

Growing Knowledge



Ministry of
Agriculture

Land Use Inventory Report

Reference Number: 800.510-73.2013

Greater Terrace - Summer 2012 -



Photo Credit: J. Mundy, Ministry of Agriculture.

**Strengthening Farming Program
Sustainable Agriculture Management Branch
Ministry of Agriculture**

March 20, 2013

Acknowledgments

The Ministry of Agriculture would like to acknowledge and thank the City of Terrace for their tremendous support which made this inventory possible. The City of Terrace initiated the project and contributed the funds necessary to undertake the survey. City of Terrace funds were used to hire a GIS technician to prepare the survey maps and to assist with the field survey.

The Ministry of Agriculture would also like to thank the Regional District of Kitimat Stikine and Dr. Lynda Gagné of University of Victoria for their support in organizing and preparing for the survey.

Contact Information

For further information on the content and development of this report please contact:

Ministry of Agriculture
Sustainable Agriculture Management Branch
1767 Angus Campbell Rd.
Abbotsford, BC V3G 2M3
(604) 556-3001 or 1-888-221-7141 (toll free)

Table of Contents

Acknowledgments.....	i
Contact Information.....	i
Table of Contents.....	ii
List of Tables	iii
List of Figures	iv
List of Tables – Appendix A	v
List of Figures – Appendix A.....	v
List of Maps – Appendix B.....	vi
Acronyms	vii
Definitions.....	viii
Executive Summary.....	1
Agrologist Comments.....	4
General Information	5
Agricultural Land Reserve.....	6
Inventory Area	7
Parcel Ownership	8
Agricultural Land Use Inventory	9
Inventory Methodology.....	9
Description of the Data	10
Presentation of the Data	11
Determination of Parcels within the ALR	12
1. Land Cover and Farmed Area	13
2. Land Use and Farm Use	16
3. Availability of Land for Farming.....	19
Characteristics of Not Farmed but Available ALR Lands	22
4. Farming Activities.....	25
Cultivated Field Crops.....	25
Natural Pasture & Rangeland	31
Greenhouses.....	32
Irrigation	33
Livestock.....	34
On-Farm Value-Added.....	40
5. Condition of ALR Lands	42
Parcel Inclusion in the ALR	42
Parcel Size & Farming in the ALR.....	43
Residential Use In the ALR.....	47
Appendix A.....	51
Appendix B - Maps	60

List of Tables

Table 1.	Land cover and farmed area	14
Table 2.	Land use and farming use by parcel	17
Table 3.	Parcel use and land cover in the ALR	18
Table 4.	Status of the land base with respect to farming.....	20
Table 5.	Land use and cover on parcels "Used for farming" with land available for farming but not farmed ...	22
Table 6.	Land use and cover on parcels "Not used for farming" with land available for farming	23
Table 7.	Main field crop types by area	25
Table 8.	Forage & pasture crops by area	27
Table 9.	Vegetable crops by area	29
Table 10.	Individual crop types by area	30
Table 11.	Natural pasture vegetation types by area	31
Table 12.	Greenhouses by area	32
Table 13.	Individual field crop types and irrigation	33
Table 14.	Livestock activities	35
Table 15.	Number of parcels "Used for farming" with value-added activities.....	41
Table 16.	Number of farmed and not farmed parcels in the ALR - Privately owned	44
Table 17.	Number of farmed and not farmed parcels in the ALR - Crown owned	46
Table 18.	Farming and residences in the ALR	48
Table 19.	Farming and residence type in the ALR	48
Table 20.	Main agriculture activity and largest residence on parcels "Used for farming" in the ALR - Privately owned	50

List of Figures

Figure 1.	General location map.....	5
Figure 2.	Agricultural Land Reserve location map	6
Figure 3.	Inventory area and Agricultural Land Reserve location map.....	7
Figure 4.	Inventory area and parcel ownership	8
Figure 5.	Parcel inclusion in the ALR	12
Figure 6.	Land cover and farmed area in the ALR.....	15
Figure 7.	Availability and potential of ALR lands for farming	21
Figure 8.	Land cover available for farming but not farmed on ALR parcels “Used for farming”	22
Figure 9.	Land cover available for farming but not farmed on ALR parcels “Not used for farming”	24
Figure 10.	Size of areas available for farming but not farmed on parcels “Not used for farming” - Privately owned	24
Figure 11.	Main field crop types by percentage	26
Figure 12.	All cultivated field crops by field size.....	26
Figure 13.	Forage & pasture and vegetable fields by size	26
Figure 14.	Forage & pasture fields by size	28
Figure 15.	Forage & pasture fields by size and type	28
Figure 16.	Mixed vegetable and potato fields by size	29
Figure 17.	Individual crop types by area	30
Figure 18.	Natural pasture areas by size.....	31
Figure 19.	Livestock activities (excluding equine) by scale and type.....	35
Figure 20.	Livestock and equine activities by scale	36
Figure 21.	Livestock activities (excluding equine) by parcel size and scale	36
Figure 22.	Livestock activities (excluding equine) by parcel size and type	37
Figure 23.	Livestock and equine activities by parcel size.....	37
Figure 24.	Average area in forage, pasture, farm infrastructure, and natural pasture on parcels with livestock activities (excluding very small scale)	38
Figure 25.	Total area in forage, pasture, and farm infrastructure on parcels with livestock activities (excluding very small scale)	38
Figure 26.	Percent of parcel area utilized for forage, pasture, and farm infrastructure on parcels with livestock activities (excluding very small scale)	38
Figure 27.	Land cover on parcels with livestock activities (excluding very small scale)	39
Figure 28.	Land cover on parcels with livestock activities (excluding very small scale and excluding equine).....	39
Figure 29.	Percentage of parcels “Used for farming” and with value-added activities.....	41
Figure 30.	Parcel inclusion in the ALR	42
Figure 31.	Number of parcels in the ALR by parcel size - Privately owned	43
Figure 32.	Total area in the ALR by parcel size - Privately owned	43
Figure 33.	Number of farmed and not farmed parcels in the ALR by parcel size -Privately owned.....	44
Figure 34.	Proportion of parcels farmed and not farmed by parcel size in the ALR - Privately owned	44
Figure 35.	Proportion of land cover by parcel size in the ALR	45
Figure 36.	Number of parcels in the ALR by parcel size - Crown owned	46
Figure 37.	Total area in the ALR by parcel size - Crown owned.....	46
Figure 38.	Total area in residential footprint by parcel size - Privately owned	48
Figure 39.	Proportion of parcels with residences by parcel size - Privately owned	49
Figure 40.	Average percent of parcel area in residential footprint by parcel size - Privately owned	49
Figure 41.	Average total area in residential footprint by parcel size - Privately owned	49
Figure 42.	Total and potential area in residential footprint by parcel size - Privately owned	50

List of Tables – Appendix A

Table A1.	Distribution of crop field sizes for all cultivated land	51
Table A2.	Distribution of forage & pasture fields	51
Table A3.	Distribution of vegetable field sizes.....	52
Table A4.	Distribution of natural pasture areas.....	52
Table A5.	Distribution of greenhouses and crop barns by building type	53
Table A6.	Distribution of livestock operations by type.....	54
Table A7.	Beef activities	54
Table A8.	Distribution of beef activities by parcel size and scale	55
Table A9.	Poultry activities	56
Table A10.	Distribution of poultry activities by parcel size and scale.....	56
Table A11.	Sheep / lamb / goat activities	57
Table A12.	Distribution of sheep / lamb / goat activities by parcel size and scale.....	57
Table A13.	Equine activities	58
Table A14.	Distribution of equine activities by parcel size and scale	59

List of Figures – Appendix A

Figure A1.	Distribution of beef activities by parcel size and scale	55
Figure A2.	Land cover on parcels with beef activities.....	55
Figure A3.	Distribution of poultry activities by parcel size and scale.....	56
Figure A4.	Land cover on parcels with poultry activities	57
Figure A5.	Distribution of sheep / lamb / goat activities by parcel size and scale.....	58
Figure A6.	Land cover on parcels with sheep / lamb / goat activities	58
Figure A7.	Distribution of equine activities by parcel size and scale	59
Figure A8.	Land cover on parcels with equine activities	59

List of Maps – Appendix B

- Map B1. Land cover and farmed area
- Map B2. Land cover and farmed area - detail
- Map B3. Land use and farming use by parcel
- Map B4. Land use and farming use by parcel - detail
- Map B5. Status of land base with respect to farming
- Map B6. Land not farmed but available and with potential for farming
- Map B7. Cultivated field crops
- Map B8. Forage and pasture crops
- Map B9. Natural pasture
- Map B10. Livestock activities – all types including Equines
- Map B11. Livestock activities - detail
- Map B12. Equine activities
- Map B13. Parcel size in the ALR

Acronyms

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

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, 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 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% cover is native trees and at least 20% 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 40% parcel area in cultivated field crops (excluding unused forage or pasture)
- at least 40% parcel area built up with farm infrastructure
- at least 25% parcel area built up with crop cover structures (excluding unmaintained structures)
- at least 30% parcel area in cultivated field crops (excluding unused forage or pasture) or farm infrastructure and small scale livestock, apiculture or aquaculture operations
- at least 23% parcel area in cultivated field crops (excluding unused forage or pasture) and at least 45% 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 30% parcel area in cultivated field crops (excluding unused forage or pasture) or farm infrastructure
- at least 15% parcel area and at least 15 ha in cultivated field crops (excluding unused forage or pasture)
- at least 20% parcel area and at least 10 ha in cultivated field crops (excluding unused forage or pasture)
- at least 25% 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)
- at least 20% parcel area in cultivated field crops (excluding unused forage or pasture) or farm infrastructure and farm classification for tax assessment
- at least 5 ha in cultivated field crops (excluding unused forage or pasture) or farm infrastructure and farm classification for tax assessment

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 2012, the BC Ministry of Agriculture (AGRI) conducted an Agricultural Land Use Inventory (ALUI) in the Greater Terrace region. The region includes the City of Terrace and surrounding Regional District of Kitimat Stikine (RDKS) areas along the Skeena River and up the Nass Valley. Agricultural issues are co-managed in the Greater Terrace region by City of Terrace and RDKS. The ALUI was funded in part by City of Terrace and was completed with in-kind support from the RDKS.

ALUIs can be used to understand which agricultural activities are occurring in the surveyed area. Analysis of the data can be used to determine the capacity for agricultural expansion, and the amount of land within the Agricultural Land Reserve (ALR) that is not available for agriculture.

The ALUI for Greater Terrace was conducted using a drive-by inventory that recorded land cover and land use on a per-parcel basis, as a “snapshot in time.” Parcel ownership, size, zoning, and ALR status were used as criteria to determine parcel inventory eligibility. Crown owned land was excluded from the inventory unless it met specific criteria as Crown owned land has a low probability of being farmed. Criteria for parcel selection differed within and outside City of Terrace municipal boundaries.

Within the City of Terrace, included are parcels: i) within the ALR or ii) outside the ALR but zoned to permit agriculture. Outside City of Terrace/in RDKS, included are parcels: i) with private ownership and a parcel size greater than 1 acre or ii) with Crown ownership and a) zoned to permit agriculture, or b) with an agriculture lease/license, or c) Indian reserve status.

The ALR in Greater Terrace consists of 14,933 ha. Thirty-six percent (36%) of the ALR was inventoried, consisting of a total of 5,441 ha and 593 parcels. The remaining 9,492 ha was in Crown owned parcels (5,341 ha), unsurveyed Crown land (2,568 ha), road rights of ways (773 ha), tree farm licences (446 ha), water and foreshore (340 ha), or parcels less than 1 acre in size (24 ha). Inventoried land outside the ALR totaled 10,048 ha.

The total inventory area in Greater Terrace consists of 15,489 ha on 1,816 parcels. This includes 13,501 ha on 1,754 privately owned parcels and 1,988 ha on 62 Crown owned parcels that meet the above criteria.

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, but was assigned up to two land uses. These two methods of data collection allowed different forms of analysis.

In terms of land cover in the inventory area, a total of 536 ha (3%) was farmed, 1,206 ha was anthropogenically modified (8%), and 13,693 ha was in a natural or semi-natural state (88%). Farmed land cover types included cultivated field crops, farm buildings and structures, and greenhouses. See Table 1 and Maps B1 and B2 for more details. It is important to note that some anthropogenically modified land covers may support farming, e.g. farm residences, vegetative buffers, and farm roads, but were not defined as “farmed” land covers for the purpose of this part of the analysis.

In terms of land use, the entire parcel was examined, and a “Used for farming” definition was applied, based on the percentage and/or scale of the parcel in cultivated crops, farm infrastructure, and/or certain scales of livestock production. For a more detailed definition of “Used for farming” see the Definitions

section. In terms of the inventory area land use, 1,196 ha (8%) was defined as “Used for farming,” and 14,293 ha (92%) was defined as “Not used for farming”. In this analysis, farm residential uses and farm roads, were included in the “Used for farming” subtotal (along with the other the mixed uses transportation and utilities). See Table 2 and Maps B3 and B4 for details.

A third way to analyze the data is to analyze how much land is available for farming and how much of that has the potential to be farmed. The characteristics of these two types of land are also examined. This involved looking at both land covers and land use. Land may be unavailable for farming because of existing land use (e.g. parks, golf courses) or may have limited potential for farming because of physical limitations (e.g. steep slopes).

Of the 14,933 ha in Greater Terrace’s ALR, 9,492 ha (64%) was not surveyed, but is not available to be farmed or has little potential to be farmed (e.g. Crown owned land, unsurveyed land, road rights of way, etc.). A further 274 ha (2%) was considered to be unavailable for farming due to existing land use or land cover (e.g. roads, golf courses, or waterbodies). Added to that was the 7 ha (<1%) of the ALR that is used in farm support (e.g. farmhouse residential footprint and transportation such as farm roads). A further 1,033 ha (7%) was defined as having limited potential for farming due to site limitations (e.g. topography, drainage limitations). That left 379 ha (3%) of the ALR that was actively farmed, and 3,748 ha (25%) of the ALR that was available for farming. Of that 25%, 342 ha occurred on parcels that are already “Used for farming” and 3,406 ha occurred on parcels not “Used for farming.” See Table 4, Figure 7 and Maps B5 and B6 for details. Of the available 3,748 ha, only 3,183 ha are privately owned.

On parcels “Not used for farming” the largest gains for bringing more land into active agricultural production would come from clearing land with natural and semi-natural vegetation (3,302 ha). See Figure 9 for more details.

In terms of farming activities, cultivated field crops and natural pasture were examined in detail. Less than 1 percent of the inventory area, or 554 ha of was in cultivated crops. Forage & pasture crops comprised 99% of all cultivated land with 549 ha, and vegetable fields comprised 1% with 4 ha. Eighty-eight (88) ha of natural pasture for grazing livestock were recorded. Few greenhouses (less than 1 ha) and little irrigation (less than 1 ha) was recorded in Greater Terrace. See Table 7, Table 11 and Maps B7 to B9 for more information.

Livestock activities were also recorded, but are 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. The Greater Terrace inventory results found equines to be the most common type of livestock activity (with 94 out of 123 activities), followed by poultry (10 out of 123 activities) and beef (9 out 123 activities). There was 1 intensive livestock operation (poultry) in Greater Terrace. 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 the Definitions section, Table 14 and Maps B10 to B12 for more information.

On-farm value added activities were only observed on 1% of all parcels “Used for farming.” These included: 2 parcels with seasonal stands and 1 parcel with seasonal events. See Figure 30 for more information.

In terms of condition of ALR lands, further analysis was conducted on 768 parcels with 10,904 ha or 73% of Greater Terrace’s ALR land (of these, only 448 parcels with 5,269 ha were inventoried). This analysis found that while 33% of the privately owned ALR parcels are less than 1 ha size, they make up

only 1% of the total area. Most of Greater Terrace's ALR (both private and Crown owned) is in larger parcels. See Figures 32, 33, 38, and 39 for more information.

Residential uses occurred on 266 privately owned ALR parcels, and 217 of those parcels were "Not used for farming." Houses greater than 3,500 sq. ft. in size were found on 13 parcels and 11 of those parcels were "Not used for farming." See Tables 17 and 18 for more information.

In the late 1800's pioneers arrived by riverboat to the area that would become Terrace, B.C. They came for mining and cedar poles. To support this influx of people, food had to be grown and raised. Agriculture took root in the fertile soil of the Skeena River Valley. Land was often acquired by pre-emption and homesteading claims. The main crops grown were vegetables and small fruits. The strawberries from Terrace became famous and were shipped from Prince Rupert to Montreal. In the early 1900's a variety of strawberry was developed that was known as the 'Skeena Wonder'. The berries were so large they barely fit in an egg cup. Terrace turnips were also prized and were known for their high flavour and fine white colour. The area became known as the 'Fruit Basket of the Northwest'.

For many years Terrace had a very strong forestry economy that drew more workers and families to the area. Local agriculture producers responded to the growing market and increased production to supply many of the local stores. Dairy, beef, and poultry operations were added to the existing crop production. Fall fairs began around 1915 and flourished with amazing displays of fruits and vegetables. The Grand Trunk Pacific Railway was constructed between 1908 and 1914. The railway allowed some products to be exported, but also allowed produce to be imported. In the late 1940's Highway 16 was opened to Terrace. The highway allowed easier access for freight to move into the Terrace area. Over the next few decades, Terrace flourished and the population grew. Agricultural production did increase but imports supplied most of the new demand.

With the down turn of the forest economy in the early 1980's, and again in the 1990's, many jobs were lost. Small farms that were supported by these jobs were sold and no longer farmed. Not all agricultural production was lost at this time. In the early 1980's the Skeena Valley Farmers Market took hold. It started with just twelve vendors but today it has over seventy. The market draws people from all over the region and has a very strong community spirit and support from people who want to buy locally grown food.

The climate conditions of Terrace are very favourable for crop growth. The wet winter months fill the soil storage which removes the need to irrigate early in the growing season. In Terrace, the growing season receives an average of 220 mm of precipitation. Less than half of this rainfall is effective precipitation and enters the soil. This leaves a moisture deficit of 300 mm, which is the amount that should be supplied by irrigation. The relatively high latitude of Terrace gives the region long summer days, a high number of sunshine hours, and a high peak evapotranspiration. Terrace's evapotranspiration is even greater than Kelowna's. This is interesting as Kelowna has a higher overall irrigation demand for the growing season. This means that there are adequate heat units to grow a wide variety of crops in Greater Terrace. Shallow rooted crops such as vegetables and grass may require irrigation.

