



Growing Knowledge



Ministry of
Agriculture
and Lands

Strengthening Farming Report

File Number 800.100-3 May 2008

The Agricultural Land Reserve and its Influence on Agriculture in the City of Kelowna

A Review from 1973 to 2006



**Ministry of Agriculture and Lands
and
Agricultural Land Commission**



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The ALR and its Influence on Agriculture in the City of Kelowna

1. BACKGROUND

The Agricultural Land Reserve (ALR) is a provincial land use zone designated in 1973 to preserve agricultural land for farming. With a total area of 4.7 million hectares, the ALR covers approximately 5% of British Columbia's land base¹ and is comprised of both private and Crown lands.

The Agricultural Land Commission (ALC) is the provincial agency responsible for administering the ALR. The purpose of the Commission is to:

1. preserve agricultural land;
2. encourage farming on agricultural land in collaboration with other communities of interest;
3. encourage local governments, First Nations, provincial government and its agencies to enable and accommodate farm use of agricultural land and uses compatible with agriculture in their plans, bylaws and policies.²

The ALC makes decisions on applications to include or exclude agricultural land from the ALR. It also controls non-farm uses and subdivision within the ALR. As an independent administrative tribunal, the Commission considers all information relevant to each application and weighs the likely impact of the proposal against the long-term goal of preserving agricultural land and encouraging farming. The type of information considered includes: agricultural capability, suitability, current land use, the property in relation to surrounding lands, related agricultural concerns, and community planning objectives. Finally, the picture is broadened further to consider the provincial interest of preservation of agricultural land for British Columbia.

Agriculture is BC's third largest primary industry, generating \$2.4 billion annually in farm cash receipts and providing for approximately half of BC's food requirements³. Without the ALR, the extent and diversity of this important economic sector would be at risk and much of the agricultural lands that exist today would likely have been lost to encroaching urban development. The ALR, thus, provides a secondary benefit in that it serves as an urban containment boundary, helping to control urban sprawl.

By maintaining the ALR boundary and by regulating non-farm uses and subdivisions within its boundaries, the Agricultural Land Commission plays a key role in preserving farmland for agricultural development and enabling future agricultural expansion throughout British Columbia. Providing a stable land base ultimately leads to increased food security for the province's rising population.

2. STUDY PURPOSE

The ALC and the Ministry of Agriculture and Lands (MAL) undertook this study to understand the impacts of the ALR with regard to its influence on agricultural land use in the City of Kelowna. Since the ALR was established over 34 years ago, it is useful to examine how agriculture has been shaped by the ALR and to illustrate its effectiveness in protecting farmland and sustaining the agriculture sector.

To meet the purpose of the study, all ALR exclusion applications in the study area (Section 3) were reviewed and digitally mapped to reveal what the agricultural landscape may have looked like if all exclusion applications had been allowed. Inclusion applications were also reviewed, but were not included in the analysis as there were only two approved inclusions in the City of Kelowna between 1973 and 2006, totaling less than one hectare.

¹ Provincial Agricultural Land Commission, Application Information Package, 2003.

² Agricultural Land Commission Act, S.B.C. 2002, c.3.

³ B.C. Ministry of Agriculture and Lands, Fast Stats: Agriculture and Food (2005).

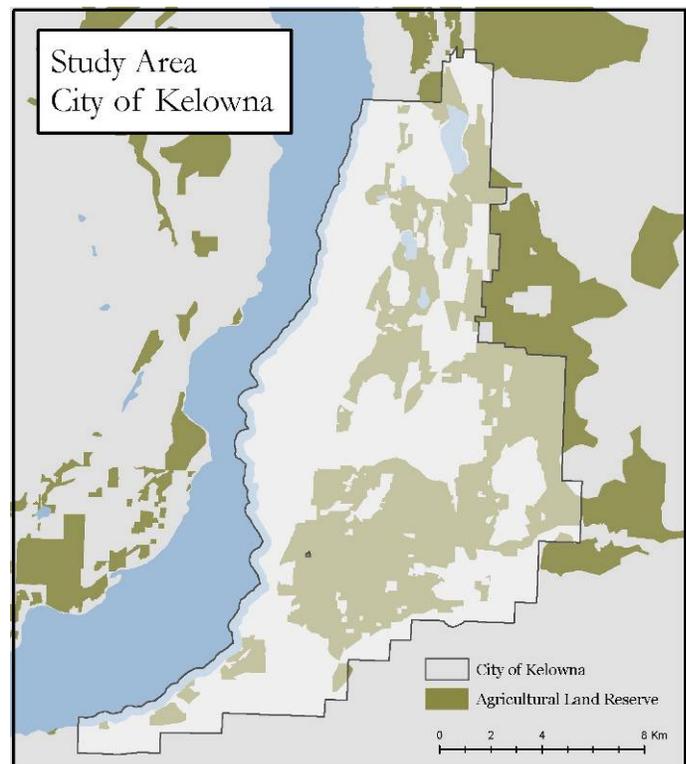
This exercise will illustrate in simple terms what the extent of agriculture in Kelowna would possibly be today, had the ALR not existed. Although the presence of the ALR is not the only determining factor in influencing current agricultural activity levels, for purposes of this study, it is assumed that the ALR plays a significant role, as access to a stable land base reserved for agriculture is a key factor.

