District of Kent Agricultural Land Use Inventory 2004











Prepared by Anthony Jjumba For the Ministry of Agriculture, Food and Fisheries March 2005

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Introduction

Between December, 2004 and January, 2005, the Ministry of Agriculture, Food and Fisheries (MAFF) worked with the District of Kent and the Kent Agriculture Advisory Committee to conduct an agricultural land use inventory. The inventory encompassed all land within the Agriculture Land Reserve (ALR) in the District. The study area was approximately 4,100¹ hectares and included over 650 parcels.

The information collected from this inventory will be used by the District of Kent, the Kent Agriculture Advisory Committee and MAFF staff to answer future questions that may arise concerning land use and agricultural production in Kent. For example, the land use information will be very useful in generating an agriculture area plan for Kent and identifying policies that could be adopted to ensure the sustainability of farming in Kent.

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¹ This figure is for the area of parcels within the ALR based on the 2003 cadastre layer. Parts of parcels falling outside the ALR are excluded. Roads and highways are excluded.

Overview of Kent

The District of Kent is within the Fraser Valley Regional District (FVRD) with a population of 4,926 in 2001. The District is bordered by the Fraser River to the south, the Harrison River to the west, and the Village of Harrison Hot Springs, Harrison Lake and the Coastal Mountains within FVRD electoral areas A and C to the north. To the east, Kent is bordered by the District of Hope and the FVRD electoral area B. Of the total land base in the District a large percentage is Forest Reserve and Crown Land and the rest is divided between the Agricultural Land Reserve (ALR) and Indian Reserves. The land within the ALR in Kent is located primarily on flat valley bottom land with some of the most productive growing conditions in Canada. The excellent soil, lengthy growing season, and temperate climate make this area suitable for growing a wide variety of agriculture crops.

The jurisdictional area in Kent is 19,374 hectares (ha).³ The area in the ALR reported by Agriculture Land Commission (ALC) statistics is 6,420 ha.⁴ This number was originally calculated from a paper base map 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 Kent reported here is 8,641 ha. This is calculated from the total area within the cadastre GIS layer (i.e. property boundaries), so it does not include the area of forest reserve, Crown land, roads and highways. The area of the ALR, 4,118 ha, was calculated for this report using GIS by summing the area of parcels that fall within the ALR.⁵ This number excludes parcels within Indian Reserves, even where the Indian Reserves are inside the ALR.

Even though the Indian Reserves do have agricultural uses, particularly Seabird Island within the District of Kent, they are considered separately from all other land uses within 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.

Table 1: Overview Statistics for the District of Kent

Overview statistics for the District of Kent	Area (ha)
Jurisdictional Land Area	19,374
Cadastral Land Area (excluding the Forest Reserve, Crown Land, roads and highways) ⁶	8,641
Area in ALR (from the ALC, 2003)	6,420
Area in ALR (from cadastre)	4,118
Area in Indian Reserves (from cadastre)	1,836

³ The Ministry of Ministry of Community, Aboriginal and Women's Services Victoria, British Columbia; Municipal Statistics, 2000

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² Source: www.statcan.ca

⁴ Source: www.landcommission.gov.bc.ca

⁵ To calculate this figure the cadastre layer was overlaid on the ALR using a geo processing operation called Union to determine the parcels that are in and those that are outside the ALR. Whole parcels or parts of parcels that are within the ALR boundary were used to calculate the sum.

⁶ From the GIS cadastre layer

Survey Method

The initial Land Use Inventory for Kent was conducted in August of 2002 following the guidelines provided by MAFF. The survey was updated between December, 2004, and January, 2005, to ensure its correctness and to include new observations regarding non-agricultural use and unused farmland. The drive-by survey was conducted by MAFF with the assistance of District of Kent staff in 2002, and by the MAFF regional agrologist and a private contractor in 2004/2005. The following tools were used:

- A vehicle with high ground clearance to manage the terrain and provide good visibility.
- Survey maps for identifying property boundaries and landscape features. The survey maps included aerial photographs showing vegetation and stream locations, the ALR boundaries, legal property boundaries, and unique property identifier numbers (folio id). The survey maps were provided by the FVRD.
- A Microsoft Access database on a laptop computer for data entry.

The survey method was developed by MAFF and requires a team of at least two people; one drives and navigates while the other enters observations into the Access database. Three types of data were collected—the overall land use (agriculture, residential, commercial, etc...), the type of farming activity on the parcels with agriculture use (dairy farm, horse farm, nursery, etc...) and the specific land covers (crops, buildings, structures, natural areas, and water features) for each property. Some parcels were identified as "Alienated from Farmland" if they were not suitable for agriculture⁸ and a few were identified as "Marginal" if they were on the wet side of the dyke and threatened by flooding. The data entered into the database and later formatted for use with a Geographic Information System (GIS) to generate the maps and summary statistics for this report. To increase the accuracy of the survey, the draft maps were reviewed by the regional agrologist as well as by members of the Kent Agriculture Advisory Committee (KAAC). In addition, information from the database generated by the Small Lot Sub-committee of the KAAC was used to ground truth the accuracy of the survey.

For additional details about the methodology, please refer to the document "AgFocus – A Guide to Agriculture Land Use Inventory⁹."

⁷ Aerial photographs taken in 1999

⁸ See section on definitions at the back of the report

⁹ http://www.agf.gov.bc.ca/resmgmt/publist/800series/830110-3.pdf

Primary Land Use Activities in the ALR

Land use activities are defined as the general activities (e.g. agricultural, residential, industrial, etc...) observed on each parcel. Up to four land use activities were recorded for each parcel in the order of declining economic importance. These are referred to as primary, secondary, tertiary and quaternary 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 with farmland tax status from BC Assessment were automatically 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 agricultural 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 have 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, it is implied that the business activity 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. When there is some other activity such as residential use, vegetated areas 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.". "Treed Hillside" was used to categorize parcels that had natural vegetation - mostly trees - and were on steep slopes unsuitable for agriculture.

The following table shows the primary land use activities recorded during the survey, as well as the number and percent of parcels devoted to each activity; the median and average parcel size as well as the total area of the parcels. In some categories, the median parcel size is much smaller than the average because some parcels are very large.

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 $^{^{10}}$ See section on definitions at the back of the report.

Table 2: Primary Land Use Activities in the ALR

Primary Land Use Activity	Number of Parcels	Percentage of Parcels in	Median Parcel	Average Parcel	Total Area	Percentage of Total ALR
rictivity	1 di ceis	ALR	Size	Size(ha)	(ha)	Area
			(ha)	2()	(===-)	
Agriculture	337	50%	8.0	12.9	4346	86%
Residential Use	172	26%	0.3	0.8	20	3%
Water Management	56	8%	0.5	0.8	46	1%
Hobby Farm	50	7%	1.2	1.8	89	2%
Unused Farm Land	15	2%	3.0	7.3	229	2%
Commercial/Service Use	8	1%	1.0	1.1	9	<1%
Treed Hillside	8	1%	11.6	17.3	138	3%
Transportation and						
Communication	4	1%	0.8	0.9	4	<1%
Utility	4	1%	0.4	4.6	18	<1%
Institutional Use	3	<1%	0.9	18.3	55	1%
Water, wetland or						
shoreline	3	<1%	0.3	0.6	2	<1%
Not in Use	2	<1%	0.1	0.1	0	<1%
Recreational	2	<1%	1.5	1.5	3	<1%
Agri-Commercial	1	<1%	-	14.2	14	<1%
Agri-Industrial	1	<1%	-	1.1	1	<1%
Aquaculture	1	<1%	-	1.9	2	<1%
Golf Course	1	<1%	-	39.8	40	1%
Mineral Extraction	1	<1%	-	63.8	64	1%
Totals	669	100	-	-	5079*	100

^{*}Whole areas of parcels were used; therefore the total includes parts of parcels that fall outside of the ALR.

Agriculture is by far the most common primary land use activity and occupies the largest number of parcels, 337, and the largest percentage of the total area, 50%. The second most common primary land use activity is "Residential Use", which has 172 parcels occupying 20 ha of the land in the ALR.

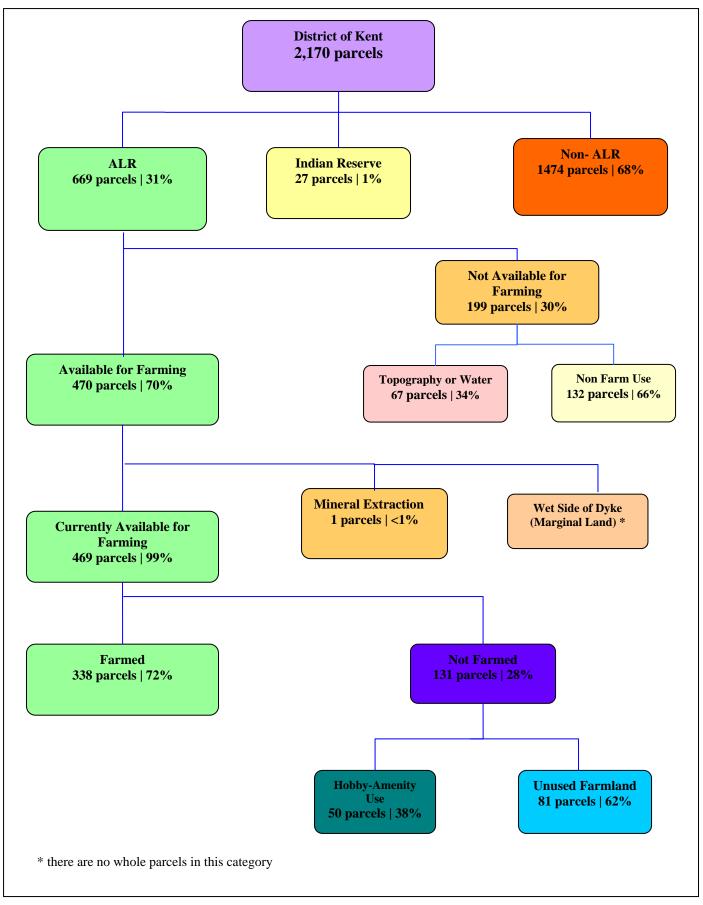
General Condition of ALR Land with Respect to Agriculture

