

# Agricultural Context Study



*Rocky View*  
MUNICIPAL DISTRICT

**September 2009**

# TABLE OF CONTENTS

	Page
1. Executive Summary	2
2. History of Agriculture in Rocky View	3
3. Biophysical Resources	4
Soils	4
Vegetation	4
Climate	4
Irrigation	5
Resource Development	5
4. Agricultural Trends	6
Agriculture in Rocky View	6
Demographics and Farm Population Characteristics	7
Farm business arrangements & Finances	7
Crops and livestock	8
Greenhouses and nursery products	8
Organic production	10
Recent Agricultural Proposals	10
Culture of Agriculture	10
5. Land Use Context	11
The Existing Growth Pattern	11
Annexation Information	12
6. Legislation Considerations	13
Agricultural Operations and Practices Act	13
Municipal Government Act	13
Provincial Land Use Policies	13
Municipal Development Plan	14
7. New Legislation Direction	14
Provincial Land Use Framework (Alberta Land Stewardship Act (Bill C-36))	14
Calgary Metropolitan Plan	15
Growth Management Strategy	15
8. Conclusion	16
<b>MAPS</b>	
Map 1: Soil	
Map 2: Vegetation	
Map 2A: Vegetation and Land Use Patterns	
Map 3: Eco-Regions	
Map 4: Irrigated Areas	
Map 5: Oil & Gas Development	
Map 6: Sand & Gravel Resources	
Map 7: Growth Management Strategy and Planning Areas	
Map 8: Annexation Information	

## **1. EXECUTIVE SUMMARY**

The Agricultural Context Study is intended to provide an overview of the history of agriculture in the region – with a focus on industry trends in the last 25 years. This assessment included examining the existing biophysical resources in the County, an analysis of producer trends from the 1981 to 2006 period (based on Stats Canada census data), and examining the current state of agriculture in Rocky View. The report also highlights the land use development context for existing and potential future growth in the County, and provides a review of the existing Provincial and County legislation which can affect development patterns and the agriculture industry.

An examination of the County's biophysical resources reveals that the region can support a broad range of agricultural pursuits. There are some existing limitations to cropping production for soils located in the western regions; however, these areas can support ranching activities – which are the historical and current uses occurring in those areas. The existing irrigation infrastructure has also created a localized advantage and secure water source for producers.

An analysis of the agricultural trends has indicated that ranching and cropping activities are the dominant agricultural land uses. In the ranching sector, the cattle industry is still the primary activity, but it can be characterized by fewer Operators holding more cattle. Data not yet available from the 2006 period onward could indicate reductions in this sector due to the challenges associated with the bovine spongiform encephalopathy (BSE) crisis.

Equestrian related land uses are the second largest component of ranching operations, and are increasing in number on the Rocky View landscape. This sector is both directly related to agriculture, as well as some related industries, including the rodeo, equestrian breeding and training, and hobby-based activities. These elements do however, contribute to the agriculture-culture of the region, and support the industry through supporting business transactions.

Even with the consistent ratio of ranching to cropping activities occurring, agriculture has and will continue to evolve. New areas of production focus in the industry appear to be in the development of greenhouses, nursery products, organic production, or raising of a greater variety of livestock breeds – in order to supply local market demand or a demand for more locally grown foods. Rocky View County lands may be strategically located to capture some of this new demand, due to its strategic location, high quality soils and existing irrigation infrastructure which is not being used to its full capacity.

A concerning demographic trend is that the average age of the agricultural operator in Rocky View is increasing dramatically, and a new generation of operators will need to be prepared to manage these farms under new climatic and economic conditions.

Provincial and Municipal legislation emphasizes the importance of the agricultural industry, preservation of agricultural lands, and minimizing the disturbance to those operations. Furthermore, all jurisdictions within the province will be working within a new legislative framework in the very near future. While local autonomy will prevail, County policy will need to be updated to reflect the new legislative framework.

A more detailed review of the agricultural conditions in Rocky View County should be completed with new policy direction included in the form of an Agricultural Master Plan. The information contained within that Plan will help direct further needed amendments to the County's Land Use Bylaw, Municipal Development Plan, and will aid in the enhancement and in meeting the intent of the County's Growth Management Strategy.

## **2. HISTORY OF AGRICULTURE IN ROCKY VIEW COUNTY**

The agricultural history of Rocky View is a familiar Alberta tale, but one that has been integral to the evolution of the County. The earliest groups of migrants to the Rocky View area were primarily explorers, traders, and the Northwest Mounted Police. They encountered large herds of buffalo, vast open prairie, and a significant number of aboriginal peoples, including the Blackfoot Confederacy.

The Dominion Lands Act of 1872 and the Dominion Lands Survey laid the groundwork for whole scale settlement in the west. The survey delineated the current day Township grid system and allowed land to be easily identified and therefore assigned to individuals. A settler could purchase a quarter section for a \$10 registration fee, subject to "proving up" the homestead. This involved breaking 10-15 acres per year for three years and the building of a permanent residence. The Act also allowed for the purchase of additional grazing leases around the homestead for livestock production. Early homesteads were mixed farms and were as self-sufficient as possible.

Initial settlement in the west was slow with an arduous journey required. Once the railroad reached Fort Calgary in 1883, people began arriving in much greater numbers. The railroad also provided a means to convey agricultural products, such as livestock and grain, to market.

The first form of agriculture to occur on a larger scale in Rocky View was ranching, which began in the area around 1880. Due to reports by early explorers, it was believed that southern Alberta was not suited to cultivation, but well suited for ranching. The native prairie vegetation provided cattle a hardy food source, while the warm Chinook winds allowed partial access to the prairie vegetation in the winter. However, over-reliance on the chinooks led to several early disasters and the large-scale loss of livestock due to winter starvation.

The first herd in the Rocky View area was trailed in by the Reverends John and George McDougall in 1873 to Morley to provide food for the Native population who were now starving on the reservations. The signing of Treaty Number 7 was also an impetus for ranching as it stipulated that the Indians must be supplied with meat - creating a market for cattle production.

In the early 1880's, lured to the west by extensive leaseholds granted by the Federal Government, several large scale ranching businesses emerged. The two most notable were the Cochrane Rancho (100,000 acres in west Rocky View) and the Military Colonization Company (92,000 acres in east Rocky View, near Dalemead). These large-scale operations evolved and changed hands over the years, but the large leaseholds created animosity with other settlers as they limited the amount of land available to other ranchers and farmers. Eventually these companies were dissolved and the holdings redistributed.

By 1894, there were more than 150 ranches in the Calgary area, outnumbering farmers by 5 to 1. In Rocky View, the first ranch in the Grand Valley area was founded by William Bell-Irving in 1883, encompassing 5280 acres. Further south in the Pirmez Creek area, the Gardner Ranch began operating in 1886 and grew to include 15 sections of land. Ranching began to change as the land became more settled. Cattle were no longer able to rustle at will along the land as fences were built to protect farmland and keep the cattle in certain areas.

In addition to ranching, farming was also an integral component of the growth and evolution of Rocky View. Although some settlers were growing crops as early as 1876,

farming did not begin in earnest in Rocky View until the railroad began bringing settlers in greater numbers. Generally, farming in Rocky View began in the western portions before 1900, the north central in the early 1900's, and in the south east and north east after 1903 when the irrigation block was designated. Grain farming was most typical in Rocky View. However, dairy farms and even fur farms appeared on the Rocky View landscape; the latter completely disappearing by 1950.

Advances throughout the years in machinery and plant breeding, as well as a reliable railroad service allowed the farming industry in Rocky View to grow and prosper. Agricultural businesses such as seed cleaning plants, elevators, creameries, and cheeses factories also developed in support of the industry.

In eastern Rocky View, the building of the irrigation canals and the creation of the Western Irrigation District was a significant factor in the growth of agriculture in the area. The water from the canals was utilized for crops and for livestock production and continues to play an integral role in agriculture today.

The growth of agriculture in Rocky View greatly influenced the existing settlement pattern. The majority of the towns, villages and hamlets in Rocky View began as railroad settlements that supported the surrounding agricultural industry. Often a loading station or grain elevator was the first feature, followed by a general store to provide goods to farm families that they could not produce themselves.

Agriculture is a dynamic industry that has been growing and evolving since the first settlers arrived in the Rocky View area. This evolution continues today and agriculture remains an important and valuable industry in Rocky View today.

### **3. BIOPHYSICAL RESOURCES**

#### **SOILS**

The dominant soil group in Rocky View is black chernozemic, described as a very black topsoil, rich in organic matter, typical of cool to temperate semiarid regions. Soil can be classified by its probability for crop production, forage production, ability to support wildlife and in many other ways. Approximately 60% of Rocky View's land base has little to no significant limitations to crop production. These lands are located predominantly in the eastern portions of the County. The western portions of the County contain soils which are classified as having low to very severe limitations to agricultural crop production, and encompass approximately 25% of the total land area. These soils are often vegetated with permanent or native pasture and can adequately support livestock and wildlife grazing – which explains the uses which are actively occurring in those areas. Refer to Map 1: *Soils* for more detailed information.

#### **VEGETATION**

Rocky View is situated within five of the thirteen ecoregions recognized in the province of Alberta. An ecoregion is an area of similar climate, physiography, vegetation, soil, water, fauna and land use characteristics. These include, (from east to west), the Mixed Grass, Fescue Grass, Aspen Parkland, Montane and Lower Boreal Cordilleran ecoregions. The ecoregional landcover classifications directly relate to the underlying soil structure in the area. Map 2: *Vegetation* describes in more detail the dominant vegetation types found in these various areas while Map 2A provides a perspective on vegetation and land use patterns in the County.

## **CLIMATE**

Climate strongly influences many of the characteristics in an ecoregion, such as soils, vegetation, water, fauna and land use. Climate regions are generally represented by ecoregions, and there is a wide diversity of climate within Rocky View. Rocky View is generally characterized by a climatic transition from a semiarid climate in the eastern part to a relatively cooler and moister climate associated with the increase in elevation and proximity to the mountains in the western part. Refer to Map 3: *Ecoregions*.

This is demonstrated by the County's precipitation and temperature variations between the western foothills and eastern regions. Annual precipitation averages between 575 and 650mm for the foothills and between 366 and 422mm for weather stations east of Calgary. The major precipitation (60 to 72 %) for both areas falls between the May to September growing season.

Temperature variations are similar, as records indicate a mean annual temperature for the foothills areas from 1.5 to 2.5 Degrees C, while for stations east of Calgary, it varies between 2.8 and 3.6 Degrees C. While 2 degrees does not seem significant, data reveals that the mean summer temperature, the frost free period, and the solar heat input expressed in degree days above 5 degrees C, are all significantly lower in the western foothills locations. These significant regional variations translate directly into the types of cropping, ranching, or other agricultural activities which can potentially occur.