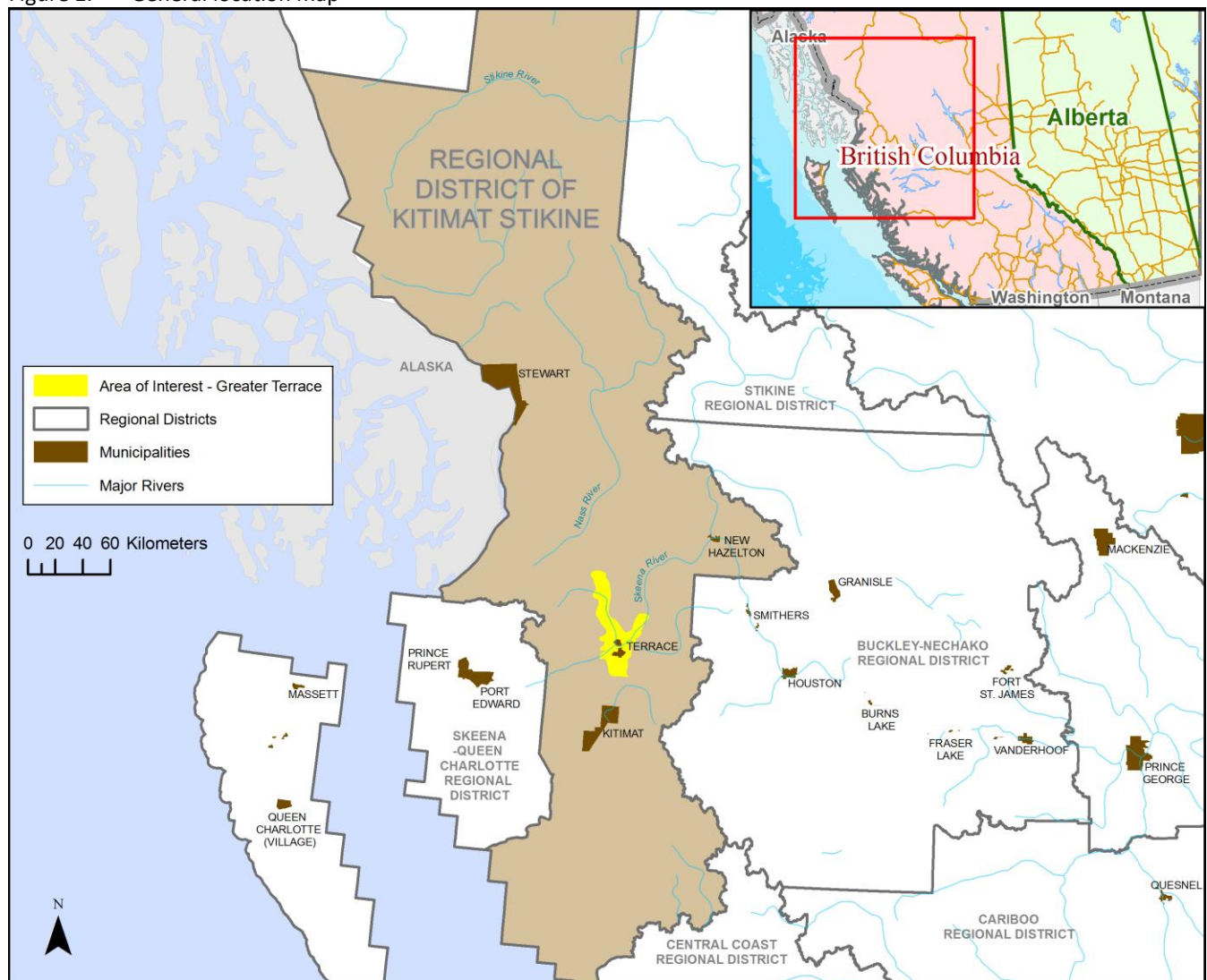
The Greater Terrace has the potential for a much larger agricultural economy. The land base is available, the climate conditions are good, and historic production proves agriculture is possible. This Agricultural Land Use Inventory is a good start to better understanding the current agricultural production (2012) and the potential for expansion.

General Information

The Greater Terrace region is located in the Skeena River Valley in Northwestern BC. The region includes the City of Terrace and surrounding Regional District of Kitimat Stikine (RDKS) areas along the Skeena River and up the Nass Valley. The area of interest boundary connects the highest points of elevation surrounding the City of Terrace and the adjacent community nodes. Greater Terrace has a total area (including water) of 122,238¹.

The majority of the level terrain in RDKS is found in the Kitimat-Terrace Valley, along the Skeena River, and in the Nass Valley. Greater Terrace has a moderate climate due to its proximity to the ocean, low altitude, and the shelter provided by the Coast Mountains. The City of Terrace and RDKS co-manage agricultural zoning in the Greater Terrace region.

Figure 1. General location map



¹ Calculated in GIS

AGRICULTURAL LAND RESERVE

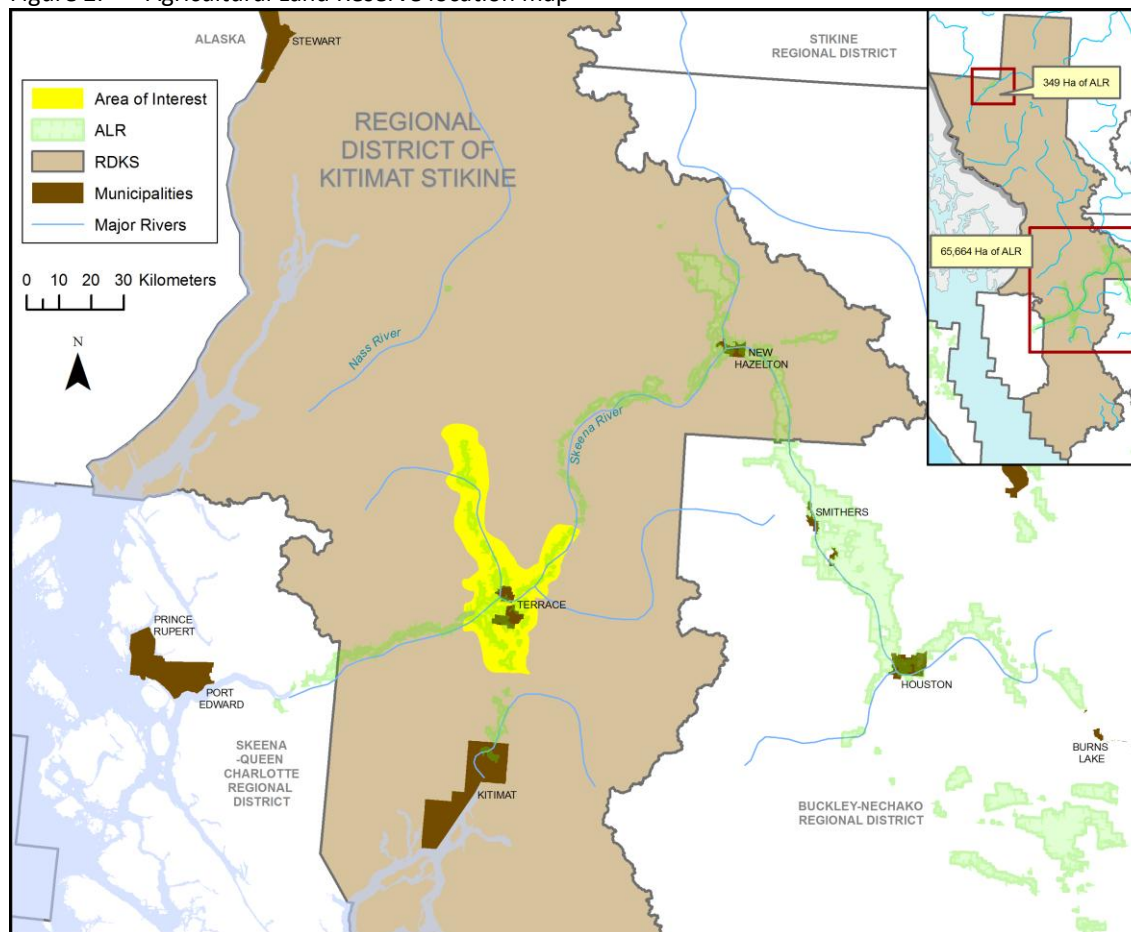
The Agricultural Land Reserve (ALR) is a provincial land use zone that was designated in 1973 in which agriculture is recognized as the priority use. Within the ALR, farming is encouraged and non-agricultural uses are controlled.

There are 66,013 hectares² of ALR land within the Regional District of Kitimat Stikine (RDKS) as shown in Figure 2; 14,933 hectares³ or nearly 23% is within Greater Terrace.

The land area of Greater Terrace is 115,086 hectares⁴. With 14,933 hectares³ in the ALR, 13% of Greater Terrace's land area is in the ALR. This area includes:

- 5,441 hectares of inventoried parcels
- 9,492 hectares outside inventoried parcels
 - 5,341 hectares of Crown owned parcels
 - 2,568 hectares of unsurveyed Crown land
 - 773 hectares of designated rights-of-way
 - 446 hectares of privately owned tree farm licences
 - 340 hectares of water and foreshore
 - 24 hectares of parcels less than 1 acre

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.

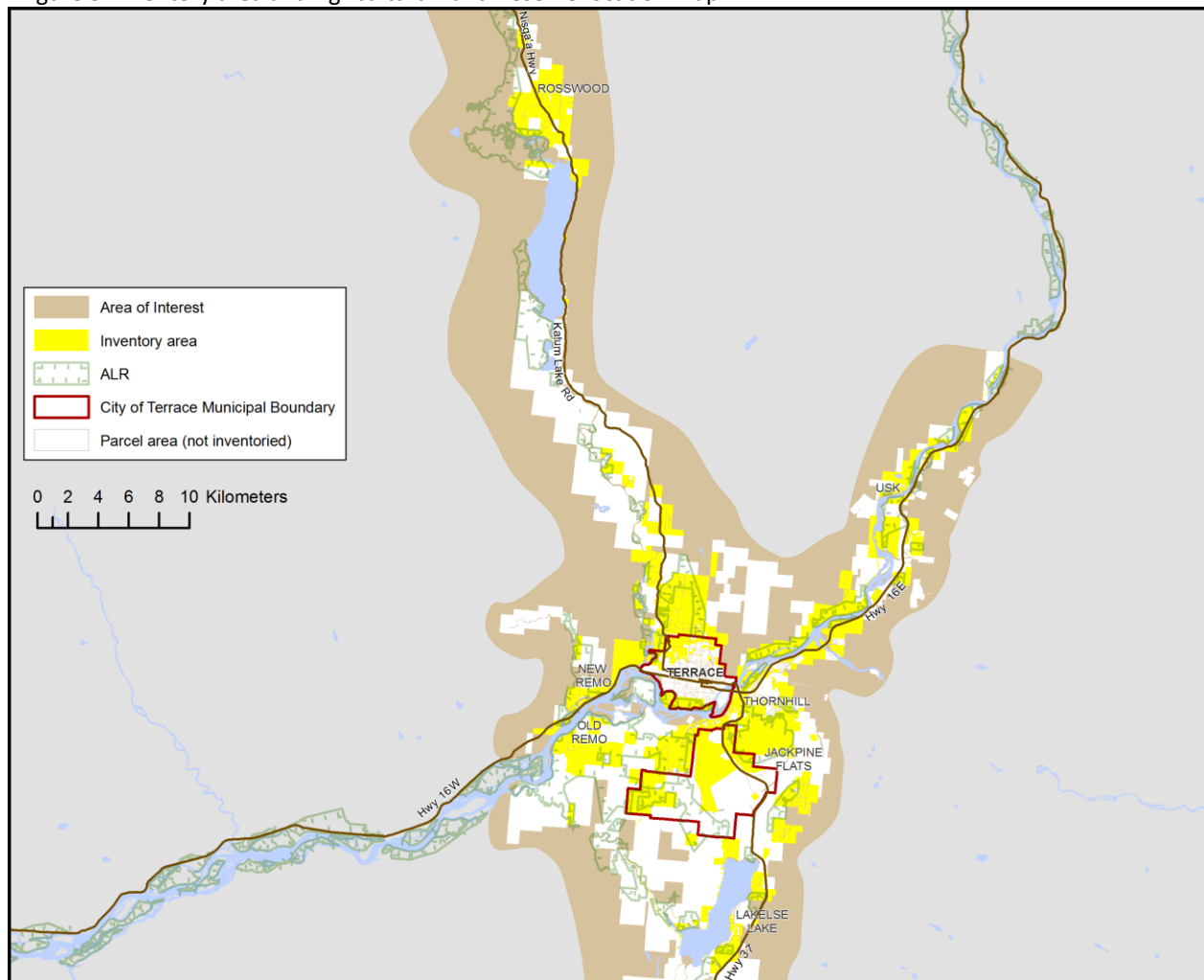
INVENTORY AREA

The total inventory area encompasses 1,816 parcels with a combined area of 15,489 hectares, or 13.5% of the land area in Greater Terrace. Included are parcels:

- In City of Terrace municipal boundaries (281 parcels)
 - with private ownership and completely or partially within the ALR (45 parcels) or
 - outside the ALR but zoned to allow agriculture by local government bylaws (236 parcels)
- Outside City of Terrace municipal boundaries/In RDKS (1535 parcels)
 - with private ownership and a parcel area greater than 1 acre (1499 parcels) or
 - with Crown ownership (36 parcels) and
 - zoned to allow agriculture by local government bylaws or
 - with an agricultural lease or licence or
 - Indian reserve status

The amount of ALR land included in the inventory area is 5,411 hectares located on 593 parcels. This is 36% of the ALR within Greater Terrace. There is an additional 7,909 hectares or 53% of the ALR that is excluded from the inventory as it is under Crown ownership or outside surveyed land parcels. The remaining 1,583 hectares or 11% of the ALR was excluded from the inventory as it is in rights-of-ways, tree farm licences, water and foreshore, or in parcels less than 1 acre.

Figure 3. Inventory area and Agricultural Land Reserve location map



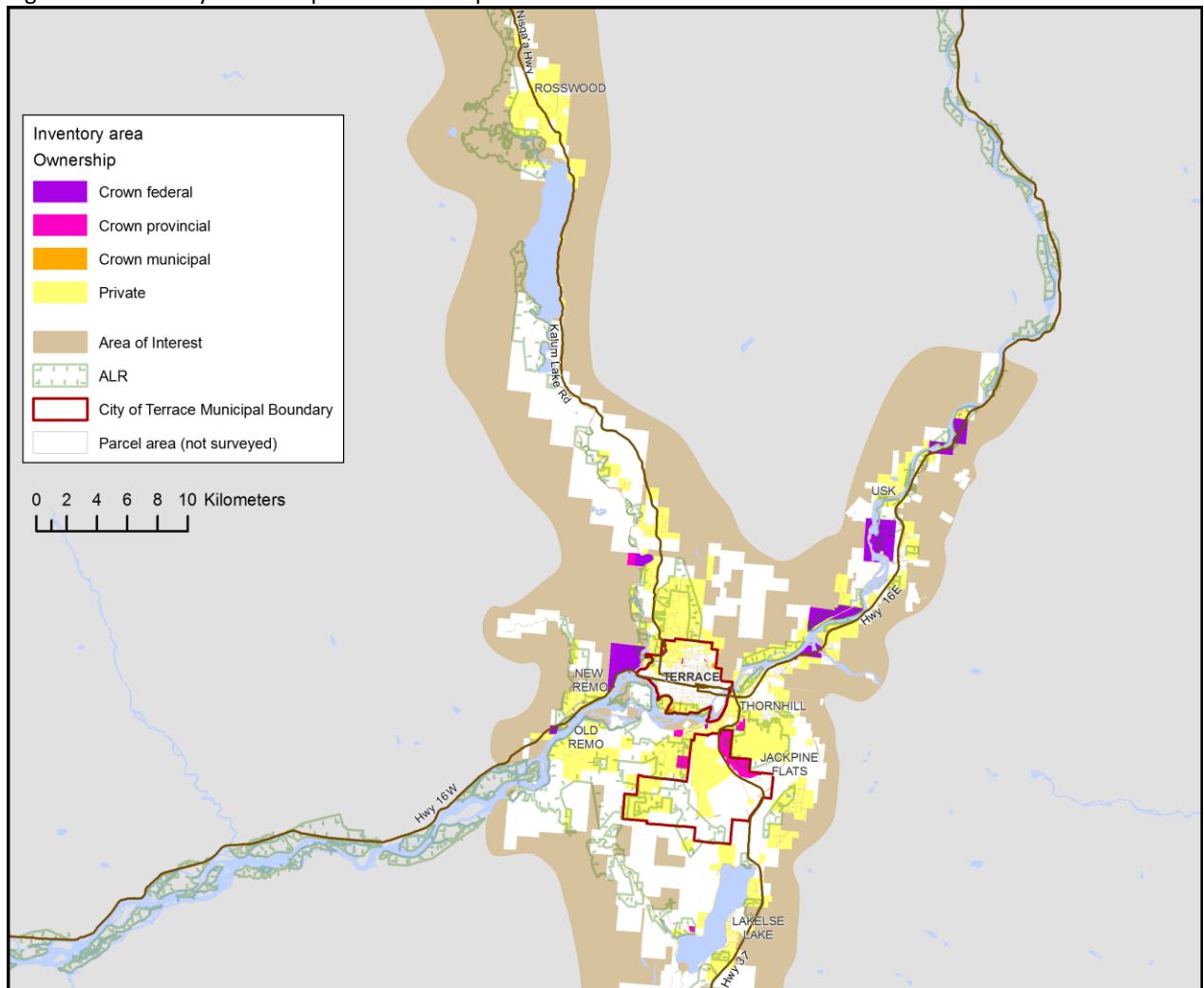
PARCEL OWNERSHIP

Crown owned includes parcels which are owned by municipal, provincial or federal governments. This report separates Crown owned land from non-Crown owned land because the agricultural activities likely to occur on Crown owned land are limited and may also be subject to specific restrictions, depending on the government entity owning it.

Of the 1,816 parcels surveyed as part of this inventory, 62 or 3% are Crown owned with a total area of 1,988 hectares or 13% of the region's survey area. The amount of surveyed ALR land Crown owned is 589 hectares or 4% of the region's total ALR.

- 23 parcels are federally owned (all are Indian reserves)
 - 1520 hectares or 10 % of the survey area
 - 449 hectares or 3 % of the ALR area
- 33 parcels are provincially owned (includes lots zoned to permit agriculture)
 - 432 hectares or 3 % of the survey area
 - 117 hectares or < 1 % of the ALR area
- 6 parcels are municipally owned (includes the Terrace wastewater treatment plant)
 - 36 hectares or <1 % of the survey area
 - 23 hectares or < 1 % of the ALR area

Figure 4. Inventory area and parcel ownership



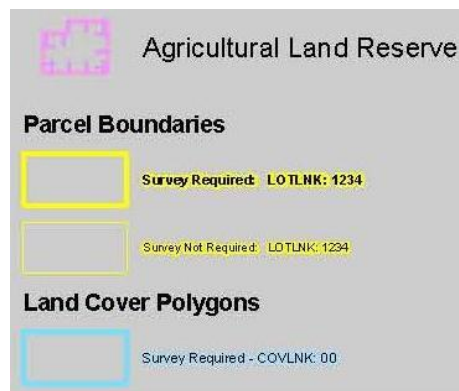
Agricultural Land Use Inventory

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 Greater Terrace land use inventory was conducted in the summer of 2012 by a BC Ministry of Agriculture Professional Agrologist assisted by a GIS technician. 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)⁵
- 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



⁵ Cadastre mapping (2011) was provided by the Integrated Cadastral Information Society.

DESCRIPTION OF THE DATA

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

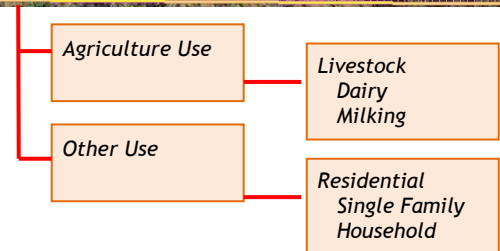
Once acquired through the survey, the data was brought into a Geographic Information System (GIS) to facilitate analysis and mapping. Digital data, in the form of a tabular database and GIS spatial layers (for maps), may be available with certain restrictions through a terms of use agreement.

