

City of Chilliwack Agricultural Land Use Inventory 2004



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Introduction

In the summer of 2004, the Ministry of Agriculture, Food and Fisheries (MAFF) worked with the City of Chilliwack and the Chilliwack Agriculture Commission to conduct an agricultural land use inventory. The inventory encompassed all land within the Agricultural Land Reserve (ALR). The study area was approximately 15000 hectares and included over 3000 parcels.

The information collected from this inventory will be used by the City of Chilliwack, the Chilliwack Agricultural Commission and MAFF staff to answer future questions that may arise concerning land use and agricultural production in Chilliwack. For example, the land use information will be very useful in planning for agriculture and identifying policies that could be adopted to ensure the sustained growth of agri-businesses in Chilliwack.

Overview of Chilliwack

The City of Chilliwack is the second largest municipality in the Fraser Valley Regional District (FVRD), with a population of 66,618 in 2003¹ which accounts for approximately 26% of the FVRD's total population. The city is bordered by Abbotsford to the west, FVRD area D to the east, the Fraser River to the north and the foothills of the Cascades to the south forming the border to FVRD area E. Chilliwack is located primarily on flat valley bottom land with some of the most productive soil in Canada and a temperate climate ideally suited to growing a wide variety of agriculture crops.

The Agricultural Land Reserve (ALR) in Chilliwack can be divided into two distinct regions. There is the fertile Fraser Valley found in the eastern and western parts of Chilliwack, and there is Ryder Ridge in the southern part of Chilliwack which is part of the foothills of the Cascade Mountains. Ryder Ridge is geographically distinct from the rest of Chilliwack with steeper topography and less productive soils, and is less intensively developed for agriculture. Because of the major differences between these two areas, this report focuses on the valley bottom of Chilliwack and has given Ryder Ridge separate consideration.

The jurisdictional land area of Chilliwack is 26,425 ha (hectares). The area in the ALR reported by the Agricultural Land Commission (ALC) statistics is 17,220 ha. This number was originally calculated from paper base maps using a dot counter. From this baseline, lands included into, and excluded from the ALR were added and subtracted using the areas specified in the applications.

However, different numbers were generated using GIS. The area of Chilliwack is reported here as 25,295 ha. This is calculated from the total area within the cadastre (i.e. property boundaries) GIS layer, and so does not include the area of roads and highways. The figure of 15,143 ha in the ALR was calculated for this report using GIS by summing the area of parcels within the ALR.² This number excludes land within Indian Reserves, even where the Indian Reserves are inside the ALR. Many Indian Reserves do have some agricultural uses within them, but they are considered separately from all other land uses in this report because they are under a different jurisdiction than the rest of the ALR.

All numbers reported in flowcharts or tables in the remainder of this report were generated with GIS. The main study area for this report is ALR in the Chilliwack valley bottom, excluding Ryder Ridge. This main area is calculated to be 14,209 ha, while ALR land in Ryder Ridge is calculated to be 934 ha.

¹ Source: <http://www.bcstats.gov.bc.ca/>

² To calculate this figure, the cadastre GIS layer was overlaid with the ALR GIS layer. Where the ALR boundary bisected a parcel, only the portion of the parcel within the ALR was included in the total.

Table 1: Overview Statistics for the City of Chilliwack

	<i>Area (ha)</i>
Jurisdictional Land Area ³	26,425
Cadastral Land Area (omits roads and highways) ⁴	25,295
Area in ALR (from the ALC) ⁵	17,220
Area in ALR (from cadastre)	15,143
Area in Indian Reserves	1,279
Chilliwack Valley Bottom in the ALR	14,209
Ryder Ridge Area in the ALR	934

³ Source: Ministry of Municipal Affairs; Municipal Statistics, 1996.

⁴ Source: City of Chilliwack Cadastre 2004

⁵ Source MAFF City of Chilliwack & Area Agriculture in Brief

Survey Method

The Agricultural Land Use Inventory was conducted using a drive-by survey technique where all legal parcels within Chilliwack's ALR were visually surveyed and the land use activities recorded. The following tools were used:

- A vehicle with high ground clearance for drive-by observations;
- Survey maps for identifying property boundaries and landscape features. The survey maps included aerial photographs with ALR boundaries, legal property boundaries, mapped stream locations, and unique property identifier numbers (folio id). The survey maps were provided by the City of Chilliwack;
- Microsoft Access database on a laptop computer for data entry;
- Digital GIS layers including ALR boundaries, streams, roads, soil capability, and cadastral (legal) property boundaries.

The survey method was developed by the Ministry of Agriculture, Food, and Fisheries (MAFF) and requires a team of two; one drives and navigates, while the other enters the observations into the Access database. Three types of data were collected – the overall land use (agriculture, residential, commercial,...), the type of farming activity on parcels with agricultural land use (berry farm, horse farm, tree nursery,...) and the specific land covers (crops, buildings, structures, natural areas, and water features) for each property. The information collected was entered into the database, then formatted for use with a Geographic Information System (GIS) which was used to generate maps and summary statistics.

To increase the accuracy of the survey, the draft maps were reviewed by the regional agrologist and members of the Chilliwack Agricultural Commission. As well, some of the information was provided by local farmers encountered during the survey.

For additional details about the methodology, please refer to the document “AgFocus – A Guide to Agricultural Land Use Inventory.”⁶

⁶ <http://www.agf.gov.bc.ca/resmgmt/publist/800series/830110-3.pdf>

Primary Land Use Activities

Land use activities are the general activities (e.g. agricultural, residential, industrial) observed on each parcel. Up to three land use activities were recorded for each parcel in order of declining economic importance. These are referred to as the primary, secondary and tertiary land use activities. A property was recorded with “Agriculture” as the primary land use activity if farming was the only observed use or was considered to be the most important use. All properties designated as Agriculture by BC Assessment were generally given Agriculture as their primary activity. In some cases, farms without BC Assessment data were described as having “Agriculture” as the primary activity if the agriculture use appeared to be significant.

“Hobby-Amenity” was recorded when farming was obviously on a small scale and of secondary economic importance to the residential use, and not likely the major source of income to the residents; all properties with a “Hobby-Amenity” designation did not generate enough income to receive BC Assessment farmland tax status. For example, a property with a house and one or two horses is considered as “Hobby-Amenity”. Residential use is implied and therefore is not recorded separately as another land use activity.

“Residential use” was recorded as the primary activity when a property contained a house and was landscaped, but no commercial or hobby agriculture activity was observed. The classification “Commercial/Service Use” describes a property where a business activity is being carried out. If Commercial/Service use is the primary land use activity, that implies that it is the major economic activity on the property. If the property also has some agriculture on the site, then “Agriculture” would appear as the secondary land use activity.

The classification “Not in Use” as the primary land use activity refers to parcels that have only natural watercourses and/or natural vegetation as covers. These properties were vacant with respect to housing. When there is some other activity such as residential use, vegetated areas and watercourses were recorded as land covers but not land use activities. For example, a property with a house and garage that is surrounded by trees is called “Residential Use”. A category called “Wet side of dyke (marginal land)” was used for areas with some limitations for farming, since they have large areas of wetlands and they are periodically flooded. Many of these areas are used for recreational purposes.

The following map shows the primary land use activities recorded during the survey, and the table shows the number and percent of parcels devoted to each activity, as well as the median and average parcel size. In some categories, the median parcel size is much smaller than the average because some parcels are very large. Total area of parcels has been included as well, although it should be remembered that most parcels have several different types of land uses occurring (i.e. a primary, secondary and tertiary land use activity), so the sum of parcel sizes does not necessary reflect the total amount of land devoted to a particular land use.

Table 2: Primary Land Use Activities within the ALR, Chilliwack Valley Bottom

Primary land use activity	Number of Parcels	% of Parcels	Median parcel size (ha)	Average parcel size (ha)	Total size (ha)
Agriculture	1681	56%	3.8	7.3	12302
Residential Use	692	23%	1.0	0.3	192
Hobby - Amenity Use	236	8%	0.8	1.0	236
Unused Farmland	112	4%	1.1	2.1	232
Wet side of dyke (marginal land)	62	2%	3.0	11.8	731
Transportation and Communications	56	2%	0.3	4.1	232
Commercial/Service Use	34	1%	0.6	1.3	44
Institutional Use	33	1%	1.6	3.1	101
Utility	16	1%	0.1	0.4	7
Not in use	13	<1%	0.1	5.6	73
Industrial Use	12	<1%	1.8	3.1	37
Golf Course	12	<1%	15.7	19.2	230
Water Management	9	<1%	0.4	4.1	36
Recreational Use	7	<1%	3.7	3.7	26
Mineral extraction	5	<1%	4.8	5.8	29
Water	4	<1%	1.1	55.3	221
Land in Transition	2	<1%	n/a	0.7	1
Cultural/Entertainment Use	1	<1%	n/a	1.2	1
Crown Land ⁷	1	n/a	n/a	n/a	41
Total	2988	100%	1.9	4.9	14772⁸

Agriculture is by far the most common primary land use activity within the ALR, on 56% of all parcels (1681 parcels). Residential use is the second most common primary activity, with 23% of all parcels (692 parcels) having it as their primary land use activity.

Ryder Ridge has a different distribution of primary land use activities than does Chilliwack's valley bottom. Most notably, it has a higher amount of unused farmland; 32% of parcels as opposed to 4% in the valley bottom. The farmland that is in agricultural production can generally be characterised as much lower intensity than parcels in the rest of Chilliwack's ALR.

Table 3: Primary Land Use Activities within the ALR, Ryder Ridge

Primary land use activity	Number of Parcels	% of Parcels	Median parcel size (ha)	Average parcel size (ha)
Agriculture	83	48%	4.5	6.8
Unused Farmland	56	32%	3.9	6.7
Hobby - Amenity Use	22	13%	2.6	3.0
Residential Use	8	5%	0.8	1.1
Institutional Use	3	2%	0.8	0.6
Recreational Use	1	1%	1.4	1.4
Total	173	100%	4.0	5.9

⁷ Crown land did not have unique parcel identifiers and thus was not treated as separate parcels. Most of the crown land areas were rights-of-way, or areas under water.

⁸ This figure includes the entire area of parcels, including portions outside the ALR

Figure 1: Primary Land Use Activities, 2004

General Condition of ALR Land with Respect to Agriculture

An analysis was done to examine how much land within the ALR is being farmed, how much has the potential to be farmed, and how much is unavailable for farming. Numbers are reported here in the following two flowcharts, which show the number of parcels in each category, and the hectares within those parcels.