Microclimate is the climate of any small area, and is particularly important in Rocky View. Microclimates can exhibit conditions that are distinct from the surrounding area. The characteristics of the soil surface, such as whether it is bare or covered with plants, have a great influence on the microclimate. For example, a sheltered area has a different microclimate than an open field, and warmer daytime temperatures are often found in river and creek valleys. Another element related to microclimate is the Chinooks characteristic of the region. These warm winter winds often provide relief to the cold temperatures in the winter and result in more winter melt and thaw variations.

In recent years, more frequent erratic and extreme weather events are occurring. Climatologists theorize about the potential causes, but whatever the cause, agriculture will need to continue to adapt to changing climatic conditions in the future.

## **IRRIGATION**

The irrigation system in eastern Rocky View County is a portion of the "Irrigation Block" that was developed by the Canadian Pacific Railroad, beginning in 1903. The Irrigation Block was divided into 3 districts; Western, Central and Eastern. The infrastructure and water resources contained in eastern Rocky View are managed by the Western Irrigation District (WID), and provide a unique localized opportunity for crop production. The WID is the second largest irrigation district in Alberta and incorporates 1200 miles of ditches and canals of all sizes. Map 4: *Irrigated Areas*, demonstrates which lands currently utilize the irrigation infrastructure. This infrastructure provides a reliable water source for area producers – with a multitude of servicing contracts available to a range of producer-types.

In recent years, the WID and individual water license holders are exploring options to sell or transfer their water licenses for other users other than irrigation. As the majority of irrigation licenses are for irrigation purposes (only), new users must apply to Alberta Environment to have the licenses changed to allow for other consumption-related uses. Currently, there are very few licenses which have actually been changed; however, time will tell if this becomes an increasing trend and how it may impact agricultural

production. What is known however, is that capacity exists in the irrigation infrastructure and service water available to accommodate additional users in the area.

### **RESOURCE DEVELOPMENT**

Resource extraction and development is a significant activity in Rocky View County, as the Province's mandate to extract natural resources is followed. Extraction activities focus on a variety of resources, including: oil, gas, and sweet and sour gas, coal bed methane, and sand and gravel extraction.

Wells and pipeline networks traverse much of the north and eastern portions of the County. These pipelines predominantly carry only sweet gas; however, there are also some significant sour gas wells and transmission lines in the area. Coal bed methane is a particularly active extraction activity in the eastern portions of the County. It is a sweet gas, containing more than 90% methane that can be conveyed directly into pipelines, with little or no refining, for immediate use for the heating of homes, gas fired electrical generation, and industrial fuel. Open pit extraction activities for gravel and sand extraction occur in the north-eastern areas near Irricana and Beiseker, north of the Bow River east of the City, and northwest of the City of Calgary. Maps 5 and 6 demonstrate the type and location of extraction activities in the County.

Resource development and the agricultural industry can generally co-exist. Industry will often use the same road infrastructure that the agricultural industry relies on, and in areas where there is a significant portion of oil and gas development, or sour gas wells or pipelines, development potential for other uses can be limited because of the setbacks required. Resource extraction does however, take land out of agricultural production, (at least in the short to medium term) it can potentially lead to groundwater usage and contamination issues, air and noise pollution, soil disturbances, uncontrolled weed growth, and the cumulative impacts of the activities on the land base. The oil and gas industry is regulated by the Province, through the Energy and Utility Board, with little to no decision making capacity at the County level.

## **4. AGRICULTURAL TRENDS**

Statistics Canada Census of Agriculture data from 1981 to 2006 is the source of information provided in this section. This 25 year period was used to analyze and summarize trends in the agricultural industry specific to Rocky View County and provides an accurate depiction of what has been happening to agriculture in the County during these years. For the purposes of the census, a "census farm" refers to a farm, ranch or other agricultural operation that produces at least one of the following products *intended for sale*: crops, livestock, poultry, animal products, greenhouse or nursery products, Christmas trees, mushrooms, sod, honey or bees, and maple syrup products.

### **AGRICULTURE IN ROCKY VIEW COUNTY**

Census data has indicated that there has been no significant change in the total number of acres farmed or the total number of farms in Rocky View between 1981 and 2006. The County has been reduced in size due to annexations from neighboring jurisdictions; however, land farmed both inside and outside the County boundaries is recorded as part of the farm's operation. This means that while the County has lost land due to annexations, the farming community appears to be retaining land holdings from neighboring communities for use in their operations. The total number of farms in 2006

was recorded as 1,551, which is up from a low of 1,421 in 1981 and down from a high of 1,625 in 2001.

The ratio of farms identifying land devoted to raising crops versus pasture and hay has remained stable. This indicates that over the last 25 years, there has been no significant shift away from livestock, although, the census data does not include numbers since 2006 – a period where both beef and swine numbers are believed to be in decline.

Census data indicates that average farm size has declined over the past 25 years. Since 1981, there has been an 11% decrease in farms which include 400 acres or more. Conversely, there has been an approximate 10% increase in farms under 180 acres in land holdings. Recent agricultural land use proposals indicate a continuation of the trend to smaller sized farms – likely due to new trends in land use and family planning reasons. Mid-sized farms (180 to 400 acres) were at their highest in 1991. A graph related to farm size in Rocky View is provided below.

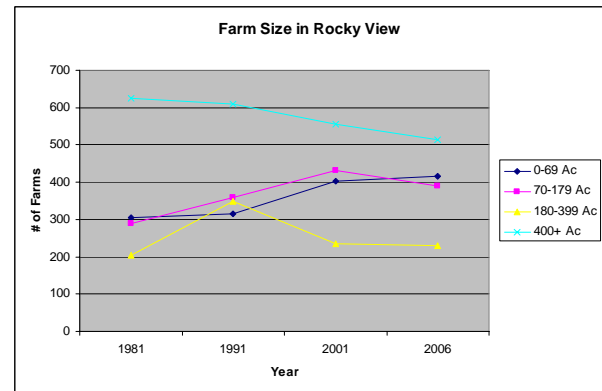
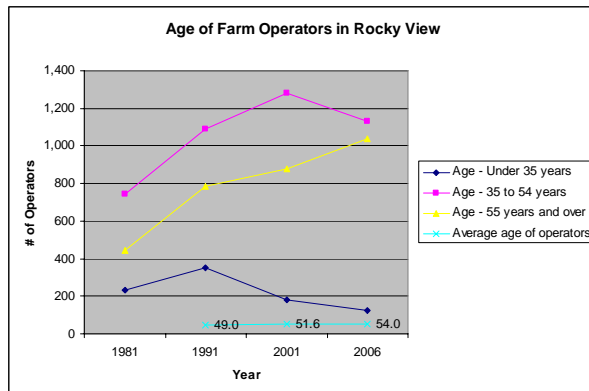
The census data does not; however, accurately depict the number of farms which should be considered as “large” farms, which for Rocky View – is more likely to include those farms which are 1000 acres or greater in size. It is believed that the number of those large farms is actually increasing in number, as the corporate or large family farms buy up land from smaller, more economically challenged operations. More precise data representing the number of these farms will be made available for the Agricultural Master Plan.

### ***DEMOGRAPHICS AND FARM POPULATION CHARACTERISTICS***

Rocky View's total population has more than doubled during the past 25 years, as it has grown from 16,863 in 1981 to 34,597 in 2006. This trend is in contrast to farm operator population trends, which have remained more constant. In 1981, 1,421 farm operators were reported, while in 1991, there were 2,230 – which has remained constant since. This trend is similar to Alberta and Canada's farm operator numbers (though both Alberta and Canada's numbers have decreased somewhat in recent years.) The ratio of male operators to female operators has remained relatively constant as well since 1991, at two to one. This indicates stability in the farm operator population, but unlike the general population, growth is not occurring.

Farm operators in Rocky View are aging consistently with those operators of Alberta and Canada. In 1991, the average farm operator age was 49, in 2001 it was 51, and in 2006, that number increased to 54. Alberta and Canada's trends are generally the same, though nationally, the average age is two years younger. Rocky View's farm operators which are under-35 are also decreasing in number – as currently there are only 125 operators under 35, (compared to 233 in 1981, and 350 in 1991, and 180 in 2001). The combined aspect of an aging farm operator population with less young people becoming primary operators is a significant trend for the agricultural industry – and as the older generation retires from active farming – the need for younger operators to manage farming operations will increase.





## **FARM BUSINESS ARRANGEMENTS AND FINANCES**

Sole proprietorship operations continue to dominate farm business operating arrangements in Rocky View as more than half of all farms have operated this way since 1981. Family corporations are now the second most reported business operating arrangement, more than doubling since 1981, reducing the number of formal or informal partnerships. Tax law revisions have likely driven this trend (which has occurred throughout Canada). This trend may be influencing succession planning choices for more farm operators, as well.

The value of farm products sold (gross farm receipts) has nearly tripled in 25 years, from \$97M to \$280M. But, total farm expenditures have more than quadrupled, leaving margins generally flat since 1981. This is in contrast however to the value of total farm capital (market value of land and buildings) which has more than doubled (from \$1.77B to nearly \$4.0B in 2006.)

## **CROPS AND LIVESTOCK**

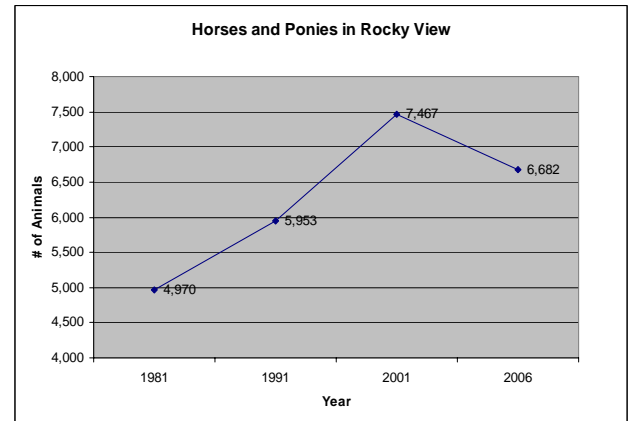
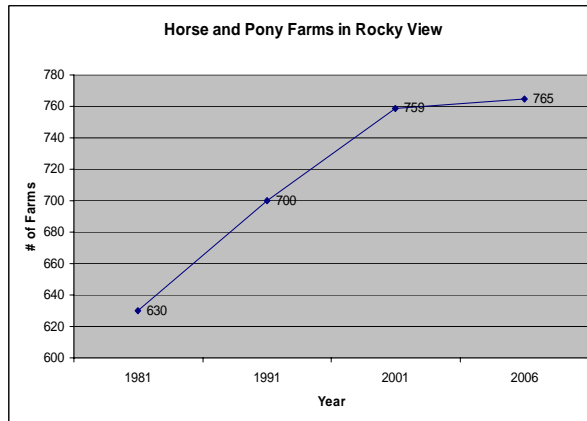
Field crop production (wheat, barley and canola) has remained generally stable over the 25 year period. Annual fluctuations occur as crops rotate and canola production is up slightly, but no significant change is noted. Alfalfa and hay production are on the increase, nearly doubling between 1991 and 2001, and remaining high through 2006 (667 farms and 85,000 acres in production). Potato production has also increased since 2001. Though the number of farms producing potatoes remained at 14, the acreage has more than doubled from 204 acres to 428 acres, which suggests that expansion of potato acres by existing producers may account for this increase.

