

**STEWARDSHIP RANCHING LANDSCAPES IN THE CALGARY REGION: A LAND-USE
PLANNING ANALYSIS**

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ABSTRACT

In recent years, ranching landscapes west of Calgary, Alberta, have experienced intensifying land-use pressures related to urban growth and development in the region. The purpose of this thesis is to better understand how people who live in two rural municipalities surrounding Calgary perceive and value ranching landscapes, as the basis for land-use planning approaches to improve private land stewardship. Based on a qualitative comparative case study, the thesis identifies several categories of landscape values and pressures, which interact to inform place meanings and ultimately land management decisions. Several policy gaps are identified in each municipality through an assessment of the local land-use planning frameworks. Overall the study reveals that not all landscape values are currently recognized in the land-use planning process. It suggests a framework for land stewardship based on five elements: a working landscape approach, fair compensation, integrated landscape assessment, social learning opportunities, and coordinated, multi-scale solutions.

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LIST OF ABBREVIATIONS

ALSA	Alberta Land Stewardship Act
AMP	Agriculture Master Plan (Rocky View County)
CEM	Cumulative Effects Management
CES	Cultural Ecosystem Services
CFO	Confined Feeding Operation
CLI	Canadian Land Inventory
CMP	Calgary Metropolitan Plan
CP	County Plan (Rocky View County)
CRP	Calgary Regional Partnership
ES	Ecosystem Services
LUF	Land Use Framework
MFA	Multifunctional Agriculture
MGA	Municipal Government Act
PES	Payment for Ecosystem Services
SSRP	South Saskatchewan Regional Plan

CHAPTER 1: INTRODUCTION

1.0 Introduction

Since the cattle boom of the 1880s, ranching has been the dominant form of agriculture in the foothills region south and west of Calgary, shaping a distinct cultural landscape (MacLachlan, 1996; Kariel, 1997; Evans, 2001; Foran, 2003; Evans, 2004; Novak, 2005; Simonson & Johnson, 2005). Ideal for cattle grazing, these ranching landscapes are also ecologically significant, rich in biodiversity, and highly valued for their natural beauty (Evans, 2001, 2004; Rocky View County, 2009; MD of Foothills No.31, 2012; Blanchard et al., [n.d.]). However, rapid urban and exurban growth in the Calgary area has led to spillover development pressures, the conversion and fragmentation of agricultural land, and a range of tensions over competing land uses. These include acreage and high-density residential developments, oil and gas activity, expanding recreational uses, and the construction of commercial and industrial facilities (Resource Planning Group, Policy Secretariat, 2002; Duke et al., 2003; Simonson & Johnson, 2005; Rocky View County, 2009; MD of Foothills No.31, 2010; Gardner, 2015).

Through the Land-use Framework, the Government of Alberta (2008) has committed to managing the cumulative impacts of human activities on the landscape, and has introduced voluntary measures to encourage private land conservation (Hanson, 2013). However, very little research has been done to date on the land-use pressures impacting ranching landscapes. How is agricultural land in the Calgary region being impacted by different developments? Which landscape values are at stake? Whose goals are driving land-use decisions? This thesis will

contribute a better understanding of the priorities and concerns of people who live in Rocky View County and the MD of Foothills, and the diverse values embedded in ranching landscapes. It will also assess the extent to which these values and concerns are reflected in the local and regional land-use planning framework. Findings from this study will provide insights for agricultural land-use planning that help to balance competing interests, recognize a broad range of landscape values and impacts, and ultimately promote the continued stewardship of ranching landscapes in Alberta.

1.1 Background to Research Problem

In the last three decades of the twentieth century, Alberta's population nearly doubled, reaching over three million people by 2006 (Statistics Canada, 2011). This influx of people generated greater demand and competition for natural resources in the province, including water and land. In response to these pressures, as well as broader public calls for ecosystem management, the Government of Alberta released a new governance mechanism called the Land-use Framework (LUF) in 2008, enabled through the Alberta Land Stewardship Act (ALSA) in 2009. The LUF calls for the creation of seven regional plans corresponding to major watersheds in the province. These regional plans are intended to deal with the cumulative effects of various types of development (Parkins, 2011; Hanson, 2013). They also address the conservation and stewardship of both public and private lands (constituting 60% and 30% of Alberta's 642,317km² of land area respectively), which have historically been regulated through distinct management and planning frameworks (Government of Alberta, 2007). Under the Land-use Framework, municipal planning

and development policies are now required to align with regional plans to achieve regional outcomes. Thus the Land-use Framework introduces a more coherent planning hierarchy and a more centralized way of managing and monitoring land use. Roth and Howie (2011, p.477) characterize the Alberta Land Stewardship Act as the first “super legislation” of its kind in Canada, in that it makes all other provincial legislation and statutory plans subordinate to its regional planning provisions, is legally binding on every land-use authority in the province, and applies to both public and private land (see also Kaplinsky & Percy, 2014).

The Land-use Framework’s focus on cumulative effects represents an important shift from the government’s previous “multiple-use” land management approach, which sought to meet the needs of multiple users simultaneously, and ignored the additive or aggregate consequences of individual projects (Holroyd, 2008; Roth & Howie, 2011; Lavelle, 2012). In contrast, the new ecosystem management approach recognizes that the environment has a finite carrying capacity and there is a need to reduce the human footprint through more efficient use of the land resource. It also recognizes that private lands provide a broad range of ecosystem goods and services, and are thus an important part of provincial land management (Government of Alberta, 2008). Accordingly, the ALSA provides for a number of market-based instruments and voluntary incentives to encourage ecological and agricultural conservation efforts on private land. This shift in responsibility from public agencies to private actors, also evident in Alberta’s water and other natural resource management systems, is part of a broader transition from government to “networked activities of *governance*” amongst a variety of

public and private actors at multiple scales (Morrison et al., 2015, p.1603; emphasis original; also de Loë et al., 2009; Hanson, 2013). This new governance structure has critical implications for a state-centered activity such as rural regional planning, which Morrison et al. (2015) suggest has traditionally relied on a top-down approach to leadership and resourcing, expert-driven scientific rationality and “a commitment to the integrated development of natural resources for human use” (p.1603).

The introduction of the Land-use Framework and the Alberta Land Stewardship Act touched off considerable debate centering on the appropriate role of the government in regulating land to ensure public goods such as “clean water and air, healthy habitat and riparian areas, abundant wild species and fisheries” (Government of Alberta, 2008, p.3). When the ALSA was released, some members of the public expressed grave concerns over the powers the Act gave to the provincial government. Landowners opposed its perceived challenges to private property rights, undue restrictions on the right to claim compensation, and the lack of appeal process. Lavelle (2012) argues that much of the opposition was based on a mistaken belief that rights to compensation are broader than they actually are. Further, many of the landowners’ concerns reflected misinterpretations of the ALSA that were motivated not by a well-founded legal basis but by a difference in political views,

[...] including a preference for non-state solutions to public goods problems; the need for greater compensation to the landowner for any impact on property values resulting from government regulation to provide public goods; and a different conception of private property (Lavelle, 2012, p.592).

The government responded to landowner concerns by amending the Alberta Land Stewardship Act in 2011 to clarify property rights issues and to provide for new

variance and review procedures. They also initiated a Property Rights Task Force, which found that, while many Albertans agreed with the need for regional planning, they felt the approach was too “heavy-handed and restrictive” (Government of Alberta, 2012, p.15). Ultimately, property owners wanted a more comprehensive compensation framework when land rights were appropriated for the public good, and a clear definition of property rights, enshrined in legislation.

Concerns about property rights and compensation remain unresolved. However, the South Saskatchewan Regional Plan (SSRP), released in 2014 as Alberta’s second regional plan, reflects a more moderate approach to land-use planning and management than originally called for under the Land-use Framework. Shaped by three phases of public consultation, the SSRP replaces the Provincial Land Use Policies (1996) for the South Saskatchewan region, which includes the Calgary area. It includes no legally binding regulations for agricultural land use and leaves a considerable amount of discretion to municipal governments. However, it does create stronger expectations for municipalities to maintain an agricultural land base (Implementation Plan, Policies 8.19 to 8.22), and introduces systems to monitor, evaluate and report on the conversion and fragmentation of agricultural land (Alberta Agriculture and Forestry, 2016). The SSRP follows the direction of the Land-use Framework in recognizing the cumulative effects of multiple development pressures on the land, the need for more efficient use of land, and a shared responsibility for stewardship (Government of Alberta, 2014b).

The land-use planning context in Alberta continues to evolve. In 2012 the Government of Alberta announced a review of the Municipal Government Act

(MGA), which delegates most land-use planning decisions to local authorities (LeSage & McMillan, 2008). Alberta's NDP Government, elected in May 2015, has committed to continuing the reviews as part of a "new era in provincial-municipal relations" defined by regional cooperation (Government of Alberta, 2015b). They plan to introduce an updated MGA in the Legislature in spring 2016, and to proclaim all changes before municipal elections in the fall of 2017. An important part of the NDP's revisions include new regional growth management boards for Calgary and Edmonton, which will replace the controversial Calgary Regional Partnership (CRP) currently in place, and its legislated counterpart in the Capital Region. While the CRP is a voluntary body, the new boards will be mandatory (Bilous, 2015), which will no doubt add a degree of complexity into the planning framework for Calgary and its surrounding municipalities.

The growing pressures on agricultural land in Alberta raise the critical question of how to effectively balance competing economic, environmental, social and political interests. The case for diverse, localized strategies to protect agricultural land as a matter of public interest has been made in other Canadian provinces (Bryant & Granjon, 2007; Caldwell et al., 2007; Smith, 2007; Hall, 2009; Turvey & Konyi, 2009; Caldwell, 2010; Bryant, 2013). However, few researchers have examined whether agricultural land needs to be protected in Alberta – and if so, why, where and how. Ranching landscapes in particular have received attention from ecologists, conservation biologists and natural resource managers (e.g. Desserud et al., 2010; Linke et al., 2013; Smith et al., 2015), but have been largely ignored in the rural geography and land-use planning literature in Canada (for an

exception see Evans, 2001). More research is required to understand the views of people who live and work in ranching landscapes in the Calgary region, and the ways in which they are being impacted by development pressures. This is particularly critical in light of the shifting responsibility for land conservation in Alberta toward private actors, who manage large tracts of both privately owned and public land in the province.

1.2 Research Purpose, Objectives and Questions

This study has two primary objectives stemming from the identified need to better understand the different interests and pressures impacting ranching landscapes. These objectives are to: 1) develop an in-depth understanding of how people who live in Rocky View County and the MD of Foothills perceive and value ranching landscapes; and 2) identify land-use planning approaches that help to sustain diverse landscape values in the long term. The three specific research questions of this thesis are:

1. How do people who live in Rocky View County and the MD of Foothills perceive and value ranching landscapes?
 - a. What are the characteristics and boundaries of ranching landscapes in the two counties?
 - b. What do people value about ranching landscapes?
 - c. What ecological, economic, socio-political, historical, cultural, personal and other factors inform people's views?
2. What pressures are ranching landscapes experiencing?
3. To what extent do the local and regional land-use planning frameworks reflect the landscape values and pressures that participants identified?
 - a. What are the gaps between the perceived landscape values and pressures, and the land-use planning framework?

In exploring these three questions, this thesis will contribute to research on agricultural land-use planning, political ecology, multifunctional agriculture and ecosystem services, all of which are concerned with policy approaches to managing agricultural landscapes. It will also provide insights that can inform land-use policy in Alberta. Finally, it will suggest alternative planning approaches that can potentially help resolve competing priorities, and promote a broad range of landscape values and sustainable land uses.

1.3 Thesis Organization

This thesis begins with a review of the literature to establish the context for approaching the research problem identified above. It also examines key approaches from landscape studies and political ecology literature, as well as concepts from ecosystem services and multifunctional agriculture, which together inform the conceptual framework for this study. Chapter 3 describes the research design and methodology used to approach the research questions of this study. To meet the first objective of this thesis, which is to understand ranching landscape pressures and values, Chapters 4 and 5 present the results of the case analysis of ranching landscapes in Rocky View County and the MD of Foothills. The next two chapters assess the local land-use planning framework for each county to identify beneficial strategies that promote diverse landscape values. Chapter 8 integrates the two case studies into a cross-case analysis to produce comparative results. Finally, the thesis concludes with a summary of the key findings and land-use planning suggestions emerging from the study.