For this analysis, parcels which were bisected by the ALR boundary are included in the total of 3159, the count of parcels within the ALR. However, only the portion of those parcels which is inside the ALR is counted towards the total of 15143 hectares of ALR land. Parcels are not divided up otherwise, i.e. the area of “Farmed” land, 12228 ha, includes portions of farmed properties which are devoted to other uses, such as residential use or areas with natural trees. The percentages listed in the two flowcharts refer to the percent of the “parent category” rather than the overall total.

The next two sections will discuss in greater detail the categories of land “Not available for Farming” (including mineral extraction and wet side of dyke), as well as “Farmed” and “Not Farmed” land.

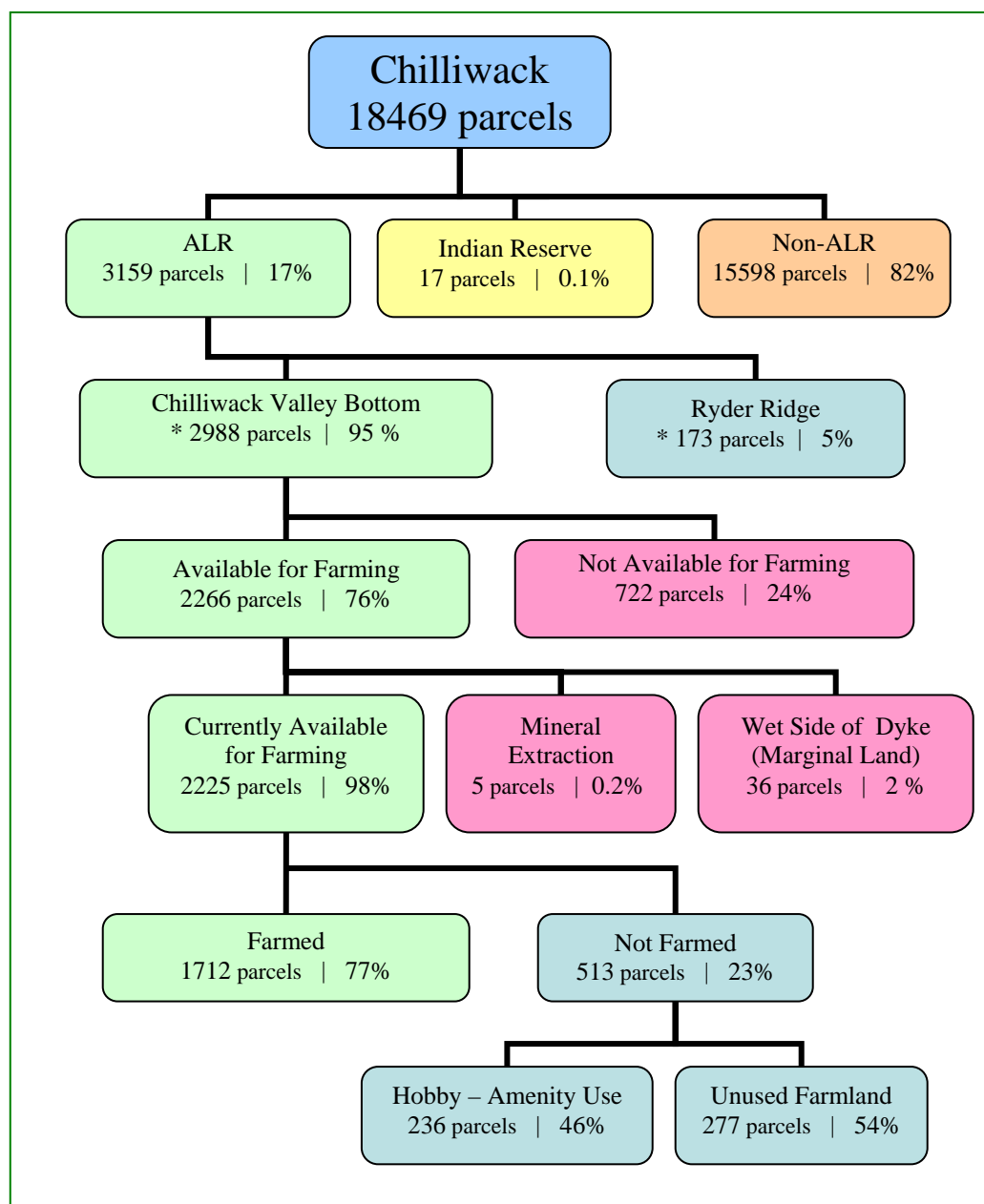


Figure 2: Breakdown of land in the City of Chilliwack, in terms of numbers of parcels

* The sum of the number of parcels in these two boxes add to 3161 rather than 3159 as listed in the ALR box in line 2. This is because areas in the cadastral layer with an ID of “CROWN” are treated as one parcel, as are areas with an ID of “ROAD”. These two “parcels” appear in both Ryder Ridge and the valley bottom, and so are counted in both.

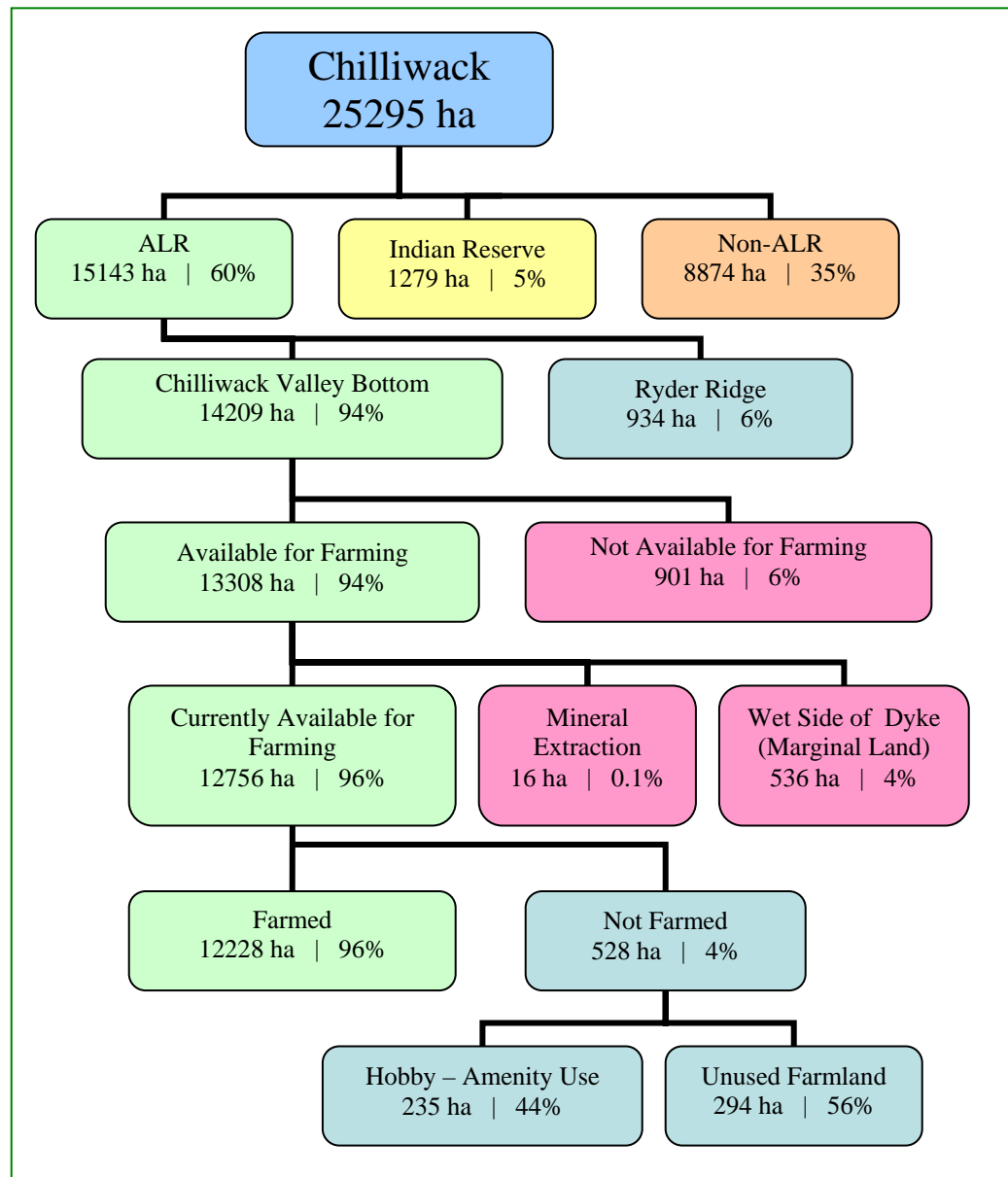


Figure 3: Breakdown of land in the City of Chilliwack, in terms of numbers of hectares

Figure 4: General Condition of ALR Land with Respect to Agriculture

Land not available for farming

Land not available for farming, also called “alienated land,” is defined as farmable land within the ALR that cannot be used for agricultural purposes because of a conflicting land use activity. As well, some parcels were considered alienated due to topological restraints, such as steep terrain or land under water.

Land devoted to mineral extraction was considered temporarily alienated from agriculture, therefore it is a separate category on the flowcharts. This follows the Abbotsford model, where the amount of land in mineral extraction was much greater. For Chilliwack, a category called “Wet side of dyke (marginal land)” was created for another set of parcels which could not always be clearly distinguished as alienated versus available for farming. These parcels have very limited potential for farming, as they have large areas of wetlands, and are periodically flooded. Some of these areas may however be used for pasture during some parts of the year.⁹

For each parcel surveyed, a box was checked on the data entry screen if the parcel was considered alienated. Agriculture and unused farmland by definition could not be considered alienated. The box was commonly checked for parcels with a primary activity of: Golf Course, Transportation and Communications, Utility, Water Management (e.g. a dyke), Water, Residential, Institutional, Industrial, or Commercial/Service Use. Residential parcels were considered alienated if the parcel size was less than 4000 square metres, or if pavement and landscaping on a larger parcel made future agricultural development impossible.

The reporting of land alienated from agriculture was done to ensure we are dealing with a realistic picture of land actually available for farming. The actual area of alienated land would be much higher than the 901 hectares listed, since this number includes only properties completely alienated, whereas many farms are partially alienated such as by the residential portion of the property (housing, driveways and lawn).