Livestock continues to be a large segment of agricultural production in the County. Farms reporting beef cattle production as their main enterprise are still in top position among other types of livestock at 726 farms, though steadily trending downward from the high of 841 farms in 1981. The census data indicates however, that while the number of farms involved in cattle production have decreased, the total cattle numbers are on the rise, as in 2006 there were over  $\pm$  166,000 head, up slightly from 2001 at  $\pm$  160,000, and up from 1981 levels at  $\pm$  135,000 head.

Farms reporting horses and ponies as their main enterprise have steadily increased, from 630 in 1981, to 765 in 2006. The total number of animals is also increasing to a high of  $\pm$  7500 animals in 2001, down slightly to  $\pm$  6,700 in 2006. This trend is reinforced

by an increasing amount of land use proposals and development permits for equestrian related uses.

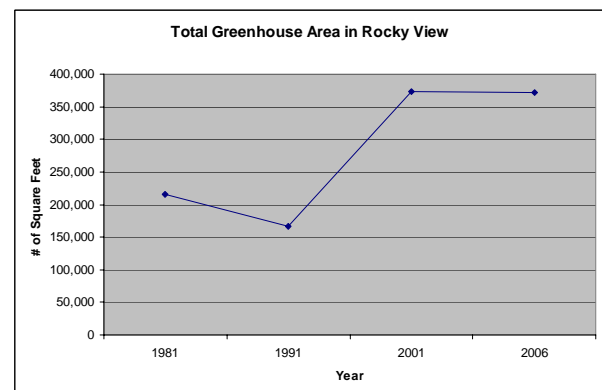
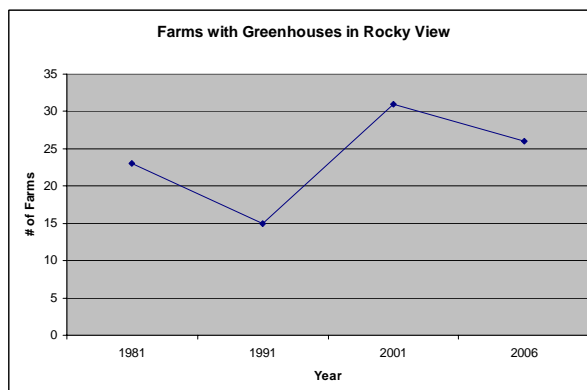
Other notable livestock types in Rocky View are sheep and goats. Both reached a peak in 2001 and have trended downward until 2006. In the poultry sector, farm numbers are trending lower while bird numbers are steadily increasing. Specialty livestock including bison, elk, llamas & alpacas have been decreasing in number since 2001.



### GREENHOUSES AND NURSERY PRODUCTS

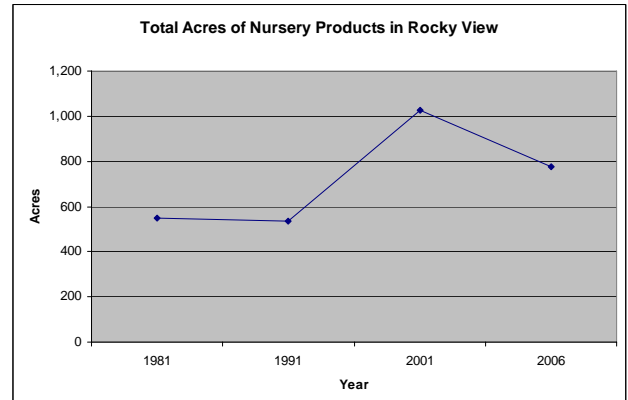
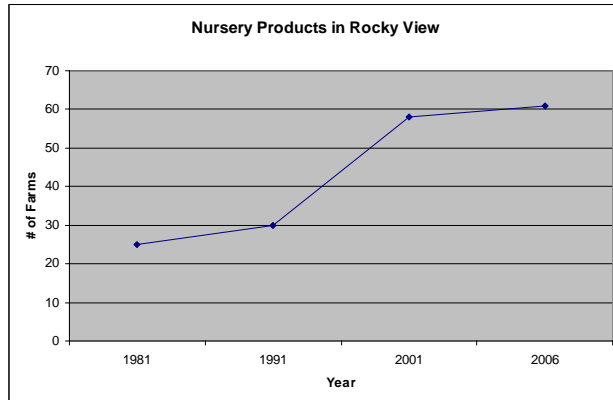
The census defines *greenhouse products* as all products grown under glass or plastic, and includes flowers, vegetables and other greenhouse products. *Nursery products* are defined as shrubs, trees, vines, ornamentals, bulbs, etc., grown-out-of-doors.

There was a dramatic increase in the total building area under glass for the production of greenhouse products as it more than doubled in the 1991 to 2001 time period, and has remained constant since. Vegetables are a relatively small proportion of total production area, far outpaced by flower production at  $\pm 75\%$  of total square footage. It is likely that today's flower production is significantly reduced due to the closing of the Balzac Garden Center, where poinsettias were grown.



Nursery products also doubled between 1991 and 2001, both in numbers of farms and total acreage dedicated to this use. By 2006 however, farms increased slightly but the acreage was reduced by some 30%. Based on recent interviews with local producers, the nursery product market has likely stabilized due to steady demand and high

investment requirements (for lead time planting of trees and shrubs).



At this time, it is not known if there is a correlation between either the greenhouse or nursery operations and that of irrigated lands. This information would arise from a more detailed analysis through the Agricultural Master Plan. The census numbers do indicate that there has been a significant increase in production of both these types of agriculture since 1991, and these operations appear to be generally stable.

## **VEGETABLES**

Small numbers of farms report vegetable crops as part of their operations – 20 farms growing 28 acres were recorded in 2006. The main vegetables grown include sweet corn, green beans, cabbage, carrots, beets, lettuce. These products would be raised with the intention of sale, as per the census farm definition, and would not include products for home consumption. It is likely that the major sales outlets would include contracts with local grocers and perhaps farmers' markets.

## **ORGANIC PRODUCTION**

Census data for organic production is available for only 2001 and 2006, and the reporting information available varies from one census year to another which complicates the analysis. However, in both years, the number of farms reporting organic productions is recorded – total acreage is not. The 2001 data records the number of farms producing "certified organic" products, whereas the 2006 data records the number of farms producing organic crops - regardless of the certification status. This means it may include farms within the three-year process of becoming certified but not yet fully certified. In any case, within this five-year timeframe, the farm numbers increased from 2 to 103. The majority of the products produced in 2006 related to animals and animal products (64 farms) and hay/field crops (45 farms). 15 farms reported production of organic fruits, vegetables or greenhouse products. The census data is relatively short term and inconsistent for this category, but it shows a significant increase in number of farms pursuing organic production (especially in animal production, most likely organic beef.) Based on media statistics, this trend continues across the nation.

## **RECENT AGRICULTURAL PROPOSALS**

The census data provides a macro-level look from the 1981 to 2006 period, but not beyond; therefore, County Administration conducted an assessment of agriculturally-related land use and subdivision proposals for the 2006 to 2009 period. Since 2006, a

total of 75 smaller-holding agricultural land use redesignations and subdivisions were approved by Council, generally for agriculturally related purposes. Applicants provided a range of rationale, including:

- ( $\pm$  38 %) New and expanded uses - including uses such as: tree farms, horse breeding, rodeo and livestock, horse training, cattle operations, animal husbandry, horticultural operations, equestrian uses, native plant and grass operations, greenhouse operations, organic / market gardens, miniature donkeys.
- ( $\pm$  41%) Title separations - including: physically fragmented by natural features and / or succession planning.
- ( $\pm$  21%) No new use or reason identified.

The wide range of uses identified above are also listed as either a permitted or discretionary use on larger agriculturally-designated parcels. The recent agricultural proposals witnessed by the County, and the more macro census data continue to point toward diversification of the farming industry and the trend toward smaller agricultural holdings and operations. However, it is worth noting not all the above mentioned proposals were developed to their stated use.

### ***CULTURE OF AGRICULTURE***

The information in the agricultural trends provides reliable data on where the focus in production has occurred since 1981. What the information lacks however, is in discussing the effects that agriculture has on the supporting local businesses, and discussion of the general agricultural community - including heritage, cultural and rural community values and needs.

As we will see in the next section of the report, agricultural land uses remain the dominant land base in the County. The agricultural activities that are undertaken in these areas involve large capital expenditures in equipment, land, buildings and animals, annual inputs such as fertilizers, pesticides, and feed, provide local employment, and indirectly affect a number of related business enterprises such as veterinarian services, equestrian riding and training facilities, distribution centers, local tack shops and butchers, 4H clubs, and miscellaneous agricultural products and services traded locally. Some Rocky View specific examples of these business include: Airdrie Trailer Sales, Parkland Agricultural Services, Viterra Farm Supply, Shirley's Greenhouse, Balzac Meats, etc – just to name a few. There are also some significant agricultural businesses proposed in the County currently – a multi-million dollar Canola processing facility and the Canadian Professional Rodeo Association's head office (relocated from Calgary). The context of this report does not adequately draw a link from local producers and their activities to the supporting local businesses and related industries.

The agricultural / rural community is also distinctly different than Rocky View's other primary land use – which is country residential. While the country residential areas are also sometimes involved in small-scale or hobby-based agricultural pursuits, the community, relationships, and needs of those areas are different than those in the more rural areas. This includes differences in infrastructure requirements (roads and stormwater management), service-based needs (provision of water and sewer), soft-service needs (recreational, emergency, and other amenities) heritage, and general lifestyle choices.

