

# Burnaby Agricultural Land Use Inventory 2003



**BC Ministry of Agriculture, Food and Fisheries**  
**September 2003**

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## **Introduction**

Agriculture is a very important activity in Burnaby's Big Bend area. Despite the relatively small amount of farm land, the average gross farm receipts are the highest in BC, averaging \$293,121 per farm. BC's average gross farm receipts are significantly less, at \$113,735 per farm. A significant percentage of the GVRD's field vegetable production takes place in Burnaby; it has the third highest number of field vegetable farms in the GVRD, following Surrey and Delta. Over 4200 weeks of paid agricultural work per year takes place in Burnaby. These statistics are as per the 2001 census.

With the assistance of the City of Burnaby's Planning Department, the Ministry of Agriculture, Food and Fisheries (MAFF) conducted a land use inventory for all parcels located within Burnaby's Agricultural Land Reserve (ALR). This inventory took place on Friday, May 9<sup>th</sup>, 2003 and was conducted by Chris Zabek (Agrologist), Stacy Meech (Land Use Specialist), and Stephanie Long (Farming Aide) from MAFF, and Lou Pelletier (City Planner) from the City of Burnaby. The ALR within the Big Bend is located in South Burnaby, near Marine Way and just north of the Fraser River.

The goal of this land use inventory was to determine the current land uses in Burnaby's ALR, including agricultural activities. Once the current land uses were recorded, a comparison was made against 1995 land uses, to see what has changed. The 1995 information was collected using aerial photographs. The land use inventory was also used to calculate the amount of land dedicated to each crop type. The data was collected, stored and maintained using a MS Access database, and corresponding maps were produced in ArcView GIS.

## **Primary Land Use**

Agriculture is the most common activity in Burnaby's ALR (Table 1, Maps 1 and 2). It was identified as the primary land use for 37 of the 85 properties. The second most common category was "Vacant or Not in Use", at 16 properties. This category includes vacant lots as well as natural areas. As Table 1 shows, there are fewer properties in this category than there were in 1995, as unused properties have been developed for agriculture and industry, or else designated as Habitat Protection Areas. Some of the industrial parcels are planned exclusions from the ALR. Of the five parcels classified as "Land in Transition" in 2003, two appeared to be in the process of developing new agriculture.

**Table 1**

<b>Primary Land Use Activity in 1995 and 2003</b>		
<b>Land Use Activity</b>	<b># of Parcels in 1995</b>	<b># of Parcels in 2003</b>
Agriculture	36	37
Vacant or Not in use	28	16
Residential Use	7	7
Industrial Use	3	7
Land in Transition	4	5
Unused farm land	3	5
Habitat Protection Area	0	4
Golf Course	1	1
Commercial/Service Use	1	1
Transportation and Communications	1	1
Mineral extraction (Peat)	0	1
<b>Total</b>	<b>85</b>	<b>85</b>

## Primary Agricultural Activity

Table 2 shows what types of agricultural activities take place on the parcels where agriculture is the primary land use. There are slightly fewer vegetable farms in 2003 than 1995, as some farms have been neglected or left fallow, while others have converted to non-agricultural uses. But, on the whole, agriculture has increased, with the addition of a large cranberry operation, a greenhouse operation, and a nursery.

**Table 2**

<b>Primary Agricultural Activity in 2003</b>		
<b>Agricultural Activity</b>	<b># of Parcels in 1995</b>	<b># of Parcels in 2003</b>
Vegetable Farm	32	29
Allotment Gardens	3	3
Berry Farm	1	2
Nursery	0	1
Greenhouse Operation	0	1
Fallow Land	0	1
<b>Total</b>	<b>36</b>	<b>37</b>

## **Total Area of Each Crop Type**

Using aerial photographs, the approximate percentage of land dedicated to each observed crop type was estimated. For example, if a parcel grew vegetables and blueberries, an observation could be 60% vegetables and 40% blueberries. These percentages were multiplied by the parcel size to determine the total crop area per parcel, and then the area of each crop type was summed to determine the total area of each crop in the ALR (Table 3).

**Table 3**

<b>Estimated Area of Crop Types, 2003</b>	
<b>Crop Type</b>	<b>Area (Ha)</b>
Cranberries	67
Vegetables	32
Fallow land	2
Blueberries	<1
Ornamentals and shrubs	<1
Floriculture	<1
<b>Total</b>	<b>101.6</b>

Cranberries and vegetables make up the majority of field crop area (67% and 32%, respectively). While there are only two parcels in cranberries, their total crop area more than doubles the area of the vegetables. There is no corresponding map of field boundaries, as this information was not mapped for this project.

