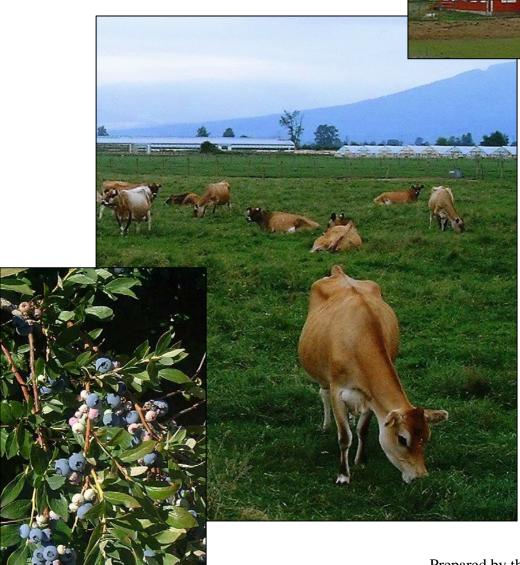
# District of Maple Ridge Agricultural Land Use Inventory 2004



Prepared by the Ministry of Agriculture, Food and Fisheries October 2004



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#### Introduction

In the summer of 2004, the Ministry of Agriculture, Food and Fisheries (MAFF) worked with the District of Maple Ridge to conduct an agricultural land use inventory. The inventory encompasses all land within Agricultural Land Reserve (ALR), in addition to some land adjacent to the ALR. The study area was approximately 4226 hectares and included 1546 parcels.

The information collected from this inventory will be used by both the District of Maple Ridge and MAFF staff to answer future questions that may arise concerning land use and agricultural production in Maple Ridge.

#### The District of Maple Ridge

The District of Maple Ridge had a total population<sup>1</sup> of 63, 169 in 2001. The district is bordered by Pitt Meadows to the West, Mission to the East, and the Fraser River to the South. Maple Ridge's jurisdictional area<sup>2</sup> is 26709 hectares in size, of which about 3530 hectares<sup>3</sup>, or 14%, is in the ALR. The 2001 Census of Agriculture<sup>4</sup> reported that Maple Ridge had 237 census farms<sup>5</sup>, which generated \$39.2 million in farmgate sales. This represents a 40% increase in farmgate sales since 1996.

### **Survey method**

This inventory was conducted by MAFF at an approximate rate of 1000 hectares/day using the following tools:

- A vehicle for drive-by observations;
- Survey maps for identifying properties and features. The survey maps are aerial photographs with ALR boundaries, property boundaries, street names, and roll (folio) numbers recorded on them. The data for the maps was provided by the District of Maple Ridge. This includes 0.5 metre resolution colour orthophotos from the year 2000.
- MS Access database and laptop for recording observed data; and
- Digital GIS layers, including ALR boundaries, roads, and property boundaries (cadastre). These are used to map the data collected from the survey.

The surveying method was developed by MAFF and involved a team of two MAFF staff, with one driving and navigating and the other recording the data into the database on a laptop. During the survey, two types of information were entered for each property – the land covers (including crops, buildings, structures, natural areas, and water features), and the land use activities. The

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Source: http://www.statcan.ca/

<sup>&</sup>lt;sup>2</sup> Source: Ministry of Municipal Affairs; Municipal Statistics, 1996.

 $<sup>^3</sup>$  ALR as of January 1, 2003 – Source: files of the Agricultural Land Commission

<sup>&</sup>lt;sup>4</sup> Source: Statistics Canada, Census of Agriculture Profile Data - British Columbia.

<sup>&</sup>lt;sup>5</sup> It should be noted that there is a distinct difference between parcels and census farms. The number of parcels engaged in agriculture in Maple Ridge will far exceed the number of census farms reported by the 2001 Census of Agriculture. This is because many census farms operate on multiple parcels. As it is difficult to determine which parcels are operated by whom, the parcels are evaluated in this summary report, and not the statistics associated with census farms.

database can then be used in conjunction with Geographic Information Systems (GIS) to generate queries, maps, reports and statistics. The following pages of this report contain a summary of the data collected.

The survey provides a snapshot of land uses at a particular time. It is acknowledged that since land uses are continually changing, the information can become out-dated quickly. It is useful however to have a baseline of data, so that changes over time can be tracked and trends determined. For additional details about the methodology, please refer to the document <u>AgFocus</u> – A Guide to Agricultural Land Use Inventory.