3. STUDY AREA

Study area (Map 1) because it has a vibrant agriculture industry that is appreciated in particular for its strong tree fruit and wine industries. The City of Kelowna has experienced significant pressure from urban development and, as a result, has had 188 applications to remove land from the ALR since 1973.

The jurisdictional land area of Kelowna is 21,656 hectares⁴; 40% (8,751 hectares) of which is within the ALR. In 2001⁵, 6,319 hectares were being farmed which is approximately 29% of the jurisdictional area or 73% of the ALR land base. Between 1973 and 2006, 1,303 hectares were excluded from the ALR, resulting in a loss of approximately 13% of the original ALR area

Map 1: Study area within the City of Kelowna



⁴ The figures presented in this report were calculated using GIS.

⁵ Ministry of Agriculture and Lands, Land Use Inventory 2001.

Table 1: ALR Statistics for the City of Kelowna		
	Total Area (ha)	% of Total Area
Kelowna Area	21,656	
ALR in Kelowna at ALR designation (1973) ⁶	10,054	46%
Land excluded from the ALR (1973-2006) ⁷	1,303	6%
Area of ALR (2007)	8,751	40%
Area of ALR in farm use ⁸ (2001)	6,319	29%

4. METHODOLOGY

Information on exclusion applications was acquired from ALC application records. These records were used to identify all parcels that had an application(s) for exclusion from the ALR that were approved or refused by the Commission between 1973 and 2006. This data was brought into a Geographic Information System (GIS) and overlaid with agricultural land use data acquired by MAL in 2001.

5. ANALYSIS

The following questions guided the analysis:

- How much of the land area of Kelowna was originally and is currently in the ALR?
- What would Kelowna have looked like if land was not in a land reserve?
- What was the area of ALR exclusion applications, where were they located, and were they approved or refused?
- For parcels that were refused exclusion from the ALR, what were the primary land uses and agricultural activities, based on the MAL 2001 agricultural land use inventory? *Note: It was assumed that if the exclusion applications had been approved, the agricultural land use would not be present.*

6. RESULTS

From 1974 to 2006, 188 exclusion applications were recorded in the City of Kelowna. Map 2 shows the properties with exclusion applications; approximately 13% of the original ALR area has been excluded or has been approved to be excluded from the Reserve. Although the presence of the ALR has not completely prevented the loss of agricultural lands, in all probability, farmland would have been lost at a much faster rate⁹ if the ALR had not existed, eroding the value and sustainability of the agricultural sector in Kelowna.

⁶ This number is calculated by adding the total area of the current ALR and the total area of land excluded or approved to be excluded from the ALR.

⁷ The figures presented in this report were calculated using GIS. These reflect final decisions of the Commission where conditions have been met and thus might be somewhat different than those reported by the ALC which reflect all decisions including conditional decisions of the Commission.

⁸ Ministry of Agriculture and Lands, Kelowna land use inventory dataset, 2001.

⁹ Rate of loss is 43 hectares per year over thirty years.

Table 2 shows the total area of the current ALR and the area of the ALR **if all exclusion applications had been approved**. This was calculated by subtracting the area of lands with both refused and approved exclusion applications from the area of the ALR at the time of its designation. This analysis helps to illustrate what the agricultural landscape might have been without the presence of the ALR system. If all lands with exclusion applications had been approved, there would be a 37% reduction in the ALR land area which would have resulted in a significant loss to the productive agricultural land base and the economy. It should be noted that without the ALR in place, the erosion of the agricultural land base may have been more significant than represented by the figures in Table 2.

