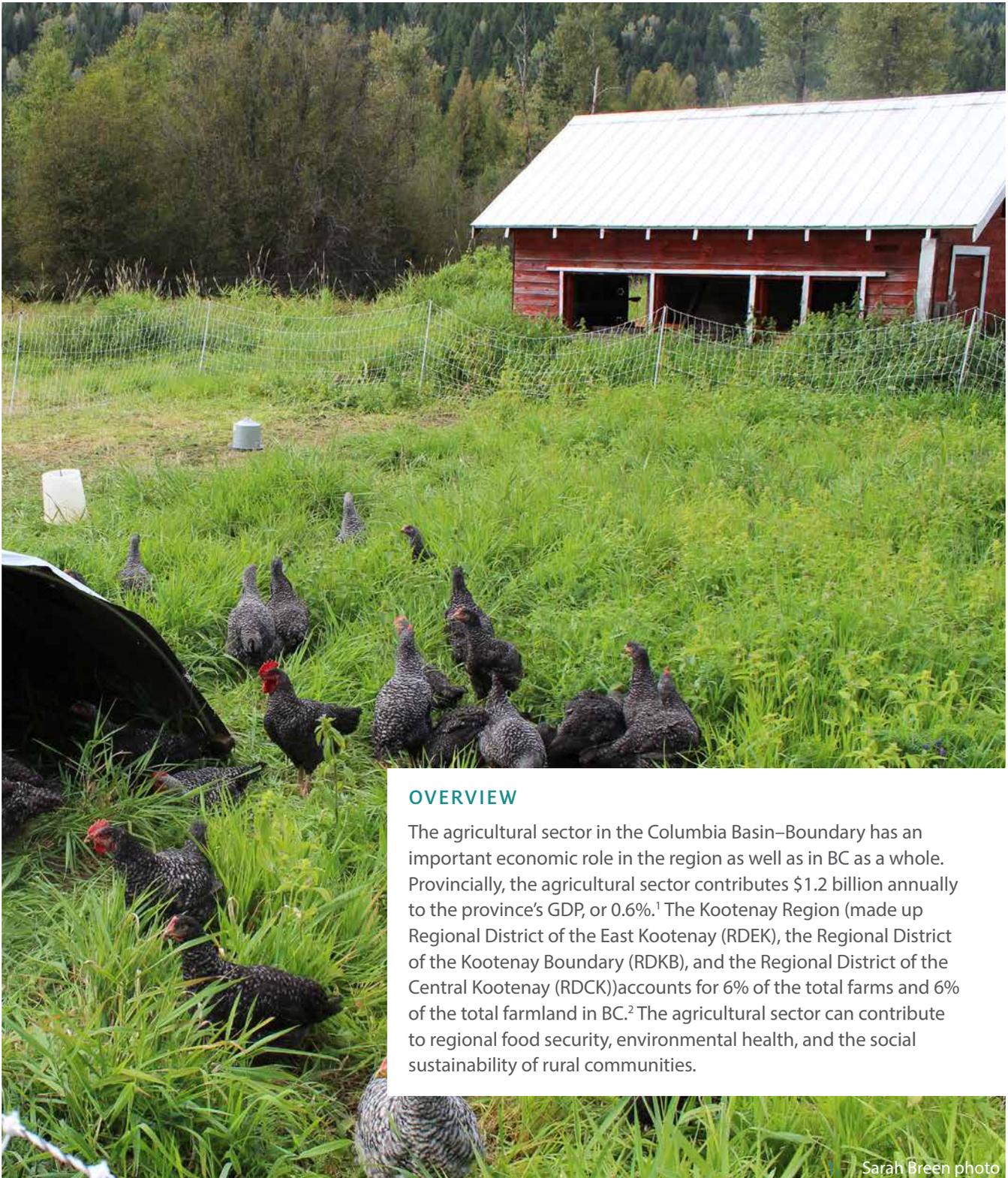


# Trends Analysis: Agriculture



## OVERVIEW

The agricultural sector in the Columbia Basin–Boundary has an important economic role in the region as well as in BC as a whole. Provincially, the agricultural sector contributes \$1.2 billion annually to the province's GDP, or 0.6%.<sup>1</sup> The Kootenay Region (made up Regional District of the East Kootenay (RDEK), the Regional District of the Kootenay Boundary (RDKB), and the Regional District of the Central Kootenay (RDCK)) accounts for 6% of the total farms and 6% of the total farmland in BC.<sup>2</sup> The agricultural sector can contribute to regional food security, environmental health, and the social sustainability of rural communities.