For those 722 ALR properties flagged as completely alienated the following map and table depict the reason they were considered by the surveyors to be so. In terms of land area, the biggest causes of alienation were transportation, utility or dyke (25%), water (23%) and golf courses (22%). In terms of number of properties, small residential properties were the biggest cause, at 533 parcels. Fifteen parcels were alienated due to terrain (e.g. steep slope, marshy soil) and another 14 due to water. The other 693 parcels were alienated due to their land use. This means that 96% of alienated parcels are due to land use rather than topography, or 73% of total alienated land.

⁹ There are 36 parcels in this category reported on the flowchart, as opposed to 62 parcels with “Wet side of dyke (marginal land)” listed as their primary activity in Table 2. This is because some of those 62 parcels had agriculture as a secondary or tertiary activity, and so are recorded in the “Farmed” box. Others were covered by so much water that they were considered alienated, and so are recorded in the “Not available for farming” box.

Table 4: Land Alienated from Agriculture within the ALR, Chilliwack Valley Bottom

Reason for alienation	# of Parcels	% of Alienated Parcels	Parcel Area (ha)	% of Alienated Area
Terrain				
Water	14	2%	203	23%
Terrain	15	2%	38	4%
Land use				
Transportation/ Utility /Dyke	78	11%	229	25%
Golf Course	12	2%	197	22%
Residential	533	74%	96	11%
Industrial Use /Landfill	13	2%	57	6%
School	19	3%	34	4%
Park or Sports field	5	1%	21	2%
Commercial/Service Use	26	4%	17	2%
Institutional Use	7	1%	9	1%
Total	722	100%	901	100%

Figure 5: Parcels Alienated from Agriculture, 2004

Farmed and Not Farmed land

The area counted as “Currently available for farming” on the flowcharts was further broken down to determine how much is already developed with regards to agriculture and how much is available for agri-business expansion.¹⁰ The figure of 12228 ha includes the entire area of the properties within the ALR, including area devoted to non-farm use such as residential.

Parcels considered “Not Farmed” were classified as Hobby-Amenity Use on the flowchart if they were not producing enough for BC Assessment farmland classification, but had some farming activity. Parcels classified as “Unused Farmland” on the flowchart had no agricultural activities occurring but were not alienated from future development.¹¹ The Ryder Ridge area has additional land that is not farmed, but this area was not broken down for the flowcharts.

These “Not Farmed” parcels represent areas where new agriculture operations could potentially be located. The map “Parcels with Potential for Agricultural Expansion” shows a subset of the map “General Condition of ALR Land with Respect to Agriculture.” The categories of hobby-amenity use, unused farmland, and wet side of dyke (marginal land) are highlighted. Ryder Ridge has been included on the map, but the statistics listed refer to the valley bottom alone.

The “Unused farmland” category makes up 277 parcels occupying 294 ha of land. This is 12.4% of the 2225 parcels currently available for farming in the valley bottom ALR, but only 2.3% of the land area. As evident from the map most of these parcels are small, with an average size of around one hectare. This small size limits the range of possible farming activities that could develop on these parcels. Proximity might also limit the potential for expansion of commercial agriculture onto this land.

The following table shows the size distribution of those 277 unused parcels. The majority (89% of parcels with 58 % of the land area) are less than 2 hectares, with only 2 parcels greater than 8 hectares. For comparison, Table 6 shows the size distribution of the 1712 farmed parcels. Only 27% of these parcels, with 5% of their land area, are in parcels less than 2 hectares. The bulk of the farmed area is in parcels greater than 8 hectares.

¹⁰ The 1712 parcels which were considered “Farmed” had agriculture as their primary, secondary or tertiary land use activity, as opposed to the figure of 1681 parcels in Table 2, which refers only to parcels with agriculture as their primary activity.

¹¹ Again, the number of unused farmland properties on the flowchart includes primary, secondary or tertiary use, and so is higher than listed in Table 2, which only shows the primary use.

Table 5: Unused Farmland by Parcel Size, Chilliwack Valley Bottom

Parcel Size	# of Unused Parcels	% of Unused Parcels	Parcel Area (ha)	% of Unused Area
< 2 ha	247	89%	170	58%
2 - 4 ha	18	6%	49	17%
4 - 8 ha	10	4%	53	18%
8 - 16 ha	2	1%	22	7%
> 16 ha	0	0%	0	0%
Total	277	100%	294	100%

Table 6: Farmed Land by Parcel Size, Chilliwack Valley Bottom

Parcel Size	# of Farmed Parcels	% of Farmed Parcels	Parcel Area (ha)	% of Farmed Area
< 2 ha	464	27%	576	5%
2 - 4 ha	440	26%	1196	10%
4 - 8 ha	310	18%	1747	14%
8 - 16 ha	285	17%	3266	27%
> 16 ha	213	12%	5442	45%
Total	1712	100%	12228	100%

Based on this land use inventory, a medium sized dairy operation needs approximately 18.2 ha not including the supporting pasture and forage parcels (see Table 5: Primary Agricultural Land Use Activities within the ALR, Chilliwack valley bottom). A typical greenhouse operation requires 5.2 ha of land and a nursery needs about 6.1 ha. Of the parcels with unused farmland, which were scattered throughout the ALR, 89% were less than two hectares. This means that growth can only be accomplished through intensification of existing farmland; there is little or no opportunity for expansion through increasing the land area in production.

The following map, “Parcels with Potential for Agricultural Expansion”, shows those properties in both the Chilliwack valley bottom and Ryder Ridge which contain either hobby farms or unused farmland.

Figure 6: Parcels with Potential for Agricultural Expansion

Primary Agricultural Activities

For each parcel in the study area with Agriculture as a land use activity, up to four specific agricultural activities were recorded, in order of decreasing importance. The primary agricultural activity is the one which is likely the greatest source of income. In some cases this was difficult to determine, so the distinction between primary, secondary, tertiary and quaternary agricultural activity was, at times, a best guess. In the table below and all subsequent tables, an agricultural activity is considered the **main use** if it is the primary agricultural activity, and the parcel's primary activity is Agriculture. An agricultural activity is considered an **ancillary use** if it is not the primary agricultural activity, or the parcel's primary activity is something other than Agriculture.

For all remaining tables in this report, statistics are for the ALR in the Chilliwack valley bottom only, excluding Ryder Ridge.

Table 7: Primary Agricultural Land Use Activities

	Main use					Ancillary use	Total
Primary agricultural land use activity (generalized)	Number of Parcels	% of Parcels	Median parcel size (ha)	Average parcel size (ha)	Total parcel size (ha)	Number of Parcels	Number of Parcels
Forage and pasture	683	41%	3.0	6.0	4072	911	1594
Nurseries and tree farms	215	13%	3.1	6.1	1313	76	291
Dairy farms incl. dry cow facilities	198	12%	11.7	18.2	3603	16	214
Intensive livestock	127	8%	4.3	5.8	731	15	142
Horse farms and stable/riding facilities	125	7%	2.2	3.3	416	54	179
Beef cattle farms	74	4%	3.6	5.5	407	25	99
Field vegetable farms	60	4%	8.0	11.1	664	25	85
Specialty crops	49	3%	3.4	6.0	292	39	88
Greenhouse operations	45	3%	2.9	5.2	236	1	46
Specialty livestock	39	2%	2.0	4.4	173	81	120
Berry farms	33	2%	4.2	7.2	236	13	46
Agriculture-related activities	21	1%	2.0	4.4	93	9	30
Sheep/goat farms	12	1%	2.8	5.4	65	12	24
Total	1681	100%	3.8	7.3	12302		

For Table 7 and its accompanying map, agricultural activities have been generalized. Specific activities will be discussed next, in the following order:

- Extensive livestock, including dairy and dry cow facilities, horse, beef, sheep and goats, and specialty livestock.
- Intensive livestock, including poultry (layers, broilers, broiler hatching egg and turkey), swine, duck, fur, and rabbits. These are livestock which are confined to barns.
- Cultivated crops including forage and pasture, greenhouse crops, nursery and trees, berries, field vegetables, and specialty crops.
- Agriculture-related activities, which includes agri-tourism, processing or preparation, agri-commercial, and agri-industrial.

Figure 7: Primary Agricultural Land Use Activities, 2004

Extensive Livestock

A parcel is considered an extensive livestock operation when there are active animal housing facilities but livestock are not permanently confined in barns. Extensive livestock operations usually have one or more of (but not limited to) the following varieties of livestock: dairy cattle, dry cows, beef cattle, horses, sheep and goats. Other animals have been lumped into the category of Specialty Livestock. Parcels that have that have grazed pasture as a land cover, but have no confined animal housing structures, are not considered extensive livestock operations and would instead be listed as pasture operations.

Dairy Farms and Dry Cow Facilities

Dairy farms are the most common type of extensive livestock operation, and are the third largest use of ALR land in Chilliwack behind forage and pasture operations and nurseries. Almost half of the dairy operations (43%) are medium-scale dairies that are milking between 50 and 100 cows. The average parcel size where medium-scale dairy is the primary activity is 18.5 ha. The average parcel size for large-scale dairies is 29.2 ha, representing 21% of all dairy operations.

Parcels were classified as dairy operations when there was clear evidence of 1) dairy facilities including barn structures, feed storage, and milkhouse, and 2) visual confirmation of dairy cattle, or direct evidence of their recent presence. One dairy farm typically includes one or more additional parcels used to pasture the cows, or grow hay or silage for feed. These parcels are usually immediately adjacent to the dairy, but were counted in the Pasture and Forage Operation category in this survey. In other words, each parcel is treated separately, even if it's part of a larger farm. The dairy farms observed in the field were verified using the Chilliwack dairy producers list to ensure that an accurate account was made.

Table 8: Dairy Farms and Dry Cow Facilities

	Main use				Ancillary use	Total
Type of operation	Number of operations	% of dairy operations	Median parcel size (ha)	Average parcel size (ha)	Number of Parcels	Number of Parcels
Dairy, by scale:						
Large (> 100 cows)	42	21%	28.6	29.2	1	43
Medium (50-100 cows)	86	43%	16.5	18.5	2	88
Small (<50 cows)	51	26%	13.2	13.0	7	58
Unknown	0	0%	n/a	n/a	2	2
Dry cow facility	19	10%	4.1	6.3	4	23
Total	198	100%	11.7	18.2		

Dry cow facilities are farms where dairy cows are kept when not in the lactating portion of their production cycle, i.e. they are bred heifers waiting to freshen (have a calf), or cows that have stopped milk production for a few months before having their next calf. Dry cows are kept both at active dairies, and in separate dry cow facilities. It is possible that farms recorded as dry cow facilities could actually be active dairies or vice versa, however careful observation and comparison with the dairy producers list was done to minimize classification errors.