General land use:

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

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

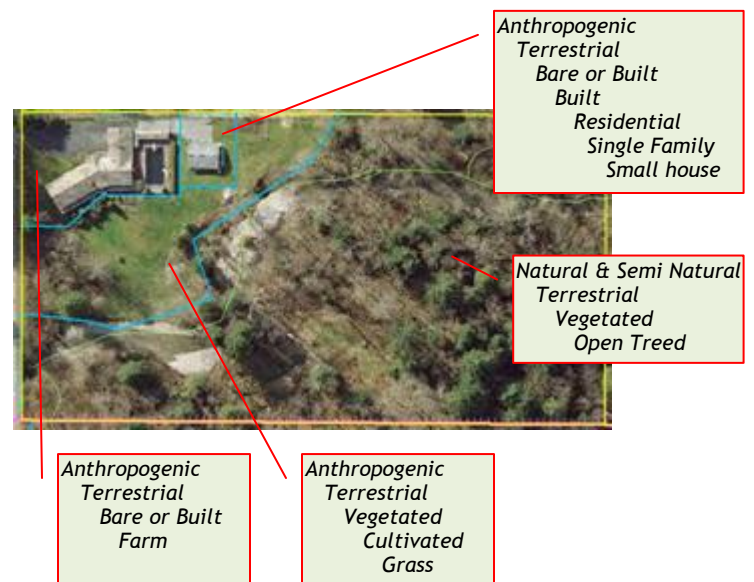
In addition, the availability of non-farm use properties for future farming was assessed based on the amount of potential land for farming on the property and the compatibility of existing uses with future farming activities.



Land cover:

Land cover refers to the biophysical features of the land (e.g. crops, buildings, forested areas, woodlots, streams). Land cover was surveyed by separating the parcel into homogeneous components and assigning each a description. Prior to 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. Data values are rounded to the nearest whole number during the final formatting of the summarized tables and charts. As a result, data presented in the summarized tables and charts may not appear to add up correctly.

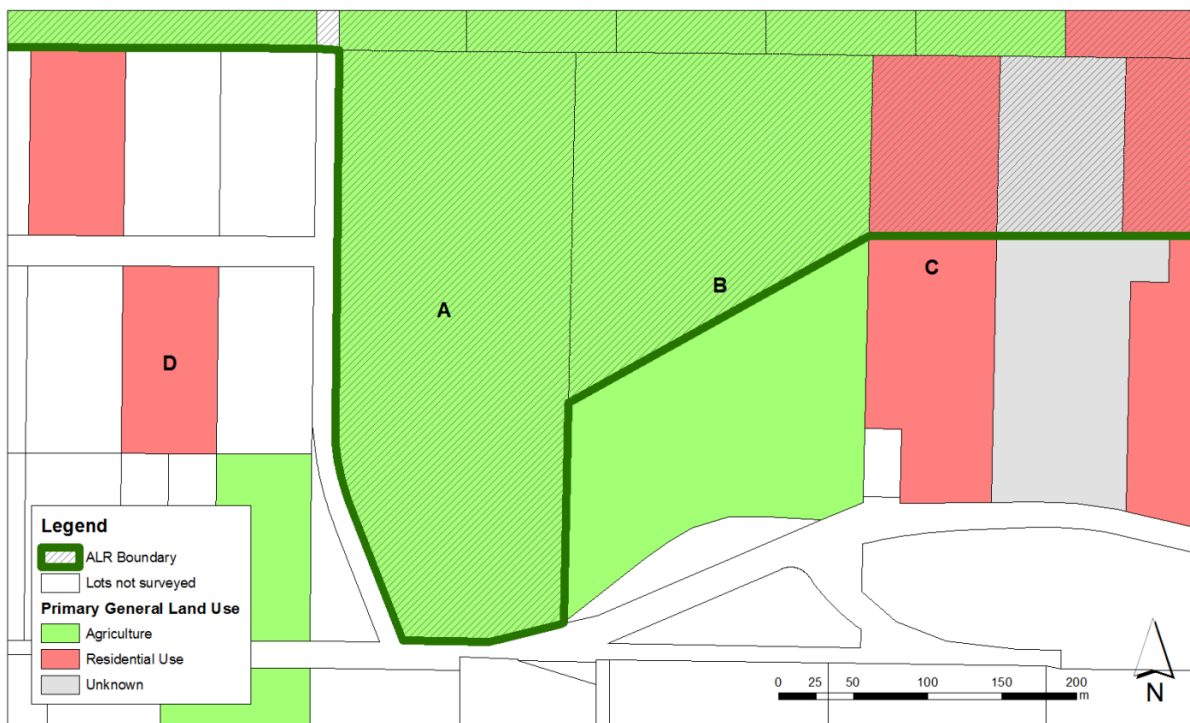
DETERMINATION OF PARCELS WITHIN THE ALR

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

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

Figure 5. Parcel inclusion in the ALR



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.

Three 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

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	% of inventory area in Crown ownership
		In ALR (ha)	% of ALR	% of ALR in Crown ownership				
Farmed	Cultivated field crops	365	2%	-	172	536	3%	-
	Farm Infrastructure	16	< 1%	-	20	36	< 1%	-
	Greenhouses	<1	< 1%	-	<1	<1	< 1%	-
	Unmaintained field crops	13	< 1%	-	4	17	< 1%	-
FARMED SUBTOTAL		394	2%	-	196	590	4%	-
Anthropogenic (not farmed)	Transportation	115	< 1%	< 1%	241	356	2%	< 1%
	Managed vegetation	47	< 1%	-	362	409	3%	< 1%
	Residential footprint	39	< 1%	< 1%	182	222	1%	< 1%
	Non Built or Bare	21	< 1%	< 1%	135	156	1%	< 1%
	Settlement	12	< 1%	< 1%	28	40	< 1%	< 1%
	Waterbodies	5	< 1%	< 1%	<1	6	< 1%	< 1%
	Built up - Other	3	< 1%	< 1%	15	17	< 1%	< 1%
SUBTOTAL		242	2%	< 1%	964	1,206	8%	< 1%
Natural and Semi-natural	Vegetated	4,687	31%	4%	8,619	13,306	86%	12%
	Waterbodies	73	< 1%	< 1%	173	247	2%	< 1%
	Natural pasture or rangeland	41	< 1%	-	47	88	< 1%	-
	Wetlands	3	< 1%	-	47	51	< 1%	-
	Natural bare areas	-	-	-	2	2	< 1%	-
SUBTOTAL		4,805	32%	4%	8,888	13,693	88%	12%
TOTAL		5,441	36%	4%	10,048	15,489	100%	13%
Not Inventoried ALR	Crown owned parcels	5,341	36%					
	Unsurveyed land	2,568	17%					
	Rights-of-way	773	5%					
	Tree farm licences - private	446	3%					
	Water & foreshore	340	2%					
	Parcels < 1 acre	24	< 1%					
SUBTOTAL		9,492	64%					
TOTAL		14,933	100%					

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

In Greater Terrace, 590 hectares of land is in "Farmed" land cover, although 17 of those hectares are "Inactively farmed" in unmaintained field crops.

Thirteen (13) percent of the inventory area or 1,988 hectares is under Crown ownership and is covered primarily by "Natural and Semi-natural" vegetation. No farming activities occur on the inventoried Crown land.

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

Figure 6. Land cover and farmed area in the ALR

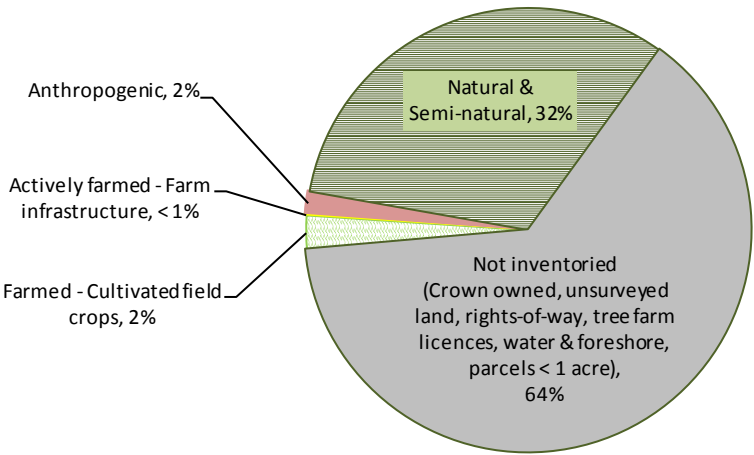


Figure 6 shows the proportions of the different land cover types across the ALR in Greater Terrace.

Of Greater Terrace’s ALR land, 64% was not inventoried as it is in Crown owned parcels, unsurveyed land, rights-of-way, tree farm licenses, water & foreshore, or parcels < 1 acre in size.

32% of the ALR is in “Natural & Semi-natural” land cover, while 2% is “Farmed” in cultivated field crops.

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	Num. of parcels	% of parcels	Avg. parcel size (ha)
		In ALR (ha)	% of ALR area	% of ALR in Crown ownership						
Used only for farming - no other use		193	1 %	-	40	233	2 %	15	<1 %	16
Used for farming - Mixed use	Residential	500	3 %	-	350	850	5 %	61	3 %	14
	Transportation	47	<1 %	-	32	79	<1 %	1	<1 %	79
	Utilities	22	<1 %	-	13	35	<1 %	1	<1 %	35
USED FOR FARMING SUBTOTAL		761	5 %	-	435	1,196	8 %	78	4 %	
Not used for farming	No apparent use	1,989	13 %	1 %	3,704	5,693	37 %	447	25 %	13
	Residential	1,861	12 %	2 %	3,526	5,387	35 %	1,094	60 %	5
	Forestry	363	2 %	<1 %	442	805	5 %	14	<1 %	57
	Transportation	182	1 %	<1 %	380	562	4 %	83	5 %	7
	Utilities	140	<1 %	<1 %	456	596	4 %	11	<1 %	54
	Commercial & service	55	<1 %	-	66	121	<1 %	26	1 %	5
	Recreation & leisure - golf	25	<1 %	-	67	92	<1 %	4	<1 %	23
	Gravel extraction	16	<1 %	-	203	219	1 %	10	<1 %	22
	Industrial	15	<1 %	-	60	75	<1 %	23	1 %	3
	Recreation & leisure - intensive	9	<1 %	-	134	144	<1 %	8	<1 %	18
	Communications	8	<1 %	<1 %	< 1	8	<1 %	1	<1 %	8
	Recreation & leisure - extensive	7	<1 %	-	9	15	<1 %	1	<1 %	15
	Institutional & community	7	<1 %	<1 %	25	32	<1 %	4	<1 %	8
	Transportation - airport	3	<1 %	-	488	491	3 %	11	<1 %	45
	Dumps & deposits	< 1	<1 %	-	52	52	<1 %	1	<1 %	52
NOT USED FOR FARMING SUBTOTAL		4,680	31 %	4 %	9,613	14,293	92 %	1,738	96 %	
TOTAL		5,441	36 %	4 %	10,048	15,489	100 %	1,816	100 %	
Not inventoried ALR	Crown owned parcels	5,341	36 %							
	Unsurveyed land	2,568	17 %							
	Rights-of-way	773	5 %							
	Tree farm licences - private	446	3 %							
	Water & foreshore	340	2 %							
	Parcel areas < 1 acre	24	<1 %							
	SUBTOTAL	9,492	64 %							
TOTAL		14,933	100 %							

Table 2 shows that 761 hectares of Greater Terrace's ALR is on parcels "Used for farming".

Most "Used for farming" parcels are also used for other purposes with only 15 parcels or 2% of the inventory area being used exclusively for farming.

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	In ALR (ha)	% of ALR	In ALR (ha)	% of ALR	In ALR (ha)	% of ALR
Used only for farming - no other use		92	<1 %	< 1	<1 %	101	<1 %	193	1 %
Used for farming - Mixed use	Residential	232	2 %	8	<1 %	261	2 %	500	3 %
	Transportation	3	<1 %	< 1	<1 %	44	<1 %	47	<1 %
	Utilities	14	<1 %	< 1	<1 %	8	<1 %	22	<1 %
SUBTOTAL		340	2 %	8	<1 %	413	3 %	761	5 %
Not used for farming		54	<1 %	234	2 %	4,392	29 %	4,680	31 %
SUBTOTAL		394	3 %	242	2 %	4,805	32 %	5,441	36 %
Not inventoried ALR	Crown owned parcels							5,341	36 %
	Unsurveyed land							2,568	17 %
	Rights-of-way							773	5 %
	Tree farm licences - privately owned							446	3 %
	Water & foreshore							340	2 %
	Parcel areas < 1 acre							24	<1 %
SUBTOTAL								9,492	64 %
TOTAL ALR								14,933	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 Greater Terrace. For example, parcels with the mixed uses "Used for farming" and "Residential" have a total of 232 hectares in "Farmed" land cover, 8 hectares in "Anthropogenic" (not farmed) land cover, and 261 hectares in "Natural & Semi-natural" land cover.

Although 761 hectares of Greater Terrace's ALR is on parcels "Used for farming" (Refer to Table 2), only 394 hectares or 3% of the inventoried ALR is actually in "Farmed" land cover as many "Used for farming" parcels are also used for other purposes. Much of the "Farmed" land cover in the ALR is on parcels with "Residential" use.

3. Availability of Land for Farming

The demand for locally grown agricultural products is anticipated to grow as the population grows⁶. 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. Growth in extensive agriculture sectors such as dairy or berry will require large increases in land base which may not be available. 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 also have very high land values making it unrealistic for a farmer to acquire and convert this land to farmland.

In Greater Terrace, properties in the ALR and “Used for farming” have an average assessed value of \$10,116 per hectare, while properties in the ALR but unavailable for farming have an average assessed value of \$391,952 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.

Privately owned land is categorized separately from Crown owned land in this section of the report because the agricultural activities likely to occur on Crown-owned land are limited and may also be subject to specific restrictions, depending on the government entity owning it.

⁶ 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	% inventory area in Crown ownership
		In ALR (ha)	% ALR Area	% ALR Area in Crown ownership				
Actively farmed	Cultivated field crops	363	2 %	-	170	533	3 %	-
	Farm Infrastructure	16	<1 %	-	20	36	<1 %	-
	Greenhouses	< 1	<1 %	-	< 1	< 1	<1 %	-
ACTIVELY FARMED		379	3 %	-	190	569	4 %	-
Anthropogenic areas supporting farming	Residential footprint	3	<1 %	-	8	12	<1 %	-
	Transportation	2	<1 %	-	< 1	2	<1 %	-
	Artificial Waterbodies	2	<1 %	-	< 1	2	<1 %	-
SUPPORTING FARMING		7	<1 %	-	9	15	<1 %	-
Unavailable for farming due to existing land use	Transportation	67	<1 %	<1 %	103	170	1 %	<1 %
	Recreation & leisure - golf	25	<1 %	-	65	90	<1 %	-
	Residential	7	<1 %	-	62	69	<1 %	<1 %
	Industrial	4	<1 %	-	33	38	<1 %	-
	Recreation & leisure - intensive	< 1	<1 %	-	5	5	<1 %	-
	Commercial & service	< 1	<1 %	-	8	8	<1 %	-
	Utilities	-	-	-	2	2	<1 %	-
	Transportation - airport	-	-	-	2	2	<1 %	-
	Institutional & community	-	-	-	1	1	<1 %	-
Unavailable for farming due to existing land cover	Waterbodies	76	<1 %	<1 %	169	245	2 %	<1 %
	Transportation	46	<1 %	<1 %	141	187	1 %	<1 %
	Residential footprint	33	<1 %	<1 %	138	171	1 %	<1 %
	Built up - Other	12	<1 %	<1 %	27	40	<1 %	<1 %
	Wetlands	3	<1 %	-	47	51	<1 %	-
	Natural bare areas	-	-	-	2	2	<1 %	-
UNAVAILABLE FOR FARMING		274	2 %	<1 %	805	1,080	7 %	<1 %
Site limitations (may have potential for grazing)	Soils or/& topography	548	4 %	<1 %	2,712	3,260	21 %	3 %
	Drainage	240	2 %	-	107	347	2 %	-
	Flooding	215	1 %	<1 %	212	427	3 %	<1 %
	Operational	30	<1 %	<1 %	16	46	<1 %	<1 %
LIMITED POTENTIAL FOR FARMING		1,033	7 %	<1 %	3,047	4,080	26 %	3 %
Available & with potential for farming	Natural & Semi-natural - Vegetation	3,643	24 %	4 %	5,566	9,209	59 %	9 %
	Natural pasture or rangeland	41	<1 %	-	42	83	<1 %	-
	Anthropogenic - Managed vegetation	34	<1 %	-	328	362	2 %	<1 %
	Anthropogenic - Non Built or Bare	15	<1 %	<1 %	55	70	<1 %	<1 %
	Unmaintained field crops	13	<1 %	-	4	17	<1 %	-
	Unused forage or pasture	2	<1 %	-	2	4	<1 %	-
AVAILABLE & WITH POTENTIAL FOR FARMING		3,748	25 %	4 %	5,997	9,745	63 %	9 %
TOTAL		5,441	36 %	4 %	10,048	15,489	100 %	13 %
Not inventoried ALR	Crown owned parcels	5,341	36 %					
	Unsurveyed land	2,568	17 %					
	Rights-of-way	773	8 %					
	Tree farm licences - privately owned	446	2 %					
	Water & foreshore	340	<1 %					
	Parcel areas < 1 acre	24	<1 %					
SUBTOTAL		9,492	64 %					
TOTAL		14,933	100 %					

Table 4 shows that 9,745 hectares or 63% 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. Over one third of this (38% or 3,748 hectares) is in the ALR.

Refer to Map B5 in Appendix B for more information.

Figure 7. Availability and potential of ALR lands for farming

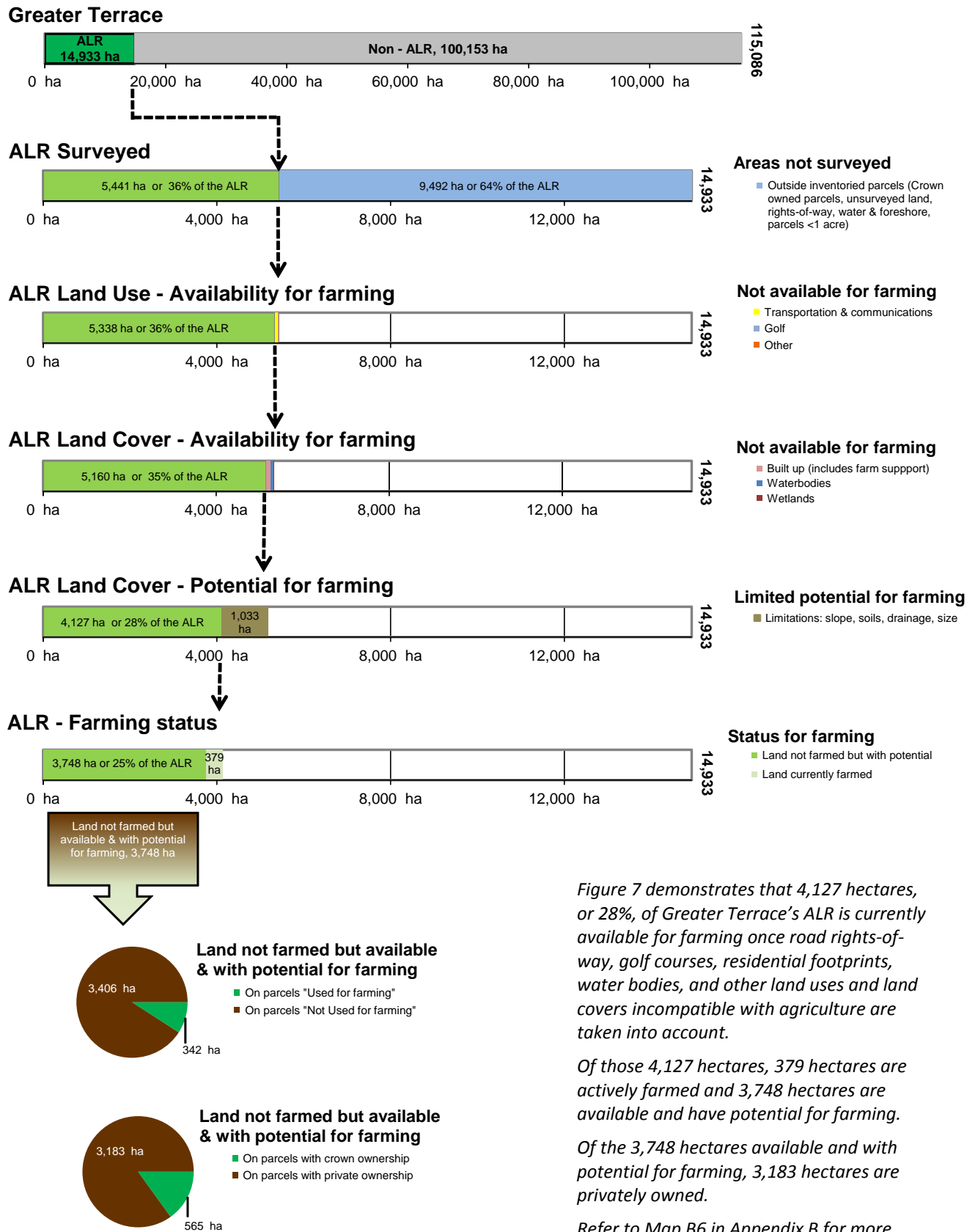


Figure 7 demonstrates that 4,127 hectares, or 28%, of Greater Terrace's ALR is currently available for farming once road rights-of-way, golf courses, residential footprints, water bodies, and other land uses and land covers incompatible with agriculture are taken into account.