CHAPTER 2: BACKGROUND TO THE RESEARCH AND CONCEPTUAL FRAMEWORK

2.0 Introduction

The assessment of landscape values and land-use priorities is an area of concern among several different disciplines including landscape ecology, conservation biology, environmental resource management, rural geography, and agricultural land-use planning. This chapter will provide a background for approaching the research problem outlined in the introductory chapter, by reviewing literature relevant to the objectives and questions identified. First, it will trace broad themes in the geography of agriculture in North America since the 1960s, including farmland loss, amenity agriculture, productivism and post-productivism, and sustainable rural development. Next it will examine several approaches to socio-ecological systems that inform the conceptual framework of this study. These include landscape studies and political ecology, as well as key concepts relating to ecosystem services and multifunctional agriculture. Finally, this section outlines the way in which specific concepts are used for the purpose of exploring landscape values and land stewardship in this thesis.

2.1 Agricultural Land-Use Planning in Canada

2.1.1 Farmland Loss

The disappearance of farmland emerged as a matter of public and scholarly interest in North America in the 1960s. Both Krueger (1959) and Crerar (1962) focused attention on the negative impacts of urban sprawl, and the “blind building” of cities

encroaching on foodlands (Crerar, 1962, p.133). Ontario's Urban Development in Rural Areas (UDIRA) policy statement, announced in 1966, was among the first in Canada to deal with urban development in rural areas; however, it was not until 1978 that the province's Food Land Guidelines specifically addressed farmland loss and the attendant fears of future food crises (Hoffman, 1982). Following the first generation of policy responses in Ontario and other jurisdictions, however, the basis for these fears became an important point of debate in the agricultural land-use planning field. In the 1980s and 1990s, scholars took a more critical view in assessing the significance of farmland loss, arguing for more empirical data analysis to substantiate the case for farmland preservation (Hart, 1976; Manning & McCuaig, 1981; Johnston & Smit, 1985; Cocklin et al., 1987).

Researchers also examined various factors underlying the rationale for protecting farmland in different jurisdictions. Bray (1980), for example, suggested that the philosophical orientations of governing political parties played a key role in shaping farmland protection strategies (also Pierce & Furuseth, 1982). More recently, both Skogstad (2008) and Macrae and Abergel (2012) have examined the adoption of a "market-liberal" paradigm in Canada, as part of the internationalization of the Canadian agri-food sector. Skogstad notes that the goal of economic competitiveness rests on a reduced role for the state and "the belief in the market as an efficient mechanism for allocating scarce resources" (Skogstad 2008, 19). This shift has had significant policy implications for the agri-food sector, but also raises questions about the appropriate role for government in regulating land-use.

While political and economic contexts have an important influence on agricultural land-use policy, public priorities are equally formative. Furuseth and Pierce (1982) comment that in order for farmland protection strategies to succeed, the public must perceive farmland loss as a problem requiring intervention. Whether the public does accept this need has not been examined extensively; however, both Caldwell (2007, 2010) and Troughton (2007) point out that high levels of food production and low commodity prices have posed a continuing challenge to arguments for farmland protection. Bunce (1998) uses the lens of discourse theory to examine two important ideological streams that shaped the early farmland preservation movement in Canada. These include the environmental perspective, which incited fears over the future availability of land for food production; and deep-rooted agrarian ideals that romanticized rural community life. Through these ideologies, espoused largely by urban populations, the farmland protection agenda has been dominated by non-agricultural voices.

On a similar note, some policies to protect agricultural land have failed as a result of clashes between abstract ideals about rural landscapes and the reality of farming activity. For example, Cadieux et al. (2013) highlight conflicting interests in Ontario's Greater Golden Horseshoe Greenbelt area that result from different perceptions of the countryside: on the one hand, an urban-based pastoral ideal, and on the other, the untidy reality of working rural landscapes, which includes industrial farming, aggregate mining and other uses. Cadieux et al. suggest that negotiation amongst actors with different interests is required to balance the privileged visions and values of experts in the planning process. Further, specific

policy tools are needed to reconcile tensions between the abstract ideals of the countryside and the reality of farming practice. In combination with other studies (Bryant et al., 1982; Bryant & Russwurm, 1982; Furuseth & Pierce, 1982; Wilton, 2007), both Bunce (1998) and Cadieux et al.'s work underlines the need for careful examination of the broader institutional and cultural context of policy formation and the rationale underlying agricultural land-use strategies. It also points to the need to better understand the differing ideologies surrounding agricultural land, and how these ideologies influence the land-use planning process.

2.1.2 Amenity Agriculture, Productivism and Post-Productivism

A closely related body of literature has focused on the diverse and overlapping interests in agricultural land. Irving (1966, p.10) coined the term “amenity agriculture” to describe what he saw as a shift away from food and fibre production toward new consumer, urban-oriented values for agricultural land. This shift in values accompanied the rapid urbanization that occurred in the second half of the twentieth century in North America, and the consequent change in the balance of political power favouring the urban majority (Evans, 2001). This shift is a critical theme that informs a body of systems-oriented studies of urban-rural interactions, which describe the constant tension between individual rights and the broader collective interest in agricultural land (Bryant & Russwurm, 1982; Bryant et al., 1982; Bryant & Johnston, 1992; Beesley, 2010). Bryant and Johnston (1992) apply an ‘interests in land’ perspective, focusing on four factors that are important in driving agricultural land-use change: the capital value of land, the role of land in supporting farming, the use of land for food production, and land as a support of

amenity. Along with Bryant and Chahine (2011), they argue that the agricultural land resource is associated with a range of values related to the “four P’s” of production, protection, play and place functions (Bryant & Johnston, 1992; see also Bryant et al., 1982). The systems perspective challenges the view of food production as the most significant priority of agricultural land, suggesting instead that a full range of functions and values must be taken into account in the land-use planning process. As Bryant, Russwurm and McClellan (1982, p.3) note, the way in which these complex economic, social and environmental values are “translated into priorities by society,” is critical for future generations’ quality of life.

In a similar vein, rural geographers working mostly in the UK adopted the concept of “post-productivism” in the 1990s to describe the transition from state-subsidized, intensive productivist agriculture to more diverse rural economic activities, new forms of governance and greater environmental regulation (Almstedt, 2013). Geographers using a social and political economy approach have argued that tourism, leisure and other consumer-led activities have transformed places of production into places of consumption (Marsden, 1998; McCarthy, 2008). Other scholars contest the degree to which the post-productivist shift has occurred, particularly outside the UK (Wilson, 2001; McCarthy, 2005; van Huylenbroeck et al., 2007; Wilson, 2007; Almstedt, 2013). Instead of relying on a simplistic productivist/post-productivist duality, they suggest that the concept of multifunctionality better embraces the non-linear and heterogeneous nature of change that has occurred as a result of increasing demands on rural areas, in addition to the continuing emphasis on production.

Van Huylenbroeck et al. (2007) describe multifunctionality as a paradigm that recognizes the positive non-market social, environmental and rural development outputs of agriculture, and rewards agriculture for producing them. Wilson (2007) expands on what he sees as narrow economic and policy-based interpretations of multifunctionality that have dominated the policy discourse, particularly in the European Union. He instead offers a more holistic conceptualization of multifunctional agriculture as a transitional process, which takes into account social, cultural and institutional contexts to explain agricultural and rural change. For Wilson, multifunctionality is a “spectrum bounded by productivist and non-productivist action and thought” within multifunctional rural space (Wilson, 2007, p.269). This more integrated perspective of multifunctionality emphasizes inclusive governance, achieved through innovative institutional arrangements that balance state regulation and guidance with collective and grassroots-led approaches (Wilson, 2007; Vanni, 2014).

In Canada, limited discussion about multifunctionality has taken place within the context of trade liberalization, in connection with agricultural economics and food systems (e.g. Skogstad, 2012; Blay-Palmer et al., 2013). However, there is potential for much more research on how the multifunctional nature of landscapes can be better articulated to reflect the changing value of rural places. As McCarthy (2005) suggests, a particular gap relates to the role of policy in recognizing and protecting the complete range of values that rural landscapes produce. The move toward decentralized rural regional governance, characterized by “networked policy making and implementation arrangements” (Morrison et al., 2015, p.1606),

adds a further imperative to understanding the range of alternative values, expectations and pressures that rural landscapes face, as the basis for appropriate policy responses.

2.1.3 Sustainable Rural Development

The growing interest in the multiple roles and functions of agricultural land from a range of rural and urban perspectives has shifted academic discussion away from the land resource itself, toward other matters including rural tourism, biodiversity objectives, and the long-term sustainable development of rural communities.

Researchers have discussed a number of comprehensive land-use strategies designed to reconcile the need to protect agricultural land for food production, with other competing developments (Gayler, 2005; Davidson, 2007; Hall, 2009; Cadieux et al., 2013). Such strategies include “Smart Growth” planning, which emphasizes the intensification and redevelopment of existing urban areas as a way of containing sprawl, and stabilizing the agricultural land market. Smart Growth takes a long-term, integrated perspective of sustainability that also addresses economic development and the livelihood of farmers (Gayler, 2005; Davidson, 2007).

Ontario’s *Greenbelt Plan* for the Golden Horseshoe area (Ministry of Municipal Affairs and Housing, 2005) is another example of a growth management strategy designed to ensure the continued availability of agricultural land to support long-term production and economic activity (Caldwell, 2010; Gayler, 2010).

Despite its recognition that competing values need to be balanced within the overall goal of preventing sprawl, however, the *Greenbelt Plan* has been criticized for failing to incorporate tools to reconcile different ideologies about the

countryside landscape, as discussed above (Cadieux et al., 2013). Cadieux et al. (2013, p.315) have also noted the contested nature of the government's intervention into property rights, through the implementation of planning activities. They raise questions that bear asking in other provinces as well: "Who has agency in the countryside? For whose benefit is something like a greenbelt instituted?" For Cadieux et al. (2013), the process of reconciling conflicting ideals about rural landscapes depends on local knowledge of landscape experience and a better understanding of what aspects of the rural landscape are meaningful to diverse local actors, alongside expert analysis.

The disconnect between the policy framework and the lived experience of agricultural producers is one of the key areas of agricultural land-use studies that requires further research (Bunce, 1998; Maxey, 2006; Cadieux et al., 2013). There is also a need to better understand the diverse goals and perspectives within land management regimes as the basis for more flexible, robust and representative solutions (Cadieux et al., 2013). This requires a community-oriented approach that recognizes diverse economic, ecological and socio-cultural landscape values and that accommodates legitimate collaborative roles in negotiating land use (Cadieux et al., 2013). Scholars broadly agree that more work needs to be done to better understand how different stakeholders perceive the land base, in order to identify management priorities and enhance land-use policy-making (Fry, 2001; de Groot, 2006; Natori & Chenoweth, 2008; Renting et al., 2009; de Groot et al., 2010; Conrad et al., 2011; Daniel et al., 2012; Hanson, 2013).

2.2 Conceptual Framework

This section describes the conceptual framework for this study (see Figure 2.1). It begins by examining cultural landscape and political ecology approaches as a combined framework for understanding ranching landscapes as a socio-ecological system. It then defines key concepts from the literature that are relevant to the questions of this study.

2.2.1 Cultural Landscapes

In recent years a number of disciplines, including landscape ecology and conservation biology, have embraced the concept of landscape as a way of approaching complex environmental issues (Fry, 2001; Dakin, 2003; Van Huylbroeck et al., 2007; McKinney et al., 2010; Laven et al., 2012; Angelstam et al., 2013; Ryan et al., 2014). An important point they raise is that the spatial scale for management needs to correspond with the ecological processes being managed. This is a valuable perspective for agricultural landscapes, which provide goods and services far beyond the individual farm unit (Lefebvre et al., 2015). Rather than focusing narrowly on ecological landscape properties, however, this study uses a cultural landscape lens to bridge concepts that are frequently dichotomized, such as nature and culture, tangible and intangible, material and ideological (Fry, 2001; Schaich et al., 2010; Plieninger et al., 2014; Anderson, 2015). The cultural landscape approach thus offers an even broader perspective of landscape, at the core of which is the dynamic human-nature relationship.