Table 2: Reduction in ALR Land if All Exclusion Applications had been Approved	
	Area (ha)
ALR Area at designation	10,054
ALR Area (2007)	8751
ALR exclusions approved (1973-2006)	-1,303
ALR exclusions refused (1973-2006)	-2,367
ALR Area if all exclusions had been approved	6,384 (63%)

Map 2: Location of parcels with exclusion applications in Kelowna

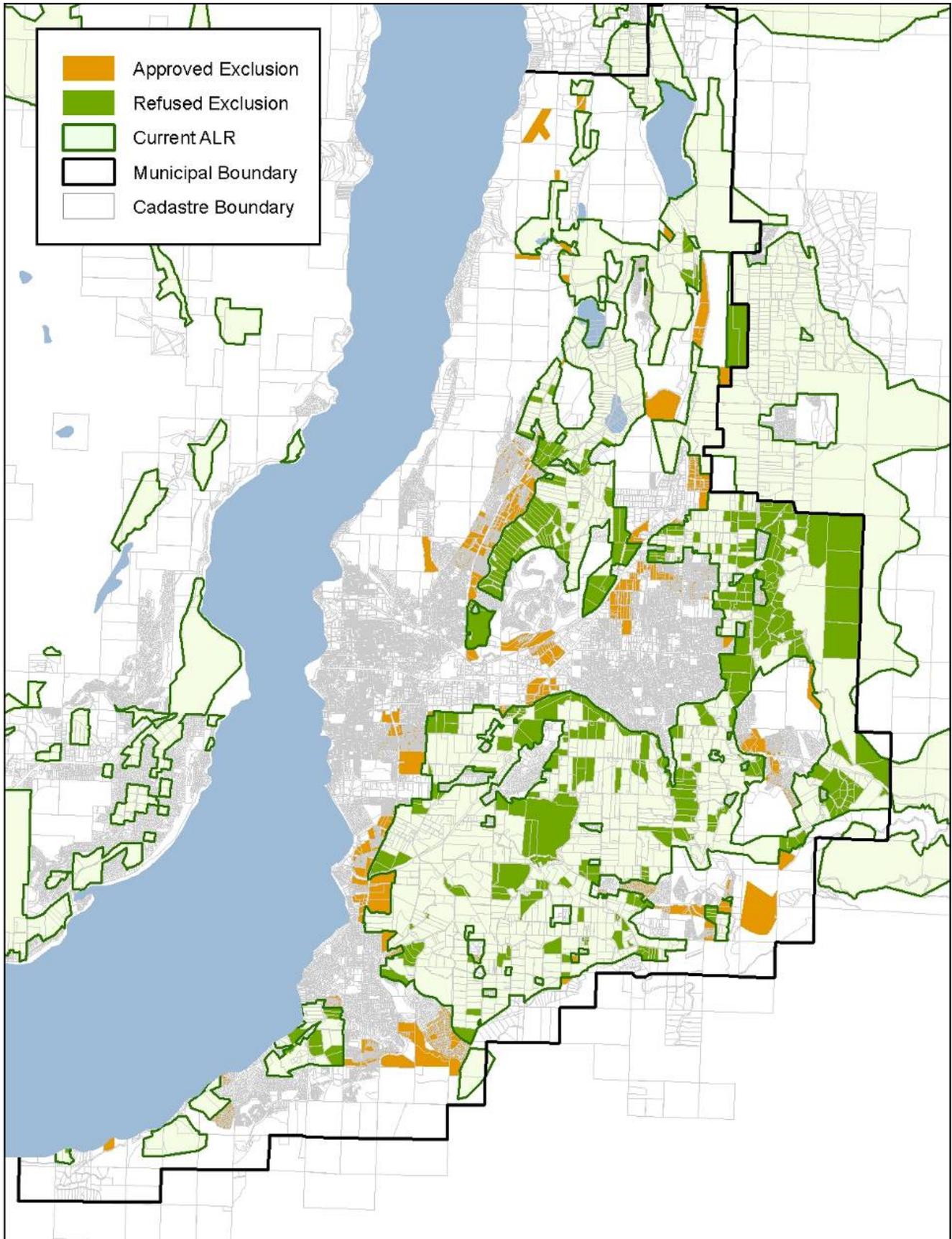


Figure 1 (A and B) illustrates how the Agricultural Land Reserve has been effective in maintaining urban boundaries and controlling urban sprawl. Without the ALR, the agricultural lands in Figure 1A that were subject to exclusion applications may have been developed into residential areas, as depicted in Figure 1B.