Of those 4,127 hectares, 379 hectares are actively farmed and 3,748 hectares are available and have potential for farming.

Of the 3,748 hectares available and with potential for farming, 3,183 hectares are privately owned.

Refer to Map B6 in Appendix B for more information.

CHARACTERISTICS OF NOT FARMED BUT AVAILABLE ALR 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 are also 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

Parcel Ownership	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)	
PRIVATE	Residential	48	205	140	345	179	117	296	54 %
	Used for farming only	9	100	37	136	87	1	88	26 %
	Transportation	1	37	8	45	3	16	19	10 %
	Utilities	1	< 1	< 1	< 1	14	2	16	<1 %
TOTAL		59	342	185	527	282	136	419	90 %

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 or are used exclusively for farming.

Figure 8. Land cover available for farming but not farmed on ALR parcels "Used for farming"

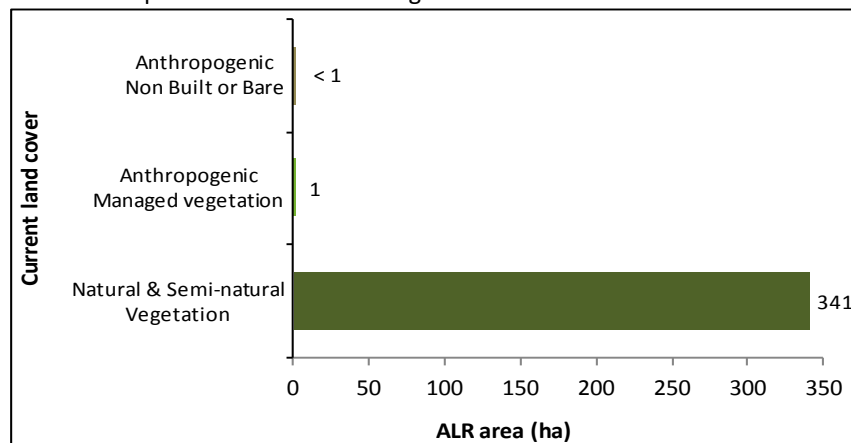


Figure 8 indicates that clearing land covered with "Natural & Semi-natural" vegetation would provide the greatest gains in farmed land on parcels that are already "Used for farming".

On Parcels “Not Used for Farming”

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

Parcel Ownership	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)	
Private - Not used for farming	Residential	890	1,386	1,840	3,226	366 %
	No apparent use	286	969	1,756	2,724	256 %
	Forestry	7	239	225	464	63 %
	Utilities	8	122	394	516	32 %
	Commercial & service	15	53	45	99	14 %
	Transportation	12	42	77	119	11 %
	Gravel extraction	5	9	66	75	2 %
	Recreation & leisure - extensive	1	7	8	15	2 %
	Industrial	9	6	15	20	2 %
	Recreation & leisure - intensive	4	4	38	42	1 %
	Transportation - airport	10	3	420	423	<1 %
	Dumps & deposits	1	< 1	47	47	<1 %
	Institutional & community	1	-	19	19	-
TOTAL PRIVATELY OWNED ALR		1,249	2,841	4,948	7,789	750 %
Crown - Not used for farming	Residential	4	269	292	561	71 %
	No apparent use	18	152	355	506	40 %
	Forestry	7	123	216	339	32 %
	Communications	1	8	< 1	8	2 %
	Utilities	1	7	-	7	2 %
	Institutional & community	1	3	-	3	<1 %
	Transportation	2	3	2	5	<1 %
TOTAL CROWN OWNED ALR		34	565	864	1,429	148 %
TOTAL		1,283	3,406	5,812	9,218	898

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”

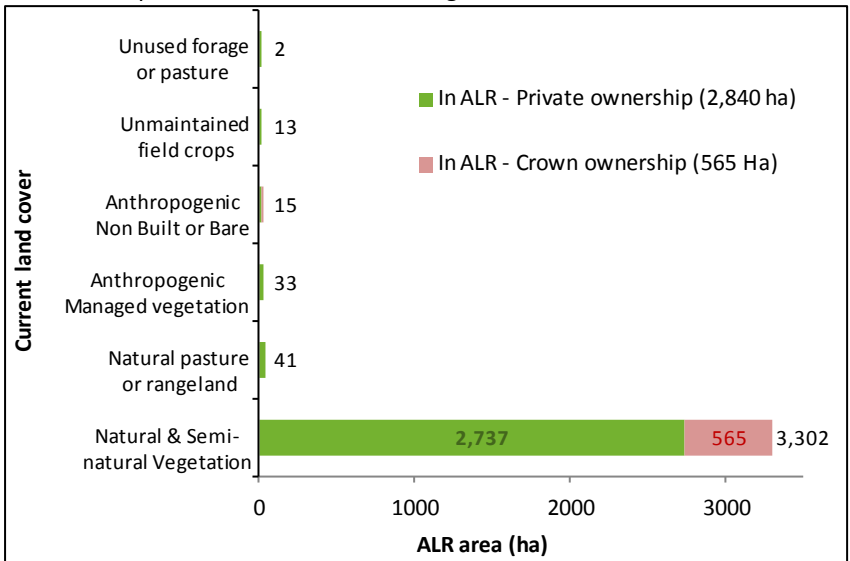


Figure 9 indicates that clearing land covered with “Natural & Semi-natural” vegetation would provide the greatest gains in farmed land on parcels currently “Not used for farming”.

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

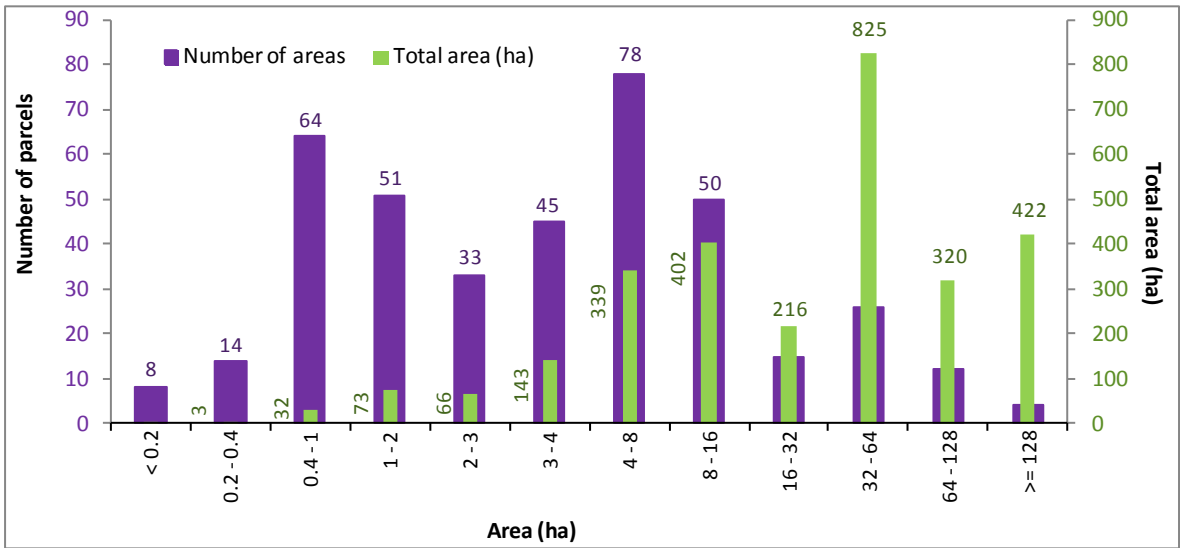


Figure 10 demonstrates that 53% of the privately owned parcels with land available for farming are less than 4 hectares in size. The smaller the area, the fewer options are available to efficiently farm. The areas greater than 4 hectares and available for farming in Greater Terrace total 2,523 hectares, or 89% of the 2,841 hectares available. These larger areas provide a wide range of options to bring the land into agricultural production.

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 set 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 Greater Terrace are described by three crop groupings:

- **Forage & pasture:** grass, mixed grass/legumes
- **Vegetables:** mixed vegetables, potatoes
- **Cultivated land:** land that has not been seeded or planted for one or more growing seasons

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	375	3%	174	549	99%
Vegetables	3	< 1%	1	4	< 1%
Cultivated land	-	-	< 1	< 1	< 1%
TOTAL	378	3%	176	554	100%

Table 7 shows the 3 main field crop types produced on the 554 hectares of cultivated land in Greater Terrace.

Forage & pasture is the most common type of cultivated field crop accounting for 99% of all cultivated land.

Refer to Map B7 in Appendix B for more information.

Figure 11. Main field crop types by percentage

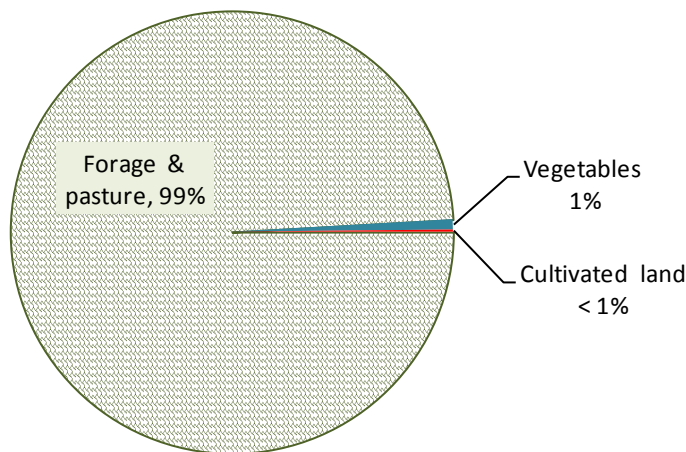


Figure 11 shows the proportion of main field crop types across Greater Terrace’s cultivated land.

“Forage & pasture” comprises 99% of all cultivated land in Greater Terrace.

Figure 12. All cultivated field crops by field size

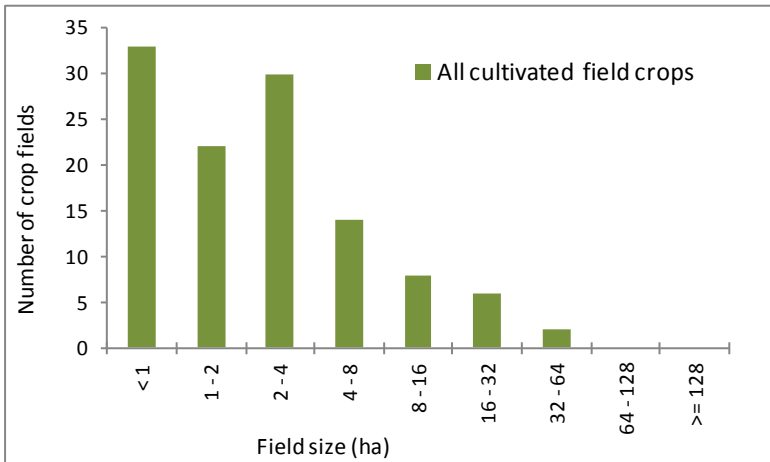


Figure 12 illustrates the number and size distribution of all cultivated field crops.

In Greater Terrace, cultivated fields are most likely to be less than 4 hectares in size.

There are 115 individual crop fields with an average area of 5 hectares and median area of 2 hectares.

Field crops occur on 112 parcels with an average size of 15 hectares and median size of 5 hectares.

Refer to Table A1 in Appendix A for more information.

Figure 13. Forage & pasture and vegetable fields by size

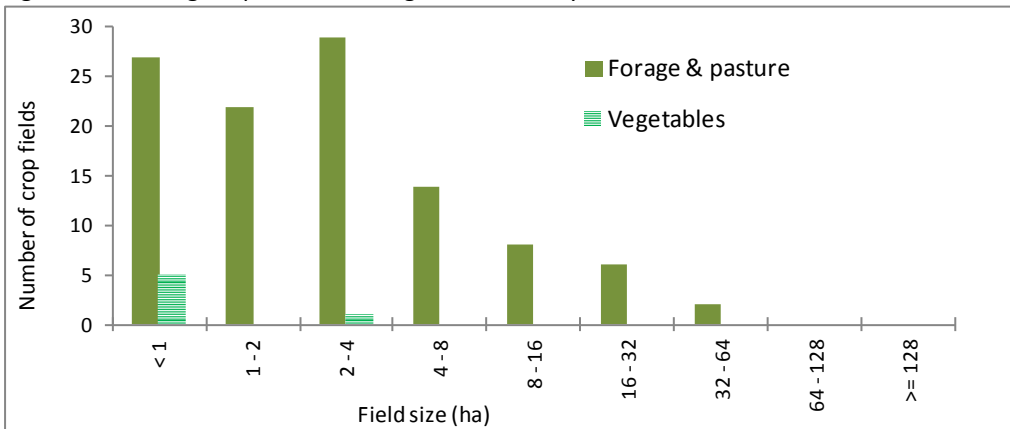


Figure 13 compares forage & pasture and vegetable crop types by field sizes.

“Forage & pasture” fields occur on all field size categories where crops are grown. Nearly all vegetable 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. 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.

Unknown refers to forage or pasture crops where the practice could not be determined.

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 (managed)	Grass	7	< 1%	9	16	3%
Forage (unmanaged)	Grass	106	< 1%	44	151	27%
Forage (unmanaged)	Mixed grass / legume	61	< 1%	-	61	11%
Subtotal		174	1%	54	228	41%
Pasture ^	Grass	< 1	< 1%	3	4	< 1%
Pasture (managed)	Grass	2	< 1%	-	2	< 1%
Pasture (unmanaged)	Grass	176	1%	92	268	48%
Subtotal		178	1%	95	273	49%
Forage & pasture (managed)	Grass	7	< 1%	16	23	4%
Forage & pasture (managed)	Mixed grass / legume	-	-	3	3	< 1%
Subtotal		7	< 1%	19	26	5%
Unused	Grass	2	< 1%	2	4	< 1%
Unmaintained	Grass	13	< 1%	4	17	3%
Subtotal		15	< 1%	6	21	4%
TOTAL		375	3%	174	549	99%

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

Table 8 shows that there are similar amounts of forage and pasture in Greater Terrace. Grass is the main forage & pasture crop type.

Refer to Map B8 in Appendix B for more information.

Figure 14. Forage & pasture fields by size

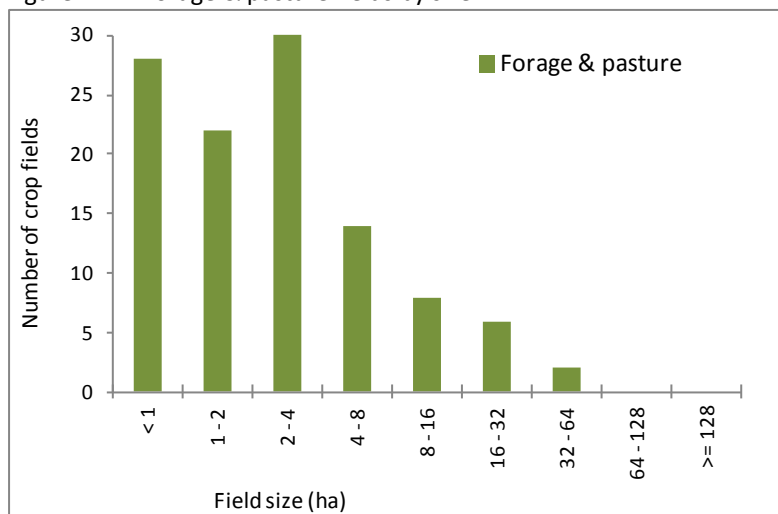


Figure 14 shows that “Forage & pasture” fields are most likely to be less than 4 hectares.

In Greater Terrace, there are 110 individual “Forage & pasture” fields with an average area of 4 hectares and median area of 3 hectares.

“Forage & pasture” fields occur on 108 parcels with an average parcel size of 15 hectares and median size of 6 hectares.

Refer to Table A2 in Appendix A for more information.

Figure 15. Forage & pasture fields by size and type

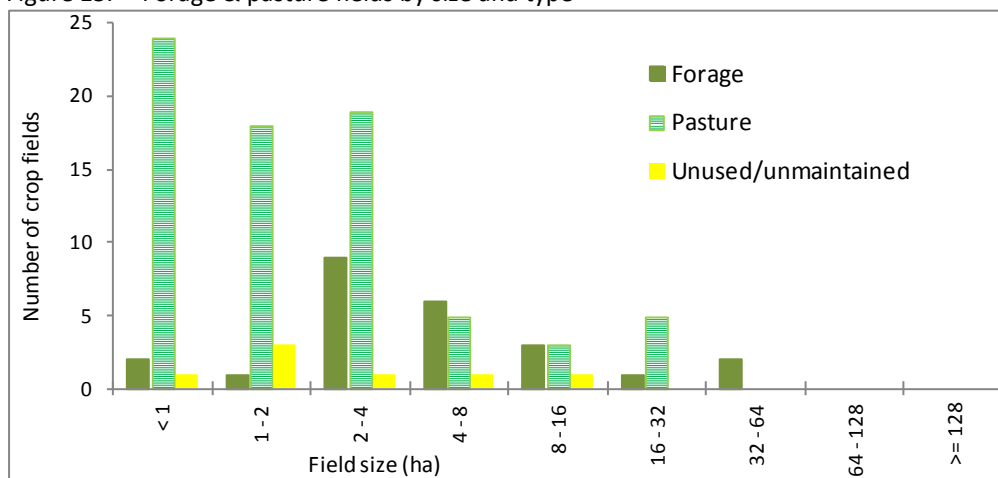


Figure 15 illustrates the variation in field sizes between forage, pasture, and unused/unmaintained forage and pasture fields.

Although forage and pasture fields have a similar total area, there are significantly more pasture than forage fields.

There are 24 forage fields with an average crop area of 10 hectares, median area of 4 hectares, and average parcel size of 27 hectares.

In comparison, there are 74 pasture fields with an average crop area of 4 hectares, median area of 2 hectares, and average parcel size of 13 hectares.

Forage fields are generally larger than pasture fields mainly due to harvesting equipment requirements and fencing costs.

Refer to Table A2 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 Greater Terrace are described by two crop groupings:

- **Mixed vegetables:** a variety of vegetable types cultivated in a field
- **Potatoes**

Table 9. Vegetable crops by area

Vegetable crops	ALR		Outside ALR (ha)	Total area (ha)	% of cultivated land
	In ALR (ha)	% of ALR			
Mixed vegetables	3	< 1%	< 1	3	< 1%
Potatoes	-	-	< 1	< 1	< 1%
TOTAL	3	< 1%	1	4	< 1%

Table 9 presents the two different vegetable crops recorded in Greater Terrace.