The average parcel size for a dry cow facility is 6.3 ha, smaller even than the average size of the small dairy operations. The count of dry cow facilities (23 in total) includes only those farms that do not also have an active dairy on the same parcel.

Figure 8: Dairy Farms and Dry Cow Facilities, 2004

Horse Farms and Stable/Riding Facilities

Horse farms, including stables and riding facilities, are the second most common extensive livestock operation with 122 parcels having an average area of 3.2 ha. Horses are very common in Chilliwack and are often kept in small numbers for hobby-farming purposes on small farms, and also large farms that derive their income from other sources. A farm that had horses was not necessarily counted as a horse farm. A parcel was only counted as a horse farm if it:

1. was observed to have horse facilities such as a barn, riding ring, paddocks, or horse trailer;
2. was observed to have horses or evidence of horses; and
3. had a BC Assessment farm tax status classification.

Many small parcels were observed to have horses, but failed to meet these criteria and were classified as hobby farms rather than horse farms.

Table 9: Horse Farms and Stable/Riding Facilities

	Main use				Ancillary use	Total
Type of operation	Number of operations	% of operations	Median parcel size (ha)	Average parcel size (ha)	Number of Parcels	Number of Parcels
Horse Farm	117	94%	2.1	3.1	54	171
Stable/Riding Facility	8	6%	5.0	6.8	0	8
Total	125	100%	2.2	3.3		

Figure 9: Horse Farms and Stable/Riding Facilities

Beef Cattle Farms

Beef cattle farms are the third most common type of extensive livestock operation. There were 74 parcels where the main use was beef cattle. An additional 25 parcels were listed with beef cattle operation as an ancillary use. A parcel was only counted as a beef cattle farm if it:

1. was observed to have beef housing structures on the parcel
2. was observed to have beef or evidence of beef; and
3. had a BC Assessment farm tax status classification.

There were many more parcels where beef cattle were observed, but if they did not meet the criteria listed above, they were classified as hobby farms.

Table 10: Beef Cattle Farms

	Main use			Ancillary use	Total
Type of operation	Number of parcels	Median parcel size (ha)	Average parcel size (ha)	Number of Parcels	Number of Parcels
Beef Cattle Farm	74	3.6	5.5	25	99

Figure 10: Beef Cattle Farms, 2004

Sheep and Goat Farms

Sheep and goat farms were not very common relative to the other forms of extensive livestock operations in Chilliwack. A total of nine parcels had sheep and/or goats as their main use and these parcels had an average size of 2.8 ha. There were four Milk Goat farms recorded. These were not apparent during the survey, and were determined during the data verification stage based on personal knowledge of the area.

Sheep and goats were also a common hobby livestock type, but a parcel was only counted as a sheep/goat farm when it:

1. was observed to have housing structures on the parcel, or milking facilities;
2. was observed to have sheep or goats or evidence of them; and
3. had a BC Assessment farm tax status classification.

Those parcels failing to meet the criteria listed were classified as hobby farms.

Table 11: Sheep and Goat Farms

	Main use				Ancillary use	Total
Type of operation	Number of parcels	% of operations	Median parcel size (ha)	Average parcel size (ha)	Number of Parcels	Number of Parcels
Sheep/Goat Farm	9	75%	2.0	2.8	11	20
Milk Goat Farm	3	25%	7.3	13.2	1	4
Total	12	100%	2.8	5.4		

Figure 11: Sheep and Goat Farms, 2004

Specialty Livestock

This category was used for extensive livestock types that were not very common, or where the type of livestock could not be determined by the surveyors. Parcels were classified as “Livestock - type unknown” when there was evidence of recently grazed pasture and animal housing facilities but the type of livestock could not be determined.

“Mixed livestock (small-scale)” was used when there were several different types of animals present, but no clear type that was the dominant source of income for the farm. “Poultry - backyard flock” was only recorded as the main use for four properties, which perhaps would better be described as free-range poultry operations. “Poultry - backyard flock” was a very common ancillary use since many farms, regardless of size, kept small flocks in their backyards or fenced in a small area on their farm. The actual number of properties with backyard poultry is likely much higher than the number given, since this is something particularly easy to miss in a drive-by survey.

Other types of specialty livestock which were uncommon include llamas and alpacas, buffalo, and game birds. Apiaries are farms engaged in bee production, and were placed in this category for lack of a better place to put them. Because bee hives are very small and are frequently moved from farm to farm, there are certainly many more apiaries in Chilliwack than are listed here.

Table 12: Specialty Livestock

Type of operation	Main use				Ancillary use	Total
	Number of parcels	% of operations	Median parcel size (ha)	Average parcel size (ha)	Number of Parcels	Number of Parcels
Livestock operation - type unknown	25	64%	2.2	3.5	26	51
Mixed Livestock (small-scale)	6	15%	1.2	7.6	10	16
Poultry - backyard flock	4	10%	0.7	1.0	35	39
Llama/Alpaca Farm	2	5%	n/a	4.1	1	3
Apiary	1	3%	n/a	2.7	6	7
Buffalo Farm	1	3%	n/a	24.9	0	1
Game Bird Farm	0	0%	n/a	n/a	3	3
Total	39	100%	2.0	4.4		

Figure 12: Specialty Livestock, 2004

Intensive Livestock

Intensive livestock operations refer to livestock that are exclusively raised inside an animal housing structure. Some dairy operations could meet this classification since the cows are enclosed entirely within roofed structures. For the purposes of this survey however the term intensive livestock is applied to poultry, swine, duck, fur, and rabbit farms. By far the most common type of intensive livestock is poultry. Parcels where poultry is the main farming activity make up 112 of 127, or 88% of intensive livestock operations, and have an average parcel size of 5.2 ha.

The poultry producers list was used to cross-reference poultry farms observed on the survey. The poultry classification does not include small scale free-range poultry (which are classified as "Poultry - backyard flock" under Specialty Livestock). When possible during the survey, the type of poultry operation was identified based on the barn, such as broiler, layer, and turkey operations. However, since this level of detail was not always possible to identify, it is not included in this summary report.

The nine parcels with swine farm as the main use have a very large average parcel size, at 13.9 ha. Many of these parcels had other significant farming activities in addition to the swine operation. There was only a small amount of duck, fur, or rabbit farms.

Table 13: Intensive Livestock

	Main use				Ancillary use	Total
Type of operation	Number of parcels	% of operations	Median parcel size (ha)	Average parcel size (ha)	Number of Parcels	Number of Parcels
Poultry Farm	112	88%	4.1	5.2	11	123
Swine operation	9	7%	11.9	13.9	2	11
Duck Farm	3	2%	1.9	3.0	1	4
Fur Farm	2	2%	n/a	7.6	1	3
Rabbit Farm	1	1%	n/a	1.5	0	1
Total	127	100%	4.3	5.8		

Figure 13: Intensive Livestock, 2004

Cultivated Crops

Agricultural activities included here in the category of cultivated crops include forage and pasture, nursery and tree farm operations, field vegetables, berries, greenhouse crops, and specialty crops.

Forage and Pasture Operations

By far the most common farming activity, forage and pasture operations are the foundation of agriculture in Chilliwack. As shown in Table 5, 683 out of 1681 of agricultural parcels in the Chilliwack Valley have forage or pasture as their main use, or 41%. When ancillary use is included, there are 1594 parcels with forage or pasture.

Forage and pasture crops are the main source of food for many extensive livestock operations, with dairy farms in particular requiring large areas of land devoted to forage and pasture crops. In addition, small scale and hobby farms also depend on forage and pasture crops for feed. Forage is usually hay or corn that is harvested and processed to be use for feeding of confined livestock, while pasture is usually a fenced field where the livestock can graze. Most of the corn grown in Chilliwack is forage corn that is used to feed dairy cows, and is not for human consumption. Sweet corn, which is eaten by humans, is classified in this survey as a field vegetable crop.

Most extensive livestock operations have some forage and/or pasture crops as an ancillary use to feed their animals. Forage production is the most common farming activity in Chilliwack; 1058 parcels have at least some land area in forage and 587 of those parcels have forage as the main use. Only 96 parcels are considered to have pasture as the primary activity, but there are 536 parcels that have pasture as an ancillary use. Many farmers running extensive livestock operations own or lease additional land to grow forage crops, often immediately adjacent to their (primary) dairy or beef operations.

Table 14: Forage and Pasture Operations

Type of operation	Main use				Ancillary use	Total
	Number of operations	% of operations	Median parcel size (ha)	Average parcel size (ha)	Number of Parcels	Number of Parcels
Forage	587	86%	3.3	6.5	471 ¹²	1058
Pasture	96	14%	1.9	2.9	440	536
Total	683	100%	3.0	6.0		

Whenever a crop was recorded as a land use cover during the survey, an estimate was made as to the percent of the parcel occupied by that crop. The percent was then multiplied by the area of the parcel to get a rough estimate of the crop size.

¹² Of these 471 parcels with forage as an Ancillary use, 172 had pasture as a Main or Ancillary use as well

Table 15: Hectares of Forage and Pasture Crops

Type of crop	Number of hectares
Silage or hay	4309
Forage corn	2529
Used pasture (grazing)	1302
Unused pasture	294
Forage and pasture crops (type unspecified)	107
Total	8540

Figure 14: Forage and Pasture Operations, 2004

Nurseries and Tree Farms

The term “Nursery” was assigned to parcels growing cedar hedging or other ornamental trees and shrubs, either in the ground or in containers. Nurseries were defined as any parcel with a significant number of trees planted, regardless of the presence of structures on the parcel. Many nurseries had greenhouses growing seedlings, as well as trees planted in the ground or in containers, and these were classified as “Nursery including Greenhouse.”

Nursery is by far the dominant activity in this section, with 185 parcels where it is the main use, and an additional 69 parcels where it is an ancillary use. There is a wide distribution of parcel sizes for this activity; the average size is 5.6 ha and the median size is only 3.0 ha. The high average is due to a few parcels in nursery that are very large. Nurseries are heavily concentrated in the north-east of Chilliwack, north of Highway 1 in the Rosedale area. Here there are several very large areas of continuous nursery operations immediately adjacent to one another, taking advantage of the excellent soil and water conditions there.