## **Land Use Changes from 1995 to 2003**

Table 4 provides a summary of the changes that have occurred since 1995, while Table 5 lists the overall change in agricultural activity. Of the 85 parcels located within the ALR boundary, 21 of these had a change in agriculture. 15 properties have either created new field crop operations or have increased or expanded their greenhouse or coldframe operations, while 5 have neglected or removed their field crop or greenhouse operations. The most common change was for vegetable farms to expand or build more greenhouses and coldframes on the property. It was also common to increase the amount of field vegetables and berries. Other changes to agriculture include converting field vegetables to residential, fallow land, or Habitat Protection Areas (Maps 5 and 6). Overall, agriculture in Burnaby has increased over the last 8 years.

**Table 4**

<b>Land Use Change</b>			
<b>Land Use 1995</b>	<b>Land Use 2003</b>	<b># of Parcels</b>	<b>Overall Change for Agriculture</b>
Agriculture – Vegetables	No change	18	No Change
Agriculture – Vegetables	Greenhouses added	2	New or Expanded Greenhouses or Coldframes
Agriculture – Vegetables	Greenhouses expanded	4	New or Expanded Greenhouses or Coldframes
Agriculture – Vegetables	Greenhouse Operation	1	New or Expanded Greenhouses or Coldframes
Agriculture – Vegetables	Coldframes expanded	1	New or Expanded Greenhouses or Coldframes
Agriculture – Vegetables	Greenhouses removed	1	Field Crops or Greenhouse Removed
Agriculture – Vegetables	Fallow	1	No Change
Agriculture – Vegetables	Unused Farmland	1	Field Crops Neglected or Abandoned
Agriculture – Vegetables	Habitat Protection Area	1	Field Crops or Greenhouse Removed
Agriculture – Vegetables	Residential	2	Field Crops or Greenhouse Removed
Agriculture – Allotment Gardens	No change	3	No Change
Agriculture – Berries	Peat extraction	1	Field Crops or Greenhouse Removed
Commercial/Service Use	No change	1	No Change
Golf Course	No change	1	No Change
Industrial Use	No change	3	No Change
Land in Transition	No change	2	No Change
Land in Transition	Land in Transition - Greenhouse added	1	New or Expanded Greenhouses or Coldframes
Land in Transition	Agriculture – Berries	1	New Field Crops
Land in Transition	Unused Farmland	1	No Change
Residential Use	No change	5	No Change
Residential Use	Agriculture – Nursery	1	New Field Crops
Residential Use	Agriculture – Vegetables	1	New Field Crops
Transportation and Communications	No change	1	No Change
Vacant or Not in use	No change	16	No Change
Vacant or Not in use	Agriculture – Berries	1	New Field Crops
Vacant or Not in use	Agriculture – Vegetables	2	New Field Crops
Vacant or Not in use	Land in transition	2	No Change
Vacant or Not in use	Habitat Protection Area	3	No Change
Vacant or Not in use	Industrial	4	No Change
Unused farm land	No change	3	No Change

**Table 5**

<b>Summary: Change For Agriculture</b>	
<b>Agricultural Change</b>	<b># of Parcels</b>
New Field Crops	6
New or Expanded Greenhouses or Coldframes	9
No Change	64
Field Crops or Greenhouse Removed	5
Field Crops Neglected or Abandoned	1
<b>Total</b>	<b>85</b>

## **Conclusion**

Since 1995, there has been additional land uses recorded, such as Habitat Protection Areas and mineral (peat) extraction. At the same time, many parcels that were previously undeveloped have become developed. There are 12 fewer vacant or not in use properties, which have been developed into agriculture, Habitat Protection Areas, and industry. Agricultural activities have also changed in the past 8 years. Of the 85 properties located within the study area, 21 have undergone some changes to agriculture. There are two new large berry fields (cranberries), a new nursery, and many new or expanding greenhouses. This indicates that agriculture is becoming even greater in importance to the Big Bend area. The results of this survey show that there has been an overall increase in agricultural structures and fields in Burnaby since 1995.

