

Growing Knowledge



Ministry of
Agriculture

Land Use Inventory Report

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District of Maple Ridge Summer 2011



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**Strengthening Farming Program
Ministry of Agriculture**

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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

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.

Cadastral – 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 Cadastral 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, and parking. Includes institutional, commercial, industrial, sports / recreation, military, non linear utility areas and storage / parking.

Anthropogenic – Transportation – Lands covered by built objects (structures). Includes roads, railways, 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; including grasses, sedges, rushes, and other related species.

Natural and Semi-natural – Herbaceous – Land cover dominated by low, non woody plants such as ferns, grasses, horsetails, closers and dwarf woody plants. If greater than 50% cover is grass, the land is categorized as 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 areas usually on crown land with uncultivated (not sown) natural or semi-natural grasses, herbs or shrubs used for grazing domestic livestock.

Natural and Semi-natural – 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, 5,000 turkeys, 10,000 chickens (25 - 100 animal unit equivalents)
- **“Large”** MORE THAN 100 cows or horses or bison, 300 hogs, 500 goats or deer, 1000 sheep, 5,000 turkeys, 10,000 chickens (over 100 animal unit equivalents)

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

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

Resource protection & research – Government or private research activities (including agriculture). Flood protection areas.

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

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

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 the District of Maple Ridge. The ALUI was funded in part by Metro Vancouver, and was completed with in-kind support from the District of Maple Ridge.

ALUIs can be used to understand which agricultural activities are occurring in the surveyed area. The data can be used to determine the capacity for agricultural expansion, as well as to quantify the amount of land with the Agricultural Land Reserve (ALR) that is unavailable for agriculture. The data can also be used to estimate agricultural water demand with the use an irrigation water demand model.

The ALUI for Maple Ridge 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 within Metro Vancouver’s Regional Growth Strategy “Agriculture” designation; iii) all parcels within Metro Vancouver’s Regional Growth Strategy “Rural” designation and greater than one acre; iv) all parcels assessed as a farm by BC Assessment; and v) all parcels in the Thornhill area.

The ALR in Maple Ridge consists of 3,787 ha. Ninety-six percent (96%) of this or 3,633 ha was surveyed as part of this inventory. The remaining 4% or 154 ha of ALR was not surveyed as it was in designated road rights of ways, water & foreshore, or parcels less than 100 square meters in size. An additional 3,549 ha of land outside the ALR was surveyed, bringing the total survey area to 7,182 ha on 2,905 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. These two types of data allow for different forms of analysis.

In the ALR by land cover, a total area of 942 ha (25%) was farmed (both actively and inactively), 699 ha (18%) was anthropogenically modified, and 1,992 ha (53%) was in a natural or semi-natural state. The remaining 154 ha (4%) was not surveyed, and was not available for farming. An additional 176 ha 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 scale of livestock production. For a detailed definition of “Used for farming”, refer to the Definitions section. In the ALR by land use, 1,072 ha (28%) was defined as “Used for farming,” and 2,561 ha (68%) 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 154 ha (4%) was not surveyed, and was not considered to be available for farming. 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 3,787 ha of ALR land in Maple Ridge, 936 ha (25%) is actively farmed. Another 72 ha (2%) supports farming (e.g. houses, farm roads, farm buildings, etc). There are 589 ha (16%) of the ALR unavailable for farming due to existing land use (e.g. it was in protected areas, parks, residential, recreation & leisure) or land cover (e.g. it was in wetlands, non-farm residential uses, etc.). There are 578 ha (15%) with limited potential for agriculture due to physical site limitations (e.g. topography, soils, drainage, small size). Four percent or 154 ha of the ALR was not surveyed and was not considered to be available for farming. That leaves 1,458 ha

(39%) 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 (1,146 ha). See Table 4, Figure 6, and Maps B5-B7 for details.

In total, there were 940 ha of cultivated field crops (800 ha in the ALR and 140 outside the ALR). Forage & pasture was the most common crop with 664 ha or 71% of all cultivated land. Nursery & tree plantations were second with 125 ha (13% of all cultivated land), and berries were third with 118 ha. There were also 26 ha of vegetables and 6 ha of nut trees. In addition to the cultivated field crops, there were 49 greenhouses comprising 19 ha of land. The majority (46 of 49 or 94%) of all greenhouses in Maple Ridge are less than one hectare in size. See Table 7, Table 13 and Maps B8 to B12 for more information.

Irrigation use was captured by crop type and irrigation system type, to aid in developing a water demand model for agriculture. Sprinkler systems were the most commonly used (106 ha) and were found on a variety of crops. Trickle systems were the next most common (28 ha) and were used primarily on blueberries. Only 14% of all cultivated field crops were irrigated. See Table 14 and Map B13 for more information.

Livestock activities were also recorded, but are very difficult to measure using a windshield survey method. Livestock may be in barns, may be mobile, and may utilize more than one 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. In Maple Ridge, equine was the most common type of livestock activity (with 308 out of 478 activities), followed by poultry (57 out of 478 activities) and beef (28 out of 478 activities). There were 12 intensive livestock operations: 6 poultry, 3 dairy, 2 game bird, and 1 beef. 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. See Table 16 and Maps B14- B16 for more information.

Further analysis of ALR lands was conducted on 1,473 parcels with 3,594 ha or 95% of the ALR land in Maple Ridge. Of the 1,473 parcels in the ALR, 262 (18%) are “Used for farming” and 1,211 parcels (82%) are “Not used for farming”. Of the 1,211 parcels “Not used for farming”, 41% are on parcels less than one hectare and 88% are on parcels less than 4 hectares. Although parcels of all sizes are “Used for farming”, small parcels are less likely to be farmed.

Summary

This report provides the necessary background to understand the current status of agriculture on the land base and 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

When John McIver chose a farm in 1859, he named it Maple Ridge for the stand of maple trees running along the ridge crest. Today, the District of Maple Ridge still bears the name and the agricultural heritage that goes with it.

Historically, farms in the area were mixed and included livestock and forage as well as poultry, vegetables, tree fruits and berries. Forage and pasture still comprise the main crop type, providing support for various livestock types including dairy, beef, sheep and horses. Some areas in the community have seen greater intensification into products such as berries and nursery crops. Similar trends have been observed in other regions of the lower mainland.

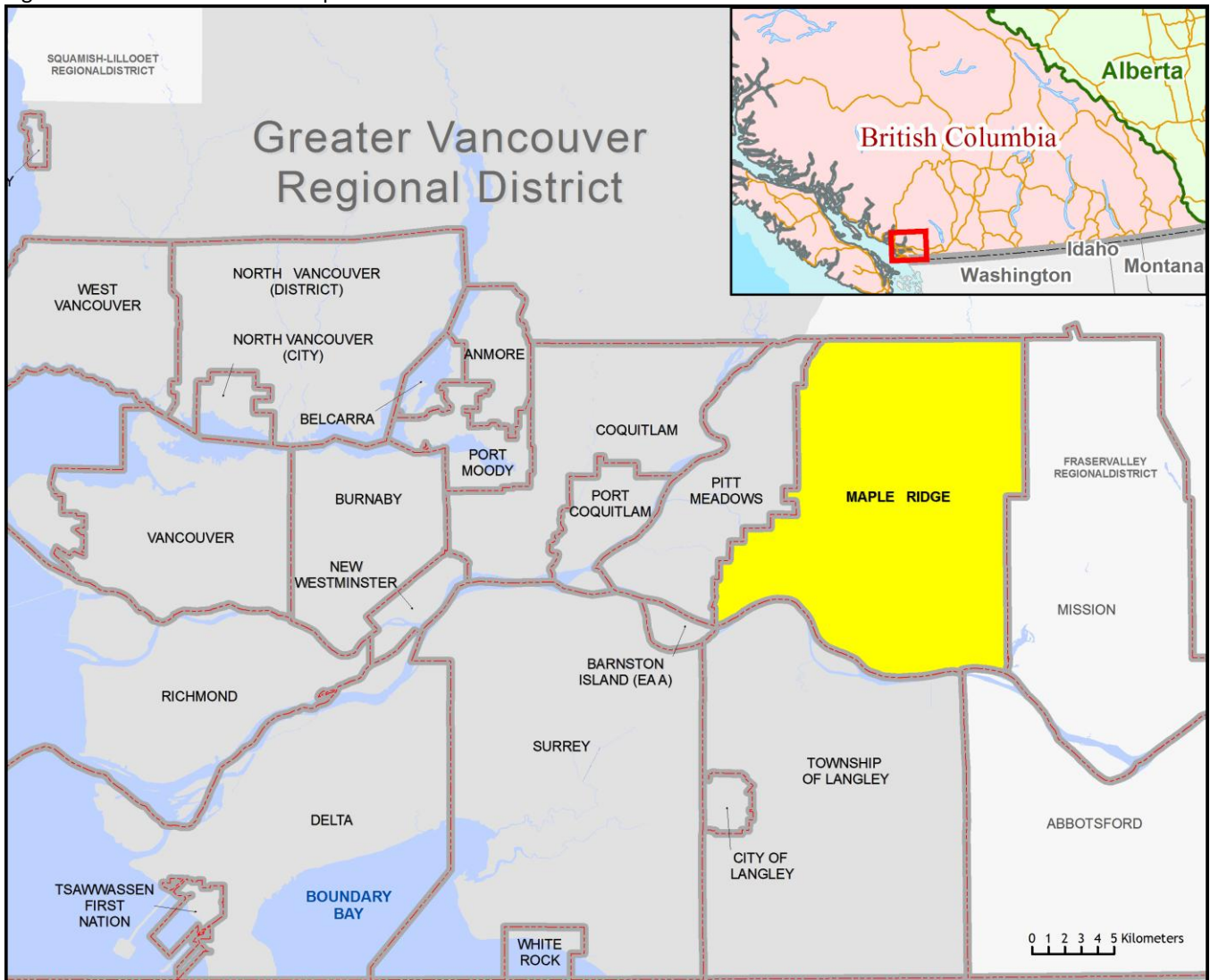
Approximately 15% of Maple Ridge's land base is in the ALR and ranges from flat lowlands to areas with greater elevation and topographical variability. Depending on the area, the agricultural land may be quite parcelized. This abundance of small agricultural lots has contributed to an average farm size below that of Metro Vancouver as a whole. With a significant amount of underutilized farmland, Maple Ridge has a valuable landbase to expand some sectors of agriculture. General trends indicate growing consumer interest in local food production and farm destination experiences.

Since 2007, the District has had an Agricultural Advisory Committee to assist Council by providing advice on local matters affecting agriculture. Maple Ridge also created an Agricultural Plan to help guide the long term vision of local agriculture.

General Community Information

The District of Maple Ridge is located 45 km east of Vancouver on the mainland of British Columbia. Maple Ridge is situated on the northern shore of the Fraser River and is nestled against the Coast Mountains. The district is bordered by Pitt Meadows to the west, Mission to the east and the Fraser River and Township of Langley to the south. Maple Ridge has a total area including water of 26,710 hectares¹. Nearly half of this land area is in mountainous terrain outside of legally surveyed parcels. Maple Ridge is part of Greater Vancouver Regional District.

Figure 1. General location map



¹ 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

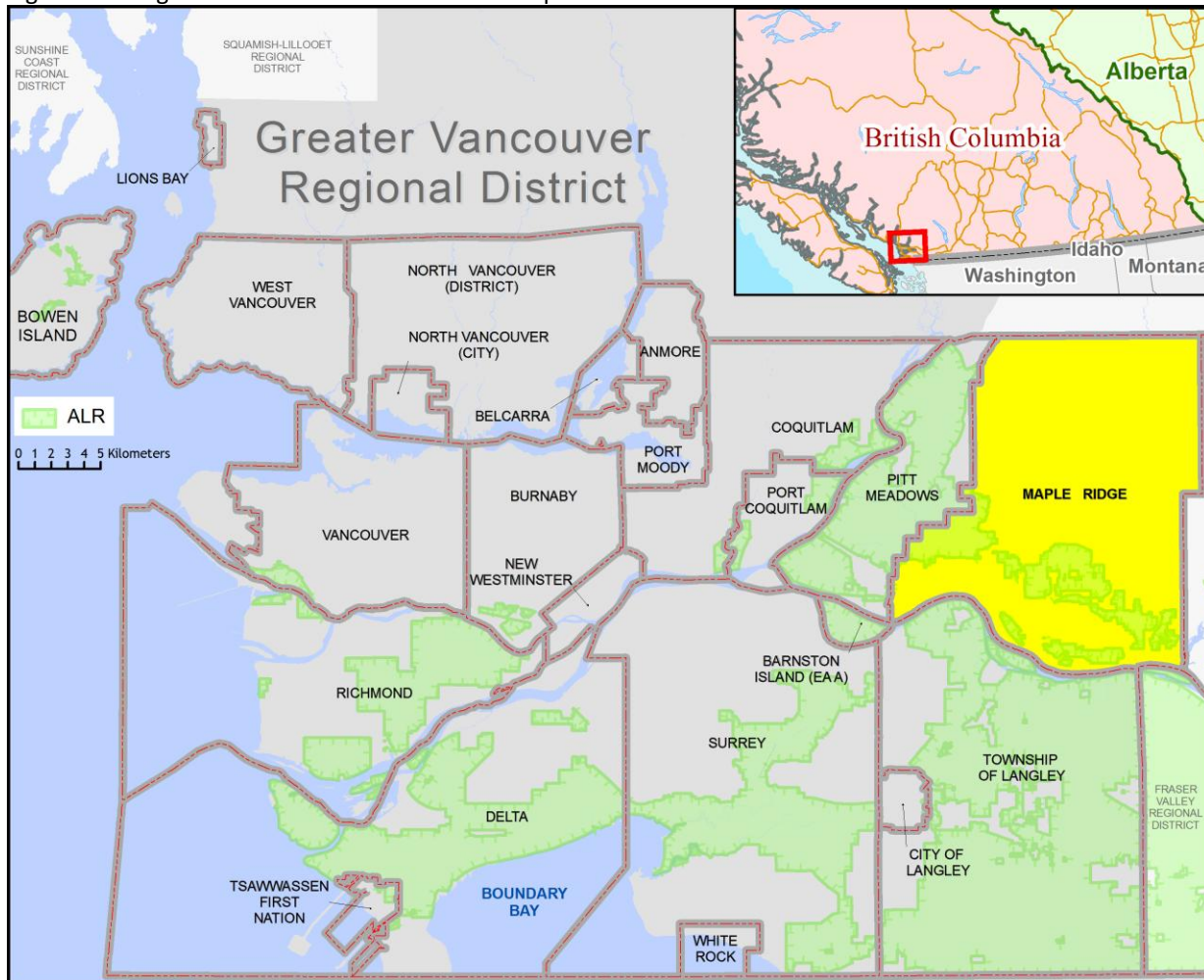
The Agricultural Land Reserve (ALR) is a provincial land use zone that was designated in 1973 in which agriculture is recognized as the priority use. Within the ALR, farming is encouraged and non-agricultural uses are controlled.

There are 60,554 hectares² of ALR land within the Greater Vancouver Regional District (shown in Figure 2); 3,787 hectares³ or over 6% is within Maple Ridge.

The land area of Maple Ridge is 24,881 hectares⁴. This land area is comprised of 11,919⁴ hectares of land in legally surveyed parcels and 12,962⁴ hectares of land outside legally surveyed parcels. With 3,787 hectares³ in the ALR, 15% of the total land area of Maple Ridge is in the ALR. This includes:

- 3,633 hectares in surveyed parcels
- 154 hectares outside surveyed parcels
 - 148 hectares of designated rights-of-way
 - 6 hectares of water and foreshore
 - <1 hectare of parcels less than 100 square meters

Figure 2. Agricultural Land Reserve location map



² 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.

³ Agricultural Land Commission, ALR mapping, Land and Resource Data Warehouse, 2010-01-31 (area calculated in GIS).

⁴ Calculated in GIS.

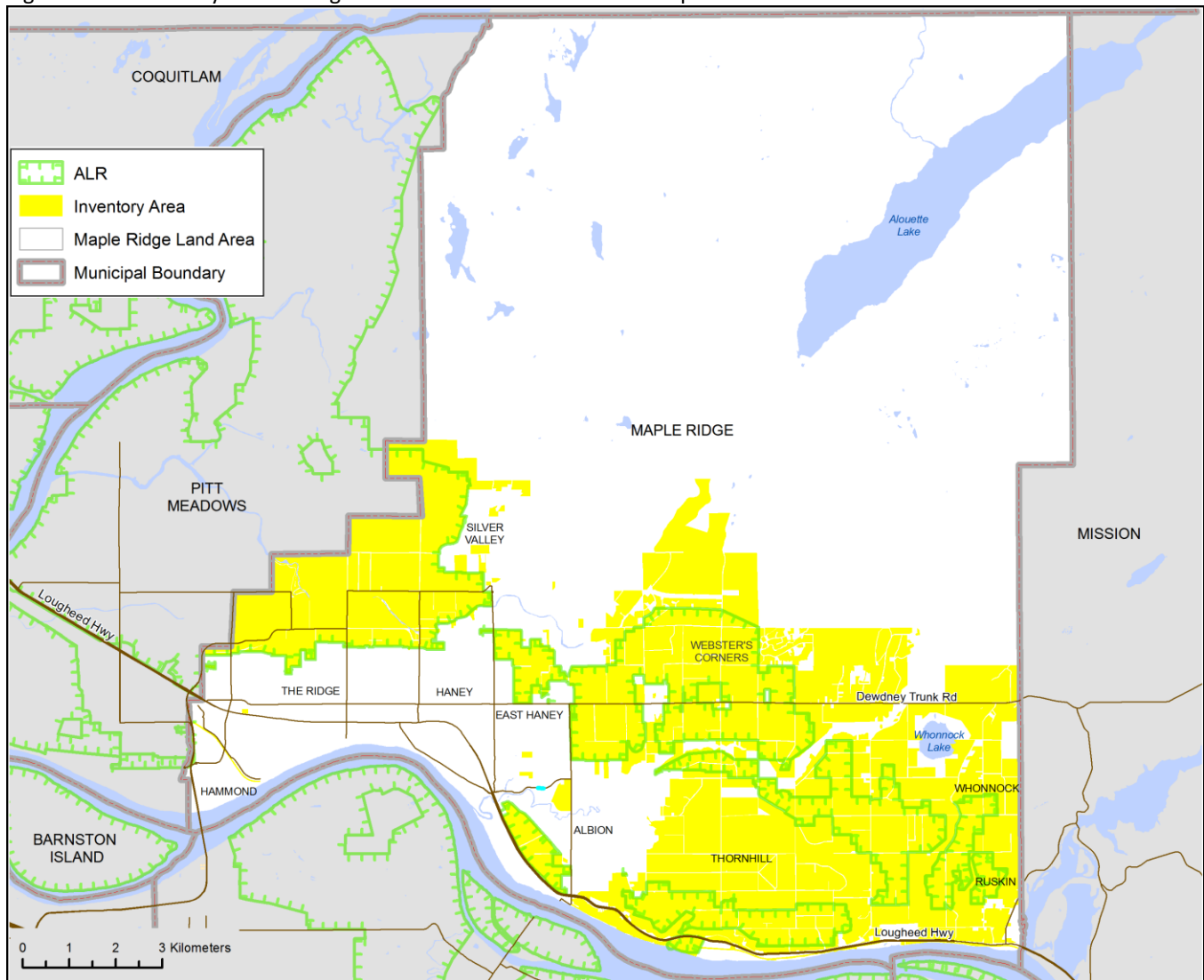
INVENTORY AREA

The total inventory area encompasses 2,905 parcels with a combined area of 7,182 hectares, or nearly 29% of the land area and 60% of the legally surveyed parcels in Maple Ridge. Included are all parcels:

- completely or partially within the Agricultural Land Reserve
- within Metro Vancouver's Regional Growth Strategy "Agriculture" designation
- within Metro Vancouver's Regional Growth Strategy "Rural" designation & greater than 1 acre⁵
- classified by BC Assessment as having "Farm" status for property tax assessment
- in the Thornhill area (to inform a Thornhill Area Plan)⁶

The amount of ALR land included in the inventory area is 3,633 hectares located on 1,517 parcels. This area is 96% of the ALR within Maple Ridge. The remaining 4% of the ALR was excluded from the inventory as it is in parcels less than 100 square metres, or outside surveyed land parcels in designated rights-of-way and foreshore.

