

Agricultural Activity on Small Agriculture Lots In the Fraser Valley Created by Subdivision and Long Term Planning Initiatives

Four Examples in the Township of Langley



Ministry of Agriculture and Lands, 2009.

Executive Summary

In the Fraser Valley, local agriculture is an important source of food and a significant economic driver within local communities. Most of the agricultural land in the Fraser Valley is within the Agricultural Land Reserve (ALR) on privately owned lots that vary in size.

Small farm holdings, if actively farmed, tend to be more productive (higher output/acre) than large farm holdings because the land on small parcels is often farmed more intensively than on larger parcels. For example small lots in the Fraser Valley may be used for nursery production, berry production, floriculture greenhouses or poultry operations where larger lots may be used for forage, beef production or field vegetable production.

While small farm holdings can be very productive, they can also limit the range of agriculture uses of the land by excluding some important sectors such as dairy, vegetable greenhouse and hogs, and limit expansion of poultry operations.

Not all small agriculture lots in the ALR are farmed. Many are used for non-farm purposes, primarily residential.

This report investigates the question:

“Do small lots created by subdivision or long range planning initiatives lead to more intensive agriculture production or more non-farm use?”

The Ministry of Agriculture and Lands (MAL) conducts land use inventories of farmland in local communities. The land use inventory identifies the level of farming activity on all lots within the ALR, and as such provides the information needed to address this question.

Before the 1993 Rural Plan, the minimum lot size in the Township of Langley (Langley) was 5 acres. Prior to formation of the ALR in 1973, Langley approved several 5 acre subdivisions which were surrounded by larger lots. The need for ALC approval in 1973 and the change to a minimum lot size of 19 acres in the 1993 Rural Plan limited any further subdivision in these areas. The agricultural activity on the small lots created by these early subdivisions, as compared to the surrounding large lots, provides insight into the **long term** impact of subdivision on agricultural output. By comparing adjacent properties, variability in output due to different soil type or climatic differences is minimized and by looking at subdivisions that predate the ALR, short term impacts of subdivision on land use are also minimized.

The results from the three areas examined are summarized below:

3 Example Sites	# Lots analyzed	% Lots Farmed	% of Land Farmed	Estimated Annual \$ Output /Acre
Small lots (2 – 4.9 acres)	46	13%	13%	\$ 173
Larger lots (7 – 110 acres)	29	80%	95%	\$ 8,183

In the three examples of subdivision in the farming area, fewer small lots (68%) and less land (84%) was farmed compared to the surrounding larger lots and the annual \$ output **per acre** for the total small lot area was **2%** of the annual \$ output **per acre** of the total area of the surrounding large parcels. There was no indication of any intensive agriculture production on the small lots indicating in the long term these subdivisions have attracted primarily non-farm use.¹

Public policy, through local and regional planning activities, can impact the long term level of farming activity on specific lands. The area of land in the Township of Langley, near 240th St. between 60th Ave and 72nd Ave, and bisected by the freeway, was subject to different public policy north of the freeway as compared to south of the freeway. Regional and local plans identified areas north of the freeway as farmland and south of the freeway as a future urban area. The soil type and climatic conditions are very similar. The resulting level of agriculture activity in these two areas, under different long range planning initiatives, is summarized below:

	Parcels Analyzed	Avg. Parcel Size (ac)	% Lots Farmed	% Area Farmed	Estimated Annual \$ Output /Acre	Dominant Farm Product
North	12	18.1	67%	89 %	\$11,910	Berries 78%
South	42	5.35	24%	34 %	\$ 10,409	Poultry 98%

In the example of different land use planning initiatives, the area designated for farming had larger lots and a greater proportion of lots (43%) and more of the land (55%) was being actively farmed. Agricultural output per acre was similar, however, in the south it was dominated by 3 poultry farms (98%). In the area designated for farming, crop production, particularly berries (78%), was the dominant agriculture type. In the area designated future development, 98% of agriculture production came from three large scale poultry farms, two on lots under 5 acres. Only one of the poultry farms in this area has a large enough lot to provide room for expansion.