Much of the information that is provided in this summary is supported by maps created using ArcView GIS. These maps can be found at the end of this report and are entitled:

Map 1: "Burnaby Big Bend: Primary Land Use in the ALR, 1995"

Map 2: "Burnaby Big Bend: Primary Land Use in the ALR, 2003"

Map 3: "Burnaby Big Bend: Primary Agricultural Activity in the ALR, 1995"

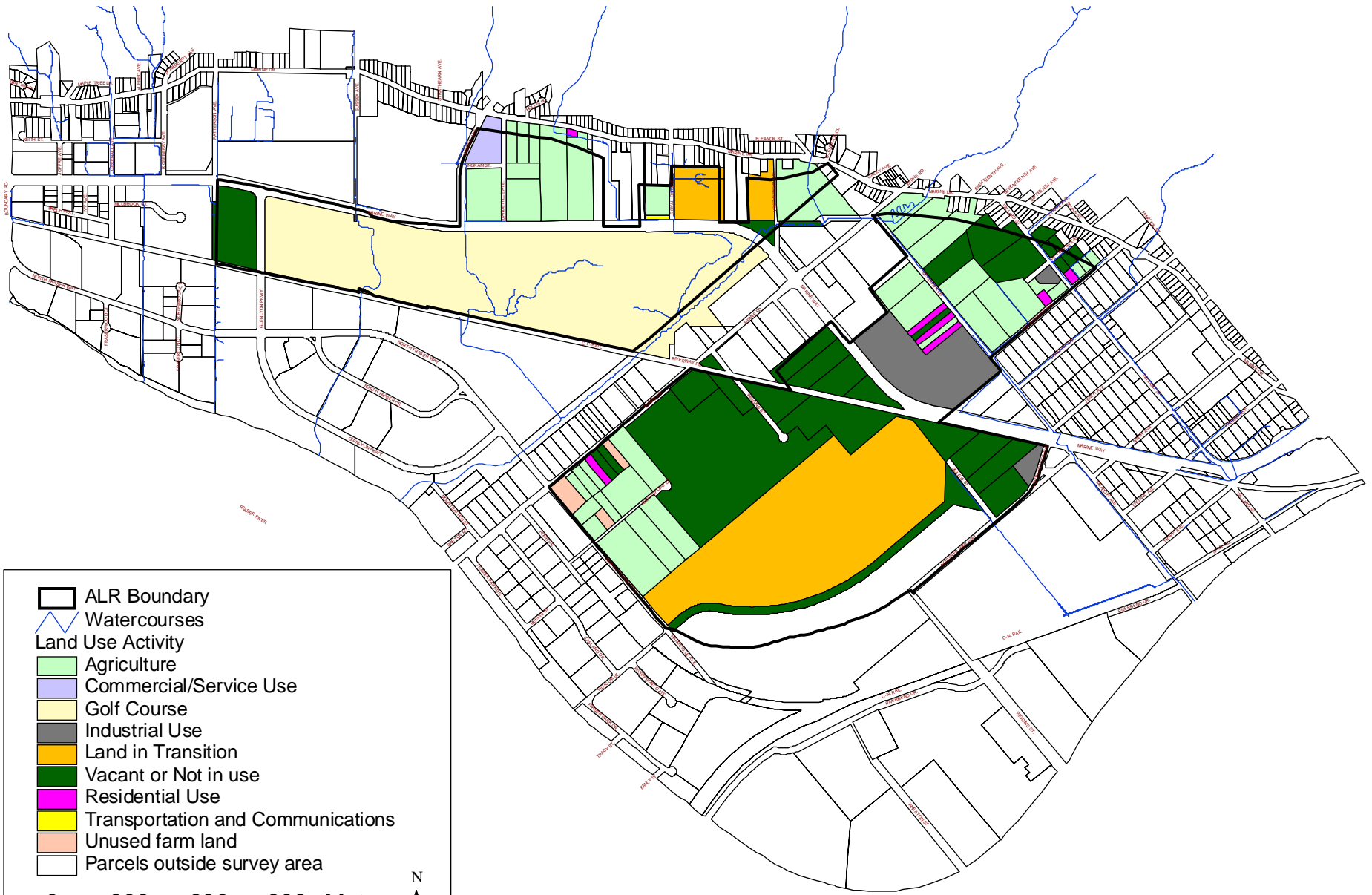
Map 4: "Burnaby Big Bend: Primary Agricultural Activity in the ALR, 2003"













Map 5: "Burnaby Big Bend: Changes to Agriculture in the ALR, 1995-2003"; and

Map 6: "Burnaby Big Bend: Zoning"

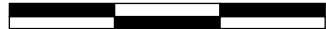
A significant amount of data was collected while conducting the land use inventory. This had much to do with the fact that Lou Pelletier, City Planner from Burnaby, took part in the inventory. He was able to provide valuable information about each parcel, often details that were not visible, such as identifying which parcels were being used for wildlife habitat, or for future buffers and public trails, and which parcels will soon have boundary changes. This information was much appreciated and has shown that it is extremely useful to have a city staff member take part in the inventory.