Figure 3. Inventory area and Agricultural Land Reserve location map



⁵ One acre is approximately 0.404 hectares.

⁶ Maple Ridge OCP, 2003.

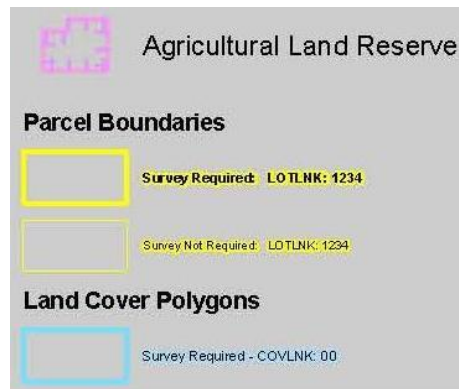
Agricultural Land Use Inventory

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 Maple Ridge land use inventory was conducted in the summer of 2011 by a professional agrologist assisted by a GIS technician and a driver⁷. 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)⁸
- 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



⁷ Vehicle and driver provided by the District of Maple Ridge.

⁸ Cadastre mapping (2010) was provided by the District of Maple Ridge through the Integrated Cadastral Information Society and compiled by Metro Vancouver Regional District staff.

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.

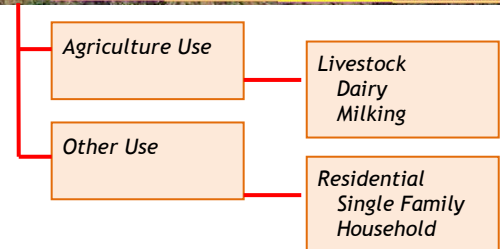
Once acquired through the survey, the data was brought into a Geographic Information System (GIS) to facilitate analysis and mapping. Digital data, in the form of a tabular database and GIS spatial layers (for maps), may be available with certain restrictions through a terms of use agreement.

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

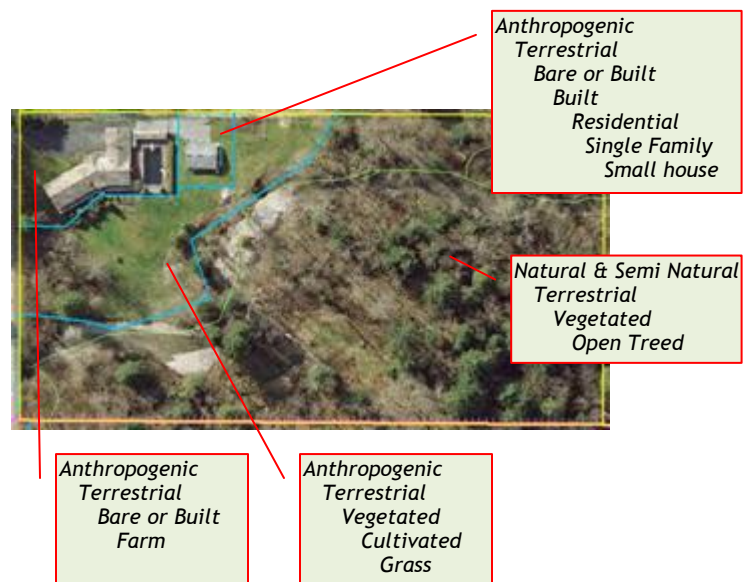
In addition, the availability of non-farm use properties for future farming was assessed based on the amount of potential land for farming on the property and the compatibility of existing uses with future farming activities.



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

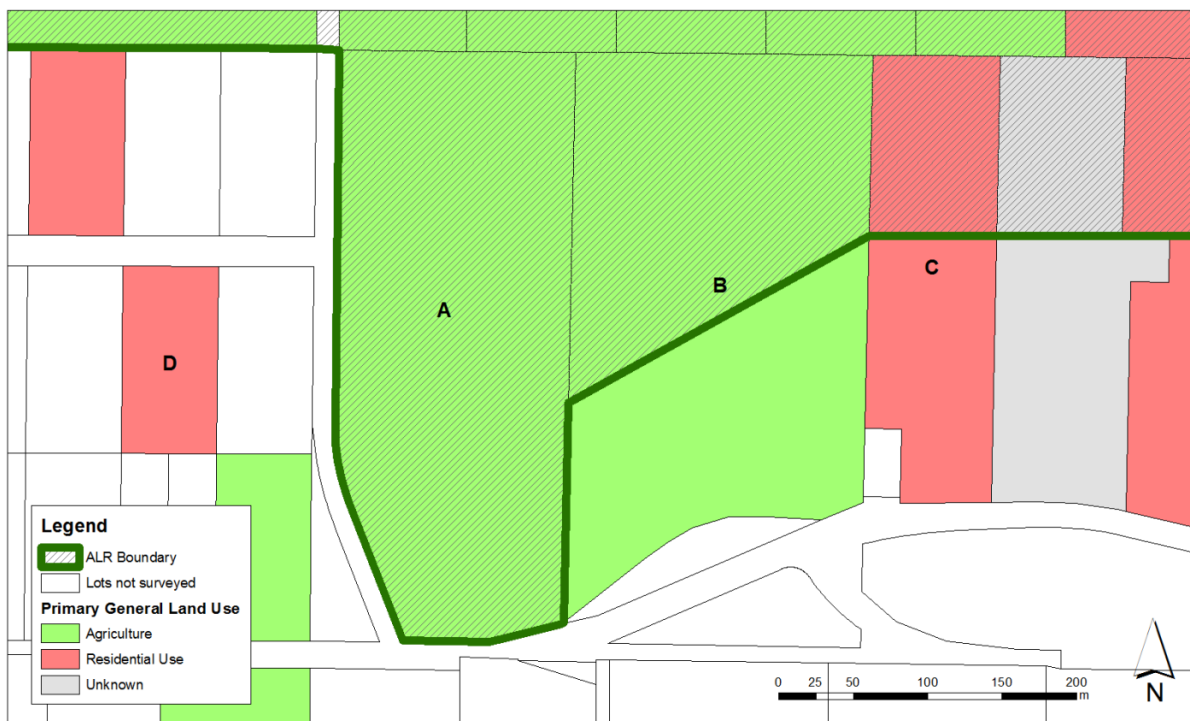
DETERMINATION OF PARCELS WITHIN THE ALR

Since much of the following analysis is parcel based, it is important to note that the ALR boundaries are not always coincident 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	794	21%	134	928	13%
	Farm infrastructure	123	3%	35	158	2%
	Greenhouses	18	< 1%	1	19	< 1%
	Crop barns	1	< 1%	-	1	< 1%
Inactively farmed	Unmaintained field crops	6	< 1%	6	12	< 1%
	Unused forage or pasture	<1	< 1%	<1	<1	< 1%
	Unmaintained greenhouses	<1	< 1%	<1	<1	< 1%
FARMED SUBTOTAL		942	25%	176	1,118	16%
Anthropogenic (not farmed)	Residential footprint	274	7%	236	510	7%
	Managed vegetation	286	8%	214	499	7%
	Non Built or Bare	44	1%	91	135	2%
	Settlement	32	< 1%	60	92	1%
	Transportation	29	< 1%	46	75	1%
	Built up - Other	18	< 1%	9	27	< 1%
	Utilities	11	< 1%	11	22	< 1%
	Waterbodies	5	< 1%	<1	6	< 1%
SUBTOTAL		699	18%	667	1,365	19%
Natural and Semi-natural	Natural pasture or rangeland	73	2%	23	96	1%
	Vegetated	1,755	46%	2,662	4,417	62%
	Wetlands	150	4%	12	162	2%
	Waterbodies	14	< 1%	8	22	< 1%
SUBTOTAL		1,992	53%	2,706	4,698	65%
TOTAL		3,633	96%	3,549	7,182	100%
Not surveyed	Rights-of-way	148	4%			
	Water & foreshore	6	< 1%			
	Parcels < 100 m ²	<1	< 1%			
SUBTOTAL		154	4%			
TOTAL		3,787	100%			

* See 'Land Cover' in the Definitions section for terms used in this table.

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

In Maple Ridge, 1,118 hectares of land is in "Farmed" land cover although 12 of those hectares are "Inactively farmed" in unmaintained field crops, unused forage or pasture, and unmaintained greenhouses.

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

Figure 5. Land cover and farmed area in the ALR

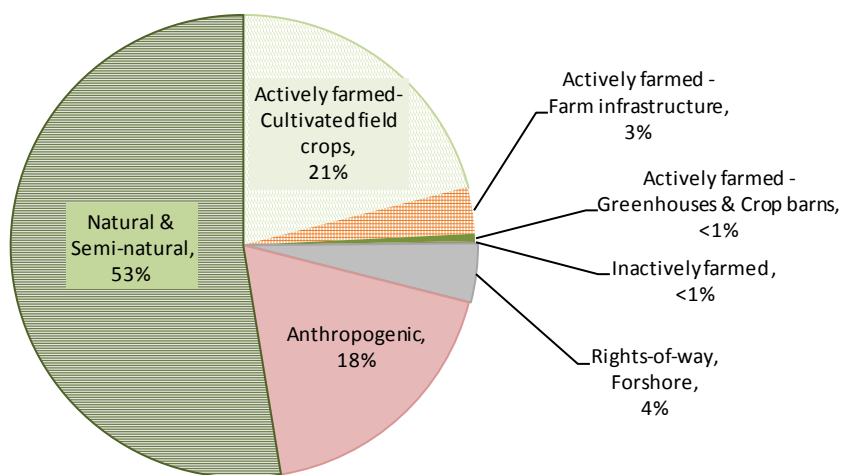


Figure 5 shows the proportions of the different land cover types across the ALR in Maple Ridge.

Of Maple Ridge's ALR land, 24% is "Actively Farmed" while <1% is in unmaintained field crops, unused forage or pasture, or unmaintained greenhouses ("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		191	5 %	19	210	3 %	32	1 %	7
Used for farming - Mixed use	Residential	850	22 %	150	1,000	14 %	299	10 %	3
	Recreation & leisure	28	<1 %	8	36	<1 %	2	<1 %	18
	Commercial & service	2	<1 %	-	2	<1 %	1	<1 %	2
USED FOR FARMING SUBTOTAL		1,072	28 %	177	1,248	17 %	334	11 %	
Not used for farming	Residential	1,771	47 %	1,804	3,576	50 %	2,112	73 %	2
	No apparent use	430	11 %	827	1,257	18 %	308	11 %	4
	Protected area / park / reserve	160	4 %	63	223	3 %	43	1 %	5
	Gravel extraction	63	2 %	214	277	4 %	5	<1 %	55
	Recreation & leisure	57	2 %	88	145	2 %	8	<1 %	18
	Transportation & communications	20	<1 %	46	66	<1 %	25	<1 %	3
	Dumps & deposits	15	<1 %	6	20	<1 %	2	<1 %	10
	Recreation & leisure - golf	13	<1 %	< 1	13	<1 %	5	<1 %	3
	Institutional & community	8	<1 %	204	212	3 %	23	<1 %	9
	Utilities	8	<1 %	43	51	<1 %	17	<1 %	3
	Commercial & service	6	<1 %	6	12	<1 %	9	<1 %	1
	Water management	5	<1 %	6	11	<1 %	4	<1 %	3
	Industrial	4	<1 %	3	7	<1 %	5	<1 %	1
	Land in transition	-	-	62	62	<1 %	5	<1 %	12
NOT USED FOR FARMING SUBTOTAL		2,561	68 %	3,372	5,933	83 %	2,571	89 %	
TOTAL		3,633	96 %	3,549	7,182	100 %	2,905	100 %	
Not surveyed	Rights-of-way	148	4 %						
	Water & foreshore	6	<1 %						
	Parcels < 100 m ²	< 1	<1 %						
SUBTOTAL		154	4 %						
TOTAL		3,787	100 %						

* See 'Land Use' in the Definitions section for terms used in this table.

Table 2 shows that 1,072 hectares or 28% of Maple Ridge's ALR is on parcels "Used for farming".

Most "Used for Farming" parcels are also used for other purposes with only 32 parcels or 5% of the ALR area exclusively "Used for farming."

Two parcels have the mixed use "Used for farming" and "Recreation & leisure". Both are associated with equine activities (Timberline Ranch and Maple Ridge Equi-Sports Center).

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		158	4 %	11	<1 %	22	<1 %	191	5 %
Used for farming - mixed use	Residential	634	17 %	95	3 %	121	3 %	850	22 %
	Recreation & leisure	12	<1 %	3	<1 %	13	<1 %	28	<1 %
	Commercial & service	2	<1 %	< 1	<1 %	-	-	2	<1 %
SUBTOTAL		806	21 %	110	3 %	156	4 %	1,072	28 %
Not used for farming		136	4 %	589	16 %	1,836	48 %	2,561	68 %
SUBTOTAL		942	25 %	699	18	1,992	53 %	3,633	96 %
Not surveyed	Rights-of-way							148	4 %
	Water & foreshore							6	<1 %
	Parcels < 100 m²							< 1	<1 %
	SUBTOTAL							154	4 %
TOTAL ALR							3,787	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 this report.

Table 3 combines land use and land cover on ALR land in Maple Ridge. For example, parcels with the mixed uses "Used for farming" and "Residential" have a total of 634 hectares in "Farmed" land cover, 95 hectares in "Anthropogenic" (not farmed) land cover, and 121 hectares in "Natural & Semi-natural" land cover.

Although 1,072 hectares or 28% of Maple Ridge's ALR is on parcels "Used for farming" (refer to Table 2), only 942 hectares or 25% 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 (17%) 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 grows⁹. 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 agricultural 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 unrealistic for a farmer to acquire and convert this land to farmland.

In Maple Ridge, properties in the ALR and “Used for farming” have an average assessed value of \$170,682 per hectare, while properties in the ALR but unavailable for farming have an average assessed value of \$1,323,303 per hectare.

(Calculated using 2011 BC Assessment database – total property value)

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.

⁹ 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	794	21 %	134	928	13 %
	Farm infrastructure	123	3 %	35	158	2 %
	Greenhouses	18	<1 %	1	19	<1 %
	Crop barn	1	<1 %	-	1	<1 %
ACTIVELY FARMED		936	25 %	170	1,106	15 %
Anthropogenic areas supporting farming	Residential footprint	54	1 %	14	68	<1 %
	Built up - Other	11	<1 %	< 1	11	<1 %
	Artificial Waterbodies	4	<1 %	< 1	4	<1 %
	Transportation	2	<1 %	< 1	3	<1 %
SUPPORTING FARMING		72	2 %	15	86	1 %
Unavailable for farming due to existing land use	Protected area / park / reserve	144	4 %	58	201	3 %
	Residential	78	2 %	117	195	3 %
	Recreation & leisure	23	<1 %	< 1	23	<1 %
	Transportation & communications	15	<1 %	41	56	<1 %
	Recreation & leisure - golf	12	<1 %	< 1	12	<1 %
	Utilities	3	<1 %	6	9	<1 %
	Institutional & community	< 1	<1 %	30	31	<1 %
	Water management	< 1	<1 %	< 1	< 1	<1 %
	Commercial & service	< 1	<1 %	< 1	1	<1 %
	Gravel extraction	-	-	147	147	2 %
	Industrial	-	-	2	2	<1 %
	Land in transition	-	-	1	1	<1 %
Unavailable for farming due to existing land cover	Residential footprint	183	5 %	199	382	5 %
	Wetlands	57	2 %	11	68	<1 %
	Built up - Other	41	1 %	53	94	1 %
	Waterbodies	16	<1 %	9	24	<1 %
	Transportation	15	<1 %	10	25	<1 %
	Utilities	< 1	<1 %	4	4	<1 %
UNAVAILABLE FOR FARMING		589	16 %	688	1,277	18 %
Site limitations	Topography and/ or soils	343	9 %	1,529	1,872	26 %
	Drainage	195	5 %	134	328	5 %
	Operational	40	1 %	56	97	1 %
	Flooding	-	-	4	4	<1 %
LIMITED POTENTIAL FOR FARMING		578	15 %	1,723	2,302	32 %
Available & with potential for farming	Natural & Semi-natural - Vegetation	1,146	30 %	753	1,899	26 %
	Anthropogenic - Managed vegetation	227	6 %	145	373	5 %
	Natural pasture or rangeland	47	1 %	14	61	<1 %
	Anthropogenic - Non Built or Bare	32	<1 %	35	67	<1 %
	Unmaintained field crops	5	<1 %	6	12	<1 %
	Unmaintained greenhouses	< 1	<1 %	< 1	< 1	<1 %
AVAILABLE & WITH POTENTIAL FOR FARMING		1,458	39 %	953	2,411	34 %
TOTAL		3,633	96 %	3,549	7,182	100 %
Not surveyed	Rights-of-way	148	4 %			
	Water & foreshore	6	<1 %			
	Parcel areas < 100 sq m	< 1	<1 %			
SUBTOTAL		154	4 %			
TOTAL		3,787	100 %			

Table 4 shows that 2,411 hectares or 34% of the inventory area is not farmed, but is available for farming, and is not limited by existing land use, land cover, or other site limitations. Sixty percent of this available land or 1,458 hectares is in the ALR.

Refer to Map B5 and B6 in Appendix B for more information.