The area south of the freeway provides a clear example of why looking at overall average output per acre on small lots hides the fact that it may come from a small percentage of the lots. This supports the finding in historical subdivisions that currently small lots trend toward non-farm use.

¹ There was approximately 1 acre of blueberry production on one small lot, however, the full extent of the lot was not used so was not considered intensive production.

Outline

EXECUTIVE SUMMARY	3
1. INTRODUCTION	6
2. GENERAL OVERVIEW OF SMALL LOT AGRICULTURE IN LANGLEY, MAPLE RIDGE AND ABBOTSFORD	7
2A. TOTAL AREA IN ALR AND PROPORTION OF SMALL LOTS	7
2B. PERCENTAGE OF LOTS FARMED.....	8
3. AGRICULTURAL ACTIVITY ON THREE FARMLAND SUBDIVISIONS IN LANGLEY	8
s.16	9
.....	10
.....	11
4. IMPACT OF LONG TERM PLANNING INITIATIVES ON FARMING ACTIVITY ...	13
5. DISCUSSION	15
6. APPENDIX.....	16

1. Introduction

The majority of the land farmed in the Fraser Valley is within the Agricultural Land Reserve (ALR), where farming is recognised as the priority use.² Approximately 319,000 acres of land in the Fraser Valley is in the ALR and produces a large proportion of BC's agriculture products. The Fraser Valley is also a densely populated area with several urban centres. Across all municipalities within the Fraser Valley there is a mix of residential, commercial, industrial and agricultural land uses. Pressures on agricultural land for non-farm uses can result in subdivision of land within the ALR³.

Small farms in BC account for 25% of the total farm gate receipts. Small agriculture lots can be more productive on a \$ output/acre basis than larger agriculture lots as they are often more intensively farmed. Small lots can support intensive, non-soil based agriculture operations such as mushrooms, floriculture greenhouses, poultry and container nurseries. Small lots are also suitable for start-up farmers, testing new technologies, or for established farmers wanting to expand by leasing farmland. On the other hand, smaller lots reduce the opportunities for certain types of soil and non-soil based agriculture. Small lots can specifically exclude dairy, hogs, vegetable greenhouses and limit expansion in poultry and some other operations.

There is no requirement to farm land in the ALR. Small agriculture lots near urban centers are also popular for non-farm uses, particularly residential use.

The combination of good soils, moderate climate and available water make the Fraser Valley a very productive farming area. A healthy farming sector needs a balance of lot sizes to meet the needs of a wide variety of farm activities. Do we have the right balance of small and large agriculture lots in the Fraser Valley? One approach to answering this question is to ask:

“Do small lots created by subdivision or long range planning initiatives lead to more intensive agriculture production or more non-farm use?”

The Ministry of Agriculture and Lands conducts Land Use Inventories (LUI) which identify the farming activities on each lot in the ALR within a local government area. This provides the information needed to analyze examples of subdivision and long term planning initiatives in relation to their impact on farming activity.

This report presents evidence from three early farmland subdivisions in Langley and one early long range planning initiative involving the Salmon River Uplands in Langley. Langley provides good 'case studies' because prior to the 1993 Rural Plan, the minimum lot size for farmland in Langley was 5 acres, and prior to 1973 there was no ALC approval required for subdivision of farmland. As a result, no other large 'block' subdivisions have occurred in the area around the examples since they were completed. Three areas that were subject to

² http://www.alc.gov.bc.ca/alr/alr_main.htm

³ There may be rare occasions where a subdivision may help agriculture, however, most requests for subdivision are not to enhance farming but to address other interests.

subdivision before 1973 are analysed to compare the level of farming activity on the small lots created, to the large lots that still surround them. Comparing the small lots with the large lots surrounding them minimizes potential differences in soil and climate conditions and also minimizes any short term land use impacts of the subdivision.⁴

Section two of the report gives a general overview of the distribution of farmland lot sizes in three Fraser Valley municipalities, Township of Langley (Langley), District of Maple Ridge (Maple Ridge) and the City of Abbotsford (Abbotsford). Section three examines the farming activity on the three examples of early farmland subdivision in Langley and Section four looks at the impact of different long term planning initiatives on farmland.