**Map 1: Burnaby Big Bend  
Primary Land Use in the ALR, 1995**



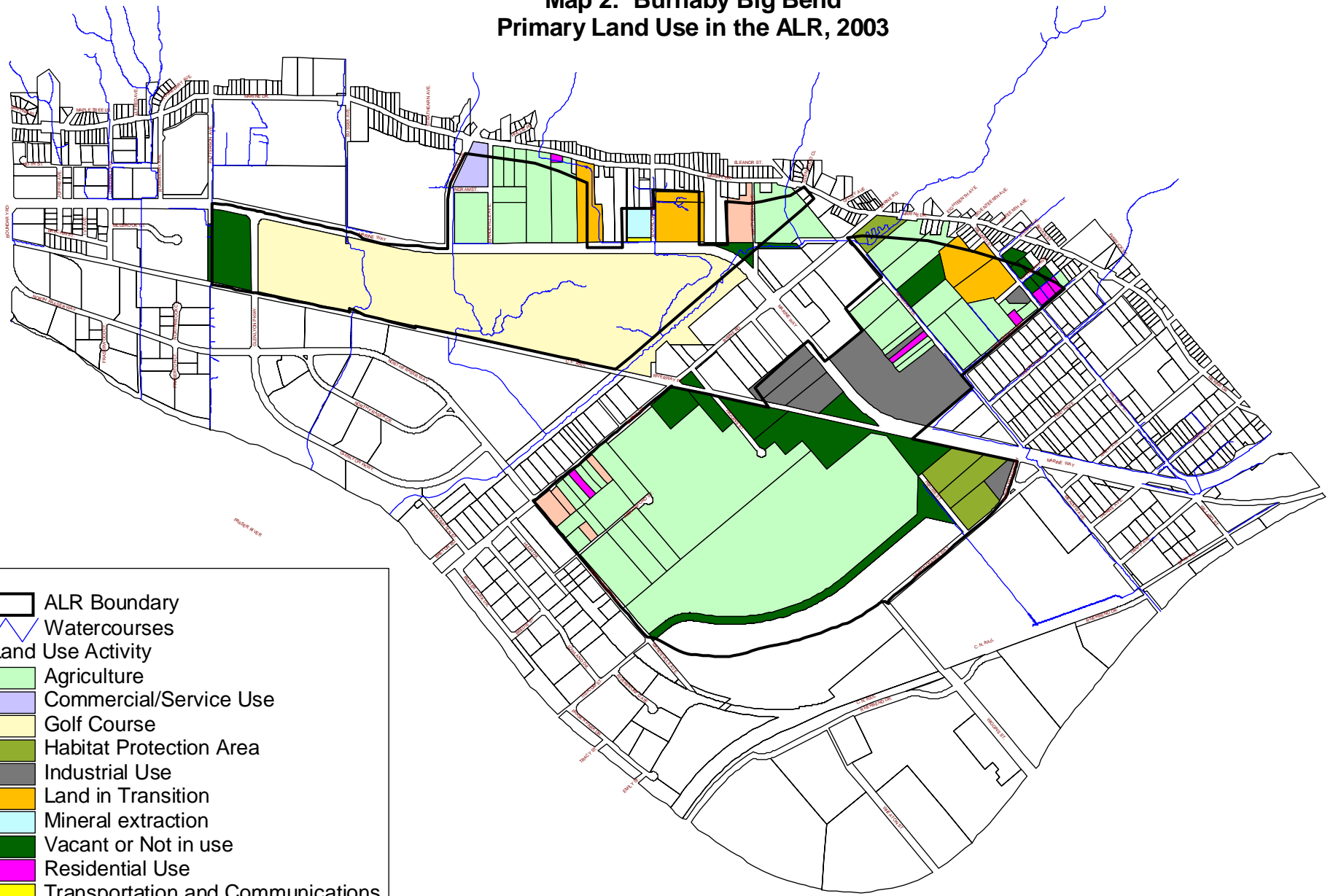
-  ALR Boundary
-  Watercourses
- Land Use Activity
-  Agriculture
-  Commercial/Service Use
-  Golf Course
-  Industrial Use
-  Land in Transition
-  Vacant or Not in use
-  Residential Use
-  Transportation and Communications
-  Unused farm land
-  Parcels outside survey area