Mixed vegetables are the most common vegetable crop with 3 hectares or < 1% of all cultivated land.

Refer to Map B7 in Appendix B for more information.

Figure 16. Mixed vegetable and potato fields by size

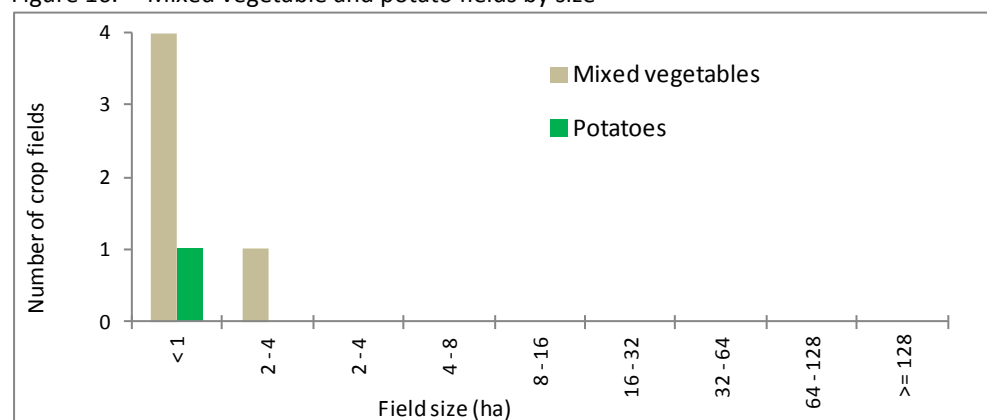


Figure 16 shows that there are few vegetable fields in Greater Terrace.

There are 6 individual vegetable fields with an average and median area of < 1 hectare.

The average parcel size where vegetables occur is 17 hectares. If the potato field was removed, the average parcel size would be 5 hectares. A small field crop size on a large parcel may indicate the crop is grown for personal use.

Refer to Table A3 in Appendix A for more information.

Individual Crops

Table 10. Individual crop types by area

Cultivated field crop	ALR		Outside ALR (ha)	Total area (ha)	% of cultivated land
	In ALR (ha)	% of ALR			
Pasture (unmanaged)	176	1%	92	268	48%
Forage (unmanaged)	167	1%	44	212	38%
Forage & pasture (managed)	7	< 1%	19	26	5%
Unmaintained forage/pasture	13	< 1%	4	17	3%
Forage (managed)	7	< 1%	9	16	3%
Unused forage/pasture	2	< 1%	2	4	< 1%
Pasture^	< 1	< 1%	3	4	< 1%
Mixed vegetables	3	< 1%	< 1	3	< 1%
Pasture (managed)	2	< 1%	-	2	< 1%
Potatoes	-	-	< 1	< 1	< 1%
Cultivated land*	-	-	< 1	< 1	< 1%
TOTAL	378	3%	176	554	100%

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

* Cultivated land is land that has not been seeded or planted for one or more growing season.

Table 10 shows the 11 individual crops that account for all of the cultivated land in Greater Terrace.

Figure 17. Individual crop types by area

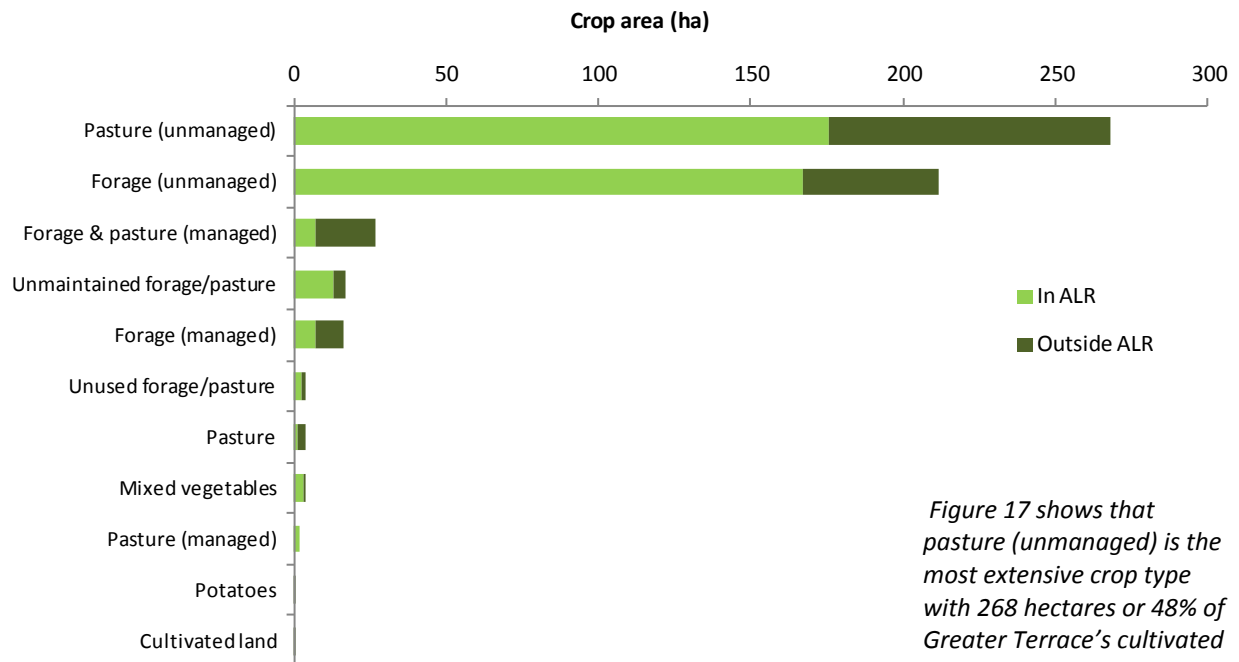


Figure 17 shows that pasture (unmanaged) is the most extensive crop type with 268 hectares or 48% of Greater Terrace's cultivated land. Forage (unmanaged) is second with 212 hectares, or 38% of all cultivated land.

NATURAL PASTURE & RANGELAND

Natural pastures and rangelands are fenced areas with uncultivated (not sown) natural or semi-natural grasses, herbs or shrubs used for grazing domestic livestock such as cattle, sheep or equines. Natural pastures are smaller fenced areas usually occurring on private land while rangeland refers to larger blocks of land (extensive areas from hundreds to thousands of acres in size) with perimeter fencing that may encompass many parcels or district lots. Rangelands tend to be on provincial crown land.

Natural pastures are usually on land unsuited for cultivation due to poor soils (stoniness), seasonal flooding, or slope. In many cases, these areas are remote from the infrastructure necessary to facilitate agriculture improvements such as irrigation. Although some of these natural areas could be used for hay, most are grazed since the quality of hay is usually not worth the harvesting costs.

Most natural pastures and rangelands are influenced by humans to some degree. Fire may be used to control woody plants and remove over mature herbage. Introduction of livestock or equines has an effect on natural vegetation and can lead to changes in vegetation composition. Bush-clearing, fencing, drainage, application of fertilizers and trace elements are more intensive methods which influence natural vegetation as pasture. The introduction of grasses and legumes, without cultivation, is yet a further stage in influencing a natural area.

Natural pastures and rangelands are captured in a geographical information system at the field or land cover polygon level by the natural vegetation type that dominates the upper canopy (grassland, open treed, etc.). Each vegetation type is then summarized to total land area and evaluated for field size characteristics.

Table 11. Natural pasture vegetation types by area

Natural pasture		ALR		Outside ALR (ha)	Total area (ha)	% of surveyed area	% of natural pasture
		In ALR (ha)	% of ALR				
Pasture (natural)	Herbaceous	29	< 1%	30	59	< 1%	67%
	Treed - open	8	< 1%	17	25	< 1%	29%
	Shrubland	4	< 1%	-	4	< 1%	4%
TOTAL		41	< 1%	47%	88	< 1%	100%

Table 11 shows that there are 88 hectares of natural pasture in Greater Terrace. Herbaceous is the most common type accounting for 59 hectares or 67% of all natural pasture.

No rangeland was recorded in the region and there are no Crown grazing licenses in Great Terrace.

Refer to Maps B9 in Appendix B for more information.

Figure 18. Natural pasture areas by size

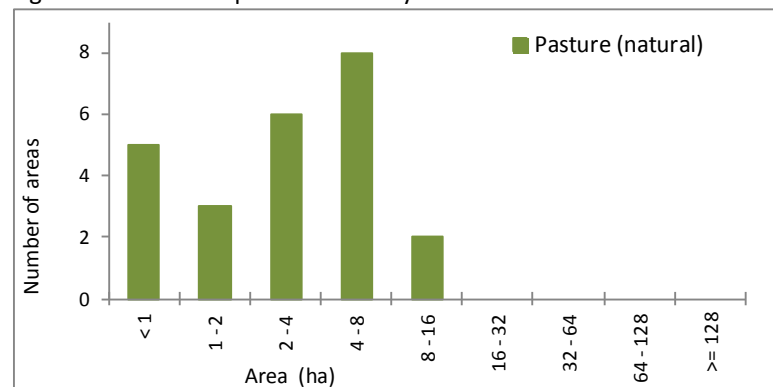


Figure 18 shows that natural pastures are most likely to be 4-8 hectares in size.

In Greater Terrace, there are 24 individual natural pastures with an average area of 4 hectares and median area of 3 hectares.

The average parcel size where natural pasture occurs is 12 hectares and the median parcel size is 8 hectares.

Refer to Table A4 in Appendix A for more information.

GREENHOUSES

Greenhouses are structures covered with translucent material and of sufficient size for a person to work inside⁷. 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.

Table 12. Greenhouses by area⁸

Greenhouses		ALR		Outside ALR (ha)	Total area (ha)	% of greenhouse area
		In ALR (ha)	% of ALR			
Glass greenhouse	Unknown	< 1	< 1%	< 1	< 1	76%
Subtotal		< 1	< 1%	< 1	< 1	76%
Poly greenhouse	Unknown	< 1	< 1%	-	< 1	24%
Subtotal		< 1	< 1%	< 1	< 1	24%
TOTAL		< 1	< 1%	< 1	< 1	100%

Table 12. There are two greenhouses in Greater Terrace. Both are < 1 hectare in size.

Refer to Table A5 in Appendix A for more information.

⁷ Source: *Guide for Bylaw Development*, 1998 Issue (Working Copy) by Ministry of Agriculture and Food.

⁸ 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.

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.

Table 13. Individual field crop types and irrigation

Cultivated field crop	Irrigation system in use (ha)	Total area irrigated (ha)	% crop area irrigated
	Sprinkler		
Pasture (unmanaged)	-	-	-
Forage (unmanaged)	-	-	-
Forage & pasture (managed)	-	-	-
Unmaintained forage/pasture	-	-	-
Forage (managed)	-	-	-
Unused forage/pasture	-	-	-
Pasture	-	-	-
Mixed vegetables	< 1	< 1	23%
Pasture (managed)	-	-	-
Potatoes	-	-	-
Cultivated land*	-	-	-
TOTAL	< 1	< 1	

Table 13 illustrates that there is very little irrigation in Greater Terrace. Mixed vegetables are the only irrigated crop.

* Cultivated land is land that has not been seeded or planted for one or more growing season.

LIVESTOCK

Livestock activities are very difficult to measure using a windshield survey method. Livestock are often confined to 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, 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).

Table 14. Livestock activities

Livestock group	Livestock detail *	By parcel		Total activities	By activity type	
		Main type	Secondary type		Intensive	Non Intensive
Beef	Beef total	9	-	9	-	9
Poultry	Chicken	4	5	9	1	8
	Chicken (Goose)	-	1	1	-	1
	Poultry total	4	6	10	1	9
Sheep / lamb / goat	Sheep / lamb	2	1	3	-	3
	Goat	1	-	1	-	1
	Sheep / lamb / goat total	3	1	4	-	4
Llama / alpaca	Llama / alpaca total	1	-	1	-	1
Unknown livestock	Unknown livestock total	5	-	5	-	5
Equine	Horse	88	1	89	-	89
	Horse (Pony)	1	-	1	-	1
	Horse (Donkey, ass)	2	-	2	-	2
	Horse (Miniature horse)	2	-	2	-	2
	Equine total	93	1	94	-	94
TOTAL		115	8	123	1	122

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

Table 14 shows that equine is the most common type of livestock activity in Greater Terrace, accounting for 94 of 123 or 76% of all livestock activities. Poultry is the second most common with 10 activities or 8% and beef is the third most common with 9 activities or 7%.

Daybreak Poultry Farms (located north of City of Terrace) is the only intensive livestock operation in Greater Terrace.

Refer to Maps B10, B11, B12 in Appendix B for more information.

Figure 19. Livestock activities (excluding equine) by scale and type

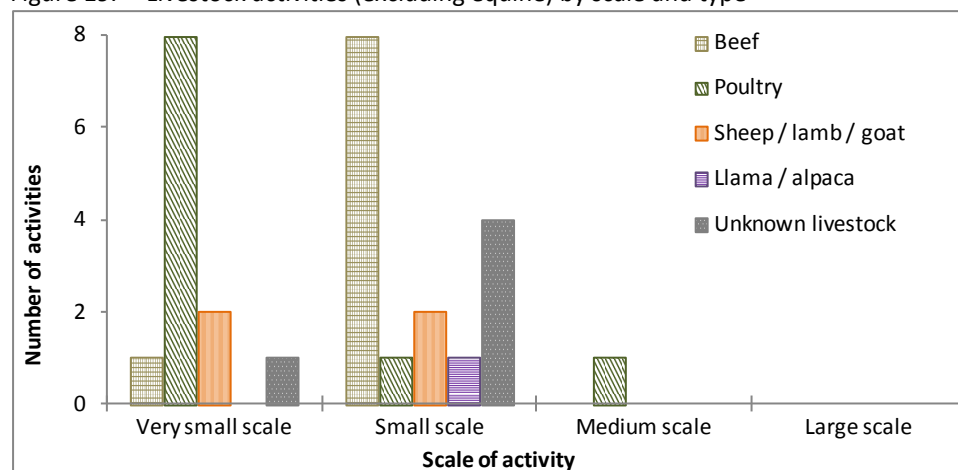


Figure 19 illustrates the scale of livestock activities (excluding equine) in Greater Terrace.

Few livestock activities occur in Greater Terrace and most of these are “small” or “very small” scale.

The only “medium” scale livestock activity in Greater Terrace is poultry which is a supply managed industry.

Refer to Tables A7, A9, A11 in Appendix A for more information.

Figure 20. Livestock and equine activities by scale

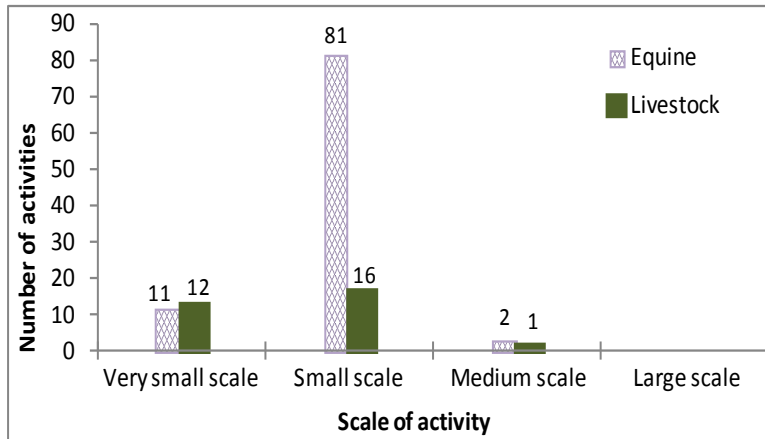


Figure 20 compares the scale of livestock activities with equine activities.

Most of the equine and livestock activities are “small” or “very small” scale. There are 81 “small” equine activities while there are only 16 “small” scale livestock activities.

There are no “large” scale livestock or equine activities in Greater Terrace.

Refer to Tables A7, A9, A11 and A13 in Appendix A for more information.

Figure 21. Livestock activities (excluding equine) by parcel size and scale

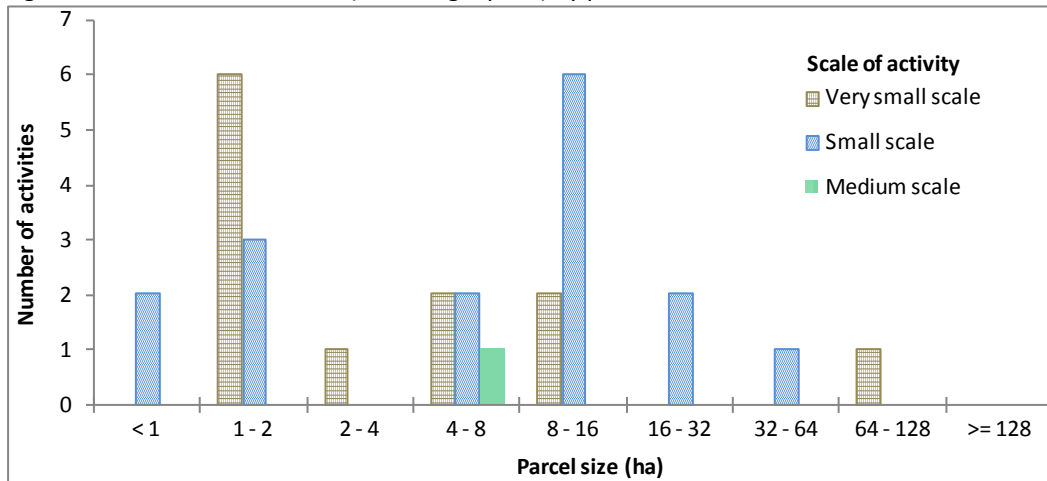


Figure 21 illustrates the distribution of livestock activities (excluding equine) by scale across parcel size categories. “Small” and “very small” scale livestock activities occur on a wide range of parcels sizes. The one “medium” scale livestock activity occurs on a parcel 6 hectares in size.

Refer to Tables A7, A9, A11 and Figures A1, A3, A5 in Appendix A for more information.

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

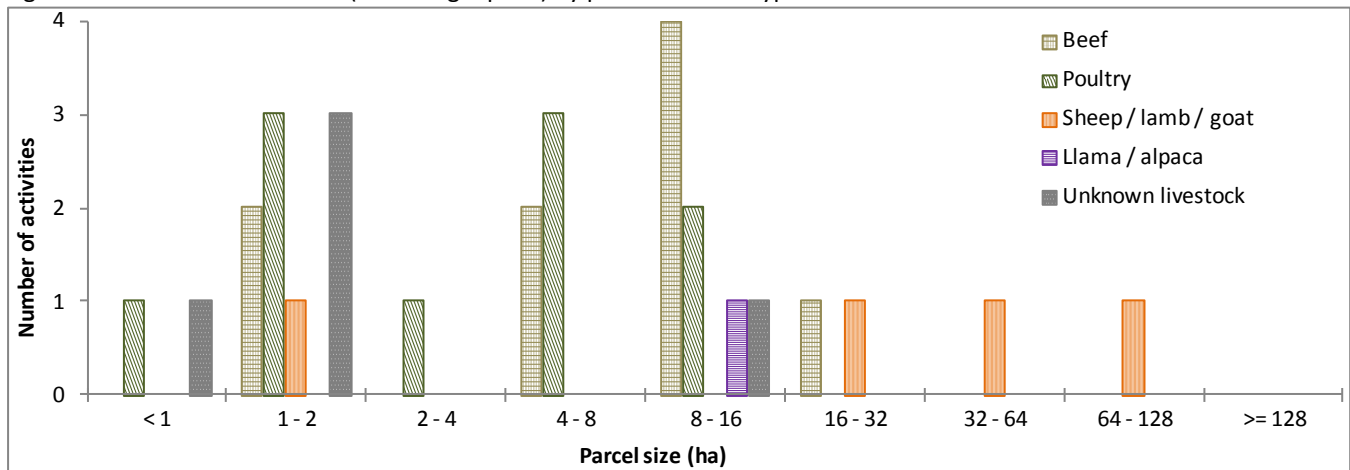


Figure 22 compares the distribution of different livestock types across parcel size categories. Although all sheep /lamb / goat activities are “small” or “very small” scale, they occur primarily on parcels greater than 16 hectares.