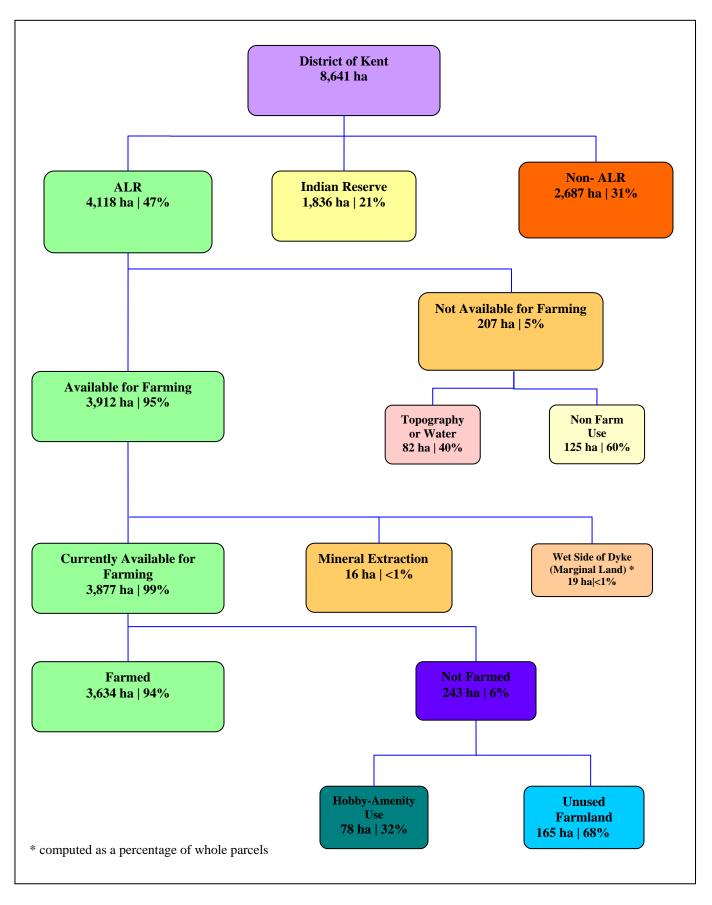
An analysis was done to examine how much land within the ALR is being farmed, how much has the potential to be farmed, and how much is unavailable for farming. Numbers are reported in the following two flowcharts, which show the number of parcels in each category and the hectares within those parcels.

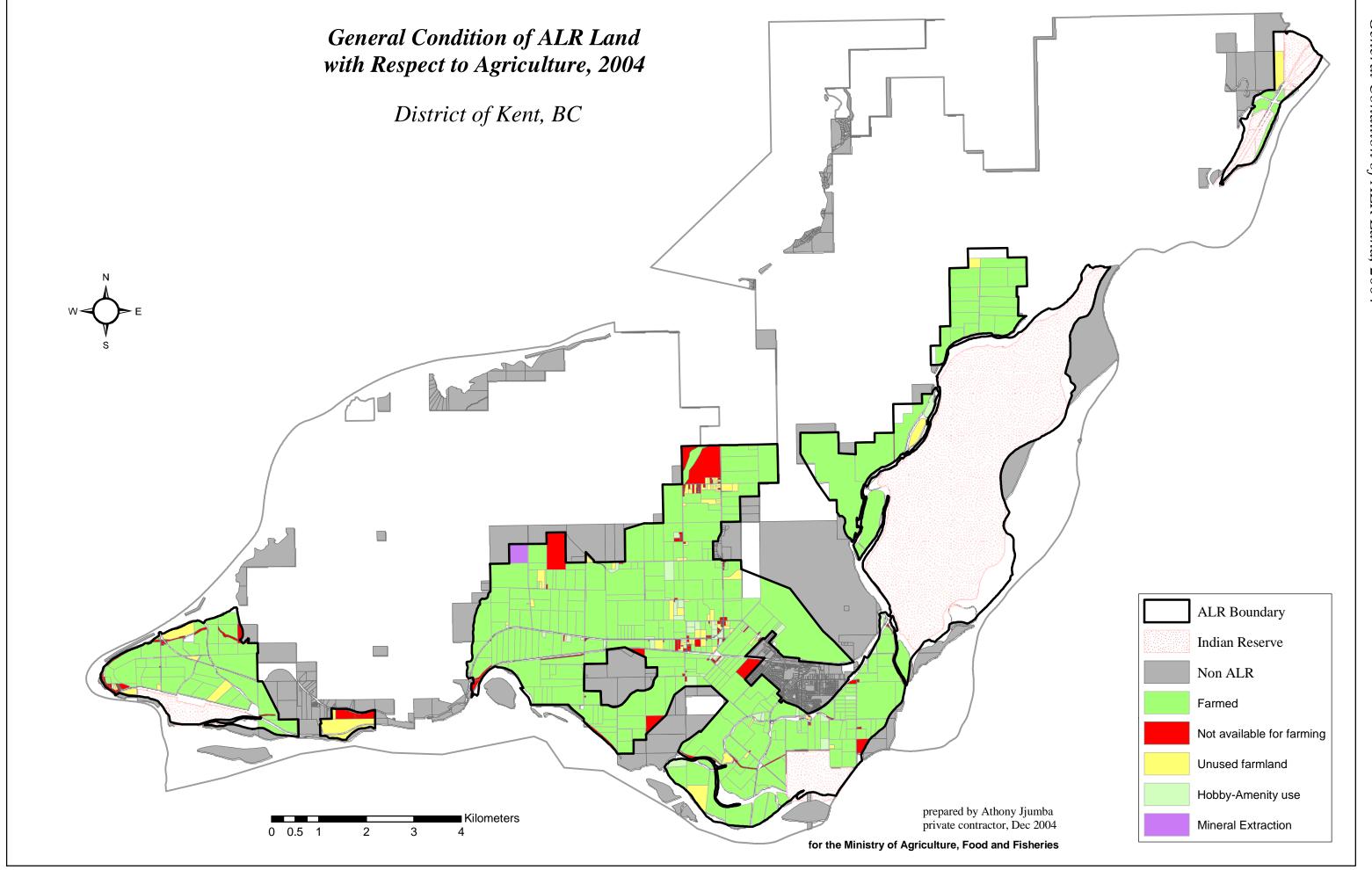
For this analysis, parcels which were divided by the ALR boundary, or were entirely within the ALR, are included in the total of 669, the count of parcels within the ALR. However, only the portion of those parcels which is inside the ALR is counted towards the total of 4,118 ha. Seventy percent of these parcels were at least partly available for farming, comprising 95% of the area.

Within the "Available for Farming" category, land devoted to mineral extraction was considered temporarily alienated from agriculture, and so is dealt with as a separate category on the flowcharts. The "Wet Side of Dyke (Marginal Land)" category is for parcels with very limited potential for farming, as they have large areas of wetlands, and are periodically flooded. There were no parcels that were entirely categorized as marginal land, however, parts of some parcels were categorized as marginal and the value 19 ha is derived as a summation of these parts. The "Not Available for Farming" category will be discussed in more detail in the next section.

The percentages listed in the flowcharts refer to the percent of the "parent category" rather than the overall total.







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. During the survey, parcels were also considered alienated due topography which was mostly steep slopes or land under water.

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); Treed Hillside; Water, Wetland or Shoreline; Residential; Institutional; Agri-industrial or Commercial/Service Use. Residential parcels were considered alienated if the parcel size was less than 4,000 square meters, or if pavement and landscaping made future agricultural development impossible. On the flowcharts these appear as "Not Available for Farming" accounting for 207 ha on 199 parcels. This category was further subdivided into two categories; "Non Farm Use" and "Topography or Water" based on the land use activity for which the parcels were alienated.

"Non Farm Use" activities included Golf Course, Transportation and Communications, Utility, Residential, Institutional, Agri-industrial and Commercial/Service Use, accounting for 125 ha on 132 parcels. "Topography or Water" accounted for 82 ha on 67 parcels. Land use activities in this category were Water, Wetland or Shoreline; Water Management and Treed Hillside.

There was also a significant number of parcels that were classified as "Partially Alienated," because part of the parcel was on a steep slope or the land was under water. For these parcels, the percentage which was alienated was recorded (e.g. 50% of the parcel on a steep slope), and then multiplied by the parcel area to get the number of alienated hectares. This number does not include areas like driveways and other built portions of the property that are in reality alienated from farming. There were 22 parcels categorized as "Partially Alienated" and the area computed from the alienated portions of these parcels was 200 ha.

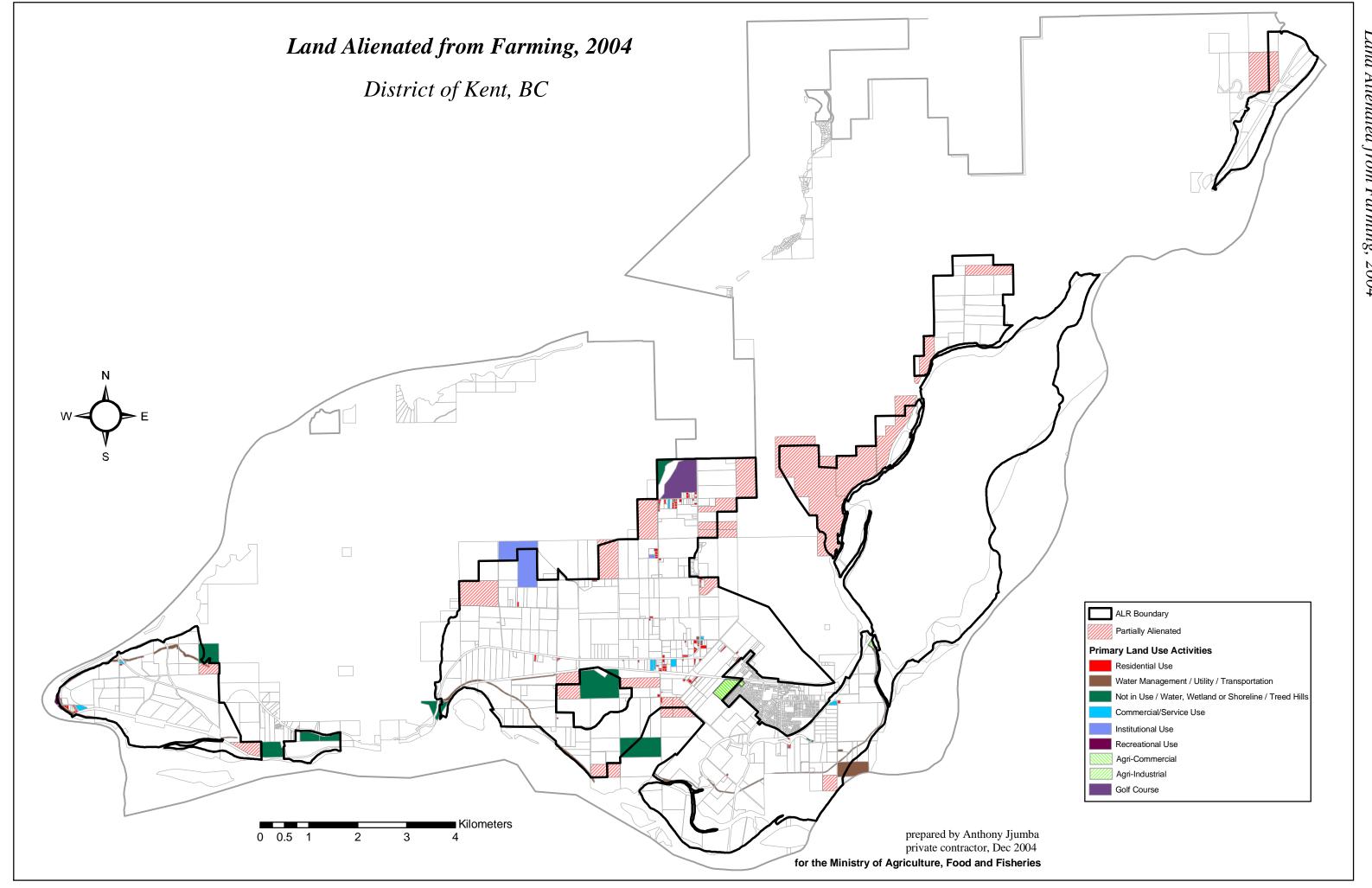
Table 3: Land Alienated from Agriculture within the ALR