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## OVERVIEW CONTINUED

Indicators that shine a light on the state of agriculture in the Columbia Basin–Boundary region include:

- Land in the Agriculture Land Reserve;
- Area Farmed;
- Underutilized Farmland;
- Age of Farmers;
- Farm Receipts, Operating Expenses, & Wages;
- Farm Profile (numbers, average size, crops, livestock);
- Farmers' Markets; and
- Slaughter Establishments.

These indicators are presented in detail below, including a description of what is measured and its importance, as well as current data and trends where available.

Data from the federal Agricultural Census provides details for the Kootenay Region. For most indicators, the portions of the Columbia Shuswap Regional District (CSRD) (areas surrounding Revelstoke and Golden) and the Regional District of Fraser Fort George (Valemount) that fall within the Columbia Basin-Boundary region are excluded due to issues of data availability. Whenever possible data for these areas is included.

Much of the information available on the agricultural sector comes from the Statistic Canada's Agricultural Census. The last Agricultural Census was completed in 2011 and an update is being completed in 2016. The census is completed every five years. The data for the 2016 Census will be released in May of 2017.

Further information related to food and agriculture within the Columbia Basin-Boundary can be found in the results of the Columbia Basin Rural Development Institute's [Food Systems](#) project.<sup>3</sup>

## LAND IN THE AGRICULTURAL LAND RESERVE

### WHAT DOES THIS MEASURE & WHY IS IT IMPORTANT?

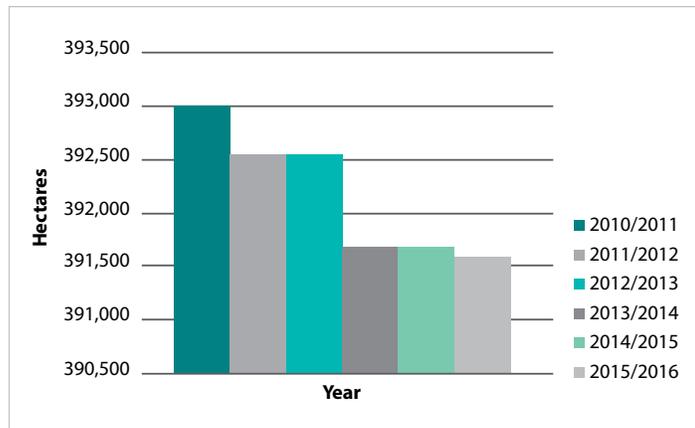
This indicator illustrates the amount of land that is held within the Agricultural Land Reserve (ALR), and how that amount of land has changed over time. The Agricultural Land Commission (ALC) administers the ALR, and its mission is to preserve agricultural land and encourage and enable farm businesses throughout BC. The ALR is a provincial land use zone designated for agriculture. Provincial legislation sets out processes for the inclusion or exclusion of land to and from the ALR and for non-farm use and subdivision of land within the ALR. The ALC administers the process and the applications to include or exclude land from the ALR.

The number of applications made to the ALC for land to be included and excluded can be tracked and therefore this can be a useful indicator to gauge the pressure on agricultural lands. The amount of land available for agricultural purposes is related to the economy and food production.

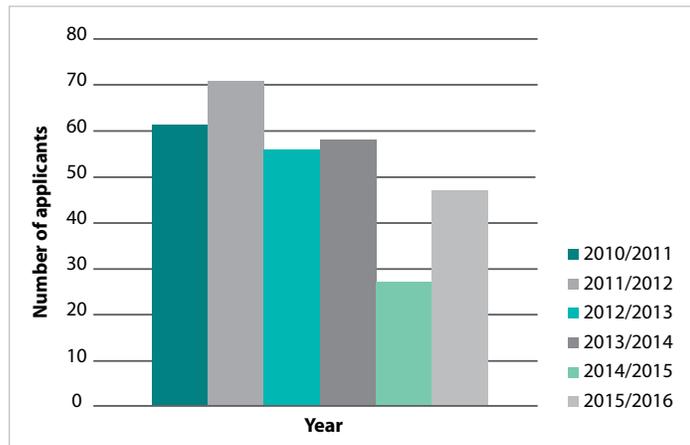
## WHAT ARE THE TRENDS & CURRENT CONDITIONS?

The 'Kootenay Panel' region<sup>i</sup> as defined by the ALC has a total of 391,593 hectares (ha) of ALR, or the equivalent of 5.9% of the land in the Kootenay Panel region is in the ALR.<sup>4</sup> There has been a steady decrease in the amount of land in the ALR since 2010, with a reduction of 1,420 ha of ALR land since 2010 (see **Figure 1**). A decrease of 879 hectares is attributed to the Elk Valley ALR Boundary Review that occurred in 2013/2014 which was part of an in-depth review involving the RDEK, local governments, the ALC, and local stakeholders to refine the boundaries of the ALR in the East Kootenays.