#### **Land Use Activities**

Land use activities are the general activities (e.g. agricultural, residential, or industrial use) observed on each parcel. The primary land use activity was recorded for each parcel while any additional activities were recorded as secondary and tertiary. For example, a horse farm with a house would have Agriculture as the primary land use activity and Residential Use as the secondary land use activity. The following table shows the primary land use activities found within the District of Maple Ridge.

Primary land use activity	Number of	% of Parcels	Total area (ha)*	% of Total Study Area	Average parcel size
	Parcels				(ha)
Unused Farmland	614	40%	1076	25%	1.8
Agriculture	563	36%	2201	52%	3.9
Residential Use	122	8%	25	1%	0.2
Not in use	95	6%	388	9%	4.1
Hobby - Amenity Use	76	5%	127	3%	1.7
Park	30	2%	153	4%	5.1
Institutional Use	12	1%	44	1%	3.6
Land in Transition	8	1%	19	<1%	2.3
Commercial/Service Use	7	<1%	7	<1%	1.0
Unknown	6	<1%	11	<1%	1.9
Mineral extraction	3	<1%	133	3%	44.4
Recreational Use	2	<1%	27	1%	13.3
Transportation & Communications	2	<1%	<1	<1%	0.2
Utility	2	<1%	<1	<1%	0.1
Water Management	2	<1%	<1	<1%	0.5
Golf Course	1	<1%	4	<1%	4.3
Vacant	1	<1%	10	<1%	9.6
Total	1546	100	4226	100%	2.7

Table 1: Primary Land Use Activities within the Study Area, District of Maple Ridge

<sup>\*</sup>Note: "Total area (ha)" column refers to the total area of the parcels, not just the portion of the parcels engaged in the primary land use activity. This is also true for all other tables and maps in this report.

A property was recorded as "Agriculture" if farming was the only observed use or was considered to be the most important use. "Hobby - Amenity Use" was recorded when farming was obviously on a small scale and of secondary importance to the residential use, and not likely the major source of income to the residents. For example, a farm with a house and one or two horses is considered as a hobby farm because the agricultural activities are an unlikely primary source of income. "Hobby - Amenity Use" implies that there is residential use on a parcel, and thus residential use is not recorded separately.

For all properties, vegetated areas and watercourses were recorded as land covers rather than land use activities. Exceptions to this are parcels with only natural trees, watercourses, and/or natural vegetation as covers. These parcels were then labeled "Not in Use". Properties classified as "Vacant" were those where there were no apparent land uses. These vacant parcels appeared to have had a non-agricultural activity in the past, but did not appear to have any land use in 2004.

According to Table 1, there were 614 parcels with unused farmland as their primary land use activity. This category includes such land covers as overgrown pastures or abandoned berries. Only parcels which had agricultural use in the past were included in this category, not parcels which are treed. Treed parcels are included in the Not in Use land use activity. In terms of numbers of parcels, unused farmland was the largest land use activity, accounting for 40% of the study area. The average size of these parcels was quite small however, at 1.8 hectares.

There were 563 parcels being actively farmed, or 36% of total parcels. The average size of these was much larger, at 3.9 hectares. In terms of actual area therefore, agriculture occupied the most land of any primary land use activity. The total size of parcels which had agriculture as their primary activity was 2201 hectares (52% of the study area), whereas unused agriculture was only 1076 hectares (25%). These results imply that larger agricultural parcels are less likely to be unused.

#### Alienated land

Alienated land is defined as farmable land within the ALR that cannot be used for agricultural purposes because of a conflicting land use activity. The surveyors noted parcels which they considered to be alienated. In general, these were small parcels where the majority of the land was occupied by residential use. There were 124 parcels classified as alienated.

	Number of parcels	Total area (ha)	Average parcel size (ha)
Alienated land	124	25.7	0.2

Table 2: Alienated land within the Study Area, District of Maple Ridge

#### Agriculture in the ALR

Agricultural activities were recorded for any parcels with "Agriculture" as a primary, secondary, or tertiary activity. Up to four types of agricultural activities were recorded with the primary agricultural activity being the likely primary source of income. The distinction between primary, secondary, tertiary, and quaternary agricultural activity was difficult to determine at times, so the order was sometimes the surveyors' best estimate. Agricultural activities were also recorded for properties determined to be "Hobby – Amenity Use", although those activities have not been included in the maps or statistics of this report.

The following table and map show the primary agricultural activities for the District of Maple Ridge, generalized into broad categories.