Reason for Alienation	Number of Parcels	Median Parcel Size (ha)	Average Parcel Size (ha)	Total Area (ha)	Percentage of Total Parcel Area*
Residential Use	106	0.2	0.2	21	0.4%
Water Management	56	0.5	0.8	46	0.9%
Commercial/Service use	8	1.0	1.1	9	0.2%
Utility	4	0.4	4.6	18	0.4%
Treed Hillside	8	11.6	17.3	138	2.7%
Institutional Use	3	0.9	18.3	55	1.1%
Transportation and Communications	4	0.8	0.9	4	0.1%
Water, Wetland or					
Shoreline	3	0.3	0.6	2	0.0%
Not in Use	2	0.1	0.1	<1	0.0%
Recreational Use	2	1.5	1.5	3	0.0%
Agri-Commercial	1	14.2	14.2	14	0.3%
Agri-Industrial	1	1.1	1.1	1	0.0%
Golf Course	1	39.8	39.8	40	0.8%
Totals	199	-	-	551	10.8%

^{*}Total Area = 5079 ha. It includes parts of parcels that are outside the ALR

Table 4: Partially Alienated Parcels

Reason for Alienation	Number of Parcels	Median Parcel Size (ha)	Average Parcel Size (ha)	Total Area (ha)	Percentage of Total ALR Area
Partially Alienated	22	-	-	200	3.9%



Farmed and Not Farmed Land

The area counted as "Currently Available for Farming" was further broken down to determine how much is already developed with regards to agriculture and how much is available for agribusiness expansion. The figure of 3,877 ha includes the entire area of the properties within the ALR, including area devoted to non-farm use such as residential. Parcels that are marginal or alienated are excluded from this category.

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 agricultural development. Parcels with "Residential Use" as the main activity, which were not alienated, were included in this category.

These "Not Farmed" parcels represent areas where new agriculture operations could potentially be located. The map "Parcels with Potential for Agricultural Expansion" shows the categories of hobby-amenity use, unused farmland, and unused farmland with marginal land.

The "Unused Farmland" category makes up 81 parcels occupying 165 ha of land excluding the parts that are marginalized. As evident from the map, most of these parcels are small, with an average size of less than one hectare, and clustered in a couple of areas within the ALR with smaller lot sizes.

Table 5 shows that 75% percent of these are less than 2 ha, and for comparison Table 6 shows parcel sizes of farmed parcels, which tend to be much larger. The small size of unused parcels may limit the range of possible farming activities that could develop on these parcels. The further development of small lot agriculture in Kent, as well as planning for agriculture, may open up more agriculture potential of these areas. Improving drainage or other factors may improve the agriculture use of some other parcels.

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¹¹ The 338 parcels which were considered "Farmed' had agriculture as their primary or secondary land use activity, as opposed to the figure of 337 parcels in Table 2, which refers only to parcels with agriculture as their primary activity.

¹² Again, the number of unused farmland properties on the flowchart includes primary, secondary, tertiary use or quaternary use, and so is higher than listed in Table 2, which only shows the primary use.

Table 5: Unused Farmland by Parcel Size

Parcel Size	Number of Unused Parcels	Percentage of Unused Parcels	Parcel Area (ha)	Percentage of Unused Area
< 2 ha	61	75%	43	19%
2 - 4 ha	10	12%	28	12%
4 - 8 ha	4	5%	19	8%
8 - 16 ha	3	4%	34	15%
>16 ha	3	4%	105	46%
Total	81	100%	227	100%

Table 6: Farmed Land by Parcel Size

Parcel Size	Number of Farmed Parcels	Percentage of Farmed Parcels	Parcel Area (ha)	Percentage of Farmed Area
< 2 ha	55	16%	79	2%
2 - 4 ha	46	14%	139	3%
4 - 8 ha	68	20%	429	10%
8 - 16 ha	103	30%	1149	26%
> 16 ha	66	20%	2552	59%
Total	338	100%	4348	100%

Primary Agricultural Activities

For each parcel in the study area with "Agriculture" as a land use activity, up to five specific agricultural activities were recorded, in order of decreasing economic importance. The primary agricultural activity is the one that is likely to be 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 economic activity and the parcel's primary activity is Agriculture. An agricultural activity is considered an **ancillary use** if it is not the primary economic activity, or the parcel's primary activity is something other than Agriculture.

Table 7: Primary Agricultural Land Use Activities

Primary Agricultural Land Use Activity	Number of Parcels	Percentage of Parcels	Median Parcel	Average Parcel	Total Area	Percentage of Total Area
			Size (ha)	Size (ha)	(ha)	
Pasture and Forage	207	61%	7.2	8.5	1758	40%
Dairy farms incl. Dry						
Cow Facilities	56	17%	14.4	23.6	1324	30%
Nursery and Tree Farms	15	4%	8.1	8.7	130	3%
Nut Farm	15	4%	3.2	6.5	98	2%
Beef Farm	14	4%	10.7	14.8	207	5%
Horse Farms	8	2%	8.9	10.9	88	2%
Berry Farms	7	2%	15.7	13.6	95	2%
Miscellaneous						
Agriculture	5	2%	2.0	115.9	579	13%
Poultry and Game Bird						
Farms	6	2%	7.5	6.9	42	1%
Field Vegetable Farms	2	1%	4.8	4.8	10	<1%
Sheep/Goat Farm	2	1%	6.1	6.1	12	<1%
Greenhouse Operations	1	<1%	6.2	6.2	6	<1%
Totals	338	100%	-	-	4349*	100%

^{*} This total was calculated based on whole parcel sizes including areas of parcels that fall outside the ALR.

In Table 7 and its accompanying map, some agricultural activities have been generalized into broad categories. Specific activities will be discussed next, in the following order:

- Extensive livestock, including dairy and dry cow facilities, beef, horse, sheep and goats, livestock operations- types of which were unknown; and llama and alpaca.
- Intensive livestock, including poultry (layers, broilers, broiler hatching egg and turkey) and game birds. These are livestock which are confined to barns.
- Cultivated crops including, forage and pasture, nursery and trees, field vegetables, berries and greenhouse crops.
- Miscellaneous agriculture including mushrooms, specialty crops, apiary and free range poultry. The agricultural research station has been put in this category as well.

Extensive Livestock

A parcel is considered an extensive livestock operation when there are active animal housing facilities but livestock are not usually permanently confined within the barn. This category includes dairy operations, (which may have permanently confined livestock), dry cow facilities, beef cattle, horses, sheep and goats. Other animals like llama, alpaca and livestock operations, the type of which could not be determined during the survey, have been put in this category as well. The map, Extensive Livestock Operations, on page 26, shows the parcels with beef cattle operations, horse farms, sheep or goat farms, llama and alpaca farms, as well livestock operations the type of which is unknown.

Dairy Farms and Dry Cow Facilities

Dairy Farms

Dairy farms are the most common type of extensive livestock operation, and are the second largest use of ALR land in Kent behind forage operations. In total there are 45 farms with dairy cattle operations as the main agricultural activity. Twenty of the dairy operations were recorded as large-scale dairies, milking over 100 cows. The average parcel size where large-scale dairy is the primary activity is 30 ha. About 17 of the dairies in Kent are medium-scale dairies that are milking between 50 and 100 cows. The average parcel size for medium-scale dairies is 17 ha. There are about 6 small-scale dairies in Kent, milking 50 cows or less with an average parcel size of 16 ha. There are three farms for which the dairy production scale could not be determined during the survey.