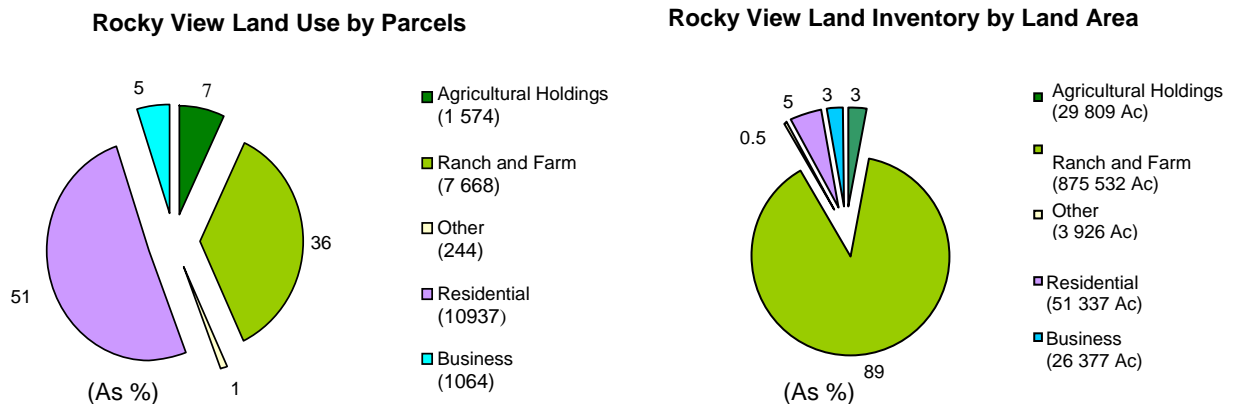
The County's Growth Management Strategy discusses the direction of new growth towards growth nodes and community cores – which are intended to address the recreational and service-based needs of that community and the surrounding agricultural area. At this point, and with the new trends in agriculture that are occurring – it may be unrealistic to assume that all these needs are known. Therefore, it would be the intent of further study, through the Agricultural Master Plan – to investigate related agricultural businesses, and to engage the agricultural community for input, for inclusion in that Plan with requirements addressed at more detailed planning stages for those communities.

## 5. LAND USE CONTEXT

Rocky View County contains a variety of land uses, development patterns and industries, and in recent years has had to manage exceptional growth pressures. This growth pressure is a direct result of the County's proactive approach to diversifying the tax base, and its strategic location surrounding the City of Calgary, to the west, north and east.

### THE EXISTING GROWTH PATTERN

The primary historical and current dominant land use in Rocky View is agriculture. Agricultural land uses encompass 43 % of the overall number of parcels in the County and 92 % of the overall land area. Map 7 depicts the growth areas in the County.



Though the primary land base is still agricultural, recent development activity has diversified the County's tax and economic land base, and while agricultural land still holds the majority of the land base, conversion of a portion of agricultural lands to business, residential and smaller agricultural parcels (Agricultural Holdings parcels) is noted. Development activity in the County can be classified into four groupings: country residential, Hamlet growth, business, and agricultural subdivision and development.

The country residential component of this growth has been primarily focused in five general areas, including: Springbank, Bearspaw, north-Cochrane, Balzac East, and the Conrich areas. These areas are characterized by concentrated acreage-style developments, are generally included within the boundaries of an Area Structure Plan, are lands designated primarily Residential, some communal servicing infrastructure is in place, roads tend to be paved, and while some small agricultural pursuits are occurring, they tend to be hobby-based, or the land can be considered in transition to further

country residential development. Country residential development is also located sporadically throughout the rest of the more rural areas of the County. Those residential parcels have the potential to create a challenging environment for the more traditional agricultural operators who are located in their immediate surroundings.

Hamlet growth has occurred in the Bragg Creek, Cochrane Lakes and Langdon Hamlets. Development forms in these areas include higher densities, smaller parcel sizes and mixed land uses. Agricultural activity in and around these areas is difficult because of the land use conflicts which can exist. In most instances, agricultural activity within the Hamlet areas is a transitional land use, and in the fringe areas, mitigation measures must be implemented to recognize the potential land use conflicts which can occur.

The County's business development and tax base has increased substantially in the last 10 years. Business development in Rocky View includes four elements – limited service light industrial business parks (characteristic of the East Rocky View business parks in the Janet area), heavy industrial (characteristic of the south-Crossfield land uses), the County's fully serviced retail commercial and business nodes in the East-Balzac area, and sporadic site-specific (or home based) businesses throughout the County. While a significant portion of the business growth has occurred because of the County's strategic location, much of it also caters to the local country residential and agricultural community needs.

All other areas of the County can be classified as primarily agricultural. In these areas, some residential acreages do exist, but the dominant land use is agricultural. There is a general west-east division occurring for ranching and cropping agricultural activities respectively, and a large number of unsubdivided quarter sections and large holdings by one farm or family farm still exist; however, a recent trend in agricultural development in Rocky View County is one which involves smaller holding agricultural parcels – for uses which the Municipal Development Plan classifies as *new or expanded*. The continued demand for hobby-based farms, smaller farm enterprises, more unconventional farming practices, or even over-sized acreages is expected on the Rocky View landscape.

### ***ANNEXATION INFORMATION***

The 2006 mediated annexation agreement between the City of Calgary and Rocky View County provides some context for growth in Rocky View and the region. The mediated annexation map (Map # 8) provides an illustrative context for future growth corridors for both the City and the County. It indicates that residential growth for both the City and the County is projected in the west and northwest directions, while industrial growth is anticipated in an easterly direction south of the Town of Chestermere, and east of Balzac. Further City residential growth is anticipated in the southeast immediately north of the Bow River, while County residential growth is anticipated easterly north of the Town of Chestermere. This means that future agriculture in these areas will have to either adjust or move away from the expected urban style growth which is anticipated.

## **6. LEGISLATION CONSIDERATIONS**

There is an extensive legislative framework in place both provincially and municipally which puts a context on growth – and agricultural land use. A summary of this legislation is provided.

### ***AGRICULTURAL OPERATIONS AND PRACTICES ACT***

This Act provides the institutional framework for resolving conflicts between agricultural producers and the urban/rural non-farmers, and cites the regulations pertaining to confined feeding operations. Under the Act, farmers using generally accepted practices and not contravening the land use bylaws of the municipality in which the operation is located, are not liable in a nuisance lawsuit and cannot be prevented from carrying on their operation because it causes or creates a nuisance. The act pertains to the regulations surrounding the operations of agricultural activities, and does establish that existing operations shall be allowed to continue regardless of what other land uses are developed in their vicinity. One must refer to the Municipal Government Act (MGA) for policies pertaining to agriculture in general or land use and development.

### ***MUNICIPAL GOVERNMENT ACT***

The MGA provides the authority within which Municipalities in the Province of Alberta operate and govern. There are two references to agricultural lands and / or policies within the MGA.

Part 17 of the Act pertains to Planning and Development considerations, and includes a reference to Land Use Policies. It indicates that the Lieutenant Governor in Council may establish land use policies. When established, every statutory plan, land use bylaw and action undertaken pursuant to Part 17 of the MGA, by a municipality, subdivision authority, or subdivision and development appeal board, or the municipal government board, must be consistent with the land use policies.

The MGA also indicates that every Council of a Municipality with a population of 3500 or more must adopt a Municipal Development Plan (MDP). It indicates that the MDP must contain Policies respecting the protection of agricultural operations.

### ***PROVINCIAL LAND USE POLICIES (Order in Council 522/96)***

These land use policies were approved in 1996 pursuant to section 622 of the MGA. The policies indicate that Municipalities are encouraged to establish a land use pattern which provides an appropriate mix of agricultural, residential, commercial, industrial, institutional, public and recreational land uses developed in an orderly, efficient, compatible, safe and economical manner. Specific policy is provided for each of the mentioned land uses.

The goal of the agricultural policies is to contribute to the maintenance and diversification of Alberta's agricultural industry. The policies pertaining to agriculture are as follows:

1. Municipalities are encouraged to identify, in consultation with Alberta Agriculture, Food and Rural Development, areas where agricultural activities, including extensive and intensive agriculture, should be a primary land use.
2. Municipalities are encouraged to limit the fragmentation of agricultural lands and their premature conversion to other uses, especially within the agricultural areas identified in policy # 1.
3. Where possible, municipalities are encouraged to direct non-agricultural development to areas where such development will not constrain agricultural activities.
4. Municipalities are encouraged to minimize conflicts between intensive agricultural operations and incompatible land uses through the use of reciprocal setback distances and other mitigative measures.

The Land Use Policies and MGA provide the provincial policy direction over the last 10 years with respect to land use development. A clear commitment was established towards the continued development of the agricultural industry and limiting the fragmentation of agricultural land. It is with this mandate that Rocky View County prepared its general Municipal Development Plan in 1998.

### **MUNICIPAL DEVELOPMENT PLAN**

The stated vision of the County's MDP is "that the Municipality continues to be a major agricultural force in the region. And, although certain sectors of the Municipality have evolved from agriculturally based communities to predominantly country residential based neighborhoods, further such erosion of the agricultural land base is not desirable..."

The Land Use Strategies and Agricultural and Residential Policies of the Plan provide further direction towards preservation of the agricultural land base, protection of the viability of the agricultural industry from incompatible and non-agricultural land uses, and directing new residential growth to areas where there is already existing country residential growth. Policy support for new and expanded agricultural operations is provided for in the MDP.

It is within the context of the MDP that between 1996 and 2006, the population of the County rose from 23,326 to 34,171 people (a 46% increase), with rapid business development also occurring. Considering the growth that occurred, the County has successfully directed this growth to a few areas, which has allowed the continuation of agricultural activities throughout much of the remaining areas.

While the MDP, MGA, and the Provincial Land Use Policies have mandated growth policy during the last 12 years, there has been some significant new policy direction adopted at both the provincial and municipal levels which will alter the planning and agricultural frameworks for new development in the near future.

## **7. NEW LEGISLATION DIRECTION**

### **PROVINCIAL LAND USE FRAMEWORK & THE ALBERTA LAND STEWARDSHIP ACT**

The 2009 adopted Provincial Land Use Framework aims to manage growth and to sustain the growing provincial economy, but balance it with Alberta's social and environmental goals through smart growth. The Framework consists of seven basic strategies to improve the land use decision making in the province. Strategies one, four and five have the most direct impact to agricultural land development and management.

*Strategy 1 – Develop seven new regional land-use plans based on seven new land-use regions.* The regional plans are intended to integrate provincial policies at the regional level; set out regional land use objectives and provide the context for land use decision making within the region. Rocky View County is included within the South Saskatchewan Regional Planning area, and within the Calgary Metropolitan Planning area. Municipalities will be required to comply with these plans, and these plans have the potential to alter the existing policy framework and County growth direction.

*Strategy 4 – Develop a strategy for conservation and stewardship on private and public lands.* The strategy is based on the fact that Agriculture is a key contributor to the Alberta economy, and reducing the fragmentation and conversion of agricultural land is an integral component of a successful land use framework, as is the proliferation of other



land uses impacting agricultural land. The intent is to develop new policy instruments to encourage stewardship and conservation on private and public lands which might otherwise get developed to other uses. Private land stewardship incentives are one of the primary mechanisms proposed to help direct development from specific landscapes. A number of possible tools are mentioned, which include: transfer of development credits (TDCs), land trusts and conservation easements, or market based (monetary) incentives for keeping ecologically significant land free of development. Land Trusts and conservation easements currently exist; however, their application has been used only on a limited basis. If the TDC legislation is adopted, it will provide a unique new policy framework for development and conservation initiatives.

