

**Cross Jurisdictional Scan of Options for Access to Crown Land for Agriculture in  
Canada with Implications for the Ontario Clay Belt**

**Report**

Prepared for:

Beef Farmers of Ontario

Prepared by:

Dr. Predrag Rajsic

In collaboration with Dr. Glenn Fox and Dr. Brady Deaton

July 2017

## Contents

List of Tables .....	3
Table of Figures .....	3
Appendices.....	3
List of Contacts.....	4
1. Executive summary.....	5
1.1. Description of the Research Process .....	5
1.2. Lessons Learned, Observations, and Questions .....	6
2. Introduction.....	8
2.1. Research Questions .....	9
2.2. Historical Patterns of Land Property Rights in Canada .....	10
3. Relevant Biophysical and Economic Characteristics of the Clay Belt .....	10
3.1. Location and Size.....	10
3.2. Preferred Beef Farmers of Ontario Location .....	11
3.3. Soil .....	11
3.4. Forests .....	11
3.5. Mineral Extraction .....	12
3.6. Species at Risk .....	12
3.7. First Nations.....	13
3.8. Available Agricultural Land .....	13
3.9. Economics of Competing Land Uses.....	14
3.9.1. Forestry .....	14
3.9.2. Mineral Extraction .....	16
4. History of Ontario Crown Land Disposition.....	17
4.1. Crown Land Leases and Purchases over Time .....	17
4.2. The History of the Clay Belt .....	18
4.3. Experiences of other Provinces.....	21
4.3.1. British Columbia.....	22
4.3.2. Alberta.....	25
4.3.3. Saskatchewan .....	27
4.3.4. Manitoba .....	30
4.3.5. Quebec .....	32

4.4.	Access to State and Federally Owned Land in the United States .....	33
4.5.	Access to Crown Land in Ontario.....	36
5.	Identifying Opportunities and Challenges for Access to Crown Land in the Clay Belt .....	39
6.	Conclusions.....	41
	References:.....	42

## List of Tables

Table 1. Species at Risk in the Clay Belt Area

Table 2. Vacant Land Listings at <http://www.point2homes.com> on April 25, 2017

Table 3. Estimate Present Value of Foregone Stumpage Fees for Rotation Lengths for Different Classes of Spruce and Jack Pine

Table 4. Most Recent Available Estimates of Shares of Provincial Land Areas Held as Provincial and Federal Crown Land and Private Land

Table 5. Characteristics of Land Tenure Arrangements in Ontario

## Table of Figures

Figure 1.	The Clay Belt.....	54
Figure 2.	Ontario Census Divisions and the Location of the Clay Belt.....	55
Figure 3.	Soil Map of the Clay Belt.....	56
Figure 4.	Location of species at risk in the Clay Belt area .....	57
Figure 5.	Mineral Deposits in the Clay Belt area.....	58
Figure 6.	Locations of First Nations in the Clay Belt area.....	59
Figure 7.	Land tenure patterns in Cochrane, Hearst and Kirkland Lake.....	60
Figure 8.	Crown Land as Percentage of All Land in Ontario .....	61
Figure 9.	Land patents in Ontario (1917 – 1971).....	62
Figure 10.	Comparison of the Clay Belt settlement patterns in Ontario (Matheson) and Quebec (Abitibi) .....	63
Figure 11.	Percentage of land held as federal land by state in the U.S. ....	64
Figure 12.	Washington State Department of Natural Resources interactive map for locating available trust land leases .....	65
Figure 13.	Grazing fees on state owned public lands in the U.S., 2015, 2016.....	66

## Appendices

Appendix 1. An Overview of the Ontario Cottage Lot Development Program on Crown Land

Appendix 2. Requirements for an Agricultural Land Disposition Application, Cochrane District

## List of Contacts

Richard Barichello	Professor, Faculty of Land and Food Systems, University of British Columbia
Derek Brewin	Professor, Faculty of Agricultural and Food Sciences, University of Manitoba
Christopher Budiwski	Director Agri-Resource and Agricultural Crown Lands, Manitoba Agriculture, Food and Rural Initiatives
Veronique Filion	Lands and Waters Technical Specialist, Ministry of Natural Resources and Forestry – Cochrane District
Richard Gray	Professor, College of Agriculture and Bioresources, University of Saskatchewan
Paul Thomassin	Professor, Faculty of Agricultural and Environmental Sciences, McGill University
Emmanuel Yiridoe	Professor, Nova Scotia Agricultural College, Dalhousie University

# 1. Executive summary

## 1.1. Description of the Research Process

The purpose of this report is to provide an overview of Canadian and U.S. policies governing access to government owned land for agricultural use and to identify potential obstacles and opportunities for access to Crown land for beef production in the Clay Belt. We identify a number of information challenges associated with the application for agricultural land use permits on Crown land in the Clay Belt. These challenges include information on the appropriate application process for agricultural land use permits. The costliness of this information is likely to constrain agricultural use in general and may constrain livestock farming in particular. The extent to which livestock farming is diminished depends on the advantages of livestock farming in the area versus other agricultural uses of the land and associated issues such as available plot size etc. In this regard, this report provides the necessary institutional background to support future research on both the agricultural sector and specific types of farming.

Our research proceeded in several stages. First, we identified initial contacts in Canadian Provinces. We followed these contacts' recommendations in terms of key literature or other contacts that may be appropriate. Next, we interviewed contacts and summarized the interview results. This was followed by an overview of the history of agriculture in the Clay Belt and lessons learned, and an assessment of the importance of the competing land uses for the expansion of agriculture in the Clay Belt. The central theme of the report is the identification and assessment of the current land tenure arrangements in British Columbia, Alberta, Saskatchewan, Manitoba, Ontario, and Quebec. We summarized relevant statistics on the agricultural use of Crown land, described the process for accessing Crown land in different provinces, outlined the terms of access, listed the rental rates, and developed a framework for comparative assessment of

tenure arrangements (Table 6). The comparison categories include: (1) Ministry Administering Disposition of Crown Land, (2) Typical Tenure Option for Grazing on Crown Land, (3) Initial Lease/Land Use Permit (LUP) Allocation Mechanisms, (4) Lease (LUP)-to-Buy Option, (5) Direct Purchase Option, (6) Grazing Lease Length, (7) Rental Rate Determination Process, (8) Crown Rental Rates, (9) Market Rental Rates, (10) Lease Transfer Mechanism. The comparative assessment showed that Ontario might consider adopting some of the land access options that are currently available in other Canadian provinces

## 1.2. Lessons Learned, Observations, and Questions

Agricultural land tends to be privately owned in the Atlantic Provinces and in Ontario and Quebec. Moving westward, the share of Crown land in agriculture becomes more significant. Western Provinces have a well-established system of grazing leases for Crown land. Lease-to-purchase option are often available. Rental rates are based on a formula and are often lower than private rental rates. In Alberta, a limit on the number of total leases and private exchange of existing leases gave rise to asset values of grazing leases on Crown land.

In Ontario, most of agricultural land is in southern and eastern Ontario, and this land is largely privately owned. northern Ontario, including the Clay Belt, is over 90% Crown land. There were government programs for organized sale of Crown land at low prices to new settlers in the early 20<sup>th</sup> century. These attempts to expand agriculture into the Clay Belt had a limited reach. We found that two factors contributed to this. First, there was no screening mechanism for the selection of new settlers, so many inexperienced farmers who settled in the Clay Belt were unprepared for the reality of farming conditions in the area. Second, the dispersed land surveying layout made the formation of tight-knit communities less likely than in the neighbouring Abitibi county in Quebec. On the Quebec side of the Clay Belt, there was a

screening mechanism for new settlers, and the surveying layout packed farmsteads close together along roads. Both factors may have contributed to a more developed agriculture on Quebec's side of the Clay Belt compared to Ontario. We have submitted a research proposal under the OMAFRA New Directions Research Program that would update the interprovincial comparison of land access options as well as assess potential obstacles and opportunities to Crown land in the Clay Belt.

In Ontario, Crown land may be accessed for agricultural use through land use permits (LUPs). The extent to which land for livestock production is accessed through land use permits remains to be explored. Our proposed research under the New Directions Research Program will seek to uncover this information.

The opportunities within the current system of land use permits would involve obtaining grazing land use permits for 2,000 acres of Crown land. Due to the data limitations described above, it is not clear how this process would look like. Presumably, the process would involve applying for 12 to 13 land use permits of adjacent 160-acre lots. The application process, which includes providing detailed maps, business and financial plans, and an environmental assessment may be lengthy and expensive if a separate application is required for each permit. Identifying potential ways to negotiate processing the application as a single application rather than 12 or 13 applications may make the process more expedient.

The experiences of western provinces may be used to inform adjustments to the current system of land use permits in Ontario. The western provinces have a long history of transferable grazing leases for Crown land. Grazing leases are usually allocated through a scoring system that is used as a proxy for the likelihood that a new lease holder would maintain a profitable farm enterprise in the future. Leases have been available with relatively long terms and with renewal

provisions that provide secure tenure for farmers and ranchers. In some contexts, farmers and ranchers have come to prefer leases to outright ownership. In any case, viable cattle operations have come to rely on extensive grazing land leases of Crown land in the western provinces. This approach might be unfamiliar to Ontario farmers, but this lack of familiarity is something that could be overcome in time.

## 2. Introduction

The Ontario beef industry is an important contributor to province's economy. The beef supply chain generates close to \$5 billion in market receipts. The industry accounts for 14% of all Ontario farms. Ontario is Canada's second largest beef producer with 20% of total slaughter. However, beef farmers in Ontario have been facing challenges in the past decade due to, among other factors, rising land prices. The number of beef cattle in the province fell from about 410,000 in 2004 to 290,000 in 2014.

In 2014, the Ministerial Mandate letter for Agriculture, Food and Rural Affairs included a provision for expanding agriculture in northern Ontario. The Growth Plan for Northern Ontario identified the agriculture, aquaculture and food processing as one of eleven priority sectors that can contribute to the diversification and growth of the northern Ontario economy. The Ontario Ministry of Agriculture, Food and Rural Affairs (OMAFRA) is developing a strategy for growing the sector and has posted a discussion paper (OMAFRA, 2016) to its website and to Ontario's Environmental Registry.

The Beef Farmers of Ontario are currently exploring the expansion of the beef industry into Ontario's Clay Belt, a tract of fertile soil stretching between the Cochrane District in Ontario, and Abitibi County in Quebec, covering 180,000 square kilometres in total with 120,000 square kilometres of that in Ontario.



The Beef Farmers of Ontario are interested in establishing a pilot project in which 30 farms on 60,000 acres of land in the Clay Belt would be developed. The feasibility of the project may depend on the legal and economic factors governing secure long-term access to Crown land. These legal and economic factors are not well understood. It is also not known what practices have been followed in other Canadian Provinces with respect to secure access to Crown land for agricultural purposes.

## 2.1. Research Questions

- 1) What are the relevant laws, regulations, policies, and customary practices governing long term access to Crown land in Ontario for agricultural production?
  - i) Have those laws, regulations, policies, and customary practices been different in Ontario in the past?
- 2) Which of those laws, regulations, policies, and customary practices are applicable to the Clay Belt, and how do they impact the potential access to Crown land for agricultural production along the lines sought by the Beef Farmers of Ontario?
- 3) What are the policies and practices in other Canadian provinces with respect to access to Crown land for agricultural purposes and can these experiences be used to inform the Beef Farmers of Ontario plan for the use of Crown land in the Clay Belt?
- 4) What are the implications of the answers to the above research questions for the Beef Farmers of Ontario plan to establish a pilot project and potentially the efforts of the provincial government to expand beef farming in the Clay Belt?

## 2.2. Historical Patterns of Land Property Rights in Canada

Pearse (1988) argues that the historical patterns of resource property rights in Canada reflect two types of patterns: (1) historical patterns of settlement, and (2) historical patterns of interest in resources. Generally, Pearse observed that moving east to west in Canada natural resource tenures tended to be more private in the eastern provinces while the extent of government or Crown ownership increased moving west. The duration of resource tenures also varied moving from east to west across the country, generally becoming shorter and more fragmented. Pearse concludes that the current structure of natural resource tenures was somewhat a product of historical accident and that they had been overtaken by social, technological, and economic changes. He called for a reconsideration of the existing policies and institutions.

## 3. Relevant Biophysical and Economic Characteristics of the Clay Belt

### 3.1. Location and Size

The Clay Belt is a tract of fertile soil stretching between the Cochrane District in Ontario, and Abitibi County in Quebec, covering 180,000 square kilometres in total with 120,000 square kilometres of that in Ontario. Figure 1 shows the outline and the towns located in this area. Figure 2 overlays the Ontario map of census divisions on the Clay Belt outline. The relevant local towns are Hearst, Kapuskasing, Cochrane, Timmins and New Liskeard. Most of the Clay Belt is located in Cochrane District, while eastern parts of Algoma District, northern parts of Sudbury District and Timiskaming District are on the eastern and southern edges of the Clay Belt.

### 3.2. Preferred Beef Farmers of Ontario Location

Ross (2016) indicates that the Beef Farmers of Ontario is considering the expansion of beef production into Cochrane District, “starting at Matheson and running northwest along the Highway 11 corridor to Kapuskasing and Hearst.”

### 3.3. Soil

Figure 3 shows the soil map of the Clay Belt area. The map indicates that Class 3 and Class 4 soils are predominant in the Clay Belt, and that these two classes are often distributed in narrow strips between lower classes of land. The Ontario AgriCentre (2016) estimates the area of farmland in Northern Ontario to be approximately 700,000 acres. They also argue that “there is potential to double the total agricultural land base of the province. They estimate that there are 16 million acres of potentially fertile soils in the Clay Belt and that only about 2% of this land is currently being farmed. Furthermore, the Ontario AgriCentre states that, according to the Canada Land Inventory, there are 4.4 million acres of land with Class 2, 3 or 4 soils suitable for cultivation in the Clay Belt and that 9.3% of Ontario’s Class 2 land, 50.4 of Class 3 land, and 67.8 of Class 4 land is located in the Clay Belt.

### 3.4. Forests

**Error! Reference source not found.** outlines forest management units in the Clay Belt. We highlighted the major Clay Belt towns to indicate the relevant forest management units: the Hearst Forest is in the Hearst area, the Gordon Cosens Forest is in the Kapuskasing area, the Abitibi Forest is in the Cochrane area, the Rome Matte Forest is in the Timmins area and the Timiskaming and Temigami Forests are in the New Liskeard area. Forest management may be complementary to grazing in cases where grazing land is obtained by clearing the forest. However, if a logging company is interested in perpetual use of land for logging, using the land

for grazing precludes a harvest from that piece of land sometime in the future. In either case, there needs to be some sort of coordination between prospective farmers and the current forest management companies.

### 3.5. Mineral Extraction

Figure 5 shows the locations of mineral deposits in the Clay Belt. The Figure indicates that, while there is considerable mineral extraction activity in the Clay Belt area, there are also large areas uninterrupted by mineral extraction. This suggests that it may be possible to locate new farming facilities in areas with lower mineral extraction activity. However, mineral extraction may be occurring around or below the prospective grazing lands. Some types of mineral extractions may be occurring alongside with grazing if extraction is below the surface and the surface impact area is small. But open pit extraction would preclude agricultural production during the time the pit is operating. Grazing may be possible after a reclamation of an open pit excavation operation. In these cases, coordination of activities between the farmers and mineral extraction operations will be critical.

### 3.6. Species at Risk

Potential use restrictions based on the presence of endangered species may affect land management decisions. Table 1 list the species at risk in the Clay Belt area. The species include three species of birds (bald eagle, black tern, yellow rail), one mammal specie (caribou) and one specie of turtles (northern map turtle). This indicates that prospective holders of Crown land use permits or leases in the Clay Belt may need to consider land use restrictions based on the presence of species at risk. Rajsic *et al* (2012) document a number of federal, provincial and municipal environmental regulations that put constraints on farming practices, which results in compliance costs. Environmental compliance costs may reach 5% of total farm costs (Rajsic *et*

al, 2012). Rajsic and Fox (2016) show evidence that environmental compliance costs affected the location of Canadian dairy farms. Environmental compliance may be an important factor to consider when deciding on the location of new livestock facilities.

### 3.7. First Nations

Location of first Nations, including any outstanding land claim disputes, may have an effect on of the process of negotiating land tenure arrangements for potential expansion of livestock agriculture in the region. Figure 6 show the location of the First Nations in the Clay Belt. There are no First Nations located near Hearst, but there are five First Nations located near Cochrane, Timmins and New Liskeard. The Taykwa Tagamou Nation is located near Cochrane. The Wahgoshig First Nation is located about 40 km west of Matheson. The Matachewan First Nation is about 40 km southwest from Kirkland lake. Other First Nations seem to be farther away from potential agricultural areas. The Mattagami First Nation is about 100 km southwest of Timmins, and Flying Post is about 60 km west of Timmins. This indicates that in most location in the Clay Belt prospective holders of Crown land use permits or leases may need to obtain the consent of the local First Nations. Depending on the attitudes of the local First Nations toward agricultural production on public lands, this may contribute significantly to the transaction costs of obtaining a land use permit or lease.