Table 8: Dairy Cattle Operations

		M	Ancillary Use	Total		
Type of operation	Number of Operations	of Dairy Parcel Size Parcel Size		Number of Parcels	Number of Parcels	
Dairy, by scale:						
Large (> 100 cows)	20	44%	18.8	29.7	1	21
Medium (50-100 cows)	17	38%	8.9	16.9	0	17
Small (<50 cows)	6	13%	13.3	15.9	1	7
Unknown	2	4%	10.7	10.7	1	3
Total	45	100%				

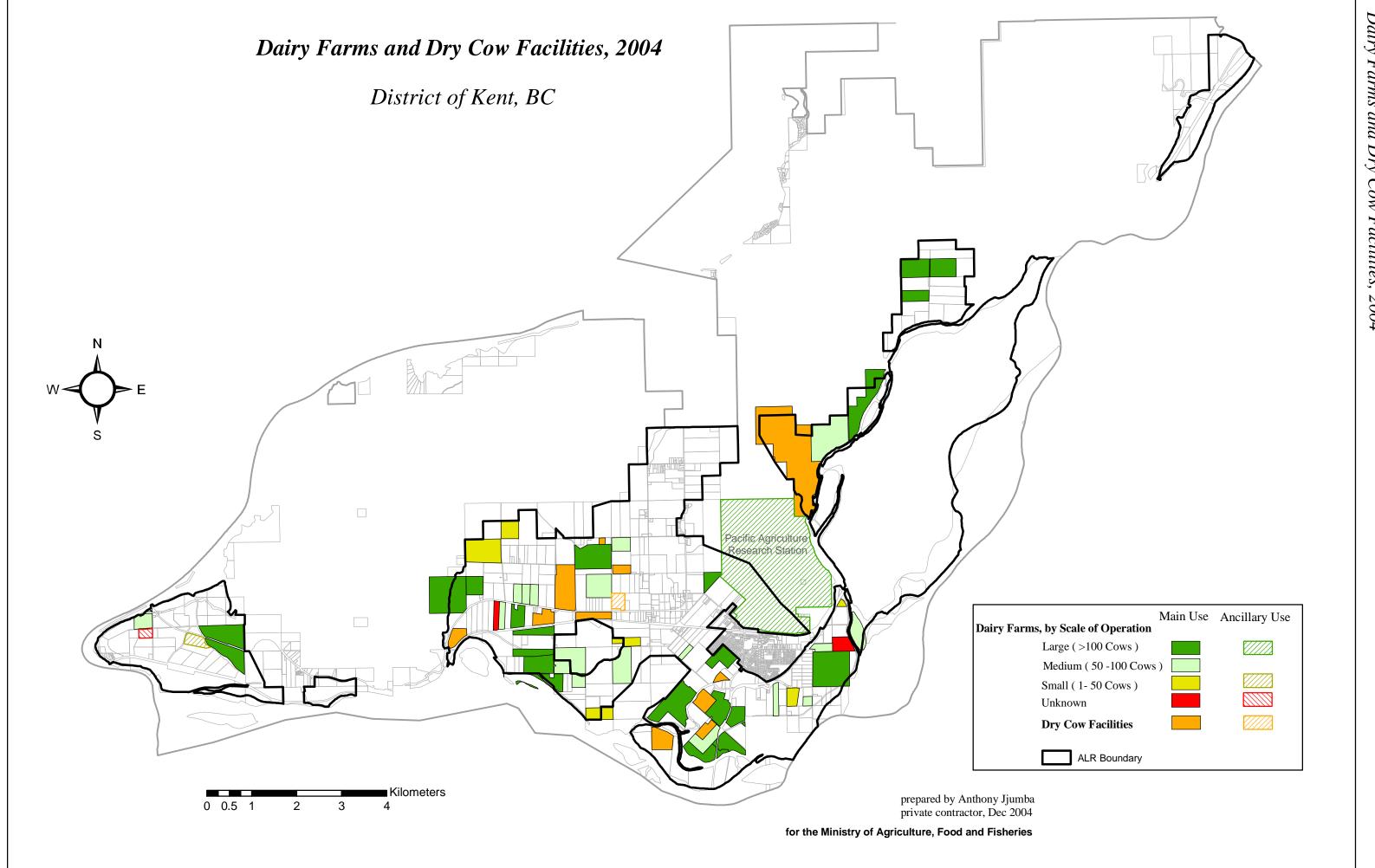
Dry Cow Facilities

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.

There were 11 parcels with dry cow facilities as the main activity and an average parcel size of about 30 ha. On one parcel a dry cow facility was an ancillary activity.

Table 9: Dry Cow Facilities

	Main Use			Ancillary Use	Total
	Number of Operations	Median Parcel Size (ha)	Average Parcel Size (ha)	Number of Parcels	Number of Parcels
Dry Cow Facilities	11	13.2	29.6	1	12



Beef Cattle Farms

Beef cattle farms were the second most common type of extensive livestock operation. There were 14 parcels where the main use was beef cattle and 13 parcels where beef cattle farms were an ancillary activity. Parcels were only considered beef cattle farms if (1) animal housing structures were on the parcel, and (2) beef cattle were seen or evidence of the animals was observed, and (3) the farm had a BC assessment tax status. There were some 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 Operations

		Main Use	Ancillary Use	Total	
	Number of Operations	Median Parcel Size	Average Parcel Size	Number of Parcels	Number of Parcels
		(ha)	(ha)		
Beef Cattle Operations	14	10.7	14.8	13	27

Horse Farms

Horse farming, including stables and riding facilities, is the third most common extensive livestock operation. There were 8 parcels with horse farming as the main agricultural land use activity with an average parcel size of 11 ha, while 32 parcels had horse farms as an ancillary activity. Horses were often kept in small numbers for hobby-farming purposes on small acreages and also on large farms that derive their income from other sources.

A farm that had horses was not necessarily counted as a horse farm. Only parcels that were observed to have (1) horse facilities such as a barn, riding ring, paddocks or horse trailer; (2) observed to have horses or evidence of horses; and (3) a BC Assessment farm tax status classification, were counted as a horse farms.

Table 11: Horse Farms

	Main Use			Ancillary Use	Total
	Number of	Median Parcel	Average Parcel	Number of Parcels	Number of
	Operations	Size (ha)	Size (ha)		Parcels
Horse Farms	8	8.9	10.9	32	40

Sheep or Goat Farms

In this survey of the District of Kent, very few sheep and goat farms were identified. One parcel, 3.4 ha in size, had sheep or goats as the main agricultural land use activity. Sheep or goats were an ancillary activity on seven additional parcels. There is one large milk goat farm in Kent, one of the largest farms with this kind of activity in the Lower Mainland and the only one in Kent.

Sheep and goats are also a common hobby livestock type, but were only counted as a sheep/goat farm where there was (1) evidence of animal housing or milking facilities, (2) observed to have sheep or goats or evidence of sheep or goats, and (3) had a BC Assessment farm tax status. Those farms failing to meet the criteria listed above were classified as hobby farms.

Table 12: Sheep and Goat Operations

	Mair	1 Use	Ancillary Use	Total
Sheep and Goat Operations	Number of Operations	Total Area (ha)	Number of Parcels	Number of Parcels
Milk Goat Farm	1	8.8	-	1
Sheep or Goat Farm	1	3.4	7	8
Total	2	12.2	7	9

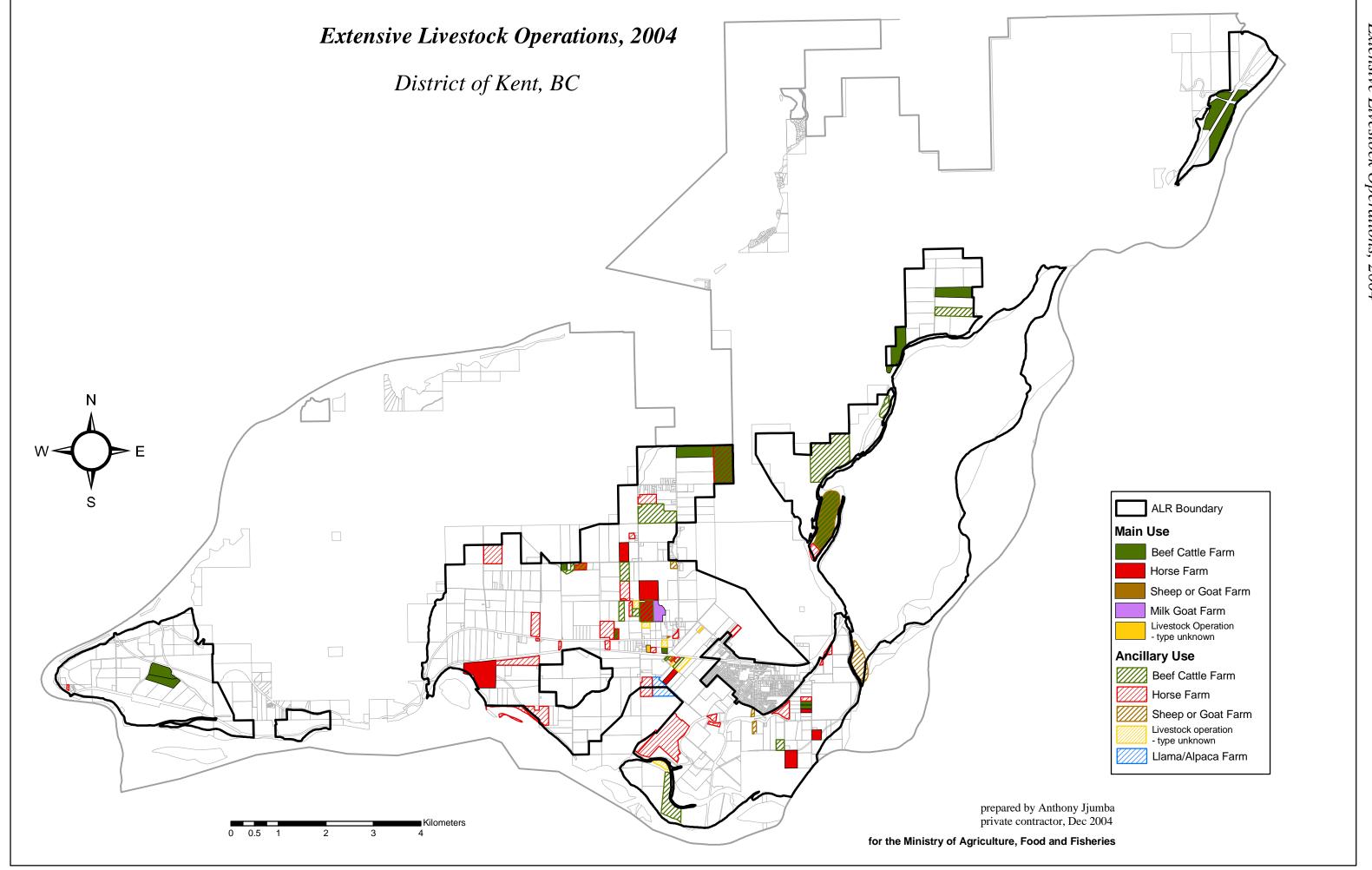
Other Extensive Livestock Operations

During the survey, some parcels were identified as having "Livestock Operation – Type Unknown". This category was assigned to parcels with evidence of livestock operations, like active barns, but it was not enough to clearly identify the type of livestock. There was one farm, 1.3 ha in size, with unknown livestock operation as the main agricultural activity. Two other farms had unknown livestock operations as ancillary activities.

There was no farm with llama or alpaca farming as the main activity, however, there was one parcel where it was an ancillary activity.