*Strategy 5 – Promote efficient use of land to reduce the footprint of human activities on Alberta’s landscape.* This strategy applies the principle that land management and growth should consider the needs of future generations. It includes general land use planning principles such as: minimize the amount of land taken from undeveloped (including agricultural uses) for new developments; use green / low impact development technologies; encourage higher density and mixed use development where there is existing growth; and support development where there is existing infrastructure in place to support it. These are all principles of smart growth, and contribute to the ideology that preservation of the agricultural land base is an important Provincial goal.

The Alberta Land Stewardship Act (Bill C-36) is the Act which is intended to implement the Land Use Framework through adopted legislation. It received Royal Assent on June 4<sup>th</sup>, 2009, and will take effect once it is proclaimed. It includes the detailed legislation and includes amendments to the various existing Acts required to implement the land use framework. Once final signing into legislation occurs, County’s throughout Alberta will be expected to work within the new legislative framework – for new development applications and in bringing forth amendments to existing policy to comply with the new regulations.

### **CALGARY METROPOLITAN PLAN**

The Land Use Framework also establishes some immediate priorities for implementation. Among these is support for completion of the Calgary Metropolitan Plan (CMP). The CMP attempts to solve regional issues through inter-municipal collaboration and planning. It will eventually fall within the future South Saskatchewan Regional Planning area, providing a more detail level of planning to deal with the significant growth pressures specific to this region, but the status of the CMP pertaining to Rocky View County is more uncertain.

Rocky View Council did not support ratification of the CMP at the June 19<sup>th</sup>, CRP General Assembly, for five principal reasons including: annexation jurisdiction, public consultation process, terms of agreement for working together, voting structure, and water (servicing) allocation. On Tuesday, September 15<sup>th</sup>, Rocky View Council followed up on its earlier decision to not support ratification of the CMP, and voted unanimously to officially withdraw from the Regional Partnership.

The decision from the County Council to withdraw from the CRP has unknown implications. The important aspects for this discussion however, are that the CMP outlines regional landscapes, focuses high density development to certain areas only, it places a high priority on ecologically significant or open space areas, and it calls for sustaining the agricultural land base by minimizing fragmentation and conversion of agricultural lands to other uses. These highlights correspond directly to the County’s recently adopted Growth Management Strategy.

## **GROWTH MANAGEMENT STRATEGY**

Rocky View's Growth Management Strategy was adopted in 2009 and provides a 50 year vision intended to guide development growth in Rocky View based on sustainability principles, smart growth and triple-bottom-line decision making. The Strategy was based upon several themes which emerged through the public consultation process, which amongst these include:

- Preserving the rural character of the Municipality and fostering a sense of local community, and
- Protecting open spaces and the natural landscape, promoting water conservation and other environmental management practices, and supporting agricultural land conservation.

The Strategy is designed to limit sprawl, create livable communities, conserve agricultural land, promote Rocky View's character, and protect open spaces and the natural landscape. It provides for seven different forms, densities, and types of growth in the County, which include: Growth Nodes, Community Cores, existing Rural Communities, existing Country Residential Communities, Major Business Nodes, and Major and Minor Business Corridors. It is the Strategy's intent that these areas become the primary service and recreational centers for both people in those communities and the surrounding agricultural areas.

The Strategy also indicates that rural communities will continue to be the underlying fabric of Rocky View's agricultural and ranching heritage, and that working farms and ranches are vital to the social and economic integrity of Rocky View. By discouraging traditional country residential development, and concentrating growth in complete communities and along recognized transportation corridors, agricultural and ranching activities will be encouraged throughout the County. Lands not recognized as growth areas will retain their agricultural land use priority.

## **8. CONCLUSION**

This report provides a context to the current state of agriculture in Rocky View, and the policies within which agriculture is conducted. Some distinct trends and conclusions can be made.

Ranching and cropping activities have been and are the dominant agricultural land use. The ratio of ranching to cropping has remained generally consistent, and the cattle industry remains dominant in local operations. While the total number of farms involved in cattle has decreased slightly, the intensity of existing operations has increased.

Equestrian related land uses are increasing in number on the Rocky View landscape. These uses are a significant aspect of Rocky View's heritage and cultural values and a local market niche in breeding, training, and other related uses has the potential to be expanded on.

The average age of the agricultural operator in Rocky View is increasing, and a new generation of operators will need to be prepared to manage these farms under new climate and economic conditions.

Provincial and Municipal legislation emphasizes the importance of the agricultural industry, preservation of agricultural lands, and minimizing the disturbance to those operations. All jurisdictions within the province will be working within a new legislative

framework in the very near future. While local autonomy will prevail, County policy will need to be updated to reflect the new legislative framework. New opportunities for land management and conservation may be created out of this new framework but it is expected to be a challenging conversion process.

A more detailed review of the agricultural conditions in Rocky View County should be completed within the framework of an Agricultural Master Plan. The information contained within the Agricultural Master Plan will help provide policy direction related to agricultural land use and growth with needed amendments to the County's Land Use Bylaw, Municipal Development Plan, and other statutory documents as required. This information will enhance the concepts and intent of the Growth Management Strategy – which aims to preserve the agricultural land base and create growth nodes and community cores which are intended to be the primary service centers for those communities and surrounding agricultural areas.

The primary forces of the agriculture industry – being ranching and cropping, will likely remain the same in the future; however, the industry has and will continue to evolve. There is more variety in the types of agriculture occurring, there is a shift from traditional farming methods, and a reduction in average farm sizes – (although it is also recognized that the larger farms are also getting larger). Greenhouses, nursery products, and organic production are all on the rise – and a demand for locally grown (and / or organic) foods, has the potential to provide more opportunities for local producers. Rocky View County lands may be strategically located to capture some of this new demand, due to high quality soils, existing irrigation infrastructure which is not being used to its full capacity, a suitable growing season, and a large local population base to drive the demand. With a proactive approach, Rocky View County can help create new opportunities to foster continued growth and enhancement in the agriculture sector.