### 3.8. Available Agricultural Land

According to OMAFRA (2016) there are about 8 million acres of cropland in Ontario. OMAFRA (2017) reports that there are 2,800 farms in the Clay Belt area with 700,000 acres of cropland. This is only 6% of the total estimated area of land suitable for agricultural production in the Clay belt of 16 million acres (OMAFRA, 2017). Furthermore, OMAFRA (2017) reports that cropland area in the Clay Belt could be expanded by 20 to 50% by just bringing currently

idle private land into production. This implies that there are 140,000 to 350,000 acres of idle private land in the Clay Belt.

As is indicated on Figure 7, parcels of private land tend to be surrounded by Crown land. The prices and availability of vacant private land may impact the demand for Crown land. The Beef Farmers of Ontario planned scale of individual operations is 2000 acres. Farmers may need to purchase the parcels of private land surrounded by the Crown land to be able to effectively manage the required land area. Table 2 shows an example of online farmland listings for in the Cochrane area recorded on May 10, 2017 at <http://www.point2homes.com>. We included only the listings that larger than 30 acres. Some examples from this Table include 73 acres of land surrounded by Crown land about 20 minutes north of town with an old house and a drilled well being sold for \$59,000. This corresponds to about \$800 per acre. A tract of 58 Acres in Fauquier (Moonbeam) Township, Cochrane District, is being offered for \$26,660, or about \$460 per acre. The lot descriptions indicate that these are cleared lots or have low bush cover. One of the common features of these lots is that they are relatively small (from 38 to 250 acres), The lot descriptions also state that they surrounded by Crown land. Given the Beef Farmers of Ontario plan to have large plots (2,000 acres), it may not be feasible to obtain lots of this size without getting the grazing rights for the surrounding Crown land. In our future research, we are planning to document the extent of private land holdings that are suitable for agricultural production in the region, and also to compile information on cropland prices and rental rates.

### 3.9. Economics of Competing Land Uses

#### 3.9.1. Forestry

Government of Ontario leases Crown forest to forest companies for logging. Forest companies pay stumpage fees to the government. Forestry is a potentially competing land use for agriculture

in this region. However, options are available for the two land uses to coexist. Tree harvest could be followed by preparation of land for pasture which would allow timber companies to access standing timber but forecloses the present value of future harvest starting with the end of the next rotation. In that case, government would be foregoing the present value of stumpage fees at the end of the rotation. Given that typical rotation ages in the area are longer than 100 years, however, this present value is likely small. Stumpage fees are only part of the opportunity cost of converting forest into pasture. Timber product companies add value to raw timber after harvest. Conversion of land from forest to pasture, implies that timber product companies would be foregoing the present value of value added to raw timber at some point in the future. Typically, rotation ages in northern Ontario are 100 years or more (Canadian Forest Service, 2002).

Based on the current stumpage fees for spruce and jack pine ( $\$7.28/\text{m}^3$  for both species) provided by the Government of Ontario (2017d), and on the Plonski yield tables, we estimated a timber charge per acre for spruce and jack pine for three different rotation lengths and forest quality classes. These estimates are summarized in Table 3. The Table lists the estimates of marketable volume at the end of the rotation, the value of the stumpage fee at the end of the rotation, and the present value at the end of the stumpage fee. We used two rotation lengths (100, and 130 years) for spruce and one rotation length for jack pine (100 years), since the Plonski tables listed volumes for Jack pine only up to the age of 100. We assume a constant volume after 100 years<sup>1</sup>. We used a 5% per year real discount rate. The present values of stumpage fees range from as low as \$0.60 per acre for a 130-year rotation of class 3 spruce to \$8.80 per acre for a 100-year rotation of class 1 spruce. For jack pine, the present values go up to \$5.30 per acre for a 100-year rotation of class 1 jack pine.

---

<sup>1</sup> Luckai (2000) suggests that that Jack Pine yield plateaus at about 100 years

### 3.9.2. Mineral Extraction

Figure 5 shows the locations of mineral deposits in the Clay Belt area. Most of the deposits are located between Timmins and New Liskeard. The deposits include gold, copper, nickel, zinc, talc, and other deposits (limestone, salt, gypsum, calcite, phosphate, building stone). There are also some gold deposits north-east of Cochrane.

The possibility that mineral extraction may conflict with grazing leases may create disincentives for farmers to lease grazing lands in areas with likely mineral deposits if farmers are not compensated for the loss of value resulting from mineral extraction. Alberta might provide an example of policy solutions to potential conflicting land uses between agriculture and mining. O'Malley *et al.* (2015) provide an overview of the policy mechanisms for compensating grazing lease holders in Alberta for the use of the land for oil and gas exploration and development. This indicates that there can be trade-offs between grazing and mineral extraction, at least in cases when surface area is used for transportation, storage, or processing. The compensation payments include one-time payments and periodic, usually annual, payments. The Alberta Government (2017a) describes eight compensation categories for oil and gas exploration and development: Entry Fee, General Disturbance, Loss of Use, Adverse Effect, Other, Damages, Signing Bonuses, and Non-Cash Transactions. The entry fee is a legislated value set at \$500.00 per acre, payable to the lease holder. General disturbance to the lease holder is defined as “noise, dust, traffic, and other inconveniences outside of his or her normal day-to-day operations.” In addition, “time and associated costs incurred during the negotiation” are included in the general disturbance category. The loss of use compensation is split between the Crown and the lease holder. The Crown set rate is \$360.00 per acre, and the occupant can negotiate his own part of the compensation for the Loss of Use and Adverse Effect. The Adverse Effect



compensation is related to “negative impacts of the development on the landowner's remaining farmland or altering farming operations around the development.” Other is defined as any impact not covered in the above categories. Compensations for Damages are usually associated damages to crops due to a right of way during the construction phase of a project. Signing bonuses are not mandatory and are often used by the oil and gas companies as an incentive for an expedited signing of a contract by an agricultural lease holder. Non-Cash Transactions are also not mandatory and may be used as an incentive by an oil or gas company. An example of Non-Cash Transactions may include building an access road.

The Alberta experience sets a precedent for potential application of similar policies where mining operation may diminish the value of a grazing lease. Since there are some areas with potential for conflicting uses of land between agriculture and mineral extraction, compensation mechanisms like those in Alberta may be implemented. Also, potential discounts on lease rates may be applied for Crown land in areas with more intensive mineral extraction operations.

## 4. History of Ontario Crown Land Disposition

### 4.1. Crown Land Leases and Purchases over Time

Figure 8 shows Crown land as percentage of all land in Ontario. In most of northern Ontario Crown land is generally more than 90% of all land. There are also smaller areas in northern Ontario where Crown land constitutes 50% to 90% of all land. These percentages indicate that Crown land is the major component of potential supply of land in northern Ontario. Another implication is that private land ownership is not as developed in the north as it is in southern and eastern Ontario.

Figure 9 shows the area of land patented in Ontario between 1917 and 1971. Statistics Canada (2014) defines Crown land as patented when “a deed bearing title to land has been drawn

up by the Crown agency concerned, that is the federal or a provincial government, for Crown land that had not previously transferred into private hands and that this deed is then transferred to a private party. Acreage patented therefore is a measure of the amount of Crown land that is alienated from the Crown for the first time” (Statistics Canada, 2014). The area of land patents of federal and provincial Crown land together in Ontario was around 100,000 acres per year until the mid 1920s. By 1935, the patented area dropped to about 15,000 acres per year. Statistics Canada (2014) states that after 1936, the area patented by the federal government became very small, and it dropped to zero by 1961. Therefore, after 1961, all land patents were provincial. The second peak in land provincial patents occurred in 1950 at about 120,000 acres per year. After this the provincial area patented fell again to 5,000 acres per year in 1971.

The decline in the number of patents indicates that policy priorities may have changed over time, but it may also reflect a potentially reduced demand for new land. Agricultural land in Southwestern Ontario and eastern Ontario is currently private, and most of the land in the north is leased to logging companies or mineral extraction companies. The demand for agricultural land in the north is not well understood, but the following section will explore the history of agricultural land use in the Clay Belt.

#### 4.2. The History of the Clay Belt

European settlement in the Clay Belt started in the late 19th and early 20th century but proceeded slowly until the building of CN railway in 1913. This was supported by government programs, which included cheap or free Crown land under certain conditions. The Temiskaming and Northern Ontario Railway Commission (1912) describes the conditions under which farmers could obtain a title or a patent to Crown land in the Clay Belt. After paying a fixed fee of \$10

(\$215 in 2017 dollars)<sup>2</sup>, a person over 18 years of age could obtain a 160-acre lot, subject to certain conditions. In some areas, applicants paid a 50 cent per acre fee for the total \$80 per lot (\$1,727 in 2017 dollars). The conditions for obtaining a title or a patent to Crown land included that the person must (1) reside at the lot for at least six months a year, or provide a substitute person who would live at the farm, (2) build a house of a specified size (16 by 24 feet) on the lot and (3) clear at least two acres per year for the first two years and have 16 acres under cultivation at the end of three years.

McDermott (1961) documents the history of the Clay Belt settlement between the construction of the CN railway and the 1950s. The first settlements were located around the railroad. In 1911, Cochrane was the only settlement. By 1921, Timmins, Matheson and Hearst had been established.

McDermott contrasts the settlement density in the Ontario Clay Belt with that of the Quebec part of the Clay Belt in the Abitibi area and attributes the differences in settlement density to different land survey systems used in the two provinces. This is illustrated in Figure 10. Settlement was much denser in the Quebec part of the Clay Belt. In Quebec, a four-square mile area would be divided in two sections, each two miles long and one mile wide. Then each section was divided into 12 farm lots, one mile long and 880 feet wide. In contrast, in Ontario, a four-square mile area would be divided in four one-square mile sections and each section would be divided in four square 160-acre farm lots. As a result, there would be only 16 farm lots per four square miles in the Cochrane area versus 24 lots per same land area in Abitibi. This arrangement also led to farmsteads being located close to each other. In long and narrow Abitibi lots, farm houses are next to each other located by the 880 feet side next to the road while they were

---

<sup>2</sup> We used the Bank of Canada inflation calculator to calculate the 2017 value of \$10 in 1914.

dispersed in the wide square Cochrane lots. The higher density of farm lots might have resulted in tighter-knit communities, which might have been an important support factor for new farmers.

McDermott (1961) divides the Clay Belt settlement period into two sub periods. The first is the period of the advancing frontier, which lasted until the beginning of the 1930s. The second period started in 1930s and was marked by land abandonment. This is the period of the retreating frontier. McDermott notes that the intensity of the retreat was much more pronounced in the Ontario side of the Clay Belt than in the Quebec side. In fact, while land abandonment was common on the Ontario side of the Clay Belt, there were areas in the Quebec part of the Clay Belt that experienced agricultural intensification and an increase in population and farmland area. For example, while the farmland<sup>3</sup> area in Cochrane declined by about 24% between 1931 and 1956, the area of farmed land increased by over 220% in Abitibi during the same period. McDermott identifies several factors as the causes of frontier retreat in the Ontario's side of the Clay Belt: (1) lack of proper screening of potential settlers, (2) lack of initial capital owned by the settlers and (3) Inadequate enforcement of the settlement contracts. The common cause of retreat on both sides of the Clay Belt, according to McDermott, are low returns from farming relative to alternative occupations in the same area. Forestry and mining tended to offer greater returns on labour than agriculture.

Total farmland area reported by McDermott for Cochrane was approximately 350,000 acres in 1931, falling to slightly below 300,000 acres by 1956. Harry Cummings and Associates Inc. (2009) report that the total area of workable and nonworkable farmland was 82,333 acres in 1996, 76,872 in 2001, and 75,236 in 2006. Statistics Canada (2011) reports that the total farmland area in Cochrane (which includes land in crops, summer fallow, tame or seeded pasture, natural land for pasture, woodlands and wetlands, area in Christmas trees) was 68,747

---

3

acres in 2011. This indicates that the area of farmland in the Cochrane District declined sharply after the 1950s, and the decline is still occurring but at a much slower rate.

According to McDermott, there were about 300,000 acres of farmland in the Abitibi County in 1931 and over 800,000 acres in 1941. This number remained stable around 800,000 acres until 1951, and it fell slightly by 1956. Statistics Canada (2011) reports that the total farmland area in Abitibi (which includes land in crops, summer fallow, tame or seeded pasture, natural land for pasture, woodlands and wetlands and area in Christmas trees) in 2011 was 262,726 acres. While this is a substantial decline from 1941, Cochrane District experienced even a more substantial decrease, where the area of farmland fell by about 88% between 1956 and 2011. In Abitibi, the area of farmland fell by about 66% in the same period.

McDermott also reports estimates of the areas of improved land, but does not provide a definition of improved land, for Cochrane and Abitibi. The area of improved land in Cochrane grew from about 75,000 acres in 1931 to little over 100,000 acres in 1951. Then it fell slightly to about 100,000 acres. In Abitibi, the area of improved land grew much more sharply and it never fell between any two periods from 1931 to 1956. It started at about the same areas as in Cochrane (75,000 acres) and it grew to about 300,000 acres in 1956. The farmland and improved land numbers show that the total area of farmland decreased in both Cochrane and Abitibi between the 1950s and 2011. This may indicate that in both counties uncultivated farmland tended to be abandoned before being converted into cropland but that this abandonment was more intensive in Cochrane.

#### 4.3. Experiences of other Provinces

The term Crown land refers to land owned by either the federal or the provincial government. Neimanis (2017) reports that Crown land ownership is extensive in Canada, with 41% of total

land area being held as federal Crown land and 48% as provincial Crown land. The remaining 11% is privately owned. Most federal Crown land (96%) is in the territories. Only 4% of federal Crown Land is in provinces.

Table 4 shows the total area of provincial and federal Crown land and as a percentage of total land area by province. Newfoundland and British Columbia have the highest percentage of land designated as provincial Crown land, 95% and 94% respectively, followed by Quebec (92%), Ontario (88%), and Manitoba (78%). Alberta and Saskatchewan have 63% and 60% of their land area, respectively, under Crown land. Prince Edward Island has the lowest percentage of its land designated as provincial Crown land (9.6%). About 90% of land in Prince Edward Island is privately owned. Nova Scotia and New Brunswick have 43% and 30%, respectively, of their land designated as provincial Crown land. Neimanis (2017) reports that Alberta has the highest share of land held as federal Crown land (10.6%), and Quebec has the lowest share (0.2%).

The federal Dominion Lands Act (1872) established grazing rights on federal Crown lands in the western provinces. In Alberta, the Public Lands Act (RSA 2000, c P-40) and the provincial Regulations and Special Areas Act (RSA 2000, c S-16) govern grazing rights on public lands. The Public Lands Act is administered by the Alberta Environment and Parks, while The Special Areas Act is administered by Special Areas Board.

#### 4.3.1. British Columbia

In British Columbia, Crown land can be leased for a variety of uses, including agriculture. Leasing of Crown land in British Columbia is under the authority of the Ministry of Forests and Range. Other uses may include industrial, recreational, residential, logging, roadways, or utilities. The Government of British Columbia (2017a) reports that agricultural leases include

grazing, extensive agriculture, and intensive agriculture. The Government of British Columbia (2017b) provides an online application form for Crown land which includes the options to lease, lease-to-purchase, and direct purchase.

Grazing leases are for 20 years and are administered under the Lands Act. Currently no new land can be leased for grazing—only the existing leases can be renewed. The Government of British Columbia (2005) provides the checklist of action items needed in the application process. The list includes a \$250 application fee, the Crown lands file number of the grazing lease, a Grazing Lease Management Plan approved by the Range Management Section of the Ministry of Forests and Range and a Statement of Agricultural Holdings.

Land can be leased by individuals or corporations. For both individuals and corporations, the renewal is conditional on a “good standing”<sup>4</sup> of the current lease on the subject land. Individuals must currently be actively engaged in farming. For corporations, the conditions are that two thirds of the voting shares belong to Canadians or permanent residents, that 51% of the voting shares are actively involved in daily activities on the farm, and that the principal business of corporation is farming or ranching in British Columbia. In addition, the grazing lease applicant must submit a grazing management plan for approval before the renewal request can be approved.

The approval of an application may require advertising. This is a procedure by which the applicant may be required to ran an add once a week for two consecutive weeks either in local newspapers only or both in the local newspaper and the BC Gazette. The ad indicates the location and the file number of the leased area. The public can then send comments to Ministry of Forests Lands and Natural Resource Operations within a prescribed period of time.

---

<sup>4</sup> Good standing is defined as remaining current on the rental and royalty payments (if appropriate), as well as other taxes, including GST.

Extensive agriculture refers to the cultivation of cereal grains, seeds, forage, vegetables, or fruit crops for mechanical harvesting. Leases are available to those who already own land within 15 km of a specific Crown land parcel and “50% of the arable area is in active cultivated production, with a minimum of 40 hectares (98.8 acres) cultivated, including 25% of the most recent previous Crown land acquisition.” The use of Crown land for intensive agriculture is defined as “as the use of Crown land for the commercial production of animals, fruits and/or vegetables including poultry farms, dairy farms, market gardens, greenhouses, nurseries, piggeries and feed lots.” This program provides access to up to 15 hectares (37 acres) of land either through a permanent disposition (purchase) or a 30-year lease.

Successful applicants pay an annual rental rate, which is determined by on a scoring system based on the information entered in the lease application. The lease holder has the right to restrict public and off-road vehicular access. The Ministry of Forests Lands and Natural Resource Operations may authorise other parties to remove the forest cover from the leased land.