Table 13: Other Extensive Livestock Operations

		Main Use	Ancillary Use	Total	
Type of Livestock Operation	Number of Operations	Total Area (ha)	Number of Parcels	Number of Parcels	
Livestock Operation – Type					
Unknown	1	1.3	2	3	
`Llama or Alpaca	-	-	1	1	
Total	1	1.3	3	4	



Intensive livestock

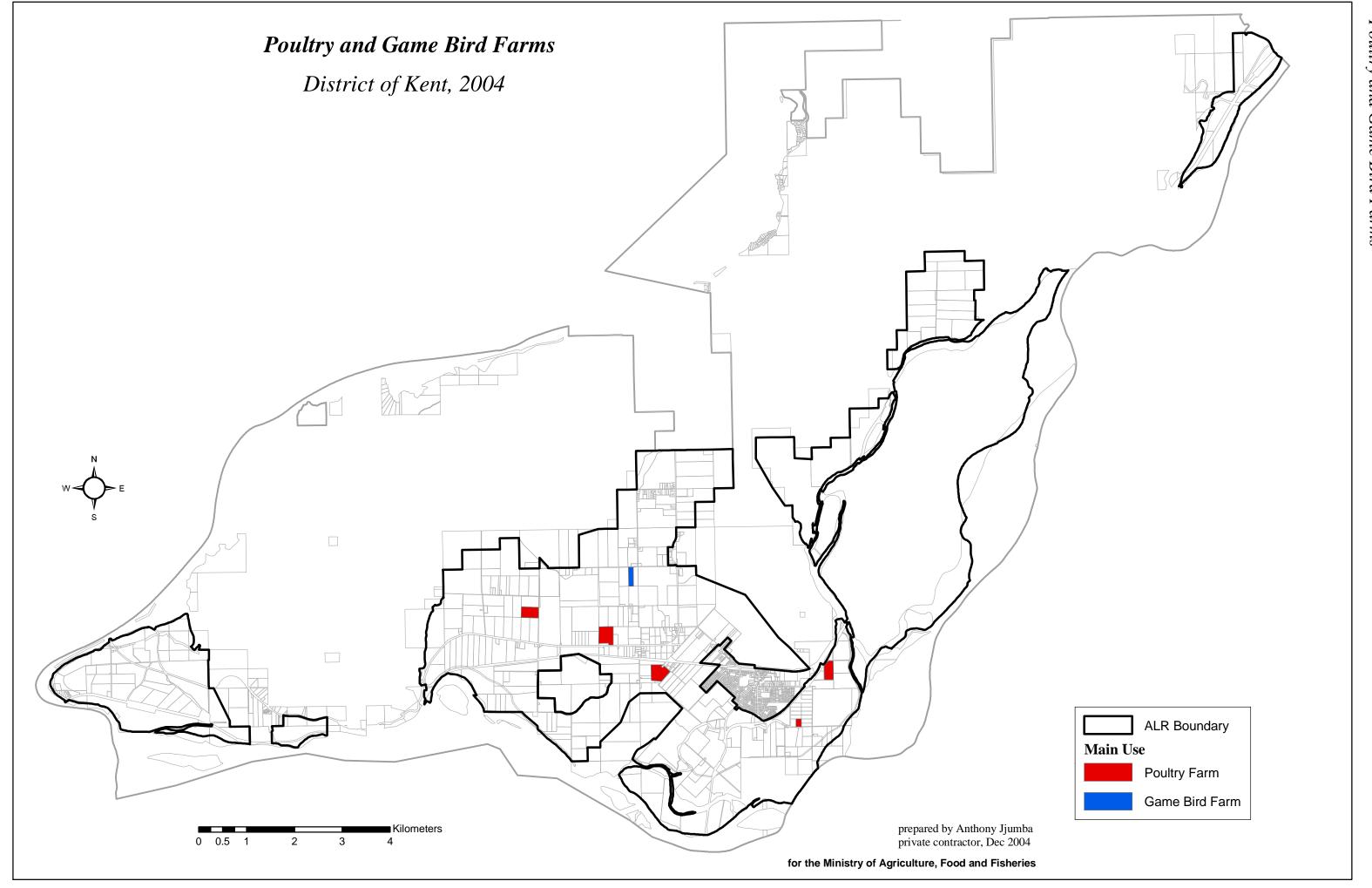
Poultry and Game Bird Farms

Intensive livestock refers to those animals that are exclusively raised inside animal structures. In this survey of the District of Kent, only poultry and game bird farms were identified as meeting this classification. The poultry classification did not include small scale free-range poultry that were classified as small "Poultry – backyard flock" under Miscellaneous Agriculture.

There are five poultry farms with an average parcel size of 7.5 ha. No parcels were observed to have poultry as an ancillary use. There is one game bird farm that is quite unique, in Kent. It raises falcons for the Middle Eastern market.

Table 14: Poultry and Game Bird Farms

		Mai	Ancillary Use	Total		
Type of Operation	Number of Operations	Median Parcel Size (ha)	Average Parcel Size (ha)	Total Area (ha)	Number of Parcels	Number of Parcels
Poultry	5	8.0	7.5	37.5	-	5
Game Bird	1	4.0	4.0	4.0	-	1
Total	6	-	-	41.5	-	6



Cultivated Crops

Forage and Pasture Operations

By far the most common farming activity, forage and pasture operations are the foundation of agriculture in Kent. As shown in Table 7, of the 338 parcels with agricultural use, 207 parcels have forage or pasture as their main use. 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 these operations for feed.

Forage crops are grass or corn grown specifically to feed livestock, while pasture is where a parcel is fenced for grazing and there is evidence that it is used for grazing livestock at least part of the time. The climate in Kent is exceptionally good for forage corn production, and Kent farmers take great pride in the quality of their forage corn. Each year, a feature of the Agassiz Fall Fair is the forage corn competition, where the farmer with the best corn in the District of Kent is awarded the coveted "Corn King" award. Sweet corn, which is grown for human consumption, is recorded in this survey as a field vegetable.

Most extensive livestock operations have some forage and/or pasture crops as an ancillary use to feed the animals. Ninety-nine parcels have forage production as an ancillary activity while 59 parcels have pasture as an ancillary activity which means that, of the 669 parcels surveyed, 351 of them (without counting parcels that have both forage and pasture twice) have forage and/or pasture.

Table 15: Forage and Pasture Operations

		Main	Ancillary Use	Totals		
Type of Operation	Number of Operations	Median Parcel Size(ha)	Average Parcel (ha)	Percentage of Operations	Number of Parcels	Number of Parcels
Forage	183	7.7	9.1	88%	99	282
Pasture	24	3	3.8	12%	59	83
Total	207			100%	158	351**

^{**} Parcels that have Pasture and Forage as the main and ancillary use operations or vice versa are not counted twice.

For every crop recorded during the survey, an estimate was made of the percentage of the parcel occupied by the crop. This percentage was multiplied by the parcel area to get an estimate of the crop size. Table 16 shows the estimated areas covered by forage and pasture crops within the ALR in the District of Kent.

Table 16: Hectares of Forage and Pasture Crops

Type of Crop	Number of Hectares (ha)
Silage or Hay	1489
Forage Corn	891
Used Pasture	364
Forage and Pasture Crops (type unspecified)	33
Unused Pasture	27
Forage Cereal	3
Total	2806

Nursery and Tree Farm Operations

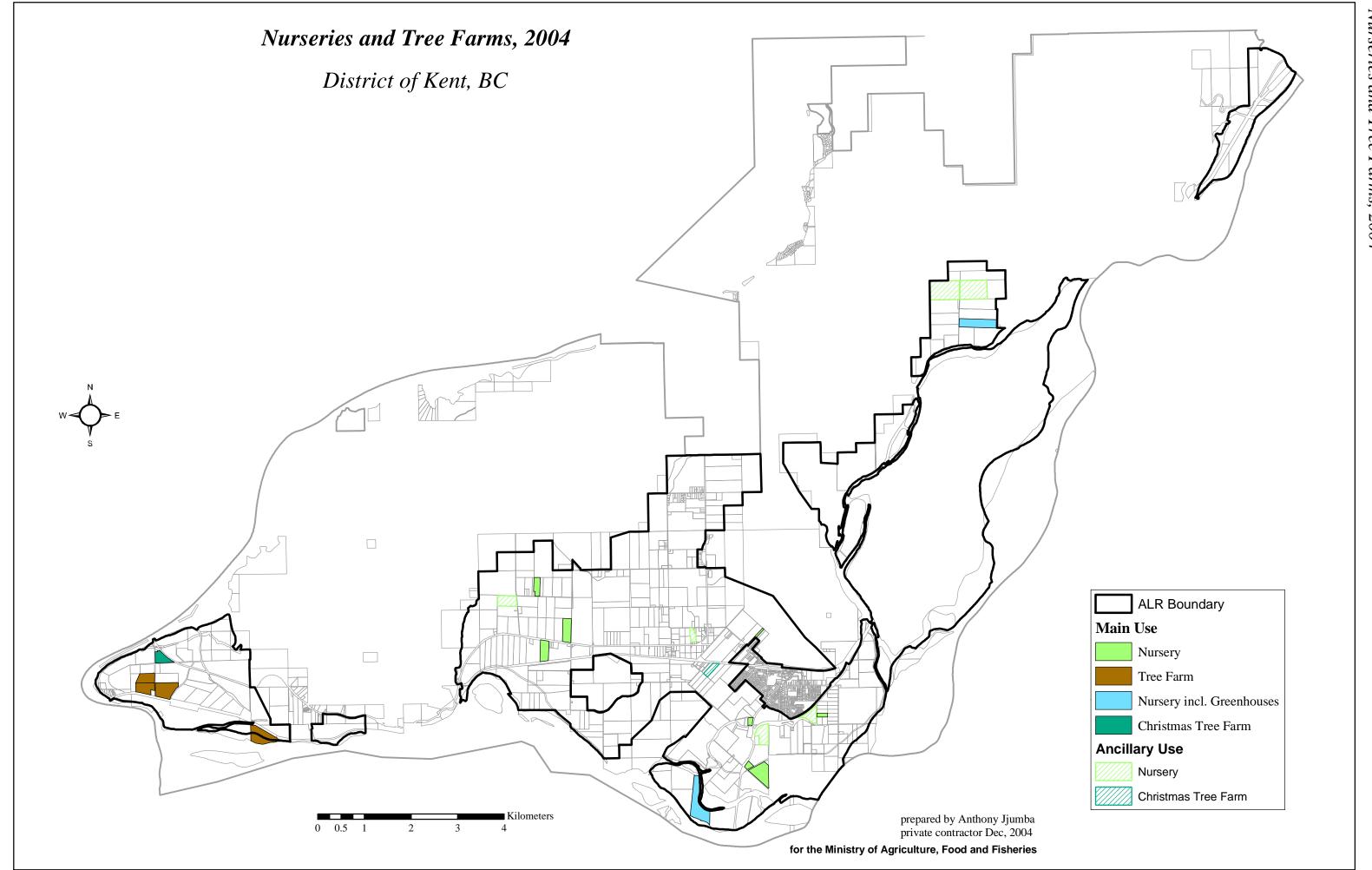
The term "nursery" was assigned to parcels growing hedging cedar, or other ornamental trees, either in the ground or in containers. Nurseries were defined as any parcel with a significant number of trees planted, regardless of the presence of structures on the parcel. Many nurseries had greenhouses growing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

"Tree farms" refers to parcels growing trees for pulp, such as hybrid poplar. Christmas tree farms are also in this section.