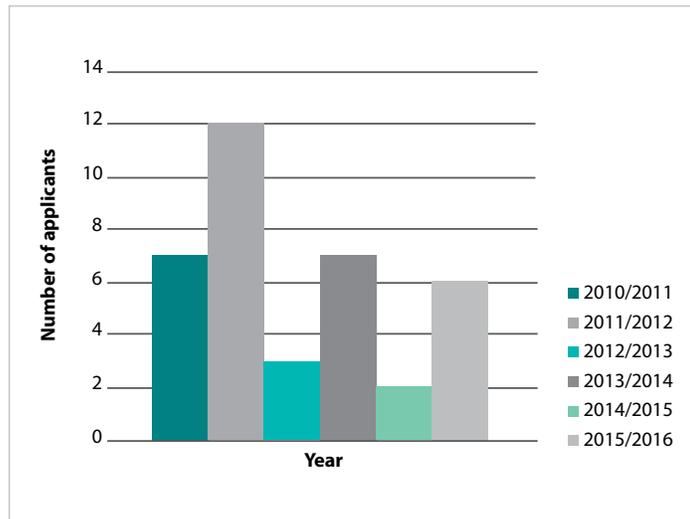
The number of applications received by the ALC for the Kootenay region vary each year (see **Figure 2**). As the numbers of applications can be for a number of reasons<sup>ii</sup>, there is no clear correlation between application numbers and changes in the area of land. Review of the applications for exclusion as shown in **Figure 3**, show a very slight downward trend in the number of applications each year, with notable exceptions in 2012/2013 and 2014/2015 when just a few applications were made. The low number of applications in 2014/2015 could be attributed to the boundary review in the East Kootenay region completed in 2014, which may have reduced the number of applications. Monitoring of the number of applications for exclusion in the future could provide additional insight. Further detailed breakdown of other types of applications (i.e., inclusion, non-farm use, subdivision, place fill and remove soil, transportation, utility, and recreation) received by the ALC is available in the Commission's Annual Reports.



**Figure 1:** Hectares of land in ALR – Kootenay Panel<sup>4-9</sup>



**Figure 2:** Total number of applications made to the ALC – Kootenay Panel<sup>4-9</sup>



**Figure 3:** Total number of applications for exclusion made to the ALC – Kootenay Panel<sup>4-9</sup>

<sup>i</sup>The 'Kootenay Panel' includes most of the Columbia Basin–Boundary region except for Revelstoke and the entire Columbia Shuswap Regional District which is in the Okanagan region and Valemount which is in the North Region (Fraser Fort George Regional District).

<sup>ii</sup>Applications can be made for inclusion or exclusion of land, non-farm use, subdivision, placing fill and soil removal, or transportation, utility, and recreation.

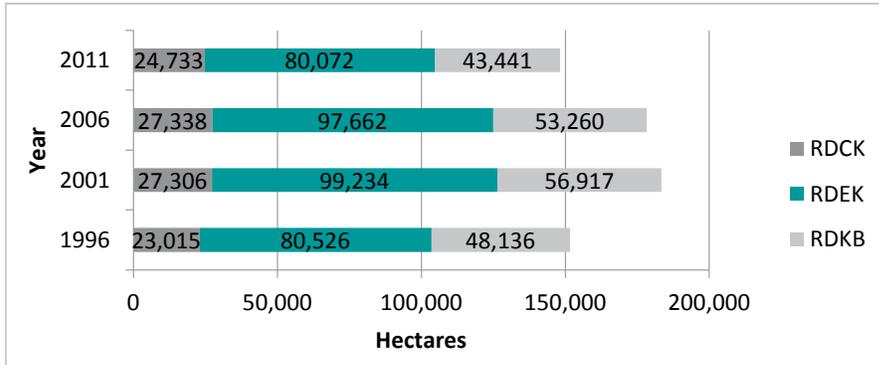
## AREA FARMED

### WHAT DOES THIS MEASURE & WHY IS IT IMPORTANT?

The Agricultural Census collects data on the amount of land that is farmed. This data is compiled by the Ministry of Agriculture to provide snapshots for each regional district.<sup>iii</sup> This indicator is useful to understand how the amount of farming activity has changed over time, and is useful when compared with the land in the ALR.