“Tree Farm” refers to parcels growing trees for pulp, such as hybrid poplar. The large average parcel size of 19.9 ha for the tree farm category is due to the fact that there are two very large parcels growing hybrid poplars for pulp wood. There are also two Christmas tree farms in Chilliwack, which are listed in this section.

There are three parcels with “Field flower farm” as a main use, and an additional five farms with field flowers as an ancillary use. Field flower farms are often combined with greenhouse operations, so some of these five parcels have field flowers as ancillary use to a greenhouse operation.

Chilliwack has undergone a significant change in recent years as the number of tree nurseries has dramatically increased. Many of the nurseries appear to be new operations, as the trees are freshly planted, and structures from previous farming activities still remain on the parcel. During the time that this survey was conducted, several new cedar hedging operations were planting seedlings. Parcels with tree nurseries and tree farms occupy 8.6% of the land available for farming in the prime valley bottom area (excluding Ryder Ridge). Because nursery operators can generally afford to pay more for a parcel of land than producers of many other commodities, an expanding nursery industry will have a significant influence on the price of farmland and ultimately affect the future makeup of agricultural commodity groups in Chilliwack. Analysis of land use change from earlier surveys to the present will be carried out in a follow-up report.

Table 16: Nurseries and Tree Farms

	Main use				<i>Ancillary use</i>	<i>Total</i>
Type of operation	Number of parcels	% of operations	Median parcel size (ha)	Average parcel size (ha)	<i>Number of Parcels</i>	<i>Number of Parcels</i>
Nursery	185	86%	3.0	5.6	69	254
Nursery (incl. Greenhouses)	21	10%	3.1	7.8	1	22
Tree Farm	4	2%	22.5	19.9	1	5
Field Flower Farm	3	1%	1.9	6.7	5	8
Christmas Tree Farm	2	1%	n/a	5.8	0	2
Total	215	100%	3.1	6.1		

Table 17: Hectares of Nursery and Tree Crops

Type of crop	Number of hectares
Cedar hedging	490
Ornamentals and shrubs	406
Nursery (type unspecified)	209
Trees (plantation)	79
Christmas trees	18
Floriculture	10
Total	1211

Figure 15: Nurseries and Tree Farms, 2004

Field Vegetable Farms

Field vegetables are grown for human consumption, not livestock feed. Field peas, cole crops, and sweet corn were the most common crops in the category of “Field Vegetables”. Field peas in particular are a very common crop in Chilliwack and are often grown as ancillary crops on dairy farms. This survey was conducted in the summer months and so was timed very well for identifying the farms growing sweet corn for the direct sales market. While cornfields were a common sight, very few parcels were producing sweet corn for human consumption compared to the large number of parcels growing forage corn for livestock. Differentiating the corn grown for processing for human consumption from forage corn grown for livestock is very difficult in this type of survey, so the farmer was consulted when possible to ensure the correct classification of the type of corn.

The average parcel size for field vegetable farms is 11.1 ha. As shown in Table 5, this is the second largest average parcel size, after dairy. Field vegetable operations are limited in their ability to intensify production, and therefore require larger fields to ensure the crop is profitable.

Table 18: Field Vegetable Operations

	Main use			Ancillary use	Total
Type of operation	Number of parcels	Median parcel size (ha)	Average parcel size (ha)	Number of Parcels	Number of Parcels
Field Vegetable Farm	60	8.0	11.1	25	85

Table 19: Hectares of Field Vegetable Crops

Type of crop	Number of hectares
Peas	270
Cole crop	219
Sweet corn	122
Vegetables (type unspecified)	21
Beans	15
Potatoes	10
Zucchini	7
Misc. vegetables	1
Tomatoes	<1
Beets	<1
Total	664

Figure 16: Field Vegetable Farms, 2004

Berry Farms

Blueberries are the most common type of berry grown in Chilliwack, accounting for just over half the total area in berry production. Raspberries are the second most common type.

Berries that covered only a small area of the parcel were considered to be a hobby activity. If a parcel had other more significant farming activities and a small portion of berries which were likely not for commercial sale, the berries were only included in the database as a land cover, and not as a farming activity.

Table 20: Berry Farms

	Main use			Ancillary use	Total
Type of operation	Number of parcels	Median parcel size (ha)	Average parcel size (ha)	Number of Parcels	Number of Parcels
Berry Farm	35	4.2	8.0	13	48

Table 21: Hectares of Berry Crops

Type of crop	Number of hectares
Blueberries	123
Raspberries	60
Berries (type unspecified)	51
Strawberries	5
Saskatoonberries	1
Total	240

Figure 17: Berry Farms, 2004

Greenhouse Operations

Greenhouse operations considered here grow food crops such as tomatoes and cucumbers, as well as bedding plants and cut flowers. Greenhouse operations were not differentiated by the type of crop they produced, since it is often not possible to determine the crop type from the road. All but one of the 46 greenhouse operations counted in the survey were considered to be the main use of the parcel.

Many greenhouse operations had ancillary farming activities such as forage production or field flower production occurring on the same parcel. Greenhouses used to support nursery operations were counted as “Nursery incl. Greenhouse”, and are listed here as well as under Nurseries and Tree Farms.

Greenhouse operations were defined as farms having glass structures or plastic covered cold frames capable of producing income from their crop. Small cold frames or greenhouses used for hobby or small scale use were not recorded as having Greenhouse Operation as a farming activity. If a parcel had a small greenhouse or cold frame structure, but did not have a BC Assessment farmland designation, it was called a hobby farm.

Table 22: Greenhouse Operations

	Main use				Ancillary use	Total
Type of operation	Number of parcels	% of operations	Median parcel size (ha)	Average parcel size (ha)	Number of Parcels	Number of Parcels
Greenhouse Operation	45	68%	2.9	5.2	1	46
Nursery (incl. Greenhouses)	21	32%	3.1	7.8	1	22
Total	66	100%	2.9	5.2		

Figure 18: Greenhouse Operations, 2004

Specialty Crops

There are many diverse types of crops that are not as common as the major crop operations. Due to the limited number of these activities they are listed together as “Specialty Crops”.

Hazelnut farms are fairly common in Chilliwack with 32 parcels having Nut Farm as the main use. There are an additional 12 parcels where nuts are an ancillary use. In several instances, a grove of hazelnut trees was used to effectively screen intensive poultry operations from casual visual observation. Hazelnut trees were also commonly used as landscaping for parcels where the land use activity was residential, but this practice was not counted as a farming activity.

Orchards were very common as land uses, but were only counted as an ancillary or main farming activity if the orchard appeared to be run as a farm operation as opposed to personal use. “Cultivated Land” was used to describe those parcels where it was obvious that a crop had just been planted, but the type of crop could not be identified. The term “Specialty Crop Production” includes rhubarb, herbs and miscellaneous specialty crops.

Table 23: Specialty Crops

	Main use				Ancillary use	Total
Type of operation	Number of parcels	% of operations	Median parcel size (ha)	Average parcel size (ha)	Number of Parcels	Number of Parcels
Nut Farm	32	65%	3.3	4.7	12	44
Cultivated Land	7	14%	4.3	7.6	9	16
Specialty Crop Production	4	8%	8.6	10.1	0	4
Orchard	2	4%	n/a	2.5	16	18
Vineyard	2	4%	n/a	2.6	0	2
Mushroom Farm	1	2%	n/a	4.0	0	1
Turf Farm	1	2%	n/a	32.3	2	3
Total	49	100%	3.4	6.0		

Table 24: Hectares of Specialty Crops

Type of crop	Number of hectares
Nuts	153
Cultivated land	78
Turf	33
Rhubarb	22
Orchard	14
Grapes	5
Misc. specialty crops	<1
Herbs	<1
Total	305

Figure 19: Specialty Crops, 2004

Agriculture-related activities

There were nine parcels with agri-tourism as the main use with another seven as ancillary. This includes such activities as farm markets, petting zoos, and U-pick operations.

Processing/preparation includes such things as packing plants. The three parcels in the Agri-commercial category include two parcels devoted to the Chilliwack Exhibition Grounds as well as a store selling horse tack. Agri-industrial includes feed mills as well as production facilities for ice cream, dairy, and goat dairy.

Table 25: Agriculture-related Activities

	Main use				Ancillary use	Total
Type of operation	Number of parcels	% of operations	Median parcel size (ha)	Average parcel size (ha)	Number of Parcels	Number of Parcels
Agri-tourism	9	43%	3.5	4.2	7	16
Agri-industrial	7	33%	1.9	3.2	0	7
Agri-commercial	3	14%	11.1	10.2	0	3
Processing/Preparation	2	10%	1.1	1.1	2	4
Total	21	100%	2.0	4.4		

Figure 20: Agriculture-related Activities, 2004

Future Analysis

Further analysis on the land use inventory will include some analysis on change in land use to assess the growth and development of some sectors, such as the nursery industry. In addition, further analysis will be carried out on the agricultural land use in Chilliwack and challenges for future growth. This analysis will examine intensity of land use, land needs for agriculture in Chilliwack, and non-farm use in the ALR.

It may be possible to assess the land base required for the dairy industry and evaluate if there is sufficient forage production and land available for manure application to ensure the sustainability of this vital sector. In addition, an analysis may be done on land available for expansion of the growing agriculture sectors in Chilliwack. There is a lot of pressure on agriculture land in Chilliwack, and some analysis of various pressures, such as applications for subdivision and exclusion may be carried out. Impact of agri-industrial and industrial activities on crop production may be examined as well.

Conclusion

The land use inventory has provided many insights into the City of Chilliwack's agricultural landscape. In all, Chilliwack prime valley bottom land had around 90% (12,756 out of 14,209 hectares) of its land in some type of agricultural activity. By far the most common agricultural use is forage or pasture, the main use of 41% of agricultural parcels. Next are nurseries and tree farms at 13%, followed by dairy farms at 12%.

The data collected for inventories such as this has proven in the past to be useful to both MAFF and local governments on many occasions. If a concern arises about a certain agricultural operation, the data can give a good overview of the operation and the surrounding area. Land use data has been useful for testing the impacts of various scenarios or proposals, in order to aid in the development of policy, zoning bylaw regulations, and farm bylaw standards. Data can also help in the design and conduct of surveys related to agriculture/residential compatibility; land use information can be used to locate different farm operations and their surrounding urban neighbours. No doubt the land use inventories will continue to be useful in the future, as other issues arise.