There are eight nurseries occupying about 43 ha of land with an average parcel size of 5.3 ha. There are two "Nursery incl. Greenhouse" operations covering 36 ha and an average parcel size of 18 ha. There are four parcels with "Tree Farm" operations and a total area of 45 ha with an average parcel of 6.3 ha. There was one parcel fitting the "Christmas Tree Farm" classification as the main agricultural land use activity.

Table 17: Nursery and Tree Farm Operations

		Mai	Ancillary Use	Total		
	Number of Operations	Median Parcel Size (ha)	Average Parcel Size (ha)	Total Area (ha)	Number of Parcels	Number of Parcels
Nursery	8	3.5	5.3	43	5	13
Tree Farm	4	11.2	11.3	45	-	4
Nursery (incl.						
Greenhouses)	2	18.0	18.0	36	-	2
Christmas Tree Farm	1	6.3	6.3	6	1	2
Total	15			130	5	21

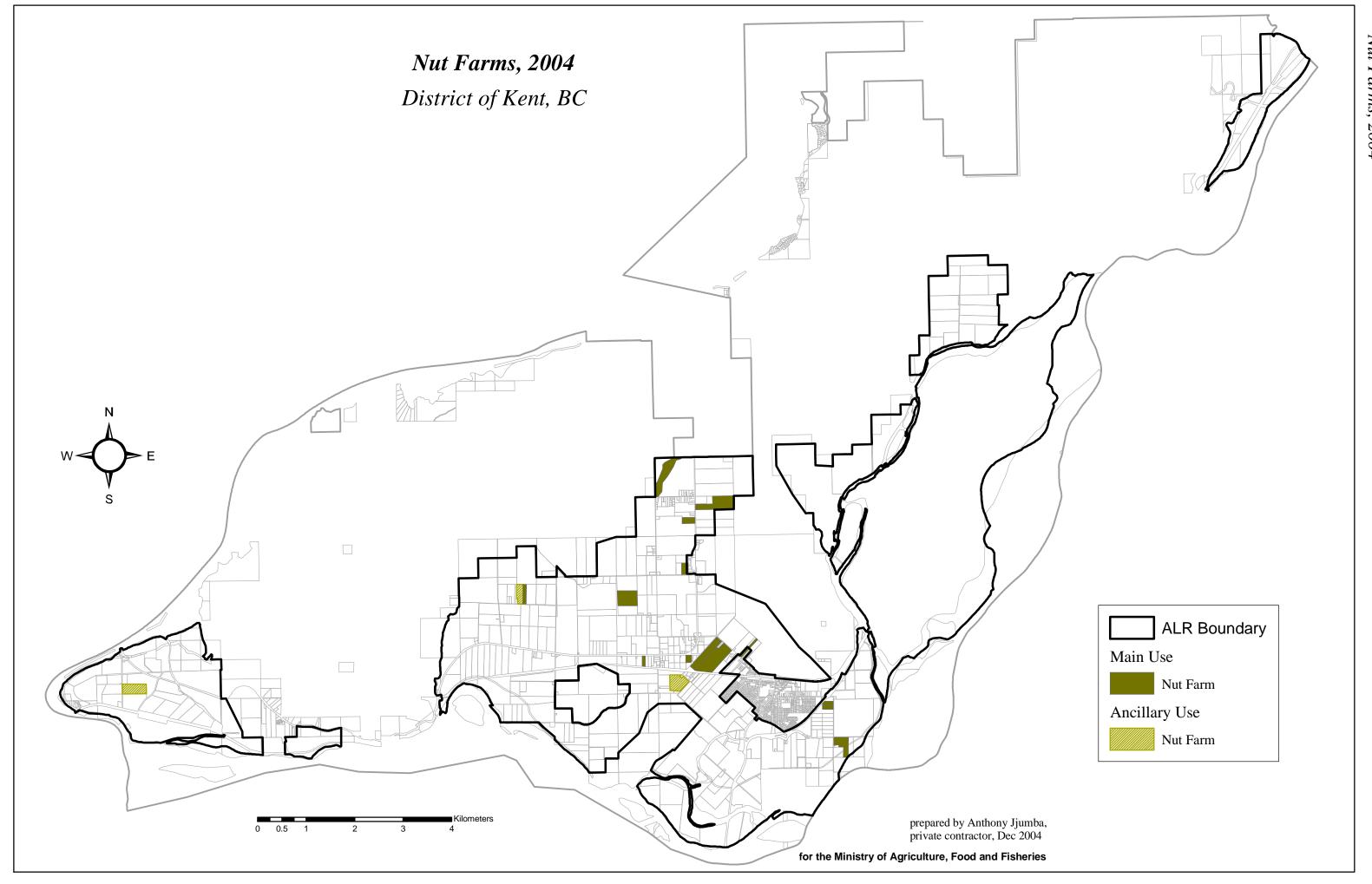


Nut Farms

All the nut farms identified in this survey were hazelnut farms. The District of Kent is a major producer of hazelnuts in the Fraser Valley. There are 15 parcels on which nut farming is the primary agricultural land use activity. The total area for these parcels is 97 ha with an average parcel size of 6.5 ha. There are three parcels with nut farming as an ancillary use.

Table 18: Nut Farms

		Mair	Ancillary Use	Total		
	Number of Median Average Total Area Operations Parcel Parcel (ha) Size (ha) Size (ha)				Number of Parcels	Number of Parcels
Nut Farms	15	3.2	97	3	18	



Field Vegetable Farms, Berry Farms and Greenhouse Operations

Field vegetables, including sweet corn grown for the direct market, cucurbits and other field vegetables not clearly identified in the survey, are the main use of two parcels in Kent, with an average parcel size of 4.8 ha. In addition eight parcels have field vegetables as an ancillary use.

Seven parcels had berry farms as the main use with an average parcel size of 13.6 ha. These were mainly growing blueberries and cranberries, with some strawberries as well. Berry farming was an ancillary use on two farms.

Greenhouse operations considered here could grow food crops such as tomatoes and cucumbers, as well as bedding plants and cut flowers. Greenhouse operations are defined as farms having glass structures or plastic covered cold frames capable of producing income from their crop. 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. Greenhouses used to support tree nursery operations were counted as "Nursery incl. Greenhouse", and are listed under Nursery and Tree farm operations.

One parcel was noted to have a greenhouse operation as its primary agricultural use and is 6.2 ha in size. This operation currently grows red peppers. Two other parcels had greenhouse operations as an ancillary activity.

Table 19: Field Vegetable Farms, Berry Farms and Greenhouse Operations

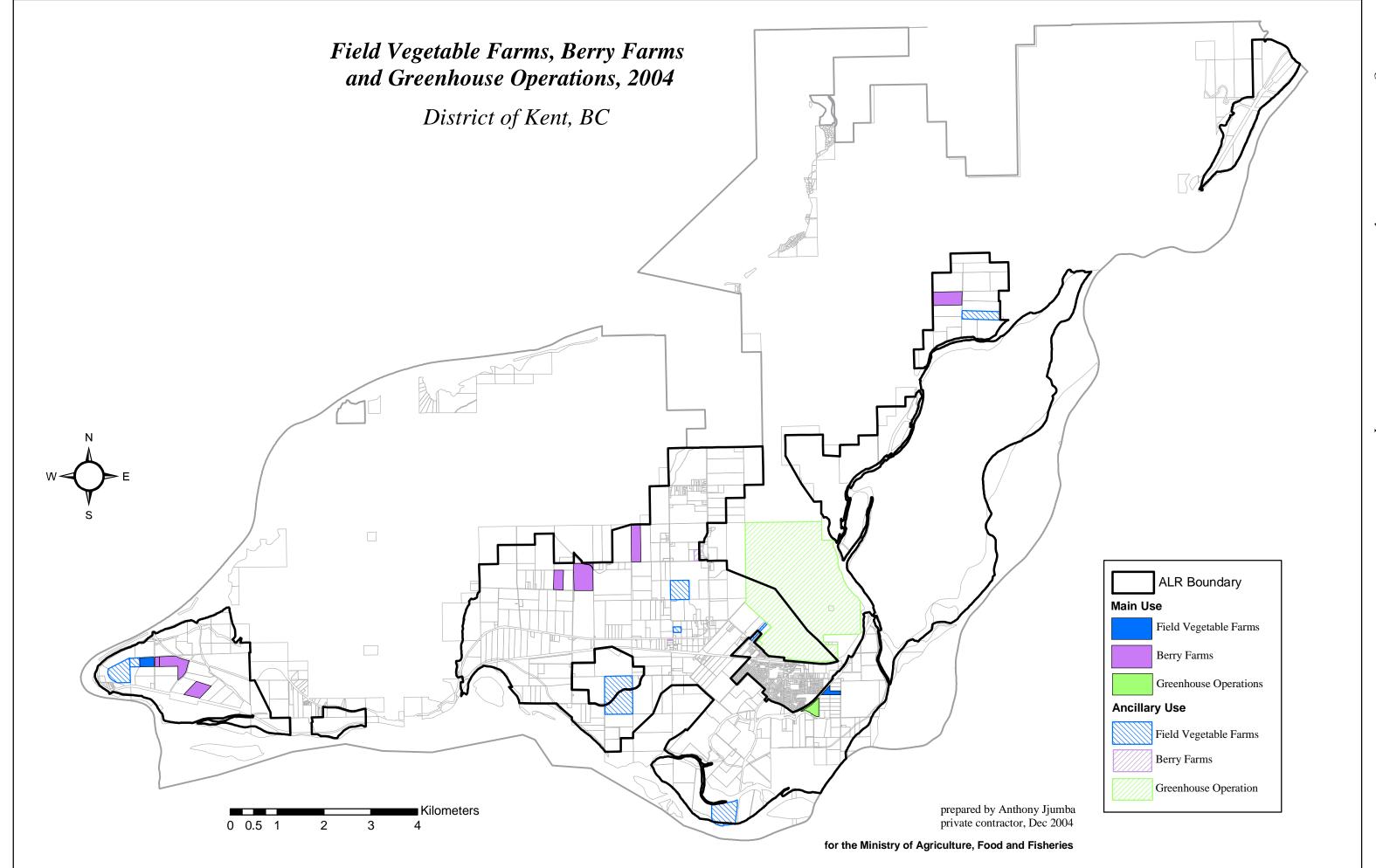
		Main Use	Ancillary Use	Total	
	Number of Median Parcel Average Parcel Operations Size (ha) Size (ha)		Number of Parcels	Number of Parcels	
Type of Operation					
Field Vegetable Farms	2	4.2	4.8	8	10
Berry Farms	7	15.7	13.6	2	9
Greenhouse Operation	1	6.2	6.2	2	3
Total	10			5	22

Table 20: Hectares of Field Vegetable Crops

Type of Crop	Number of Hectares(ha)
Sweet corn	11
Cucurbits	5
Vegetables – type unspecified	4
Total	20

Table 21: Hectares of Berry Crops

Type of Crop	Number of Hectares(ha)
Blueberries	21
Cranberries	21
Strawberries	13
Berries - type unspecified	5
Total	60



Miscellaneous Agriculture

Those activities that could not fit under the general categories were all put together under "Miscellaneous Agriculture." This category includes the research station, free range poultry, a mushroom farm, specialty crop production and apiaries.