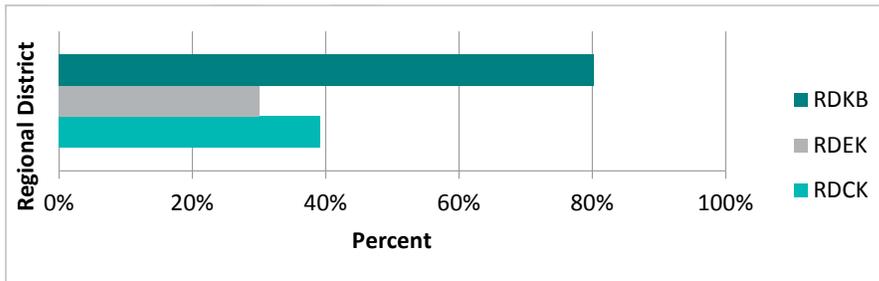
### WHAT ARE THE TRENDS & CURRENT CONDITIONS?

The RDEK has the most land being farmed<sup>iv</sup>, followed by the RDKB, then the RDCK (see **Figure 4**). The amount of land farmed saw an increase between 2001 and 2006, with that rate falling below 1996 levels in 2011. Provincially, there is a total of 2,611,383 hectares of land farmed.<sup>10</sup>



**Figure 4:** Total Area of Land Farmed (hectares)<sup>11-13</sup>

When compared with the available land the ALR for the RDCK, RDEK, and RDKB (393,127 ha of land was in the ALR in 2010/2011), it is the equivalent to a little over a third (38% or 148,246 ha in 2011) of the agricultural land in the ALR being farmed (see **Figure 5**).



**Figure 5:** Percent of land being farmed compared with land in the ALR<sup>11-13</sup>

At the regional district level, in 2011, the amount of farmland being used in comparison with the amount of land in the ALR varies substantially from 80% in the RDKB, to 39% in the RDCK, and 30% in the RDEK. Provincially, 56% of the amount of land in the ALR was reported as being used for farmland purposes.<sup>8,10</sup>

<sup>iii</sup>Data for the Golden and Revelstoke area is embedded within the Columbia Shuswap Regional District agricultural brief and is therefore not included. Valemount is also excluded from this indicator as it is included in the Regional District of Fraser Fort George agricultural brief.

<sup>iv</sup>Note that this does not necessarily mean that land is within the ALR.

## UNDERUTILIZED FARM LAND

### WHAT DOES THIS MEASURE & WHY IS IT IMPORTANT?

The Columbia Basin Rural Development Institute (RDI) at Selkirk College completed a [research brief](#) in the spring of 2016 to identify and value agricultural land.<sup>14</sup> The research was completed in order to assess a commonly cited challenge that there is a shortage of available farmland at affordable prices. By layering remote sensing data with property data classification information and data from BC Assessment, the study was able to identify lands that are capable of supporting agriculture but that are not currently being farmed – indicating that the amount of land suitable for farming purposes is not a barrier. Additionally, this research suggests that land tends to be valued according to residential or recreational potential as opposed to agricultural potential – again indicating that the issue is not the suitability of the land. Barriers appear to be matching potential farmers with suitable land and the land valuation of agricultural land.

It should be noted, that only very specific, high value crops can support a farm livelihood on two acres. The viability of small, intensive farms is further compromised by the small human population in the region resulting in small local markets. Small, intensive farms are best suited on Class 3 or better farmland<sup>v</sup>. Lower classes are better suited to livestock or possibly grape production, and both require more acreage to be viable. Recent study into the viability of ‘pocket agriculture’ in the West Kootenays indicates that small scale agriculture could play a role in future changes to the agricultural sector in the region.<sup>15</sup>

### WHAT ARE THE CURRENT CONDITIONS?

In 2016, the study found there were over 297,000 acres (120,000 ha) of land in the Columbia Basin–Boundary region that are on private property, are over two acres in size and that have soils capable of supporting agriculture (Class 5 or better), but are not currently being farmed. The areas with the highest rates of suitable land include:

Electoral Area	Percentage of unused land capable of supporting agricultural uses
RDCK Area I	47.2%
RDCK Area B	34.9%
RDCK Area H	34.1%
RDKB Area A	33.2%
RDKB Area C	34.6%
RDEK Area G	37.2%

**Table 1:** Percent of unused land capable of supporting agricultural uses<sup>14</sup>

Future analysis could allow for trends to be monitored over time.