Primary agricultural land use activity	Number of Parcels	% of Parcels	Total area (ha)	% of Total Study Area	Average parcel size (ha)
Horse farms	175	31%	618	28%	3.5
Forage and pasture operations	145	26%	548	25%	3.8
Livestock operation - type unknown	87	15%	259	12%	3.0
Extensive livestock (excl. horses)	55	10%	228	10%	4.1
Nursery operations and tree farms	32	6%	166	8%	5.2
Nursery (incl. greenhouses)	10	2%	128	6%	12.8
Greenhouse operation	14	2%	30	1%	2.2
Berry operations and vineyards	20	4%	136	6%	6.8
Miscellaneous crops	16	3%	50	2%	3.1
Poultry and game bird operations	8	1%	34	2%	4.2
Total	562	100%	2196	100%	3.9

Table 3: Primary Agricultural Activities, District of Maple Ridge

The specific agricultural activities recorded during the survey will be described in greater detail in the next sections of this report. For all remaining sections of this report, if a parcel was classified as primarily "Agriculture", its primary agricultural activity is considered to be that parcel's *Main use*. The "*Main Use – Number of Parcels*" column is mutually exclusive; that is, a parcel can only be counted once in this column.

Any secondary, tertiary or quaternary agricultural activities are considered an *Ancillary use* of the parcel. The "*Ancillary Use – Number of Parcels*" column is not mutually exclusive; that is, a parcel with several agricultural activities is counted several times in this column. Thus, no grand total has been calculated.

#### Extensive Livestock

A parcel is considered an Extensive Livestock operation if it has horses, beef cattle, dairy cattle, free-range poultry (chickens, turkeys, geese, and ducks), sheep or goats, llamas, and/or donkeys. If a parcel has structures such as barns, paddocks and manure storage facilities in addition to animals, it is recorded as Extensive Livestock. If a parcel contains only pasture with livestock grazing on it (no animal housing, etc.), the agricultural activity is recorded as Pasture rather than Extensive Livestock. Since the survey boundary is based on property line rather than farm operation, this grazing livestock parcel is usually part of a larger Extensive Livestock operation or a parcel that leases out land to their neighbouring farm.

An estimate was made on the number of animals belonging to an Extensive Livestock operation. The estimation is based on the size of structures such as barns and paddocks, as well as the number of animals seen from the road. The estimate was then used to categorize the size of the operation into a small, medium or large farm based on the following numbers of livestock:

	Small	Medium	Large
Horses	1-4	5-10	11+
Beef, sheep/goats, llamas	1-10	11-50	51+

Table 4: Criteria for classifying livestock by scale

An estimation of the scale of the operation was often not possible because some or all of the animals were indoors, thus no scale was recorded. Livestock scales are generally likely to be underestimates, since not all livestock may be visible. Free range poultry was also sometimes underestimated because its housing is small and easily missed from both the road and the aerial photography.

When animals were not seen, their presence was determined by signs of pasture that had been grazed or well-maintained structures like barns and paddocks. If the surveyors were confident that there was some type of livestock, the operation was recorded as "Livestock Operation – Type Unknown". Eighty-seven properties in Maple Ridge were given this classification as their primary agricultural activity. It should be noted that "Livestock Operation – Type Unknown" was also recorded for parcels with obscured views (by trees, hills, or tall fences) but had housing animal structures identified from the aerial photography. If the structures appeared deteriorated, no livestock was recorded and the structures were classified as abandoned.

Horses were by far the most common type of livestock seen during the survey. Because of the dominance of horse farms in Maple Ridge, horses are given their own section and map in this report. Other types of extensive livestock have been grouped into one section.

### Horses

The most common agricultural activity in the District of Maple Ridge is Horses, with 175 properties having a horse operation as the main use. Included in this category are three Equestrian Facilities and two Donkey Farms. Of those horse operations which had a scale recorded, most were small-scale.

		Ma	Ancillary use	Total		
Type of horse operation	Number of operations	% of horse operations	Total area (ha)	Average parcel size (ha)	Number of Parcels	Number of Parcels
Size:						
Large	9	5%	101.1	11.2		9
Medium	17	10%	72.5	4.3		17
Small	67	38%	180.7	2.7	1	68
Unknown	77	44%	228.2	3.0	5	82
Equestrian Facility	3	2%	17.8	5.9		
Donkey Farm	2	1%	17.9	9.0		
All sizes	175	100%	582.5	3.3		•

Table 5: Horse Operations, District of Maple Ridge

### **Extensive Livestock (other than horses)**

After horses, the most common type of extensive livestock in Maple Ridge is beef cattle. Most beef farms are small scale. The next most common livestock is sheep or goat. There are no large operations for either beef or sheep and goat. There are two dairy farms in Maple Ridge. At an average size of 25.0 hectares, dairy farms have the largest average size of any agricultural activity.