The Government of British Columbia (2017a) states that the minimum annual rent is \$500 per year. The rental rates are the higher of the following two options: (1) 1% of the value of the land as established by the B.C. Assessment Authority or (2) a forage fee, which is calculated using a formula that takes into account the price of livestock and pasture productivity. The Government of British Columbia (2017c) reports that the fee for a grazing permit<sup>5</sup> on for Crown land for 2017 is \$4 per animal unit month<sup>6</sup> for two online listings at kijiji.com of pasture for rent in Dawson Creek, British Columbia, one from May 17, and the other from May 31, 2017. The

---

<sup>5</sup> This is a grazing fee for a grazing land use permit, and it may be different from the value calculated using the rent formula for leased Crown land, but we add it here for reference.

<sup>6</sup> An animal unit month is defined as the amount of dry forage matter needed to feed an adult 1000-pound cow for one month. Depending on the forage yield an animal unit month may correspond to different areas for different crops, regions, soil types, climate etc. Usually, there are less than 1 animal unit months per acre of uncultivated pasture, which implies that the renatal rate in this case would be less than \$4 per acre.



first lot is 110 acres and the other is 400 acres in size. Both have an asking price of \$30 acre. But more systematic data collection is needed on market rates for grazing in British Columbia.

#### 4.3.2. Alberta

The Alberta Grazing Leaseholder's Association (2017) states that provincial Crown land leases date back to 1881. Leases are usually issued for 10 to 20 years and the lease holder has the right to exclusive use the land but only for grazing purposes. O'Malley *et al.* (2016) indicates that most of the leases have been in the same family for decades, and, in some cases, for over a century.

There are about 50 million acres of farmland in Alberta (Statistics Canada, 2016), which consists of private and Crown land. About 8 million acres of provincial Crown grazing land are used by farmers. Of those 8 million acres, 5.2 million are under grazing leases administered by the Alberta Environment and Parks and about 1.2 million acres administered by the Special Areas Board.<sup>7</sup> O'Malley *et al.* (2016) estimate that provincial Crown grazing leases provide as much as 20% of the all grazing forage requirements in Alberta.

O'Malley *et al.* (2016) summarize the property rights features of grazing leases in Alberta. Lease holders apply for lease renewals to the Alberta Environment and Parks. During the renewal process, Alberta Environment and Parks may change the terms of the lease in accordance with the Public Lands Act, regulations, and any regional plan.

Grazing leases can be transferred from existing lease holders to other ranchers through a public auction. The Alberta Environment and Parks must approve lease transfers. The Alberta Environment and Parks may reject a transfer or determine an Assignment Fee to be paid to Alberta Environment and Parks. Subleases are possible, with the approval of Alberta

---

<sup>7</sup> O'Malley reports that there are 1,426 grazing leases on Crown lands in the Special Areas, but the total area is not reported. We calculate the approximate size of the leased area using the average lease area of 876 acres.

Environment and Parks. A recent example of a grazing lease auction is an online ad placed by Ritchie Bros. Auctioneers for unreserved public real estate auction taking place on June 15, 2017, for two grazing leases (775 acres) in Eureka River, Alberta (Ritchie Bros. Auctioneers, 2017). The current owners of the lease are George Lee and Audrey Svederus. The ad states that the lease will be sold to the highest bidder, and that the buyer will pay the Assignment Fee.

Duncan Craig Legal Solutions (2015) report that grazing leases can be used as assets for which prices may reach “tens of thousands of dollars” but that the Assignment Fees can also be substantial (i.e., \$16,000 in one of their recent cases). We were not able to find data on the prices for completed lease exchanges, but the Calgary Herald (2015) reports that a lease for 450 hectares (1,111.5 acres) of Crown was listed for sale for \$265,000.

The average size of a lease is 876 acres (O’Malley *et al.*, 2016). A lease holder may deny access to oil and mining subsurface lease holders. This right is established under the Surface Rights Act (O’Malley *et al.*, 2016). The Act requires oil companies to obtain a written consent of the grazing lease holder before accessing the surface of the land. The lease holder must provide access for recreational purposes, except under legally prescribed circumstances under the Recreational Access Regulation (Alta Reg 228/2003).

Annual rents are based on (1) grazing capacity of the land, (2) average weight gain of cattle on grass, and (3) average price of cattle. The lease holders pay property taxes on leased land and the lease can be used as collateral for a mortgage provided there is a written consent by the Alberta Environment and Parks. Lease holders are required to use a prescribed set of range management practices and they are not permitted any clearing, ploughing, or cultivating or any surface disturbance without the Alberta Environment and Parks approval. O’Malley *et al.* (2016) also calculate approximate annual rental fees range from \$1.39 per animal unit month to

\$2.79/animal unit month. Given that the estimated animal unit months per acre range from 0.23 to 0.30, the annual rental rate per acre ranges from \$0.32 to \$0.70 per acre per year. These rates have not changed since 1994 (Alberta Government, 2017b). Alberta Agriculture and Forestry reports most common private grazing rental rates to be \$18 to \$25 per animal unit month . This figure corresponds to \$4.6 to \$9 per acre per year if the annual forage production per acre ranges from 0.23 to 0.30 animal unit months.

#### 4.3.3. Saskatchewan

In Saskatchewan, Crown land can be leased or purchased for recreational, residential, commercial or agricultural purposes. The Ministry of the Environment administers recreational, residential, commercial leases and purchases, and The Ministry of Agriculture administers agricultural leases. There are about 94 million acres of land under the administration of the Ministry of the Environment (Government of Saskatchewan, 2017a). This land is mainly in the north of Saskatchewan and includes forests, wetlands, marshes, and lakes. The Federation of Sovereign Indigenous First Nations (undated) reports that there are 7.2 million acres of agricultural Crown land in Saskatchewan.

Government of Saskatchewan (2017b) outlines the conditions under which provincial Crown land can be leased for agricultural use. The Ministry of Agriculture advertises Crown land allocations once a year in on its website and in regional Ministry offices. The Lands Branch of the Saskatchewan Ministry of Agriculture ranks applicants using a scoring system. The applicant with the highest score receives a lease for a given parcel of land. Government of Saskatchewan (2017b) did not report its farmer scoring algorithm, but some factors that affect the score are reported. Applicants must currently be managing a farm operation. Farmer age, current farm size, distance to the parcel to be leased are among those factors. Preference is given

to applicants between the ages 23 and 35, whose operation is between 50% of the average and the average size for the rural municipality, and whose operation is close to the prospective Crown land to be leased.

The lease application requires the applicant to choose among three types of leases: (1) individual, (2) corporation, and (3) co-lease. Co-leases can be as tenants in common<sup>8</sup> or joint tenants<sup>9</sup>. If the lease is for a corporation, each shareholder must submit a separate application. The corporation must be registered with Services Corporation, Corporations Branch and the applicant must submit a copy of the Certificate of Incorporation.

Location of the farm residence and of grain or livestock facilities and information about the existing farm unit owned by the applicant is recorded next, including the current area of cultivated land, hay and pasture for the operation, numbers and types of livestock in the operation. Other relevant information includes whether the applicant “actively manage(s) and operate(s) a farm operation”, the applicant federal (Canadian citizen vs. Permanent resident) and provincial residency status, and the applicant's bankruptcy status

Farmers and ranchers who are leasing Crown land in Saskatchewan may be offered the opportunity to purchase that land under the Provincial Crown Land Sales Program. The program was initiated in 2008, when the Government of Saskatchewan put up for sale 1 million acres of land under pasture leases and 600,000 acres of land under cropping leases (Federation of Sovereign Indigenous First Nations, 2017). Others may also purchase provincial Crown land. Current lease holders are given the right of first refusal. There were purchase incentives, a 15%

---

<sup>8</sup> Each tenant has an equal interest in the lease. If a tenant in common dies, the interest passes to the Estate of the deceased. The Estate holds the equal interest until the Estate is settled.

<sup>9</sup> Each tenant holds a full interest in the lease. If a joint tenant dies, his/her interest in the lease dies as well. The survivor continues to hold a full interest - joint tenants have the “right of survivorship”.

discount on the price of Crown land for all sales before March 31, 2016, 10% discount on sales between April 1, 2016 and January 1, 2017, and a 5% discount after January 1, 2017. The CBC (2017) reports that the Federation of Sovereign Indigenous First Nations was considering legal action against the Government of Saskatchewan over its Crown land sales program in March of 2017. The FISN claims that, under Treaty Land Entitlement, First Nations have the right of first refusal if any Crown land is offered for sale. As of June 2017, Government of Saskatchewan (2017c) reports that there was no land available for purchase. Crown land that has high ecological value under *The Wildlife Habitat Protection Act*, or contains important wildlife habitat, land with heritage value, and land with potential oil reserves, is not available for purchase.

The Saskatchewan Cattlemen's Association (2017) reports that the rental rates on Crown land decreased by 34% to \$7.17/animal unit month animal unit month for 2017 from \$10.87 in 2016. These rates were calculated according to a formula.<sup>10</sup> The rental rates per animal unit month are calculated as 12.75% the expected revenue per animal unit month (Saskatchewan Cattlemen's Association, 2017). This indicates that the expected revenue per animal unit month in 2017 is \$56.24. Saskatchewan Forage Council (2015) reports that the number of animal unit months per acre for pastures in Saskatchewan ranges from 0.25 to 0.55 animal unit month /acre, with an average animal unit month /acre. Using 0.4 animal unit month /acre implies that the rental rates on Crown land for 2017 correspond to about \$2.87/acre. Given that these rates are 12.75% of the expected revenues, the expected revenue per acre for 2017 is \$22.49. The

---

<sup>10</sup> This rate was calculated using the following formula:

Rent rate = price per pound x 46 pounds x 0.8 x 12.75%

Price per pound = the preceding October/November weighted value of beef (i.e. calves, feeders & cull cows).

46 pounds = the amount of beef produced from one animal unit month .

0.8 = 80% conservation factor. A factor that allows the leaseholder to stock at 80% of the established carrying capacity of the land thus allowing for constant stocking of the land.

12.75% = percentage share of production that the Crown takes for rent.

Saskatchewan Ministry of Agricultural Land Lease Survey (2016) reports that the average annual land rental rates on private land in Saskatchewan in 2016 was \$45.30 per acre per year, and the median rate was \$40.00/acre.

The rental rates for Crown land are based on rental formulas set out in the Provincial Lands Regulations. The formulas “rules reflect changing prices producers receive for their livestock or crops” (Government of Saskatchewan, 2001). The rates for each year are announced by the Minister.

#### 4.3.4. Manitoba

The main arrangement by which provincial Crown land is accessible to farmers in Manitoba is through leases. Purchases of provincial Crown land are possible, but there are only about 10 to 20 purchases per year (Budiwski, personal communication, March 2017). The Crown Lands Branch of the Manitoba Agriculture, Food and Rural Initiatives administers Crown land leases and purchases. There are about 2 million acres of Crown agricultural land in Manitoba of which about 1.6 million acres are leased.

There are two types of provincial Crown land leases that could potentially be issued to farmers in Manitoba: (1) vacant land, and (2) forest land. Both types can be leased for agricultural purposes. A forestry licence for a piece of land doesn't deter agricultural use. This allows for clearing of forest land to establish pasture. Thus, there may be synergies between agriculture and forestry. The removal of forest requires a forestry approval, but after that land could be under an agricultural lease.

Vacant land leases are advertised by the Crown Land and Property Agency (CLPA). The CLPA (2017) reports that “there is currently no land available for long term Forage Lease, Cropping Lease or Renewable Permit.” Leases are obtained through a scoring process. The criteria

considered for allocation include: size of existing land base, current number of livestock, forage consumed by livestock, proximity of currently owned-leased land, demographic criteria (age<sup>11</sup>, newness of an applicant<sup>12</sup>, environmental factors<sup>13</sup>). Individual applicants are scored using a scoring algorithm. The maximum length of a lease is 50 years. After a lease expires, it may be renewed. The current lease holder may also transfer the lease to a family member with the approval of the government. Leases that are not renewed may be offered to new applicants.

There is no fee for application, but farmers pay rent, which is calculated using a formula (Equation (1)) reported by the Crown Lands Act (2001)<sup>14</sup>:

$$\text{Rental per lease} = A \times B \tag{1}$$

where

A is the number of animal unit months that the lease is capable of producing in an average year.

B is the market cost, is the average cost of renting a private pasture of land in the aspen parkland regions of Manitoba. It is expressed in dollars per animal unit month determined by a triennial survey and adjusted by deducting the additional cost of using the leased lands that is not incurred by renters of private pasture land.

The Government of Manitoba (2016) Pasture Rental Rate Calculator calculates implicit rental rates based on land value (\$600 to \$800 per acre), land tax rates (\$3/acre) and the expected annual return (2.5%) of \$18 to \$28 per acre.

---

<sup>11</sup> Younger farmers tend to be preferred.

<sup>12</sup> New entrants tend to be preferred.

<sup>13</sup> Applicants with an approved Environmental Farm Plan (EFP) tend to be preferred.

<sup>14</sup> The Government of Manitoba (2017) states that the formula takes into account comparable market rates, but the actual formula is not reported.

The transfer of leased land is usually interfamilial and is in the form of successions from parents to children or between siblings. The successor must be to be of legal age and engaged in agriculture.

Sizes of parcels ranges from 60 to 80 acres, rented for up to 50 years, but one lease may include multiple parcels. Individual leases may go up to 7,000 acres. The upper limit on the leased area is 4800 animal unit-months or 7000 acres.

In terms of the property rights structure, the Crown retains the right to all resources other than the foraging rights. The lease holder has the exclusive right to graze, but no other surface or subsurface rights. The lease holder can restrict vehicular access, but not foot access. This structure sometimes leads to land use conflicts where others may break the fence and use land for vehicular transport (Budiwski, personal communication, March 2017). Any exploratory activity on the leased land must be approved by the Crown.

#### 4.3.5. Quebec

Th Quebec Ministry of Natural Resources and Energy (2012) reports that there are various policy options for Crown land management by private individuals or firms. These options include renting, special permits or granting other special interest. The Quebec Ministry of Natural Resources and Energy (2012) lists the number of leases by type, but agricultural leases are not mentioned specifically. There are about 45,000 individuals and firms that have obtained access to Crown land in Quebec. Of those 45,000 arrangements about 42,000 are lessees (28,000 for vacation purposes, 11,000 for shelters, and 3,000 for commercial, recreation and tourism, or other purposes). About 3,000 permits are for another type of right to use public land, such as rights-of-way or authorizations to develop trails. In addition to the leases and land use permits,



there are about 300 parcels per year that are sold for recreational, residential, industrial, commercial, or other purposes (Quebec Ministry of Natural Resources and Energy, 2012).

New leases are determined by a random draw from a pool of applicants. Applicants, who must be over the age of 18, fill out an official entry form and pay a \$31.04 non-refundable entry fee (GST and QST included). Applicant can then use an online form to select from a list of available lots the lots for which they would like to enter a draw. Sepaq (2017) reports that draw is conducted electronically in the presence of witnesses, and that an external auditor supervises the draw. Individual draw results are communicated to the entrants by e-mail, within 48 hours of the draw.

The Ministère de l'Énergie et des Ressources naturelles (2012) provides an application form for access to Crown land. The potential uses listed in the application form include: private, commercial, Industrial, communal, and public utility. The tenure types listed include lease, purchase, and permit. The Ministère de l'Énergie et des Ressources naturelles (2012) also provides an application form for a lease transfer. Yearly rental rates in Crown land are 6% of the value of the plot.

#### 4.4. Access to State and Federally Owned Land in the United States

The National Agricultural Law Center (2017) reports that the most common form of access to public land for agriculture is through leases. Both federal and state governments issue grazing leases on federal and state-owned land. Hardy *et al.* (2017) estimate that the federal government owns about 28% of land area in the United States, or about 640 million acres. Of those 640 million acres, 610 million acres are managed by four agencies: The Bureau of Land Management (BLM), the Fish and Wildlife Service (FWS), and the National Park Service (NPS) in the Department of the Interior (DOI) and the Forest Service (FS) in the Department of Agriculture.

The BLM manages about 248.3 million acres of federal land of which 155 million acres are leased to ranchers, and another 95 million acres of land managed by the FS are leased out for grazing (Hardy *et al.*, 2017; Bureau of Land Management, 2016). Thus about 250 million acres of land are leased for grazing by the federal government. This is about 41% of the total 614 million acres of land in pasture and range (USDA, 2017).

There are currently 18,000 grazing leases known as “term grazing permits” issued by the BLM. The leases are generally for 10 years after which they can be renewed. The current lease holder has the right of first refusal for a lease renewal if he or she has fully complied with the lease conditions. A US citizen or a validly licenced business that owns property known base property is eligible to apply for a grazing lease. Base property is private land owned or controlled by the applicant where livestock can be moved from the leased federal land if the grazing lease needs to be vacated for some reason. Keyes and Keyes (2015) state that ‘acquiring a permit to graze livestock on federal lands is not a simple process. All public lands eligible to be grazed by livestock are already obligated under existing permits.’ Potential ways of transferring a lease from an existing lease holder include purchasing a current lease holder’s livestock and/or base property provided the current lease holder waives the existing permit to the United States and provided the purchaser is otherwise eligible. In a lease transfer, priority is generally given to the current lease holder’s heirs if they maintain control of the base property.