<sup>v</sup>In BC agricultural capability ratings and limitations are assessed through a classification system known as the "Land Capability Classification for Agriculture in British Columbia" The classification system describes seven land capability classes for agriculture (Classes 1 to 7). The best agricultural lands are rated Class 1 because they have the ideal climate and soil to allow a farmer to grow the widest range of crops. Class 7 is considered non-arable, with no potential for soil bound agriculture.<sup>22</sup>



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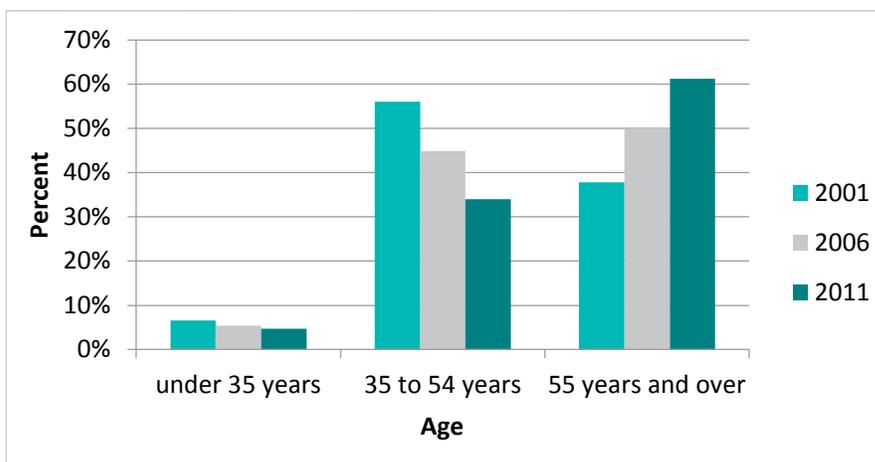
## AGE OF FARMERS

### WHAT DOES THIS MEASURE & WHY IS IT IMPORTANT?

This indicator is useful in identifying any opportunities or challenges that may exist if the age of farmers is trending older or younger. The data presented here is collected by the Agricultural Census and shows the age of farm operators for the Kootenay Region (RDEK, RDKB, RDCK).

### WHAT ARE THE TRENDS & CURRENT CONDITIONS?

The number of farmers under the age of 35 in the Kootenay Region has remained fairly constant and low (<10%) between 2001 and 2011 (see **Figure 6**). The number of farmers that are 55 years of age and over has increased dramatically since 2001, with the majority of farmers falling within this category, and just 34% of farmers falling within the 35 to 54 years of age category in BC. The average age for farm operators on all farms in 2011 in the Kootenay Region is 56.9 and 55.7 in BC. This [aging demographic](#) trend is similar to that of the Columbia Basin–Boundary region as a whole and is indicative of a coming workforce transition.



**Figure 6:** Percent of farm operators by age<sup>16</sup>

## FARM RECEIPTS, OPERATING EXPENSES, & WAGES

### WHAT DOES THIS MEASURE & WHY IS IT IMPORTANT?

Data from the Agricultural Census provides a picture of the economic health of the farms within the region, as well as an indication of the viability of the sector and the challenges faced by local producers. Gross farm receipts, operating expenses, and total wages and salaries are all statistics reported in the Agricultural Census that assist in providing a picture of the regional impact the agricultural sector has, and the contribution it makes to the economy.

### WHAT ARE THE TRENDS & CURRENT CONDITIONS?

By analysing the Gross Farm Receipts and the Operating Expenses<sup>vi</sup> as reported in the Agricultural Census, the profits for farms can be estimated (see **Figure 7**).<sup>vii</sup> When broken down to an average across the region, profits were \$5,324.94 per farm in 2011. When isolating for the Central Kootenay and Kootenay Boundary, profits amounted to an average of just \$8,340.98 per farm. The RDEK is a significant outlier in comparison with the Central Kootenay and Kootenay Boundary, with no profits being made since 2000. The RDEK Agriculture Plan suggests that this could be due to the scale of the farming operations (i.e., part-time or hobby operators with full-time off-farm jobs).<sup>17</sup> Both the Central Kootenay and Kootenay Boundary have seen steady increases in the profitability of farm operations since 2000/2001.

