

# Agricultural Potential of the West Kootenay, B.C.

## *A regional review of the land, soil and climate for crop potential*

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2014



## Summary

People often feel there is insufficient land and too short a growing season in the West Kootenay to support agriculture, but not only does the West Kootenay have enough agricultural land to be self-sufficient, it has a climate that is favourable and a frost-free growing season projected to increase by 30 to 90 days by 2050. An analysis of soils in the West Kootenay show that 86,000 hectares (ha) are suitable to grow fruit, vegetables and grains (Class 1 – 4 in the Canada Land Inventory's Soil Capability Classification for Agriculture) and another 113,000 ha in Class 5 that can support forage, animal pasture, orchards or specialty niche crops. The 2011 Canada Agricultural Census, however, shows only 20,000 ha is utilized for crops and pasture so 90% of suitable land is not used for agriculture.

The Agricultural Land Reserve (ALR) protects 66,000 ha of quality farmland and over 80% of the highest quality soils in the region (Class 1 -3), ensuring long-term food security with enough land to feed almost double the population.

Of the soils suitable for agriculture in the region, moisture retention is the main limitation to agricultural use, meaning that irrigation has the potential to increase productivity and a rise in temperatures will likely increase this requirement.

The region's mountainous topography leads to variability in land quality and climate with 91% of prime agricultural land concentrated in four regional district areas out of eleven and local microclimates that currently vary from 130 – 150 frost free days, which creates opportunities for pocket agriculture, specialty niche crops, and different production systems throughout the region.

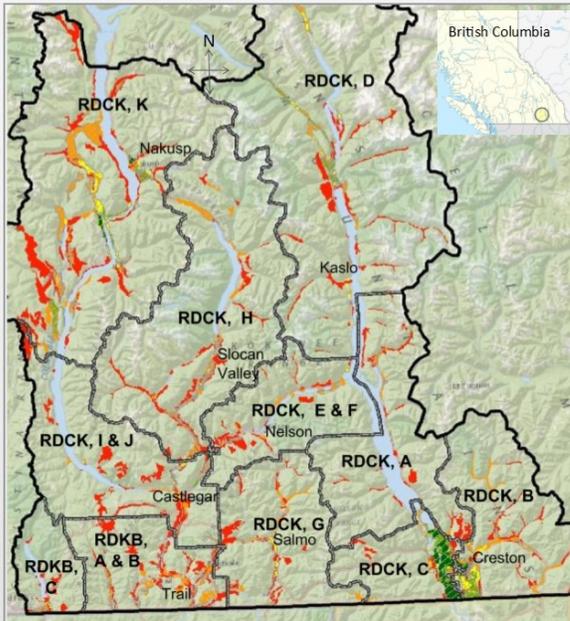
## Conclusions

The boundaries of the ALR protect 66,000 ha of the most valuable land for agriculture in the West Kootenay, with enough land to feed about 130,000 people or nearly double the current population. The region's capacity to feed itself is actually much greater as the region has a total of 86,000 ha of class 1- 4 land that can support a wide range of crops and 113,000 ha of class 5 that is suitable for forage, animal pasture and specialty crops, which given climate change projections for 2050, have enormous potential for niche crops such as grapes.

Today, however, only 10% of suitable agricultural land (31% of the ALR) is actually used for crops or pastures, thus the West Kootenay is well situated to increase its food security and meet the market demand for locally produced foods.

Both climate and soils offer opportunities for mixed small scale agriculture and an informed approach to increase agricultural production in the region may inspire more people to enter the farming sector, remove barriers and maximize success rates.

# Agricultural Potential of the West Kootenay



**Soil Capability for Agriculture**

Agricultural Capability	Class 1	Class 2	Class 3	Class 4	Class 5
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The West Kootenay includes the Regional District of Central Kootenay (RDCK) and Areas A, B and C in the Regional District of Kootenay Boundary (RDKB).

## Farmland

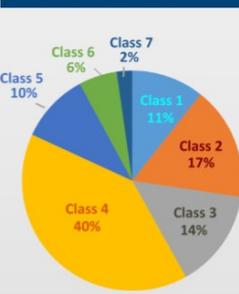
Soils capable of supporting agricultural crops in B.C. are given a Canada (B.C.) Land Inventory rating from Class 1 with no limitations to Class 7, not capable of supporting commercial agricultural crops. Class 5 may be considered marginal and can support forage but may be suited to specialty crops such as grapes.

**Land in West Kootenay**



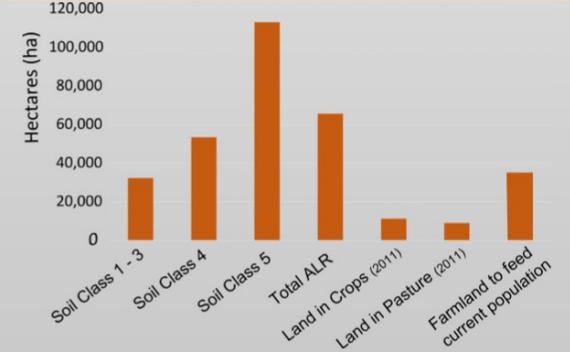
Class 1-4 can support a range of crops and comprises 5% of total land. Class 5 is more marginal but may be suited to specialty crops (6%).

**ALR in the West Kootenay**



The Agricultural Land Reserve (ALR) protects 3.2% of land (66,000 ha) and is composed mostly of high quality soils (Class 1-4).

**West Kootenay Farmland and Land Use Comparison**



**90%** OF LAND THAT CAN SUPPORT CROPS OR PASTURE (CLASS 1-5) IS NOT USED FOR AGRICULTURE.

Only 10% of suitable land (31% of the ALR) is used for crops and pasture, excluding small scale, backyard food production.

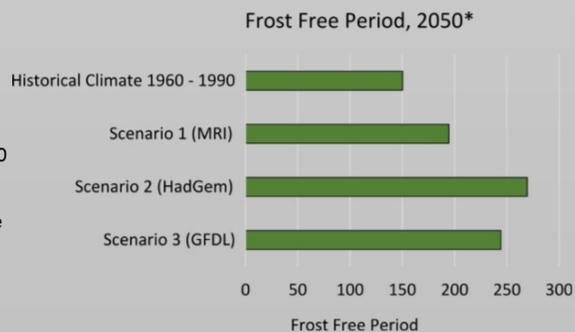
Half a hectare can feed one person for one year (including meat and dairy) and there is enough land in the ALR to feed the current population of 70,000.

## Climate Scenarios

Climate change projections for 2050 show an increase in the Frost Free Period and Growing Degree Days which will likely extend the growing season by approximately 30 to 90 days and increase the range of crops that can be grown.

The length of the growing season and the climate moisture deficit is projected to vary throughout the region.

Irrigation requirements for soil productivity will likely increase for all areas.



\*Averages for select agricultural areas under 800 meters.

Information is drawn from an analysis of land and ALR with digitized Soil Capability data.  
 Study area: 2,035,785 ha (448,789 ha no data). ALR in the study area 65,737 ha (3,268 ha no data).  
 Reference: Roussin, Rachael, 2014. *Agricultural Potential of the West Kootenay*. Contact: rachael.roussin@gmail.com