Figure 1: Potential landscape if exclusion applications had been approved in eastern Kelowna

A: Current picture of agricultural lands in eastern Kelowna. Parcels with white hatching were subject to ALR exclusion applications. These properties represent diverse agricultural uses from tree fruits to range lands.

B: Potential view of the same area had all exclusion application been approved and properties were developed to a similar density as those to the west.

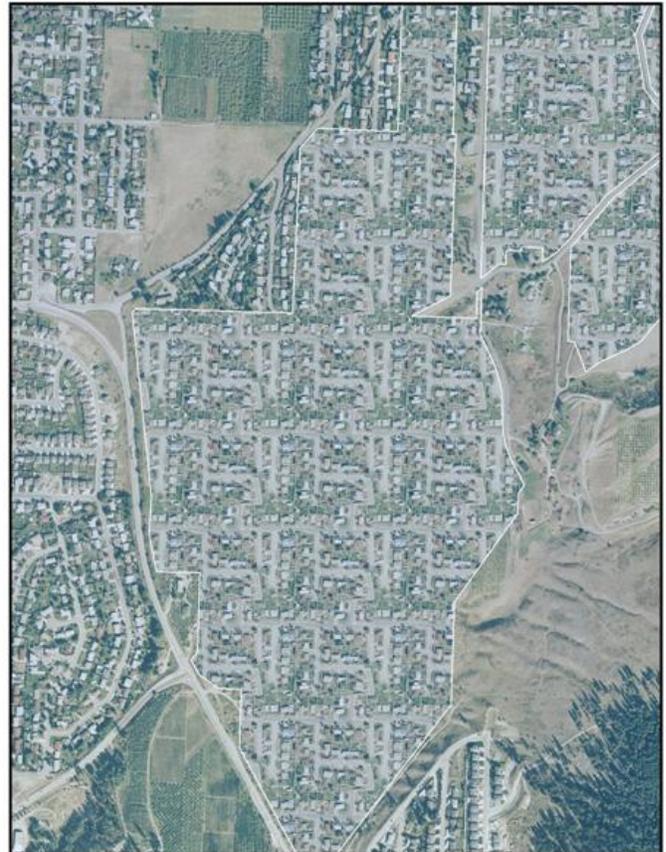


Figure 2 shows the trend in the number of exclusion applications received annually in Kelowna. While the Commission has no control over the number of applications it receives, the general trend has been a reduction in the number of applications since 1973.