For the purpose of this report, small lots are defined as lots equal to or less than 5 acres (2.02 ha) but equal to or greater than 2 acres. Lots less than 2 acres were not considered because BC Assessment historically did not give farmland classification to these parcels. Currently, a much higher level of farm gate sales are needed for these parcels to be classified as farmland, thus inclusion in the analysis would bias the results.

2. General Overview of Small Lot Agriculture in Langley, Maple Ridge and Abbotsford

2a. Total Area in ALR and Proportion of Small Lots

Abbotsford, Langley, and Maple Ridge all have land within the ALR and are important contributors to our agriculture system in the Fraser Valley.

The table below shows the area of ALR and the proportion of small lots within each municipality.

	Total Land in ALR (acres)	Total Acreage within ALR in small lots (2-5 acres)	Percentage of Acreage within ALR in small lots (2-5 acres)	Total number of small lots (2-5 acres)
Abbotsford	68,419	3,699	5.4	982
Langley	58,292	7,107	12.2	1,707
Maple Ridge	8,719	827	9.5	618

Abbotsford has a lower percentage of small lots to large lots than Langley and Maple Ridge. Although lots smaller than 2 acres were not included in the analysis, it is worth noting that there are 535 lots smaller than 2 acres within the ALR in Langley.

⁴ Information as to the use before subdivision was not available. There are no topographical breaks near the edge of any of the subdivisions so it is unlikely natural characteristics of the land led to the subdivision decision.

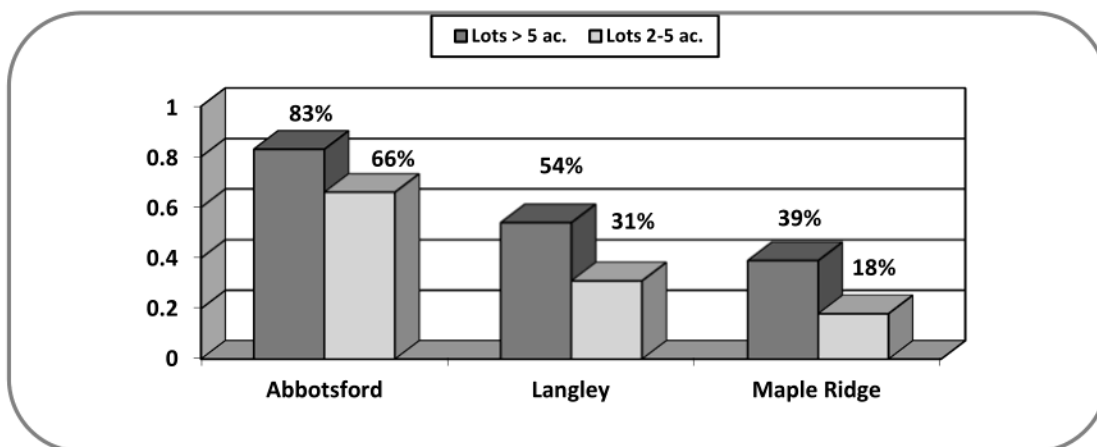
2b. Percentage of Lots Farmed

LUI data was used to determine the percentage of lots that were primarily used for agricultural production. LUI survey data collectors assessed lots with agriculture as the primary use based on whether or not the farm had enough agricultural activity, as seen from the road, to generate \$2500 in revenues annually. If the parcel was judged to have enough agricultural activity to generate \$2500 in revenues it was considered “farmed” for the purposes of this report.

If lots did not meet the threshold for primary agriculture use, they were designated as ‘residential’ for the primary use. Some parcels, considered residential, within the ALR may have some agricultural activity but it was judged to generate less than \$2,500 in annual revenues.

Figure 1 below compares the percentage of 2 to 5 acre lots farmed to larger lots farmed within the ALR. In all municipalities, a lower percentage of their smaller lots were farmed.⁵

Figure 1: Percentage of lots farmed within the ALR⁶



3. Agricultural Activity on Three Farmland Subdivisions in Langley

s.16

. Prior to the Rural Plan, the minimum lot size was 5 acres throughout Langley. The increase in the minimum lot size to 19 acres in the R3 Zone area prevented any further subdivision into 5 acre lots in that zone. Given this, it is a good area to examine the impact of historic 5 acre subdivisions on agriculture production.