Acronyms

ALC – Agricultural Land Commission

ALR – Agricultural Land Reserve

GIS – Geographic Information Systems

MAFF – Ministry of Agriculture, Fisheries & Food

Definitions

Agri-commercial - A commercial use of the property directly related to agriculture but not to the growing, processing or distribution of agriculture products. The Exhibition Grounds in Chilliwack are considered an agri-commercial use.

Agri-industrial - An industrial use of the property where agriculture products are processed on the site. An example of agri-industrial is the processing of milk into a variety of dairy products.

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.

Alienated Land - farmable land within the ALR that cannot be used for agricultural purposes because of a conflicting land use activity. As well, some parcels were considered alienated due to topological restraints, such as steep terrain or land under water.

In this survey it has been applied to those parcels with a primary activity of: Commercial/Service Use, Cultural/Entertainment, Golf Course, Industrial Use, Institutional Use, Recreational Use, Residential Use, Utility, Water Management or Transportation and Communications. Residential parcels were considered alienated if the parcel size was less than 0.4 ha (4000 square meters), or if pavement and landscaping made future agricultural development impossible.

Ancillary use - An agricultural activity is considered an ancillary use if it is not the primary agricultural activity, or the parcel's primary activity is not Agriculture.

BC Assessment - The Crown corporation which produces uniform property assessments that form the basis for local and provincial taxation. The database purchased from BC Assessment contains information about property ownership, land use, and farm classification, which is useful for land use surveys.

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

Farmed land - applies to parcels producing the minimum amount to be classified farm by BC Assessment

Hobby farms - applies to parcels not producing enough for BC Assessment farmland classification, but having some farming activity. If “Hobby-Amenity Use” is recorded as a land use activity, residential use is implied and doesn’t need to be recorded separately as a secondary activity. Examples of hobby farms include homes with one or two horses, or a very small amount of crops which are not likely a significant source of income for the residents.

Land cover - Land covers include such things as buildings, structures and crops - anything that covers the land.

Main use - An agricultural activity is considered the main use if it is the primary agricultural activity, and the parcel’s primary activity is Agriculture.

Not farmed - applies to parcels in the ALR which are not alienated from farming, but are not producing the minimum amount to be classified farm by BC Assessment. This includes parcels of bare land that could be converted to farmland, parcels greater than 4000 sq. metres with only residential use, parcels greater than 4000 sq. metres with limited industrial use, or hobby farms.

Primary activity - This is a description of the primary land use activity taking place on the parcel. This is a general value, such as “Agriculture”, “Hobby-Amenity”, “Residential Use”, or “Commercial/Service”.

Primary agricultural activity - The primary agricultural land use activity occurring on a parcel, such as “Beef Cattle Farm”, or “Greenhouse Operation”. This value is only filled in if “Agriculture” is listed as a primary, secondary or tertiary activity. The primary agricultural activity is the one which is likely the greatest source of income. It is recognized that in some cases this may be difficult to determine, so the distinction between primary, secondary, tertiary and quaternary agricultural activity is at times a best guess.

Wet side of dyke (marginal land) - These are areas with very limited potential for farming, as they have large areas of wetlands, and they are periodically flooded.

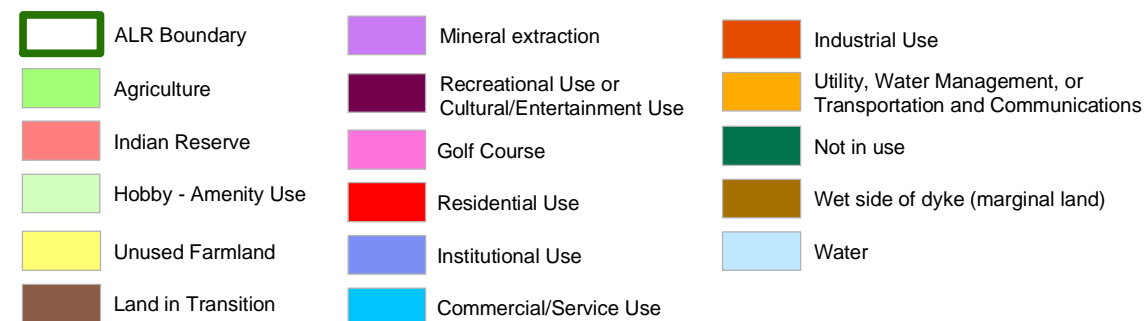
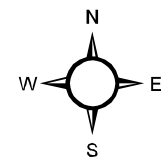
Primary Land Use Activities, 2004

City of Chilliwack, BC

Primary Land Use Activities, 2004

0 1 2 4 Kilometers

1:75,000



Ministry of Agriculture, Food and Fisheries

Created: February 2005
Map Projection: UTM Zone 10, NAD83

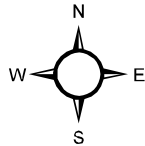
Data Sources:
MAFF land use inventory, 2004
Cadastre from City of Chilliwack
ALR boundary from Agricultural Land Commission

General Condition of ALR Land with Respect to Agriculture

City of Chilliwack, BC

0 1 2 4 Kilometers

1:75,000



Ministry of Agriculture, Food and Fisheries

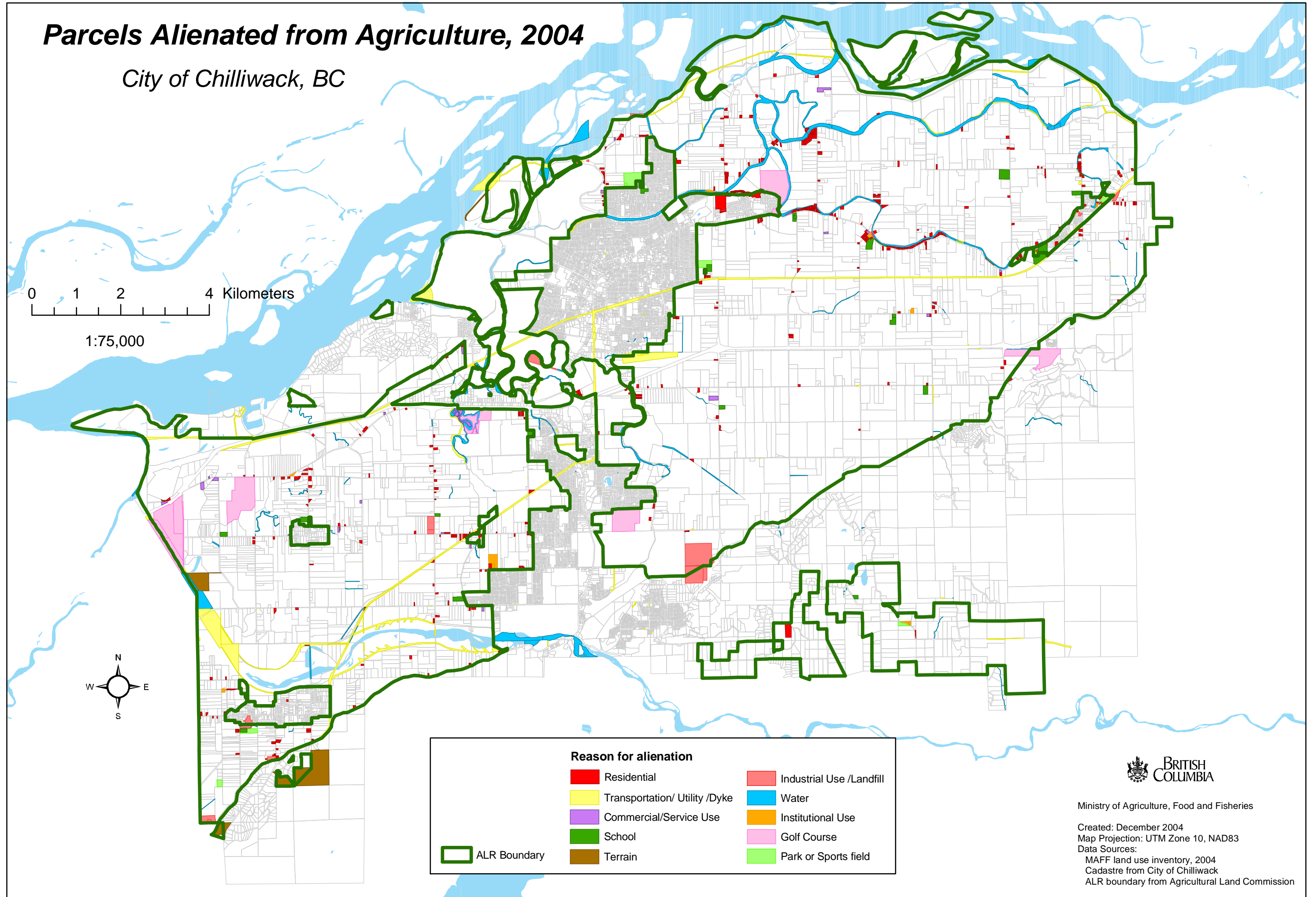
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Map Projection: UTM Zone 10, NAD83
Data Sources:
MAFF land use inventory, 2004
Cadastre from City of Chilliwack
ALR boundary from Agricultural Land Commission

General Condition of ALR Land with Respect to Agriculture

Parcels Alienated from Agriculture, 2004

City of Chilliwack, BC

Parcels Alienated from Agriculture, 2004

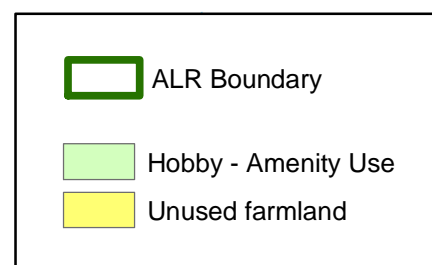
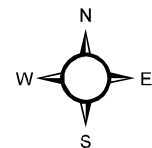


Parcels with Potential for Agricultural Expansion

City of Chilliwack, BC

0 1 2 4 Kilometers

1:75,000



Ministry of Agriculture, Food and Fisheries

Created: February 2005
Map Projection: UTM Zone 10, NAD83
Data Sources:
MAFF land use inventory, 2004
Cadastre from City of Chilliwack
ALR boundary from Agricultural Land Commission

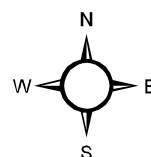
Parcels with Potential for Agricultural Expansion