Figure 2: Number of ALR exclusion applications received annually in Kelowna

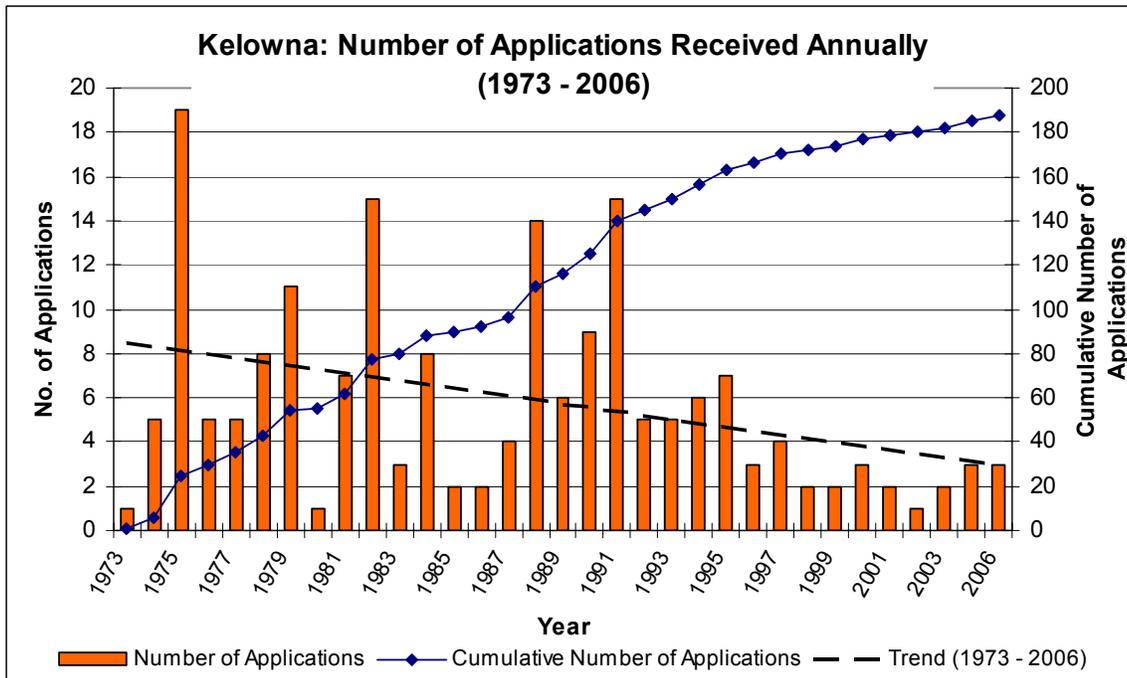
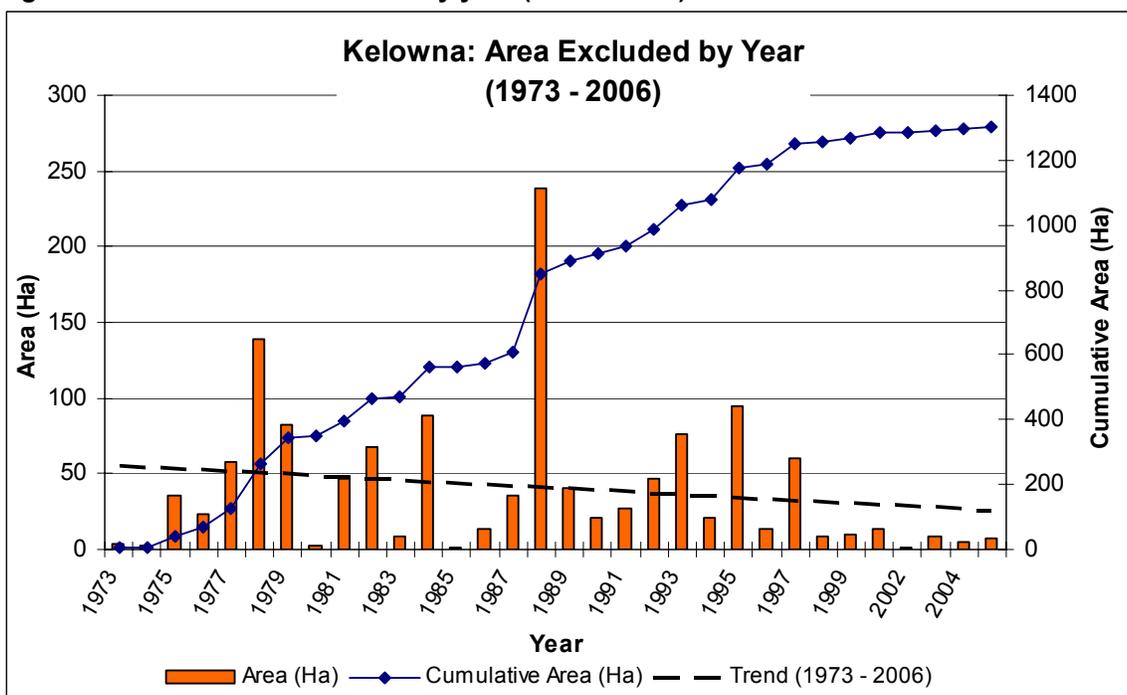


Figure 3 illustrates the area excluded annually from 1973 to 2006. In 1988, the largest area was excluded from the ALR; in this year, 8 exclusion applications were approved, totaling 239 hectares. Since the inception of the ALR, the area excluded annually has been declining.

Figure 3: Area of ALR excluded by year (1973 – 2006) in Kelowna



Refused Exclusion Applications

Since the designation of the Reserve, exclusion applications have been made for 3,670 hectares (Table 3), representing 37% of the original ALR area. Of this area, 24% (2,367 hectares) was refused exclusion. Had it not been for the ALR, these lands would have likely been converted to non-agricultural uses.