Refer to Table A6 in Appendix A for more information.

Figure 23. Livestock and equine activities by parcel size

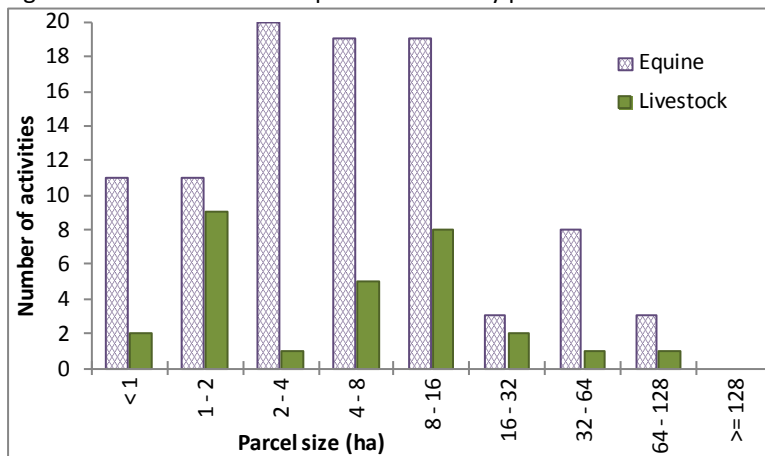


Figure 23 compares the distribution of equine and livestock activities across parcel size categories.

Both equine and livestock activities occur across all parcels sizes less than 128 hectares in Greater Terrace.

Refer to Table A6 in Appendix A for more information.

Figure 24. Average area in forage, pasture, farm infrastructure, and natural pasture on parcels with livestock activities (excluding very small scale)

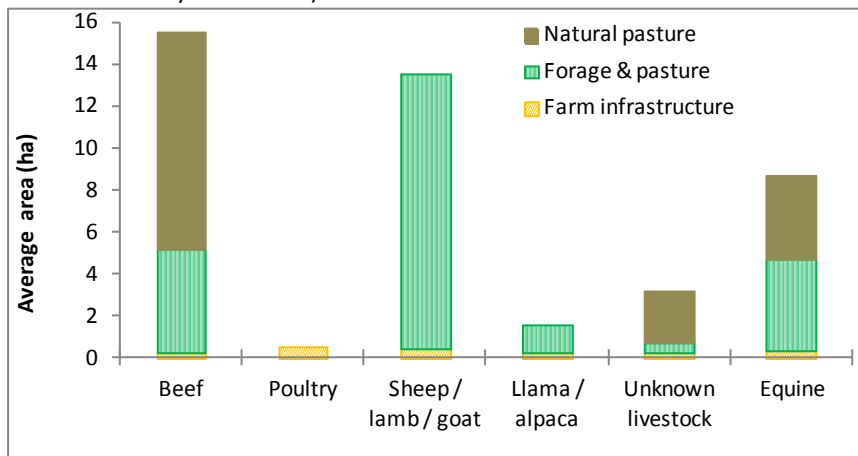
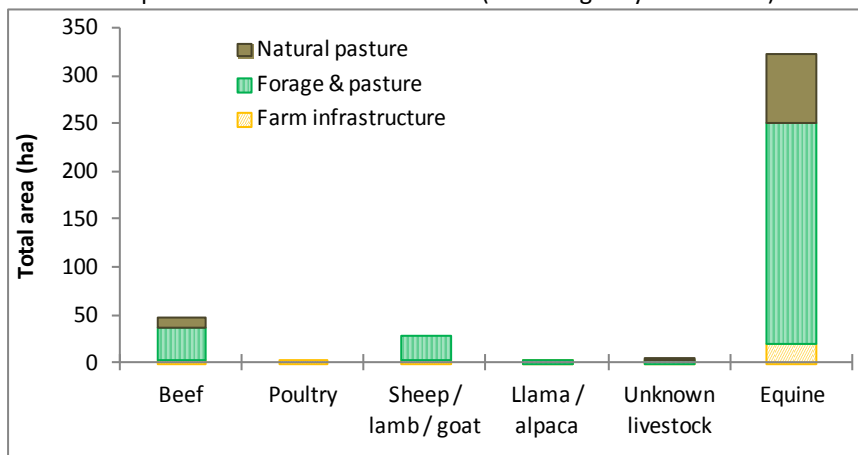


Figure 24 shows that on average, a beef activity is associated with 15 hectares of forage, pasture, and natural pasture, which is more than any other type of livestock activity.

Sheep/ lamb/ goat activities, on average, have the highest amount of cultivated forage and pasture land with 13 hectares.

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



Even though each beef activity, on average, uses more forage, pasture, and natural pasture than each equine activity (see Figure 24 above), Figure 25 shows that equine activities use a much greater total area.

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

Figure 26. Percent of parcel area utilized for forage, pasture, and farm infrastructure on parcels with livestock activities (excluding very small scale)

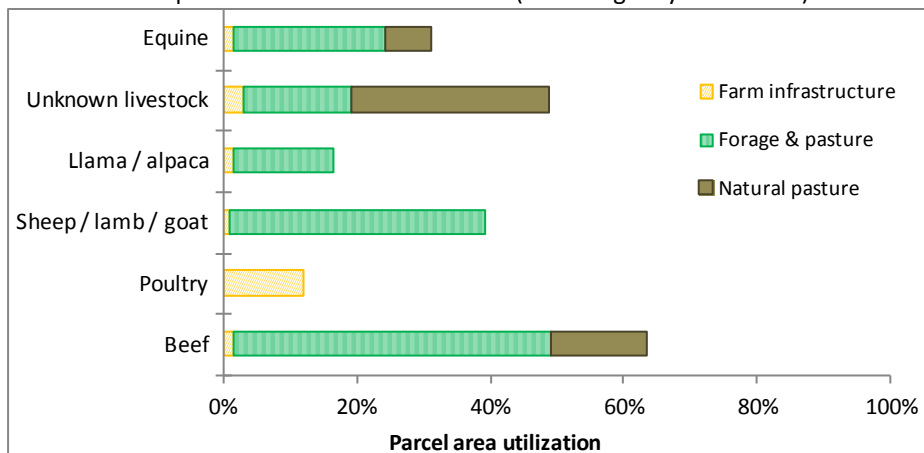
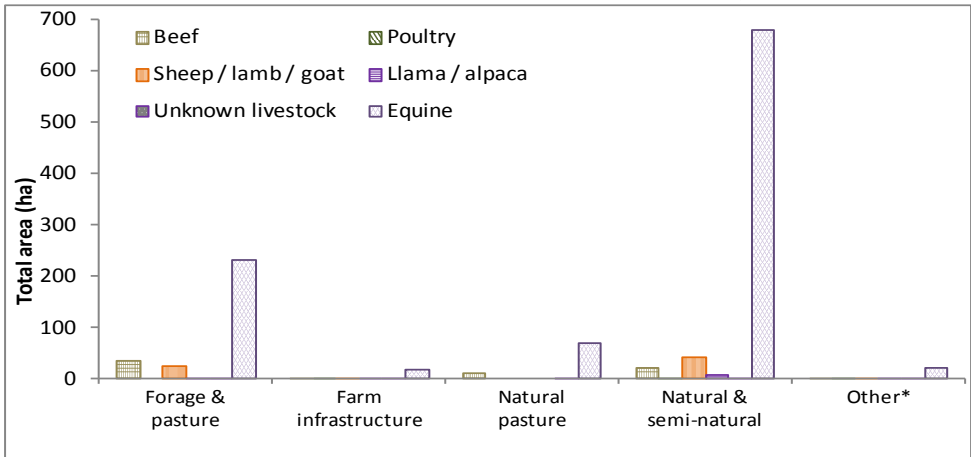


Figure 26 shows that on average, a beef activity in Greater Terrace utilizes 64% of its parcel area for forage, pasture, farm infrastructure, and natural pasture while a poultry activity only utilizes 12%.

Generally, poultry is a more intensive activity while beef is more extensive.

Figure 27. Land cover on parcels with livestock activities (excluding very small scale)

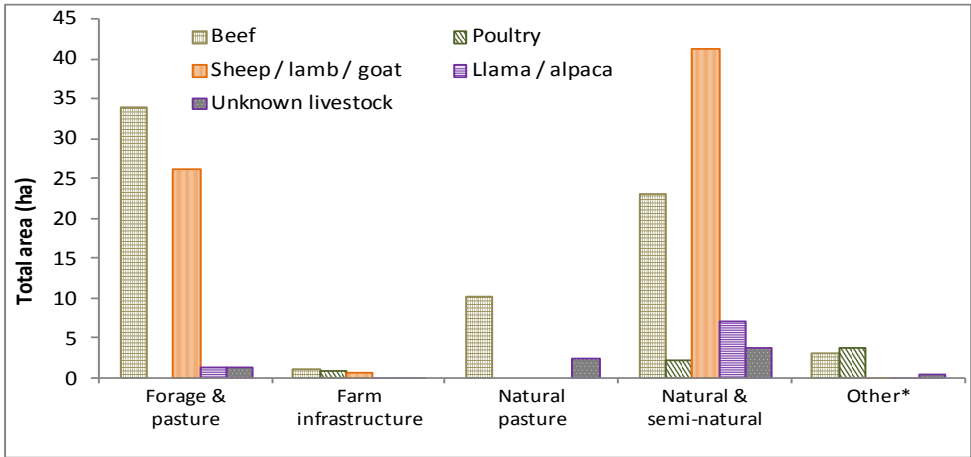


* Other includes vegetated lands seeded or planted for landscaping, dust, or soil control but not cultivated for harvest or pasture, lands covered by built objects but not farm infrastructure, and bare areas such as piles, pits, fill dumps.

Figure 27 shows that equine activities have a significant amount of forage & pasture (231 hectares) and a large amount of natural & semi-natural land cover associated with them.

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

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



* 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 28 shows that both beef and sheep / lamb / goat activities have a significant amounts of forage & pasture associated with them. 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 farm⁹ 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 temporary roadside fruit stand, small field u-pick, or egg sales from 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.

⁹ On-farm refers to the farm unit which includes all the property belonging to the farm and may incorporate more than one parcel.

Figure 29. Percentage of parcels “Used for farming” and with value-added activities

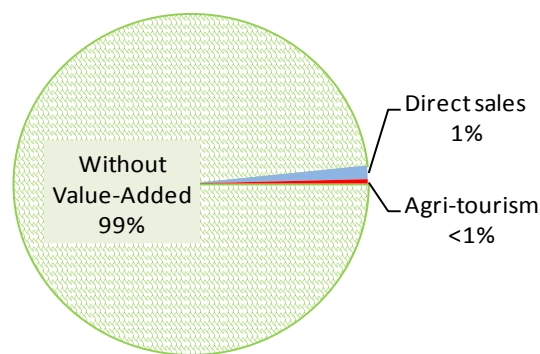


Figure 29. Only 3 parcels, or 1% of all parcels “Used for farming” are also being used for value-added activities.

Table 15. Number of parcels “Used for farming” with value-added activities

Value added	Description	Scale of activity	Total number of activities	Average parcel size (ha)
		Small scale		
Agritourism	Seasonal events	1	1	2.5
Direct sales	Seasonal store/stand	2	2	3.6
TOTAL NUMBER OF ACTIVITIES		3	3	

Table 15. shows that only 3 value-added activities were recorded in Greater Terrace.

Two seasonal stands sell eggs, and Usk hobby farm offers seasonal events.

5. Condition of ALR Lands

This section presents a parcel based analysis of parcel size and residential uses in the ALR. Land ownership can impact the type of agricultural activities that occur on a parcel. Therefore, privately owned land is reported separately from Crown owned land in this section of the report. The agricultural activities likely to occur on Crown owned land are limited and may also be subject to specific restrictions, depending on the government entity owning it.

PARCEL INCLUSION IN THE ALR

The inventory area included 5,441 hectares of ALR on 593 parcels which is 36% of the ALR within Greater Terrace. The remaining 9,492 hectares or 64% of the ALR was excluded from the inventory as it is in Crown owned parcels, unsurveyed land, rights-of-way, tree farm licences, water and foreshore, and parcels less than 1 acre in size.

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 Greater Terrace, 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, 768 parcels with 10,904 hectares or over 73% of the Greater Terrace's ALR land meet the above criteria. This includes 50 parcels that have less than 50% of their area in the ALR ($<50\%$) but contain ≥ 10 hectares of ALR land. Of these 768 parcels, 542 or 5,164 hectares are privately owned and 226 or 5,740 hectares are Crown owned.

Of these 768 parcels, only 448 or 5,269 hectares is within the inventory area and is included in the further analysis of the ALR land. Of the 448 ALR parcels in the inventory area, 425 parcels or 4,700 hectares are privately owned and 23 or 569 hectares are Crown owned.

Figure 30. Parcel inclusion in the ALR

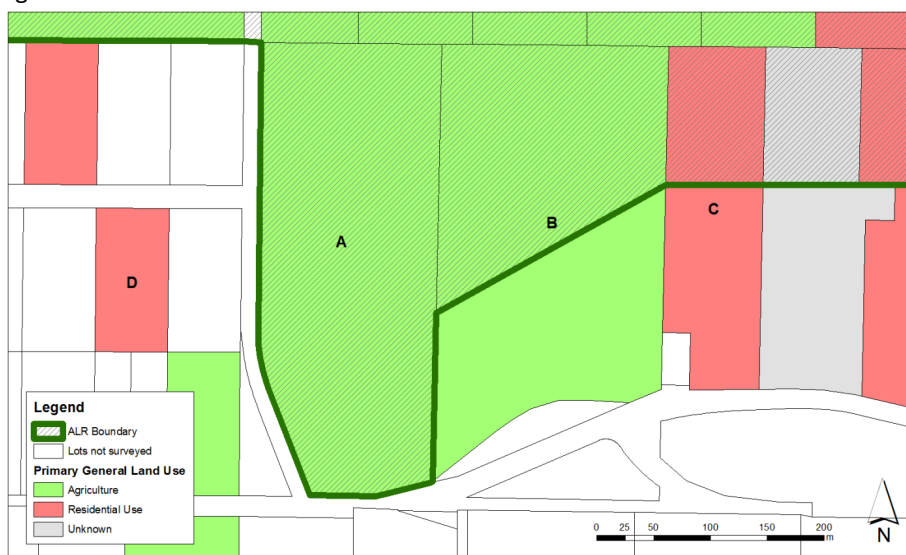


Figure 30 illustrates the distinction between parcels considered to be within or outside the ALR:

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.

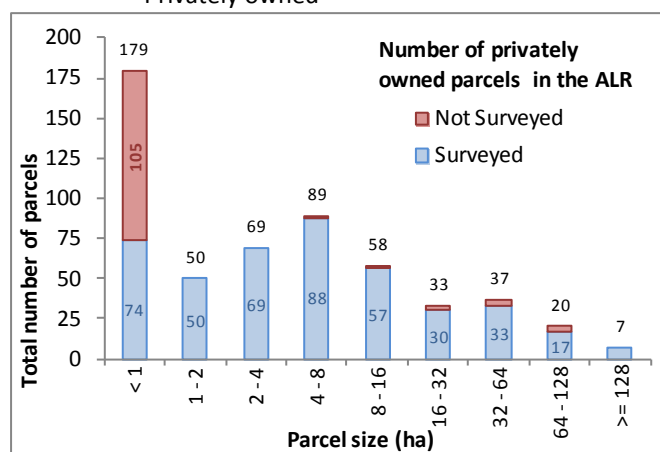
PARCEL SIZE & FARMING IN THE ALR

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 unit¹⁰, 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.

Privately Owned Parcels

Figure 31. Number of parcels in the ALR by parcel size - Privately owned



One third of Greater Terrace's privately owned ALR parcels are less than 1 hectare. The average parcel size is 12.1 hectares and the median parcel size is 3.5 hectares.

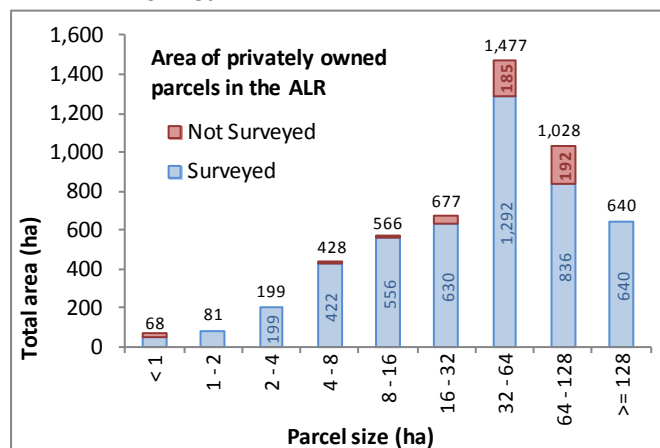
Figure 31 illustrates that of the 542 privately owned parcels in the ALR:

- 33% (179 parcels) are less than 1 hectare.
- 55% (298 parcels) are less than 4 hectares.
- 16% (89 parcels) are between 4 and 8 hectares.
- 11% (58 parcels) are between 8 and 16 hectares.
- 18% (97 parcels) are greater than 16 hectares.

Of these 542 parcels, only 425 were surveyed for land use and land cover for this inventory project. This includes 74 parcels less than 1 hectare.

Refer to Map B13 in Appendix B for more information.

Figure 32. Total area in the ALR by parcel size - Privately owned



Even though Greater Terrace has a large number of small parcels, most of its privately owned ALR area is in larger parcels.

Figure 32 illustrates that of the 5,614 hectares on privately owned parcels in the ALR:

- 1% (68 hectares) is on parcels less than 1 hectare.
- 7% (348 hectares) is on parcels less than 4 hectares.
- 8% (428 hectares) is on parcels between 4 and 8 hectares.
- 11% (566 hectares) is on parcels between 8 and 16 hectares.
- 74% (3,822 hectares) is on parcels greater than 16 hectares.

Of these 5,614 hectares, 4,700 hectares were surveyed for land use and land cover as part of this inventory project.

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

Table 16. Number of farmed and not farmed parcels in the ALR - Privately owned

Parcel status with respect to farming - Privately owned	Number of parcels	% of parcels in the ALR
Used for farming	48	6 %
Not used for farming	377	49 %
Not surveyed as part of this inventory	117	15 %
TOTAL	542	71 %

Table 16 shows that only 48 of the 425 privately owned ALR parcels surveyed as part of this inventory (>1 acre) are "Used for farming".