The grazing rental rates on public lands managed by the BLM are calculated using a formula. The formula uses a 1966 base value of \$1.23 US per animal unit month and adjusts this value according to three factors – current private grazing land lease rates, beef cattle prices, and the cost of livestock production. The BLM (2017) reports that grazing rental rate in 2017 will be \$1.87 US per animal unit month on lands managed by the BLM and \$1.87 US animal unit month

for lands managed by the U.S. Forest Service. The grazing rental rate in 2016 was \$2.11 US per animal unit month. Hardy Vincent (2012) reports that the grazing rental rates on private lands in 2004 private ranged from \$8 US to \$23 per animal unit month. Using our previous findings that natural pastures tend have productivity of around 1 animal unit month per acre or less, the rental rates on public lands range from \$1.87 US per acre to \$2.11 US per acre, while rental rates on private lands range from \$8 US to \$23 US per acre.

In addition to federal public lands, there are 46 million acres of state trust lands located in 23 of the 48 lower states, mainly west of the Mississippi river. State trust lands were awarded to each state by the United States Congress upon entering the Union for the purpose of supporting public state institutions such as schools, universities, and hospitals. State trust lands can also be leased for grazing. For example, Washington State Department of Natural Resources (DNR) (2017) reports that the Department leases 1.1 million acres of state trust lands for agriculture and grazing. Leases for currently unleased land are available indicated on an online interactive map. Figure 12 shows an example of a map with a parcel listed as available for leasing. The map shows the outlines of the parcel, lists the lease number, along with the information on size, lease start and end dates, and permitted use. After locating the parcel that they are interested in leasing, applicants submit a request for lease consideration to the Washington DNR. The Washington DNR (2017) states that “if there is legal access to the parcel, the proposed activity can be permitted and leasing the parcel is in the best interest of the State Trust, DNR will consider a public lease auction.” The DNR lists the current public auctions on its website. The bidders send sealed bids to a specifies DNR office. Bids are opened at a specified date and time.

State trust land is available for lease in other states as well. Hardy Vincent (2012) reports that grazing rates in 2004 ranged from \$1.35 to \$80 US per animal unit month. Figure 13. Shows

the 2015 and 2016 grazing fees on state trust lands for 17 western states. The 2015 rates range from \$9 US per animal unit month in Arizona to \$39 US per animal unit month in Nebraska. In 2016, prices were similar across all listed states with Arizona and Nebraska, respectively, having the lowest (\$9 US per animal unit month) and highest (\$41 US per animal unit month) prices again. Using our previous assumptions about the productivity of natural pastures, the rental rates per acre range from about \$1.35 US per acre to about \$41 us per acre.

#### 4.5. Access to Crown Land in Ontario

The Ministry of Natural Resources and Forestry (MNRF) has authority over Crown land in Ontario. The MNRF (2017) states that Crown land is no longer actively marketed, sold, or rented for private recreational or residential use, but provincial Crown land can be rented for agricultural purposes. And, subject to certain conditions, the current policy allows for tenants to obtain title to Crown land that they have been renting. MNRF (2017) lists several types of Crown land tenure in Ontario: land use permits (LUPs), licence of occupation, lease, easement, and freehold letter of patent.

Table 5 summarizes the main characterises of these different tenure arrangements. Land use permits seem to be the most restrictive. They may last up to ten years and are issued for a specified purpose or activity. A land use permit cannot be used as a collateral or security for bank loans. The permits are not transferable, and they cannot be renewed. No extensive or valuable improvements on the land are allowed. Land under a licence of occupation can be used as a collateral or security for loans, and the licence is transferable with the permission of the MNRF, but no extensive or valuable improvements are allowed, and the permit cannot be renewed. For leases, restrictions on extensive or valuable improvements are removed. A lease can be renewed, and the land use is not restricted to a specific use or purpose. However, a survey

is required for Crown land leases. Easements are usually used for electrical transmission lines, pipelines, roads. A freehold letter patent changes the ownership title of the land from Crown land to private land.

The Ministry of Natural Resources and Forestry for Cochrane District (2017) outlines the requirements for obtaining a land use permit for agriculture. In addition to the application form, an applicant must provide supporting documents that include a detailed map of the proposed land, a detailed site plan for the proposed development, a proposed time frame for development, rationale for the proposed land and development, a summary assessment of potential environmental impacts, and a business plan. The application form asks the applicant to choose a tenure type among licence of occupation, lease, easement, and purchase. In addition to sole proprietorship, individuals can apply as partners, joint tenants, or tenants in common. Applicants also must state the intended purpose for the land, the description and location of the parcel, including the lot number, concession, and size in hectares.

The map included in the supporting documents must be drawn to scale and clearly identify the proposed parcels of land. The site plan for the proposed development must be drawn to scale, including the proposed lots and permanent structures. The plan must indicate north and include all major features (roads, lakes, streams etc.), indicate the location, size, and purpose of all permanent and non-permanent structures. It also must indicate the location of areas to be cleared, areas for crops and livestock including, new roads and turn around areas, fencing/gating proposals, fuel storage facilities, and other site improvements

The proposed time frame for the development must include timelines for each milestone in the agricultural development, a timeline for the completion of financial arrangements, a

schedule for contacts with ministries, agencies or boards, a schedule for public consultation, and a timeline for obtaining the required licences or permits.

The rationale for securing access to the land needs to provide an explanation why the location is chosen. If the land is needed for the expansion of a current farm operation, the rationale needs to explain why the expansion is needed and it also must document the existing land holdings and the current land use. If the land is needed for a new operation, the rationale needs to explain why Crown land purchase is preferred over purchasing existing private land.

The summary of the potential environmental impacts of the agricultural development need to include assessments of impacts to the water bodies, nutrient management, a description of the current industrial extraction uses, and information on aggregate and mineral potential. A description of species at risk, a description of other uses by the public, and a Crown Land Use Policy Atlas (CLUPA) report also must be included.

The business plan must include a prefeasibility study, an estimate of the market demand for the farm product, a capital investment and financial summary detailing the costs and project financing, and liability insurance requirements. The plan also needs to describe the management skills of the applicant, as well as the existing farm operation (if applicable) and the development of the proposed operation in the next five years. Finally, potential benefits to wider community need to be discussed. This may include benefits to local businesses, First Nation communities, and local employment.

The application process, from the initial application to the approval of a successful land use permit application, generally takes one to two months (Filion, personal communication, May 3, 2017). Within this period, the MNRF conducts an internal environmental assessment and a First Nations consultation. The usual size of LUPs is 160 acres, but one applicant may obtain

multiple permits if the parcels are adjacent to each other. The LUPs are rent-to-own agreements issued for a period of five years. The permit holder pays a market-based rental rate. After five years, the permit holder may purchase the land at a market price, if he or she is actively farming on the land. Unfortunately, we were unsuccessful in obtaining data on rental rates or the extent to which this program has resulted in access to land, either for rental or for purchase. The response to our request for more detailed information on (1) the process involved in applying for 2000 acres of Crown land, (2) on numbers and sizes of agricultural land use permits issued in Cochrane District was first delayed. The MNR cited information release protocols as the reason for delay. We received no response when we followed up by phone and email. Due to the time limitations of this project, this was our last attempt to obtain data on the numbers of land use permits issued for agriculture in Cochrane District.

Land may also be available for municipal cottage development. The Ministry may also consider other potential municipal uses (i.e., industrial park.). So far, Elliot Lake, Pickle Lake, Ignace, Sioux Lookout and Coleman Township have acquired or are seeking land for cottage lot development. An overview of the Ontario cottage lot development program on Crown land is provided in Appendix 1.

## 5. Identifying Opportunities and Challenges for Access to Crown

### Land in the Clay Belt

Under the current policy regime in Ontario, land is being leased for agricultural purposes in the Clay Belt through a system of land use permits issued by the Ministry of Natural Resources and Forestry. Land can be purchased after five years of being managed under a land use permit. However, Filion (personal communication, May 3, 2017) indicated that the land use permits tend to be for cropping. The extent to which land for livestock production is accessed

thorough land use permits remains to be explored. One land use permit is issued for a 160-acre lot, but one person can obtain multiple land use permits for adjacent parcels. The rental rates, according to Filion (personal communication, May 3, 2017) are set using market values as a reference. Our research indicates that there are often parcels of vacant private land surrounded by Crown land. Our future research will seek to better understand the current extent to which Crown land in the Clay Belt is used for agriculture and the potential obstacles and opportunities for improved access.

The opportunities within the current system of land use permits would presumably involve obtaining grazing land use permits for 2,000 acres of Crown land. However, due to the data limitations described above, it is not clear how this process would look like. Presumably, the process would involve applying for 12 to 13 land use permits of adjacent 160-acre lots. The application process, which includes providing detailed maps, business and financial plans, environmental assessment, etc., may be lengthy and expensive for this number of permits. Identifying potential ways to negotiate processing the application as a single application rather than 12 or 13 applications may make the process more expedient.

The experiences of western provinces may be used for reforming the current system of land use permits in Ontario. The western provinces have a long history of transferable grazing leases for Crown land. Grazing leases are initially allocated through a scoring system that is used as a proxy for the likelihood that a new lease holder would maintain a profitable farm enterprise in the future. Our future research will explore the options for using the Crown land use policies of the western provinces as a guide for Ontario land use policies.



## 6. Conclusions

The purpose of this report was to provide an overview of Canadian and U.S. policies governing access to land for agricultural use and to identify potential obstacles and opportunities for access to Crown land for beef production in the Clay Belt. After conducting interviews with land tenure experts across Canada, assessing the relevant land use policies in other provinces and in Ontario, we identify a number of information challenges associated with the application for agricultural land use permits on Crown land in the Clay Belt. These challenges include information on the appropriate application process for agricultural land use permits. The costliness of this information is likely to constrain agricultural use in general and may constrain livestock farming in particular. The extent to which livestock farming is diminished depends on the advantages of livestock farming in the area versus other agricultural uses of the land and associated issues such as available plot size etc. In this regard, this report provides the necessary institutional background to support future research on both the agricultural sector and specific types of farming. There may be other administrative obstacles, but at this point we do not have sufficient information to draw conclusions on this. In addition, more research is needed to assess the economic feasibility of beef farming compared to alternative land uses including crop production, forestry, or other economic uses. Our preliminary analysis of net returns from forestry suggest that the present value of lost net returns for acre of forest land if land is converted to pasture may range from about \$1.6 per acre to about \$21 per acre. Our research proposal under the New Directions initiative includes a feasibility study for a 2000-acre beef operation along the lines suggested by the Beef Farmers of Ontario pilot project.

There are potentially two ways of improving access to Crown land in the Clay Belt. One way is to use the current land use permit application process. Making the permit application

process more transparent may reduce transaction costs involved in the process. Modifying the application process to accommodate larger plots (2,000 acres) and multiple adjacent plots may better facilitate the Beef Farmers of Ontario plan for a 60,000-acre pilot project.

#### References:

Alberta Agriculture and Forestry. 2016. Custom Rates 2015 - Land Leasing. Available at: [http://www1.agric.gov.ab.ca/\\$department/deptdocs.nsf/all/inf15313](http://www1.agric.gov.ab.ca/$department/deptdocs.nsf/all/inf15313)

Alberta Government. 2017a. Compensation Elements and Explanations. Available at: [http://www1.agric.gov.ab.ca/\\$department/deptdocs.nsf/all/ofa11758](http://www1.agric.gov.ab.ca/$department/deptdocs.nsf/all/ofa11758)

Alberta Government. 2017b. Rental Rates Summary Proposal. Available at: [www.wsga.ca/pdf/2017/Rental\\_Rates\\_Summary\\_Proposal.pdf](http://www.wsga.ca/pdf/2017/Rental_Rates_Summary_Proposal.pdf)

Alberta Grazing Leaseholder's Association. 2017. Frequently Asked Questions. Available at: <http://www.albertagrazinglease.ca/faqs.php>

Alberta Wilderness Association. 2017. Public Lands. Available at: <https://albertawilderness.ca/issues/wildlands/public-lands/>

Bank of Canada. 2017. Inflation Calculator. Available at: <http://www.bankofcanada.ca/rates/related/inflation-calculator/>

British Columbia Ministry of Forests, Lands and Natural Resource Operations. 2010. Crown Land Indicators and Statistics Report. Available at: <http://www2.gov.bc.ca/gov/content/industry/natural-resource-use/land-use/crown-land/crown-land-indicators-statistics-report>

Cahill, K. 2006. Who Owns the World. Available at: <http://www.whoownstheworld.com/canada/>

Calgary Herald. 2015. Financial Watchdog 'Flabbergasted' at Foregone Grazing Lease Dollars. Available at: <http://calgaryherald.com/news/politics/financial-watchdog-flabbergasted-at-foregone-grazing-lease-dollars>

Canada Department of Agriculture. 1965. Weather of the Growing Season in the Clay Belt. Canadian Agricultural Library. Available at: [http://publications.gc.ca/collections/collection\\_2015/aac-aafc/A43-1234-1965-eng.pdf](http://publications.gc.ca/collections/collection_2015/aac-aafc/A43-1234-1965-eng.pdf)

Canadian Forest Service. 2002. Fire History and Landscape Level Forest Dynamics in the Northern Ontario/Quebec Claybelt. Available at: <https://cfs.nrcan.gc.ca/publications?id=20954>

Faculty of Forestry and the Forest Environment. Available at:  
<http://flash.lakeheadu.ca/~fluckai/webpage.html#A>

Genries, Aurélie, Walter Finsinger, Hans Asnong, Yves Bergeron, Christopher Carcaillet, Michelle Garneau, Christelle Hély, and Adam A. Ali. "Local versus regional processes: can soil characteristics overcome climate and fire regimes by modifying vegetation trajectories?." *Journal of Quaternary Science* 27, no. 7 (2012): 745-756.

Government of British Columbia. 2005. Requirements Checklist Grazing – Replacement Application. Available at: [http://www2.gov.bc.ca/assets/gov/farming-natural-resources-and-industry/natural-resource-use/land-water-use/crown-land/lwbc\\_cl.pdf](http://www2.gov.bc.ca/assets/gov/farming-natural-resources-and-industry/natural-resource-use/land-water-use/crown-land/lwbc_cl.pdf)

Government of British Columbia. 2017a. Land Use – Grazing. Available at:  
<http://www2.gov.bc.ca/gov/content/industry/natural-resource-use/land-use/crown-land/crown-land-uses/agriculture/grazing>

Government of British Columbia. 2017c. 2017 Crown Range Rents and Fees - Grazing and Haycutting Licence or Permit. Available at:  
<http://www.frontcounterbc.gov.bc.ca/guides/crown-land/crown-land-tenure/start/>  
<https://www.for.gov.bc.ca/hra/legislation/index.htm>

Government of Manitoba. 2016. Farm Software and Worksheets.  
[https://www.gov.mb.ca/agriculture/business-and-economics/financial-management/pubs/calculator\\_pasturelease.xls](https://www.gov.mb.ca/agriculture/business-and-economics/financial-management/pubs/calculator_pasturelease.xls)

Government of Manitoba. 2017. Agricultural Crown Lands Leasing Program. Available at.  
<https://www.gov.mb.ca/agriculture/land/crown-land/leasing-program.html>

Government of Ontario. 2017a. Species at risk in the Cochrane region. Available at:  
<https://www.ontario.ca/environment-and-energy/species-risk-region?name=Cochrane>

Government of Ontario. 2017b. Ontario First Nations Maps. Available at:  
<https://www.ontario.ca/page/ontario-first-nations-maps#section-0>

Government of Ontario. 2017c. Ontario Geological Survey. Available at: [www.mndm.gov.on.ca/](http://www.mndm.gov.on.ca/)

Government of Ontario. 2017d. Ontario Crown Timber Charges (Stumpage). Available at:  
[https://files.ontario.ca/opendata/stumpage\\_20162017\\_period\\_08.xlsx](https://files.ontario.ca/opendata/stumpage_20162017_period_08.xlsx)

Government of Saskatchewan. 2001. Crown land rental rates announced. Available at:  
<http://www.saskatchewan.ca/government/news-and-media/2001/march/23/crown-land-rental-rates-announced>