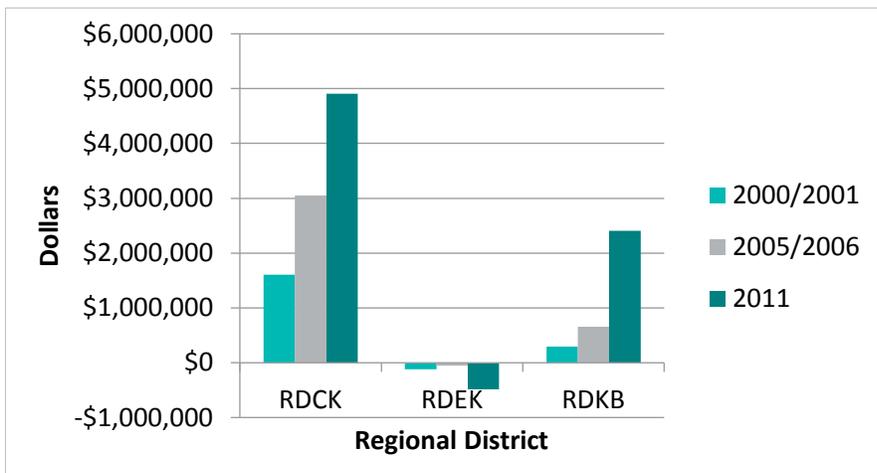
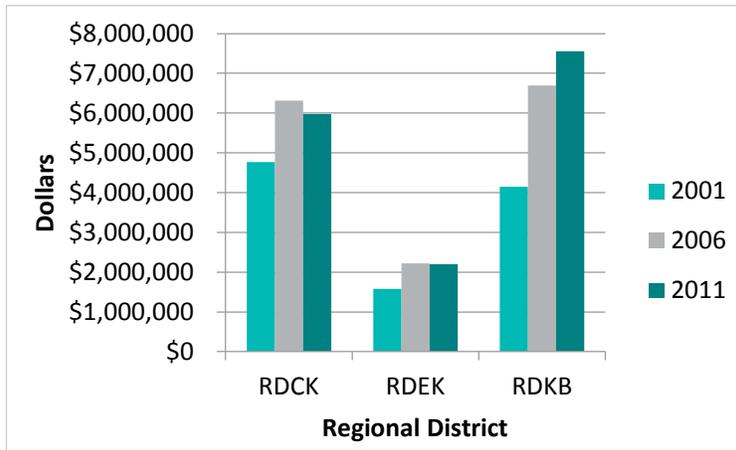


Figure 7: Profit for farms in Kootenay Region<sup>11-13, 19</sup>

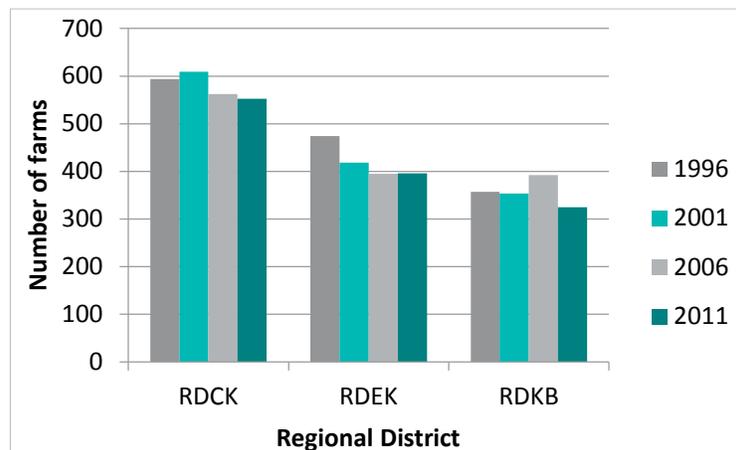
<sup>vi</sup>Operating expenses from Statistics Canada for the 2006 Agriculture Census show operating expenses for 2005 and 2000. This table compares the Gross Farm Receipts from 2006 with the Operating Expenses from 2005, and likewise for 2001 and 2000, in order to determine the profit as represented in this table.

<sup>vii</sup>Note that this figure does not include external expenses such as mortgage payments or other debt.

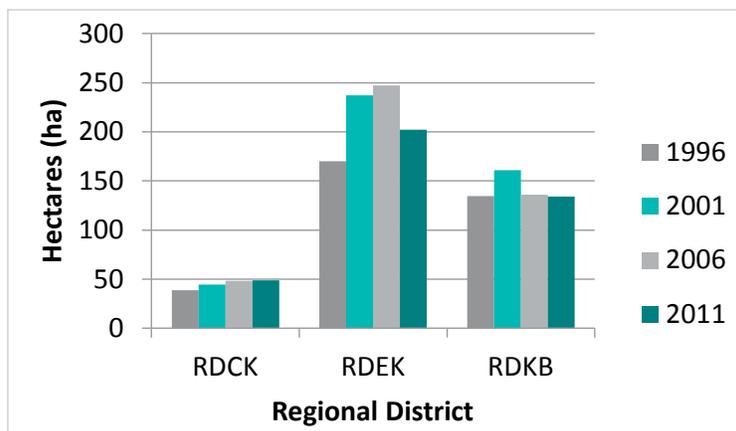
The amount of wages and salaries paid by the agricultural sector to workers has been increasing steadily in the Kootenay region since 2001 from a total of \$10.5 million in 2001 to \$15.7 million in 2011 representing a 49.5% increase (see **Figure 8**). Further study would be useful to understand the local economic impact and potential multiplier effect of the wages and salaries generated within the Kootenay Region. Additionally, further study into the relationship between farm wages and the number of farm labourers hired versus farm owners working on the farm could be worthwhile.