Figure 33. Number of farmed and not farmed parcels in the ALR by parcel size - Privately owned

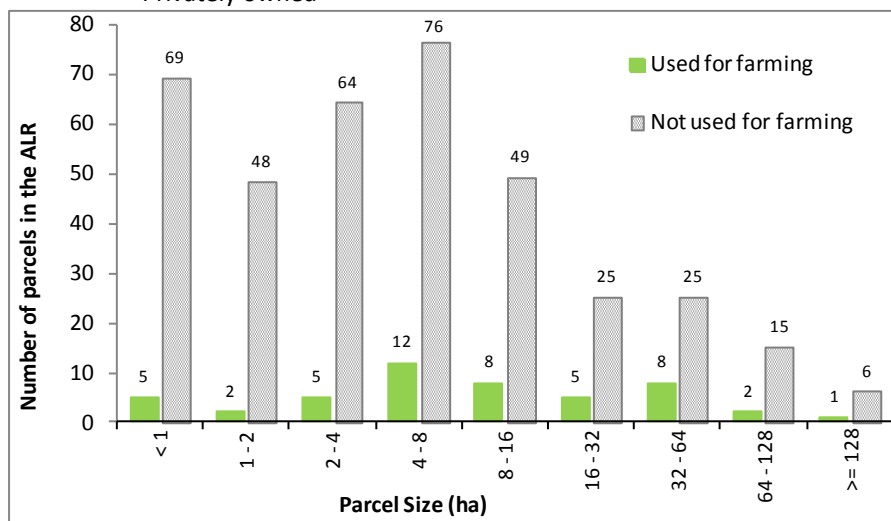


Figure 33 shows that although parcels "Used for farming" occur across all parcel size categories, the greatest number of "Used for farming" parcels occurs on parcel size category 4 - 8 hectares.

Figure 34. Proportion of parcels farmed and not farmed by parcel size in the ALR - Privately owned

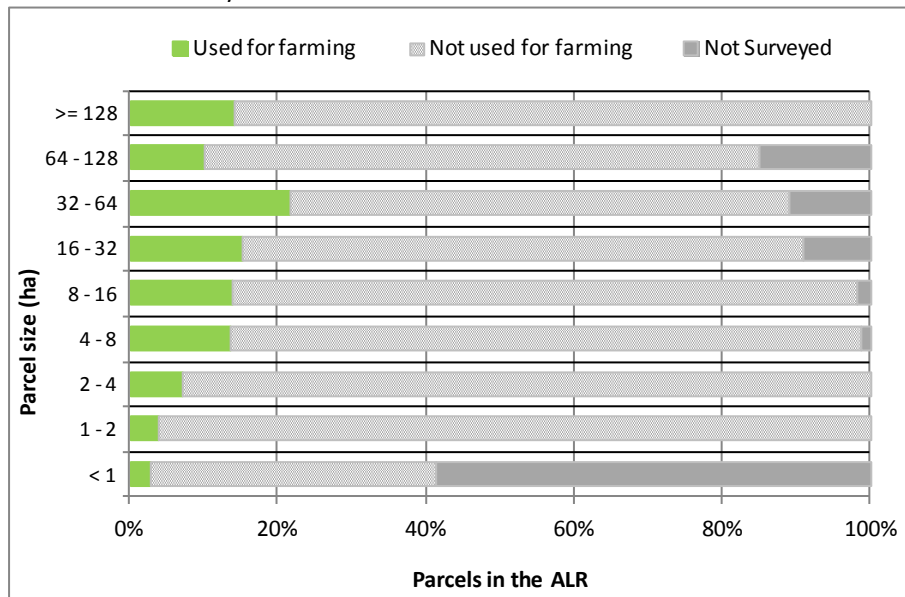
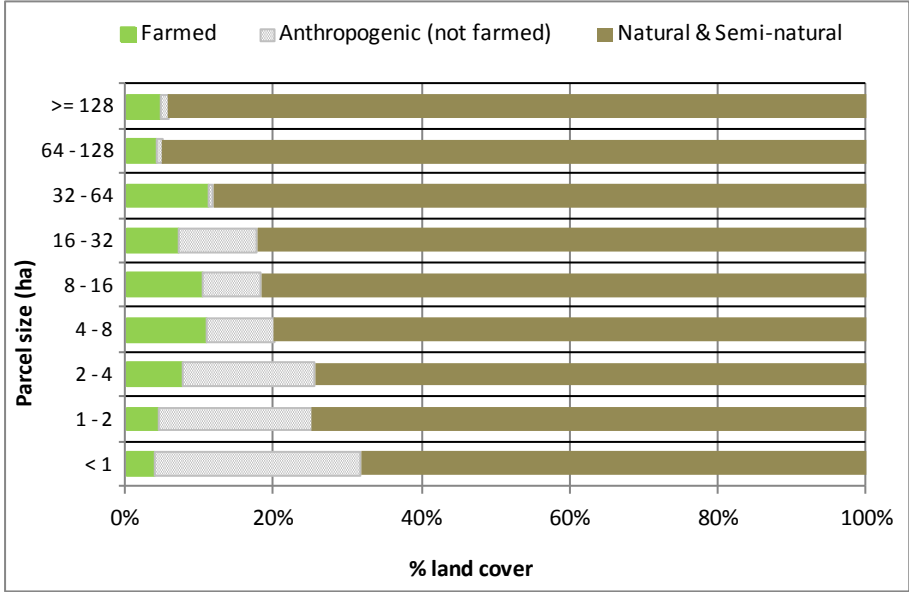


Figure 34 shows that in Greater Terrace, the proportion of privately owned parcels being "Used for farming" is low across all parcel sizes. The greatest proportion of parcels "Used for farming" is on parcels 32-64 hectares, however this is still only 22%.

As parcel size increases, the proportion of "Farmed" land also increases.

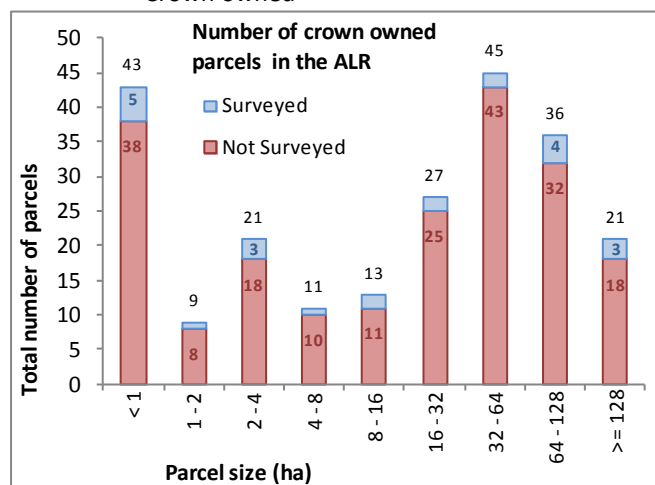
Figure 35. Proportion of land cover by parcel size in the ALR



Similar to Figure 34 above, Figure 35 shows that the majority of all parcel size categories is in “Natural & Semi-natural” land cover. The proportion of parcel area in “Anthropogenic” land cover increases as the parcel size decreases.

Crown Owned Parcels

Figure 36. Number of parcels in the ALR by parcel size - Crown owned



The majority of Crown owned ALR land in Greater Terrace was not surveyed. The average Crown ALR parcel size is 45 hectares and the median parcel size is 25.3 hectares.

Figure 36 illustrates that of the 226 owned parcels in the ALR:

- 19% (43 parcels) are less than 1 hectare.
- 32% (73 parcels) are less than 4 hectares.
- 5% (11 parcels) is between 4 and 8 hectares.
- 6% (13 parcels) are between 8 and 16 hectares.
- 58% (129 parcels) are greater than 16 hectares.

Of these 226 parcels, only 23 were surveyed for land use and land cover for this inventory project.

Refer to Map B13 in Appendix B for more information.

Figure 37. Total area in the ALR by parcel size - Crown owned

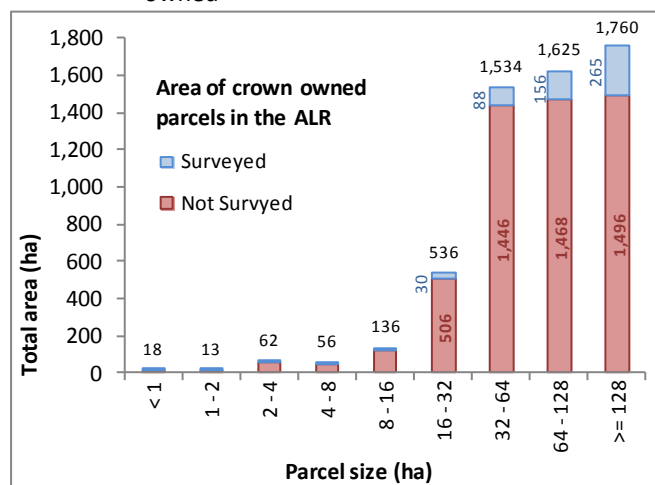


Figure 37 illustrates that of the 5,740 hectares on Crown owned parcels in the ALR:

- < 1% (17 hectares) is on parcels less than 1 hectare.
- 2% (93 hectares) is on parcels less than 4 hectares.
- 1% (56 hectares) is on parcels between 4 and 8 hectares.
- 2% (136 hectares) is on parcels between 8 and 16 hectares
- 95% (5,454 hectares) is on parcels greater than 16 hectares.

Of these 5,740 hectares, only 569 were surveyed for land use and land cover for this inventory project.

Table 17. Number of farmed and not farmed parcels in the ALR - Crown owned

Parcel status with respect to farming - Crown owned	Number of parcels	% of parcels in the ALR
Used for farming	-	-
Not used for farming	23	10 %
Not surveyed as part of this inventory	203	90 %
TOTAL	226	29 %

Table 16 demonstrates that no Crown owned parcels surveyed as part of this inventory are "Used for farming"

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 Greater Terrace properties with residences in the ALR were as follows:

- *large single family house \$352,200*
- *medium single family house \$170,737*
- *small single family house \$116,633*
- *single mobile home \$34,657*

(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.

There are 266 privately owned parcels with residences in the ALR which are included in further analysis of residential use in the ALR. There are 4 Crown owned parcels with residences in the ALR. These include settlements on the Kitsumkalum 1 Indian Reserve, the Kitselas 1 Indian Reserve, and houses on 2 parcels of the Kitselas-Kshish 4 Indian Reserve. These parcels are not included in the further analysis of residential use in the ALR.

Privately Owned Parcels

Table 18. Farming and residences in the ALR

Status with respect to farming - Privately owned parcels	With residence		Without residence		Total number of parcels
	Number of parcels	% of parcels	Number of parcels	% of parcels	
Used for farming	34	8%	14	3%	48
Not used for farming but available	217	51%	126	30%	343
Unavailable for farming	15	4%	19	4%	34
TOTAL	266	63%	159	37%	425

Table 18 shows that 266 privately owned parcels or 63% of privately owned ALR parcels have residences. Only 34 of these are “Used for farming”.

Table 19. Farming and residence type in the ALR

Privately owned parcels Status with respect to farming	Residences *					Total residences	Total number of parcels
	Single mobile home	Small house	Medium house	Large house	Estate house		
Used for farming	4 (2)	17 (17)	13 (13)	2 (2)	-	36	34
Not used for farming but available	17 (6)	151 (131)	68 (68)	9 (9)	1 (1)	251	217
Unavailable for farming	-	8 (8)	6 (6)	1 (1)	-	15	15
TOTAL RESIDENCES	21	176	87	12	1	302	
TOTAL PARCELS	8	156	87	12	1		266

* xx (yy) - xx indicates the number of residences and (yy) indicates the number of parcels

Table 19 demonstrates that there are 266 privately owned parcels in the ALR with 302 residences (some parcels have more than one residence). Most residences are small houses (< 1,500 sq. ft.). Eighty-five percent of all large (3,500 – 5,000 sq. ft.) and estate houses (> 5,000 sq. ft.) in the ALR are on parcels “Not used for farming”.

Figure 38. Total area in residential footprint by parcel size - Privately owned

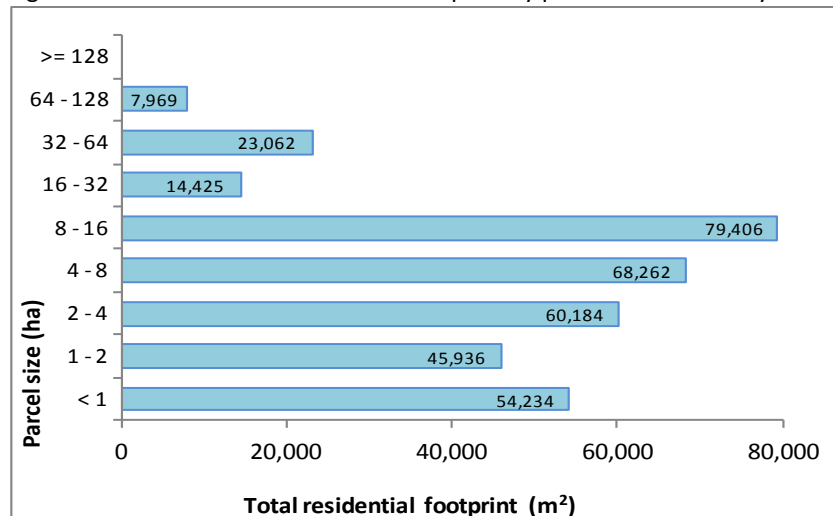


Figure 38 illustrates that there are over 35 hectares (353,479 m²) of ALR land in residential footprints distributed across all parcel sizes less than 128 hectares.

Figure 39. Proportion of parcels with residences by parcel size - Privately owned

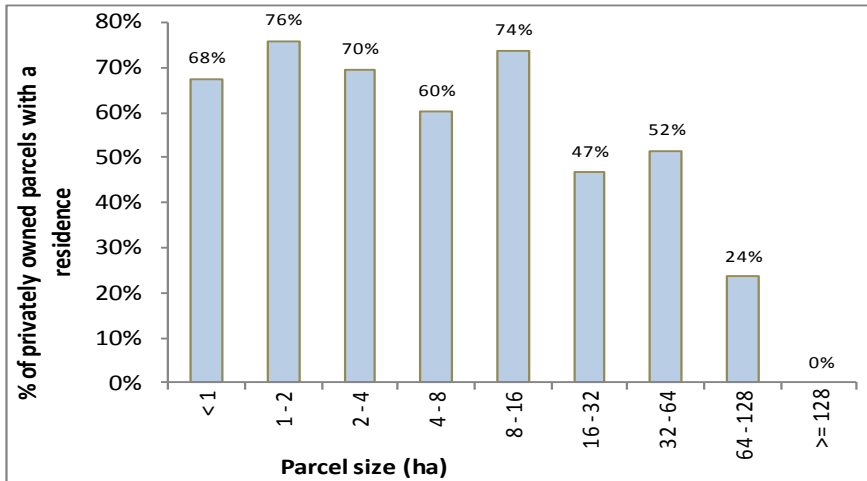


Figure 39 shows that privately owned parcels less than 16 hectares in the ALR have a high proportion of parcels with residences.

The proportion of parcels less than 1 hectare with residences would be significantly higher if all small parcels were surveyed as part of this inventory.

Figure 40. Average percent of parcel area in residential footprint by parcel size - Privately owned

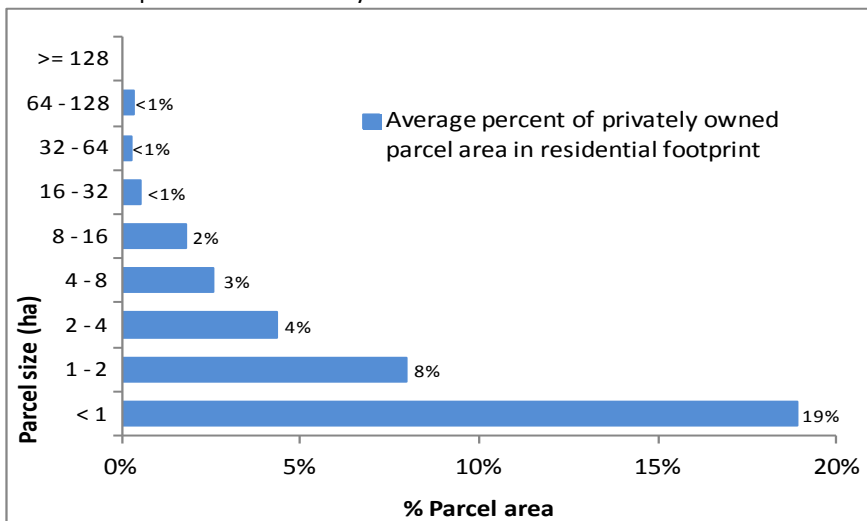


Figure 40 demonstrates that residential footprints on smaller parcels use a much greater proportion of the parcel area than those on larger parcels.

Figure 41. Average total area in residential footprint by parcel size - Privately owned

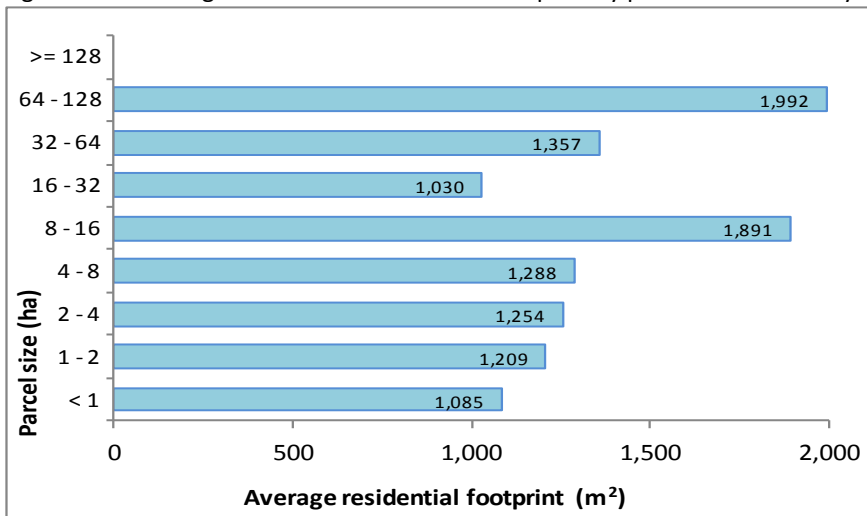
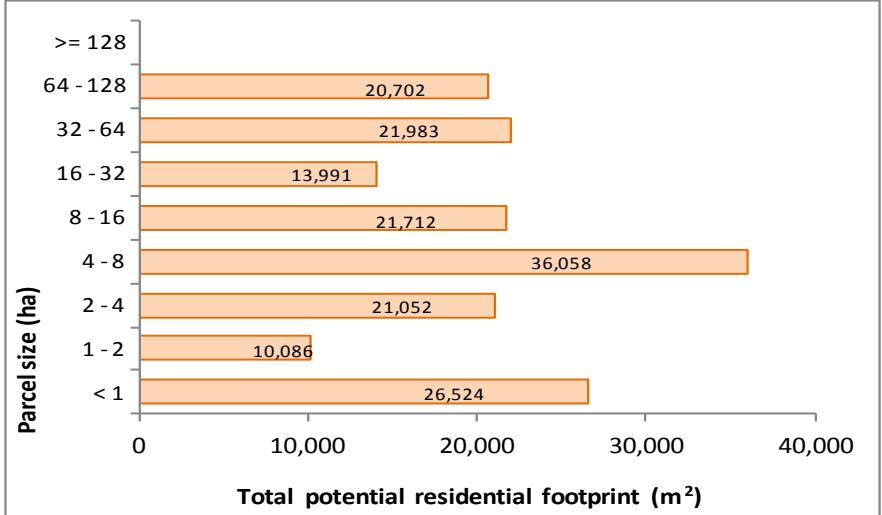


Figure 41 illustrates that even though residential footprints on small parcels use a greater proportion of the parcel area, the average size of the footprint is generally smaller compared to the footprint on larger parcels.

Figure 42. Total and potential area in residential footprint by parcel size - Privately owned



There are 140 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 140 parcels built a residence, using the average percent of parcel area in residential footprint presented above, Figure 42 shows that an additional 17 hectares (172,107 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 - Privately owned

Privately owned parcels Main agricultural activity	Largest residence on the parcel					Number of parcels
	Single mobile home	Small house	Medium house	Large house	Estate house	
Equine	1	6	11	2	-	20
Forage & pasture	1	9	1	-	-	11
Livestock	-	2	1	-	-	3
TOTAL PARCELS	2	17	13	2	-	34

There are 34 parcels with residences that are “Used for farming” (refer to Table 19).