Table 3: Area of ALR Exclusion Applications		
	ALR Area (ha)	ALR Area (%)
Refused Exclusion	2,367	24%
Approved Exclusion	1,303	13%
Total Applications	3,670	37%

Agricultural Activities on Parcels with Refused Exclusion Applications

Map 3 illustrates the agricultural activities occurring on areas with refused exclusion applications within Kelowna's ALR. Table 4 shows a general breakdown of the types of land use activities occurring on these parcels.

Table 4: Overview of Land Use (2001) on Parcels Refused Exclusion from the ALR in Kelowna			
	Number of Parcels	Total Area (ha)	% of Total Area Refused
Agricultural land use	279	1,764	75%
Non-agricultural land use	125	553	23%
Land use data unavailable	19	50	2%
Total	423	2,367	100%

In 2001, agriculture was the primary land use on 75% (1,764 hectares) of parcels refused exclusion. 23% (553 hectares) were not being farmed and were being used for some other use. Of these unfarmed parcels, 13% were either unused or were being used for hobby agriculture. The remaining 10% were permanently alienated from agricultural through activities such as residential use, industrial use, etc.¹⁰.

If the ALR had not existed, it is assumed that at least 1,764 hectares of actively farmed land in Kelowna would have been lost. Without the ALR, it is likely that much more land would have been converted to urban and other non-farm land uses.

¹⁰ Refer to Ministry of Agriculture and Lands Land Use Inventory Guide for an explanation of the terms primary land use, non-agricultural land use and alienated land.