Landscape studies have a long history within human geography, and are grounded in the work of Paul Vidal de la Blache and Carl Sauer (Johnston & Sidaway,

2004). In recent decades, human geographers working within phenomenological, structural and post-structural traditions have broadened the definition of cultural landscapes using various analytical approaches (Duncan & Duncan, 2010). Whereas Sauer's morphological analysis drew attention to the form and pattern of landscapes as shaped by human activity, more recent phenomenological approaches by humanistic geographers have attempted to suspend preconceived notions to see landscapes as native dwellers do. Structural and post-structural researchers, meanwhile, emphasize the subjective and partial nature of researchers' understandings and focus on power relations embedded within contested landscapes (Duncan & Duncan, 2010). From this perspective, people's experience of the landscape relates not only to its material form, but also to the broader discourse and ideologies that shape the way people see the landscape (Taylor, 2012). Thus, as Duncan and Duncan (2010, p.239) suggest, the study of landscapes is concerned with the "socio-political relations that, although inextricably bound to the materiality of landscape, are not visible to the eye." This critical landscape tradition recognizes that landscapes include the cultural meanings and uses of land, which are continuously reshaped over time (Schaich et al., 2010; Taylor, 2010; Cadieux et al., 2013; Hanson, 2013; Leyshon, 2014).

Human geographers have also emphasized the importance of place in understanding the meaning people attach to the land within specific contexts (de Wit, 2013; Penker et al., 2013; Potschin & Haines-Young, 2013; Anderson, 2015). Taylor (2012, p.31) argues that ordinary landscapes "reveal societal attitudes and political choices"; they are embedded in stories about the ecology of a place and the

people who have moved through it. Places are strongly related to individual and group identities, as illustrated by research on sense of place. In his foundational work *Topophilia*, Tuan (1974) explored the concept of topophilia, which he described as “the affective bond between people and place or setting” (p.4). This bond could stem from aesthetic responses to a sense of natural beauty, tactile delight in a physical experience, or, more enduringly, the “feelings that one has toward a place because it is home, the locus of memories, and the means of gaining a livelihood” (p.93). De Wit (2013) extends this idea, defining sense of place as:

the beliefs, perceptions and attitudes held toward a place, as well as residents’ conscious and unconscious attachments to place, their feelings about local political and social issues, and their attitudes and feelings toward other places. [... It] can also be a strong component of personal, as well as group or community identity (p.121).

People’s relationships with place can have important economic and political consequences, including the extent to which they participate in landscape stewardship (Plieninger et al., 2015). Further, the strength of people’s connection to a place – what environmental psychologists term “place attachment” (Brown and Raymond, 2007) – has an important spatial component, which can be mapped to specific landscape values (Brown et al., 2015). As both social and spatial constructions, therefore, places are constantly maintained, ordered and bordered (Anderson, 2015). This view emphasizes the materiality of landscapes, but also reinforces the highly dynamic nature of landscape meanings, which must be understood in place-based contexts (Dakin, 2003).

2.2.2 Political Ecology

Political ecology approaches have also engaged with landscape inquiry. Like cultural geographers, political ecologists share concerns over meaning, land-use change, and contested property rights (Mitchell, 2001; Neumann, 2011). Political ecologists generally reject the more interpretive, representational and apolitical view of landscapes espoused by some cultural geographers. Instead, they critically engage with landscapes' symbolic meanings insofar as they recognize that diverse place meanings, including what people value and what they consider worthy of protection, influence land-use decision-making priorities. Contested place meanings further underlie the fundamental question of who should determine the goals of land conservation (Anderson, 2015; Neumann, 2011; Hurley, 2013; Ryan et al., 2014). The emphasis is on social relations of power in the experience of landscape – including the material consequences for people's everyday lives and livelihoods (Neumann, 2011). The political ecology approach is thus closely connected to issues of policy formation and governance, and the politics of resource control at a range of scales from local to global (Walker & Fortmann, 2003; Grabbatin & Rossi, 2012; Hurley, 2013). Cultural landscape and political ecology frameworks can be usefully combined to examine the tensions associated with conflicting land-uses, and the socio-political factors that underlie the policy formation process in Rocky View County and the MD of Foothills. More focus on the political dimensions of land-use decision-making can highlight the question of how ranching landscapes in the Calgary region should be managed, and by whom (Walker & Fortmann, 2003; Abrams & Bliss, 2012; Cadieux et al., 2013; Hurley, 2013).

2.2.3 Ecosystem Services and Cultural Ecosystem Services

This study also relies on key concepts from ecosystem services (ES), which is a framework for describing and categorizing the relationship between nature and human wellbeing (Costanza et al., 2014). It recognizes that ecosystems provide a number of services related to human wellbeing, which can be classified within four broad categories of provisioning, regulating, cultural and supporting services (Millennium Ecosystem Assessment, 2005). The ecosystem service approach identifies and valorizes these multiple benefits, using primarily biophysical modeling and monetary assessments (Pleininger et al., 2014). This approach has evolved into a mainstream conservation paradigm, which is reflected in the Alberta government's use of market-based instruments to encourage land conservation (Hanson, 2013).

Scholars studying Cultural Ecosystem Services (CES) in particular note that market-based valuation tools do not adequately account for the non-material benefits of ecosystems, such as sense of place or spiritual significance, which can play an important role in motivating public support for ecosystem protection (Schaich et al., 2010; Daniel et al., 2012; Milcu et al., 2013; Plieninger et al., 2014; Raymond et al., 2014; Huang et al., 2015). Because they are difficult to measure in monetary or biophysical terms, socio-cultural values are poorly integrated into management plans and are thus sometimes sacrificed for other economic and ecological reasons (Daniel et al., 2012; Milcu et al., 2013). Rather than market-based assessments, Plieninger et al. (2014, p.61) argue for socio-cultural landscape valuation, which better acknowledges “the broad multifunctionality of landscapes,

provides information about the perceptions of local people rather than experts, and draws attention to the consequences of changing land uses.” Many other authors agree that consultative, deliberative, participatory, and place-based approaches are required in order to account for the full range of landscape values in decision-making (Dakin, 2003; Parkins, 2011; Milcu et al., 2013; Potschin & Haines-Young, 2013; de Groot et al., 2014; Raymond et al., 2014; Henningsson et al., 2015).

2.2.4 Multifunctional Agriculture

While a few ecosystem services scholars focus specifically on agro-ecological systems (e.g. Swinton et al., 2007; van Zanten et al., 2014), research on agricultural landscapes has generally taken place within the alternative framework of multifunctional agriculture (MFA). As discussed briefly above, MFA is recognized as the benefits, values or impacts of agriculture in addition to its productive role, including collective goods such as food security, rural economic development, cultural heritage, biodiversity and recreational opportunities (Daugstad et al., 2006; de Groot et al., 2010; Ronningen et al., 2012; Skogstad, 2012; Blay-Palmer et al., 2013; Huang et al., 2015). Huang et al. (2015) note that, while ES and MFA overlap in many ways, MFA recognizes multiple “functions” of agricultural land – in which ecosystem services are outputs of agricultural activity. Thus, while both concepts are anthropocentric, MFA generally takes a farm-centered rather than service-centered approach that differentiates between private, or on-farm effects; and public, or off-farm effects (Huang et al., 2015). It has been strongly associated with the European Common Agricultural Policy (CAP) since the early 1990s, though Robinson (2004) notes that some US farm policies, including the Federal Agriculture

Improvement and Reform (FAIR) Act of 1996, also contained policies to decouple subsidies from production and redirect spending toward environmental and rural development.

A critical tenet of economic and policy-oriented views of MFA is that the market seldom rewards the collective goods that agriculture provides, beyond food production, and therefore public intervention and incentives are required to maintain them (Swinton et al., 2007; Van Huylenbroeck et al., 2007; Renting et al., 2009). As with ecosystem services, this view privileges public goods or functions that are most easily assessed in monetary terms. However, McCarthy (2005, p.774) points out that, “landscapes produce a range of commodity and noncommodity use values simultaneously and [...] policy ought to protect that entire range of values.” Wilson’s (2007, p.211) more holistic view of multifunctionality incorporates the “interlinkages” between “rural development, culture, the consumption countryside, societal needs, agency-led patterns and processes of agricultural and rural change, as well as environmental issues.” This broader conceptualization of multifunctionality calls for a better integration of ecological, socio-cultural and economic landscape values within governance processes, to help resolve competing societal demands and interests in agricultural landscapes – particularly the tensions between conservation and agricultural production (de Groot, 2006; Matthews & Selman, 2006; Wilson, 2007; Haaland et al., 2011; Parkins, 2011).

2.2.5 Landscape Values

Research on landscapes, ecosystem services and multifunctional agriculture frequently employs the concept of landscape values; however, these values are

rarely explicitly defined. Within agricultural geography, including studies of southern Alberta, much of the research on values has taken place within the behavioural tradition, which draws extensively on social and psychological theories (Ilbery, 1983; Burton, 2004; Mayberry et al., 2005; Hall, 2014; Howard, 2014). According to Mayberry et al. (2005, p.62), landholders' values are considered to be "cognitive representations of abstract goals, being similar to needs that motivate action." They are important because they influence people's attitudes, which are conceptually distinct from values, and ultimately their conservation behaviours (Mayberry et al., 2005; Natori & Chenoweth, 2008; de Groot et al. 2014). Insight about values can make an important contribution to environmental and land-use policies, particularly those that propose to protect public goods in exchange for payment options, as do recent agri-environment schemes (Robinson, 2004; Mayberry et al., 2005; McCarthy, 2005).

The advent of the European Landscape Convention in 2001 spurred a significant body of literature dealing with how to assess perceived landscape values as part of the formal planning process (Henningsson et al., 2015). As noted above, within ecosystem services research, 'value' is generally associated with the process of measuring the benefits delivered by ecosystem services, through monetary, and increasingly social, valuation. Though services are provided even in the absence of demand, they have value only when they are in demand by society; therefore, policies can affect the demand for, and thus value of, certain landscape functions over others (van Zanten et al., 2014). Multifunctional agriculture policies are similarly focused on assessing the trade-offs between "production goals and other

objectives such as environmental qualities (water quality, biodiversity, etc.) [and] the so-called *soft landscape values* such as biodiversity, cultural heritage, recreation and aesthetics” (Haaland et al., 2011, emphasis original). Political ecologists challenge this instrumental valuation approach, which implicitly posits that conflicts between private and public interests can be resolved by identifying the correct formula for pricing environmental or other collective goods (Robbins, 2012). Instead, political ecology and critical landscape studies emphasize issues such as contested property rights and struggles over place meanings (Mitchell, 2001; Neumann, 2011).

Further distinctions are often made between anthropocentric or instrumental values that relate to human needs, and ecocentric or intrinsic landscape values that exist apart from human need (de Groot, 2014). There has recently been debate within the field of conservation biology, which as a discipline is deeply rooted in the view that nature has value regardless of its worth to humans. Some scholars argue that the very existence of intrinsic nature values implies a moral obligation, “from which arises a demand for a certain kind of relationship with nature – a relationship that might be called conservation” (Vucetich et al., 2015, p.330). In contrast, Justus et al. (2009) argue that intrinsic value is a vaguely formulated concept that provides a poor ethical basis for conservation decision-making, which is an inevitably human process. Instead they believe that instrumental value – “simply value that depends on valuers” (Justus et al., 2009, p.189) – provides a stronger rationale for conservation. The challenge is in

recognizing that instrumental value is much more than the value that entities have “as instruments for human manipulation”:

Recognizing non-monetary instrumental value such as aesthetic, cultural, scientific and existence value – the value an entity has merely because its continued existence is valued – is sufficient (Justus et al., 2009, p.190).

This study recognizes the full scope of use and non-use, intrinsic and instrumental values that people may feel are important about the land; however, to Justus et al. (2009)’s point, these are potentially all better described as instrumental since they are considered from human perspectives. For the purpose of this thesis, these values are considered to be integral to the “complex interplay of features, processes, benefits, and values that is characteristic of cultural landscapes” (Plieninger et al., 2014, p.61). Thus while they can be grouped broadly into ecological, economic or socio-cultural categories for conceptual purposes, landscape values are much more heterogeneous, diverse, overlapping and dynamic. Further, they relate to a variety of economic, ecological, historical, cultural, socio-political and personal factors that together produce place meanings (Matthews & Selman, 2006; Hurley, 2013; Leyshon, 2014).