0 300 600 900 Meters

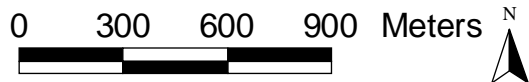




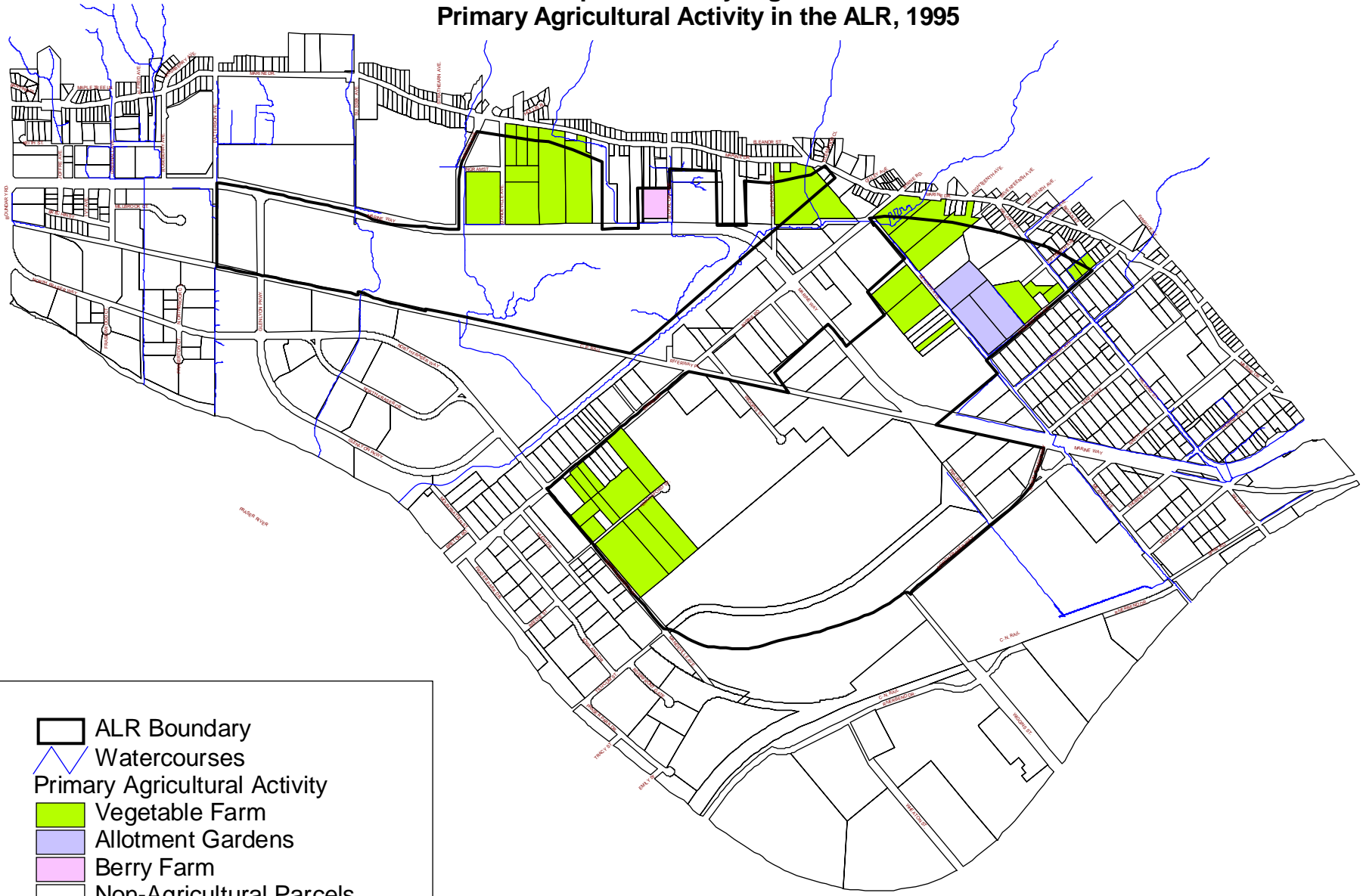
**Map 2: Burnaby Big Bend  
Primary Land Use in the ALR, 2003**



