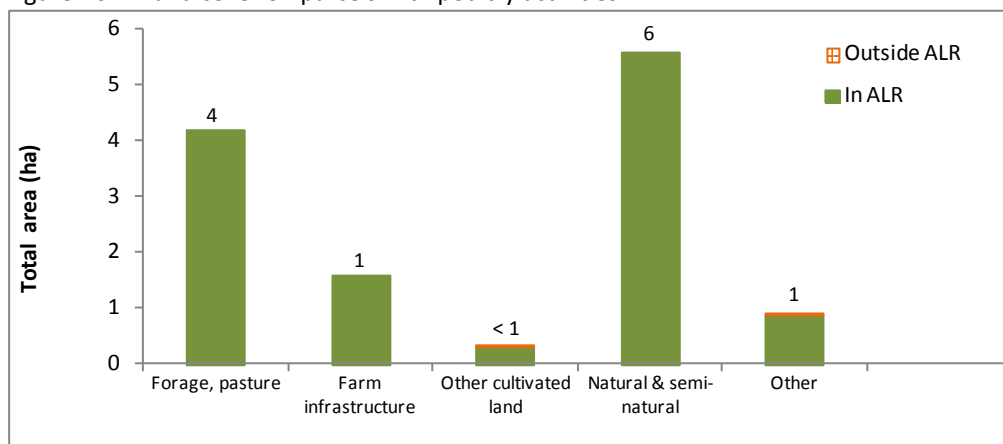


Figure A6. Land cover on parcels with poultry activities



* Other includes vegetated lands seeded or planted for landscaping, dust, or soil control but not cultivated for harvest or pasture, lands covered by built objects but not farm infrastructure, and bare areas such as piles, pits, fill dumps.

Table A12. Equine activities

Scale of equine activity	By parcel		Total number of activities	By activity type	
	Main Type	Secondary Type		Intensive	Non intensive
Very small scale (1 horse)	2	-	2	-	2
Small scale (2-25 horses)	42	1	43	-	43
Medium scale (25 - 100 horses)	4	-	4	-	4
TOTAL	48	1	49	-	49

"Main Type" and "Secondary Type" of livestock are determined by comparing the scale of different livestock activities on the parcel and does not represent primary agricultural activity.

"Intensive" livestock activities utilize specialized structures such as barns, feedlots and stockyards designed for confined feeding at high stocking densities.

"Non Intensive" livestock activities allow animals to graze on a pasture and often utilize non intensive barns and corrals/paddocks.

Table A13. Distribution of equine activities by parcel size and scale

Parcel size (ha)	Scale of equine activities				Total number of activities
	Very small (1 - 2 equine)	Small (2 - 25 equine)	Medium (25 - 100 equine)	Large (> 100 equine)	
< 1	1	4	-	-	5
1 - 2	-	4	-	-	4
2 - 4	1	6	-	-	7
4 - 8	-	21	2	-	23
8 - 16	-	5	1	-	6
16 - 32	-	1	1	-	2
32 - 64	-	2	-	-	2
64 - 128	-	-	-	-	-
>= 128	-	-	-	-	-
TOTAL NUMBER OF ACTIVITIES	2	43	4	-	49
AVERAGE PARCEL SIZE (ha)	2 ha	6 ha	12 ha	-	7 ha

Figure A7. Distribution of equine activities by parcel size and scale

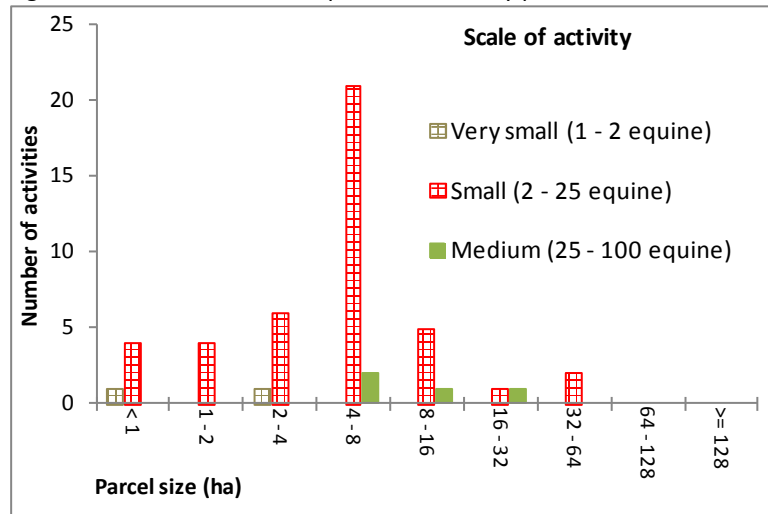
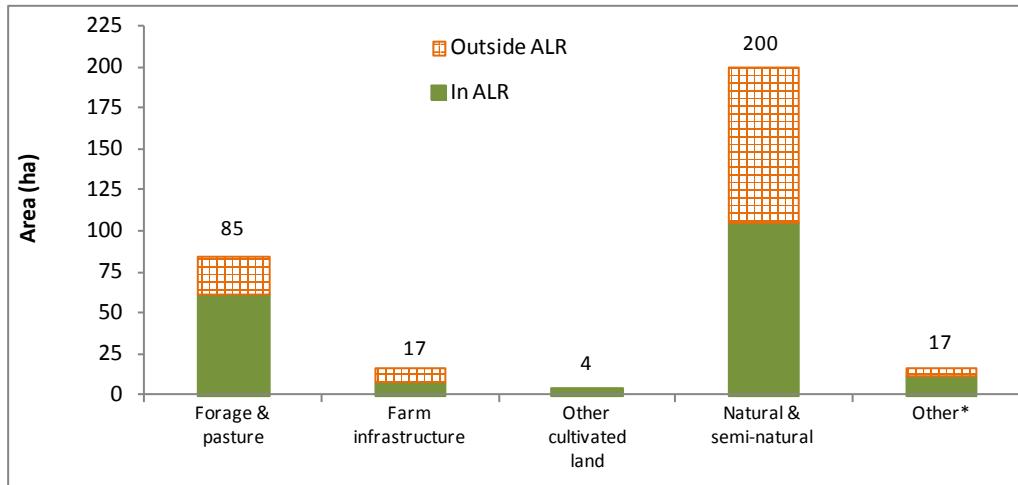


Figure A8. Land cover on parcels with equine activities



* Other includes vegetated lands seeded or planted for landscaping, dust, or soil control but not cultivated for harvest or pasture, lands covered by built objects but not farm infrastructure, and bare areas such as piles, pits, fill dumps.

VALUE ADDED

Table A14. Value added activities

Parcel size (ha)	Direct Sales - small scale		Agri-tourism - small scale		Total number of activities
	U-pick	Seasonal store (stand)	Seasonal events	Equine rental	
< 1	-	-	-	-	-
1 - 2	-	-	-	-	-
2 - 4	-	-	-	-	-
4 - 8	1	-	-	-	1
8 - 16	-	-	1	1	2
16 - 32	-	1	-	-	1
32 - 64	-	-	-	-	-
64 - 128	-	-	-	-	-
>= 128	-	-	-	-	-
TOTAL NUMBER OF ACTIVITIES	1	1	1	1	4
AVERAGE PARCEL SIZE (ha)	8 ha	20 ha	10 ha	8 ha	11 ha

Appendix B - Maps