Figure 6. Availability and potential of ALR lands for farming

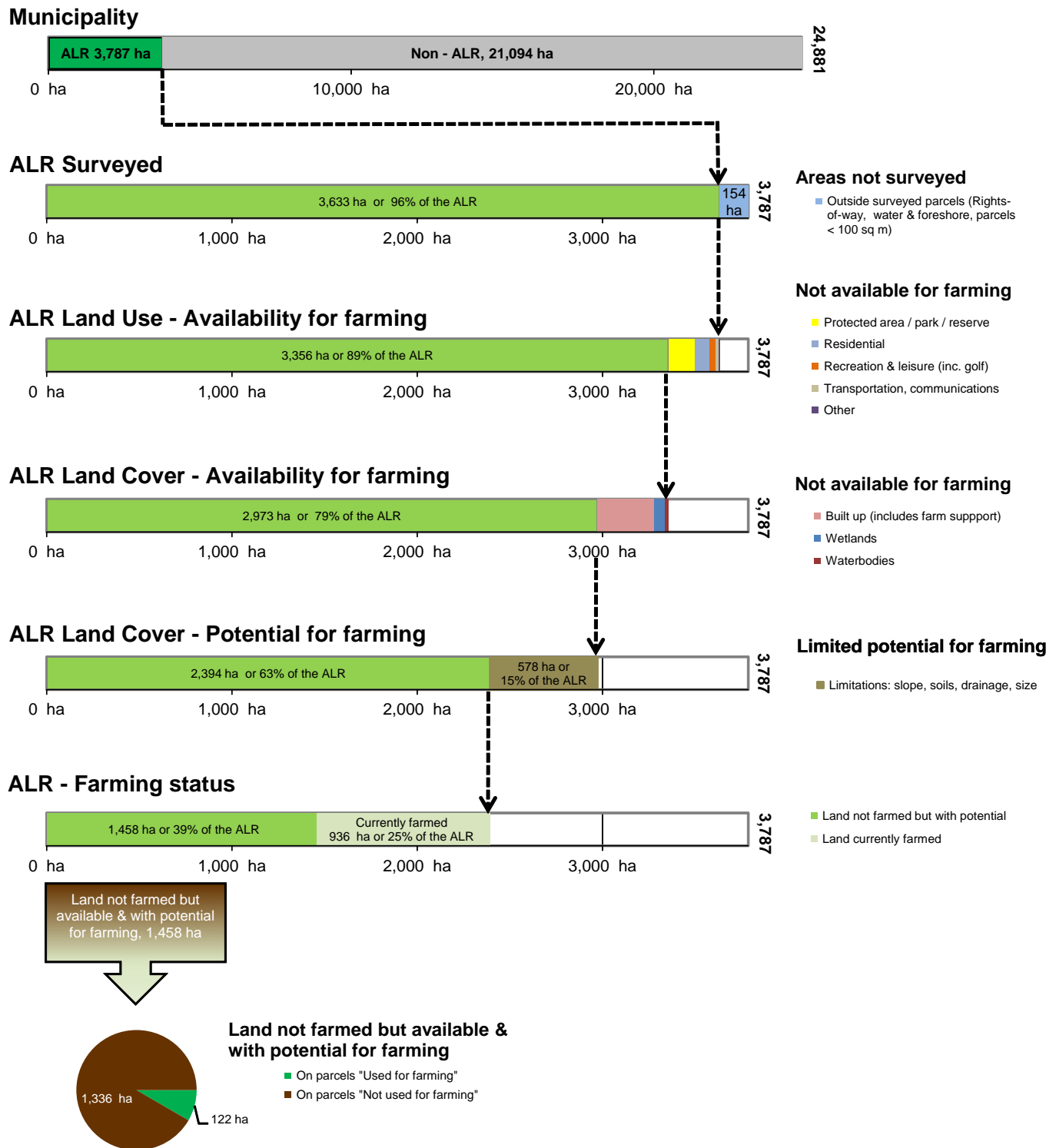


Figure 6 demonstrates that 2,394 hectares, or 63%, of Maple Ridge’s ALR is currently available for farming once road rights-of-way, parks, residential footprints, and other land uses, land covers, and site limitations incompatible with agriculture are taken into account. Of those 2,394 hectares, 936 hectares are actively farmed and 1,458 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 area available. 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, and vegetable greenhouses. 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	137	112	31	143	354	37	392	12 %
Used for farming only	14	10	4	14	59	6	64	1 %
Recreation & leisure	1	< 1	< 1	< 1	7	< 1	7	<1 %
TOTAL	152	122	36	158	420	43	463	13 %

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”

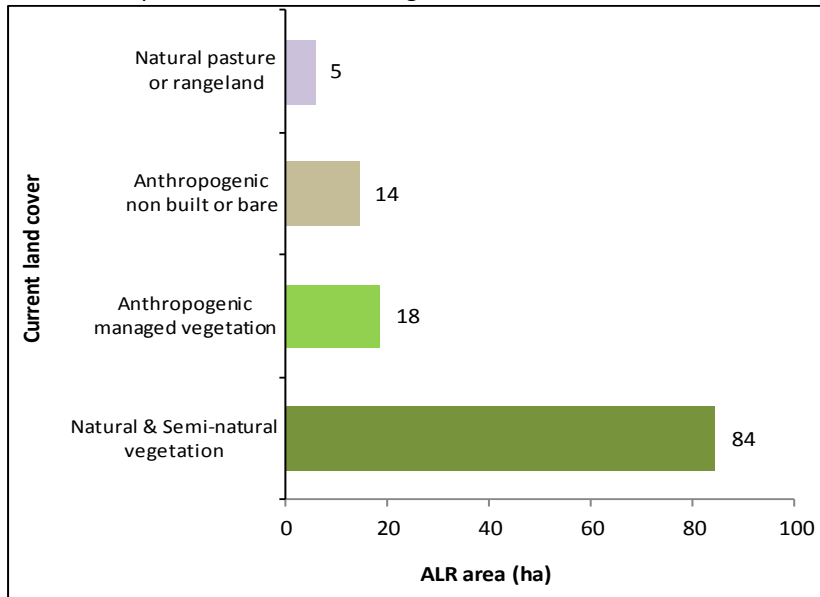


Figure 7 indicates that clearing land covered with “Natural & Semi-natural” vegetation would provide the greatest gains in farmed land on parcels that are already “Used for farming”.

Figure 8. Natural & Semi-natural land cover available for farming on ALR parcels “Used for farming”

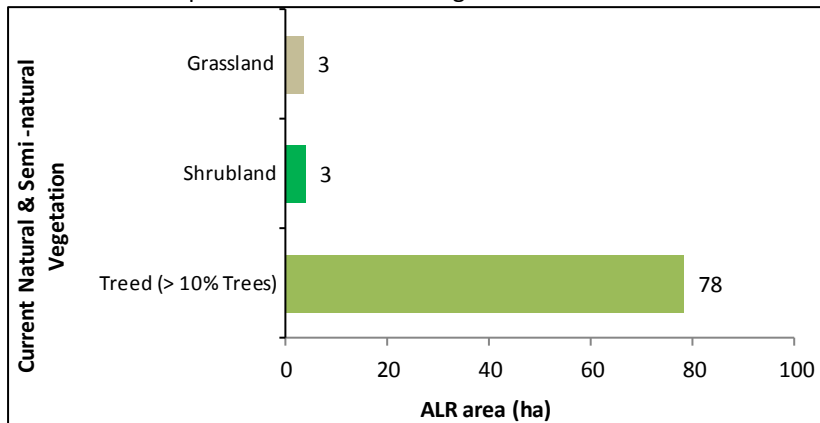


Figure 8 shows that treed areas are the most common type of “Natural & Semi-natural” land cover on parcels “Used for farming”

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	1057	1,018	583	1,600	109 %
	No apparent use	112	281	229	510	30 %
	Recreation & leisure	3	22	2	23	2 %
	Gravel extraction	2	4	29	32	<1 %
	Institutional & community	8	3	59	62	<1 %
	Dumps & deposits	1	3	< 1	3	<1 %
	Commercial & service	1	3	< 1	3	<1 %
	Industrial	2	2	< 1	2	<1 %
	Utilities	5	< 1	4	5	<1 %
	Land in transition	1	-	13	13	-
TOTAL		1,192	1,336	918	2,254	143 %

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

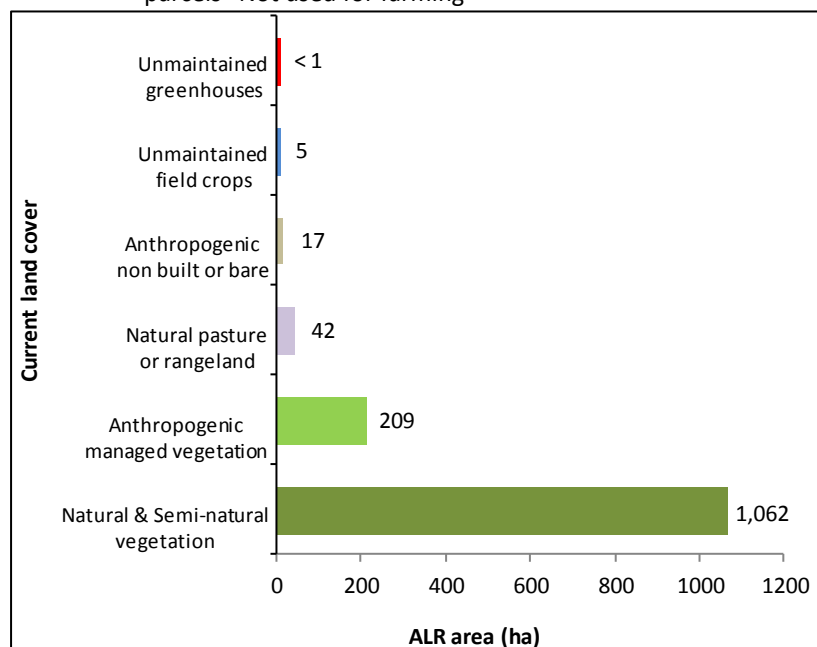


Figure 9 indicates that clearing land covered with “Natural and Semi-natural” vegetation would provide the greatest gains in farmed land on parcels currently “Not used for farming”.

Figure 10. Natural & Semi-natural land cover available for farming on ALR parcels “Not used for farming”

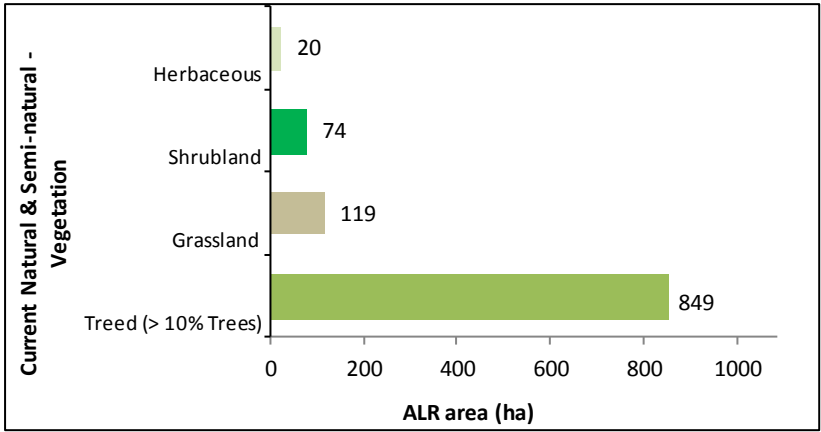


Figure 10 shows treed areas are the most common type of “Natural & Semi-natural” land cover on parcels “Not used for farming”

Figure 11. Size of areas available for farming but not farmed on parcels “Not used for farming”

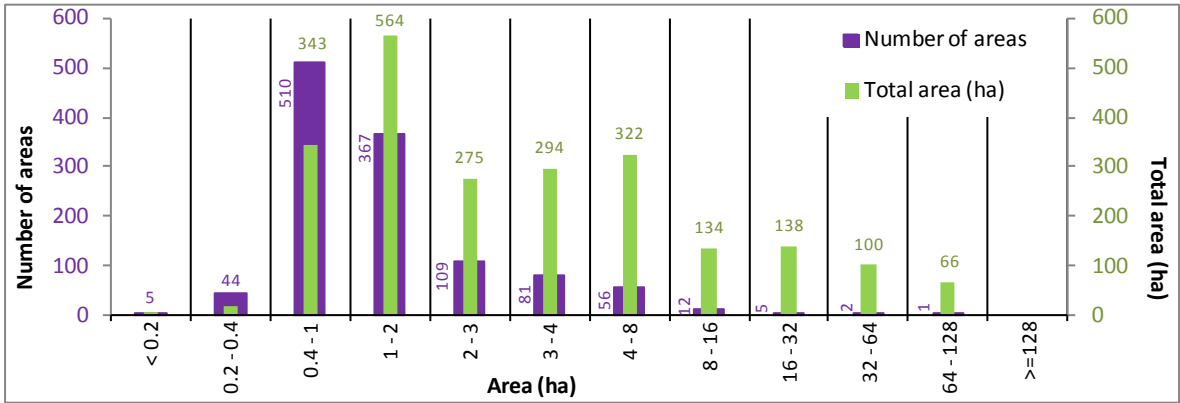


Figure 11 demonstrates that the majority of areas available for farming (926 of 1192 or 78%) are less than 2 hectares in size. Fewer options are available to efficiently farm small parcels. In general, areas should be 4 hectares or more to provide the widest range of farming options.

There are 76 areas greater than 4 hectares and available for farming but not farmed in Maple Ridge. These areas total 760 hectares, or 34% of the 2,254 hectares available (refer to Table 6).

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 Maple Ridge are described by seven crop groupings:

- **Forage & pasture:** grass
- **Nursery & tree plantations:** nursery (mixed, cedar hedging, ornamentals), tree plantations
- **Berries:** blueberries, cranberries
- **Vegetables:** mixed vegetables, cucurbits, Asian vegetables, beans
- **Nut trees:** hazelnut/filbert
- **Tree fruits**
- **Lavender**

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	533	14%	131	664	71%
Nursery & tree plantations	120	3%	5	125	13%
Berries	116	3%	2	118	13%
Vegetables	24	< 1%	1	26	3%
Nut trees	6	< 1%	< 1	6	< 1%
Tree fruits	< 1	< 1%	< 1	< 1	< 1%
Lavender	-	-	< 1	< 1	< 1%
TOTAL	800	21%	140	940	100%

Table 7 shows the 7 main field crop types produced on the 940 hectares of cultivated land in Maple Ridge.

“Forage & pasture” is the most common type of cultivated field crop accounting for 71% of all cultivated land and 14% of Maple Ridge’s ALR.

Nursery & tree plantations are the second most common type of cultivated crop and berries are third.

Refer to Map B8 in Appendix B for more information.

Figure 12. Main field crop types by percentage

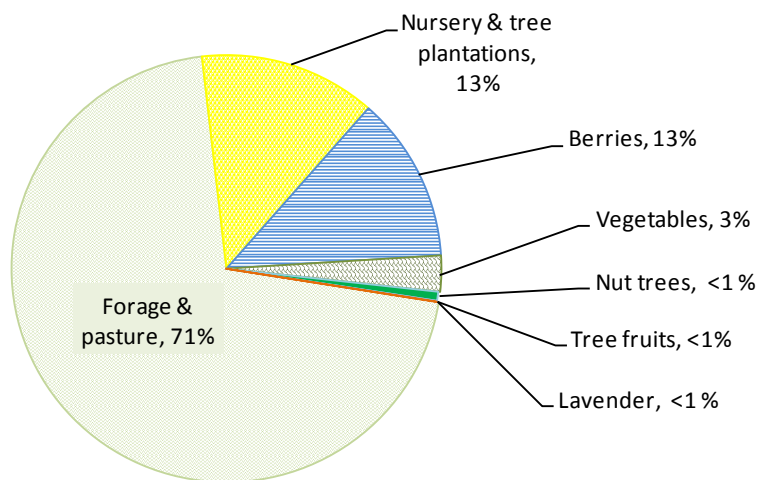


Figure 12 shows the proportion of main field crop types across Maple Ridge’s cultivated land. “Forage & pasture” combined with “Nursery & tree plantations” combined with “Berries” comprise 97% of all cultivated land in Maple Ridge.

Figure 13. All field crops by size

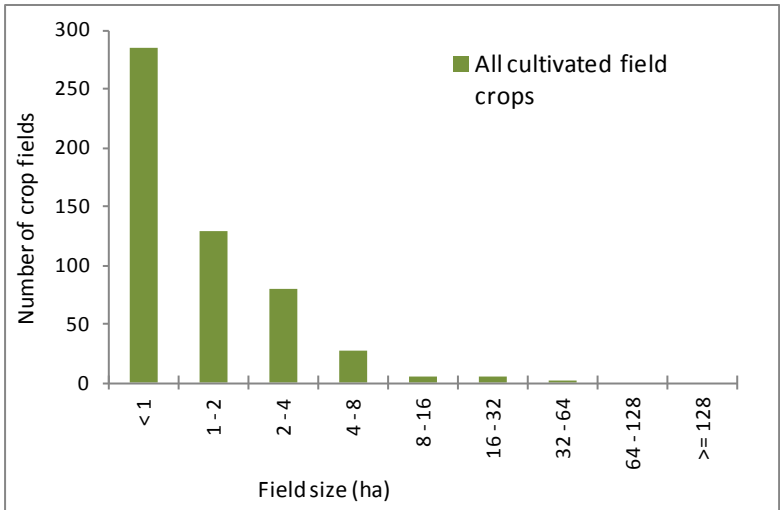


Figure 13 illustrates the number and size distribution of fields used for cultivated field crops.

In Maple Ridge, cultivated fields are most likely to be less than 1 hectare in size.

There are 532 individual crop fields with an average area of 2 hectares and median area of <1 hectare.

The average size of parcels where field crops occur is 4 hectares.

Refer to Table A1 in Appendix A for more information.

Figure 14. Forage & pasture, nursery & tree plantations, & berry fields by size

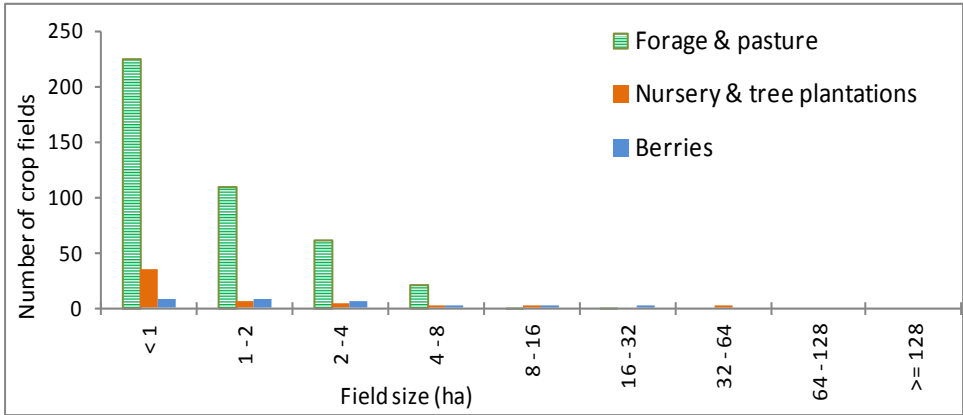


Figure 14 compares the top three main crop types by field sizes.

The majority of all “Forage & pasture”, “Nursery & tree plantation” and “Berry”, fields are less than 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 cattle 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, and is 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 & 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 ^	Grass	41	1%	3	44	5%
Forage (managed)	Grass	14	< 1%	< 1	15	2%
Forage (unmanaged)	Grass	28	< 1%	3	31	3%
Forage (intensively managed)	Grass	42	1%	9	51	5%
Subtotal		125	3%	15	140	15%
Pasture^	Grass	62	2%	10	72	8%
Pasture (managed)	Grass	46	1%	< 1	46	5%
Pasture (unmanaged)	Grass	282	7%	97	379	40%
Subtotal		390	10%	107	497	53%
Forage & pasture (managed)	Grass	16	< 1%	3	19	2%
Subtotal		16	< 1%	3	19	2%
Unused	Grass	< 1	< 1%	< 1	< 1	< 1%
Unmaintained	Grass	2	< 1%	6	7	< 1%
Subtotal		2	< 1%	6	7	< 1%
TOTAL		533	14%	131	664	71%

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

Table 8 shows there is significantly more pasture than forage in Maple Ridge. Grass is the only recorded forage & pasture crop type. Refer to Map B9 in Appendix B for more information.

Figure 15. Forage & pasture fields by size

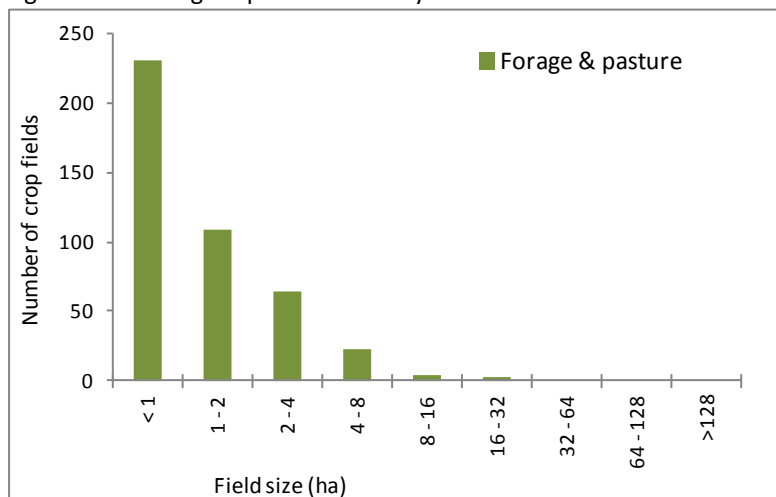


Figure 15 shows that “Forage & pasture” fields are most likely to be less than 1 hectare.

In Maple Ridge, there are 432 individual “Forage & pasture” fields with an average area of 2 hectares and median area of less than 1 hectare.

The average size of parcels where “Forage & pasture” occurs is 3 hectares.

Refer to Table A2 in Appendix A for more information.