Map 3: Agricultural activities on parcels with refused exclusion applications

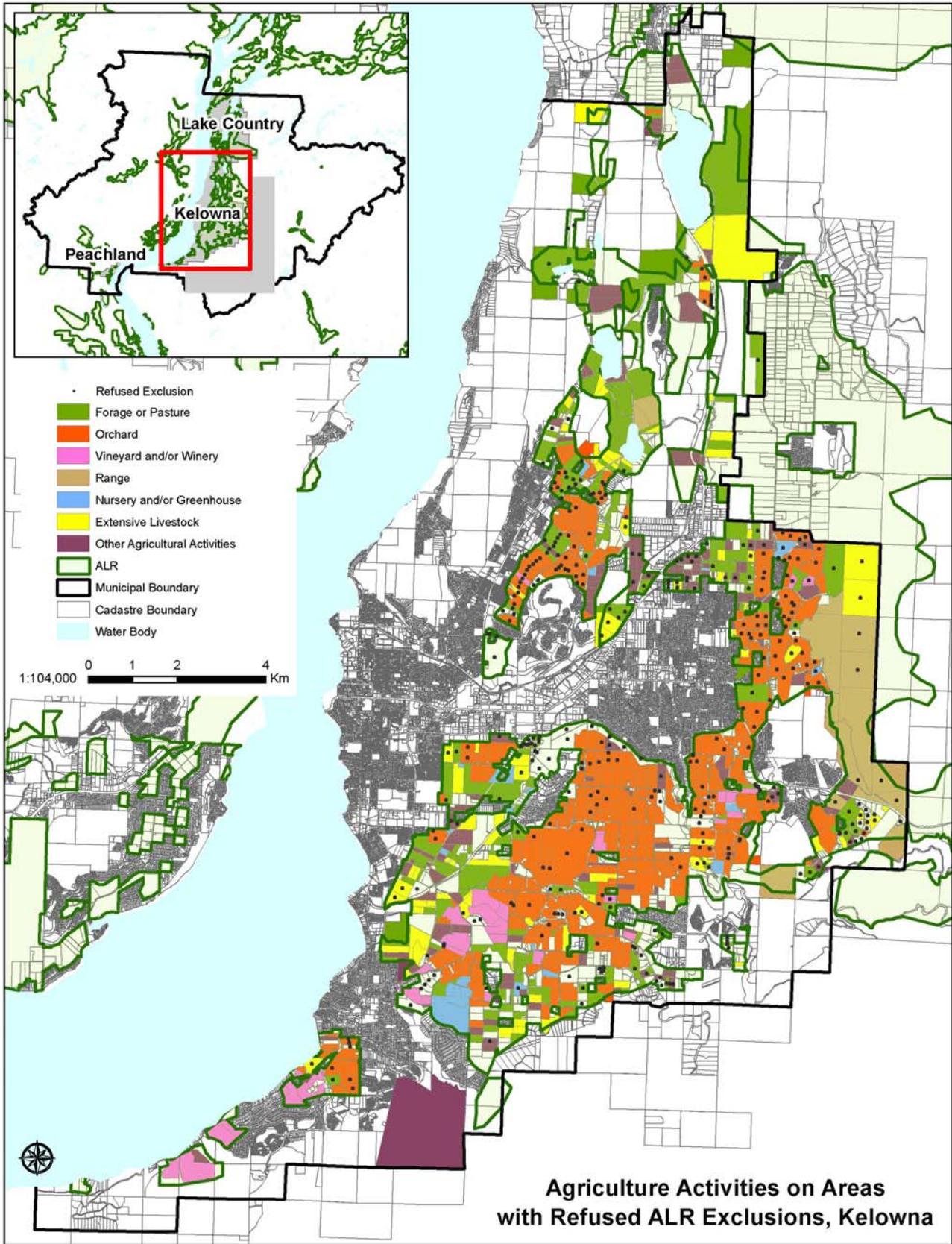


Table 5 provides a detailed breakdown of the types of agricultural activities that are occurring on the agricultural lands where exclusion applications were refused.

Table 5: Primary Agricultural Activities on Parcels with Refused Exclusion Applications			
Primary Agricultural Activity	Number of Parcels	Area of Use (ha)	% of Total Area Refused
Orchard	149	852	48%
Beef operations	19	409	23%
Forage or pasture	70	315	18%
Other agricultural activities	20	80	5%
Extensive livestock	12	67	4%
Nursery and/or greenhouse	5	24	~ 1%
Vineyard and/or winery	4	17	~ 1%
TOTAL	279	1,764	100%

Economic Value of Agriculture on Parcels Refused Exclusion

Table 6 summarizes the types of primary agricultural activities occurring on properties with refused exclusion applications. The estimated annual crop value was calculated by multiplying the average gross farm receipts per hectare by the total number of hectares for each commodity.

Table 6: Estimated Potential Annual Value of Agriculture on Parcels Refused Exclusion			
Primary Agricultural Activity	Area Refused Exclusion (ha)	Average Annual Gross Farm Receipts (\$/hectare)¹¹	Estimated Annual Crop Value
Orchard	852	\$4,740	\$4,038,348
Beef operations	409	\$189	\$ 77,478
Forage or pasture	315	\$165	\$ 52,009
Other agricultural activities	80	\$607	\$ 48,590
Extensive livestock	67	\$501	\$ 33,592
Nursery and/or greenhouse	24	\$28,344	\$ 680,246
Vineyard and/or winery	17	\$7,653	\$ 130,094
Total	1,764		\$5,060,357

¹¹ Statistics Canada, Census of Agriculture, 2001.

Orchard production is the most prominent agricultural activity found in Kelowna¹², which may explain its prevalence here. Trees fruits make up more than 7% of the total crops harvested in B.C. in terms of total gross farm receipts in a 5 year average (1997-2001)¹³. The estimated potential annual crop value of the 852 hectares of orchard is \$4 million. If these lands had been excluded, the agriculture industry would have potentially lost this annual income.

By refusing the exclusion of 24 hectares of nurseries and greenhouses the potential loss of an estimated \$680,246 of gross farm receipts in this sector has been prevented. Although these parcels account for only a small percentage of the refused applications (< 1%) they represent considerable economic value to Kelowna's agriculture industry.

Of the parcels refused exclusion, 17 hectares were in vineyards in 2001, with an estimated annual value of \$130,094. The wine industry in the Okanagan, including Kelowna, is world-renowned, drawing tourists to the region and bringing economic value to the community that well exceeds the crop value of the vineyards.

7. SUMMARY

The results of this study demonstrate that without the ALR, 24% (2,367 hectares) of the original ALR land area would have been permanently removed from Kelowna's agricultural land base. The loss of agricultural land would likely have had a negative impact on the agriculture industry in Kelowna. Despite the loss of some agricultural land to urban development (1,303 hectares), the area where exclusion was refused is largely (76%) in production, generating an estimated \$5 million in annual gross farm receipts.

Without the ALR, Kelowna's agriculture industry, landscape and overall community character would be significantly different. This study demonstrates the effectiveness of the Agricultural Land Reserve in preserving Kelowna's valuable farmland and its associated agricultural industry.

¹² Ministry of Agriculture, Food and Fisheries, 2005

¹³ Ministry of Agriculture, Food and Fisheries, Fast Stats, 2004