2.2.6 Stewardship

In Alberta’s Land-use Framework, stewardship is construed as a responsibility shared by public and private agencies; it is “an ethic whereby citizens, industry, communities and governments work together to responsibly care for and manage Alberta’s natural resources and environment” (Government of Alberta, 2008, p.52). This view is largely consistent with the definition proposed by Worrell and Appleby (2000, p.263), in which stewardship is,

the responsible use (including conservation) of natural resources in a way that takes full and balanced account of the interests of society, future generations, and other species, as well as of private needs, and accepts significant answerability to society.

As Worrell and Appleby note, the term stewardship is closely related to the idea of sustainability, and often has religious connotations. However, it has also developed wide secular usage within resource management, in which context stewardship draws particular attention to the role of (mainly private) land managers in delivering public benefits. Penker et al. (2013) extend this even further, seeing landscape stewardship as a service activity that constitutes the “actual activities necessary for the generation and conservation of landscape qualities” (Penker et al., 2013, p.55).

Within recent scholarly literature, much of the discussion around stewardship relates to landowners’ willingness to participate in land conservation incentive programs. Policy-oriented studies in this stream present stewardship as an unexamined concept (e.g. Adams et al., 2014) or as an ethic that recognizes a fairly straightforward relationship between an individual’s behavior and a conservation outcome (e.g. Sorice & Donland, 2015). Singh (2015) critiques the way in which Payment for Ecosystem Services (PES) programs (e.g. Claassen et al., 2008; Hajkowicz, 2009; Molnar & Kubiszewski, 2012) portray stewardship as a sacrifice or burden requiring payment. Instead, she sees stewardship through the lens of a “gift paradigm,” in which environmental care activity is “joyful and life-affirming” (p.53). Singh emphasizes the complexity of humans’ relationship to nature, and argues that the human impulse toward giving and environmental care should play a more significant role in formulating policy options.

Meanwhile, other scholars take a more critical stance in examining the concept of stewardship. A study of ranchers in the western United States revealed a common belief that, “when stewardship is done properly, when everything is in balance with the environment, it is seen as good for everyone and everything: the ranchers, the animals and the environment” (Ellis, 2013, p.435). Ellis (2013) concedes that cattle ranching is likely the most ethical form of animal agriculture production. However, he questions the logic of “coproduction and symbiosis” (p.436), which posits that ranch work is good for ranchers, as well as the environment and animals. This way of thinking naturalizes a sense of dominion and limits critical debate around “the very real moral and material problems inherent in production” (p.445). In the context of Australian rangelands, Gill (2013) also looks at the way in which landowners have construed stewardship as a mutually sustaining relationship with the land. He argues that such stewardship claims “are never innocent; they exist within a history of conflict over land use, land management and indigenous land rights” (p.295). Drawing from this range of views, stewardship is conceptualized in this study as both an ethic of responsibility and opportunity to care for the land, as well as the actual practices aimed at improving the quality of the land for present and future people and other species. At the same time this study recognizes, as both Ellis and Gill’s more critical interpretations suggest, that stewardship also has significant political, cultural and moral implications that need to be examined.

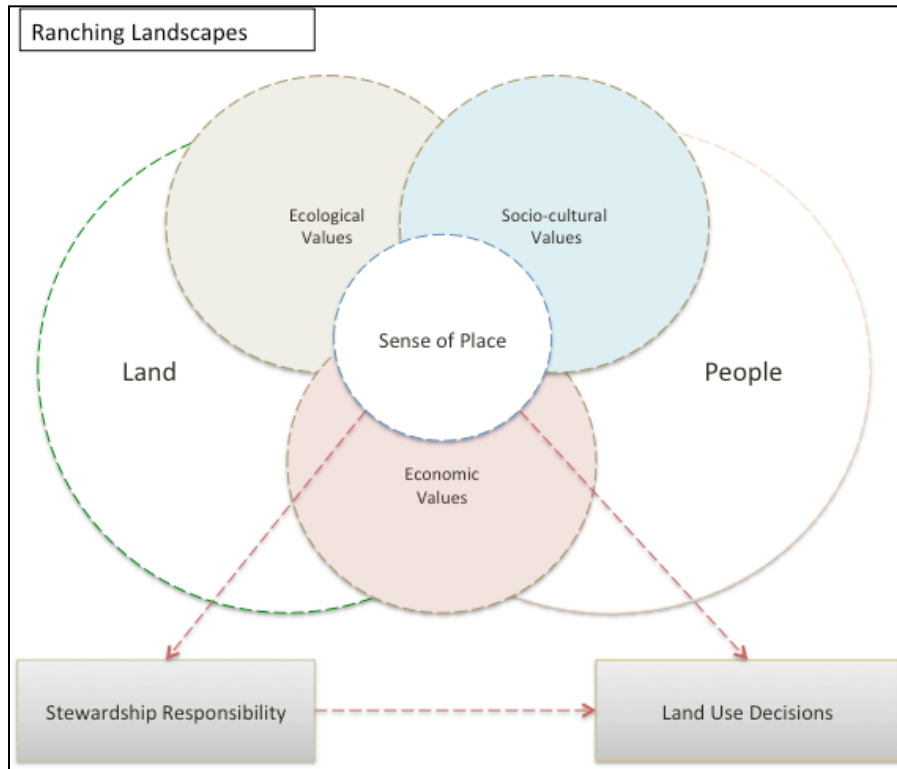


Figure 2.1: Schematic Representation of Conceptual Framework

2.3 Conclusions

Considered together, key concepts from landscape studies, political ecology, ecosystem services and multifunctional agriculture form a useful conceptual framework for examining the research questions of this study. Figure 2.1 illustrates the connection between the concepts described above, portraying the cultural landscape as a complex relationship between people and the land. Along with political ecology’s sensitivity to political issues, the cultural landscape framework provides a way to examine the tensions and interplay between various landscape values that interact to produce an individual’s sense of place. As landscape research increasingly recognizes, sense of place (alternatively place attachment) affects people’s attitudes toward conservation and planning – and ultimately their

participation in the stewardship of landscapes (Hurley, 2013; Plieninger et al., 2015). Therefore an in-depth understanding of how people view the land has a potentially important role to play in formulating policy responses that effectively balance a range of land-use interests and impacts in the long-term.

CHAPTER 3: RESEARCH DESIGN AND METHODOLOGY

3.0 Introduction

This chapter presents the research design and methodology for this thesis. It begins with a brief discussion on the philosophical stance and personal situatedness of the researcher, followed by a description of the case study design. This includes an overview of the study area, including Rocky View County and the MD of Foothills, and the sample of participants who were interviewed for this research. The remainder of this chapter then outlines the data collection and analysis procedures, concluding with a discussion about validity, rigour and ethical issues.

3.1 Philosophical Stance

Many agricultural geographers have approached landowner values and perceptions from a positivist paradigmatic perspective (Burton, 2004). Behavioural researchers (such as Ilbery, 1983; Burton, 2004; Mayberry et al., 2005; Natori & Chenoweth, 2008) have used mainly quantitative, survey-based instruments to understand farmers' preferences and decision-making processes (Burton, 2004). While these studies can contribute beneficial insights for policy making, the surveys themselves are typically constrained by the way in which questions are framed, and therefore may underplay potentially important insights. They also typically rely on typologies of farmers or landowners (e.g. Ilbery, 1983; Schoon & te Grotenhuis, 2000; Natori & Chenoweth, 2008), and distinct categories of values (e.g. Schoon & te Grotenhuis, 2000; de Groot et al., 2005; Mayberry et al., 2005; Brown & Raymond, 2007). Meanwhile, the emphasis on attitudes as the main determinant of behavior further

ignores other social and cultural influences (Burton, 2004). Because of these limitations, behavioural studies, and quantitative approaches generally, offer an overly simplistic view of the complex and dynamic factors that contribute to place meanings and people's diverse perceptions of landscapes.

As an alternative approach, this thesis is informed by the philosophical stance of critical realism, which seeks to understand the mechanisms that embed the meanings people have about nature (Shaw et al., 2010). These mechanisms are context specific, requiring in-depth case study and recognition of alternative viewpoints and perspectives (Shannon-Baker, 2015). Critical realism accepts a degree of epistemological constructivism, which holds that our understanding of the world is shaped by our individual perceptions of reality; however, this acceptance does not mean that knowledge "cannot successfully identify real objects (including social constructions) which exist independently of the researcher" (Sayer, 2000, p.90). Meanings, which according to Maxwell (2012, p.137-138) include "intention, cognition, affect, belief, evaluation, and anything else that could be encompassed in what is broadly termed the 'participants' perspective'," are not physical or directly observable. But they are nonetheless "as real as rocks" (Maxwell, 2012, p.18), in the sense that they influence how individuals act and therefore have real consequences. Critical realism thus provides a strong philosophical basis for investigating how people value and perceive ranching landscapes, and the ways in which those perceptions relate to land-use decisions and policy making. Further, critical realism provides a framework for more in-depth understanding of how people's views are

informed by their actual situations, including their social, cultural, political and economic contexts.

As Sayer (2000, p.23) asserts, a critical realist approach offers particular advantages for evaluation research. Rather than focusing on regularities or statistical associations, it examines “actors’ reasoning and circumstances in specific contexts – not in abstraction from them.” This brings more attention to the way in which policies work through individuals’ choices and perceptions, and the relationship between contexts, mechanisms and outcomes as the basis for explanation. The patterns and contingent relationships that are identified through context-specific research, such as case studies of ranching landscapes near Calgary, are not likely to be broadly representative. However, intensive research that takes a critical realist stance can help to identify the “causal powers of objects” that may be generalizable to other contexts (Sayer, 2000, p.21). Thus it offers an opportunity to extend the insights gained through this study to broader land-use planning contexts.

3.2 Personal Situatedness

Qualitative researchers recognize the need to “position” themselves within their work, in order to acknowledge the biases and experiences they bring to their research (Creswell, 2013, p.216). The research questions of this study are informed by my experience as a cultural heritage professional, and the growing interest among heritage managers in understanding cultural heritage places from a landscape perspective (e.g. Powell, 2000; Rössler, 2006; Shipley & Feick, 2009). This directed my curiosity toward agricultural landscapes and the question of how the land-use policy process accounts for cultural heritage values. In the fall of 2014 I

conducted five semi-structured interviews with key informants as part of an Agricultural Land Use Planning in Canada project (Connell, 2015), which partly funds my thesis research. These interviews also influenced my research questions by suggesting that within Alberta there is little consensus on the need to protect agricultural land. Rather than assuming that there are accepted rationales that underlie land-use planning decisions, a more open approach is required to investigate what agricultural land means to different people. Given this consideration I believe it is important to be sensitive to socio-cultural landscape values as a potentially significant contribution of this study; however, in analyzing my data I have attempted to remain conscious not to let my interest in cultural heritage overly influence the themes that emerged. This challenge is addressed using a number of strategies described below in the discussion on validity, including a grounded theory approach to thematic analysis.

3.3 Description of Case Study Design

The research objectives of this study are to develop an in-depth understanding of the perspectives of people who live and work in ranching landscapes, and to assess the extent to which a range of landscape values are reflected in local land-use planning contexts. Thus, a qualitative, comparative case study approach that incorporates both exploratory and evaluative components is an ideal research design. According to Yin (2014), case studies are useful in answering “how” and “why” questions, where the goal is to understand a contemporary phenomenon within its real-world context. Within policy evaluation, case studies can also help to reveal core issues in a “broader policy field” (Crabbé & Leroy, 2008, p.41). A

multiple-case study is generally considered more compelling and robust than a single-case study because of the strength of the analytic conclusions that can arise from independent analysis of two or more cases (Yin, 2014). Accordingly, two cases were examined for this project including ranching landscapes in Rocky View County, and ranching landscapes in the MD of Foothills, with the specific unit of analysis being the local frameworks for land-use planning (Yin, 2014).

An important limitation of a qualitative case study design is that it will not yield quantitative data about the values that landowners hold; therefore, the conclusions may be more difficult to apply by policy makers than an analysis of survey results. Indeed, qualitative research in general cannot be generalized beyond the setting or participants being studied; rather, it is valuable primarily for the particular, context-specific insights it can yield (Maxwell, 2013). While case studies cannot produce statistical generalizations applicable to a larger population, as Yin (2014) points out, they can generate analytic generalizations that advance existing or new theoretical concepts. For this thesis, a case study approach helps to provide insights into the complex nature of what ranching landscapes mean to different people who inhabit the land, and why. It also identifies beneficial land-use planning principles and practices that may have relevance for other agricultural settings.