The parcels were analysed using land use data collected during the 2006 Langley LUI as well as site checked in August 2009. Detailed maps and summary sheets are in Appendix 6.1.

⁵ In Langley 6.5% of lots smaller than 2 acres were farmed.

⁶ Abbotsford (2004), Langley (2006), Maple Ridge(2006)

⁷ See the Langley rural Plan in Appendix 6.3, page 28.

Agriculture output was estimated based on the area in production (LUI) and the average revenue for the specific crop being produced. The average revenue was obtained from MAL production specialists, specific crop production budgets and production insurance revenue estimates. The methodology for estimating annual farm gate revenues is in Appendix 6.2.

s.16

Page 10 to/à Page 12

Withheld pursuant to/removed as

s.16

4. Impact of Long Term Planning Initiatives on Farming Activity

To investigate the long term impact of subdivision policy on land use, an area of similar soil types and access to water, but with different long term policies on subdivision, was selected for analysis. The area selected was around 240th Street in Langley, both North and South of Highway 1 (see Figure 8).

Fig 8: 240th Street and Highway 1, Langley. Areas shaded in blue are not in the ALR, and were not included in the analysis.



On the North side of the freeway, the policy since the 1960s has been a focus on agricultural production. Prior to the late 1960s some of the land on the north side of the freeway was owned by a foreign company. In the late 1960s to early 1970s, the provincial government purchased some of the land. The government included this area in the Green Zone program where the land, as well as some other provincially owned land, was leased to farmers. Over time the Green Zone program concluded and the land was sold to farmers. Since the development of the Rural Plan, the minimum lot size north of the freeway has been 19 acres.

South of the freeway the Salmon River Upland area was included in the 1966 Lower Mainland Official Plan as URB-2 or 'developing urban'. Prior to adoption of the Rural Plan, subdivision was permitted, resulting in parcels as small as 1.2 acres in an area that was included in the ALR in 1973. The Rural Plan designated this area as part of the Salmon River Uplands and since 1995 there has been a moratorium on subdivision. There are some areas, denoted in blue in the map above, which are not in the ALR, and thus were not included in the analysis.

The agricultural output and percentage of lots farmed were compared between parcels north of the freeway and parcels south of the freeway. Similar to the above sections, the parcel was considered "farmed" if the primary land use was agricultural. LUI surveyors considered a parcel farmed if it had enough agricultural activity to generate at least \$2500 in annual farm gate sales. Land uses were ground checked in August 2009.

The table below shows the results of the analysis.

	Parcels Analyzed	Avg. Parcel Size (ac)	% Lots Farmed	% Area Farmed	Estimated Annual \$ Output /Acre	Dominant Farm Product
North	12	18.1	67%	89 %	\$11,910	Berries 78%
South	42	5.35	24%	34 %	\$ 10,409	Poultry 98%

The area north of the freeway was more actively farmed with 89% of the land being used primarily for agricultural production. It supported a significant amount of berry production as well as a nursery and some horses. The area south of the freeway had more of a mixed residential and agricultural land use, with 34% of the land primarily used for agricultural production. The land supported poultry farming, horses and pasture. 98% of the agricultural output came from 3 poultry farms.⁸

The area south of the freeway provides a clear example of why looking at overall average output per acre on small lots hides the fact that it often comes from a small percentage of the

⁸ Anecdotal evidence suggests that when intensive farms on small acreages want to expand they either lease/purchase adjacent land or move to a larger parcel. The total land cost is lower if a farm moves to a larger parcel as compared to owning two smaller titles.

lots. This supports the finding in historical subdivisions that currently small lots trend toward non-farm use.

5. Discussion

The examples in this report provide more meaningful insight into the **long term** impacts of subdivision on farming activity than simply using the overall average of small lots that are farmed within the Township. The subdivisions occurred between 1961 and 1971 so most lots will have changed ownership since the lots were created.