Figure 16. Forage & pasture fields by size and type

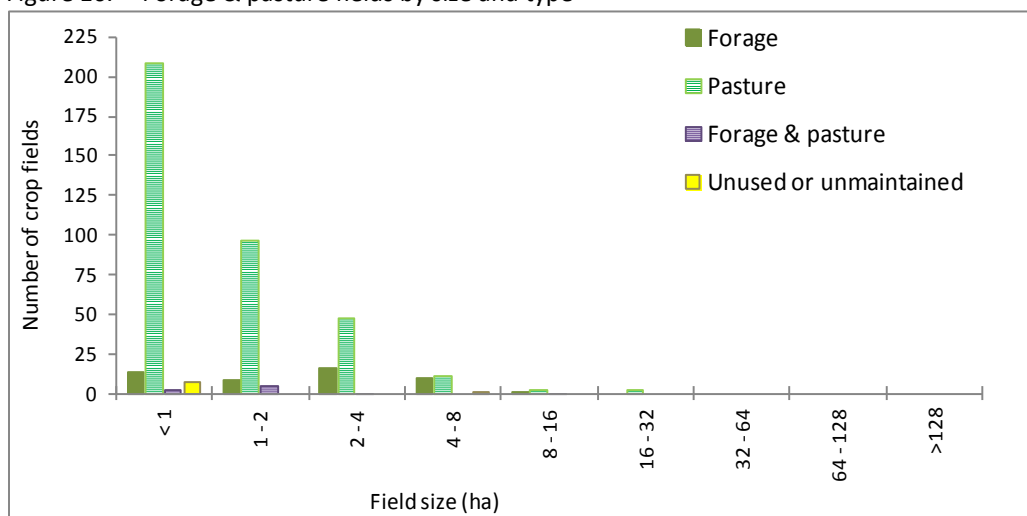


Figure 16 illustrates that nearly all forage and pasture fields are less than 8 hectares. Only 6 fields are greater than 8 hectares. This includes 4 pasture, 1 forage, and 1 forage & pasture field.

There are 50 forage fields with an average area of 3 hectares, median area of 3 hectares, and an average parcel size of 6 hectares.

By comparison, there are 366 pasture fields with an average area of 1 hectare, median area of <1 hectare, and an average parcels size of 5 hectares.

Refer to Table A2 in Appendix A for more information.

Nursery & tree plantations

Table 9. Nursery & tree plantations by area

Nursery & tree plantations		ALR		Outside ALR (ha)	Total area (ha)	% of cultivated land
		In ALR (ha)	% of ALR			
Nursery	Nursery - mixed	38	1%	2	41	4%
	Cedar hedging	3	< 1%	< 1	3	< 1%
	Ornamentals and shrubs	2	< 1%	1	3	< 1%
	Nursery - unmaintained	1	< 1%	< 1	1	< 1%
Nursery total		45	1%	4	48	5%
Tree plantation	Christmas trees	71	2%	< 1	71	8%
	Tree plantation	4	< 1%	1	5	< 1%
	Fibre/pulp/veneer trees	< 1	< 1%	< 1	< 1	< 1%
Tree plantation total		75	2%	2	76	8%
Nursery or tree plantation - unknown		< 1	< 1%	-	< 1	< 1%
TOTAL		120	3%	5	125	13%

Table 9 shows that Maple Ridge has a total of 125 hectares in nursery & tree plantations. Nearly all of this (120 hectares or 96%) is in the ALR.

Refer to Map B10 in Appendix B for more information.

Figure 17. Nursery & tree plantations by size

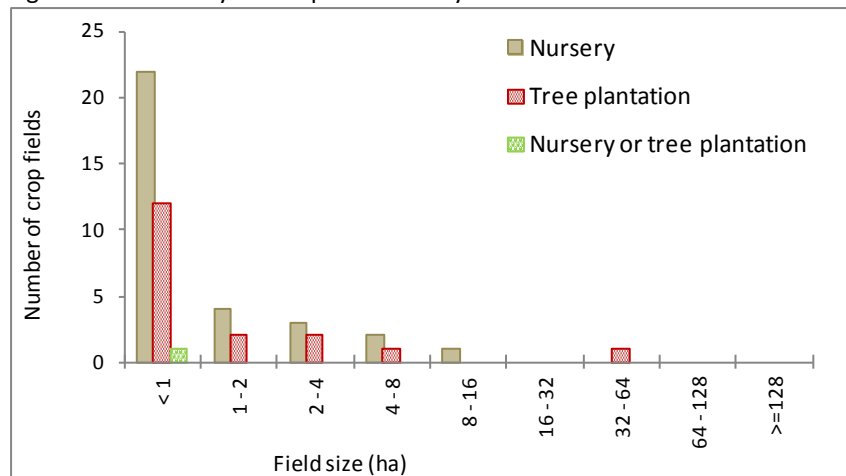


Figure 17 shows most nursery & tree plantations are less than 1 hectare in size in Maple Ridge.

There are 51 individual nursery & tree plantations with an average area of 2 hectares and a median area of <1 hectares.

The average parcel size where nursery & tree plantations occur is 6 hectares.

Refer to Table A3 in Appendix A for more information.

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. Strawberries are a perennial plant which is usually rotated or grown on different land each year to minimize build-up of crop-specific pest and disease problems. Since this inventory is a snapshot in time, the strawberry crops seen during the survey year may not be present in the same location the following year.

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 10. Berry crops by area

Berry crops		ALR		Outside ALR (ha)	Total area (ha)	% of cultivated land
		In ALR (ha)	% of ALR			
Blueberries	Mature	46	1%	2	47	5%
	Young	11	< 1%	< 1	11	1%
	Unmaintained	3	< 1%	< 1	3	< 1%
	Subtotal	59	2%	2	61	6%
Cranberries	Mature	39	1%	< 1	39	4%
	Young	17	< 1%	-	17	2%
	Subtotal	57	1%	< 1	57	6%
TOTAL		116	3%	2	118	13%

Table 10 shows that Maple Ridge has 118 hectares in berry crops.

Refer to Map B11 in Appendix B for more information.

Figure 18. Berry fields by size

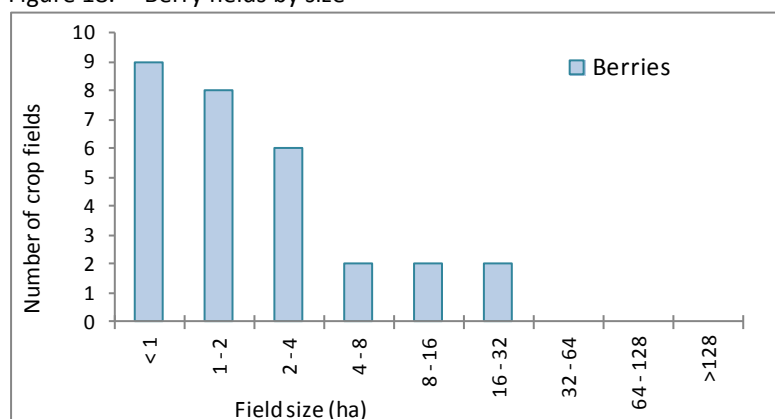


Figure 18 shows that most berry fields are less than 4 hectares in size.

In Maple Ridge, there are 29 individual berry fields with an average area of 4 hectares and a median area of 2 hectares.

The average parcel size where berry crops occur is 6 hectares.

Refer to Table A4 in Appendix A for more information.

Figure 19. Blueberry and cranberry fields by size

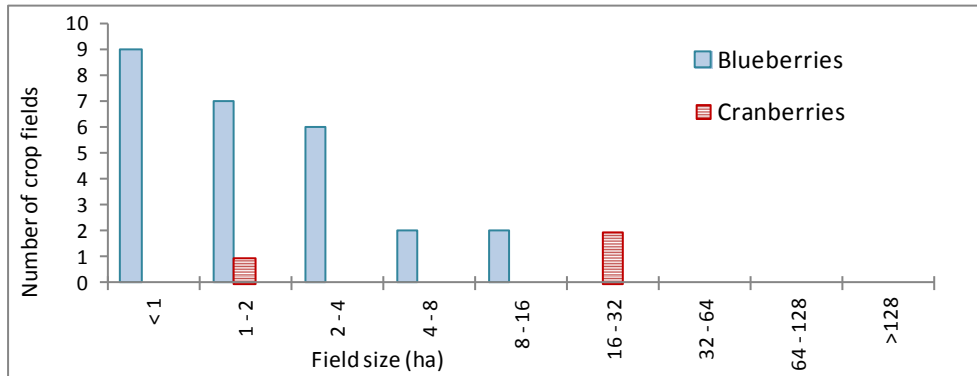


Figure 19 shows the size distribution of blueberry and cranberry fields in Maple Ridge.

There are 26 blueberry fields with an average crop area of 2 hectares, median area of 2 hectares, and average parcel size of 4 hectares.

In comparison, there are 3 cranberry fields with an average crop area of 19 hectares, a median area of 26 hectares and average parcel size of 23 hectares.

Even though there are far more blueberry than cranberry fields, each comprise a similar total area.

Refer to Table A4 in Appendix A for more information.

Vegetable crops

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

Vegetables in Maple Ridge are described by four crop groupings:

- **Mixed vegetables:** a variety of vegetable types cultivated in a field
- **Cucurbits:** includes pumpkins, squash, cucumber, zucchini
- **Asian vegetables:** Includes bok choy, choy sum, gai choy, sui choy, gai lan, Chinese cabbage, daikon, lotus root
- **Beans**

Table 11. Vegetable crops by area

Vegetable crops	ALR		Outside ALR (ha)	Total area (ha)	% of cultivated land
	In ALR (ha)	% of ALR			
Mixed vegetables	12	< 1%	< 1	13	1%
Cucurbits	11	< 1%	< 1	11	1%
Asian vegetables	1	< 1%	< 1	1	< 1%
Beans	-	-	< 1	< 1	< 1%
TOTAL	24	< 1%	1	26	3%

Table 10 shows that Maple Ridge has 26 hectares in vegetable crops.

Refer to Map B11 in Appendix B for more information.

Top 20 Individual Crops

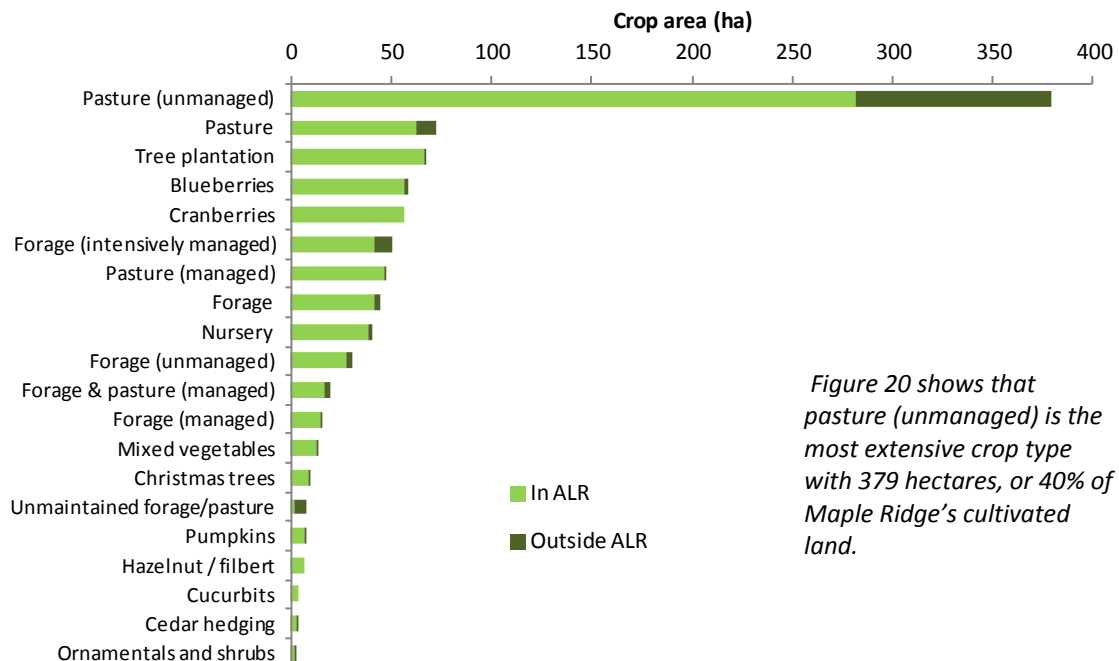
Table 12. Top 20 crop types by area

Cultivated field crop	ALR		Outside ALR (ha)	Total area (ha)	% of cultivated land
	In ALR (ha)	% of ALR			
Pasture (unmanaged)	282	7%	97	379	40%
Pasture^	62	2%	10	72	8%
Tree plantation	66	2%	1	67	7%
Blueberries	57	1%	2	58	6%
Cranberries	57	1%	< 1	57	6%
Forage (intensively managed)	42	1%	9	51	5%
Pasture (managed)	46	1%	< 1	46	5%
Forage^	41	1%	3	44	5%
Nursery	38	1%	2	41	4%
Forage (unmanaged)	28	< 1%	3	31	3%
Forage & pasture (managed)	16	< 1%	3	19	2%
Forage (managed)	14	< 1%	< 1	15	2%
Mixed vegetables	12	< 1%	< 1	13	1%
Christmas trees	8	< 1%	< 1	9	< 1%
Unmaintained forage/pasture	2	< 1%	6	7	< 1%
Pumpkins	7	< 1%	< 1	7	< 1%
Hazelnut / filbert	6	< 1%	< 1	6	< 1%
Cucurbits	4	< 1%	-	4	< 1%
Cedar hedging	3	< 1%	< 1	3	< 1%
Ornamentals and shrubs	2	< 1%	1	3	< 1%
TOTAL	793	21%	139	932	99%

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

Table 12 shows the 20 individual crops that account for 99% of the cultivated land in Maple Ridge.

Figure 20. Top 20 crop types by area



GREENHOUSES & CROP BARNs

Greenhouses are structures covered with translucent material and of sufficient size for a person to work inside¹⁰. 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 13. Greenhouses and crop barns by area¹¹

Greenhouses & crop barns		ALR		Outside ALR (ha)	Total area (ha)	% of greenhouse & crop barn area
		In ALR (ha)	% of ALR			
Crop barn	Mushroom	1	< 1%	-	1	6%
Subtotal		1	< 1%	-	1	6%
Glass greenhouse	Mixed	3	< 1%	< 1	3	14%
	Nursery	3	< 1%	< 1	3	13%
	Floriculture	1	< 1%	< 1	1	7%
	Unknown	-	-	< 1	< 1	< 1%
Subtotal		7	< 1%	< 1	7	34%
Poly greenhouse	Mixed	5	< 1%	< 1	5	26%
	Nursery	3	< 1%	< 1	4	17%
	Vegetables	1	< 1%	< 1	1	6%
	Unknown	< 1	< 1%	< 1	1	6%
	Floriculture	< 1	< 1%	< 1	< 1	1%
	Unmaintained	< 1	< 1%	< 1	< 1	3%
Subtotal		11	< 1%	1	12	60%
TOTAL		19	< 1%	1	20	100%

Table 13 shows that 19 hectares of ALR land are covered by greenhouses and crop barns. Eighteen of these hectares are covered by greenhouses.

Glass greenhouses make up 7 hectares of ALR land while poly greenhouses make up 11 hectares.

One crop barns housing mushrooms was reported in Maple Ridge. It comprises 1 hectare of ALR land.

Refer to Map B12 in Appendix B for more information.

Figure 21. Distribution of greenhouses and crop barns by building type

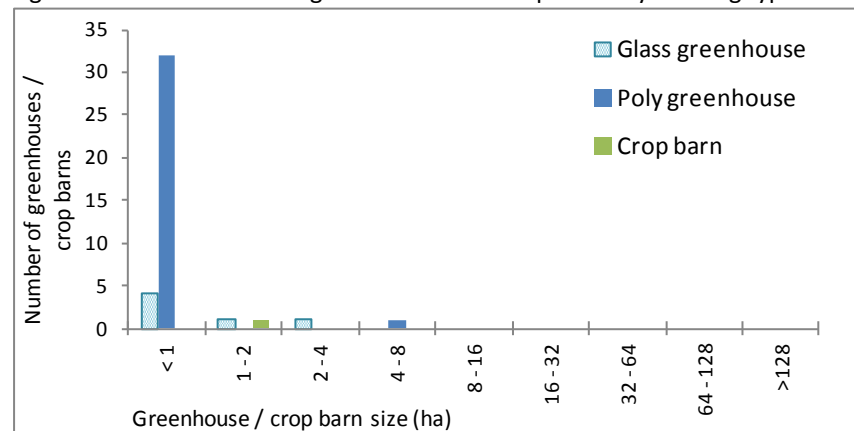


Figure 21 shows that there are significantly more poly greenhouses than glass greenhouses or crop barns in Maple Ridge. Nearly all poly greenhouses are less than 1 hectare.

Refer to Table A6 in Appendix A for more information.

¹⁰ Source: *Guide for Bylaw Development*, 1998 Issue (Working Copy) by Ministry of Agriculture and Food.

¹¹ 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.

Figure 22. Distribution of greenhouse and crop barn total area by building type

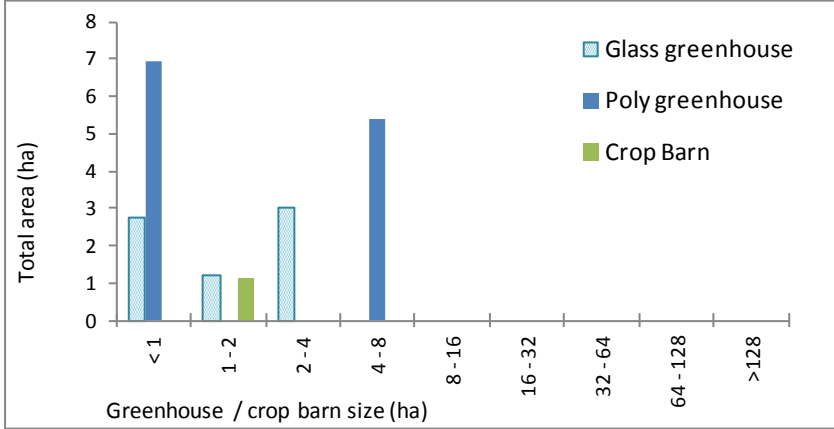


Figure 22 shows that in Maple Ridge, poly greenhouses less than 1 hectare comprise a total area of 7 hectares.

Refer to Table A6 in Appendix A

Figure 23. Distribution of greenhouses by crop type

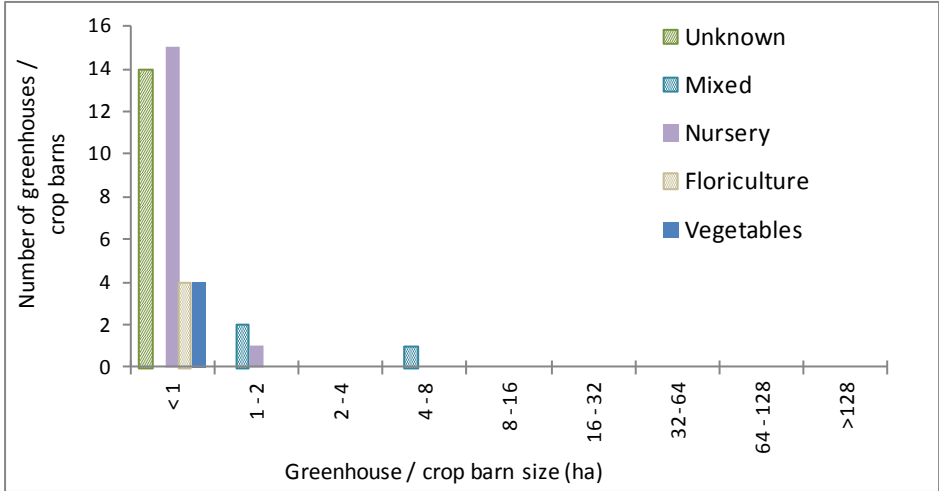


Figure 23 shows most greenhouses in Maple Ridge are less than 1 hectare in size.