**Agricultural  
Context Study**

**Map 1:  
Soils**



**Reference**

Datum: NAD 83 Projection: 3TM OM 114  
Date: April 10, 2009 Rev. # : 1

**Legend**

Municipal Boundary

Lake / River

**Probability for Crop Production**

High

No significant limitations

Slight limitations

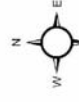
Moderate

Low

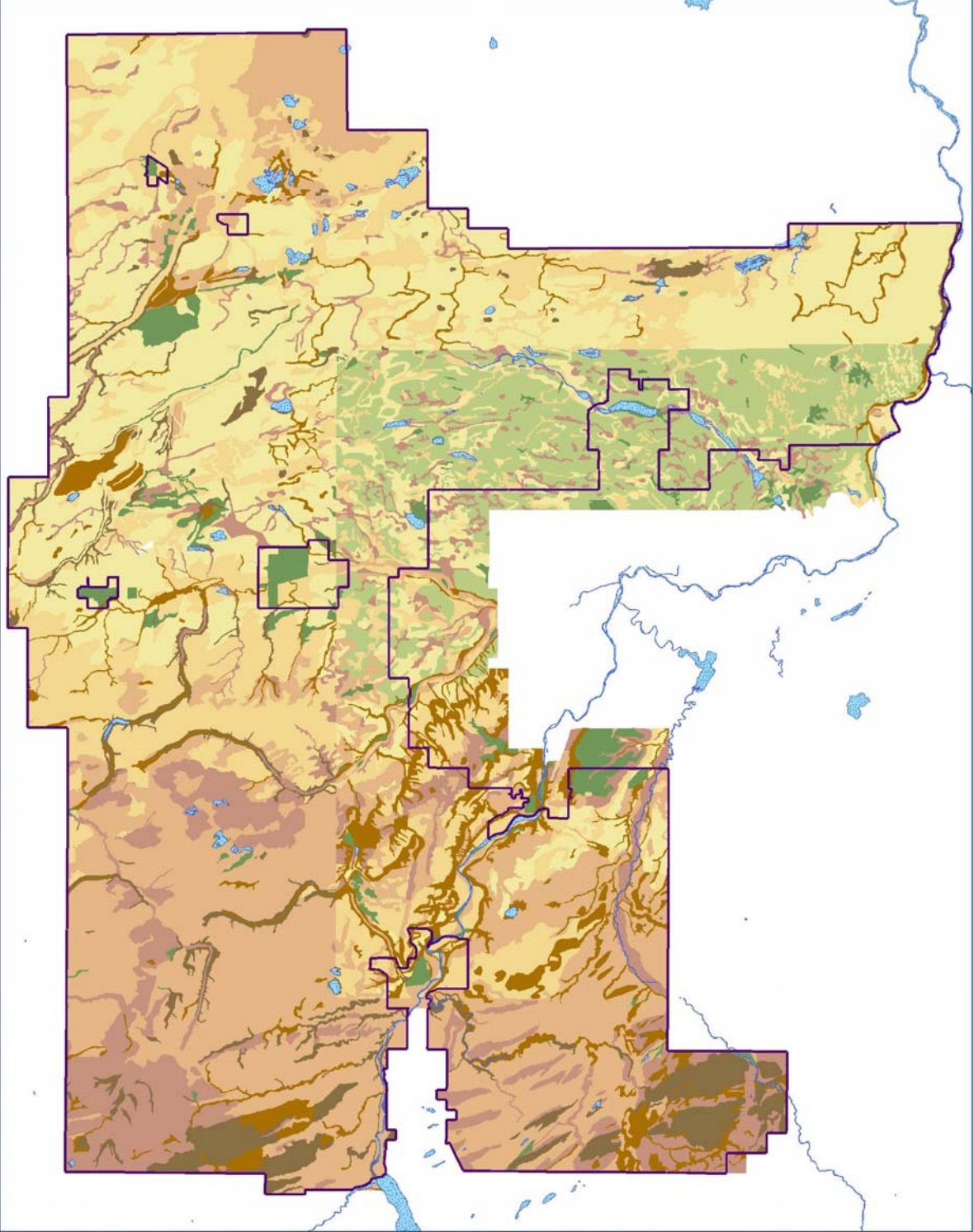
Very severe limitations

Cropping is not feasible

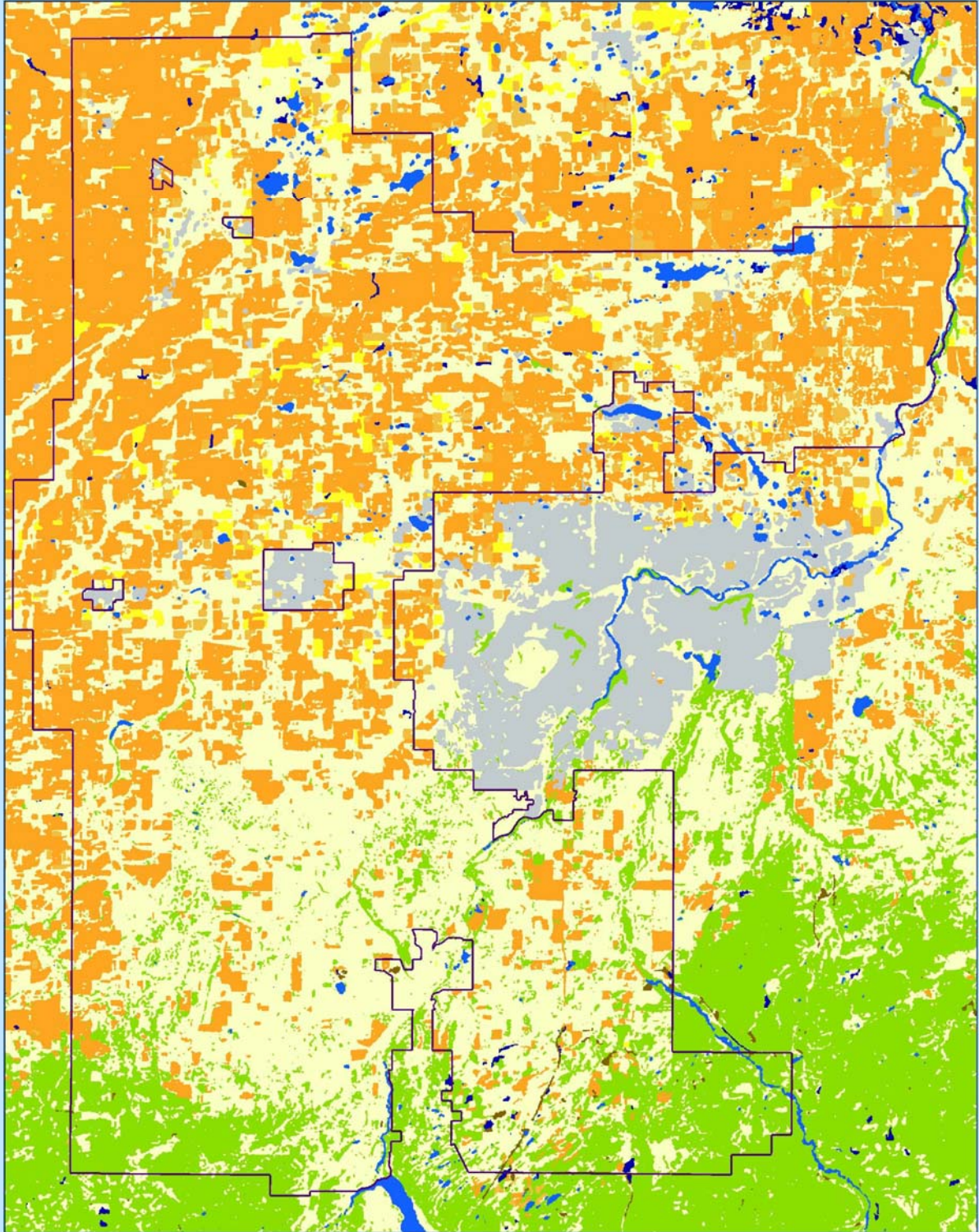
No capability of agriculture



This map is for planning purposes only. This map may not be reproduced, in whole or in part, in any form or by any means, without written permission of Rocky View. Rocky View provides no warranty or representation as to the accuracy or completeness of any information or data contained in this map or any other information or data contained in this map or any other information or data contained in this map.