The Pacific Agriculture Research Station, a part of Agriculture and Agri-Food Canada's network of research facilities, is housed in Kent. It has a variety of agricultural activities including dairy production, forage production and greenhouse operations, and is used primarily for research rather than production purposes. The research station is situated on the arable part of a large parcel with an area of 565.7 ha. Most of the parcel (about 60%) falls outside the ALR and is alienated due to topography.

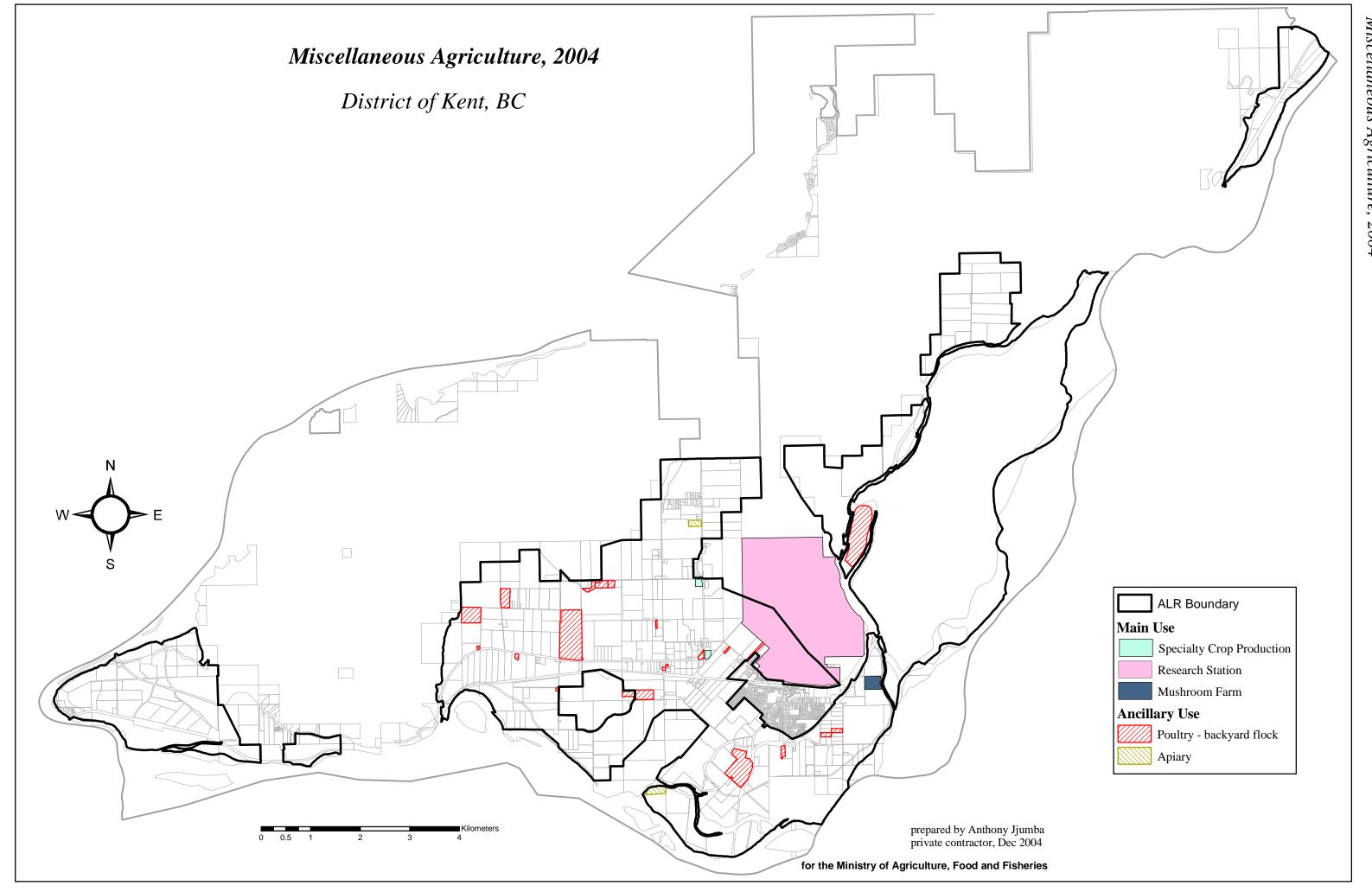
There are two unique specialty crop farms in Kent. One produces aquaculture products like freshwater salmon and crayfish, as well as wasabi, a Japanese condiment. Another produces bean sprouts, a niche commodity, for direct sale into the Asian market in Vancouver.

There were 22 parcels with free-range poultry as an ancillary use, categorized as "Poultry-backyard flock" in Table 22. Many of these were hobby farms.

Table 22: Miscellaneous Agriculture

		Main Use	Ancillary Use	Total	
Miscellaneous Agriculture	Number of Operations	Average Parcel Size (ha)	Total Area (ha)	Number of Parcels	Number of Parcels
Specialty Crop					
Production	2	1.9	4	-	2
Research Station	1	565.7	566	-	1
Mushroom Farm	1	8.5	9	-	1
Poultry - backyard					
flock	-	-	-	22	22
Apiary	-	-	-	2	2
Total	5		579*	24	28

^{*} The Research Station has about 60% of its total area alienated and outside the ALR.



Small Lot Agriculture

The District of Kent has encouraged further economic development in its already prosperous farming sector. One area they have encouraged is the development of "Small Lot Agriculture," through their Agriculture Advisory Committee (AAC). The Small Lot Agriculture Subcommittee of the AAC did a survey to identify people who were doing some kind of agriculture activity on small lots, or who would potentially be interested in this kind of agriculture development. The Committee developed a database from the survey which was then used to generate data and maps for this report.

According to the provincial government, "Small Lot Agriculture" is defined as any agricultural production on parcels that are less than 4.05 ha (10 acres). This definition was modified by the District of Kent to include parcels that are 8.09 ha (20 acres) or less. ¹³ In this survey parcels that are less than 8.09 ha (20 acres) and more than 0.405 ha (10 acres) with "Agriculture", "Hobby-Amenity Use" or "Unused Farmland" as the primary land use activity are included. In addition these parcels were screened to exclude those that did not have farm or residential structures and seemed to be part of larger agricultural operations, since many large fields cover several small parcels in Kent. Of those identified as fitting in the criteria, Table 23 shows that 194 parcels were less than 4.05 ha while 65 were smaller than 8.09 and larger than 4.05 ha.

Table 23: Small Lot Agriculture

Parcel Size (ha)	Number of Operations	Total Area (ha)	Average Parcel Size (ha)	Median Parcel Size (ha)
0.40-4.05 (<10 acres)	194	331.3	1.7	1.7
4.06-8.09 (10-20 acres)	65	405.9	6.2	6.3
Total	259	737.2		

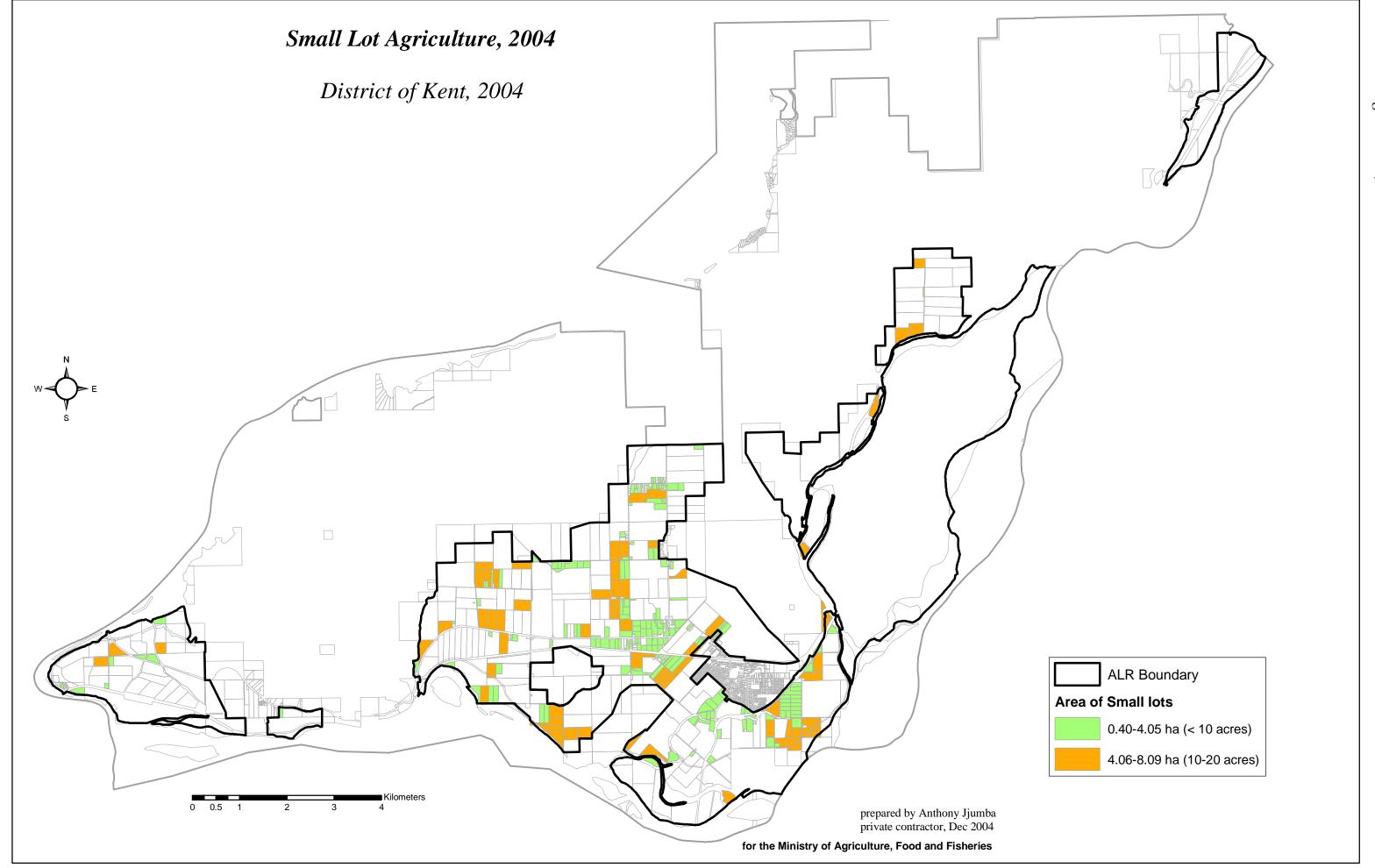
Table 24 shows the primary land use activities of the parcels that are already involved in, or those that have a potential, for Small Lot agriculture. Agriculture is the main activity for 149 parcels on 579 ha of land, while there are 65 parcels on 70 ha in "Residential Use" and 8 parcels with "Unused Farmland" on 18 ha.