In the three examples of subdivision in the farming area, fewer small lots (68%) and less of the land (82%) was farmed compared to the surrounding larger lots and the annual \$ output **per acre** for the total small lot area was **2%** of the annual \$ output **per acre** of the total area of the surrounding large parcels. There was no indication of any intensive agriculture production indicating in the long term these subdivisions have attracted primarily non-farm use

In the example of different land use planning initiatives, the area designated for farming had larger lots and a greater proportion of lots being actively farmed (43%). Agricultural output per acre was similar, however, in the south it was dominated by three poultry farms (98%). In the area designated for farming, crop production, particularly berries (78%), was the dominant agriculture type. In the area designated future development, 98% of agriculture production came from three large scale poultry farms, two on lots under 5 acres. Only one of the poultry farms in this area had a large enough lot to provide room for expansion.

The examples in this report indicate that over the last 40 years small lots created by subdivision or a combination of long term non-agriculture planning and subdivision have tended toward non-farm use rather than intensive agriculture production.

6. Appendix

6.1 - Details of subdivision analysis

In the maps that follow, the area within the black box is the area of the subdivision and the area with the green cross hatching is the area of surrounding large lots used in the analysis.

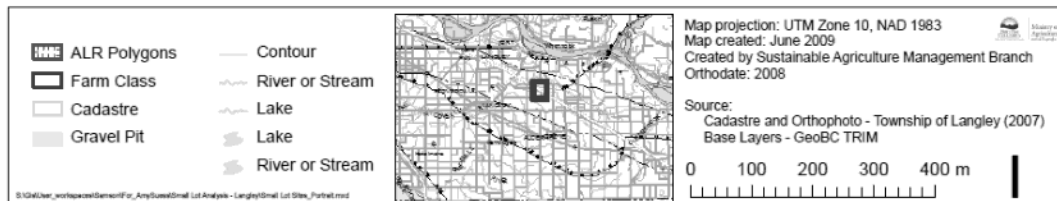
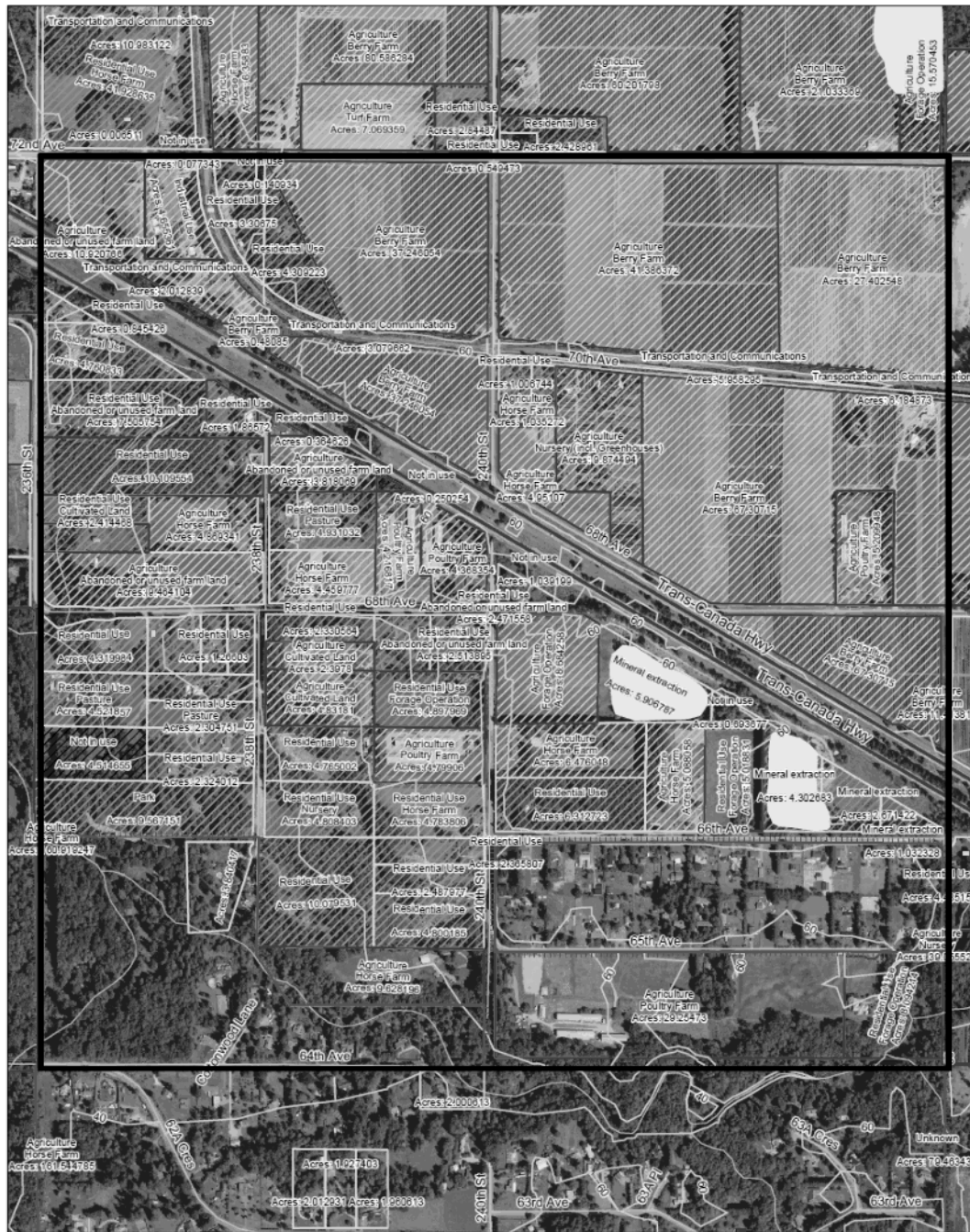
Page 17 to/à Page 23