Primary Agricultural Land Use Activities, 2004

City of Chilliwack, BC

0 1 2 4 Kilometers

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- | | |
|--|--------------------------------|
| ALR Boundary | Intensive livestock |
| Dairy farms incl. dry cow facilities | Greenhouse operations |
| Forage and pasture | Nurseries and tree farms |
| Beef cattle farms | Berry farms |
| Horse farms and stable/riding facilities | Field vegetable farms |
| Sheep/goat farms | Specialty crops |
| Specialty livestock | Agriculture-related activities |



Ministry of Agriculture, Food and Fisheries

Created: February 2005
 Map Projection: UTM Zone 10, NAD83
 Data Sources:
 MAFF land use inventory, 2004
 Cadastre from City of Chilliwack
 ALR boundary from Agricultural Land Commission

Primary Agricultural Land Use Activities, 2004

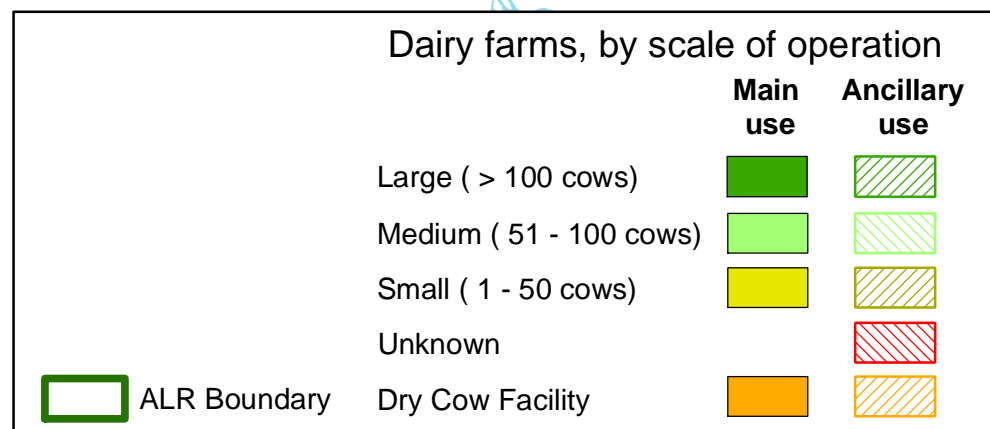
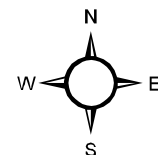
Dairy Farms and Dry Cow Facilities, 2004

City of Chilliwack, BC

Dairy Farms and Dry Cow Facilities, 2004

0 1 2 4 Kilometers

1:75,000



Ministry of Agriculture, Food and Fisheries

Created: February 2005

Map Projection: UTM Zone 10, NAD83

Data Sources:

MAFF land use inventory, 2004

Cadastral from City of Chilliwack

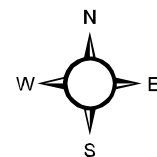
ALR boundary from Agricultural Land Commission





Horse Farms and Stable/Riding Facilities, 2004

City of Chilliwack, BC

0 1 2 4 Kilometers

1:75,000



-  ALR Boundary
- Horse Farms**
 -  Main use of property
 -  Ancillary use of property
 -  Stable/Riding Facility

Ministry of Agriculture, Food and Fisheries

Created: February 2005

Map Projection: UTM Zone 10, NAD83

Data Sources:

MAFF land use inventory, 2004

Cadastre from City of Chilliwack

ALR boundary from Agricultural Land Commission

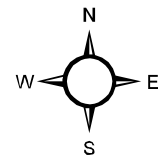
Beef Cattle Farms, 2004

City of Chilliwack, BC

Beef Cattle Farms, 2004

0 1 2 4 Kilometers

1:75,000



- ALR Boundary
- Beef Farms**
 - Main use of property
 - Ancillary use of property

Ministry of Agriculture, Food and Fisheries

Created: February 2005

Map Projection: UTM Zone 10, NAD83

Data Sources:

MAFF land use inventory, 2004

Cadastre from City of Chilliwack

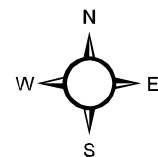
ALR boundary from Agricultural Land Commission

Sheep and Goat Farms, 2004

City of Chilliwack, BC

0 1 2 4 Kilometers

1:75,000



ALR Boundary

Main
use

Ancillary
use

Sheep/Goat Farm



Milk Goat Farm



Ministry of Agriculture, Food and Fisheries

Created: February 2005

Map Projection: UTM Zone 10, NAD83

Data Sources:

MAFF land use inventory, 2004

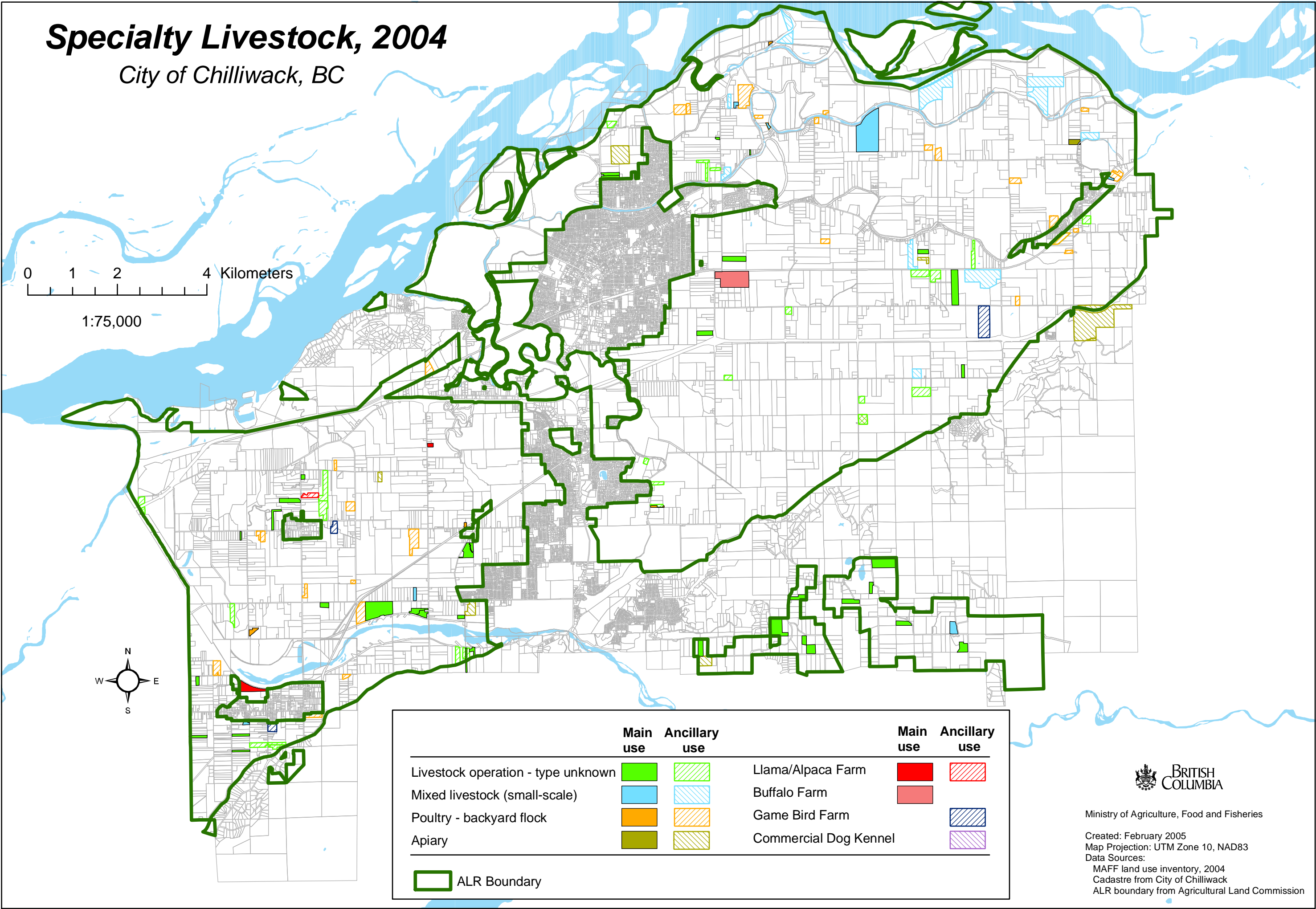
Cadastre from City of Chilliwack

ALR boundary from Agricultural Land Commission

Specialty Livestock, 2004

City of Chilliwack, BC

Specialty Livestock, 2004



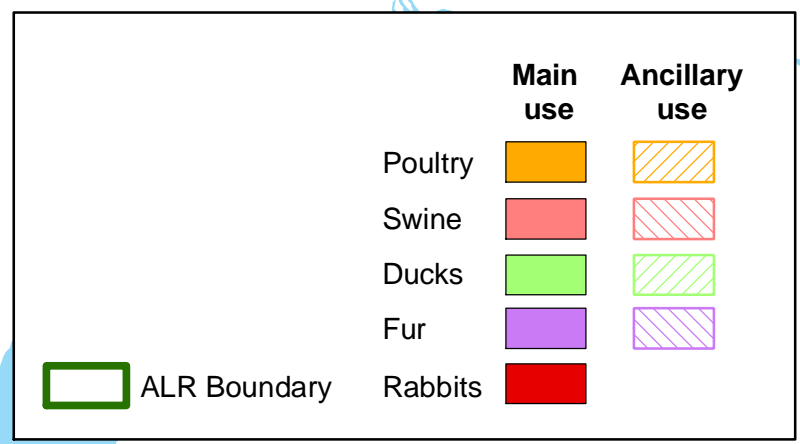
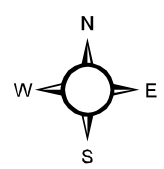
Intensive Livestock, 2004

City of Chilliwack, BC

Intensive Livestock, 2004

0 1 2 4 Kilometers

1:75,000



Ministry of Agriculture, Food and Fisheries

Created: February 2005
Map Projection: UTM Zone 10, NAD83
Data Sources:
MAFF land use inventory, 2004
Cadastre from City of Chilliwack
ALR boundary from Agricultural Land Commission