**Figure 8:** Total wages and salaries in Kootenay Region<sup>11-13</sup>



**Figure 9:** Number of farms per Regional District<sup>11-13</sup>



**Figure 10:** Average size of farms per Regional District (ha)<sup>11-13</sup>

## FARM PROFILE (number of farms, average size, crops, livestock)

### WHAT DOES THIS MEASURE & WHY IS IT IMPORTANT?

The Agricultural Census reports on the number of farms and the average size of the farms and this information is compiled by the provincial Ministry of Agriculture. The number of farms in the region and the size of those farms are of interest as they assist in providing a picture of changes within the agricultural sector. Additionally, these indicators highlight important differences between areas.

### WHAT ARE THE TRENDS & CURRENT CONDITIONS?

The trend is clearly pointing toward declines in the number of farms across the board within the region. Provincially, the number of farms has seen a marginal decrease of 0.4% from 2006 to 2011, while the RDCK, RDEK and RDKB have seen a combined decrease of 11% (see **Figure 9**).

The average farm size varies quite dramatically across the region with the farms in the RDCK being significantly smaller in size than the farms in the RDEK and RDKB. The average farm size in the province was 132 hectares in 2011 almost identical to the average size of farms in the RDKB at 134 hectares (see **Figure 10**). It is interesting to note that the number of farms is also significantly higher in the RDCK, pointing to a profile of farms in the RDCK as being smaller, and more numerous than in the RDEK or RDKB.

By looking at these indicators comparatively across the regions, a farm profile for each region can be developed. In 2011 the RDCK has the least amount of farmland available (24,733 ha), and yet has the highest number of farms (552), while the RDEK has the highest amount of farmland (80,072 ha), and also the largest size of farms (202 ha).

<b>RDCK</b>	<b>1996</b>	<b>2001</b>	<b>2006</b>	<b>2011</b>
Total farmland (ha)	23,015	27,306	27,338	24,733
Number of farms	594	609	562	552
Average size of farms (ha)	38.7	44.8	48.6	49
Predominant farmland use: crops (ha)	11,074	11,567	11,434	11,041
Number of cattle & calves	11,660	11,520	10,871	7,401
Number of pigs	331	349	189	148
Number of hens & chickens	33,537	22,580	11,545	10,854

**Table 2:** Farm Statistics: RDCK<sup>12</sup>

<b>RDEK</b>	<b>1996</b>	<b>2001</b>	<b>2006</b>	<b>2011</b>
Total farmland (ha)	80,526	99,234	97,662	80,072
Number of farms	474	418	395	396
Average size of farms (ha)	169.9	237.4	247.2	202
Predominant farmland use: crops (ha)	45,231	63,227	64,286	48,831
Number of cattle & calves	29,390	26,187	23,360	17,320
Number of pigs	199	553	77	62
Number of hens & chickens	16,419	10,061	4,600	3,725

**Table 3:** Farm Statistics: RDEK<sup>11</sup>

<b>RDCK</b>	<b>1996</b>	<b>2001</b>	<b>2006</b>	<b>2011</b>
Total farmland (ha)	48,136	56,917	53,260	43,441
Number of farms	357	353	392	325
Average size of farms (ha)	134.8	161.2	135.9	134
Predominant farmland use: crops (ha)	27,390	30,226	34,737	27,265
Number of cattle & calves	15,339	15,151	13,640	7,975
Number of pigs	636	376	217	178
Number of hens & chickens	9,332	9,667	7,568	8,043

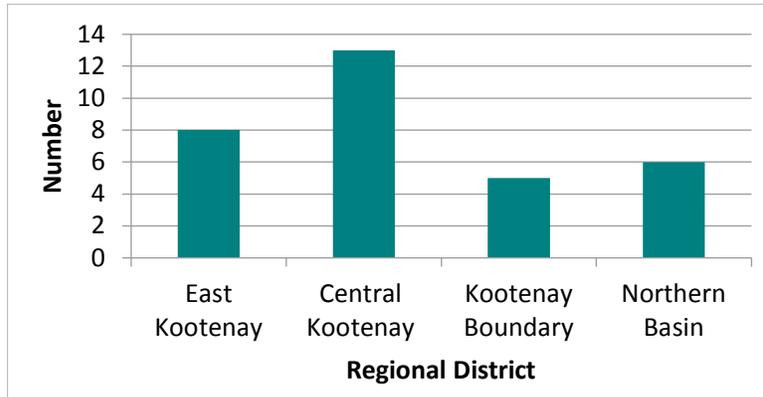
**Table 4:** Farm Statistics: RDCK<sup>13</sup>