Nursery plants are the most common known greenhouse crop type.

Refer to Table A7 in Appendix A for more information.

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. The potential to irrigate is often limited by the quality and quantity of available irrigation water. High salinity or microbial contamination renders water unsuitable for irrigation. Insufficient water sources or water delivery infrastructure limits the potential to increase agricultural production through irrigation.

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, land set temporarily set aside for wildlife or other purposes, and land under preparation for planting. Also included are crops grown in greenhouses and crop barns. In addition, the top 20 cultivated field crops are evaluated for percent of crop area under irrigation.

Table 14. Main crop types and irrigation

Cultivated field crop	Irrigation system in use (ha)		Total area irrigated (ha)	% of crop area irrigated
	Sprinkler	Trickle		
Berries	57	27	84	71%
Nursery & tree plantations	43	1	44	35%
Vegetables	6	-	6	23%
Lavender	< 1	-	< 1	100%
Forage & pasture	-	-	-	-
TOTAL FIELD CROP AREA IRRIGATED	106	28	134	14%
Crop barn	Trickle irrigation		1	100%
Greenhouses	Flood and trickle irrigation		19	100%

Table 14 illustrates that 71% of all berry crops and 35% of all nursery & tree plantations are irrigated. Trickle systems were reported primarily on berry fields while sprinkler systems were found on all main irrigated crop types.

No irrigation systems were found on forage & pasture crops.

Refer to Map B13 in Appendix B for more information.

Figure 24. Irrigation systems by percentage of cultivated land

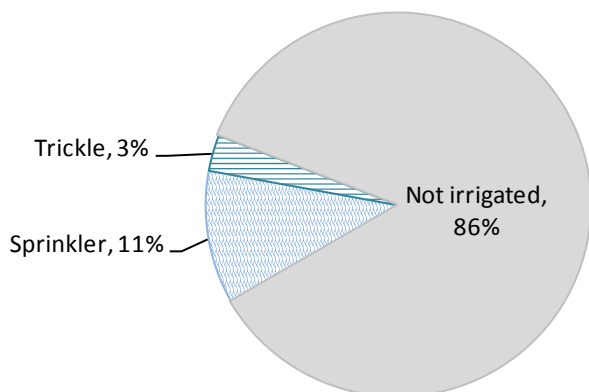


Figure 24 shows that only 14% of cultivated land in Maple Ridge is irrigated. Sprinkler irrigation is the most widely used type of system that occurs on 11% of all cultivated land.

Table 15. Top 20 field crop types and irrigation

Cultivated field crop	Irrigation system in use (ha)		Total area irrigated (ha)	% crop area irrigated
	Sprinkler	Trickle		
Pasture (unmanaged)	-	-	-	-
Pasture^	-	-	-	-
Tree plantation	-	-	-	-
Blueberries	-	27	27	46%
Cranberries	57	-	57	100%
Forage (intensively managed)	-	-	-	-
Pasture (managed)	-	-	-	-
Forage^	-	-	-	-
Nursery	40	< 1	41	100%
Forage (unmanaged)	-	-	-	-
Forage & pasture (managed)	-	-	-	-
Forage (managed)	-	-	-	-
Mixed vegetables	5	-	5	39%
Christmas trees	-	-	-	-
Unmaintained forage/pasture	-	-	-	-
Pumpkins	-	-	-	-
Hazelnut / filbert	-	-	-	-
Cucurbits	-	-	-	-
Cedar hedging	< 1	-	< 1	10%
Ornamentals and shrubs	2	< 1	3	95%
TOTAL	104	28	132	

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

Table 15 outlines the type of irrigation systems used on the top 20 field crops in Maple Ridge. Sprinkler systems were found mainly on cranberries, nursery crops, and mixed vegetables while trickle systems were found almost exclusively on blueberries.

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 16. Livestock activities

Livestock group	Livestock detail *	By parcel		Total activities	By activity type	
		Main type	Secondary type		Intensive	Non Intensive
Beef	Beef	26	1	27	1	26
	Beef (Swine)	1	-	1	-	1
	Beef total	27	1	28	1	27
Dairy	Dairy total	4	1	5	3	2
Poultry	Chicken	24	18	42	4	38
	Chicken (Duck)	1	1	2	-	2
	Chicken (Goose)	2	1	3	-	3
	Chicken (Goat)	1	-	1	-	1
	Turkey	2	1	3	2	1
	Duck	2	-	2	-	2
	Goose	1	1	2	-	2
	Goose (Duck)	1	-	1	-	1
	Goose (Turkey)	-	1	1	-	1
	Poultry total	34	23	57	6	51
Swine	Swine total	-	1	1	-	1
Sheep / lamb / goat	Sheep / lamb	5	2	7	-	7
	Sheep / lamb (Goat)	2	-	2	-	2
	Sheep / lamb (Llama)	2	-	2	-	2
	Sheep / lamb (Chicken)	1	-	1	-	1
	Goat	7	2	9	-	9
	Sheep / lamb / goat total	17	4	21	-	21
Llama / alpaca	Llama	8	2	10	-	10
	Llama (Goat)	2	-	2	-	2
	Alpaca	1	1	2	-	2
	Llama / alpaca total	11	3	14	-	14
Specialty livestock	Deer, fallow	1	-	1	-	1
	Game bird**	1	1	2	2	-
	Peacock	1	-	1	-	1
	Rabbit	1	-	1	-	1
	Specialty livestock total	4	1	5	2	3
Unknown livestock	Unknown livestock total	39	-	39	-	39
Equine	Horse	177	3	180	-	180
	Pony	1	-	1	-	1
	Miniature horse	1	-	1	-	1
	Donkey, ass	1	-	1	-	1
	Mule	1	-	1	-	1
	Mixed equine	9	-	9	-	9
	Unknown equine	115	-	115	-	115
	Equine total	305	3	308	-	308
TOTAL		441	37	478	12	466

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

** Game birds include partridges, pheasants, pigeons and quail.

Table 16 shows equine is the most common type of livestock activity in Maple Ridge accounting for 308 of 478 or 64% of all livestock activities. Poultry is the second most common with 57 activities or 12% and beef is third with 28 activities or 6% of all activities.

Refer to Maps B14, B15 and B17 in Appendix B for more information.

Figure 25. Livestock activities (excluding equine) by scale and type

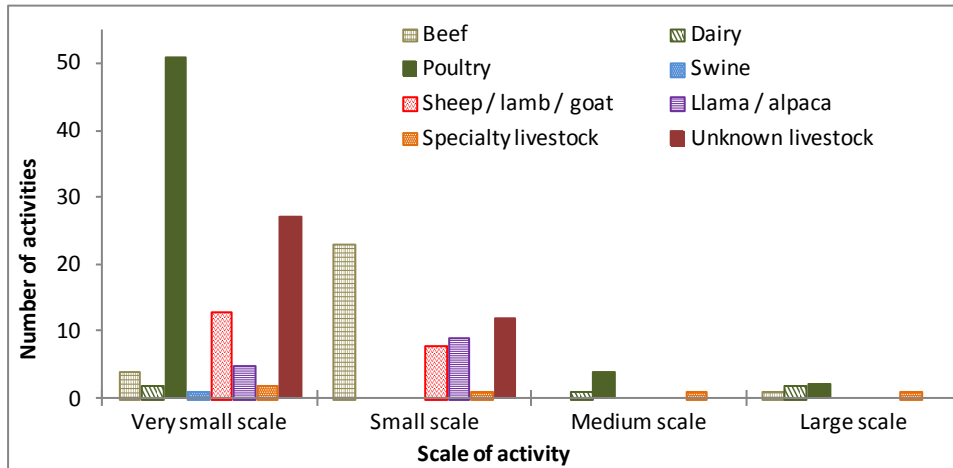


Figure 25 illustrates the scale of livestock activities (excluding equine) in Maple Ridge.

Sheep/lamb/goat and unknown livestock activities both occur only on “small” and “very small” scales.

There are “large” scale beef, dairy, poultry, and game bird (specialty) operations in Maple Ridge. Dairy and poultry are supply managed industries.

Refer to Tables A9, A11, and A13 in Appendix A for more information.

Figure 26. Livestock and equine activities by scale

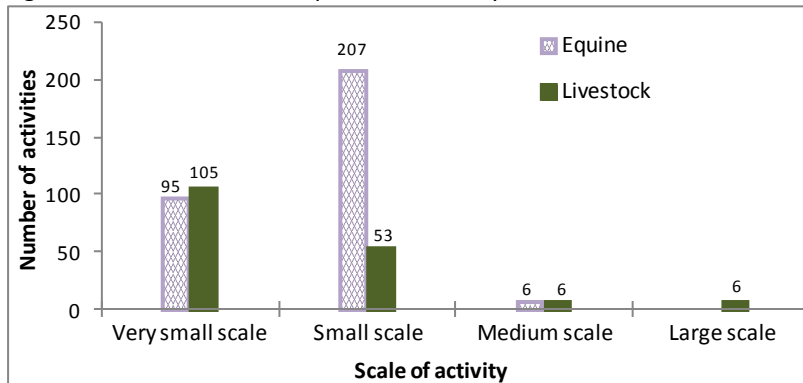


Figure 26 compares the scale of livestock and equine activities.

Even though 308 of the 478 livestock activities are equine, most are “small” or “very small” scale. There are no “large” scale equine activities in Maple Ridge while there are 6 “large” scale livestock activities.

Refer to Tables A9, A11, A13, and A15 in Appendix A for more information.

Figure 27. Livestock activities (excluding equine) by parcel size and scale

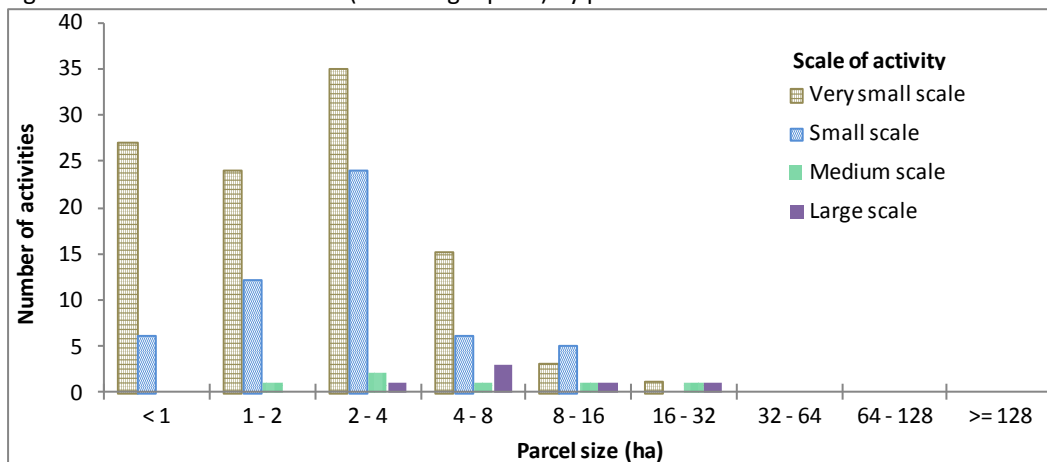


Figure 27 illustrates the distribution of livestock activities (excluding equine) by scale across parcel size categories.

“Small” and “very small” scale livestock operations occur on nearly all parcel sizes with livestock activities. “Large” scale livestock operations occur primarily on larger parcels in Maple Ridge.

Refer to Tables A9, A11, A13 and Figures A1, A3, and A5 in Appendix A for more information.

Figure 28. Livestock activities (excluding equines) by parcel size and type

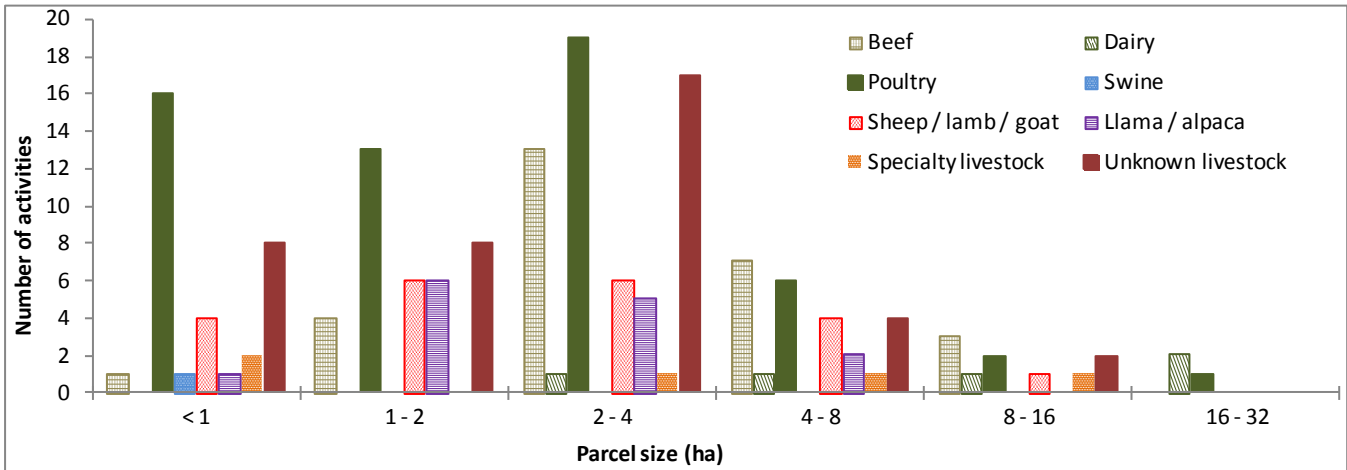


Figure 28 compares the distribution of different livestock types across parcel size categories. Poultry activities occur on all parcel size categories with livestock activities. Dairy activities occur on all parcel sizes greater than 2 hectares. There are no livestock activities occurring on parcels larger than 32 hectares.

Refer to Table A8 in Appendix A for more information.

Figure 29. Livestock and equine activities by parcel size

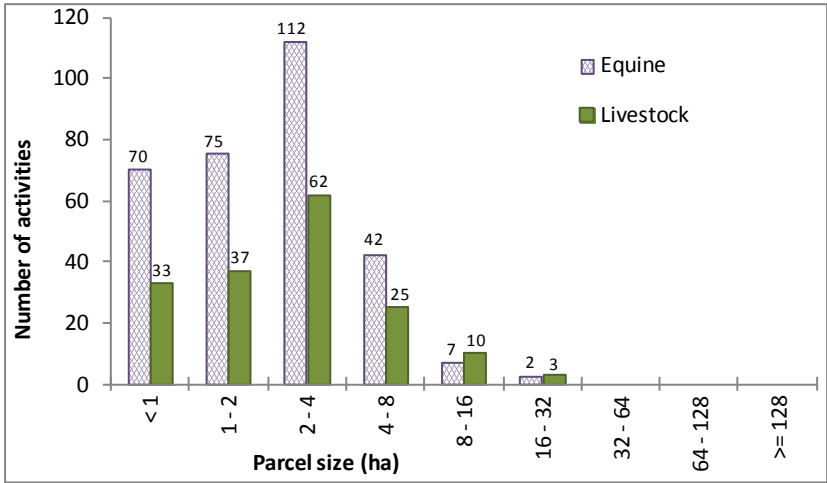


Figure 29 compares the distribution of equine and livestock activities across parcel size categories.

The majority of equine and livestock activities occur on parcels less than 4 hectares in Maple Ridge.

Both livestock and equine activities occur on parcels < 1 hectare. There are a similar number of equine and livestock operations on parcels greater than 8 hectares.

Refer to Table A8 in Appendix A for more information.

Figure 30. Average area in forage, pasture, and farm infrastructure on parcels with livestock activities (excluding very small scale)

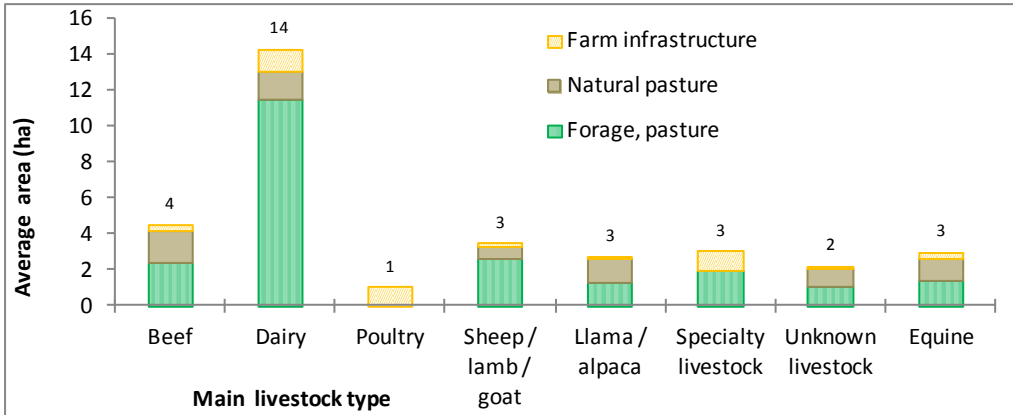
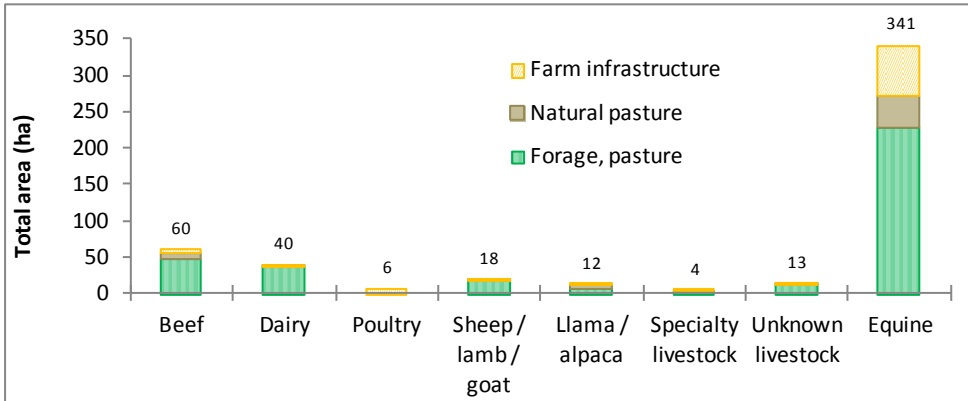


Figure 30 shows that on average a dairy activity is associated with 14 hectares of farm infrastructure, natural pasture, and forage, pasture land which is more than any other type of livestock activity.

Figure 31. Total area in forage, pasture, and farm infrastructure on parcels with livestock activities (excluding very small scale)



Even though each dairy activity on average uses more land resources than any other livestock activity (see Figure 30 above), Figure 31 shows that equine activities use a much greater total area.