3.4 Study Area

Rocky View County and the Municipal District (MD) of Foothills are rural municipalities that surround the City of Calgary (Figure 3.1). In recent years the agricultural land base in both counties has been increasingly fragmented, converted and impacted by various development pressures (Resource Planning Group, Policy

Secretariat, 2002; Evans, 2001; Rocky View County, 2011). Population growth has resulted in a greater density of structures, an increase in traffic along the major highways, and rising demand for recreational opportunities (Duke et al., 2003). Increasing acreage of country residential development in particular has driven up land values and exacerbated conflicts between residential and agricultural land uses (Resource Planning Group, Policy Secretariat, 2002; Duke et al., 2003; Rocky View Municipal District, 2009). Much of the development has occurred on better quality agricultural land near Calgary and other urban centres. However, the foothills south and west of Calgary have also been impacted by population increases, intensive crop and livestock production, forestry and energy sector activities, surface excavation, rural residential growth, and recreational use (Gardner, 2015). Ongoing landscape changes have sparked major concerns about the future environmental quality of the foothills if current land-use practices continue (Gardner, 2007; Stark et al., 2011).

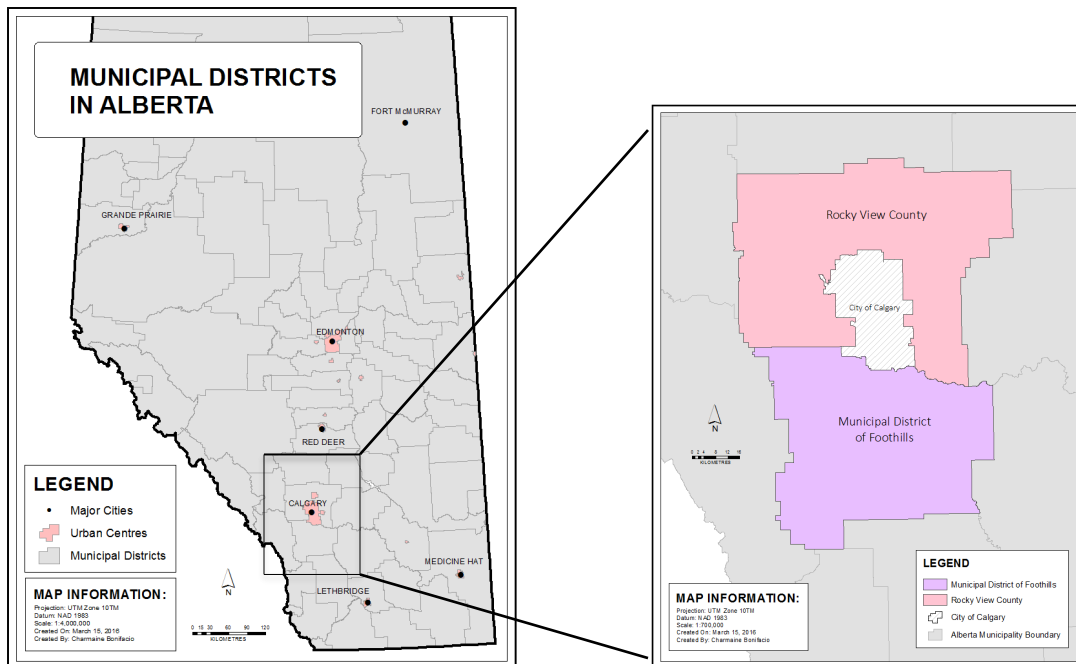


Figure 3.1: Geographic Context of Study

In terms of landscape characteristics and land-use patterns, there are three primary ecoregions in Rocky View County and the MD of Foothills, as defined by the National Ecological Framework for Canada (Ecological Stratification Working Group, 1996; see Figure 3.2). These include Fescue Grassland to the east of Calgary, which is characterized by Chinook winds, fescue grass and cultivated chernozemic black soils; Aspen Parkland to the west of Calgary, with cooler temperatures and more diverse trees, bushes and wildlife; and the more forested Western Alberta Upland toward the eastern slopes of the Rocky Mountains (Ecological Stratification Working Group, 1996; Rocky View Municipal District, 2009, Map#3). Rocky View County recognizes four regions that share common characteristics such as watersheds, agricultural types and growth pressures (Rocky View County 2013, Map 3). The MD of Foothills, meanwhile, has outlined five growth management districts based on distinctive historical development patterns, biophysical features, land uses, and growth pressures (MD of Foothills No.31, 2013).

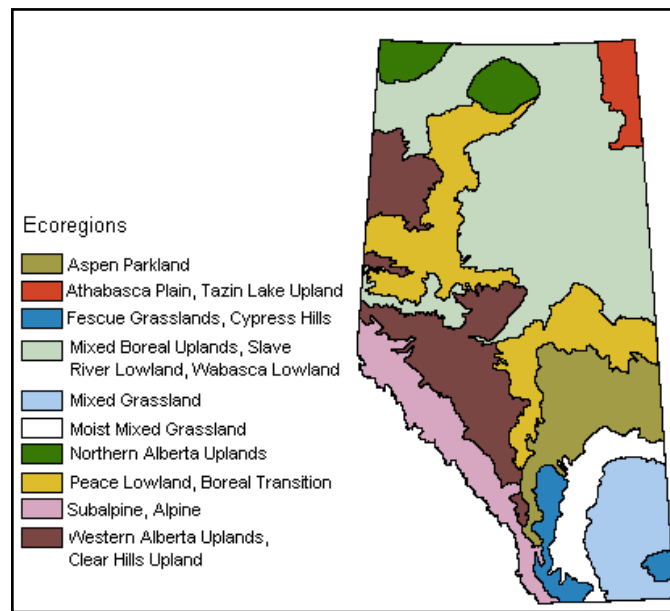


Figure 3.2: Ecoregions of Alberta (Alberta Agriculture and Forestry, 2015)

The western regions of both counties are characterized by native fescue grasses and large grazing leases, which have supported ranching activity for well over a century (MacLachlan, 1996; Kariel, 1997; Evans, 2001; Foran, 2003; Evans, 2004; Rocky View Municipal District, 2009; MD of Foothills No.31, 2013). Some of the largest and earliest ranches in Alberta include the OH and Bar U ranches in Foothills, and the Cochrane Ranche in Rocky View. With distinct physical, cultural, social, economic and political characteristics, these landscapes are highly valued for their diversity: In addition to their productive role, they filter water, sequester carbon, provide recreational and tourism opportunities, promote biodiversity and wildlife habitats, protect cultural heritage values and a strong sense of place, and offer open, scenic views that are important to people's sense of well-being (Evans, 2001, 2004; Stark et al., 2007; Rocky View County, 2009; MD of Foothills No.31, 2013; Blanchard et al., [n.d.]).

Because of their diversity, ranching landscapes in both counties are ideal study cases for investigating which, and whose, values are reflected in the land-use planning process. They help to illuminate the conceptual framework of this study (Yin, 2014), and can provide both rich information and a good opportunity for analytical generalization (Curtis et al., 2000). Rocky View County was selected as a case study site for the Agricultural Land Use Planning in Canada study, which, as noted above, received a Social Science and Humanities Research Council (SSHRC) Insight Grant that helped to support this thesis project. Because of its similarities in terms of biophysical characteristics, agricultural activity and growth pressures, the MD of Foothills serves as what Yin (2014, p.57) calls a "literal replication" case,

which can be expected to produce similar findings. At the same time, each municipality has developed unique policy approaches that respond to local needs and priorities, which offer a good opportunity for comparative analysis.

3.5 Sample

To better understand the diverse features, pressures and values that characterize ranching landscapes, this study required a heterogeneous sample of participants who live in Rocky View County and the MD of Foothills. The research drew on five interviews completed in Rocky View County in the Fall 2014 for the Agricultural Land Use Planning in Canada project. Additional participants from both counties were selected using a mixed purposive sampling technique to achieve maximum variation in perspectives (Creswell, 2013; Liamputtong, 2013), and to locate information-rich participants who could best answer the research questions (Creswell, 2013; Liamputtong, 2013; Maxwell, 2013). This involved consideration of a number of key criteria, including different ecoregions and planning districts within each county, the participant's gender, age and life-stage, the size and type of landholding, length of time it has been in the participant's family, and the extent to which it supports the participant's livelihood. Publicly available contact information was used to locate nine agricultural landowners and acreage residents, while personal contacts and snowball sampling helped to identify the remaining fourteen participants who fulfilled the inclusion criteria.

Nine of the twenty-three interview participants reside in Rocky View County and fourteen in Foothills. In total these represented five rural residential properties, two slightly larger non-commercial properties, and a range of small mixed family

farms, specialty corporate ranches and large multi-generational cow-calf operations. The sample for each county also included a range of ages, though only two participants were under the age of 35, and there were approximately twice as many men as women. Because of the study's focus on ranching landscapes, most participants were located west of Calgary in the Aspen Parkland ecoregion; however two reside in the Western Alberta Upland ecoregion and three live east or southeast of Calgary in the Fescue Grasslands. All municipal planning districts were represented, with the exception of the Central East district in Rocky View, where unfortunately no responses to invitations were received. Where landowners owned or held long-term grazing leases on several parcels of land, only the participant's location of residence was considered for the purposes of the sample. However, one participant owned property in both municipalities; she was considered a Rocky View County resident, but her responses were analyzed in relation to the property or county being referenced.

In addition to interviews with landowners and residents, ten land-use planning experts were interviewed to confirm that all relevant legislation and policies had been reviewed and accurately understood. Rocky View County experts included three agriculture and planning staff members, while comparable data from the MD of Foothills was obtained through interviews with one staff member and a Councillor for the MD. Regional planning experts included a representative of the Calgary Regional Partnership, a Councillor with the Town of Okotoks, a policy specialist with the provincial Agriculture department, a representative from the Miistakis Institute, and a land trust consulting advisor. Data from this series of

interviews was critical to the final research question of this thesis, which aimed to suggest land-use planning approaches that help sustain diverse ranching landscape values.

In qualitative research there is no typical formula for determining the appropriate sample size, and generally small samples are considered more beneficial for providing in-depth understanding (Mason, 2010; Liamputtong, 2013). For this research project it was important to ensure that a full range of perspectives was heard for each case study site. However, the sample size itself was guided by the concept of data saturation. This means that interviews continued until new data no longer provided significant new insight (Mason, 2010; Creswell, 2014). Scholars recognize that there is always the possibility of uncovering new data with further interviews; however, these will yield diminishing returns. Ultimately it is the quality and not quantity of interviews that will determine the point of saturation (Mason, 2010). Both the number of new categories identified through descriptive coding (described below) and the response rate to interview requests declined significantly after the first 25 interviews; however several more interviews were conducted to achieve a more balanced number of participants from each county and to ensure that the criteria for inclusion were all adequately addressed in the sample.

3.6 Data Collection Procedures

This thesis relied on two qualitative data collection methods to gain an in-depth understanding of the study sites (Thomas, 2011; Creswell, 2013; Liamputtong, 2013; Maxwell, 2013): qualitative in-depth interviews and document analysis.

3.6.1 Qualitative Interviews

The primary data collection method for this research project was qualitative in-depth interviews. An important issue discussed in the research-design literature involves the relationship between the interviewer and the participants. This study did not involve significant power asymmetry (Creswell, 2013); however, questions were posed in a non-threatening way and strove for a sense of understanding and empathy (Davies & Dodd, 2002). To minimize overly biased or leading questions (Yin, 2014), interviews followed a semi-structured interview protocol (see Appendices A and B), using probes to encourage rich responses. A pilot interview was conducted to refine the interview protocol and to ensure it aligned with the overall objectives of the study (Creswell, 2013). Interviews were held in homes, offices or a local coffee shop according to the participants' preferences. Informed consent was obtained prior to the interview, following the ethical procedures described below. Interviews were digitally recorded, and verbatim transcriptions were completed by the researcher and sent to participants for review as soon as possible following the interview. Changes to the transcripts were made as indicated by participants, and the revised transcripts were used for analysis. Three of the interviews were conducted by telephone and one in-person interview was not recorded, at the request of the participant; in these cases interview summaries based on hand-written notes were sent to participants for review.