The following map shows the scale and location of extensive livestock other than horses.

		Main use	Ancillary use	Total		
Type of operation	Number of operations	% of extensive livestock operations	Total area (ha)	Average parcel size (ha)	Number of Parcels	Number of Parcels
Beef						
Large	0	0%				
Medium	1	2%	7.6	7.6		1
Small	12	22%	32.3	2.7		12
Unknown	8	15%	25.7	3.2	1	9
Total beef	21	38%	65.6	3.1		22
Sheep or goat						
Large	0	0%				
Medium	5	9%	24.7	4.9		5
Small	2	4%	2.1	1.1	2	4
Unknown	6	11%	10.3	1.7	1	7
Total sheep or goat	13	24%	37.2	2.9		16
Llama/Alpaca Farm	10	18%	49.2	4.9	2	12
Dairy Farm	2	4%	50.0	25.0		2
Poultry - backyard flock	7	13%	11.3	1.6	8	15
Feedlot	2	4%	14.5	7.3		2
All sizes	55	100%	227.8	4.1		

Table 6: Extensive Livestock Operations, District of Maple Ridge

### Forage or Pasture Operations

After extensive livestock, the most common type of agricultural activity in Maple Ridge was Forage or Pasture. This is mostly in the form of grass or corn, with some legumes as well. "Forage" refers to crops which are made into silage or hay, and "Pasture" refers to crops which are grazed by livestock. There were 131 parcels with Forage as their main use, as opposed to 14 with Pasture as main use. Pasture was much more common as an ancillary use, with 142 parcels as opposed to 19 for Forage.

Occasionally, parcels that have Extensive Livestock also have forage or pasture operations. For example, beef farms often have a forage operation on the same property. While part of the forage produced on these farms could go to market, the majority is produced for on-farm use. That is, the forage becomes food for the beef cattle. Many of the parcels with forage or pasture as their main use are likely part of a larger extensive operation, with the animals housed on a different property.

		Mai	Ancillary use	Total		
Type of operation	Number of operations	% of operations	Total area (ha)	Average parcel size (ha)	Number of Parcels	Number of Parcels
Forage	131	90%	494.9	3.8	19	150
Pasture	14	10%	53.4	3.8	142	156
All sizes	145	100%	548.4	3.8		

Table 7: Forage or Pasture Operations, District of Maple Ridge

### **Nursery Operations and Tree Farms**

The term "Nursery" was assigned to parcels growing ornamentals and shrubs, either in the ground or in containers. "Tree farm" refers to parcels growing trees for pulp, such as hybrid poplars. Many of the nurseries were growing ornamentals and shrubs both indoors and outdoors as part of the same operation. Rather than record this as two separate activities (i.e. "Nursery" and "Greenhouse Operation"), a category was added for "Nursery including greenhouses". This category appears in the table below and the accompanying map, as well as the Greenhouse Operations map and table (Table 9).

		Ma	Ancillary use	Total		
Type of operation	Number of parcels	% of operations	Total area (ha)	Average parcel size (ha)	Number of Parcels	Number of Parcels
Nursery	23	55%	148.1	6.4		23
Nursery incl. greenhouses	10	24%	127.9	12.8		10
Christmas trees	6	14%	14.3	2.4	1	7
Tree farm	3	7%	3.6	1.2		3
Total	42	100%	293.9	7.0		

Table 8: Nursery Operations and Tree Farms, District of Maple Ridge

### **Greenhouse Operations**

The "Nursery including Greenhouses" category appears in this section as well as the Nursery Operations and Tree Farms section. There were ten properties classified as Nursery including Greenhouses, and fourteen which were greenhouses alone.

Type of operation	Number of parcels	% of operations	Total area (ha)	Average parcel size (ha)
Greenhouse operations	14	58%	30.3	2.2
Nursery including greenhouses	10	42%	127.9	12.8
Total	24	100%	158.1	6.6

Table 9: Greenhouse Operations, District of Maple Ridge

### **Berry Operations and Vineyards**

At the time of the survey, Maple Ridge had 15 blueberry operations, three cranberry operations, and two vineyards. At 22.7 hectares on average, cranberry operations occur on relatively large parcels. The corresponding map shows a concentration of berries in the north-western portion of Maple Ridge.