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

Figure 32. Percent of parcel area utilized for forage, pasture, and farm infrastructure on parcels with livestock activities (excluding very small scale)

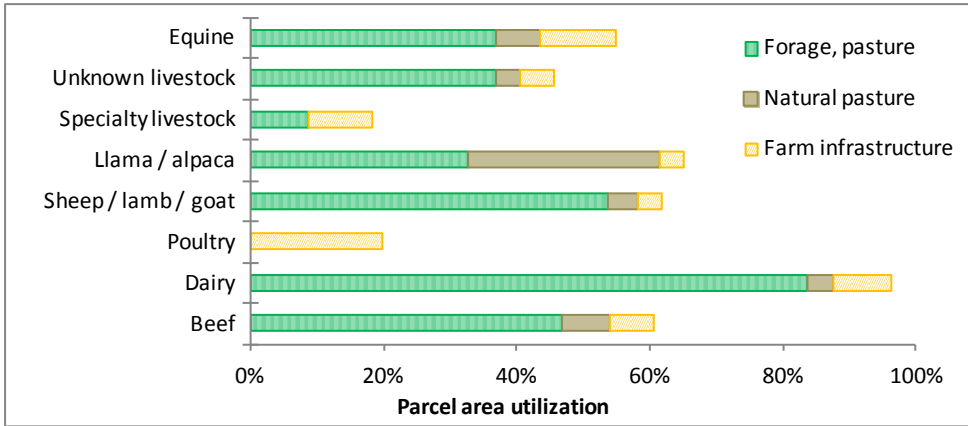
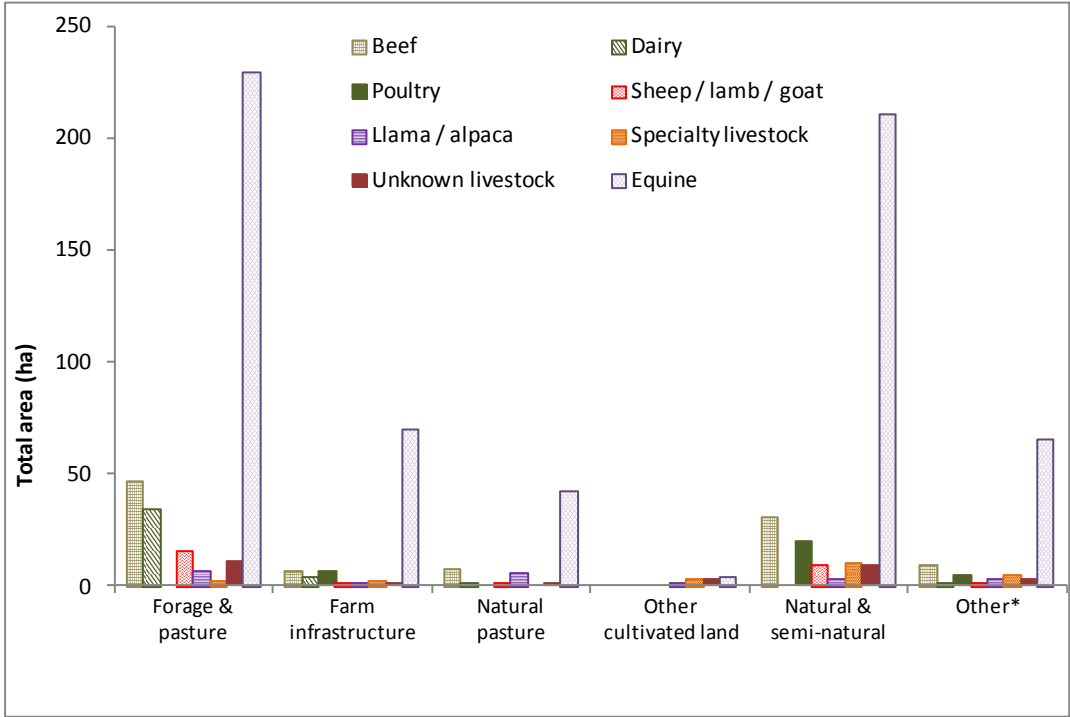


Figure 32 shows that on average a dairy activity in Maple Ridge utilizes 96% of its parcel area for forage, pasture, natural pasture, and farm infrastructure while a poultry activity only utilizes 20%.

Figure 33. Land cover on parcels with livestock activities (excluding very small scale 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 33 shows that equine activities have large amounts of forage & pasture (229 hectares) as well as large amount of natural & semi-natural land cover (210 hectares) associated with them. These operations are growing some of their own feed.

Refer to Figure A8 in Appendix A for more information.

Figure 34. Land cover on parcels with livestock activities (excluding equine and very small scale activities)

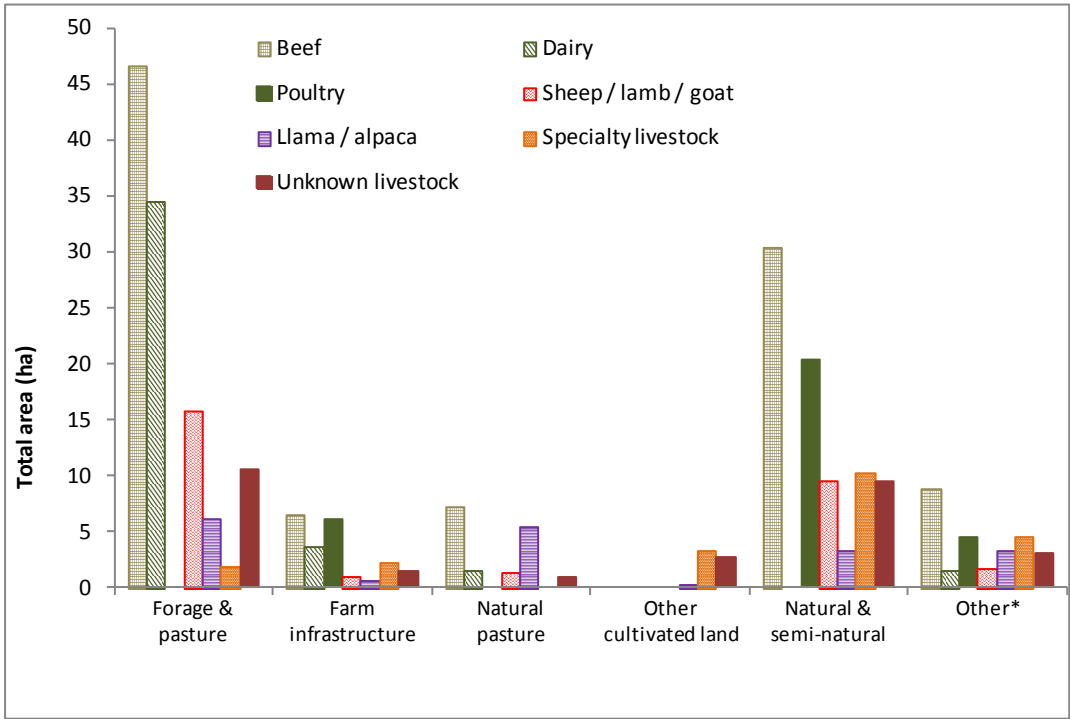


Figure 33 shows that the land cover associated with beef, dairy, and sheep/ lamb/ goat activities is primarily forage and pasture. These operations are growing some of their own feed.

Refer to Figures A2, A4, and 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 component of 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 35. Percentage of parcels “Used for farming” with value-added activities

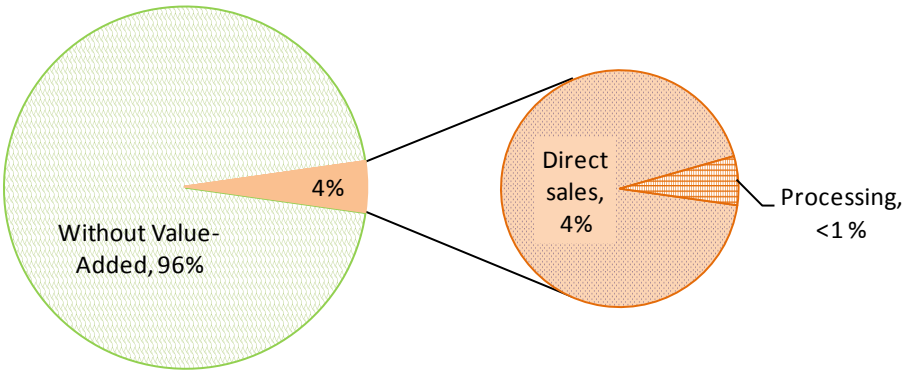
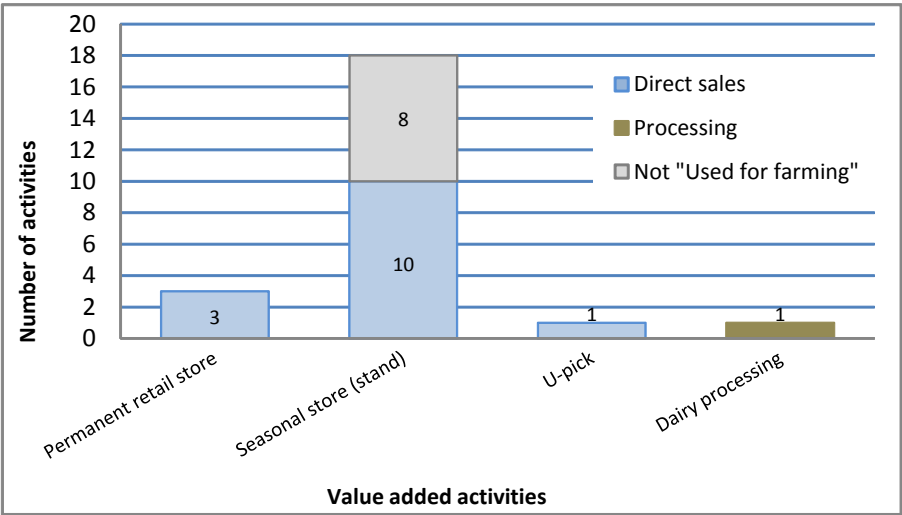


Figure 35. Only 14 or 4% of all parcels “Used for farming” are also being used for value-added activities. Given the close proximity to a large urban population, there are opportunities to increase activities such as agri-tourism and direct sales.

Figure 36. Number of parcels with farming and value-added activities



There are 23 value-added activities located on 22 parcels in Maple Ridge. Eight of these activities are on parcels that do not meet the “Used for farming” criteria (refer to the Definition section), or are part of a farm unit where the farming activity occurs on another parcel.

Figure 36 shows that the majority of the value added activities are seasonal stands and permanent retail stores.

The one dairy processing activity is associated with Golden Ears Cheesecrafters.

Refer to Tables A17 through A20 in 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 3,633 hectares of ALR on 1,517 parcels which is 96% of the ALR within Maple Ridge. The remaining 4% of the ALR was excluded from the inventory as it is in parcels less than 100 square metres in size or outside surveyed land parcels in designated rights-of-way or water and foreshore.

ALR boundaries are not always coincident 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 Maple Ridge, 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, 1,473 parcels, with 3,594 hectares or 95% of Maple Ridge's ALR land meets the above criteria and is included in the further analysis of the ALR. All 1,473 parcels have at least half of their area ($\geq 50\%$) in the ALR.

Figure 37. Parcel inclusion in the ALR

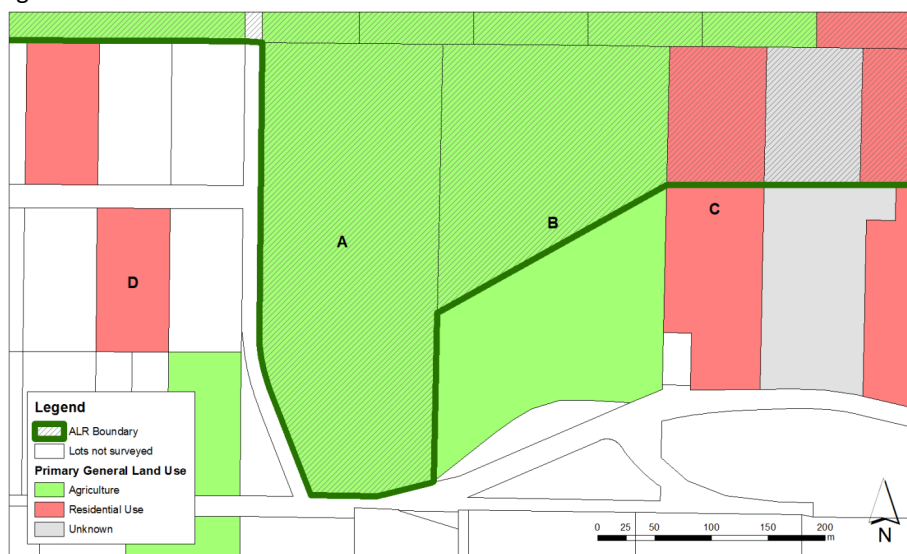


Figure 37 illustrates the distinction between parcels considered to be within or outside the ALR:

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:

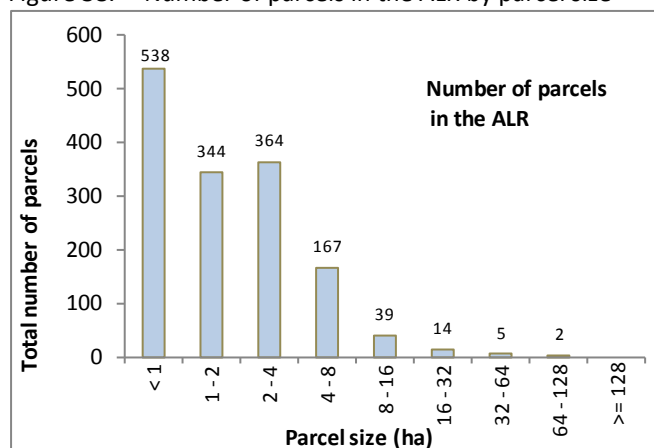
- lot C has less than 50% of its area and less than 10 hectares in the ALR
- lot D is completely outside the ALR.

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 38. Number of parcels in the ALR by parcel size



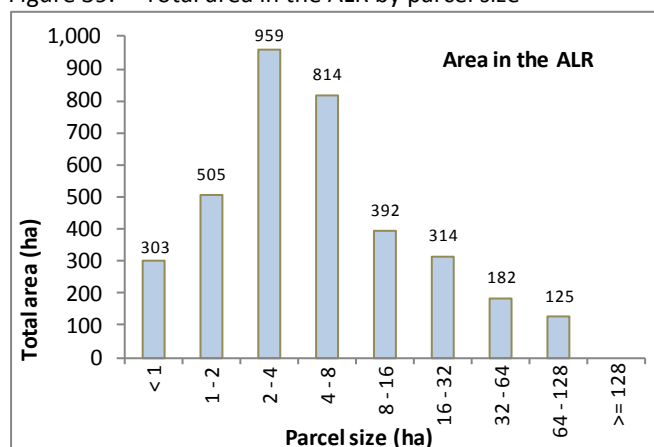
Of Maple Ridge's ALR parcels, 37% are less than one hectare. The average ALR parcel size is 2.6 hectares.

Figure 38 illustrates that of the 1,473 parcels in the ALR:

- 37% (538 parcels) is less than 1 hectare.
- 85% (1,246 parcels) is less than 4 hectares.
- 11% (167 parcels) is between 4 and 8 hectares.
- 3% (39 parcels) is between 8 and 16 hectares.
- 1% (21 parcels) is greater than 16 hectares.

Refer to Map B17 in Appendix B for more information.

Figure 39. Total area in the ALR by parcel size



Maple Ridge is a semi-metropolitan area that has a large number of small parcels.

Figure 39 illustrates that of the 3,594 hectares in the ALR:

- 8% (303 hectares) is on parcels less than 1 hectare.
- 49% (1,767 hectares) is on parcels less than 4 hectares.
- 23% (814 hectares) is on parcels between 4 and 8 hectares.
- 11% (392 hectares) is on parcels between 8 and 16 hectares.
- 17% (621 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 17. 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	262	18 %
Not used for farming	1,211	82 %
TOTAL	1,473	100 %

Table 17 demonstrates that of the 1,473 parcels in the ALR, only 262 or 18% are "Used for farming".

Figure 40. Number of farmed and not farmed parcels in the ALR by parcel size

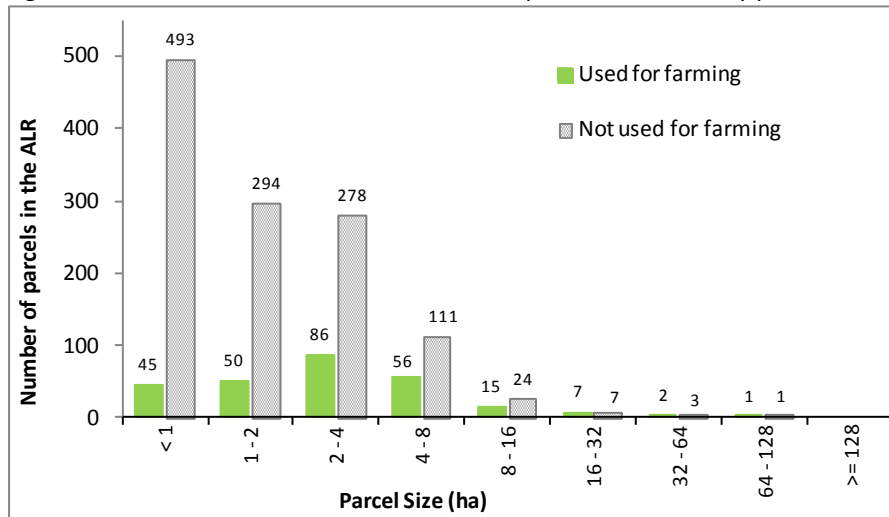


Figure 40 shows that of the 1,211 or 82% of parcels in the ALR "Not used for farming",

- 493 parcels or 41% are less than one hectare
- 1,065 parcels or 88% are less than 4 hectares

The smaller the parcel size, the less likely the parcel is to be farmed.

Figure 41. Number of farmed and not farmed parcels in the ALR by parcel size (line chart)

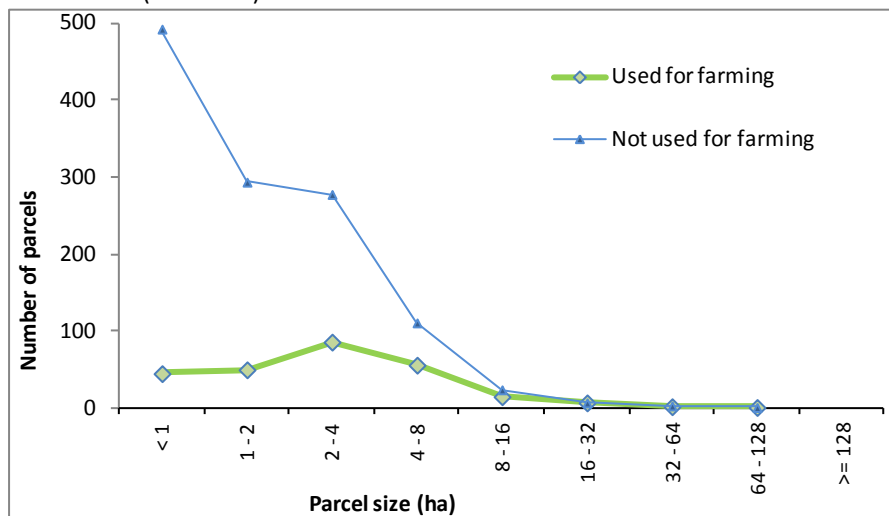


Figure 41 illustrates that although parcels of all sizes are "Used for farming", small parcels are less likely to be farmed.