3.6.2 Document Analysis

Qualitative interviews were paired with a content analysis of local and regional land-use policies, legislation and key public consultation reports. Documents are

considered an unobtrusive data collection method that can supplement and provide added context to qualitative interviews (Liamputtong, 2013). They have the advantage of using the language and words that participants use to describe the phenomenon being studied, and they can provide evidence that either corroborates or contradicts findings from other sources; therefore, they are critical data sources in case studies (Creswell, 2014; Yin, 2014).

This research project used a purposive sampling method to select the key legislation and policies that comprise the agricultural land-use planning framework for each county, developed between 2010 and 2015. Policy-making is generally recognized as an ongoing process involving distinct stages that move from the initial definition of a policy issue, to the implementation of policy initiatives and goals, to the impacts and outcomes of policies (Rist, 2000; Crabbé & Leroy, 2008). For this study, documents were selected to represent the three stages of Rist's (2000) simplified policy cycle: policy formation, policy implementation and policy accountability. Rist draws attention to the various actors involved in the policy process, including the formal policy makers as well as special interest groups and other constituents who influence the policy formation process. Local, regional and provincial land-use planning experts served as "key informants" to confirm the plans and policies that were most relevant to this research. However, this study also analyzed several public consultation reports that help illuminate the role and perspectives of different actors involved in the local land-use planning process. A number of reports and grey literature (Resource Planning Group, Policy Secretariat, 2002; Duke et al., 2003; Gardner, 2007; Stark et al., 2011; Cathcart, 2013; Kaplinsky

& Percy, 2014; Gardner, 2015; Blanchard et al., n.d.) were consulted for additional context where available but were not included in the document analysis because their scale (for example, southern Alberta foothills, or southwestern Alberta) did not align directly with either of the two case study sites.

3.6.3 Data Management

One of the main strategies for case study data collection is to create a case study database (Yin, 2014). Despite its limitations and its potential to subtly influence the data analysis process (Maxwell, 2013; Yin, 2014), computer-assisted qualitative data analysis software is widely recognized as a useful tool to help organize and retrieve categories and themes (Liamputtong, 2013; Creswell, 2014; Yin, 2014). Accordingly, all interview transcripts, memos and electronic versions of documents used in this study were managed using NVivo software. To increase the overall reliability of the case study, data was filed and analyzed separately by case. Narrative memos describing analytical categories and themes were also filed by case as they were developed (Yin, 2014).

3.7 Data Analysis Procedures

Yin (2014) outlines an analytical strategy for multiple case studies based on replication logic. He argues that each individual case should consist of a complete study with its own conclusions, which then uses replication logic to analyze results across cases. Liamputtong (2013) characterizes this process as within-case and cross-case analysis. Following this strategy, each case included thematic analysis of the qualitative interviews, content analysis of documents and “expert” interviews,

and an evaluation of the local land-use planning framework. Each of these data analysis procedures is described more fully below. After separate within-case analyses were complete for both Rocky View County and the MD of Foothills, themes and findings from both study sites were compiled into word tables and compared across the two cases (Yin, 2014). This cross-case synthesis was crucial for generating overall “lessons learned” and insights for beneficial land-use principles and practices.

3.7.1 Thematic Analysis of Qualitative Interviews

For an in-depth understanding of participants’ perspectives, qualitative interviews were analyzed using an inductive, or “ground up” thematic analysis process (Cresswell, 2013; Yin, 2014). Thematic analysis is described as an iterative process involving a constant comparison method in which the researcher goes back into the data repeatedly to think about the categories and connections between them (Creswell, 2013; Liamputtong, 2013). For this study, analysis began with some tentative *a priori* codes drawn from the conceptual framework and research questions – for example, stewardship, or economic values. It also looked for emergent, descriptive codes in the text. Next, these initial codes were organized into broader axial codes, to connect them together and identify hierarchical relationships between them (Liamputtong, 2013). The analysis then focused on the more substantive interpretation of patterns and meaning to identify latent rather than manifest content (Liamputtong, 2013; Saldaña, 2013; Vaismoradi et al., 2013). Analytical memos and conceptual diagrams created throughout the analysis process helped to conceptualize the data and record preliminary interpretations (Yin, 2014).

Ultimately this coding process helped distinguish patterns and connections in the qualitative interview data (Liamputtong, 2013) that provided an in-depth understanding of how participants perceive and value ranching landscapes. The themes that emerged also provided the basis for the evaluative component of this study.

3.7.2 Content Analysis of Documents

Content analysis is an analytical approach that qualitative researchers frequently use to examine textual data, including policy documents, to “check the patterns and trends of words used, their frequency, and relationships” (Liamputtong, 2013, p.246). Typically, descriptive categories are developed prior to analysis, and documents are then reviewed to systematically record occurrences of each category. Bryman (2012) advocates a more flexible approach in which researchers begin with some initial categories but also go back and forth between data and interpretation to refine categories and identify new ones. Following Bryman’s approach, land-use documents for this study were coded using the themes and axial codes identified during analysis of qualitative interviews; new categories were also recorded if they were relevant to the themes. Frequency counts pointed to some of the more obvious correspondence and/or gaps between these two sets of data. However, some researchers caution that the simple counting of data occurrences can miss the important context in which categories occur (Vaismoradi et al., 2013); thus additional data were also analyzed. Categories were compiled into a word table that used separate columns for reports, policies, and legislation (in the provincial framework) or statutory plans (in the local frameworks), along with brief

descriptions of the context in which each category occurred. The results of this content analysis were then compared with thematic analysis for each county, as the basis of the land-use planning framework needs assessment described below.

3.7.3 Evaluation

As outlined in Chapter 1, the key evaluation question that this thesis seeks to answer is “to what extent do the local and regional land-use planning frameworks address the landscape values and pressures that participants discussed?” Policy assessment has long interested geographers, particularly with regards to resource use and management (e.g. Sewell, 1973; Mitchell, 1979; Smit & Johnston, 1983). Broadly speaking, the evaluation of public policy can be described as a careful process of assessing government interventions based on specific criteria, with the goal to improve policy (see Vedung, 1997; Crabbé & Leroy, 2008). Crabbé and Leroy (2008) accept that policy is an ongoing cyclical process leading from a problem to a solution and outcomes, as Rist (2000) also proposes. However, they argue that policy can also be regarded as an institutional phenomenon, as with complex environmental problems, which requires an analysis of the broader institutional context of the policy process.

Crabbé and Leroy (2008) outline a number of policy evaluation methods, most of which are goal-based, meaning that the focus of assessment is on whether or not a policy achieves its formal objectives. Goal-free evaluation, in contrast, ignores policy goals and objectives; in its strictest applications the goals are carefully screened from the evaluator (Scriven, 1991; Youker, 2013). Goal-free evaluation can be described as an approach that helps an evaluator determine “what

the object of study (the policy programme) actually does, rather than concentrate on what it is assumed or expected to do” (Crabbé & Leroy, 2008, p.77). It captures both the positive and negative impacts of a program through a needs assessment that focuses on “consumers’ needs and outcomes” (Youker, 2013, p.437), rather than management intentions. Ultimately the purpose of evaluation is to measure a program’s merit or worth, which in a goal-free approach is defined as “the meeting of needs” (Scriven, 1993, p.67). Because of its attention to the broader policy context and outcomes rather than specific goals (Crabbé & Leroy, 2008), the goal-free evaluation approach is well suited to assessing the land-use planning frameworks in Rocky View County and the MD of Foothills, which are complex, multilevel (i.e. there are interacting local, regional and provincial dimensions) and without a coherent set of goals or objectives beyond those articulated in specific plans or policies.

The evaluation component of this study involved two parts. The first was a needs assessment loosely based on a goal-free evaluation approach, which compared the themes from qualitative interview analysis with the categories identified in the content analysis of planning documents to identify major gaps. Analysis was further guided by Rist’s (2000) policy analysis framework to consider at which stage(s) of the policy cycle each theme was or was not addressed, whether formation, implementation or accountability. Using this framework, several major land-use policy needs were identified for each municipality.

The second component of the evaluation used specific criteria to assess the quality (Scriven, 1993, p.67) of each municipality’s land-use planning framework. In goal-free evaluation, both the evaluator and policy stakeholders can put forward

diverse and even contradictory evaluation criteria (Possavac & Carey, 2007; Crabbé & Leroy, 2008). For this study, one criterion was drawn from the thematic analysis of participant interviews, and four other criteria were based on a set of beneficial principles that Dave Connell (2015) proposed for the Agricultural Land Use Planning in Canada study, to which this thesis contributes. Scriven (1993, p.33) suggests that in goal-free evaluation, a full understanding of the context is “best obtained by using local experts to supplement whatever knowledge the evaluator may have.” Accordingly, data from interviews with land-use planning experts were also used to assess the planning frameworks. The results of this two-part evaluation serve as the basis for overall ‘lessons learned’ and suggested approaches for improving land-use planning in the Calgary region.

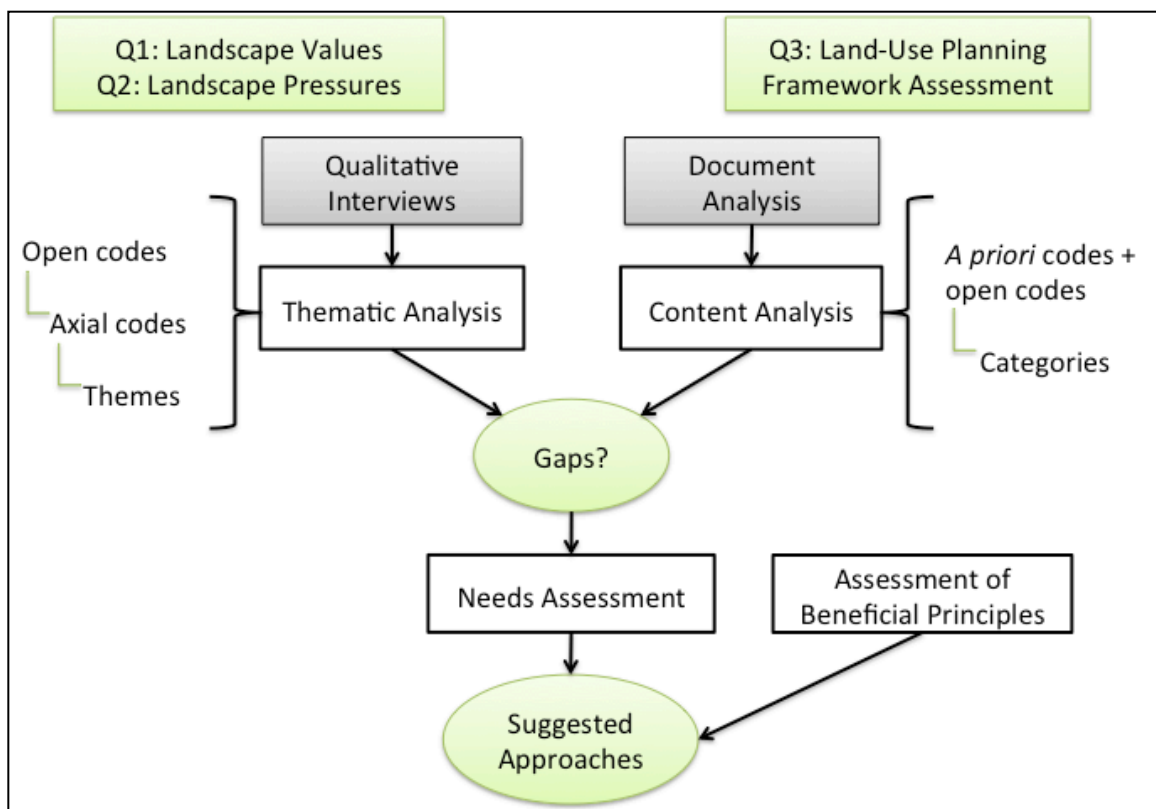


Figure 3.3: Schematic Representation of Research Methodology

3.8 Validity and Rigour

Both methodological and data source triangulation are fundamental strategies for reducing systematic bias and enhancing the overall validity of case studies (Liamputtong, 2013; Maxwell, 2012; Yin, 2014). In addition to triangulation and other strategies commonly used within qualitative research, this study draws on Maxwell's (2012) five validity criteria, which are grounded in a critical realist perspective. These are descriptive, interpretive and theoretical validity, generalizability, and evaluative validity.