- Government of Saskatchewan. 2016. How to lease agricultural Crown Land. Available at:  
<https://www.saskatchewan.ca/business/agriculture-natural-resources-and-industry/agribusiness-farmers-and-ranchers/crown-lands/lease-crown-land>
- Government of Saskatchewan. 2017a. Crown Resource Land Sale Opportunities. Available at:  
[www.environment.gov.sk.ca/crownland](http://www.environment.gov.sk.ca/crownland)
- Government of Saskatchewan. 2017b. Crown Lands in Saskatchewan. Available at:  
<https://www.saskatchewan.ca/business/agriculture-natural-resources-and-industry/agribusiness-farmers-and-ranchers/crown-lands>
- Government of Saskatchewan. 2017c. Crown Land Sales. Available at:  
<http://www.environment.gov.sk.ca/Default.aspx?DN=73c8ef9b-8ee3-4fff-b281-000f134bbb1d>
- Henry Cummings and Associates Inc. 2009. Cochrane District Agricultural Economic Impact Study. Available at:  
<https://www.google.ca/url?sa=t&rct=j&q=&esrc=s&source=web&cd=1&cad=rja&uact=8&ved=0ahUKEwiqtorzqu3SAhVC32MKHa9KBsAQFggaMAA&url=http%3A%2F%2Fhcaconsulting.ca%2Fpdfs%2F2009%2520Cochrane%2520District%2520Agri%2520Economic%2520Impact.pdf&usg=AFQjCNGUHdiHMtePY0BD-pZLQ4ctyXJbFA&sig2=yhWUPSxfgVmXjNUusomHGA>
- Luckai, F. 2000. Forest Measurements Field Manual. Lakehead University
- Ministère de l'Énergie et des Ressources naturelles de Québec. 2012. Making a request. Available at: <https://mern.gouv.qc.ca/english/territory/land/land-request.jsp>
- National Agricultural Law Center. 2017. Agricultural Leases: An Overview. Available at:  
<http://nationalaglawcenter.org/overview/agleases/>
- Neimanis, V. P. 2017. Crown Land. The Canadian Encyclopedia: Geography. Historical Foundation of Canada. Available at:  
<http://www.thecanadianencyclopedia.com/en/article/crown-land/>
- Ontario AgriCentre. 2016. EBR Registry 012-7458 Discussion Paper for Developing an Agriculture, Aquaculture and Food Processing Sector Strategy for Northern Ontario. Available At: <http://www.omafra.gov.on.ca/english/policy/northernagrifoodpaper.htm>
- OMAFRA. 2016. Northern Ontario Agriculture, Aquaculture and Food Processing Sector Strategy - Discussion Paper. Available at:  
<http://www.omafra.gov.on.ca/english/policy/northernagrifoodpaper.htm>
- OMAFRA. 2017. Northern Ontario Agriculture Facts and Figures in Brief. Available at:  
[http://www.omafra.gov.on.ca/english/livestock/beef/news/info\\_vbn0713a4.htm](http://www.omafra.gov.on.ca/english/livestock/beef/news/info_vbn0713a4.htm)

- O'Malley, S., Entem, A., Kaplinsky, E., and Adamowicz, W. L. 2016. Alternative models of compensation on Alberta's crown grazing lease lands. Alberta Land Institute, University of Alberta
- Ontario Ministry of Finance. 2016. Map of Ontario Census Divisions. Available at: <http://www.fin.gov.on.ca/en/economy/demographics/projections/>
- Ontario Ministry of Natural Resources. 1993. Strategic Directions for Management of Ontario Crown Land. Available at: [http://files.ontario.ca/environment-and-energy/crown-land/mnr\\_e000072.pdf](http://files.ontario.ca/environment-and-energy/crown-land/mnr_e000072.pdf)
- Point2Homes. 2017. Cochrane Vacant Land for Sale <http://www.point2homes.com/CA/Land-For-Sale/ON/Cochrane.html>
- Prince Albert Model Forest Association. 1994. Forest Growth and Yield Information and Knowledge. Available at: [https://www.google.ca/url?sa=t&rct=j&q=&esrc=s&source=web&cd=9&ved=0ahUKEwiHsIytiO3RAhVB\\_4MKHVrjBJoQFghEMAg&url=http%3A%2F%2Fwww.pamodelforest.sk.ca%2Fpubs%2FPAMF2900.pdf&usg=AFQjCNHD84aZttVivIoc4meN6wdfGIS\\_sA&sig2=r6Xsm7O2GYUEsOnOEBi7ig&cad=rja](https://www.google.ca/url?sa=t&rct=j&q=&esrc=s&source=web&cd=9&ved=0ahUKEwiHsIytiO3RAhVB_4MKHVrjBJoQFghEMAg&url=http%3A%2F%2Fwww.pamodelforest.sk.ca%2Fpubs%2FPAMF2900.pdf&usg=AFQjCNHD84aZttVivIoc4meN6wdfGIS_sA&sig2=r6Xsm7O2GYUEsOnOEBi7ig&cad=rja)
- Prospectors and Developers association of Canada. 2006. P.E.I. Protected Areas Lands and Regulations Issues & Advocacy. <http://www.pdac.ca/docs/default-source/public-affairs/protected-areas---p-e-i-.pdf?sfvrsn=5>
- Quebec Ministry of Natural Resources and Energy. 2012. Land Rentals and Other Rights. Available at: <http://mern.gouv.qc.ca/english/territory/land/land-draw.jsp>
- Rajsic, P., G. Fox and E. Ramlal. 2012. "Canadian Agricultural Environmental Policy". In Brouwer F., G. Fox and R. Jongeneel (Eds.), *The Economics of Regulation in Agriculture: Compliance with Public and Private Standards*. Wallingford, UK: CABI Publishing.
- Rajsic P. and G. Fox. 2016. Environmental Externalities, Comparative Advantage and the Location of Production: An Application to the Canadian Dairy Industry. *Canadian Journal of Agricultural Economics*, 64(2) 311 -337. DOI: 10.1111/cjag.12076
- Ritchie Bros. Auctioneers. 2017. Available at: <https://www.rbauction.com/heavy-equipment-auctions/real-estate/eureka-river-ab-2017639-2>
- Saskatchewan Ministry of Agricultural Land Lease Survey. 2016. Available at: <https://www.publications.gov.sk.ca%2Fredirect.cfm%3Fp%3D84620%26i%3D98009&usg=AFQjCNHHbSuGyBslaBFggapaojnSuv1Jug&sig2=X9zNvJUXgFI42ADff9W0Dw>
- Saskatchewan Cattlemen's Association. 2017. Saskatchewan Community Pasture Grazing Rates. Available At: <http://www.saskbeef.com/news--views/saskatchewan-community-pasture-grazing-rates>

Saskatchewan Forage Council. 2015. Forage Market Price Discovery – Saskatchewan. Available at: <http://saskforage.ca/images/pdfs/Publications/FORAGE%20MARKET%20REPORT-Fall%202015.pdf>

Sepaq. 2017. Random Draw of Private Vacation Lots. [http://www.sepaq.com/tirages/terrain\\_villegiature/modalites.dot](http://www.sepaq.com/tirages/terrain_villegiature/modalites.dot)

Temiskaming and Northern Ontario Railway Commission. 1912. The Great Clay Belt of Northern Ontario. Available at: <https://archive.org/stream/greatclaybeltofn00temi#page/n0/mode/2up>

United States Department of Agriculture (USDA). 2017. How Is Land in the United States Used? A Focus on Agricultural Land. Available at: <https://www.ers.usda.gov/amber-waves/2012/march/data-feature-how-is-land-used/>

Washington Department of Natural Resources. 2017. Leasing State Trust Lands for Agriculture and Grazing. Available at: <http://www.dnr.wa.gov/agriculture>

Table 1. Species at Risk in the Clay Belt Area

Specie <sup>15</sup>	Status
Birds	
Bald Eagle	Special Concern <sup>16</sup>
Black Tern	Special Concern
Yellow Rail	Special Concern
Mammals	
Caribou	Threatened <sup>17</sup>
Turtles	
Northern map turtle	Special Concern

<sup>15</sup> The website lists eight species for the Cochrane Area but, per the available maps, only the species listed in the table are present in the broader Clay Belt area.

<sup>16</sup> Special Concern means the species lives in the wild in Ontario, is not endangered or threatened, but may become threatened or endangered due to a combination of biological characteristics and identified threats.

<sup>17</sup> Threatened means the species lives in the wild in Ontario, is not endangered, but is likely to become endangered if steps are not taken to address factors threatening it.”

Table 2. Vacant Land Listings at <http://www.point2homes.com> on April 25, 2017

Town	Location	Area (ac)	Price	\$/ac
Cochrane	About 20 minutes north of Cochrane	73	\$59,000	\$808
Fauquier	Fauquier (Moonbeam) Township, Cochrane Distric	58	\$26,660	\$460
Timmins	40 miles (63.5 kilometers) from the City of Timmins	80	34,900	\$436
Moonbeam	5 km from Kapuskasing	77	\$59,000	\$766
North Cochrane	Villagedale Road	38	\$30,000	\$789
North Cochrane	On Highway 17 and overlooking the Mississagi Rive	250	\$60,000	\$240
Average		110	\$85,892	\$682





Table 3. Estimate Present Value of Foregone Stumpage Fees<sup>18</sup> for Rotation Lengths for Different Classes<sup>19</sup> of Spruce and Jack Pine

Forest Class	Rotation Length (Years)	Spruce			Jack Pine			
		Marketable Volume (m <sup>3</sup> /ac)	Stumpage Fee (\$/ac)	PV of Stumpage Fee (\$/ac)	Rotation Length	Marketable Volume (m <sup>3</sup> /ha)	Stumpage Fee (\$/ha)	PV of Stumpage Fee (\$/ha)
Class 1a	100	159	\$1,155	\$8.8				
	130	176	\$1,279	\$2.3				
Class 1	100	96	\$701	\$5.3	100	102	\$740	\$5.6
	130	117	\$852	\$1.5				
Class 2	100	59	\$430	\$3.3	100	83	\$601	\$4.6
	130	81	\$592	\$1.0				
Class 2	100	30	\$218	\$1.7	100	61	\$445	\$3.4
	130	50	\$365	\$0.6				

<sup>18</sup> The opportunity cost of using forested land for grazing may also be impacted by the costs of getting cleared forest land ready for grazing. On the other hand, regeneration costs would be avoided if cleared land were to be used for agriculture.

<sup>19</sup> Different classes refer to timber yield volume. Class 1a is the highest-yielding class and class 2 is the lowest-yielding class.

Table 4. Most Recent Available Estimates of Shares of Provincial Land Areas Held as Provincial and Federal Crown Land and Private Land

	British Columbia	Alberta	Saskatchewan	Manitoba	Ontario	Quebec	New Brunswick	Nova Scotia	Prince Edward Island	Newfoundland
Provincial - Percentage of Land Area (%)	94	63	60	78	88	92	43	30	9.6	95
Federal - Percentage of Land Area (%)	1	10			5.1	0.2			0.3 <sup>20</sup>	
Private <sup>21</sup> - Percentage of Land Area (%)	5	27			6.9	7.8			90	
Total Land Area (million ha)	88.7	40.6	34.2	42.5	78.4	124.8	3.0	1.6	0.07	35.3

Sources: British Columbia Ministry of Forests, Lands and Natural Resource Operations (2010); Alberta Wilderness Association (2017); Cahill (2006); Prospectors and Developers association of Canada (2008); Neimanis (2017)

<sup>20</sup> There is one national park 2,150 in size.

<sup>21</sup> This includes treaty settlement areas.

Table 5. Characteristics of Land Tenure Arrangements in Ontario for Crown Land for Agricultural Purposes?

	Land use permit	Licence of occupation	Lease	Easement	Freehold letters patent
Maximum duration of the right to use the land	10	20	20 or more	20 or more	No limit
Rights limited to a specific activity or a purpose	Yes <sup>22</sup>	Yes <sup>1</sup>	No <sup>1</sup>	Yes	No
Extensive and/or valuable improvements allowed	No	No	Yes	Yes	Yes
Can be used as loan security or collateral	No	Yes	Yes	Not Reported	Yes
Transferable	No	Yes <sup>2</sup>	Yes <sup>2</sup>	Yes <sup>23</sup>	Yes
Renewal Possible	No	No	Yes	Not Reported	NA
Survey Required	No	No	Yes	Yes	Yes

Source: Ontario Ministry of Natural Resources and Forestry (2017)

<sup>22</sup> No future financial or environmental liability is anticipated as a result of the intended land use

<sup>23</sup> Ministry approval required

Table 6. Interprovincial Comparison of Crown Land Disposition Mechanisms for Grazing

	Ministry Administering Disposition of Crown Land	Typical Tenure Option for Grazing on Crown Land	Initial Lease/LUP Allocation Mechanism	Lease (LUP) - to-Buy Option	Direct Purchase Option	Grazing Lease Length (years)	Rental Rate Determination Process	Crown Rental Rates (\$/Acre)	Market Rental Rates (\$/acre)	Lease Transfer Mechanism
British Columbia	Ministry of Forests and Range	Lease	Scoring system	Yes	Yes	20	Formula <sup>24</sup>	1.2 <sup>25</sup>	30	Scoring System
Alberta	Alberta Environment and Parks	Lease	Existing lease auction <sup>26</sup>	Yes	No	20	Formula	0.51 <sup>27</sup>	6.45 <sup>28</sup>	Open Auction <sup>29</sup>
Saskatchewan	Ministry of Agriculture	Lease	Scoring system	Yes	Yes <sup>30</sup>		Formula <sup>31</sup>	2.86 <sup>32</sup>	45	Scoring System
Manitoba	Manitoba Agriculture, Food and Rural Initiatives	Lease	Scoring System <sup>33</sup>	Yes	Yes	50	Formula <sup>34</sup>	Not Reported	23	Scoring system

<sup>24</sup> The rental rates are the higher of the following two options: (1) 1% of the value of the land as established by the B.C. Assessment Authority; (2) forage fee, which is calculated using a formula that takes into account the price of livestock and pasture productivity

<sup>25</sup> The grazing fee for a grazing land use permit is \$4 per animal unit month. This may be different from the value calculated using the rent formula for leased Crown land, but we add it here for reference. We assumed 0.3 animal unit month per acre using the Alberta estimate reported by O'Malley et al. (2016)

<sup>26</sup> No new leases are currently offered.

<sup>27</sup> The rental rate was calculated as a simple average of \$0.32 per acre and \$0.7 per acre as reported by O'Malley et al. (2016)

<sup>28</sup> This number was calculated as an average of \$18 per animal unit month and \$25 per animal unit month multiplied with 0.3 animal unit month per acre.

<sup>29</sup> Lease holders can opt to transfer the lease to a family member, provided that the transfer is approved by Alberta Environment and Parks.

<sup>30</sup> Subject to the right of first refusal by the current lease holders.

<sup>31</sup> Annual rents are based on a formula that takes into account (1) grazing capacity of the land, (2) average weight gain of cattle in grass, and (3) average price of cattle, adjusted by a zonal royalty

<sup>32</sup> The per acre rate was calculated by multiplying the per animal unit month rate of \$7.17/animal unit month by 0.4 animal unit months/acre.

<sup>33</sup> No new leases are currently offered. New applicants can apply for nonrenewed expired leases.

<sup>34</sup> Rental per lease = A x B

A is the number of animal unit months that the lease is capable of producing in an average year.

B, the market cost, is the average cost of renting a private pasture of land in the aspen parkland regions of Manitoba. It is expressed in dollars per animal unit month determined by a triennial survey and adjusted by deducting the additional cost of using the leased lands that is not incurred by renters of private pasture land.

Ontario	Ministry of Natural Resources and Forestry	Land Use Permit (LUP) <sup>35</sup>	Scoring System <sup>36</sup>	Yes	No	5	Formula <sup>37</sup>	Not Reported	Not Reported	Not reported
Quebec	Ministère de l'Énergie et des Ressources naturelles	Purchase	Random Draw <sup>38</sup>	Yes	Yes	Not reported	Formula <sup>39</sup>	Not Reported	Not Reported	Not reported

<sup>35</sup> The MNRF offers an option to lease land for agricultural use as a land use permit for five years, after which a land use permit holder has an option to purchase. Filion (personal communication, May 3, 2017) reports that applications for land use permits tend to be for growing grains and commercial oilseeds.

<sup>36</sup> Usually, there is only one applicant for a given parcel, so the requirement is that the applicant meets the application criteria. There is not ranking of applicants based on a scoring algorithm.

<sup>37</sup> Filion (personal communication, May 2017) reports that Crown rental rates are based on market rates, but the details of how market rates are used to determine Crown rental rates are not reported.

<sup>38</sup> Ministère de l'Énergie et des Ressources naturelles de Quebec (2012) reports that public land used for vacation purposes is allocated using a random draw.

<sup>39</sup> The annual cost for renting a lot is currently 6% of the value of the lot (Ministère de l'Énergie et des Ressources naturelles de Quebec. 2012).