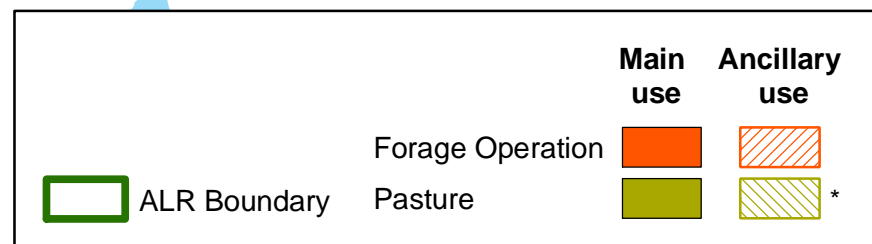
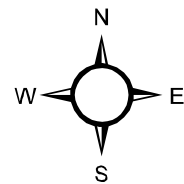
Forage and Pasture, 2004

City of Chilliwack, BC

Forage and Pasture, 2004

0 1 2 4 Kilometers

1:75,000



* Excludes pastures not currently in use

Ministry of Agriculture, Food and Fisheries

Created: February 2005

Map Projection: UTM Zone 10, NAD83

Data Sources:

MAFF land use inventory, 2004

Cadastre from City of Chilliwack

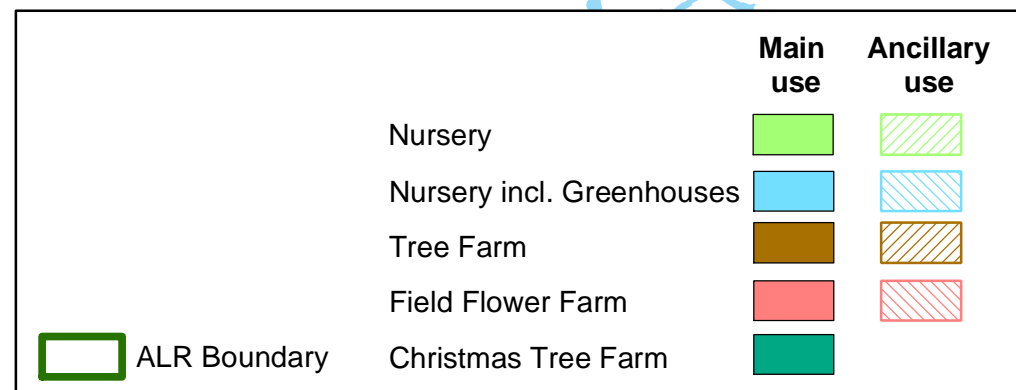
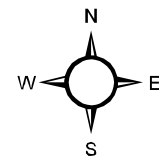
ALR boundary from Agricultural Land Commission

Nurseries and Tree Farms, 2004

City of Chilliwack, BC

0 1 2 4 Kilometers

1:75,467



Ministry of Agriculture, Food and Fisheries

Created: February 2005

Map Projection: UTM Zone 10, NAD83

Data Sources:

MAFF land use inventory, 2004

Cadastral from City of Chilliwack

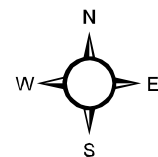
ALR boundary from Agricultural Land Commission

Field Vegetable Farms, 2004

City of Chilliwack, BC

0 1 2 4 Kilometers

1:75,000



- ALR Boundary
- Field Vegetable Farms**
 - Main use of property
 - Ancillary use of property

Ministry of Agriculture, Food and Fisheries

Created: February 2005

Map Projection: UTM Zone 10, NAD83

Data Sources:

MAFF land use inventory, 2004

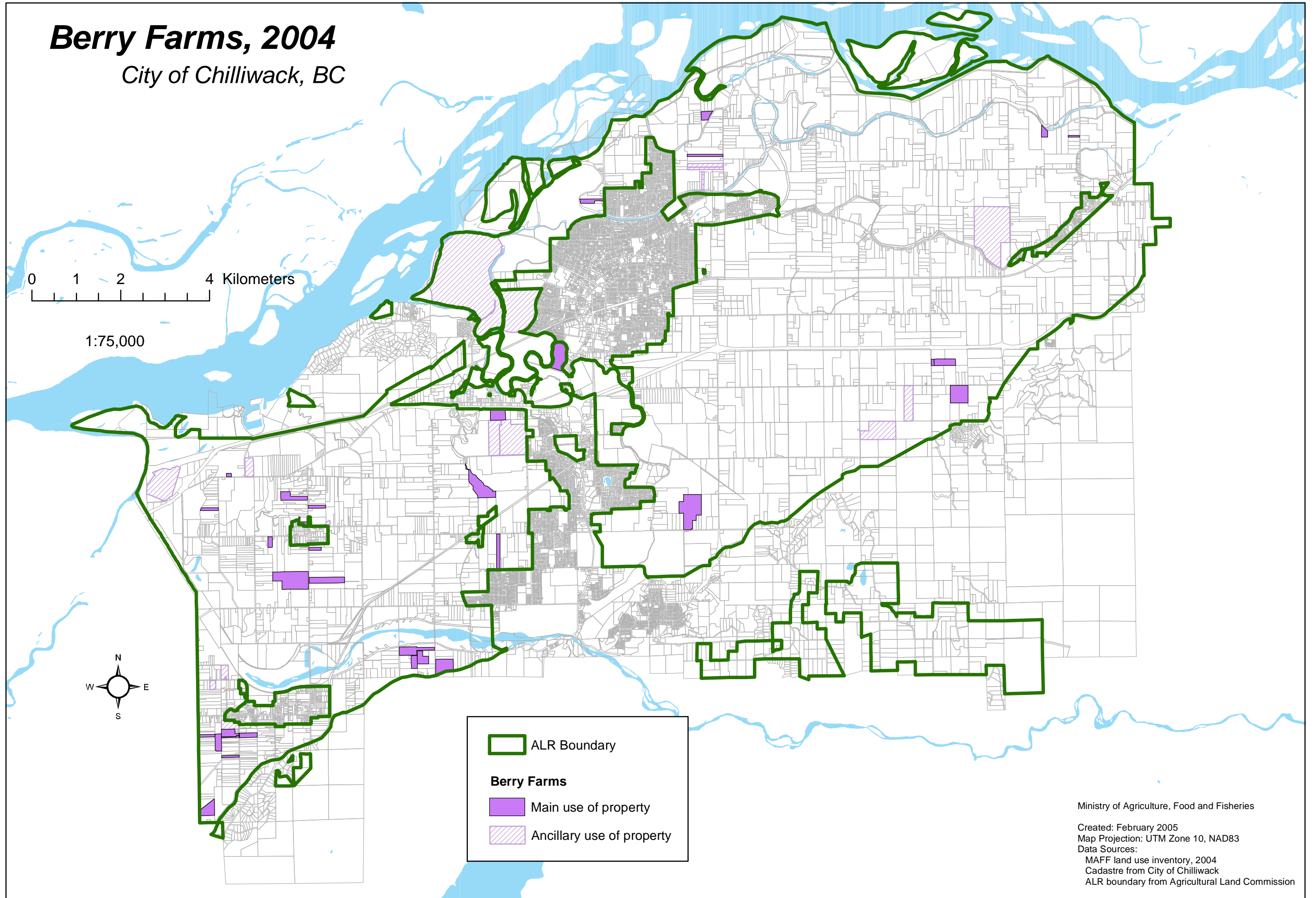
Cadastre from City of Chilliwack

ALR boundary from Agricultural Land Commission

Berry Farms, 2004

City of Chilliwack, BC

Berry Farms, 2004

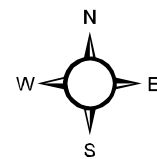


Greenhouse Operations, 2004

City of Chilliwack, BC

0 1 2 4 Kilometers

1:75,000



 ALR Boundary

**Main
use**

**Ancillary
use**

Greenhouse Operation



Nursery incl. Greenhouses



Ministry of Agriculture, Food and Fisheries

Created: February 2005

Map Projection: UTM Zone 10, NAD83

Data Sources:

MAFF land use inventory, 2004

Cadastre from City of Chilliwack

ALR boundary from Agricultural Land Commission

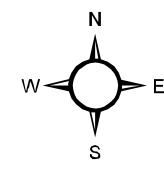
Specialty Crops, 2004

City of Chilliwack, BC

Specialty Crops, 2004

0 1 2 4 Kilometers

1:75,000



Specialty Crop	Main use	Ancillary use
Nut Farm		
Cultivated Land		
Orchard		
Specialty Crops		
Vineyard		
Mushroom Farm		
Turf Farm		
ALR Boundary		

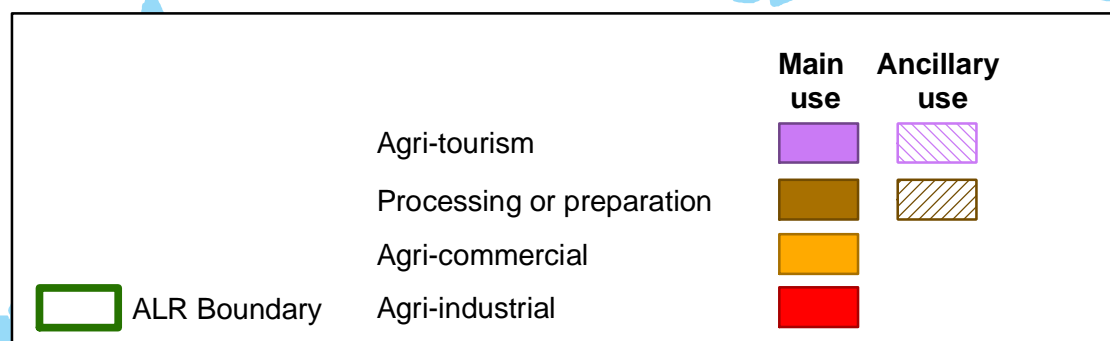
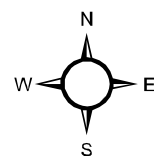
Ministry of Agriculture, Food and Fisheries
 Created: February 2005
 Map Projection: UTM Zone 10, NAD83
 Data Sources:
 MAFF land use inventory, 2004
 Cadastre from City of Chilliwack
 ALR boundary from Agricultural Land Commission

Agriculture-related Activities, 2004

City of Chilliwack, BC

0 1 2 4 Kilometers

1:75,000



Ministry of Agriculture, Food and Fisheries

Created: February 2005
Map Projection: UTM Zone 10, NAD83
Data Sources:
MAFF land use inventory, 2004
Cadastre from City of Chilliwack
ALR boundary from Agricultural Land Commission