Figure 42. Proportion of parcels farmed and not farmed by parcel size in the ALR

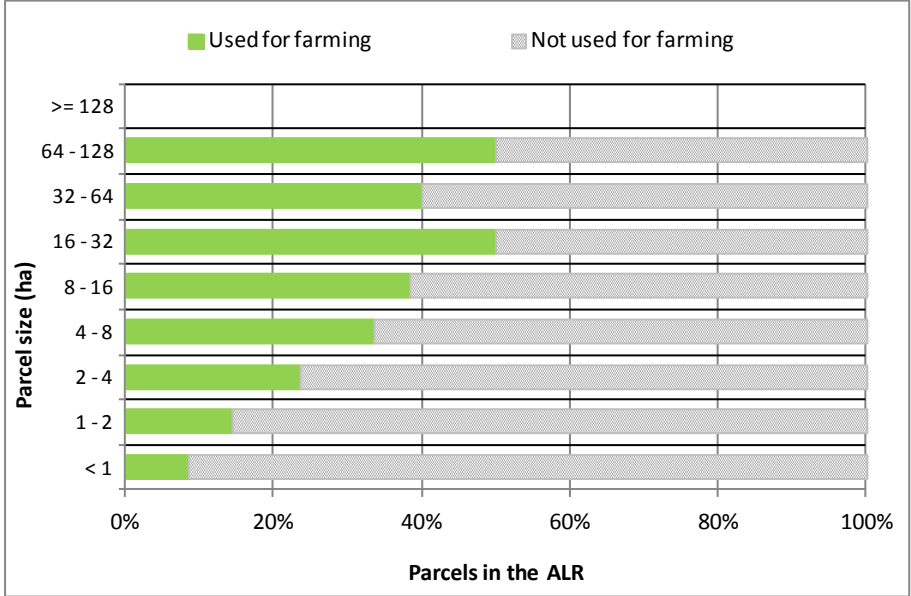
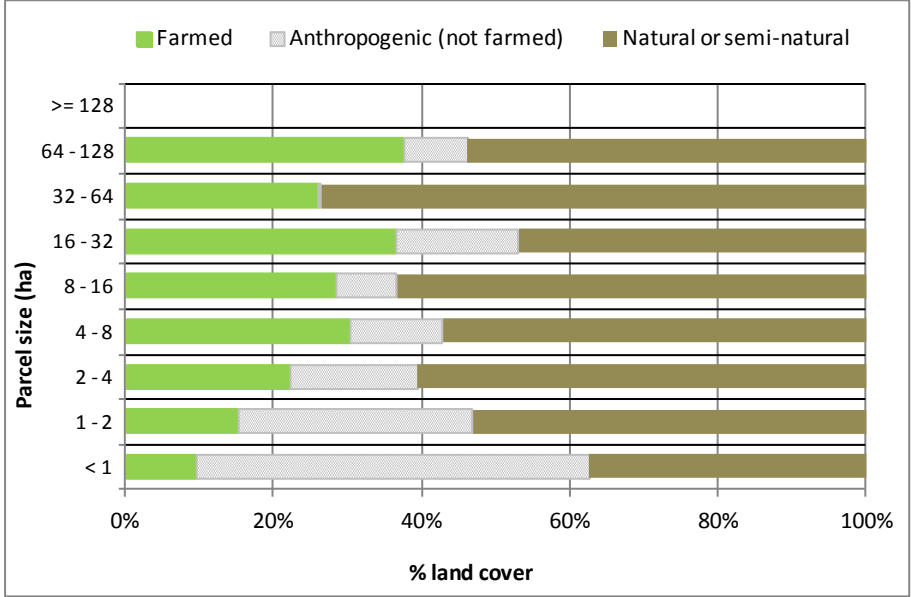


Figure 42 shows that in Maple Ridge, the proportion of parcels being used “Used for farming” increases as the parcel size increases.

Only 8% of parcels that are less than 1 hectare are “Used for farming”.

There are two parcels greater than 64 hectares in Maple Ridge’s ALR. One is “Used for farming” and contains nursery crops while the other is “Not used for farming” and is used for gravel extraction.

Figure 43. Proportion of land cover by parcel size in the ALR



Similar to Figure 42 above, Figure 43 shows that in Maple Ridge, the proportion of farmed land cover generally increases as the parcel size increases.

Over half (53%) of the land cover on parcels less than 1 hectare is Anthropogenic (not farmed).

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 or odour 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 unrealistic for a farmer to acquire and convert this land to farmland in the future.

Average land improvement values of Maple Ridge properties with residences in the ALR were as follows:

- estate single family house \$712,433
- large single family house \$429,880
- medium single family house \$218,850
- small single family house \$128,175
- single mobile home \$92,120

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

In the following analysis cabins/cottages, mobile homes, single-family houses, duplexes, townhouses, apartments, motels, hotels, 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 18. 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	234	16%	28	2%	262
Not used for farming but available	825	56%	150	10%	975
Not used for farming and unavailable	195	13%	41	3%	236
TOTAL	1,254	85%	219	15%	1,473

Table 18 shows 1,254 parcels or 85% of ALR parcels have residences and that 1,020 of these parcels are “Not used for farming”.

Table 19. 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	Other**		
Used for farming	6 (4)	81 (53)	158 (150)	23 (22)	3 (3)	3 (2)	274	234
Not used for farming but available	13 (3)	305 (241)	510 (488)	81 (80)	13 (12)	1 (1)	923	825
Not used for farming and unavailable	-	95 (92)	94 (94)	9 (9)	-	-	198	195
TOTAL RESIDENCES	19	481	762	113	16	4	1,395	
TOTAL PARCELS	7	386	732	111	15	3		1,254

* 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.

** Other includes a duplex, a townhouse, a dormitory, and a motel style residence.

Table 19 demonstrates that there are 1,254 parcels in the ALR with 1,395 residences (some parcels have more than one residence). Most residences are small (<1,500 sq. ft) or medium houses (1,500 – 3,500 sq. ft). Eighty percent of all large (3,500 – 5,000 sq. ft.) and estate houses (>5,000 sq. ft.) are on parcels “Not used for farming”.

Figure 44. Total area in residential footprint by parcel size

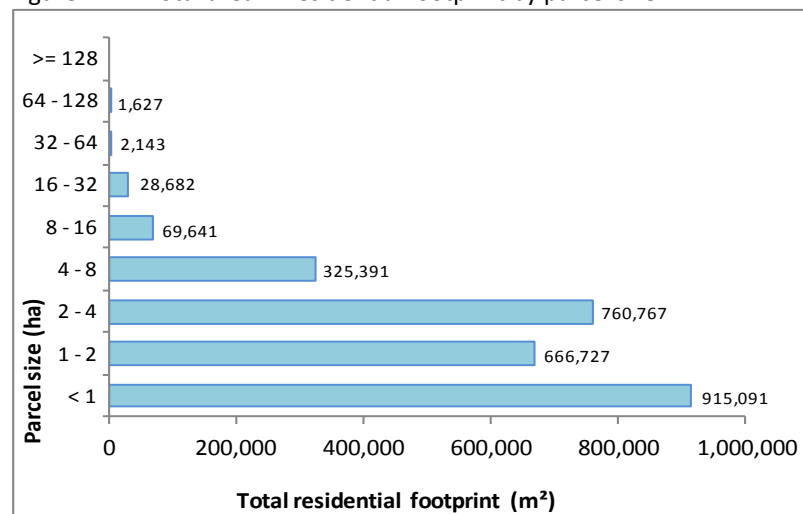


Figure 44 illustrates that there are over 277 hectares (2,770,071 m²) of ALR land in residential footprints distributed across all parcel sizes less than 128 hectares.

Eighty-five percent of the total residential footprint area is on parcels less than 4 hectares in size.

Figure 45. Proportion of parcels with residences by parcel size

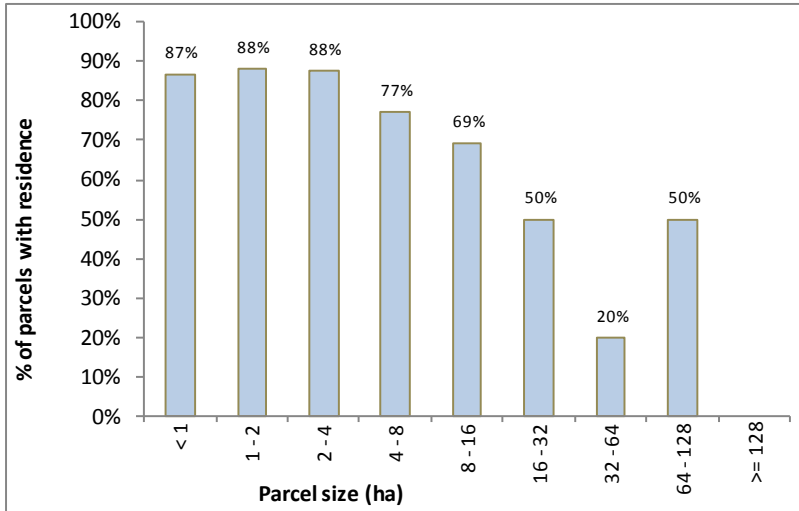


Figure 45 shows that parcels in the ALR and less than 16 hectares have a high proportion of parcels with residences.

Of the 538 parcels in the ALR less than 1 hectare (refer to Figure 38), nearly all (87%) of them have a residence.

Figure 46. Average percent of parcel area in residential footprint by parcel size

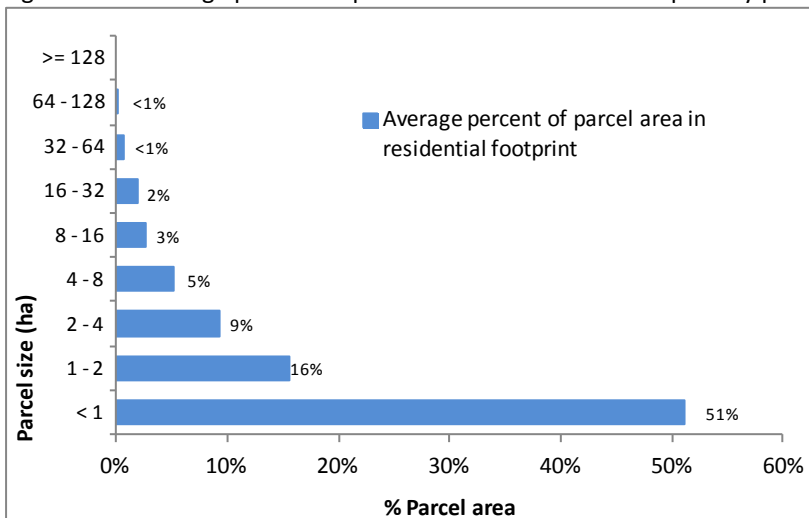


Figure 46 demonstrates that residential footprints on smaller parcels use a much greater proportion of the parcel area than those on larger parcels.

Figure 47. Average total area in residential footprint by parcel size

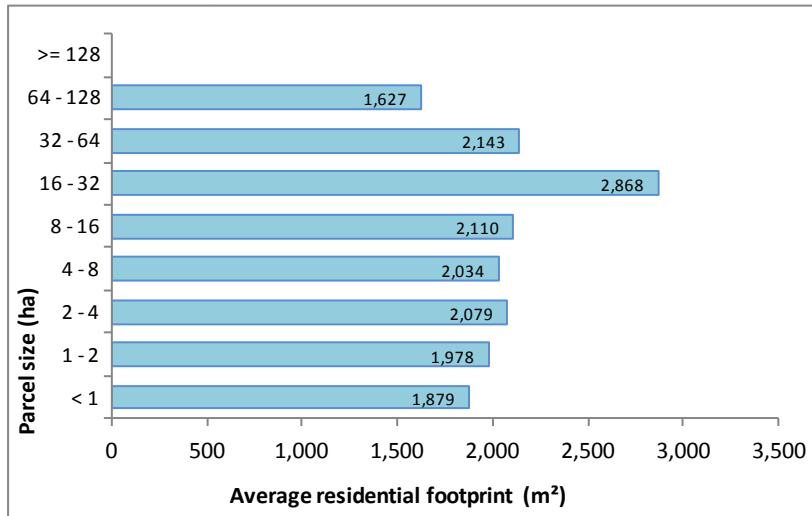
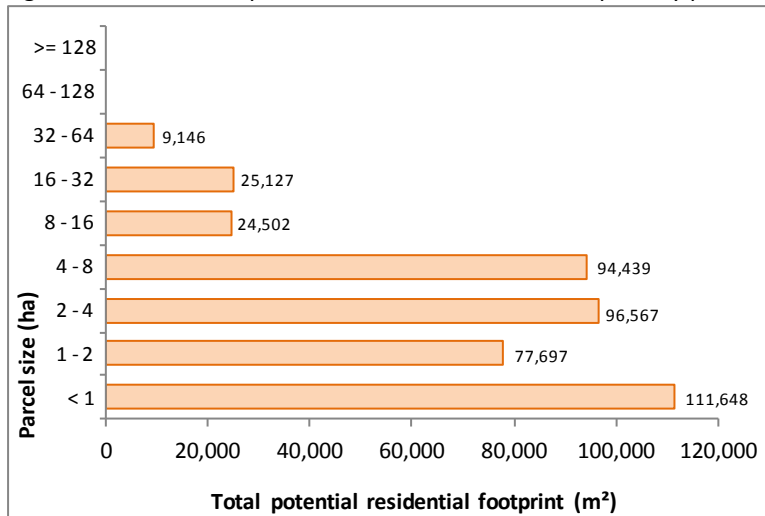


Figure 47 illustrates that even though residential footprints on small parcels use a greater proportion of the parcel area, the average size of the footprint is similar compared to the footprint on larger parcels.

Figure 48. Total and potential area in residential footprint by parcel size



There are 178 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 18).

If all 178 parcels built a residence, using the average percent of parcel area in residential footprint presented above, Figure 48 shows that an additional 44 hectares (439,125 m²) of ALR land would be permanently removed from potential production.

Table 20. Main agriculture 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	Other*	
Equine	2	30	84	8	2	1	127
Livestock	-	9	27	3	1	-	40
Forage & pasture	1	8	17	6	-	-	32
Nursery & tree plantations	-	2	7	3	-	-	12
Berries	1	-	7	1	-	1	10
Vegetables	-	3	1	1	-	-	5
Farm	-	1	2	-	-	-	3
Nut trees	-	-	3	-	-	-	3
Glass greenhouse	-	-	2	-	-	-	2
TOTAL PARCELS	4	53	150	22	3	2	234

*Other includes a dormitory style residence and a townhouse.

There are 234 parcels with residences that are "Used for farming" (refer to Table 19).

Table 20 shows that large or estate houses occur most frequently on parcels with equine, livestock, or forage & pasture activities as the main agricultural activity.

Table 21. Main agriculture activity on "Used for farming" parcels 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)
Equine	10	20	6414 %	3
Forage & pasture	6	13	7065 %	3
Livestock	4	7	4325 %	4
Nursery & tree plantations	3	17	7206 %	8
Berries	1	2	7520 %	2
Vegetables	1	3	7226 %	4
TOTAL	25	62		

Table 21 illustrates that there are 25 parcels with large or estate residences in the ALR that are "Used for farming". Of these parcels, 10 or 40% are associated with equines as the main agricultural activity.

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	Nursery & tree plantations	Berries	Vegetables	Nut trees	Tree fruits	Lavender	
< 1	225	35	9	10	4	1	1	285
1 - 2	110	6	8	2	3	-	-	129
2 - 4	63	5	6	5	-	-	-	79
4 - 8	21	3	2	1	-	-	-	27
8 - 16	3	1	2	-	-	-	-	6
16 - 32	3	-	2	-	-	-	-	5
32 - 64	-	1	-	-	-	-	-	1
64 - 128	-	-	-	-	-	-	-	-
>= 128	-	-	-	-	-	-	-	-
TOTAL FIELD COUNT	425	51	29	18	7	1	1	532
AVERAGE CROP AREA (ha)	2 ha	2 ha	4 ha	1 ha	< 1 ha	< 1 ha	< 1 ha	2 ha
MEDIAN CROP AREA (ha)	< 1 ha	< 1 ha	2 ha	< 1 ha	< 1 ha	< 1 ha	< 1 ha	< 1 ha
AVERAGE PARCEL SIZE (ha)	3 ha	7 ha	6 ha	3 ha	3 ha	8 ha	2 ha	4 ha

Table A2. Distribution of forage & pasture fields

Field size (ha)	Number of forage & pasture fields					Total number
	Forage	Pasture	Forage & pasture	Unmaintained*	Unused**	
< 1	14	208	2	6	1	231
1 - 2	9	96	4	-	-	109
2 - 4	16	47	1	-	-	64
4 - 8	10	11	-	1	-	22
8 - 16	1	2	1	-	-	4
16 - 32	-	2	-	-	-	2
32 - 64	-	-	-	-	-	-
64 - 128	-	-	-	-	-	-
>128	-	-	-	-	-	-
TOTAL FIELD COUNT	50	366	8	7	1	432
AVERAGE CROP AREA (ha)	3 ha	1 ha	2 ha	1 ha	< 1 ha	2 ha
MEDIAN CROP AREA (ha)	3 ha	< 1 ha	1 ha	< 1 ha	< 1 ha	< 1 ha
AVERAGE PARCEL SIZE (ha)	6 ha	5 ha	3 ha	2 ha	< 1 ha	3 ha

* Unmaintained forage/pasture refers to forage or pasture which would probably not warrant harvest.

** Unused forage/pasture 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 nursery & tree plantation fields

Field size (ha)	Number of nursery activities				Number of tree plantation activities				Nursery or tree plantation - unknown	Total number
	Nursery - mixed	Cedar hedging	Ornamentals and shrubs	Nursery total	Tree plantation - unknown	Christmas trees	Fibre/ pulp/ veneer trees	Plantation total		
< 1	12	6	4	22	2	8	1	11	3	36
1 - 2	2	1	1	4	-	2	-	2	-	6
2 - 4	3	-	-	3	2	-	-	2	-	5
4 - 8	2	-	-	2	1	-	-	1	-	3
8 - 16	1	-	-	1	-	-	-	-	-	1
32 - 64	-	-	-	-	1	-	-	1	-	1
32 - 64	-	-	-	-	-	-	-	-	-	-
64 - 128	-	-	-	-	-	-	-	-	-	-
>=128	-	-	-	-	-	-	-	-	-	-
TOTAL FIELD COUNT	20	7	5	32	6	10	1	17	3	52
AVERAGE CROP AREA (ha)	2 ha	< 1 ha	< 1 ha	2 ha	10 ha	< 1 ha	< 1 ha	4 ha	< 1 ha	2 ha
MEDIAN AREA (ha)	< 1 ha	< 1 ha	< 1 ha	< 1 ha	2 ha	< 1 ha	< 1 ha	< 1 ha	< 1 ha	< 1 ha
AVERAGE PARCEL SIZE (ha)	10 ha	2 ha	2 ha	7 ha	16 ha	2 ha	2 ha	8 ha	2 ha	6 ha

Table A4. Distribution of berry fields

Field size (ha)	Number of berry fields		Total number
	Blueberries	Cranberries	
< 1	9	-	9
1 - 2	7	1	8
2 - 4	6	-	6
4 - 8	2	-	2
8 - 16	2	-	2
16 - 32	-	2	2
32 - 64	-	-	-
64 - 128	-	-	-
>128	-	-	-
TOTAL FIELD COUNT	26	3	29
AVERAGE CROP AREA (ha)	2 ha	19 ha	4 ha
MEDIAN CROP AREA (ha)	2 ha	26 ha	2 ha
AVERAGE PARCEL SIZE (ha)	4 ha	23 ha	6 ha

Table A5. Distribution of vegetable fields

Field size (ha)	Number of vegetable fields					Total Number
	Mixed vegetables	Pumpkins	Cucurbits	Asian vegetables	Beans	
< 1	7	-	-	3	1	11
1 - 2	2	-	-	-	-	2
2 - 4	3	2	-	-	-	5
4 - 8	-	-	1	-	-	1
8 - 16	-	-	-	-	-	-
16 - 32	-	-	-	-	-	-
32 - 64	-	-	-	-	-	-
64 - 128	-	-	-	-	-	-
>128	-	-	-	-	-	-
TOTAL FIELD COUNT	12	2	1	3	1	19
AVG. CROP AREA (ha)	1 ha	4 ha	4 ha	< 1 ha	< 1 ha	1 ha
MEDIAN CROP AREA (ha)	< 1 ha	4 ha	4 ha	< 1 ha	< 1 ha	< 1 ha
AVG. PARCEL SIZE (ha)	2 ha	6 ha	4 ha	3 ha	2 ha	3 ha

GREENHOUSES & CROP BARNs

Table A6. Distribution of greenhouses and crop barns by building type²

Greenhouse / crop barn size (ha)	Number of greenhouses / crop barns			Total number
	Glass greenhouse	Poly greenhouse	Crop barn	
< 1	7	39	-	46
1 - 2	1	-	1	2
2 - 4	1	-	-	1
4 - 8	-	1	-	1
8 - 16	-	-	-	-
16 - 32	-	-	-	-
32 - 64	-	-	-	-
64 - 128	-	-	-	-
>128	-	-	-	-
TOTAL COUNT	9	40	1	50
AVERAGE AREA (ha)	< 1 ha	< 1 ha	1 ha	< 1 ha
MEDIAN AREA (ha)	< 1 ha	< 1 ha	1 ha	< 1 ha
AVERAGE PARCEL SIZE (ha)	4 ha	5 ha	8 ha	5 ha

Table A7. Distribution of greenhouses and crop barns by crop type³

Greenhouse / crop barn size (ha)	Number of greenhouses / crop barns						Total number
	Mushroom	Mixed	Nursery	Floriculture	Vegetables	Unknown	
< 1	-	-	15	4	4	14	37
1 - 2	1	2	1	-	-	-	4
2 - 4	-	-	-	-	-	-	-
4 - 8	-	1	-	-	-	-	1
8 - 16	-	-	-	-	-	-	-
16 - 32	-	-	-	-	-	-	-
32 - 64	-	-	-	-	-	-	-
64 - 128	-	-	-	-	-	-	-
>128	-	-	-	-	-	-	-
TOTAL COUNT	1	3	16	4	4	14	42
AVERAGE AREA (ha)	1 ha	3 ha	< 1 ha	< 1 ha	< 1 ha	< 1 ha	< 1 ha
MEDIAN AREA (ha)	1 ha	2 ha	< 1 ha	< 1 ha	< 1 ha	< 1 ha	< 1 ha
AVERAGE PARCEL SIZE (ha)	8 ha	15 ha	8 ha	2 ha	3 ha	2 ha	5 ha

² The average area and median area reported in this table excludes external greenhouse yards, parking, warehouses and other infrastructure related to the greenhouse operation.