-  ALR Boundary
-  Watercourses
- Land Use Activity
-  Agriculture
-  Commercial/Service Use
-  Golf Course
-  Habitat Protection Area
-  Industrial Use
-  Land in Transition
-  Mineral extraction
-  Vacant or Not in use
-  Residential Use
-  Transportation and Communications
-  Unused farm land
-  Parcels outside survey area



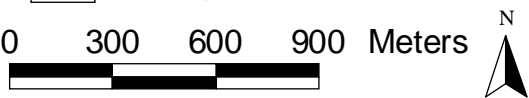
**Map 3: Burnaby Big Bend  
Primary Agricultural Activity in the ALR, 1995**



Legend:

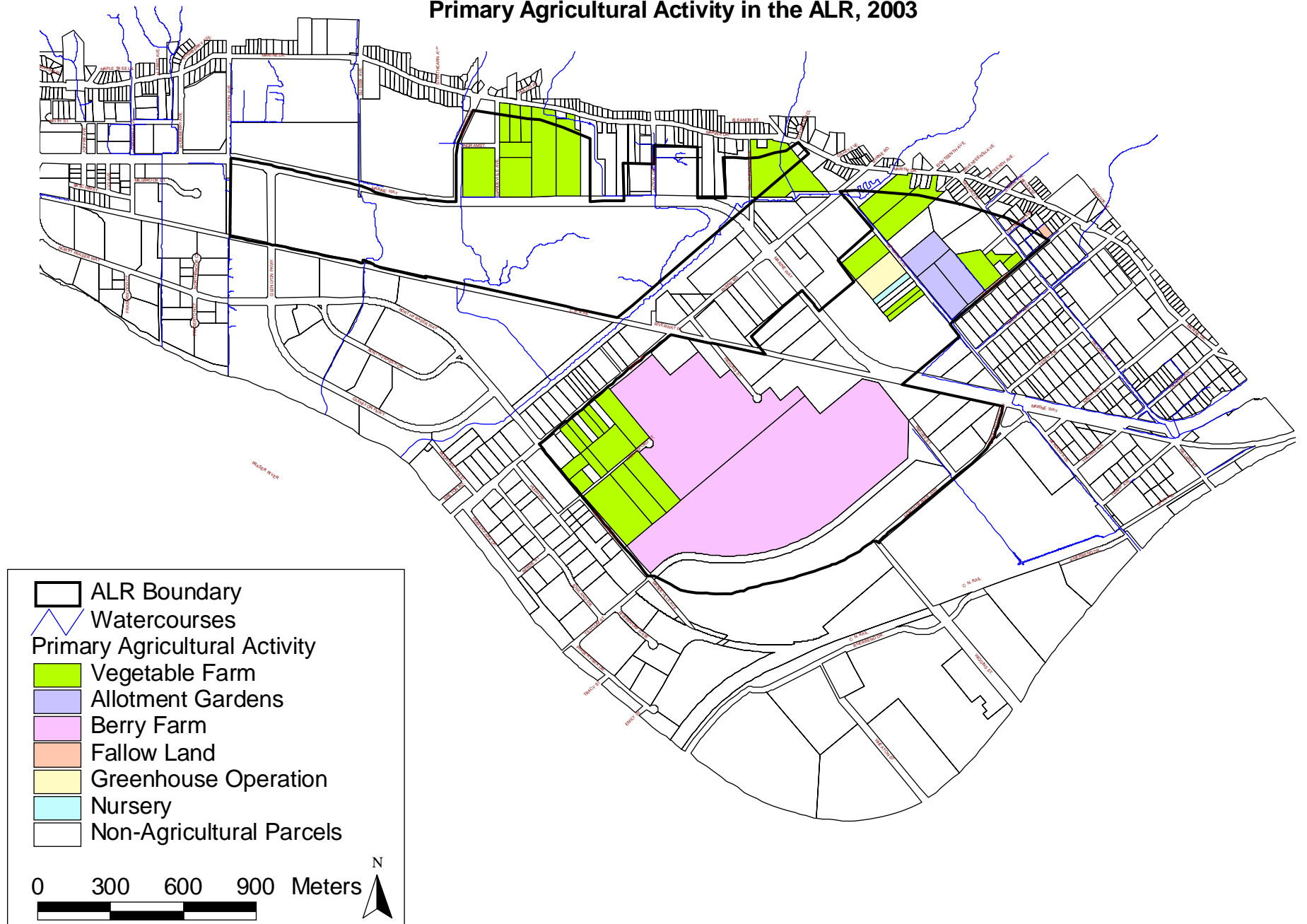
- ALR Boundary
- Watercourses
- Primary Agricultural Activity
  - Vegetable Farm
  - Allotment Gardens
  - Berry Farm
  - Non-Agricultural Parcels