Table 20 shows that equine activities are the main agricultural activities on parcels with large and medium houses in the ALR.

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	Vegetables	Cultivated land*	
< 1	27	5	1	33
1 - 2	22	-	-	22
2 - 4	29	1	-	30
4 - 8	14	-	-	14
8 - 16	8	-	-	8
16 - 32	6	-	-	6
32 - 64	2	-	-	2
64 - 128	-	-	-	-
>= 128	-	-	-	-
TOTAL NUMBER OF FIELDS	108	6	1	115
AVERAGE CROP AREA (ha)	5 ha	< 1 ha	< 1 ha	5 ha
MEDIAN CROP AREA (ha)	2 ha	< 1 ha	< 1 ha	2 ha
AVERAGE PARCEL SIZE (ha)	15 ha	17 ha	< 1 ha	15 ha

* Cultivated land is land that has not been seeded or planted for one or more growing season.

Table A2. Distribution of forage & pasture fields²

Field size (ha)	Number of forage or pasture fields					Total number
	Forage	Pasture	Forage & pasture	Unused *	Unmaintained **	
< 1	2	24	1	1	-	28
1 - 2	1	18	-	1	2	22
2 - 4	9	19	1	1	-	30
4 - 8	6	5	2	-	1	14
8 - 16	3	3	1	-	1	8
16 - 32	1	5	-	-	-	6
32 - 64	2	-	-	-	-	2
64 - 128	-	-	-	-	-	-
>= 128	-	-	-	-	-	-
TOTAL NUMBER OF FIELDS	24	74	5	3	4	110
AVERAGE CROP AREA (ha)	10 ha	4 ha	5 ha	1 ha	4 ha	5 ha
MEDIAN CROP AREA (ha)	4 ha	2 ha	4 ha	1 ha	3 ha	2 ha
AVERAGE PARCEL SIZE (ha)	27 ha	13 ha	7 ha	3 ha	12 ha	15 ha

* 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 maintained for several years.

¹ Footnote: 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.

² See footnote above.

Table A3. Distribution of vegetable field sizes

Field size (ha)	Number of vegetable fields		Total number
	Mixed vegetables	Potatoes	
< 1	4	1	5
2 - 4	1	-	1
2 - 4	-	-	-
4 - 8	-	-	-
8 - 16	-	-	-
16 - 32	-	-	-
32 - 64	-	-	-
64 - 128	-	-	-
>= 128	-	-	-
TOTAL NUMBER OF FIELDS	5	1	6
AVERAGE CROP AREA (ha)	< 1 ha	< 1 ha	< 1 ha
MEDIAN CROP AREA (ha)	< 1 ha	< 1 ha	< 1 ha
AVERAGE PARCEL SIZE (ha)	5 ha	79 ha	17 ha

Table A4. Distribution of natural pasture areas

Area (ha)	Number of areas
	Pasture (natural)
< 1	5
1 - 2	3
2 - 4	6
4 - 8	8
8 - 16	2
16 - 32	-
32 - 64	-
64 - 128	-
>= 128	-
TOTAL NUMBER OF AREAS	24
AVERAGE AREA (ha)	4 ha
MEDIAN AREA (ha)	3 ha
AVERAGE PARCEL SIZE (ha)	12 ha

GREENHOUSES

Table A5. Distribution of greenhouses and crop barns by building type³

Greenhouse size (ha)	Number of Greenhouses		Total number
	Glass greenhouse	Poly greenhouse	
< 1	1	1	2
1 - 2	-	-	-
2 - 4	-	-	-
4 - 8	-	-	-
8 - 16	-	-	-
16 - 32	-	-	-
32 - 64	-	-	-
64 - 128	-	-	-
>128	-	-	-
TOTAL COUNT	1	1	2
AVERAGE AREA (ha)	< 1 ha	< 1 ha	< 1 ha
MEDIAN AREA (ha)	< 1 ha	< 1 ha	< 1 ha
AVERAGE PARCEL SIZE (ha)	179 ha	16 ha	16 ha

³ The average area and median area reported in this table excludes external yards, parking, warehouses and other infrastructure related to the greenhouse or crop barn operation.

LIVESTOCK

Table A6. Distribution of livestock operations by type

Parcel size (ha)	Type of activity						Total number of activities
	Beef	Poultry	Sheep / lamb / goat	Llama / alpaca	Unknown livestock	Equine	
< 1	-	1	-	-	1	11	13
1 - 2	2	3	1	-	3	11	20
2 - 4	-	1	-	-	-	20	21
4 - 8	2	3	-	-	-	19	24
8 - 16	4	2	-	1	1	19	27
16 - 32	1	-	1	-	-	3	5
32 - 64	-	-	1	-	-	8	9
64 - 128	-	-	1	-	-	3	4
>= 128	-	-	-	-	-	-	-
TOTAL NUMBER OF ACTIVITIES	9	10	4	1	5	94	123
MEDIAN PARCEL SIZE (ha)	8 ha	3 ha	34 ha	9 ha	2 ha	4 ha	4 ha
AVERAGE PARCEL SIZE (ha)	8 ha	5 ha	34 ha	9 ha	3 ha	12 ha	11 ha

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

Table A7. Beef activities

Scale	By parcel		Total number of activities	By activity type	
	Main type	Secondary type		Intensive	Non intensive
Very small scale (1 cow)	1	-	1	-	1
Small scale (2-25 cattle)	8	-	8	-	8
TOTAL	9	-	9	-	9

"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 A8. 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 - 2	1	1	-	-	2
2 - 4	-	-	-	-	-
4 - 8	-	2	-	-	2
8 - 16	-	4	-	-	4
16 - 32	-	1	-	-	1
32 - 64	-	-	-	-	-
64 - 128	-	-	-	-	-
>= 128	-	-	-	-	-
TOTAL NUMBER OF ACTIVITIES	1	8	-	-	9
AVERAGE PARCEL SIZE (ha)	2 ha	9 ha	-	-	-

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

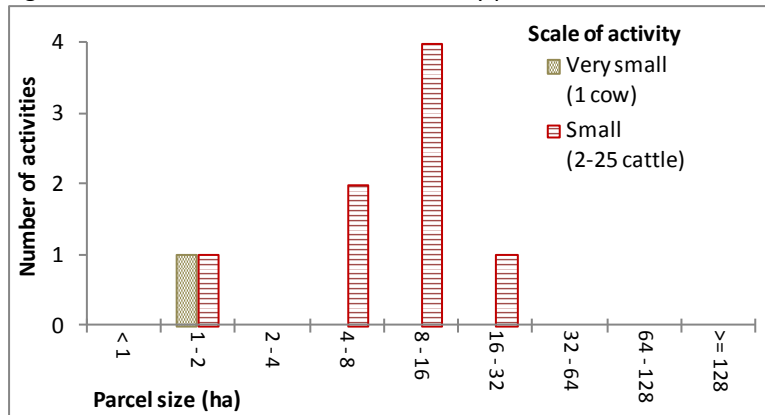
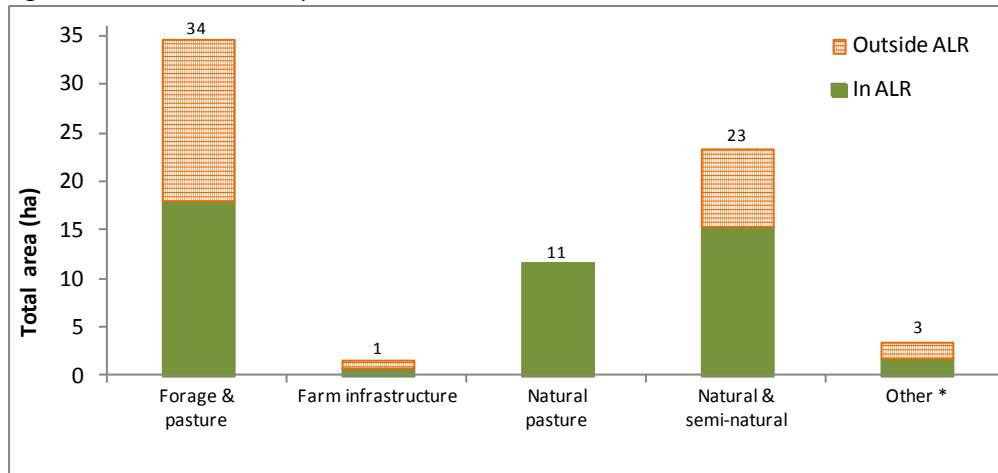


Figure A2. Land cover on parcels with beef activities



* 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 A9. Poultry activities

Poultry activity	Scale	By parcel		Total number of activities	By activity type	
		Main type	Secondary type		Intensive	Non intensive
Chicken	Very small scale (< 100 birds)	2	6	8	-	8
Chicken	Small scale (100 - 2,500 birds)	1	-	1	-	1
Chicken (layer)	Medium scale (2,500 - 10,000 birds)	1	-	1	1	-
TOTAL		4	6	10	1	9

"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 A10. Distribution of poultry activities by parcel size and scale

Parcel size (ha)	Scale of poultry activities				Total number of activities
	Very small (< 100 birds)	Small (100 - 2,500 birds)	Medium (2,500 - 10,000 birds)	Large (> 10,000 birds)	
< 1	-	1	-	-	1
1 - 2	3	-	-	-	3
2 - 4	1	-	-	-	1
4 - 8	2	-	1	-	3
8 - 16	2	-	-	-	2
16 - 32	-	-	-	-	-
32 - 64	-	-	-	-	-
64 - 128	-	-	-	-	-
>= 128	-	-	-	-	-
TOTAL NUMBER OF ACTIVITIES	8	1	1	-	10
AVERAGE PARCEL SIZE (ha)	5 ha	1 ha	6 ha	-	5 ha

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

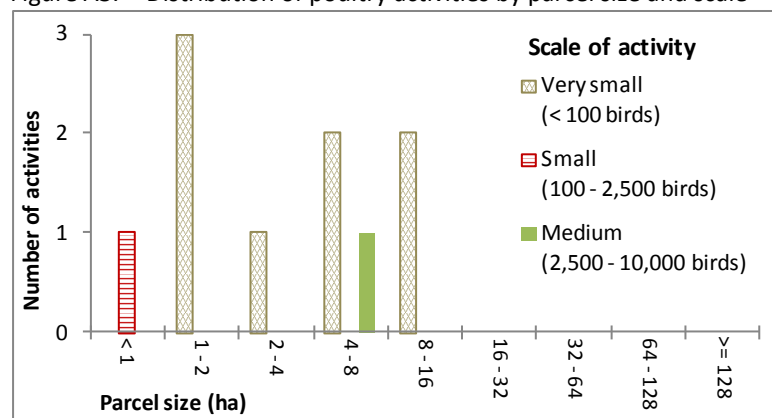
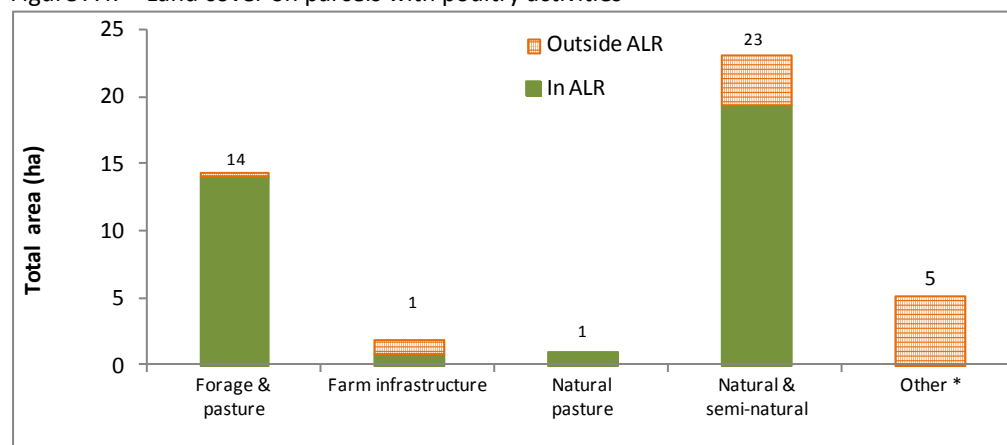


Figure A4. Land cover on parcels with poultry activities



* 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 A11. Sheep / lamb / goat activities

Activity	Scale	By parcel		Total number of activities	By activity type	
		Main type	Secondary type		Intensive	Non intensive
Goat	Very small scale (< 5 goats)	1	-	1	-	1
Sheep / lamb	Very small scale (< 10 sheep)	-	1	1	-	1
Sheep / lamb	Small scale (5 - 125 goats)	2	-	2	-	2
TOTAL	TOTAL	3	1	4	-	4

"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 A12. Distribution of sheep / lamb / goat activities by parcel size and scale

Parcel size (ha)	Scale of poultry activities				Total number of activities
	Very small (5 goats or 10 sheep)	Small (5-125 goats or 10-250 sheep)	Medium (125-500 goats or 250- 1000 sheep)	Large (>500 goats or >1000 sheep)	
< 1	1	-	-	-	1
1 - 2	-	-	-	-	-
2 - 4	-	-	-	-	-
4 - 8	-	-	-	-	-
8 - 16	-	-	-	-	-
16 - 32	-	1	-	-	1
32 - 64	-	1	-	-	1
64 - 128	1	-	-	-	1
>= 128	-	-	-	-	-
TOTAL NUMBER OF ACTIVITIES	2	2	-	-	4
AVERAGE PARCEL SIZE (ha)	33 ha	34 ha	-	-	34 ha

Figure A5. Distribution of sheep / lamb / goat activities by parcel size and scale

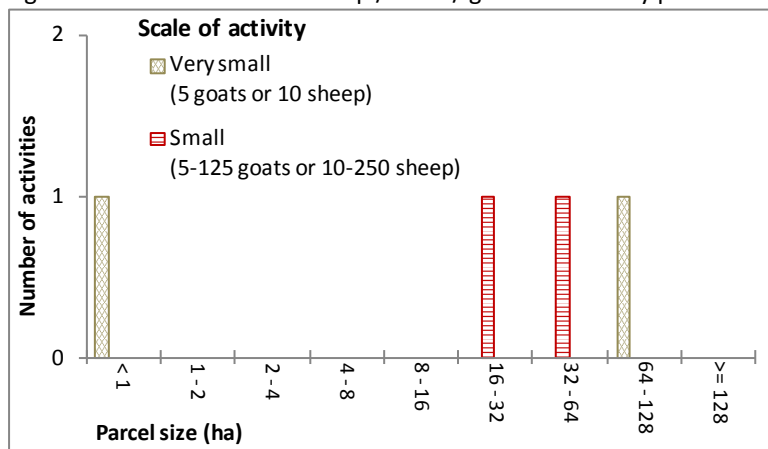
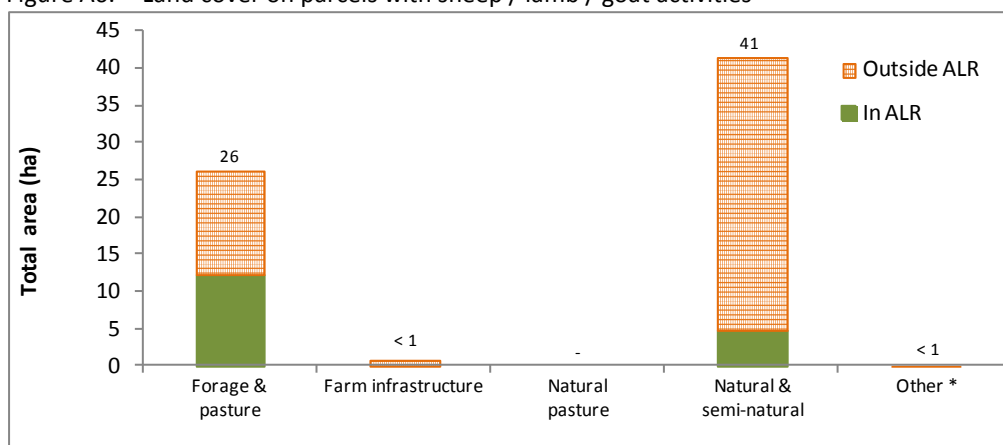


Figure A6. Land cover on parcels with sheep / lamb / goat activities



* 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. 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)	10	1	11	-	11
	Small scale (2 - 25 horses)	80	-	80	-	80
Boarding	Small scale (2 - 25 horses)	1	-	1	-	1
	Medium scale (25 - 100 horses)	1	-	1	-	1
Boarding	Medium scale (25 - 100 horses)	1	-	1	-	1
TOTAL	TOTAL	93	1	94	-	94

"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 A14. 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	4	7	-	-	11
1 - 2	2	8	1	-	11
2 - 4	3	17	-	-	20
4 - 8	-	19	-	-	19
8 - 16	1	18	-	-	19
16 - 32	1	2	-	-	3
32 - 64	-	8	-	-	8
64 - 128	-	2	1	-	3
>= 128	-	-	-	-	-
TOTAL NUMBER OF ACTIVITIES	11	81	2	-	94
AVERAGE PARCEL SIZE (ha)	5 ha	12 ha	33 ha	-	12 ha

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

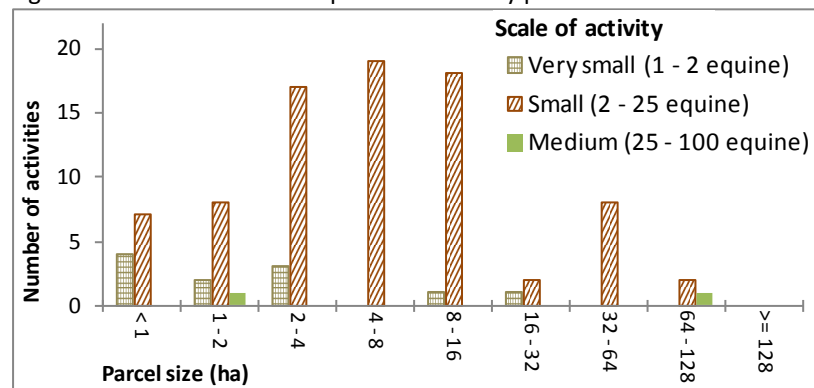
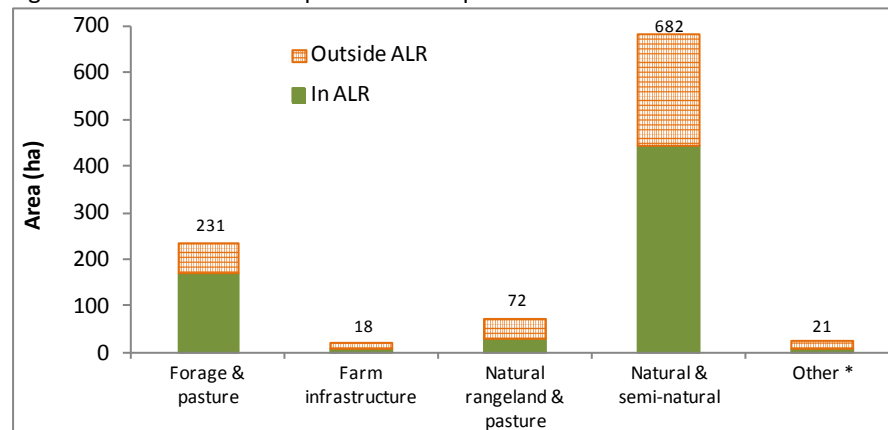


Figure A8. Land cover on parcels with equine activities



* 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.