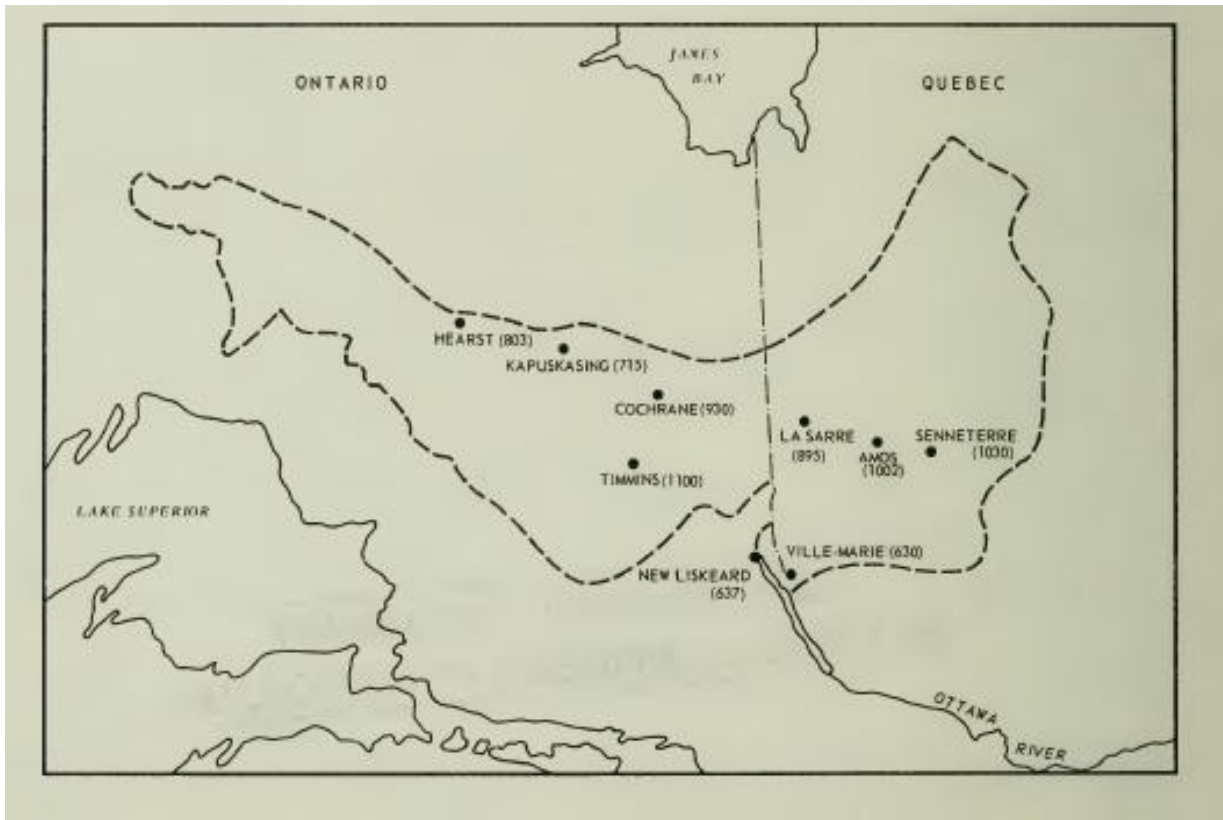


Figure 1. The Clay Belt  
Source: Canada Department of Agriculture (1965)

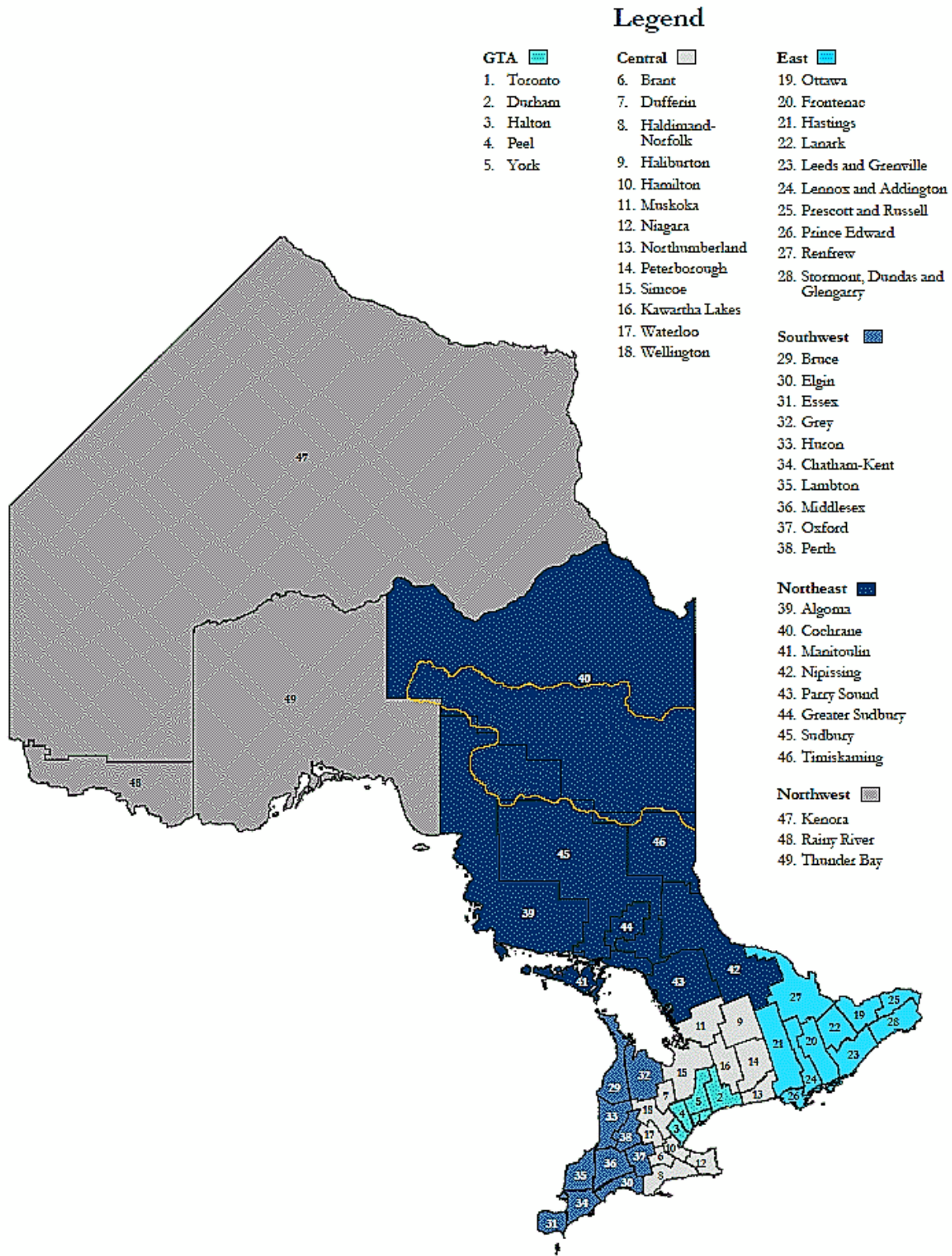


Figure 2. Ontario Census Divisions and the Location of the Clay Belt  
 Sources: Ontario Ministry of Finance (2016); Genries *et al.* (2012)

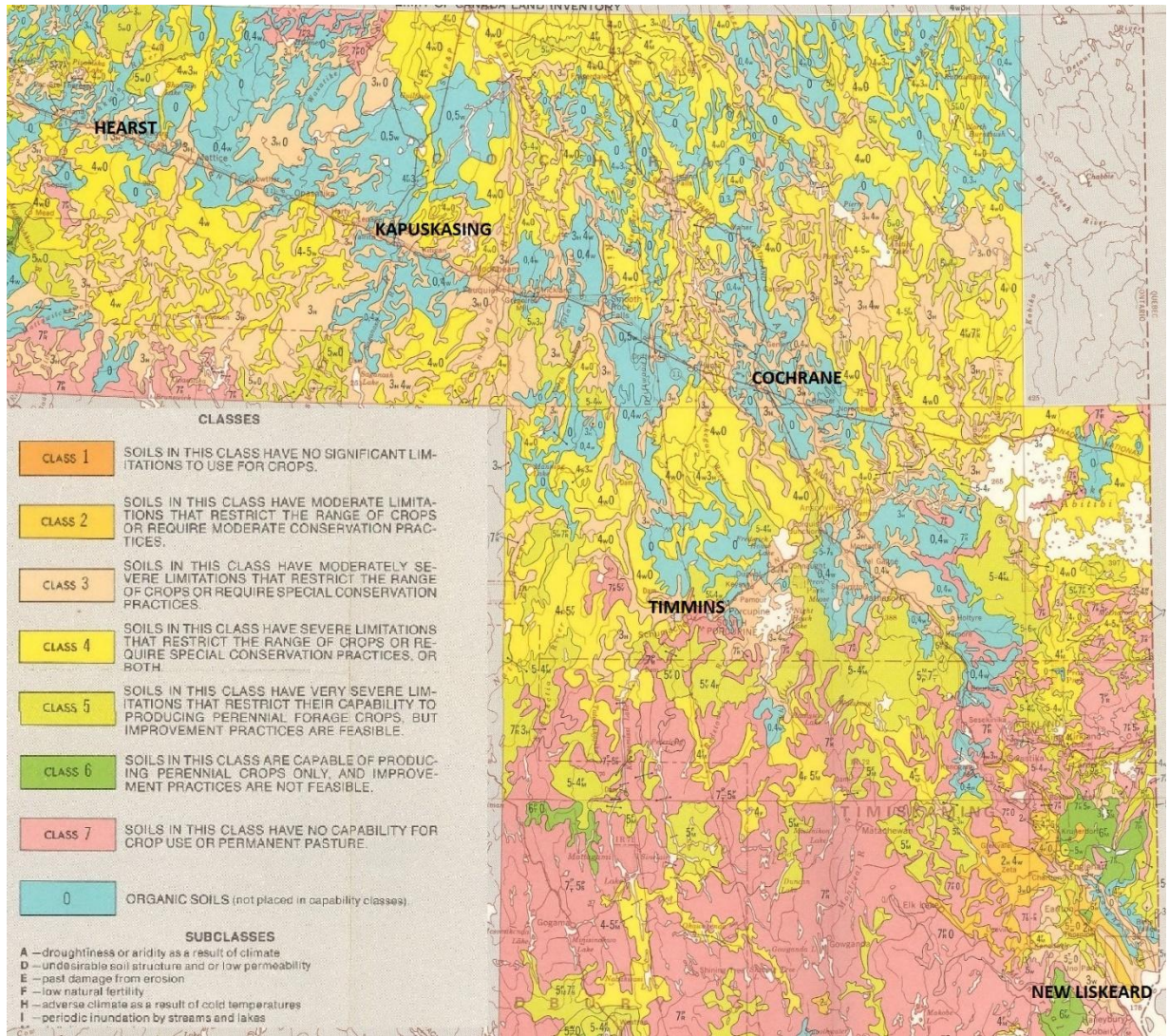


Figure 3. Soil Map of the Clay Belt



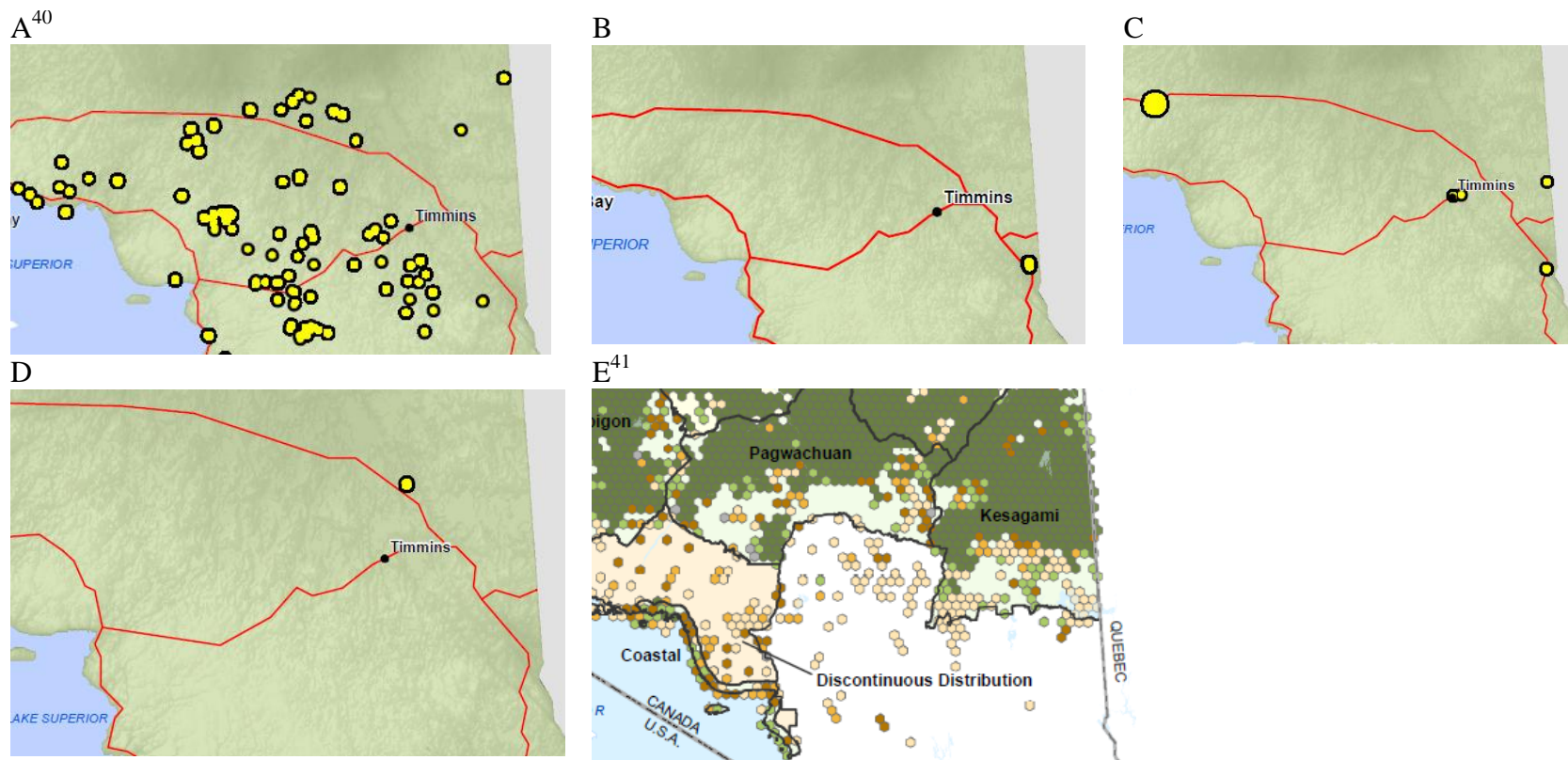


Figure 4. Location of species at risk in the Clay Belt area  
 Source: Government of Ontario (2017a)

<sup>40</sup> A – Bald Eagle, B – Yellow Rail, C – Black Tern, D – Northern Map Turtle, E – Caribou

<sup>41</sup> Different colours on map E represent different time periods in which caribou was present at different locations. Dark-green represents 2010 to present.

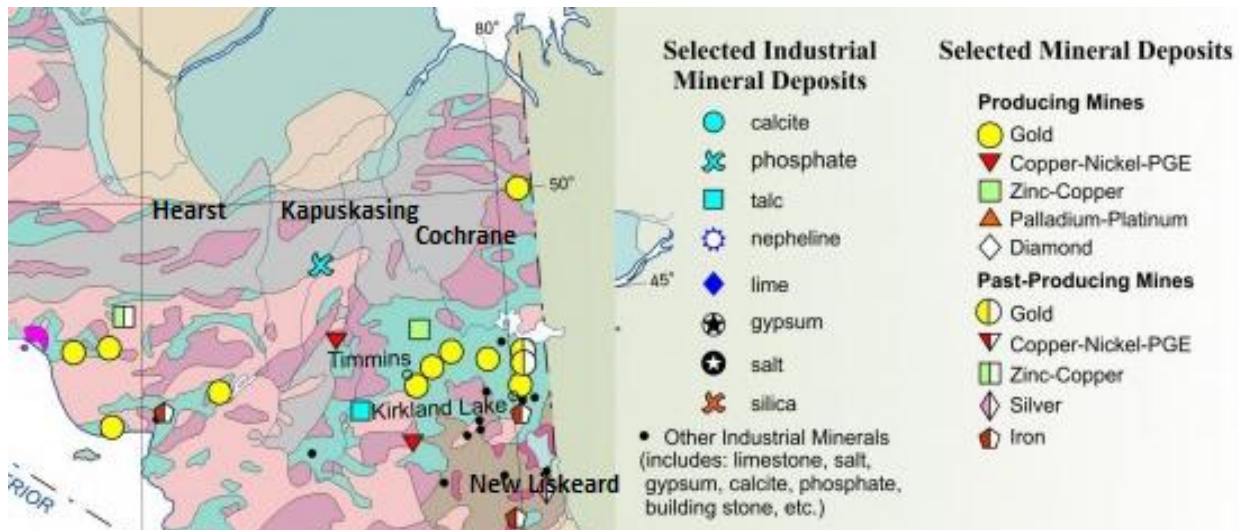


Figure 5. Mineral Deposits in the Clay Belt area  
 Source: Government of Ontario (2017c)