3.8.1 Descriptive Validity

Descriptive validity relates to the factual accuracy of research accounts, and the attempt to ensure data is not distorted by the researcher (Maxwell, 2012). To ensure descriptive validity, this study used verbatim transcripts of recorded interviews, which were sent to interview participants for review. This is also a form of member checking that helps to increase the credibility of findings (Liamputtong, 2013). Another strategy used to ensure descriptive validity was to employ a basic form of quantitative support for the document analysis, which involved counting occurrences of data categories. These counts offered more accurate descriptions of the frequency of certain phenomenon and helped with framing internal generalizability, discussed further below (Sandelowski, 2001; Maxwell, 2013).

3.8.2 Interpretive Validity

Maxwell describes interpretive validity in terms of strategies that ensure meaning is understood from the participant's rather than the researcher's perspective. One

strategy used to improve the interpretive validity of this study was to use open-ended questions and probes to encourage “thick description” that was both detailed and revealing (Liamputtong, 2013, p.29; Maxwell, 2013, p.126). This provided opportunities to use verbatim quotations and interpretations that are grounded in the words and concepts of interview participants (Maxwell, 2012). Follow-up emails were also used in a few cases to confirm uncertain interpretations with participants.

3.8.3 Theoretical Validity

Theoretical validity refers to both the validity of theoretical concepts or categories as well as the validity of the relationships between concepts (Maxwell, 2012).

Following Yin’s (2014) caution about common case study validity threats, this thesis attempted to avoid the tendency to focus on supporting evidence by rigorously examining data that did not fit with tentative conclusions, and revising those tentative conclusions accordingly. Maxwell (2013) also notes the importance of understanding variation and differences in phenomena, and minimizing bias by considering alternative understandings of discrepant data. During the coding process, “outlier” opinions or data were flagged for particular analysis, which was recorded in a series of analytical memos. This process helps to increase dependability by providing an audit trail (Liamputtong, 2013), or what Yin (2014, p.127) calls a “chain of evidence,” that records analytical decisions about connections between data and findings. Regular meetings between the researcher and supervisor provided a form of peer-review (Liamputtong, 2013), in which the definitions of tentative themes and conclusions were discussed and reviewed.

3.8.4 Generalizability

As noted above, qualitative research rarely claims to have external generalizability in the sense of conclusions applying beyond the population or setting studied.

However, this case study has analytic generalizability, sometimes called “transferability” (Liamputtong, 2013, p.26), in terms of offering insights that can be of use to land-use policy makers. Maxwell (2012) also emphasizes the importance of ensuring internal generalizability, which means considering how the research context – for example, the interview itself – affects the participant’s responses, and whether those responses might be different in other situations. The introduction letter provided to interview participants helped to deal with this issue of “reactivity,” or the influence of the researcher on the participants (Maxwell, 2013, p.124), by emphasizing that the purpose was to learn more about participants’ views and what they felt was important. Following questions and probes outlined in a semi-structured interview guide also helped to avoid the use of leading questions.

3.8.5 Evaluative Validity

Evaluative validity involves “the application of an evaluative framework to the objects of study” (Maxwell, 2012, p.143). Of Maxwell’s (2012) five criteria, evaluative validity is the least discussed, as it generally pertains less to qualitative than to quantitative research. However, it is a relevant component of this study.

Evaluative validity was addressed through the use of specific criteria and approaches, as described in section 3.7.3, to assess the land-use planning framework for both case study sites.

3.9 Ethical Issues

Ethics encompass a range of concerns that implicate the entire research design, but are particularly important to planning and data collection (Gibbs, 2007). Further to using specific strategies to ensure rigour, qualitative researchers must carefully consider the relationships they have with their participants, particularly any potentially harmful effects on human subjects (Creswell, 2013; Liamputtong, 2013; Maxwell, 2013). An important measure to ensure ethical standards in this study was to obtain informed consent from research participants.

Following the guidelines in the University of Lethbridge's (2012) *Application for Ethical Review of Human Subject Research*, participants were invited to voluntarily take part in the research. They were provided a letter outlining the purpose of the research, the expectations for the participants, and the option to withdraw at any point during the study. The letter also indicated that no harm would come to participants and that, while they would not incur direct benefits or compensation, they would be contributing valuable insight into beneficial land-use planning practices. Those who agreed to participate were asked to sign an informed consent form before the interview began (see Appendix C). Basic demographic data was also collected at that point, as indicated on the interview protocol, in order to help identify factors that relate to landscape values examined in the first research question of this study. In three cases it was not possible to coordinate an in-person interview with the participant and a telephone interview was arranged instead. In those cases, the form was sent to the participant electronically for his or her signature and consent was received by email prior to the interview. Participants'

anonymity and confidentiality was ensured through the use of study ID numbers rather than names on transcripts; further, all typed transcripts, consent forms, demographic sheets and the ID number cross-listing were maintained in a locked cabinet on the university campus.

3.10 Conclusions

This chapter outlined the research design and methodology that were used to achieve the objectives of this research. It described the methods used to collect data through in-depth interviews and document analysis. It also outlined the data analysis methods and the strategies used to deal with issues around validity, rigour and ethics. The next four chapters will present the results of the Rocky View County and MD of Foothills case studies.

CHAPTER 4: ROCKY VIEW COUNTY CASE ANALYSIS

4.0 Introduction

Chapter 1 introduced the objectives of this thesis, which are to develop an in-depth understanding of how people who live in Rocky View County and the MD of Foothills perceive and value ranching landscapes; and to suggest land-use planning approaches that help to sustain the diverse values embedded in ranching landscapes in the Calgary region. This chapter addresses the first objective, by presenting the results of the Rocky View County case study. It begins with a brief introduction to the County's demographic and agricultural profile, followed by an analysis of case study data. This analysis examines ranching landscapes, based on a thematic analysis of interview data from nine participants who live in the County. It answers the first two research questions, which examine how people perceive and value ranching landscapes in the County, and the types of pressures the landscapes are experiencing.

4.1 Profile of Rocky View County

Located in southwest Alberta, Rocky View County forms a horseshoe around the city of Calgary on its west, north and east sides. While Calgary represents the County's largest urban neighbour, there are also four other urban municipalities and 14 hamlets and urban service areas within Rocky View's boundaries (see Figure 4.1). The largest of these are the City of Airdrie and the Towns of Cochrane, Chestermere and Crossfield. Like these neighbouring communities, Rocky View has experienced tremendous growth in recent years, with its population almost doubling between

1991 and 2011 (Rocky View County, 2013a). It is currently the largest rural municipality in Alberta in terms of population, with 38,055 residents (Alberta Municipal Affairs, 2013). Most residential development has occurred close to towns and cities, where newer residents benefit from both a rural lifestyle and access to urban employment opportunities and amenities (Rocky View County, 2013a).

Rocky View developed as an agricultural community beginning in the late nineteenth century. Some of Alberta's earliest and largest cattle ranches, including the Cochrane Ranche, were established in west Rocky View in the 1880s. In the waning years of western Canada's "beef bonanza" around the turn of the twentieth century, homestead entries and crop cultivation increased in the area (Read, 1983; Evans, 2004). Farming expanded significantly with the development of irrigation after 1903, particularly in the eastern parts of the county where soils are more suitable for crop production (Read, 1983; Rocky View Municipal District, 2009). Agriculture continues to comprise approximately 90% of Rocky View's land use, and is a major economic contributor to the County's economic base. Of Rocky View's 967,828 acres of farmland, approximately 52% is in crops, another 10% is tame or seeded pasture, and 34% is natural pasture. The land supports a large number of cattle and equine operations, field crops, and a range of nursery and greenhouse production (Government of Alberta, 2014a).

Several regional trends have affected agricultural land in Rocky View County. High land prices resulting from residential development present challenges for the continued growth of the agricultural sector. In addition, agricultural land continues to be converted to other uses through annexation (approximately 105,830 acres

since 1980), oil and gas activity (18,000 acres since 1980), and other commercial and industrial development (Rocky View County, 2013a). Country residential and hamlet growth, while further eroding the land base, have also exacerbated land-use conflicts with agricultural activity because of their different servicing needs, heritage and lifestyle (Rocky View Municipal District, 2009). Meanwhile, agricultural production in the County is evolving toward both smaller farm holdings and larger corporate holdings, and a greater diversification in response to changing consumer demands (Rocky View Municipal District, 2009). These trends are not unique to Rocky View, and have been documented elsewhere and for other time periods in Canada (e.g. West & April, 2005; Smith, 2015).

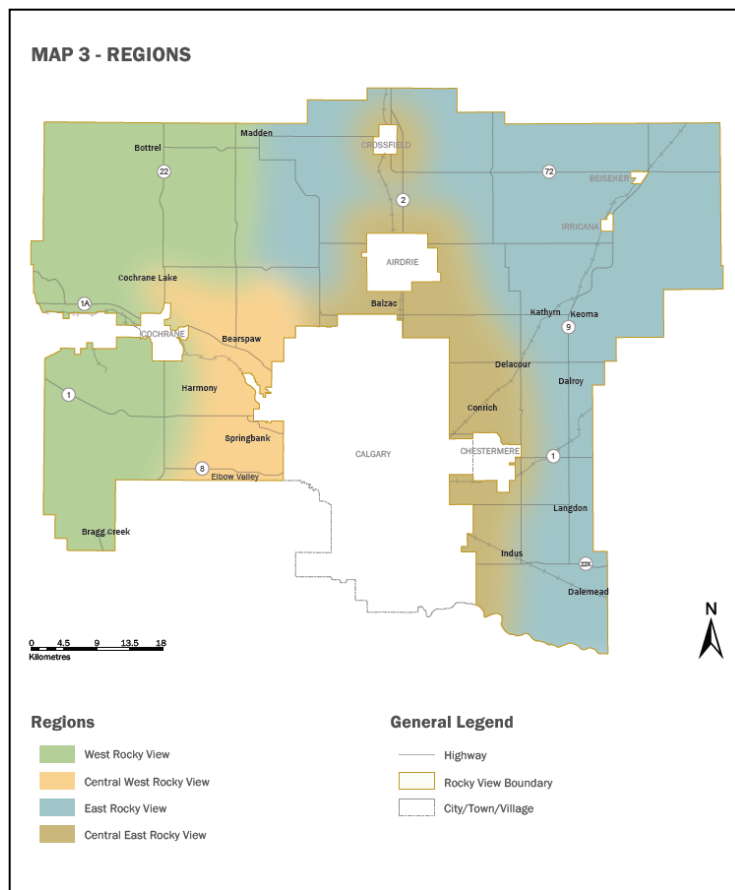


Figure 4.1: Rocky View County Regions (Rocky View County, 2013a).

Rocky View County is a highly diverse municipality in terms of its landscapes, land uses and communities. The current County Plan (Rocky View County, 2013a) recognizes four distinct regions; these are internally diverse, but share many common characteristics, uses and growth pressures. These four regions overlap to some extent with the eco-regions described in Chapter 3, but have different and less clearly established boundaries. East Rocky View comprises grasslands and wetlands, and has ideal growing conditions, soils and irrigation infrastructure for crop production. Central East Rocky View is geographically similar to the East, but is defined by key commercial areas and the Queen Elizabeth 2 Highway corridor linking Calgary and Edmonton. Agriculture in this region is subject to pressures from residential and business development, which support the County's financial goals of diversifying its tax base. The Central West region transitions from prairie grasslands into dramatic foothill landscapes that attract country residential acreage development. There are a number of recreation facilities in this region, including two provincial parks and several golf courses, and a range of natural resource and commercial development activities. Agriculture in the Central West includes ranching, horse-based operations, and diversified greenhouse and nursery production. Finally, West Rocky View is located in the foothills and eastern slopes, which incorporate key watersheds including the Bow River and the Red Deer River basins, and the Elbow River, Nose Creek, Jumpingpound Creek, and Horse Creek watersheds (Rocky View County, 2015b). Large scale ranching continues to thrive in this region, alongside a mix of forestry, oil and gas activity, and more modest residential growth.

4.2 Ranching Landscapes

This section begins with a description and interpretation of how interview participants understood the characteristics and boundaries of ranching landscapes. It then proceeds to an analysis of the land-use pressures and landscape values that Rocky View County participants discussed.

4.2.1 Characteristics

Interview participants in Rocky View County universally recognized ranching landscapes as a distinct type of agricultural land; however, there was a range of perspectives about their precise location and features. Overall, participants described a number of elements that comprise a particular socio-ecological system within the foothills west of Calgary.