Table 24: Primary Land Use Activities on Small Lots

Parcel Size (ha)	Number of	Percentage of	Median	Total Area	Percentage of
	Parcels	Parcels	Parcel Size	(ha)	Total Area
			(ha)		
Agriculture	149	58%	3.9	579	79%
Hobby Farms	36	14%	1.9	70	9%
Residential Use	65	25%	1.1	70	9%
Unused Farmland	8	3%	2.2	18	2%
Totals	258	100%		737	100%

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¹³ Kent Agricultural Advisory Committee. Small Lot Agriculture in Kent, December, 2004

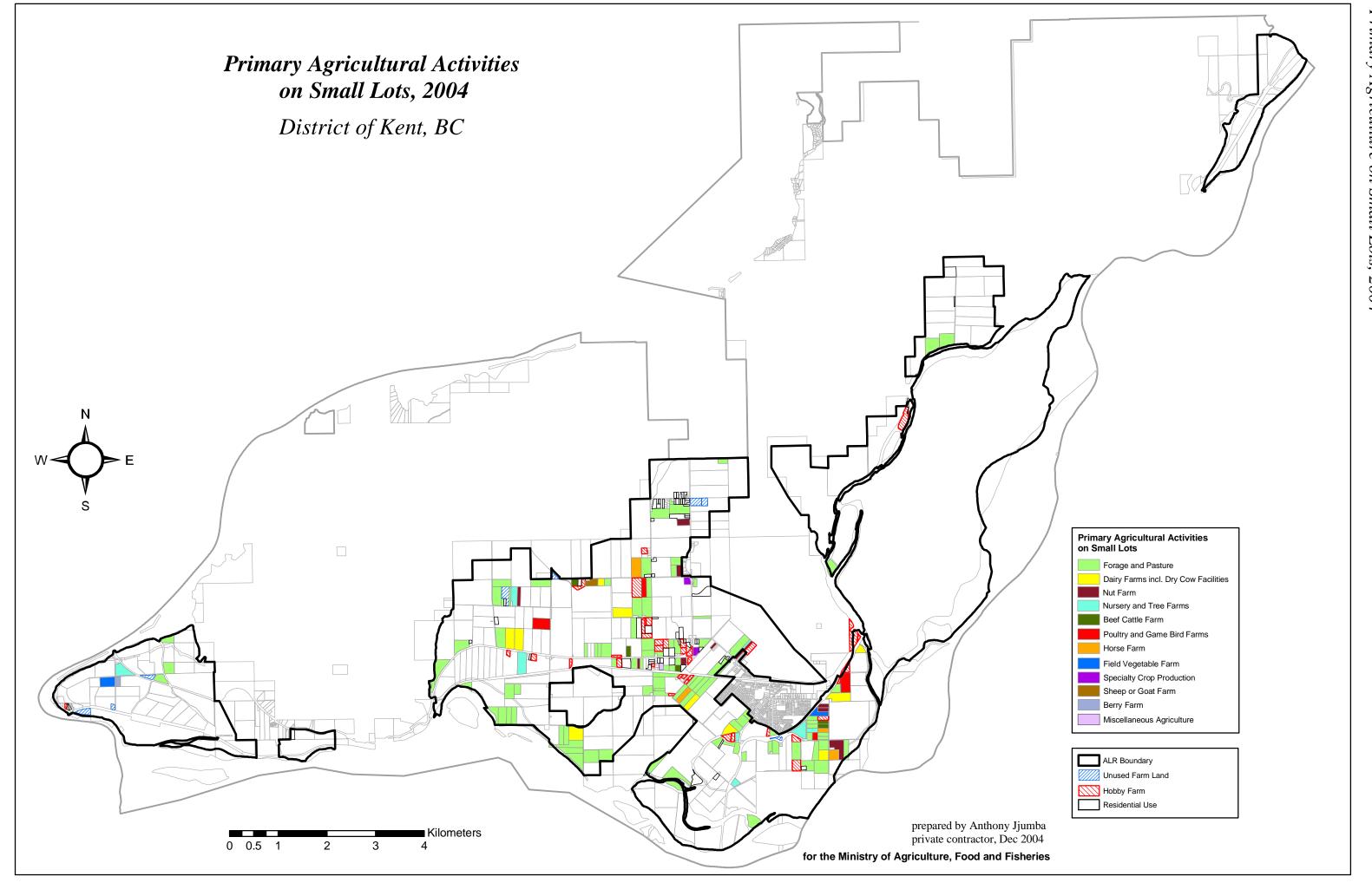


Primary Agricultural Activities on Small Lots

Primary agricultural activities on Small Lots were identified for those parcels that had agriculture as the main land use activity. Forage and pasture are by far the most common agricultural activities on small lots, with 101 parcels engaged in this kind of activity, totaling about 394 ha. However, there is also a remarkable diversity of agriculture activities on the remaining 48 parcels, ranging from extensive livestock to specialty crops. The endeavor of developing more small-lot agriculture is one that holds much promise for the District of Kent.

Table 25: Primary Agricultural Land Use Activities on Small Lots

Primary Agricultural Land Use Activity	Number Of Parcels	Percentage of Parcels	Average Parcel Size	Total Area (ha)	Percentage of Total Small Lots Area
			(ha)	()	
Forage and Pasture	101	68%	3.9	394	68%
Dairy farms incl. Dry					
Cow Facilities	10	7%	5.6	56	10%
Nut Farm	10	7%	2.7	27	5%
Nursery and Tree Farms	8	5%	4.1	33	6%
Beef Farm	5	3%	1.9	10	2%
Poultry and Game Bird					
Farms	4	3%	5.2	21	4%
Horse Farms	4	3%	4.6	18	3%
Field Vegetable Farm	2	1%	4.8	10	2%
Specialty Crop					
Production	2	1%	2.0	4	1%
Sheep/Goat Farm	1	1%	3.4	3	1%
Berry Farms	1	1%	2.0	2	0%
Miscellaneous		_			
Agriculture	1	1%	1.3	1	<1%
Totals	149	100		579	100



Agri-tourism and Direct Farm Markets

There are no farms that have agri-tourism or direct farm markets as the main agricultural activity, as (for the purposes of this survey) they are by definition, an ancillary use to a land-based agriculture activity. For example, a direct market cheese farm that uses the milk produced on the farm for making cheese is considered to have a dairy as a primary activity and a direct market as a secondary activity.

Agri-tourism and direct farm markets support the tourist industry in Kent, a process that has been increasing over the years connected with major community events such as the Agassiz fall fair. Recently, the District of Kent developed a "Circle Farm Tour" that gave visitors a map with farms engaged in farm markets or agri-tourism as well as a small write-up about their business and opening hours. The map was included in a well-designed brochure. This successful endeavor strengthened Direct Farm Marketing and Agri-tourism in Kent, causing more direct farm markets to develop.

There are 17 parcels in Kent where Agri-tourism is an ancillary activity, with an average parcel size of about 18 ha. There are also 15 Direct Farm Markets on an average parcel size of 11 ha. Two bed and breakfast (hospitality) places were identified on parcels having an average size of about 7 ha.

Table 26: Agri-tourism and Direct Farm Markets

Type of	Ancillary Use					
Operation	Number of Operations	Average Parcel Size (ha)	Total Area (ha)			
Agri-tourism	17	17.8	302			
Direct Farm						
Markets	15	10.6	159			
Bed and						
Breakfasts	2	7.3	15			
Total*	32		448			

^{*}When computing the totals parcels with both Agri-tourism and Direct Farm Markets have not been counted twice.

Summary

The land use inventory provides an overview of the agricultural activities in the District of Kent. Briefly, 50% (338 parcels) of the 669 parcels surveyed are in agricultural production. This is accounts for the 4,346 ha of the land in the ALR that is under agricultural production. By far the most common agricultural activity is forage or pasture with 207 parcels as the main use followed by dairy farms and dry cow facilities with 56 parcels. There is a wide diversity of agriculture activities on the remaining parcels, ranging from extensive livestock to specialty crop production.

There are 165 ha of unused farmland in the District of Kent, which is only 4% of the total land base currently available for farming. Most of the parcels that contain unused farmland are very small in size and have residential structures on them, thereby limiting their use for expanding agriculture businesses. Therefore, the agricultural land base in Kent is nearly fully utilized with almost no unused farmland available for expansion.

Further analysis on the land use inventory will include analysis of pockets that form residential enclaves within the ALR, constraints to agricultural production, intensity of farmland use, clustering of agricultural production in geographical locations and threat to commodities if parcels are sold off individually.

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 and urban and rural buffering. 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

KAAC - Kent Agriculture Advisory Committee

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. 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.

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. meters with only residential use, parcels greater than 4000 sq. meters 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.

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.