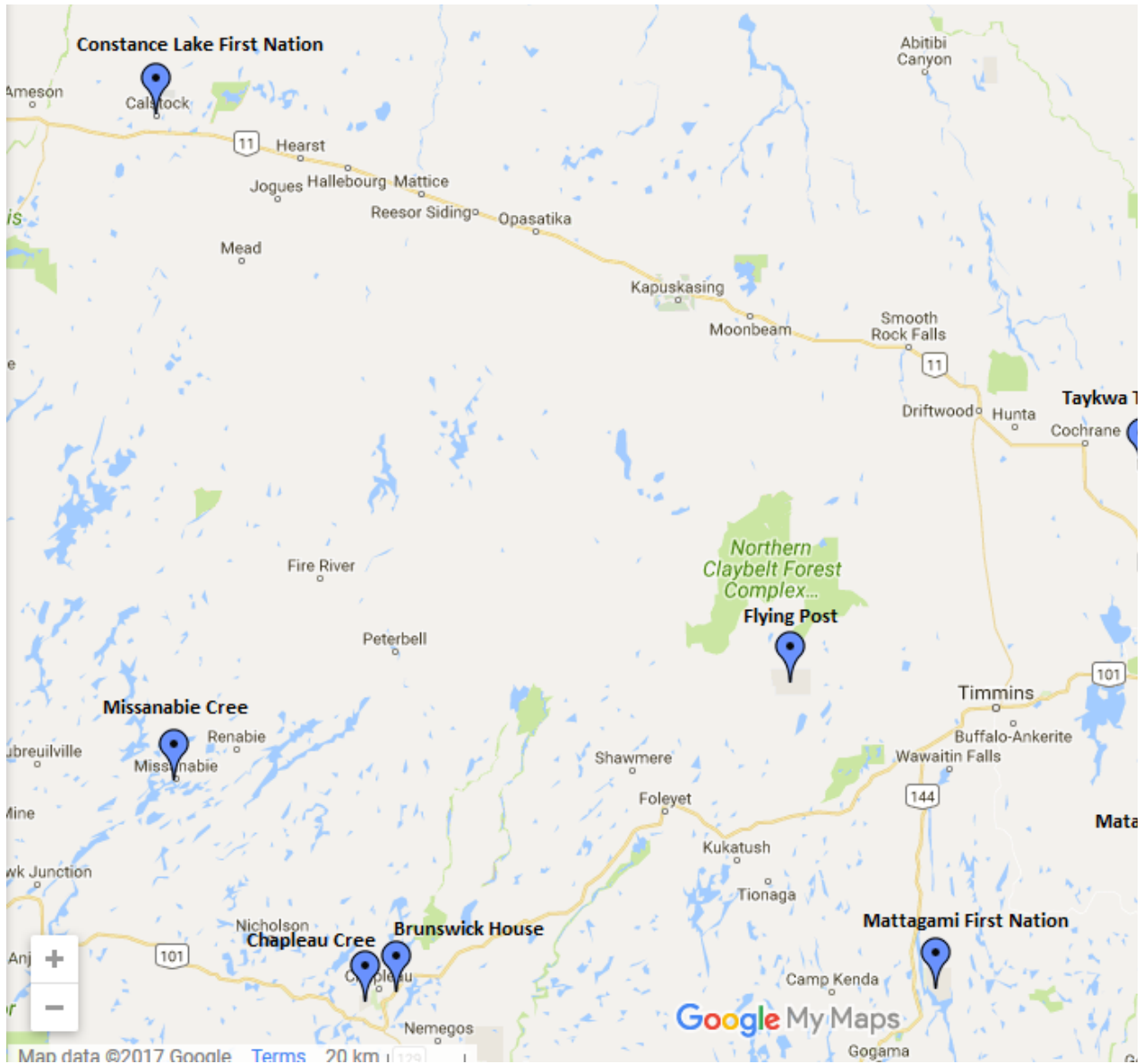


Figure 6. Locations of First Nations in the Clay Belt area

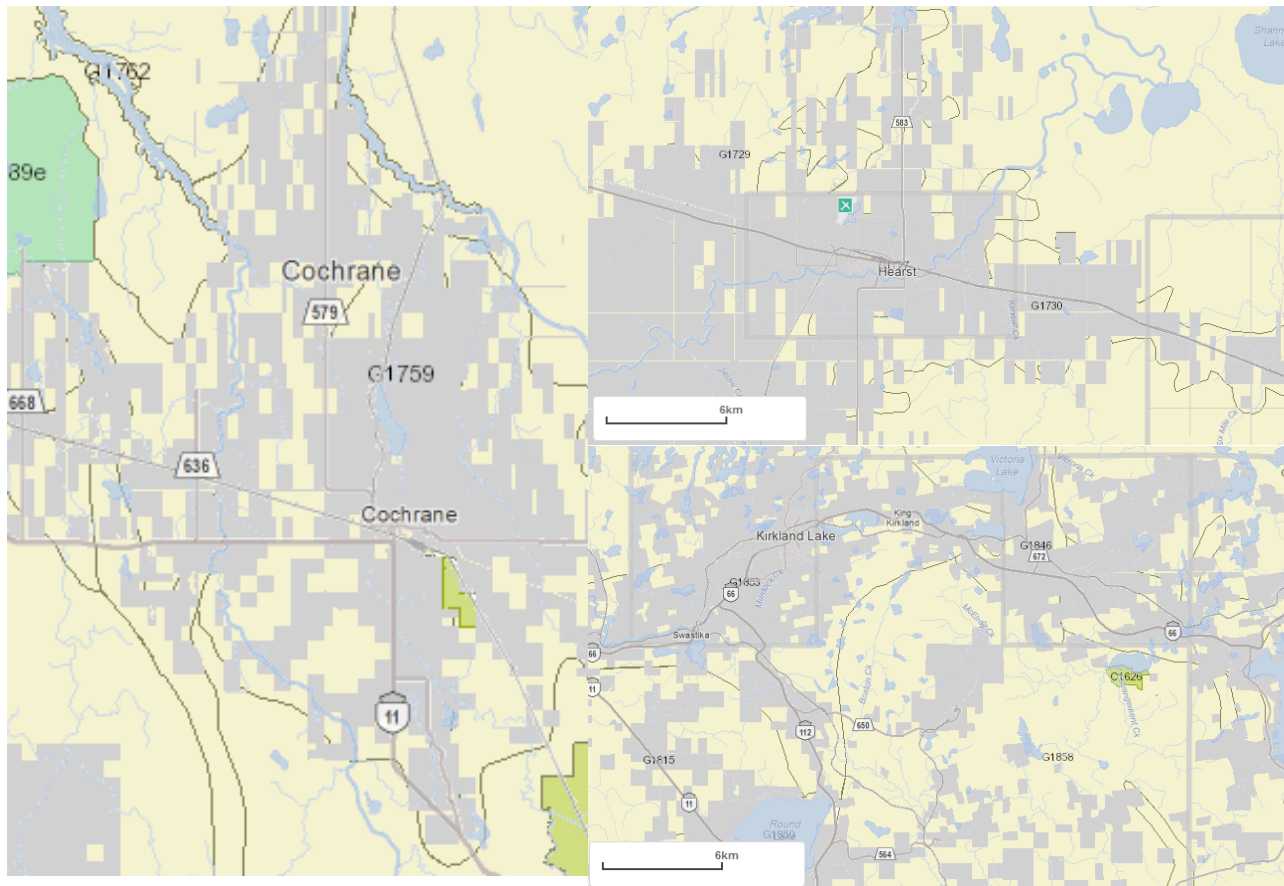


Figure 7. Land tenure patterns in Cochrane, Hearst and Kirkland Lake  
 Source: Ministry of Natural Resources and Forestry (2017)

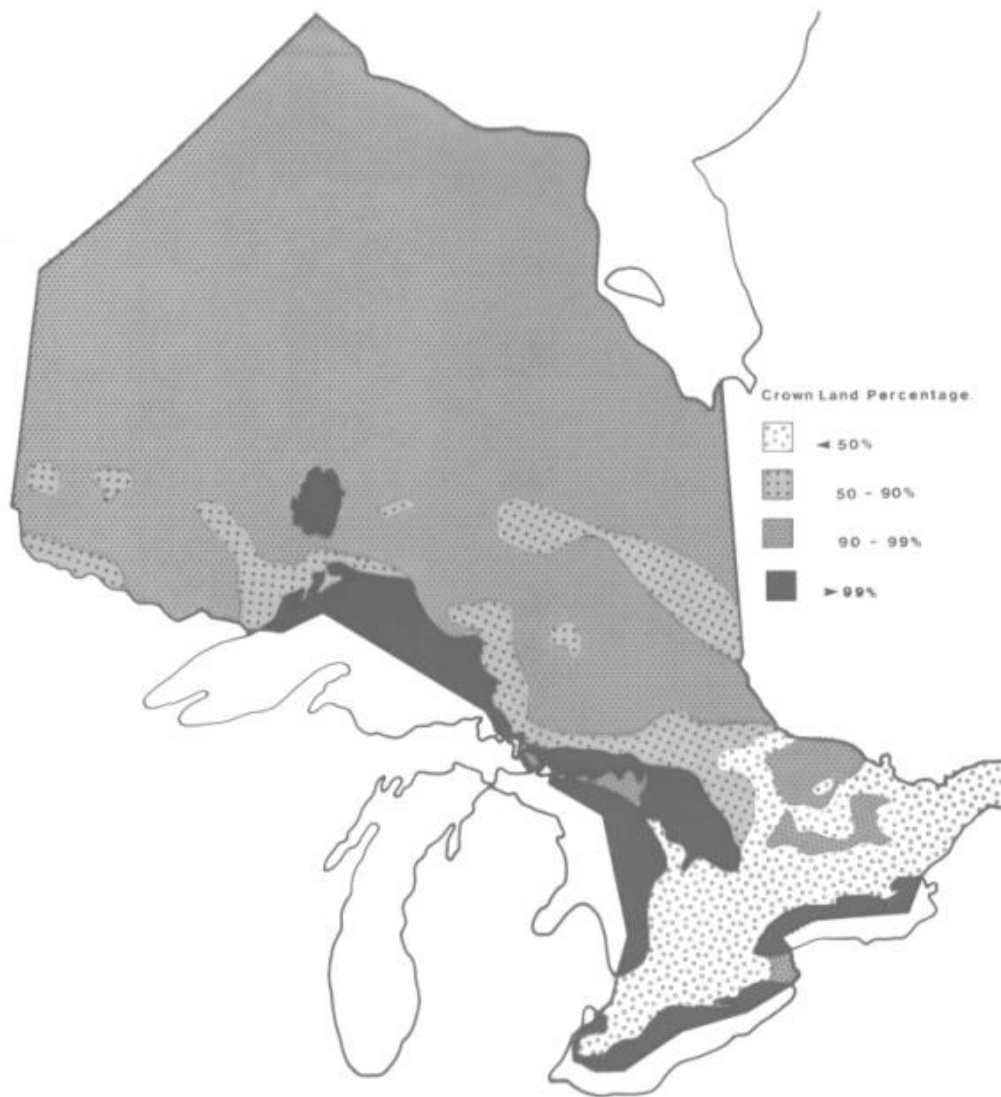


Figure 8. Crown Land as Percentage of All Land in Ontario  
 Source: Ministry of Natural Resources (1993)

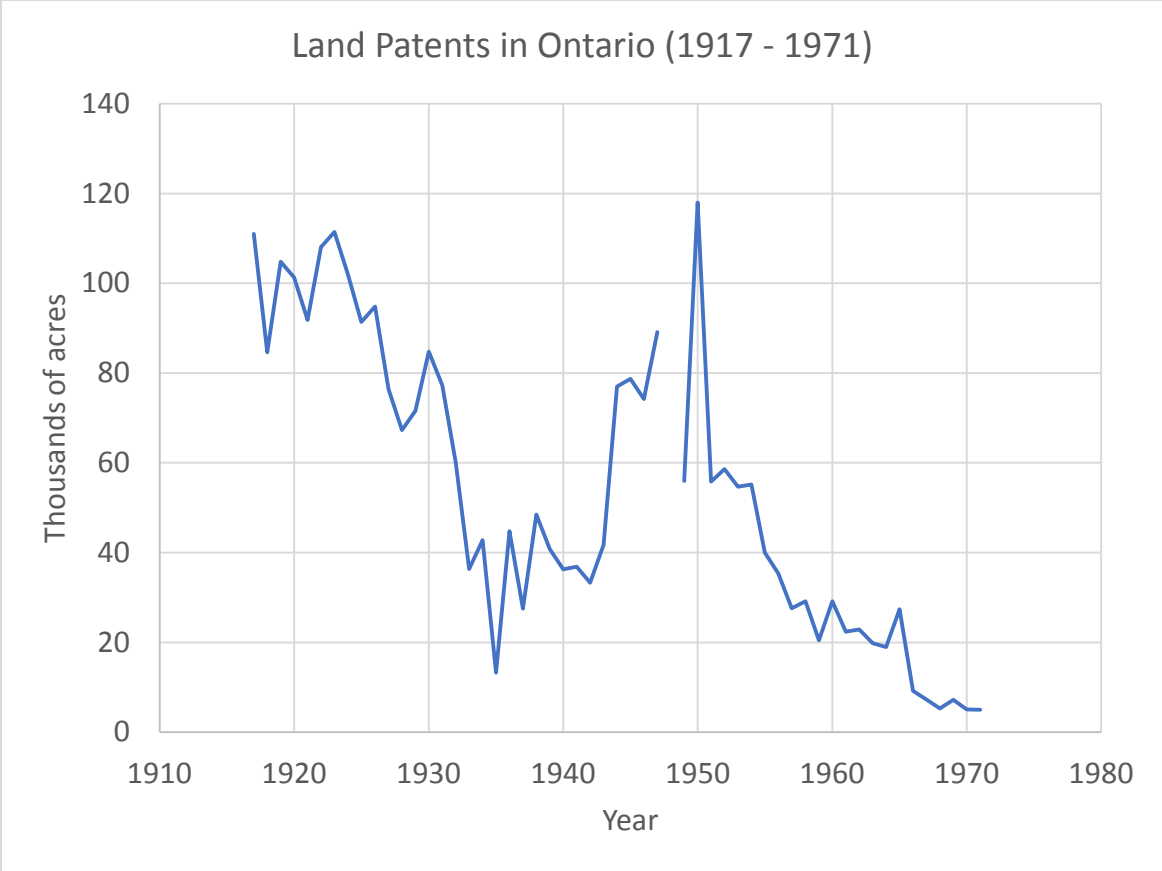


Figure 9. Land patents in Ontario (1917 – 1971)

Source: Statistics Canada (2014)

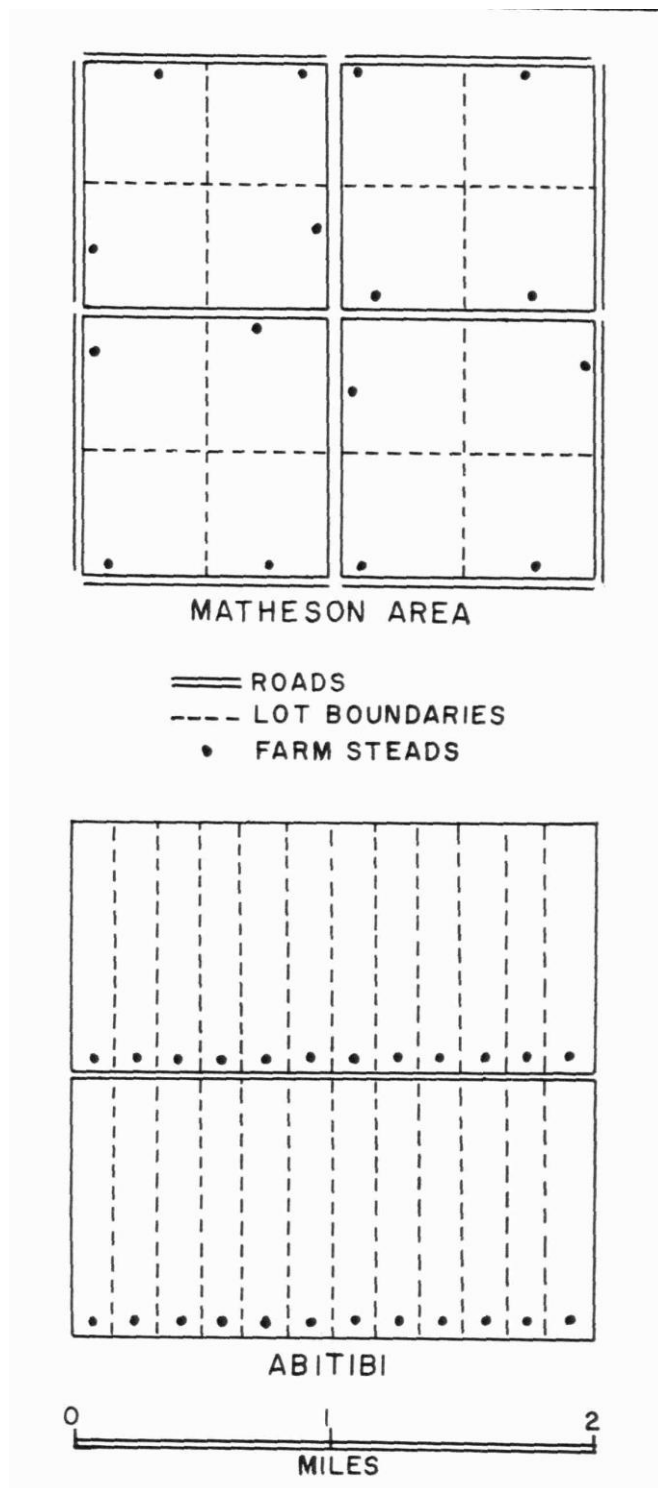


Figure 10. Comparison of the Clay Belt settlement patterns in Ontario (Matheson) and Quebec (Abitibi)

Source: McDermott (1961)