Withheld pursuant to/removed as

s.16

6.1.D 240th Street and Highway #1

Highway 1 and 68th Avenue



Summary of Area with Long Term Urban Designation

Parcel Size	Farmed?	Activity	Sales	Farm Class
3.82	1	Pasture	5,250	1
2.39	1	Cultivated	3,300	1
4.83	1	Cultivated	6,600	1
9.63	1	Horse	5,000	1
4.78	1	Poultry	1,000,000	1
4.36	1	Poultry	400,000	1
4.12	1	Poultry		1
8.68	1	Forage	12,000	1
29.25	1	Poultry	900,000	1
5.01	1	Forage	6,800	1
0.85		Res		
4.76		Res		
7.5		Res		
10.1		Res		1
9.46		Abandoned		
4.31		Res		
4.52		Res		
4.51		Not in use		
9.56		Park		
1.26		Res		
1.26		Res		
1.26		Res		
2.3		Res		
2.3		Res		
2.3		Res		
2.3		Res		
4.93		Res		
4.46		Res		
4.76		Res		
4.8		Res		
10.07		Res		
4.8		Res		
2.48		Res		
2.48		Res		
4.78		Res		
4.89		Res		1
2.44		Res		
2.44		Res		
6.47		Res		
6.31		Res		
8.09		Res		1
5.08		Res		

Acres	224.7			2338950	
Av Lot Size	5.35				
Acres Farmed	76.87				
%Land Farmed	34%				
% Lots Farmed	24%				

Sales/Acre \$10,409

Dominant Agriculture product Poultry 98%

Summary of Area with Long Term Farming Designation

Parcel Size	Farmed?	Activity	Sales	Farm Class
67.31	1	Berry	1,000,000	1
5.21	1	Poultry	500,000	1
9.87	1	Nursery	20,000	1
4.95	1	Horse	40,000	1
1.03	1	Horse	0	1
27.4	1	Berry	411,000	1
41.36	1	Berry	620,000	1
37.24	1	berry	558,000	1
10.92		unused		1
4.65		industrial		
3.3		res		
4.3		res		
217.54			2591000	