**Agricultural  
Context Study**

**Map 2:  
Vegetation**

**Rocky View**  
COUNTY

Reference:  
Landcover AFSC 2006

Datum: NAD 83 Projection: 3TM CM 114

Date: Aug 25, 2009

Rev: # 2

**Legend**

Municipal Boundary

**Landcover Classification**

Annual Cropland

Barren

Built-up

Forest

Hay

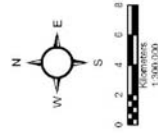
Improved Pasture

Native Pasture

Unclassified

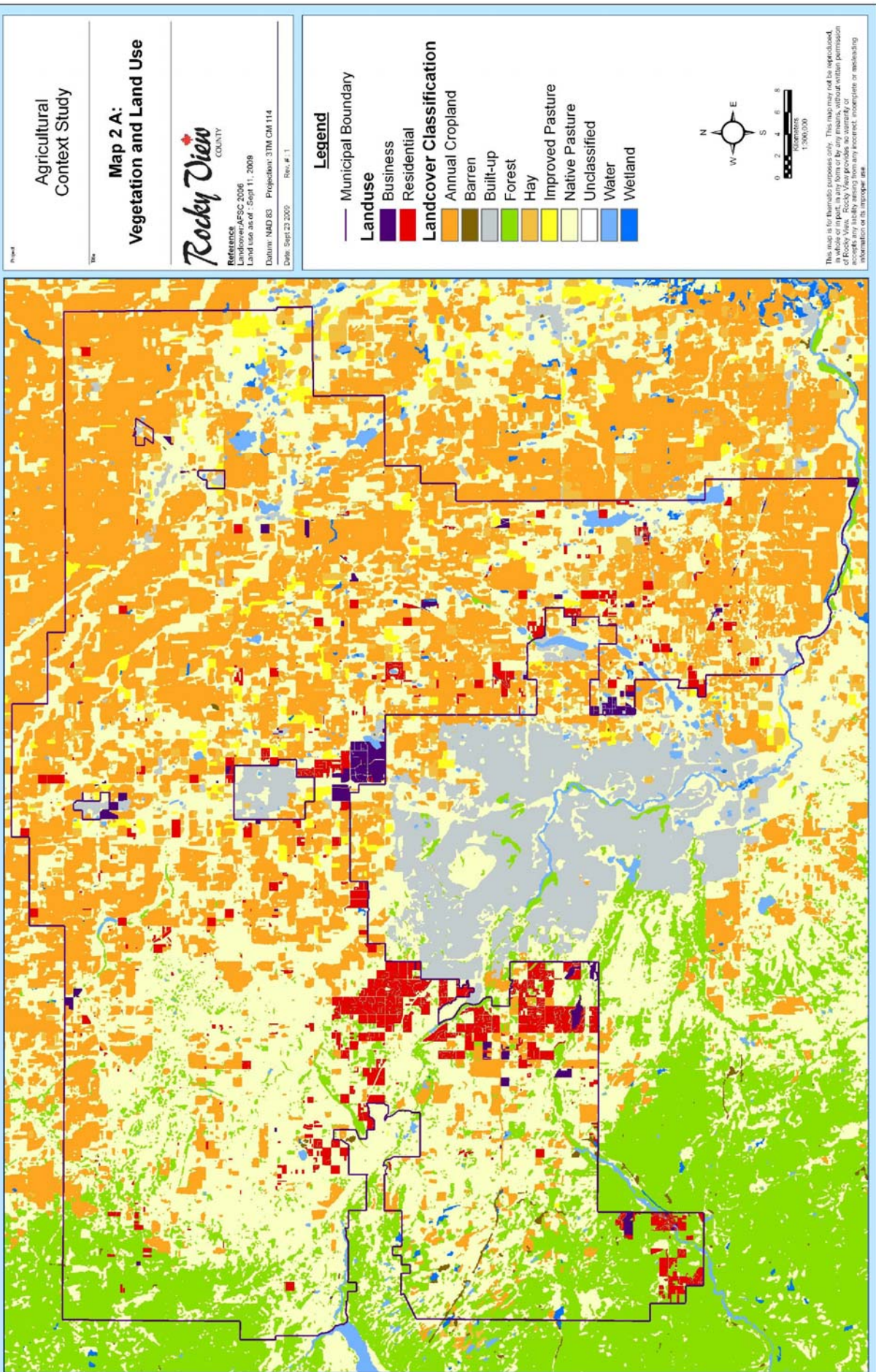
Water

Wetland

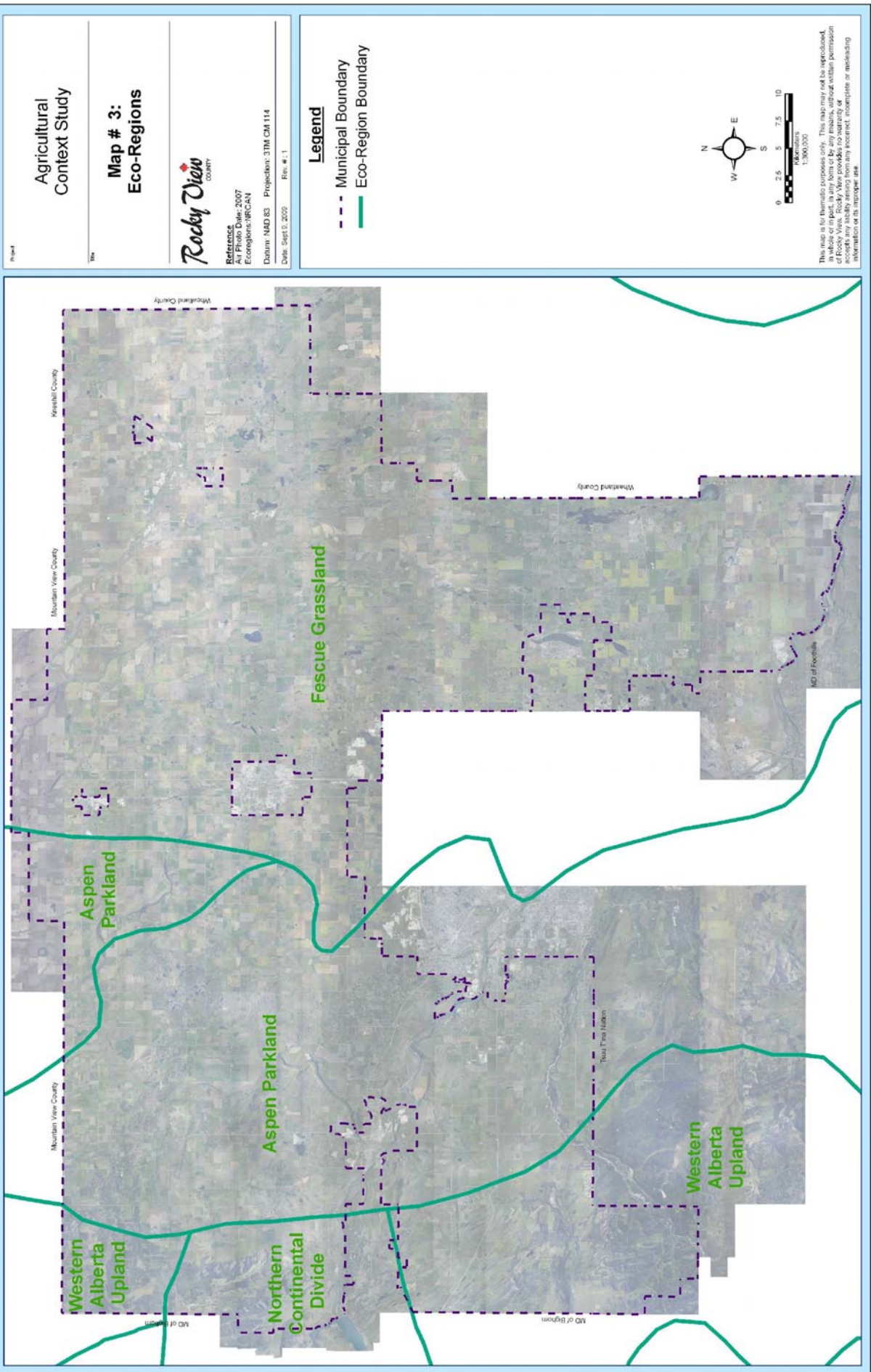


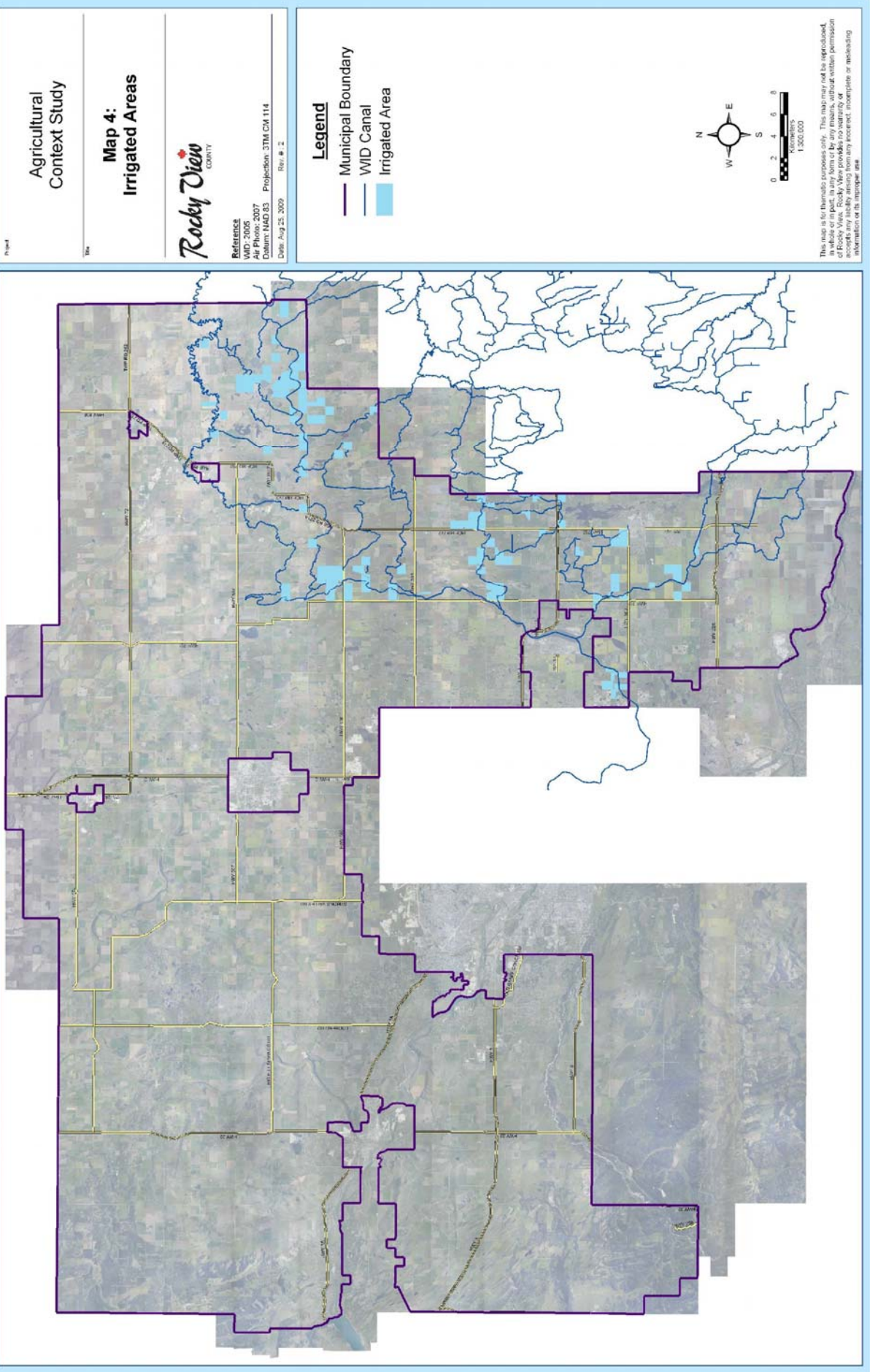
This map is for illustrative purposes only. This map may not be reproduced, stored in a retrieval system, or transmitted in any form or by any means, electronic, mechanical, photocopying, recording, or by any information storage and retrieval system, without the prior written permission of Rocky View. Rocky View provides no warranty or acceptance of liability arising from any incorrect, incomplete or misleading information or its improper use.













# Agricultural Context Study

## Map 5: Oil and Gas Development

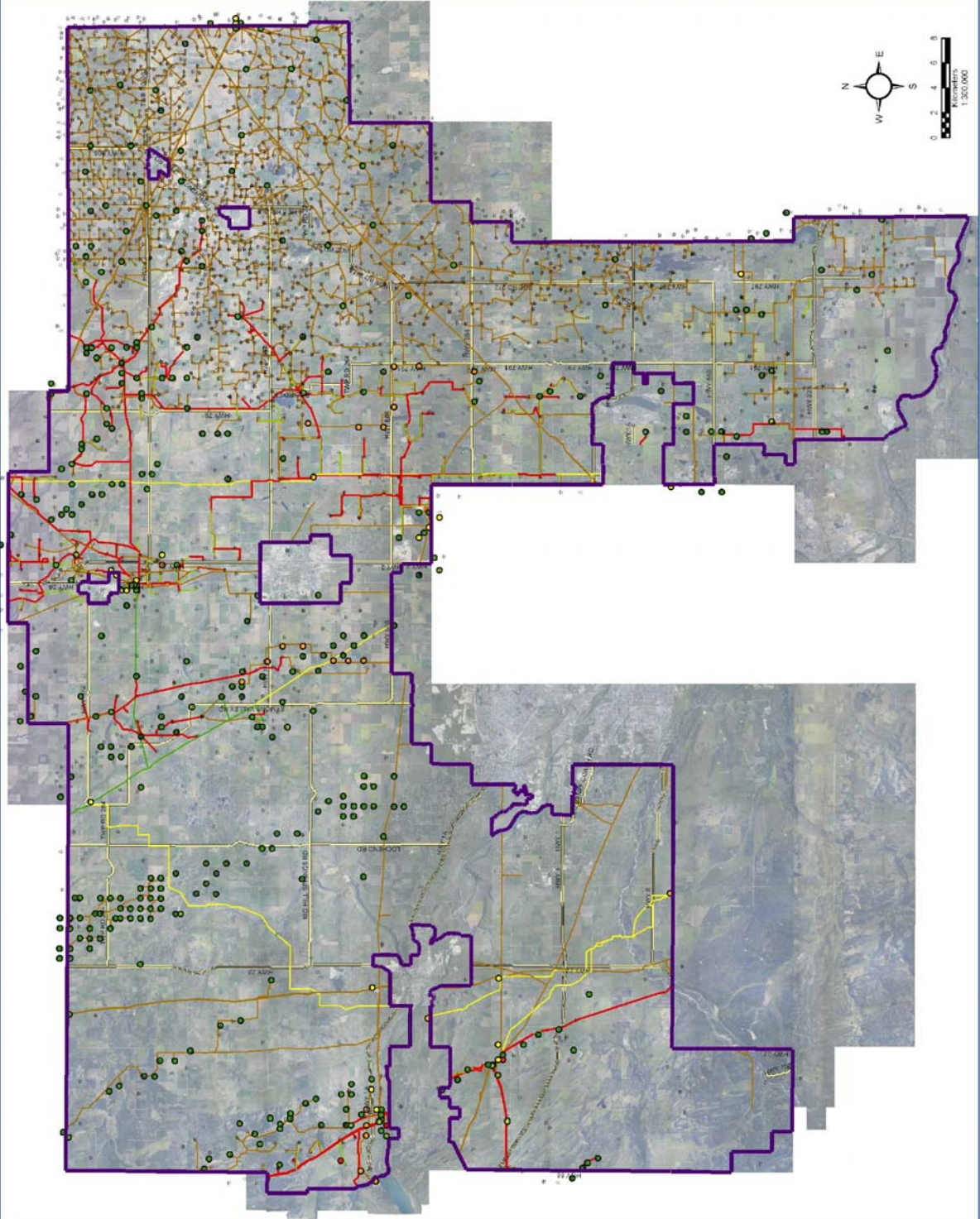
**Rocky View**  
COUNTY

Reference  
FRCB: July 2006  
Air Photo: 2007  
Datum: NAD 83 Projection: 3TM CM 114  
Date: Aug 25, 2009 Rev: # 2

### Legend

- Municipal Boundary
- Well Site
- Industry Facility**
  - Battery
  - Compressor Station
  - Cooler
  - Gas Gathering System
  - Gas Plants
  - Injections
  - Line Heater (Category C and D)
  - Meter Regulator Station
  - Meter Station
  - Oil Loading and Unloading Terminal
  - Pump Station
  - Regulator Station
  - Satellite
  - Tank Farm
  - Terminals
  - Waste Plants
  - Water Source
- Industry Pipeline**
  - Crude Oil
  - Fuel Gas
  - LVP Products
  - Natural Gas
  - Sour Natural Gas

This map is for thematic purposes only. This map may not be reproduced, stored in a retrieval system, or transmitted in any form or by any means, electronic, mechanical, photocopying, recording, or by any information storage or retrieval system, without the prior written permission of Rocky View. Rocky View provides no warranty or representation, or acceptance of any liability arising from any incorrect, incomplete or misleading information or its interpretation.