The regional differences may be of interest when considering policies, programs or services to support farmers in the various regions. Further study into the causes behind the significant decline in the numbers of cattle, pigs, and hens and chickens being raised across all regions is warranted given the significant reduction in numbers.

## FARMERS' MARKETS

### WHAT DOES THIS MEASURE & WHY IS IT IMPORTANT?

An inventory of the number of farmers' markets within the Columbia Basin–Boundary region can provide a partial indication of the health and resiliency of the local food system, access to local food, and access to markets for producers. There are many social and economic benefits for communities, including growing sales, increased spending, and loyal and frequent customers.<sup>19</sup>



### WHAT ARE THE CURRENT CONDITIONS?

There are currently at least 32 farmers' markets within the Columbia Basin–Boundary, with the highest number of farmers' markets located in the Central Kootenay region (see **Figure 11**).

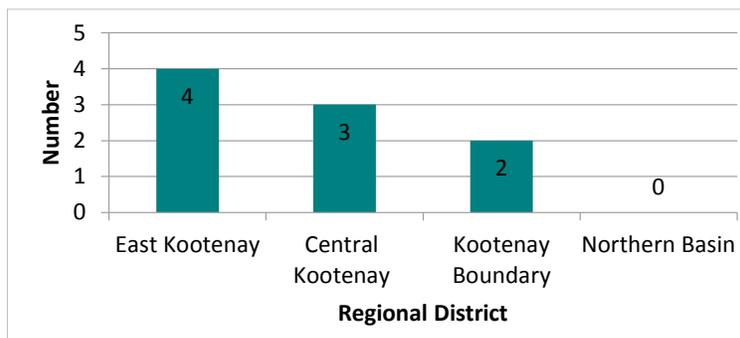
Future data collection could allow for trends to be monitored over time.

**Figure 11:** Farmers' markets<sup>14,viii</sup>

## SLAUGHTER ESTABLISHMENTS

### WHAT DOES THIS MEASURE & WHY IS IT IMPORTANT?

An inventory of the number of slaughter establishments provides an indication of the volume of meat processed in the region. The Ministry of Agriculture publishes a list of all Class A and Class B slaughtering establishments. Class A permits slaughtering, cutting and wrapping along with retail and direct to consumer sales, while Class B permits slaughtering only along with retail and direct to consumer sales. This is likely one of the barriers to growing and processing meat locally. There are other barriers such as high input costs, access to grain, transportation, timing, etc. It is also worth noting that not all slaughtering establishments process all types of animals; some are poultry specific while others are limited to cattle, therefore additional research including qualitative measures may be worthwhile to fully understand the opportunities and limitations with the services currently provided.



### WHAT ARE THE CURRENT CONDITIONS?

There are a total of nine slaughtering establishments, with the highest number located in the East Kootenay region (see **Figure 12**). Increasing access to meat processing facilities is referenced in the Agricultural Plans for all three Regional Districts (RDKB, RDCK, and RDEK), as limited slaughter facilities is one of the major obstacles for farmers processing meat locally and selling product locally.

**Figure 12:** Number of licensed slaughter establishments<sup>20</sup>

<sup>viii</sup>Northern Basin is represented in **Figure 11** as data was available for this region. Northern Basin communities include Golden, Revelstoke and Valemount.

Future data collection could allow for trends to be monitored over time. Additionally, there is opportunity to study further the amount of animals exported vs. meat sold locally to provide additional insight into the local agricultural sector.

## SUMMARY

The agriculture sector has seen steady declines in the amount of land farmed, the number of farms, and animals raised, with some moderate increases in areas such as wages and salaries and profits for the RDKB and RDCK only. While some of the statistics point to distinct and important differences across the Columbia Basin–Boundary region, such as the size of farms, the profit margins, and the types of agricultural uses, the three agricultural plans completed for the RDEK, RDKB, and RDCK all identify similar issues, challenges and opportunities indicating that opportunities for regional solutions may be suitable.<sup>21</sup>

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External Review: Abra Bryne, BC Food Systems Network

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