		Ma	Ancillary use	Total		
Type of operation	Number of parcels	% of operations	Total area (ha)	Average parcel size (ha)	Number of Parcels	Number of Parcels
Blueberries	15	75%	62.0	4.1	3	18
Cranberries	3	15%	68.1	22.7	1	4
Vineyard	2	10%	6.1	3.0		2
Total	20	100%	136.1	6.8		

Table 10: Berry Operations and Vineyards, District of Maple Ridge

### Miscellaneous Crops

According to the survey, Maple Ridge has six nut farms, four field vegetable farms, and four orchards. In addition, one property was given the designation "Cultivated land"; used to describe fields where the crop could not be identified because there were no plants visible, and the land appeared to be tilled. One property was designated as "Fallow land", which refers to fields not currently in production.

	Main use						
Type of operation	Number of parcels	% of operations	Total area (ha)	Average parcel size (ha)			
Nut Farm	6	38%	16.6	2.8			
Field Vegetable Farm	4	25%	15.3	3.8			
Orchard	4	25%	12.8	3.2			
Fallow Land	1	6%	4.0	4.0			
Cultivated Land	1	6%	0.8	0.8			
Total	16	100%	31.9	2.0			

Table 11: Miscellaneous Crops, District of Maple Ridge

### Poultry and Game Bird Operations

The poultry classification does not include free-range poultry, only housed livestock. Six poultry farms were identified. Of these, two were producing turkey, two were producing broiler chickens, and two did not have a specific type identified. The two game bird operations were producing birds such as ducks and squab.

	Main use						
Type of operation	Number of Parcels	% of operations	Total area (ha)	Average parcel size (ha)			
Poultry Farm	6	75%	29.7	4.9			
Game Bird Farm	2	25%	3.8	1.9			
Total	8	100%	33.5	4.2			

Table 12: Poultry and Game Bird Operations, District of Maple Ridge

### **Small parcels**

According to Table 1, there were 1546 lots in the study area with an average size of 2.7 hectares. Defining a small parcel as under two hectares in size, there were 902 small parcel in the study area. Of those, 23% had Agriculture as their primary land use activity.

Primary land use activity	Number of Small Parcels	% of Small Parcels	Total area (ha)	% of Total Study Area in Small Parcels	Average parcel size (ha)
Unused Farmland	429	48%	430	51%	1.0
Agriculture	206	23%	259	31%	1.3
Residential Use	122	14%	25	3%	0.2
Hobby - Amenity Use	53	6%	55	6%	1.0
Not in use	52	6%	44	5%	0.9
Park	13	1%	10	1%	0.7
Institutional Use	7	1%	5	1%	0.7
Commercial/Service Use	6	1%	5	1%	0.9
Land in Transition	5	1%	5	1%	0.9
Unknown	3	<1%	3	<1%	1.0
Transportation and Communications	2	<1%	<1	<1%	0.2
Utility	2	<1%	<1	<1%	0.1
Water Management	2	<1%	1	<1%	0.5
Total	902	100%	842	100%	0.9

Table 13: Primary Land Use Activities within Lots Under 2 Hectares in the Study Area, Maple Ridge

Small agricultural parcels are valuable for the growing small-lot agriculture sector, both soil-bound and non-soil-bound. Small farms tend to be innovative, community-focused and diverse.

#### Changes from 1996 to 2004

An inventory was conducted of Maple Ridge in 1996. It is difficult to compare the two inventories however, since the data collection methodology was changed between the two time periods. As well, the surveys were conducted by different people. Some of the differences may be the result of differences in opinion between surveyors on how to classify properties, rather than actual land use change. A map has been included showing changes in survey data between the two time periods. The map does not indicated any clear trends or spatial patterns in land use change.

#### **Summary**

The land use inventory has provided many insights into the District of Maple Ridge's agricultural landscape. By far the most common agricultural use in Maple Ridge is horses, followed by forage and pasture operations, as well as other types of extensive livestock. In addition, other common agricultural activities in Maple Ridge include nurseries and tree farms, greenhouses, berry and vine crops, poultry and game bird operations, as well as other types of miscellaneous crops.

In all, the study area had 52% (2201 hectares) of its land area in some type of agricultural activity, with another 25% (1076 hectares) as unused agriculture, still available to enter into production (Table 1). The amount of unused farm land means that Maple Ridge still has a significant amount of agricultural land available in which the agriculture industry can grow. Many other Lower Mainland communities do not have such a resource. As the BC agriculture industry continues to expand, Maple Ridge will be an important community to facilitate that growth.

The data collected for inventories such as this has proven 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.