³ Each distinct greenhouse type on one parcel is counted as one greenhouse activity. Each greenhouse activity will include at least one and perhaps more greenhouse structures. A parcel may have more than one greenhouse activity if there is more than one distinct type of greenhouse on that parcel.

LIVESTOCK

Table A8. 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	Specialty livestock	Unknown livestock	Equine	
< 1	1	-	16	1	4	1	2	8	70	103
1 - 2	4	-	13	-	6	6	-	8	75	112
2 - 4	13	1	19	-	6	5	1	17	112	174
4 - 8	7	1	6	-	4	2	1	4	42	67
8 - 16	3	1	2	-	1	-	1	2	7	17
16 - 32	-	2	1	-	-	-	-	-	2	5
32 - 64	-	-	-	-	-	-	-	-	-	-
64 - 128	-	-	-	-	-	-	-	-	-	-
>= 128	-	-	-	-	-	-	-	-	-	-
TOTAL NUMBER OF ACTIVITIES	28	5	57	1	21	14	5	39	308	478
MEDIAN PARCEL SIZE (ha)	3 ha	8 ha	2 ha	1 ha	2 ha	2 ha	2 ha	2 ha	2 ha	2 ha
AVERAGE PARCEL SIZE (ha)	4 ha	13 ha	3 ha	1 ha	3 ha	2 ha	5 ha	3 ha	3 ha	3 ha

Table A9. Beef activities

Scale of beef activity	Type	By parcel		Total number of activities	By activity type	
		Main type	Secondary type		Intensive	Non Intensive
Very small scale (1 cow)	-	4	-	4	-	4
Small scale (2-25 cattle)	-	17	1	18	-	18
	Cow / calf	5	-	5	-	5
Large scale (> 100 cattle)	Finishing	1	-	1	1	-
TOTAL		27	1	28	1	27

"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 A10. 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	-	4	-	-	4
2 - 4	2	11	-	-	13
4 - 8	2	4	-	1	7
8 - 16	-	3	-	-	3
16 - 32	-	-	-	-	-
32 - 64	-	-	-	-	-
64 - 128	-	-	-	-	-
>= 128	-	-	-	-	-
TOTAL NUMBER OF ACTIVITIES	4	23	-	1	28
AVERAGE PARCEL SIZE (ha)	3 ha	4 ha	-	6 ha	4 ha

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

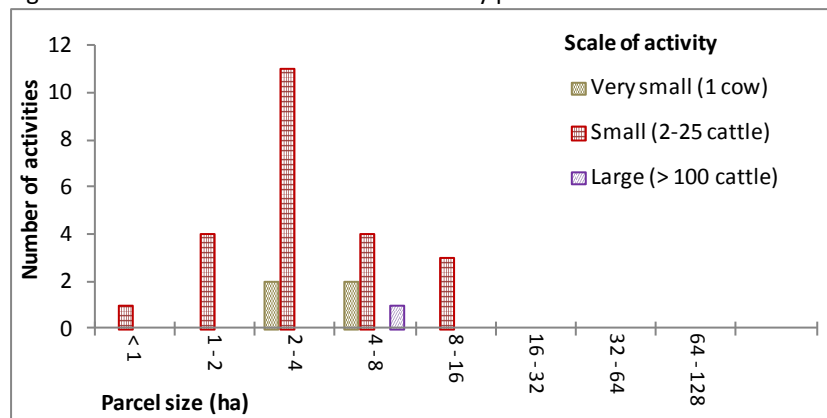
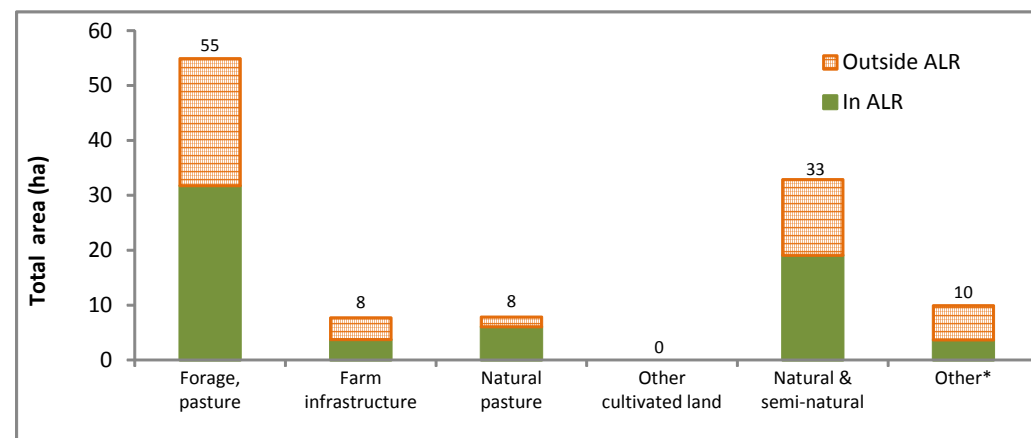


Figure A2. Land cover on parcels with beef activities



* 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 A11. Dairy activities

Scale of dairy activity	By parcel		Total number of activities	By activity type	
	Main type	Secondary type		Intensive	Non intensive
Very small scale (1 cow)	1	1	2	-	2
Medium scale (25 -100 cattle)	1	-	1	1	-
Large scale (> 100 cattle)	2	-	2	2	-
TOTAL	4	1	5	3	2

"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 A12. 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	1	-	-	-	1
4 - 8	1	-	-	-	1
8 - 16	-	-	-	1	1
16 - 32	-	-	1	1	2
32 - 64	-	-	-	-	-
64 - 128	-	-	-	-	-
>= 128	-	-	-	-	-
TOTAL NUMBER OF ACTIVITIES	2	-	1	2	5
AVERAGE PARCEL SIZE (ha)	4 ha	-	26 ha	15 ha	13 ha

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

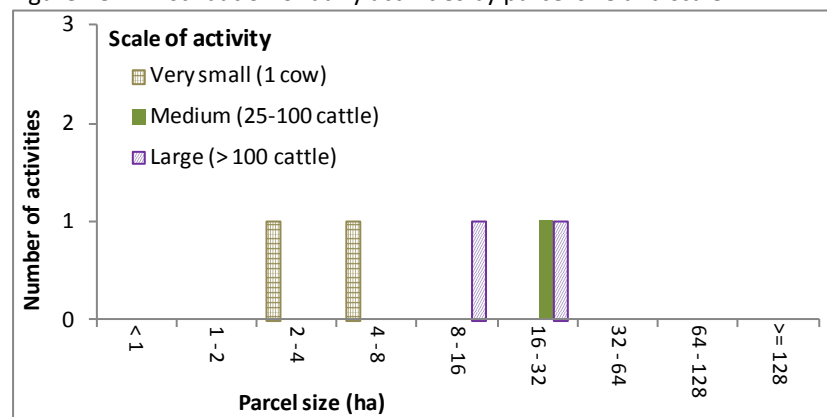
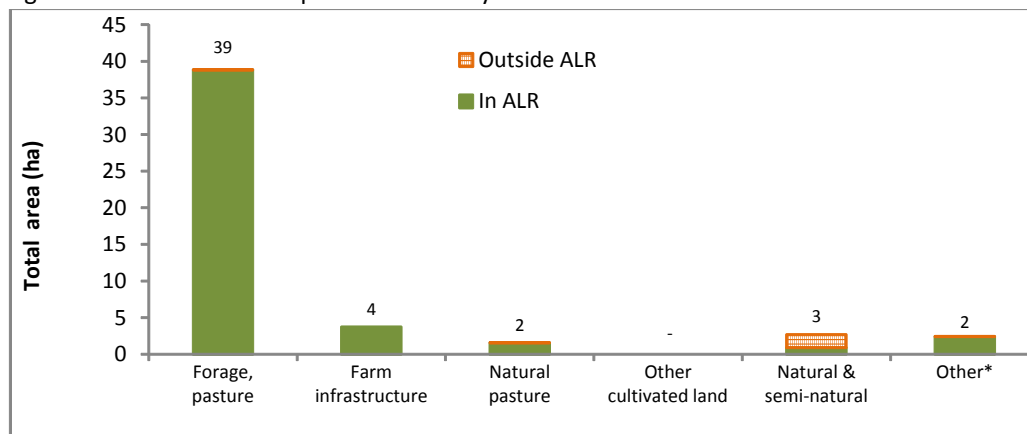


Figure A4. Land cover on parcels with dairy activities



* 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 A13. 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)	24	20	44	-	44
Chicken	Medium scale (2,500 - 10,000 birds)	1	-	1	1	-
Chicken (broiler)	Medium scale (2,500 - 10,000 birds)	2	-	2	2	-
Chicken	Large scale (> 10,000 birds)	1	-	1	1	-
Duck	Very small scale (< 50 birds)	2	-	2	-	2
Goose	Very small scale (< 50 birds)	2	2	4	-	4
Turkey	Very small scale (< 50 birds)	-	1	1	-	1
Turkey	Medium scale (1,250 - 5,000 birds)	1	-	1	1	-
Turkey	Large scale (< 5,000 birds)	1	-	1	1	-
TOTAL		34	23	57	6	51

"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 A14. 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	16	-	-	-	16
1 - 2	12	-	1	-	13
2 - 4	17	-	1	1	19
4 - 8	4	-	1	1	6
8 - 16	1	-	1	-	2
16 - 32	1	-	-	-	1
32 - 64	-	-	-	-	-
64 - 128	-	-	-	-	-
>= 128	-	-	-	-	-
TOTAL NUMBER OF ACTIVITIES	51	-	4	2	57
AVERAGE PARCEL SIZE (ha)	3 ha	-	3 ha	2 ha	3 ha

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

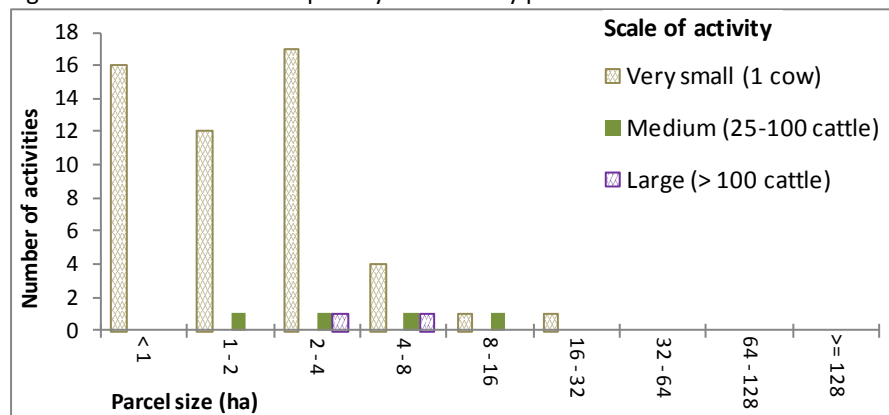
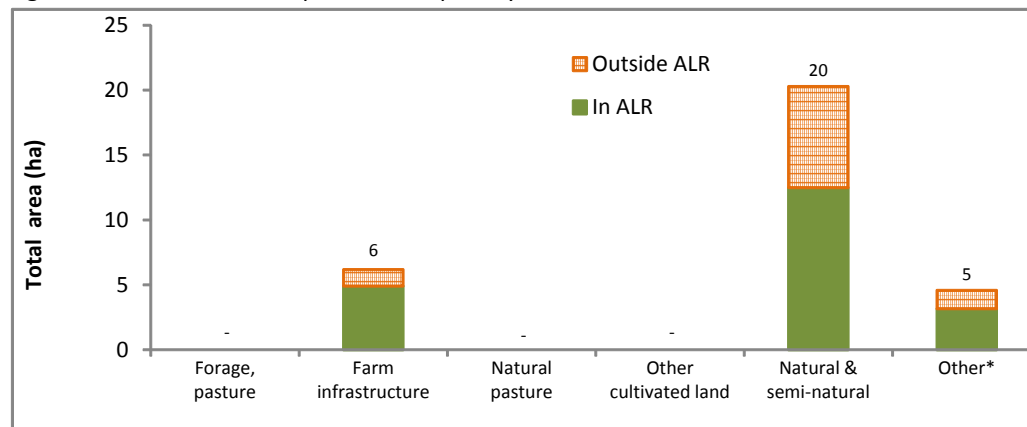


Figure A6. Land cover on parcels with poultry activities



* 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 A15. Equine activities

Type of activity	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)	92	3	95	-	95
	Small scale (2-25 horses)	201	-	201	-	201
Boarding	Small scale (2-25 horses)	6	-	6	-	6
	Medium scale (2-25 horses)	1	-	1	-	1
Boarding	Medium scale (2-25 horses)	4	-	4	-	4
Companion Boarding	Medium scale (2-25 horses)	1	-	1	-	1
TOTAL	TOTAL	305	3	308	-	308

"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 A16. 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	31	39	-	-	70
1 - 2	24	51	-	-	75
2 - 4	29	82	1	-	112
4 - 8	10	28	4	-	42
8 - 16	1	6	-	-	7
16 - 32	-	1	1	-	2
32 - 64	-	-	-	-	-
64 - 128	-	-	-	-	-
>= 128	-	-	-	-	-
TOTAL NUMBER OF ACTIVITIES	95	207	6	-	308
AVERAGE PARCEL SIZE (ha)	2 ha	3 ha	10 ha	-	3 ha

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

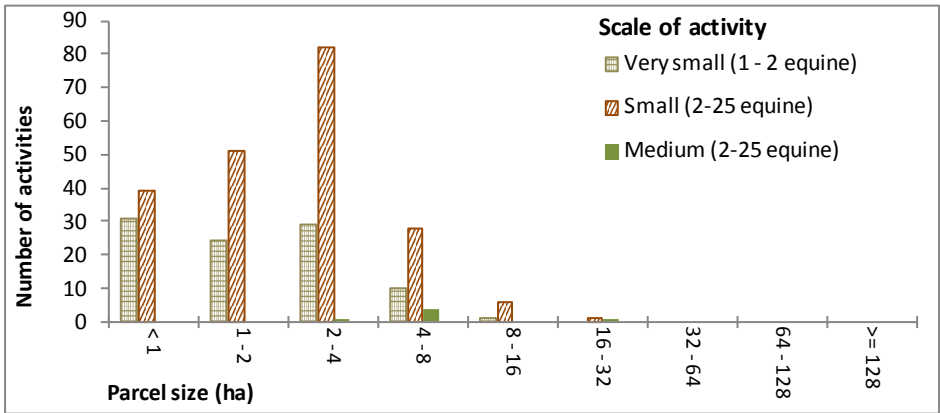
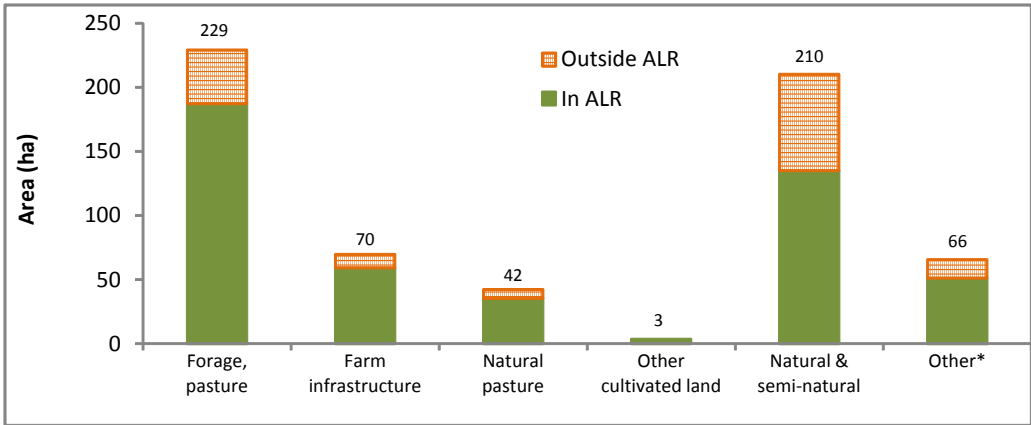


Figure A8. Land cover on parcels with equine activities



* 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 A17. Value added activities

Value added	Description	Scale of activity			Total number of activities	Average parcel size (ha)
		Small scale	Medium scale	Large scale		
Direct sales	Permanent retail store	1	1	1	3	3
Direct sales	Seasonal store (stand)	17	1	-	18	5
Direct sales	U-pick	1	-	-	1	1
Processing	Dairy processing	-	1	-	1	5
TOTAL NUMBER OF ACTIVITIES		19	3	1	23	14

Table A18. Distribution of value added activities by parcel size

Parcel size (ha)	Direct Sales			Processing	Total number of activities
	Permanent retail store	Seasonal store (stand)	U-pick	Dairy processing	
< 1	-	3	-	-	3
1 - 2	1	3	1	-	5
2 - 4	1	6	-	-	7
4 - 8	1	3	-	1	5
8 - 16	-	2	-	-	2
16 - 32	-	1	-	-	1
32 - 64	-	-	-	-	-
64 - 128	-	-	-	-	-
>= 128	-	-	-	-	-
TOTAL NUMBER OF ACTIVITIES	3	18	1	1	23
AVERAGE PARCEL SIZE (ha)	3 ha	5 ha	1 ha	5 ha	4 ha

Table A19. Distribution of direct sales by parcel size and scale

Parcel size (ha)	Permanent retail store			Seasonal store (stand)		U-pick	Total number of activities
	Small scale	Medium scale	Large scale	Small scale	Medium scale	Small scale	
< 1	-	-	-	3	-	-	3
1 - 2	-	-	1	2	1	1	5
2 - 4	1	-	-	6	-	-	7
4 - 8	-	1	-	3	-	-	4
8 - 16	-	-	-	2	-	-	2
16 - 32	-	-	-	1	-	-	1
32 - 64	-	-	-	-	-	-	-
64 - 128	-	-	-	-	-	-	-
>= 128	-	-	-	-	-	-	-
TOTAL NUMBER OF ACTIVITIES	1	1	1	17	1	1	22
AVERAGE PARCEL SIZE (ha)	2 ha	5 ha	1 ha	5 ha	2 ha	1 ha	4 ha

Table A20. Distribution of processing by parcel size and scale

Parcel size (ha)	Dairy processing	Total number of activities
	Small scale	
< 1	-	-
1 - 2	-	-
2 - 4	-	-
4 - 8	1	1
8 - 16	-	-
16 - 32	-	-
32 - 64	-	-
64 - 128	-	-
>= 128	-	-
TOTAL NUMBER OF ACTIVITIES	1	1
AVERAGE PARCEL SIZE (ha)	5 ha	5 ha

Appendix B - Maps