0 300 600 900 Meters

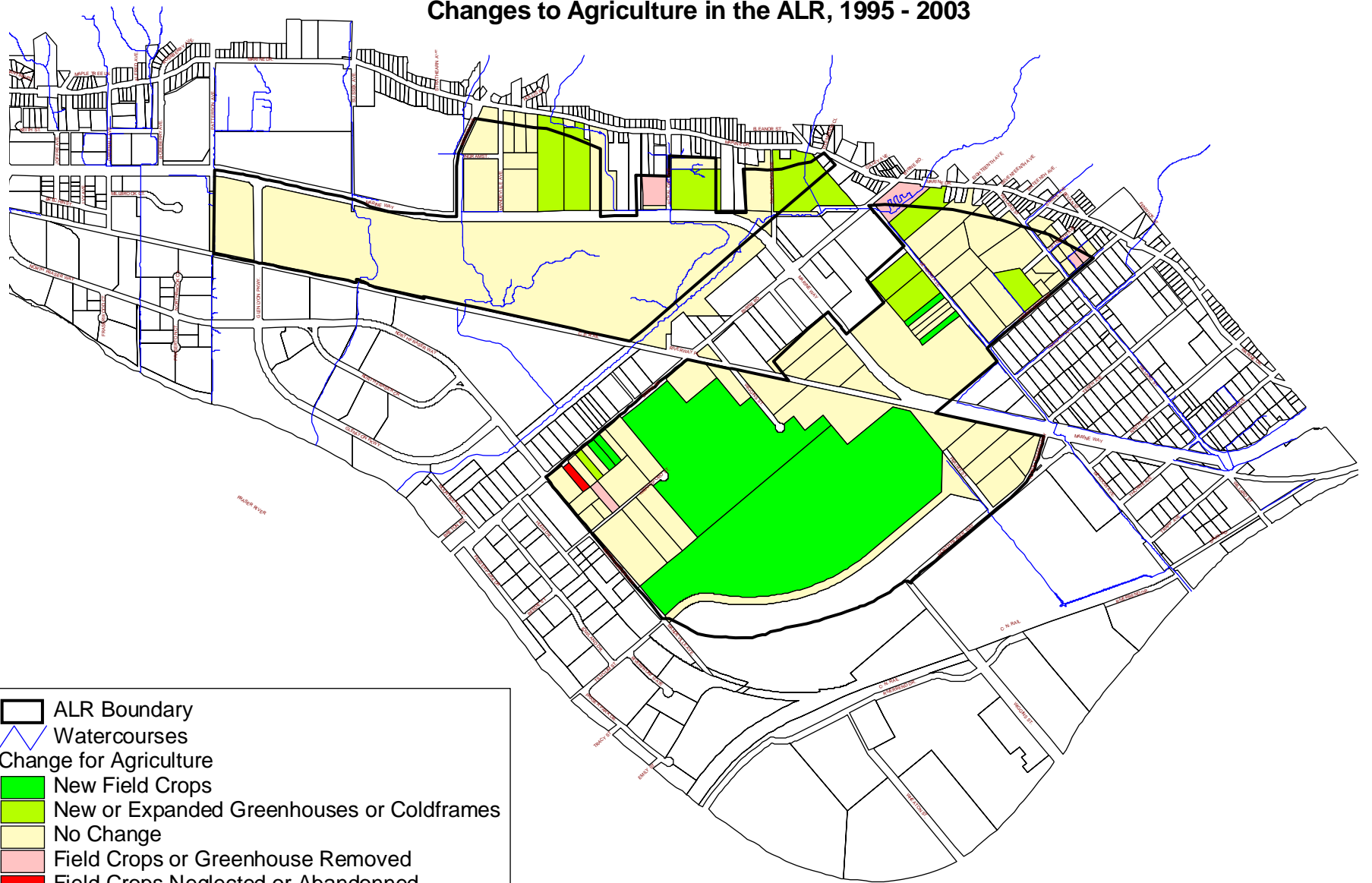


A scale bar showing 0, 300, 600, and 900 meters, and a north arrow pointing upwards.