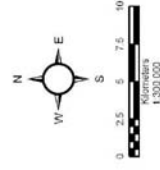
Agricultural  
Context Study

Map 6:  
Sand and Gravel Extraction

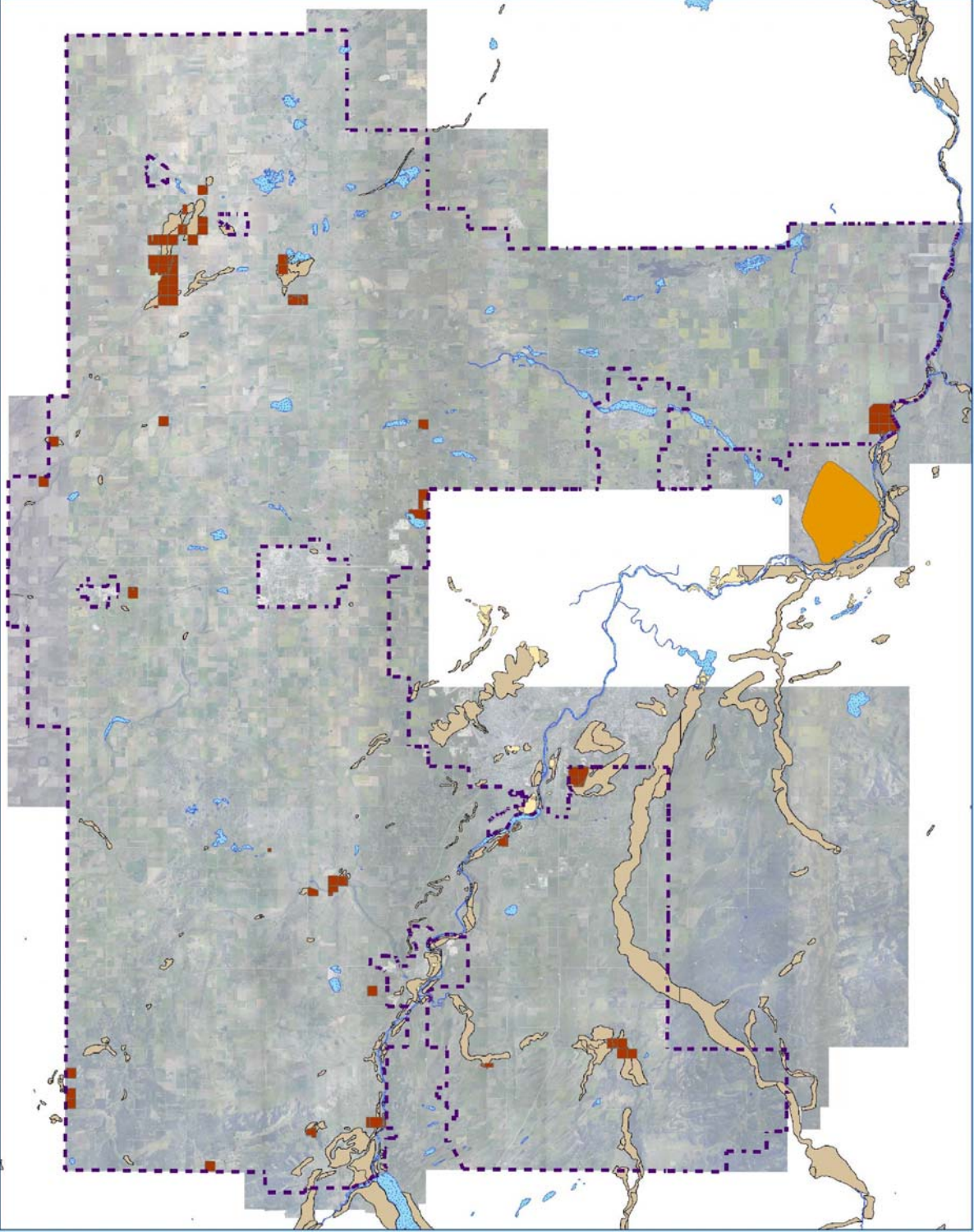
**Rocky View**  
COUNTY

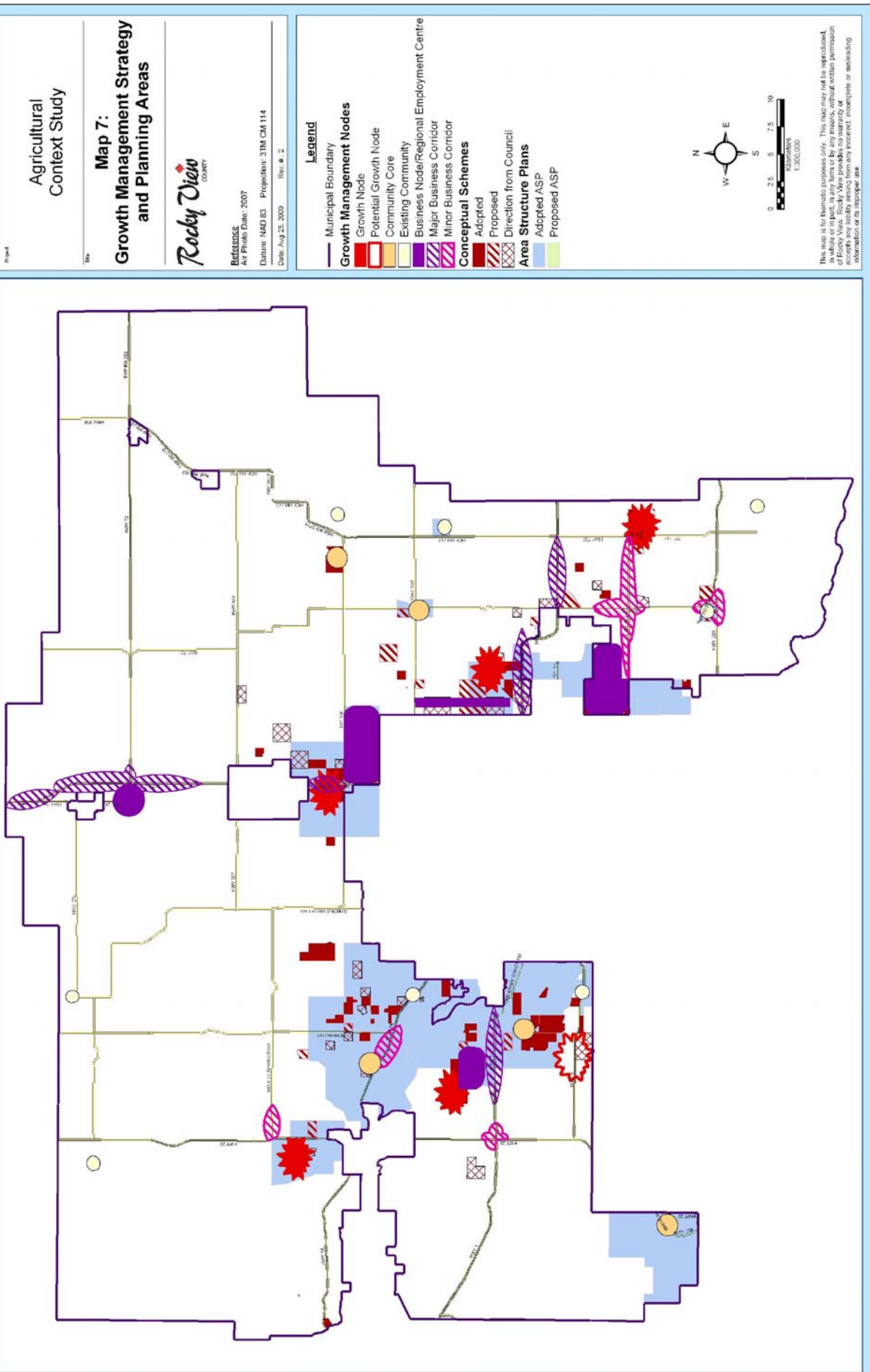
**Reference**  
Air Photo Date: 2007  
Land Use: Sept 23 2009  
Aggregate data: AB Geological Society  
Datum: NAD 83 Projection: 3TM CM 114  
Date: Sept 23 2009 Rev: # 1

- Legend**
- Municipal Boundary
  - Active or Previously Active Extraction Site
  - Available Deposits**
    - Buried Sand
    - Sand and Silt Veneer
    - Aggregate Sand and Gravel Deposits



This map is for illustrative purposes only. This map may not be reproduced, stored in a retrieval system, or transmitted in any form or by any means, electronic, mechanical, photocopying, recording, or by any information storage or retrieval system, without the prior written permission of Rocky View. Rocky View provides no warranty or acceptance of liability arising from any incorrect, incomplete or misleading information or its improper use.





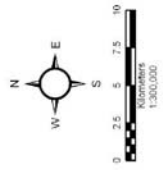
**Agricultural  
Context Study**

**Map 7:  
Growth Management Strategy  
and Planning Areas**



**References**  
Air Photo Date: 2007  
Datum: NAD 83 Projection: 3TM CM 114  
Date: Aug 25, 2009 Revision: 2

- Legend**
- Municipal Boundary
  - Growth Management Nodes**
    - Growth Node
    - Potential Growth Node
    - Community Core
    - Existing Community
    - Business Node/Regional Employment Centre
    - Major Business Corridor
    - Minor Business Corridor
  - Conceptual Schemes**
    - Adopted
    - Proposed
    - Direction from Council
  - Area Structure Plans**
    - Adopted ASP
    - Proposed ASP



This map is for informational purposes only. This map may not be reproduced, stored in a retrieval system, or transmitted in any form or by any means, electronic, mechanical, photocopying, recording, or by any information storage or retrieval system, without the prior written permission of Rocky View County. Rocky View County does not warrant, represent, or accept any liability arising from any incorrect, incomplete or misleading information or its improper use.

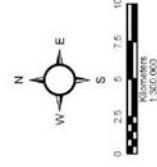
# Agricultural Context Study

## Map 8: Annexation Information



**Reference**  
Growth corridors from, "City of Calgary Mediated  
Annexation Map Oct. 2005"  
Datum: NAD 83 Projection: 3TM CM 114  
Date: Sept. 02 2009 Rev. # 3

- Legend**
- Municipal Boundary
  - Transportation Utility Corridor
  - Joint Planning Area
  - Calgary IDP Study Area
  - Proposed Crossfield Annexation
  - Calgary 2007 Annexation
  - Calgary Residential Growth Corridor
  - Calgary Industrial Growth Corridor
  - Rocky View Residential Growth Corridor
  - Rocky View Industrial Growth Corridor



This map is for illustrative purposes only. This map may not be reproduced, stored in a retrieval system, or transmitted in any form or by any means, electronic, mechanical, photocopying, recording, or by any information storage or retrieval system, without the prior written permission of Rocky View. Rocky View provides no warranty or acceptance of liability arising from any incorrect, incomplete or misleading information or its improper use.