Acres
Av Lot Size
Acres Farmed
%Land Farmed
% Lots Farmed

Sales/Acre \$11,910

Dominant Agriculture Product Berries 78%

6.2 - Assumptions used in \$ output/acres estimations

Estimate of Annual Farm Gate Sales

Dairy

9500 litres/cow @ \$.70/litre

- MAL production specialist and Milk Board price - blended

Beef

Cow/Calf \$1,000/cow

Steers \$400/steer

Blueberry

10,000 lbs/ acre @ \$1.31 = \$13,100

- from *Planning For Profit* - MAL, 2007

Strawberry

10,000 lbs/acre @ \$1.50 = \$15,000/acre

- from *Planning for Profit* - MAL, 2007

Hedging Cedars

1,000 hedging cedars/acre X \$10 each / 5 years = \$2,000/acre

Forage

5 tons/acre @ \$2.75/ton = \$1,375/acre

Horse

Breeding & Training \$4,000

Breeding only - breed specific

Turf

\$1.75/sq yd/yr

X 1.18 sq m/sq yd	\$2
X10,000 sq m/ha	\$20,000/ha
.408 acres/ha	\$8,000/acre

Broilers

300' double decker

- 30,000 birds X 6 cycles = 180,000 birds/yr X 1.9 kg/bird = 342,000 kg/yr

342,000 kg/yr * \$1.40/kg = \$478,800/yr

\$ 478,000 / 300' = \$ 1,600/ ft of double decker barn / yr

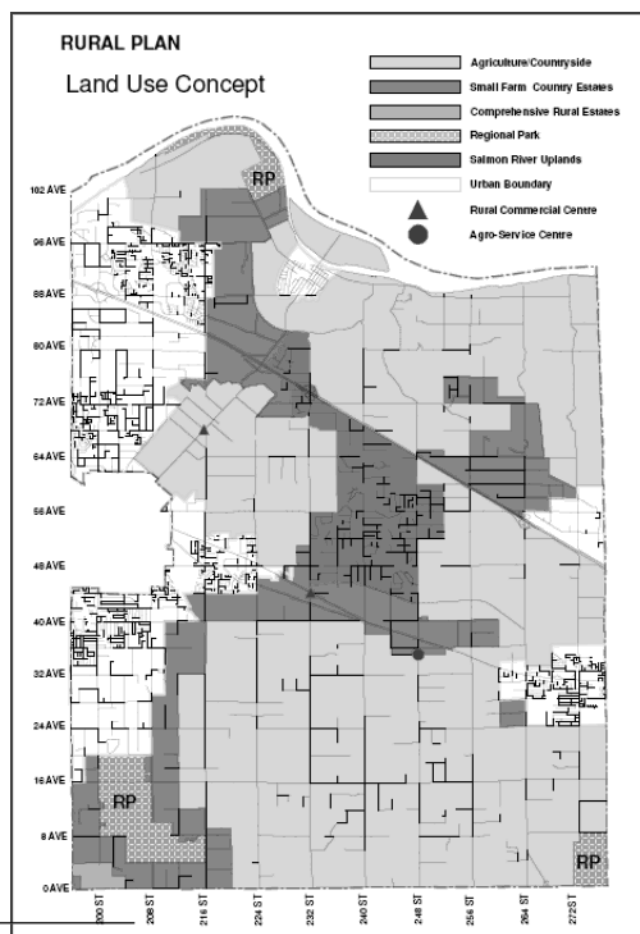
6.3 Langley Rural Plan

Langley released the Community Plan for Rural Langley, often referred to as the “Rural Plan”, in 1993. The primary goal of the rural plan was “to enhance agricultural viability through recognition and protection of the diverse agricultural lands, preservation of larger lot sizes, creation of policies that reinforce designation of much of the land as ALR and encouragement of the agricultural industry within Langley.”⁹

The Rural Plan designates minimum lot sizes within the ALR such that the minimum lot size within the Agriculture/Countryside R-3 area(light green) is 19.8 acres (8 ha) and within the Small Farms/Country Estate R-1 area(dark green) is 4.2 acres (1.7 ha). Both areas are intended to provide for agricultural uses. The area in grey indicates the area of the Salmon River Uplands, over the sensitive Hopington Aquifer, where there has been a moratorium on development since 1995.

The ALC did not support the term Small Farm/Country Estate and did not agree to the full extent of the designation in the rural plan.

Figure 4: Map of Langley’s Rural Plan Land Use Concept (1993)



⁹ Township of Langley Community Plan: Rural Langley.

http://www.tol.bc.ca/files/web_files/planning/CommunityPlans/Bylaw_3250_Rural_Community_Plan.pdf