# Federal Lands in the United States

Source: US General Services Administration

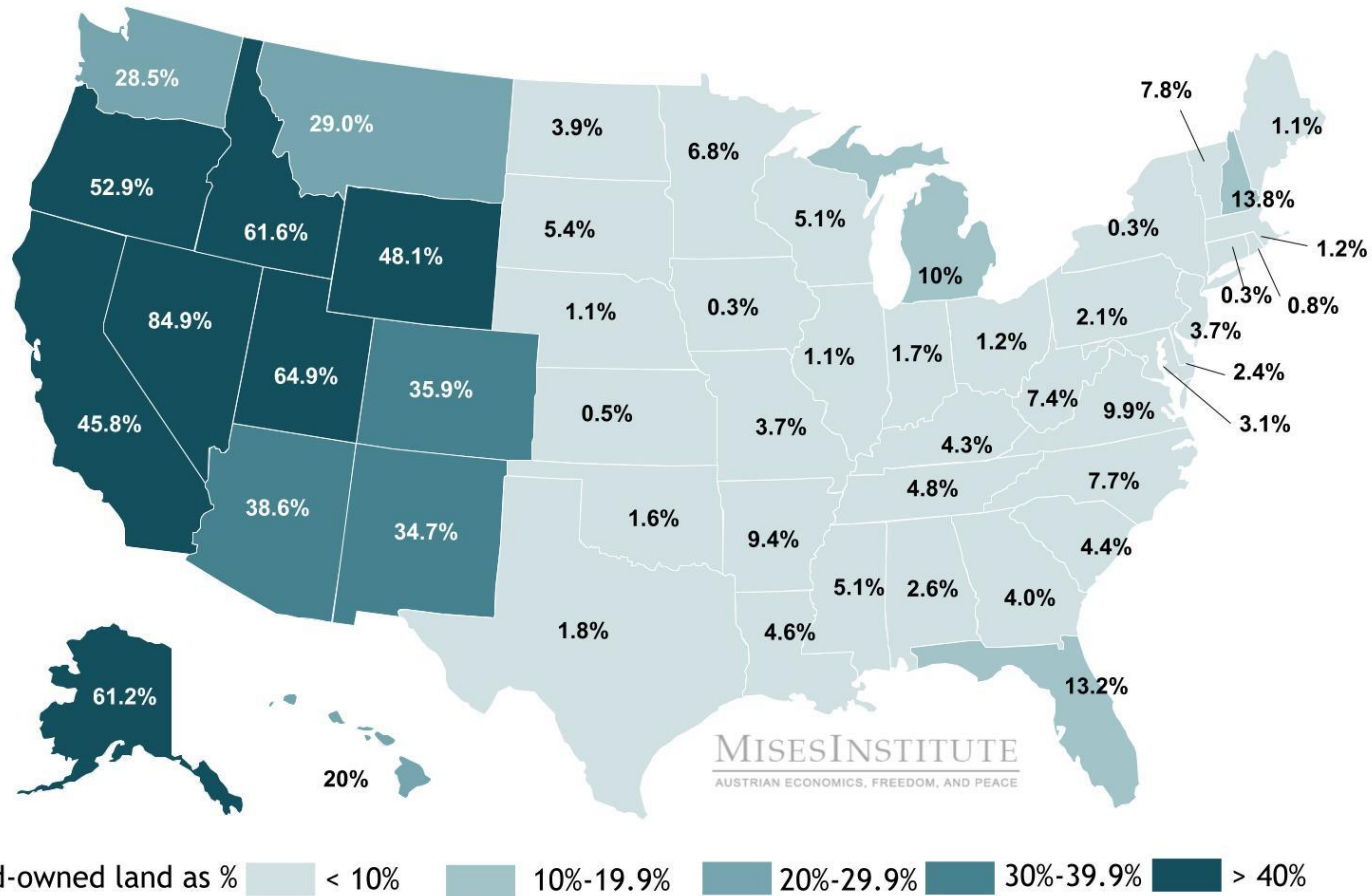


Figure 11. Percentage of land held as federal land by state in the U.S.  
Source; McMaken (2016)



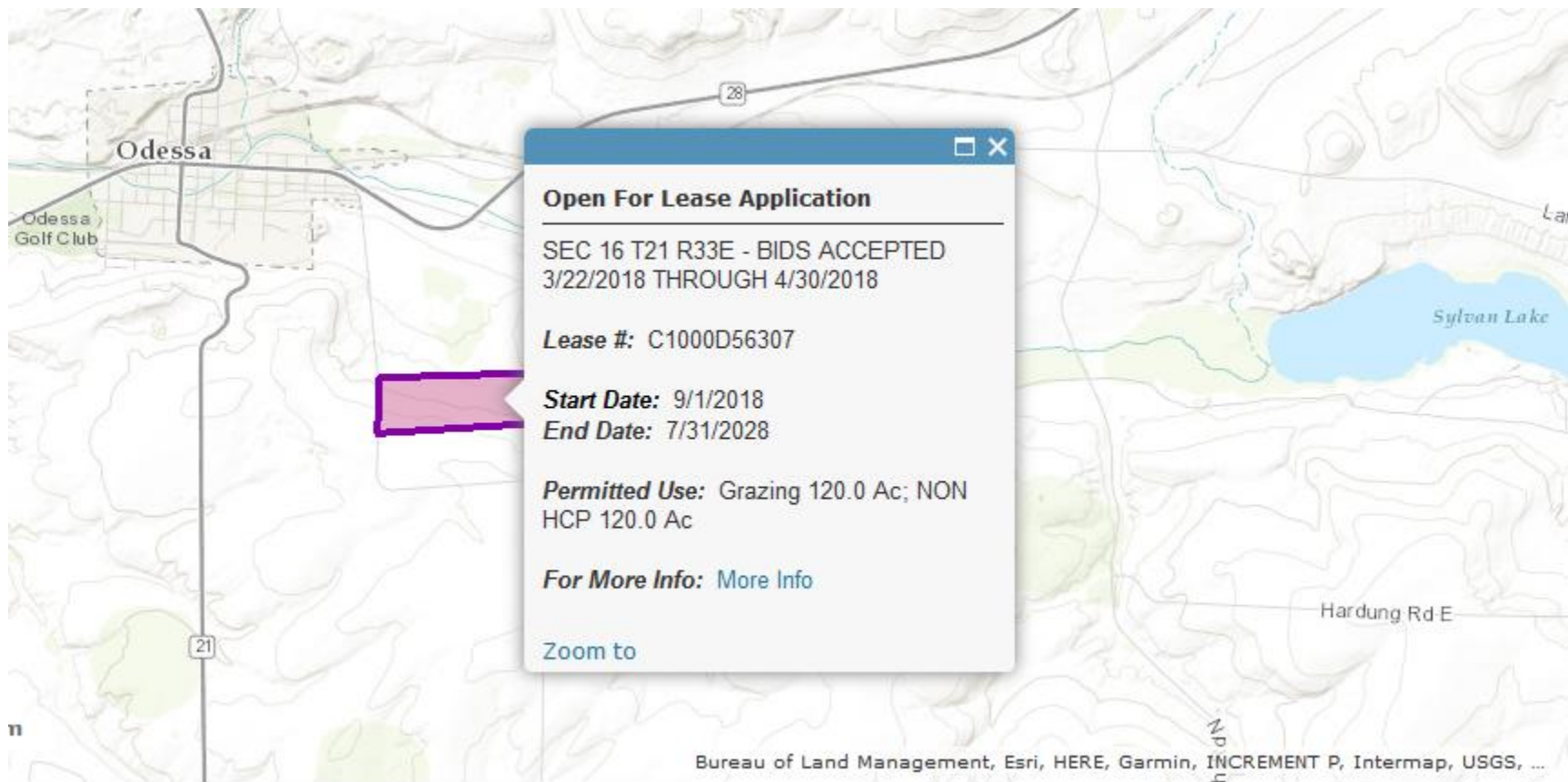
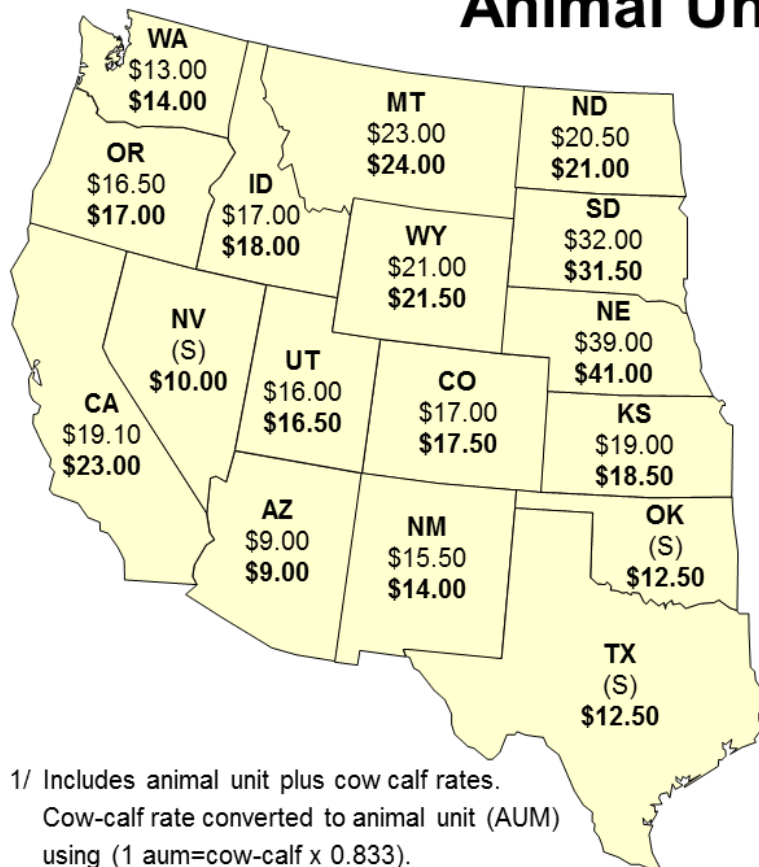


Figure 12. Washington State Department of Natural Resources interactive map for locating available trust land leases

# 17 State Grazing Fees Animal Unit <sup>1/</sup>



State Key	2015	2016
17 States	\$20.20	\$20.30
16 States (Excludes TX)	\$22.10	\$22.70
11 States: AZ, CA, CO, ID, MT, NV, NM, OR, UT, WA, WY	\$18.40	\$19.20
9 States: CO, KS, NE, NM, ND, OK, SD, TX, WY	\$20.70	\$20.50

1/ Includes animal unit plus cow calf rates.

Cow-calf rate converted to animal unit (AUM)  
using (1 aum=cow-calf x 0.833).

(S) Insufficient number of reports to establish an estimate

NASS, USDA January 2017

Figure 13. Grazing fees on state owned public lands in the U.S., 2015, 2016

## **Appendix 1. An Overview of the Ontario Cottage Lot Development Program on Crown Land**

The application process involves two categories of administrative procedures ((1) identifying crown land opportunities for cottage lot development, and (2) MNRF's Disposition Process), each containing several steps. Some activities can be performed simultaneously while others must be performed in a sequence. An application can be initiated by either a municipality or a developer, but in both cases the municipality leads the planning and implementation process. A successful application is completed by a sale and transfer of title to either a municipality or to a qualified developer.

The first section involves identifying crown land opportunities for cottage lot development and it has four steps. The first step in the application process is the initial scoping meeting with the MNRF. The purpose of the meeting is to review the steps in the application process and to identify the legal constraints that need to be satisfied by the municipality. This includes conforming with the existing regulations governing zoning, environment, resource extraction, crown land use or other regulations.

The second step is the development of a cottage lot feasibility study by the municipality. The MNRF recommends that study be developed in consultation with Aboriginal communities, stakeholders, provincial ministries/agencies, and the public. The study should be consistent with the Planning Act, Provincial Policy Statement, municipal official plan and zoning by-law. It should also demonstrate that similar cottage lot development is not feasible on private land. The study needs to show that the municipality has evaluated the pros and cons of a number of potential development plans, including environmental impacts, local communities, aboriginal peoples, and links to the existing economic activities. Finally, the study needs to demonstrate that the municipality has coordinated their actions with other relevant agencies. The list of other

agencies includes Ministry of Northern Development and Mines (MNDM), Ministry of the Environment and Climate Change (MOECC), and Ministry of Municipal Affairs and housing (MMAH), Ministry of Transportation Ontario (MTO), Ministry of Tourism, Culture & Sport (MTCS), Ontario Ministry of Agriculture, Food and Rural Affairs (OMAFRA).

The third step is the review of the municipality feasibility study by the MNRF. The purpose of the review is to determine whether the study met the required criteria and if there are any other constraints on the proposed development. These constraints may be based on information that the MNRF considers sensitive and thus not available to the public. These constraints may include natural heritage values (i.e., important wildlife habitat), potential natural hazards (i.e., floodplains, contaminated lands), cultural heritage sites, existing resource allocations, current land claims, and compatibility with the surrounding land use areas. If the study is approved, the MNRF and the municipality will together select one of the proposed development plans.

In the fourth step, the municipality uses the feedback received by the MNRF and other agencies to develop a detailed project description. This is also where the municipality states whether the municipality plans to acquire land directly or through a qualified developer.

The MNRF disposition process includes five steps. The first step involves designating the land identified by the municipality as pending under the Public Lands Act (PLA) disposition or as a possible withdrawal of land under the Mining Act. This step ensures that the land remains available for the municipality until the decision on the application is reached.

This is followed by the second step, which is consultation with the relevant affected parties. The parties that must be consulted include aboriginal communities and the holder of the forest licence in the area. Other parties that may need to be consulted include the public, other resource users

(i.e., trappers, baitfish harvesters, resource-based tourism operators, Bear Management Area operators), government ministries, and other municipalities.

The third step is screening for environmental effects, and this step differs depending on whether the applicant is a municipality or a developer. If the applicant is a municipality, then this step is completed by the MNRF's adherence to the provisions of the Environmental Assessment Act (EAA) prior to granting the disposition. If the applicant is a developer, the project description (step four) developed under "identifying crown land opportunities for cottage lot development" is used for screening, provided that the project description provides sufficient information. If project description does not provide sufficient information for screening, it is returned to the municipality.

The fourth step is disposition approval. The MNRF district manager has the authority to grant the approval, provided that all the conditions listed above are met. Sometimes an approval under the Planning Act is also required, and the Ministry of Municipal Affairs administers this process is administered.

After the disposition is approved, the proponent must complete (1) an application for Crown land (to verify the land location and the name to which the land is disposed), prepare a plan of survey for registration at the local Land Registry Office, and (3) provide a payment to MNRF of sale price at market value.

## Appendix 2. Requirements for an Agricultural Land Disposition Application, Cochrane District

Ministry of Natural Resources  
and Forestry

### Cochrane District

2-4 Highway 11 South  
P.O. Box 730  
Cochrane ON P0L 1C0  
Telephone: 705-272-7195  
Facsimile: 705-272-7183  
Toll Free: 1-800-667-1940

Ministère des Richesses naturelles  
et des Forêts  
District de Cochrane

2-4 route 11 sud  
C.P. 730  
Cochrane ON P0L 1C0  
Téléphone : 705-272-7195  
Télécopieur : 705-272-7183  
Sans frais : 1-800-667-1940



---

### REQUIREMENTS FOR AN AGRICULTURAL LAND DISPOSITION APPLICATION

The following is an outline of what should be included in your submission. You should provide sufficient detail to give us a very clear understanding of the proposed operation and lands required.

#### A) General Information Requirements

1. Key Map which delineates the proposed lands
  - The location should be as precise as possible (e.g. lots 5 and 6 Green township)
  - Location must be drawn to scale on a detailed map so that the required land base can be accurately determined. Standard reference map templates can be accessed using our “make a topographic map” tool online at <http://www.ontario/page/topographic-maps>
  - Indicate size in hectares
  
2. Detailed site plan of proposed development
  - must be drawn to scale (NOTE: this includes proposed lots and permanent structures)
  - include north arrow and major features (e.g. existing roads, lakes, streams, wet lands, etc.) and boundary of proposed development
  - include the location of all proposed permanent structures, size and purpose
  - location of proposed non-permanent/mobile structures identified as to their purpose
  - areas to be cleared, including size
  - areas for crops and livestock including the size
  - new roads and turn around areas
  - fencing/gating proposals
  - fuel storage facilities
  - other site improvements

3. Proposed time frames - the proposal should include, as a minimum the following:
  - Timeframes for each milestone in the agricultural development (e.g. clearing the land, crop development or livestock)
  - completion of financial arrangements
  - schedule of contact with ministries/agencies/boards if applicable
  - schedule for public consultation
  - obtaining applicable licenses or permits as required
  
4. Rational for the land
  - If application is for expansion of an existing farm explain why additional lands are required for expansion. Details of existing land holdings and current use should be included.
  - For new farms explain the reasoning for the proposed location and the rational of purchasing the proposed Crown land over available private land.
  
5. Summary and assessment of potential environmental impacts and how they will be addressed. For example:
  - impacts on water bodies in proximity to the property
  - nutrient management
  - Desk top environmental review of the area describing current industrial extraction uses (forestry), mineral potential, info on aggregate potential
  - Description of species at risk in the area
  - Existing uses of the land by the public
  - CLUPA report for the land

## **B) Business Plan**

- Pre-feasibility study, description of what the demand and market is for the product
- Capital investment and financial summary showing costs and details of project financing
- Management skills/qualifications of proponent
- Liability insurance requirements
- Details on operation including the existing farming operation if applicable and the development of the proposed land and business over the next five years
- Outline the benefits of the proposed development. For example benefits to local businesses, First Nation communities, local employment,
- 

Note: Crown land access is not guaranteed and lands will require a legal survey at the applicant's expense. Applications are reviewed under the Resource Stewardship and Facility Development Class Environmental Assessment and applicants will be required to complete consultation and studies required based on the screening of the application