**Map 4: Burnaby Big Bend  
Primary Agricultural Activity in the ALR, 2003**



**Map 5: Burnaby Big Bend**  
**Changes to Agriculture in the ALR, 1995 - 2003**



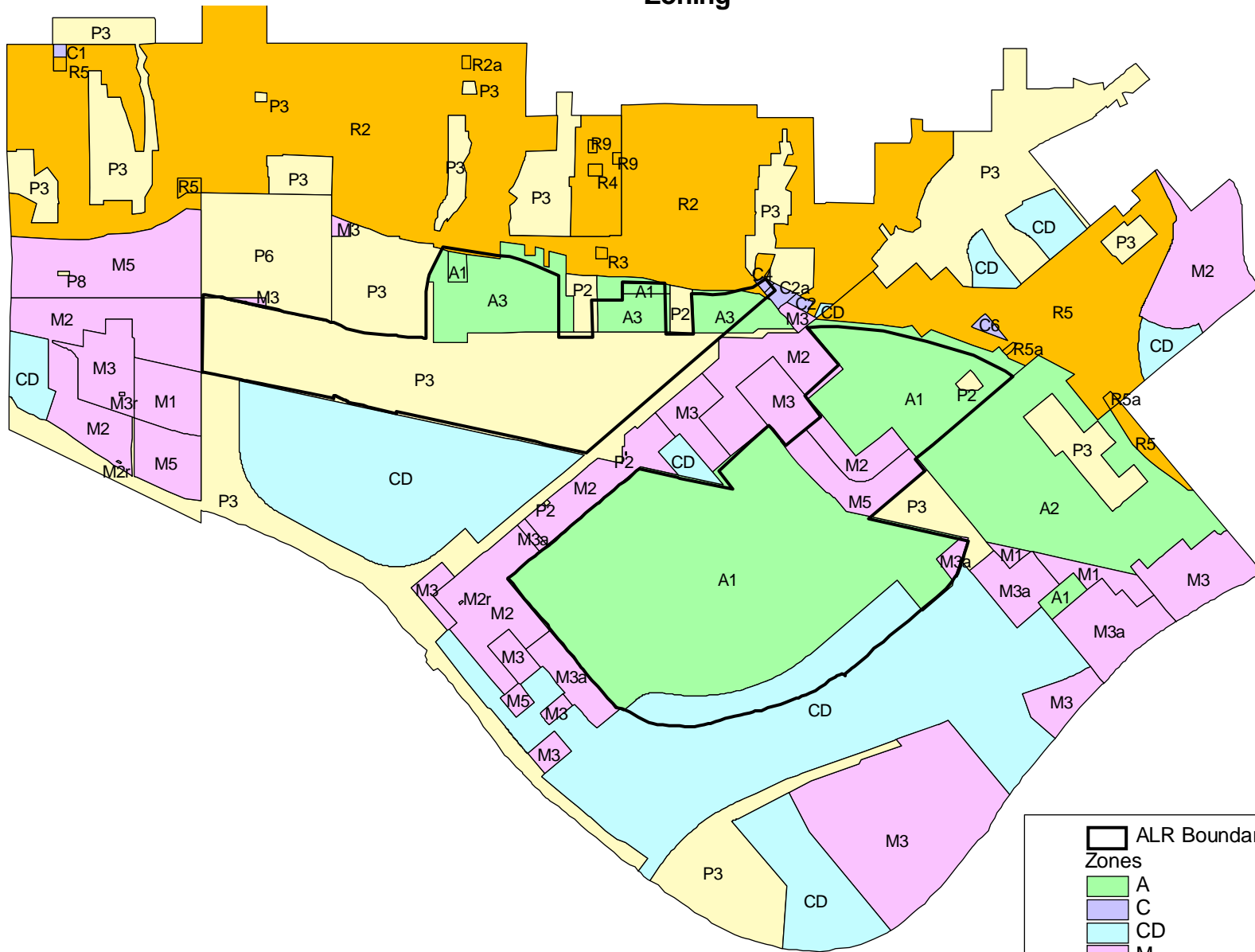
**Legend**

- ALR Boundary
- Watercourses
- Change for Agriculture
  - New Field Crops
  - New or Expanded Greenhouses or Coldframes
  - No Change
  - Field Crops or Greenhouse Removed
  - Field Crops Neglected or Abandoned
- Non-Agricultural Parcels

0 300 600 900 Meters

N

# Map 6: Burnaby Big Bend Zoning



**Legend**

- ALR Boundary
- Zones**
- A
- C
- CD
- M
- P
- R

0 300 600 900 Meters