Participants associated ranching landscapes with biophysical characteristics that include their undulating hills or rolling topography, shrub or bush vegetation, and their higher elevation, cooler temperatures, and shorter growing season compared to farmland further east. Half of the participants identified ranch land as being less suitable for the production of grain or cereal crops because of its soil characteristics. Three ranchers talked specifically about native grass, and the primarily “unbroken” or “undisturbed” nature of ranching landscapes. Informant 24, for example, commented that compared to farmland, there are “other fields that are in native grass that should never be farmed; they’re not suitable for farming, but they’re great for growing grass.” Informant 12 described the grass in similar terms:

[...] higher lands meaning higher elevation, mixed in with willows and brush, on that kind of soil and at that elevation, will grow the best native grass you’ll

ever find. It's just high enough to be slightly cooler; therefore it doesn't burn. And it will retain its nutrients.

Thus while they are less suitable for cropping, ranching landscapes are ideal environments for foraging livestock because of the presence of native vegetation. Because they have not been disturbed by cropping activities, they are also viewed as a more natural ecosystem than other agricultural environments.

Interview participants also identified a range of social, cultural and political characteristics they associated with ranching landscapes, many of which relate to the uses and physical features described above. An acreage resident from Springbank related ranching landscapes specifically to grazing activity, noting that,

When I think about ranching I don't even think about hog producers or chicken farmers; I think of cattle and horses, and having that large space where livestock will forage (Informant 9).

A manager of a ranch near Cochrane discussed the "cowboy mythology" and western heritage that are associated with the Calgary Stampede, but are nonetheless intertwined with the ranch landscape. He commented:

There's that cowboy romance that I, at least, associate with the ranch lifestyle. Like we do a lot of stuff still on horseback, and, you know we do the pasture doctoring just trying to use the horse in as many ways as we can, and try to leave a smaller footprint on the land itself (Informant 29).

Another fourth generation rancher west of Calgary similarly noted the importance of managing pastures to keep them as close to nature as possible. He described ranching as a lifestyle, emphasizing his family's passion for maintaining native grasses and plant species, and "the traditional way this land has always been" (Informant 24). Meanwhile, a mixed farmer and rancher located near Calgary

distinguished between the “Longview guy” (rancher) and the “Taber guy” (farmer), who were different still from the “guy in Springbank” (acreage owner):

Their abilities and attitudes, and even their political views [...] would be subtly different. For instance, property rights would be a big thing to the guy in Longview, something to the guy in Taber, and f--- all to the guy in Springbank – it wouldn’t even be on their agenda (Informant 14).

Comments such as these suggest that “ranching landscapes” in Rocky View County include subtle ways of looking at the land, as well as particular political perspectives and priorities that relate to landowners’ perceived stewardship responsibility. These perspectives are explored further below.

4.2.2 Landscape Boundaries

Ranching landscapes were often discussed in terms of their location relative to cropland, but the way in which participants defined landscape boundaries also relates to what they considered a “ranching landscape.” Five participants placed ranching landscapes in the western part of Rocky View County, and more precisely “west of [Highway] 22” (Informant 29). One acreage owner who focused on grazing activity commented that, “in Rocky View [other than sheep], the ranching is pretty well west of Cochrane – that whole north and west area” (Informant 12). Informant 9, who associated ranching landscapes primarily with unbroken rolling hills, commented that they would be located close to the mountains in the Kananaskis area: “I would think if there was [a boundary], that’s where I would draw a line.” At the same time, this participant felt that the boundary of ranching landscapes has shifted; historically, her own acreage property might have been described as ranching landscape, but it has since become residential. “We have some horses

across the road, but that's basically a boarding facility, not a ranch" (Informant 9). This comment suggests that the boundary of ranching landscapes is dynamic, and depends to some extent on the primary uses of land.

4.3 Landscape Pressures

Participants discussed a number of factors that are currently exerting pressure on ranching landscapes, leading to actual or potential changes that they considered, for the most part, to be undesirable. These pressures all relate to population growth in and around urban areas, and can be grouped into four main themes: competing land uses; rural-'rurban' tensions; economic pressures; and political pressures.

4.3.1 Competing Land Uses

Competing land uses are defined here as developments or uses that result in agricultural land being converted to a wholly or primarily non-agricultural use. The competing land uses that interview participants talked about include commercial and industrial developments, natural resource extraction (mainly oil and gas), expropriation and annexation, and acreage or country residential development. In general participants did not discuss commercial, industrial or natural resource development activities in depth or in any negative sense. However, two acreage owners did mention that many of their neighbours in Springbank were opposed to commercial developments, in part because of the sizable servicing debts the County had incurred by "up-fronting" infrastructure for a major shopping centre near Balzac (see *Report of the Reeve's Task Force on Growth Planning*, 2011). Meanwhile, four participants also talked about the Springbank Off-stream Reservoir, which the

Government of Alberta has proposed to help mitigate the effects of flooding along the Elbow River (Alberta Environment and Parks, 2015a). Among other concerns, one resident felt the project had been pushed forward prior to consultation with local residents. Another rancher located near the dry dam site commented that the project would put extensive ranch land in his area under water “for the better good of Calgary” (Informant 24).

Acreage development was a major concern for Rocky View County interview participants, most of whom live west of Calgary. For ranchers, the fragmentation and conversion of land into acreages has resulted in greater travel distances for feed, pasture and agricultural services. Further, due to real estate demand, the supply of available land is limited and land prices are high, making it difficult to expand operations in order to maintain economic viability. One rancher was sympathetic with the demand for acreage development, but noted the problems associated with it:

You really see it in the foothills west of Calgary here because everybody wants a quarter section with three horses. I mean, it’s the dream lifestyle, and I would never want to stop anybody from having that. But every one of those quarter sections has its own septic system, its own water system, a well – the more we keep fragmenting it, the more we’re poking holes in the ground and fragmenting the country (Informant 24).

Two acreage owners also expressed strong views against further acreage development; one felt Rocky View County had an excess of acreage inventory and questioned the County’s plans to create new developments “in the middle of ranch land” (Informant 16). While most participants agreed that residential development within the County was problematic, landowners close to Calgary were also

concerned with the related risks of annexation and expropriation for urban growth and infrastructure, such as Calgary's Ring Road (see Alberta Transportation, n.d.).

4.3.2 Rural-'Rurban' Tensions

Participants described a number of pressures they felt were contributing to a growing gap between rural communities and what two informants called "rurban" (or exurban) residents. Informant 14, located immediately west of Calgary, described feeling "like you're talking to a guy from a different planet" when interacting with acreage neighbours. With few other farmers in the area, "socially it's a vacuum. [...] And it is a factor in whether you would want to stay or not, because eventually you feel like you don't belong" (Informant 14). The three acreage owners interviewed all felt their neighbours increasingly lacked understanding of how to maintain their properties properly. Farmers also noted an anti-agriculture attitude and a sense among acreage residents that they were entitled to comment on farm practices. Despite right-to-farm provisions in the Agricultural Operation Practices Act (Government of Alberta, 2001), two landowners felt the Act itself was limited because the rules had been made by non-farmers, and required farmers and ranchers to "tailor their operations to fit [the acreage] lifestyle" (Informant 2). Operating slow-moving agricultural equipment on higher-volume roads was a particular point of conflict because it exposed operators to hazards and the wrath of commuters. However, while noting that some of his neighbours supported agriculture only "to the extent that it doesn't impact them directly" (Informant 16), one acreage owner believed that acreages were compatible with agricultural land if

residents came prepared to accommodate existing agricultural operations and different expectations for servicing.

Nuisance conflicts are another aspect of the tensions described above, but they stem in particular from what one ranch operator felt was a lack of respect among the growing number of urban residents using the rural landscapes. Specific conflicts that participants discussed include garbage dumping and littering, vandalism, recreational vehicle use, disturbance of cattle and other “people pressures” like “gates left open, trespassing, hunting [...] and fishermen walking up the creek” (Informant 24). The question of public access to Crown grazing leases was important to ranchers, who said they manage and respect their leased land in the same way they do deeded land. One rancher emphasized that not all recreational uses are problematic, but that a single negative or confrontational encounter can make landowners cautious:

I find nothing wrong with having someone experience those landscapes or those wildlife encounters or what have you. [...If] the people there that experience it respected it as much as the people that make their living off it and put their blood, sweat and tears into it, then it would be alright. It's the people that take it for granted and assume it's their right, that abuse the privileges a little bit, that's the part that people struggle with the most I think (Informant 29).

Another rancher also noted that there are different understandings about what rights the public has to access grazing leases, which can add to tensions between recreational users and landowners. He described grazing leases as an arrangement that implied a measure of exclusivity to the land, for which the leaser was responsible. “It's like leasing out an apartment or a building or something – it's a

grazing lease that we've leased access to. So that's the way we feel, but I'm not sure the public feels that way" (Informant 24).

4.3.3 Economic Pressures

As mentioned briefly above, increased demand for acreage property has contributed to higher land values, making it more difficult for producers to purchase land, expand, or transfer operations to the next generation. Some of the related financial challenges are described more fully below in the context of economic landscape values. However, participants also pointed out some broader societal perspectives that contribute to economic pressures on the landscape. One farmer/rancher was resigned to the fact that his own property would eventually be developed; it was not inevitable, he said, but keeping the land in agriculture would require "an economic paradigm that does not involve continuous growth – or even involve slow growth. But that's not the politics of Alberta" (Informant 14). Another participant who formerly worked in property valuation discussed the way in which land is valued from a real estate perspective. He commented that,

One of the things that really bothers me is the ranking that's standard within the valuation industry, that basically says, if the land isn't good for anything else, you can farm it. [...] To me that is exactly upside-down, because food production is the most important (Informant 22).

From his perspective this ranking perpetuated a short-term perspective that did not consider the best interest of the land or society in the long term. He added, "I'm not sure how long it's going to take – or if we'll ever get to – where our society is able to decide on what is best for society in the long-run."

4.3.4 Political Pressures

Participants in Rocky View County felt very strongly about issues relating to political voice or representation. Agricultural residents were concerned about the increasingly small voice they had in land-use policy and decision-making processes because of the changing ratio of agricultural landowners to residential property owners. One participant felt that acreage owners were making decisions about the use of agricultural land, which infringed on landowners' rights and ultimately squeezed them out of agriculture. Others commented on the trend toward corporate ownership, in which people living outside of the County operate large amounts of land. Even more problematic, based on the frequency with which it was discussed, was political influence on decision-makers. Four participants talked about a "5/4 split" on Council, in which the majority of Councillors were felt to be pro-development. This "development first" orientation was exacerbated by a tendency for Councillors to ignore their own plans and policies due to public pressure. Rocky View County's recent decision to turn down a large and controversial residential development proposal was seen as a positive exception. However, residents still felt that land-use decisions were being made on the basis of "fear-mongering" that County land would be annexed if it was not developed (Informant 16), or for potential tax revenues rather than what is "best for the land" (Informant 9).

Rocky View's relationship with the City of Calgary was another important political pressure. Rocky View County is not a signatory to the Calgary Regional Partnership (CRP), a collaborative network of municipalities that is currently being revised into one of two mandatory growth management boards in the province

(Government of Alberta, 2015b). Nevertheless, from the perspective of two participants, the CRP uses water access as a means of controlling development in the County. One participant's view was that,

The City has sufficient water license to support four million people, but they're hoarding it. So they're busy saying to other people, under the guise of the Calgary Metropolitan Plan, well if you have this density of 11 per acre, we'll give you water. Well excuse me, that's simple control. It's not your municipality. So the fight's on (Informant 12).

A number of people agreed with the need for regional cooperation, but felt the partnership was not set up with the right voting structures and was heavily weighted in favour of urban interests. The CRP's proposed density formulas and planning process represented an attempt by Calgary to "dictate how we plan and use the land in Rocky View" (Informant 5). As another participant put it, Mayor Nenshi "says because he's got a million people that our 30,000 people don't count" (Informant 14).

Concerns over fairness are the final element of political pressure that emerged from the in-depth interviews. One rancher questioned the procedural fairness of a two-acre property owner having the same vote as someone who manages thousands of acres of land. A larger concern to several people was that the whole land-use planning system was skewed against agricultural landowners, who were not adequately compensated for the ecological goods and services they provide in the broad interest of society. One landowner pointed out the irony of a system where owners of land with lower soil classifications "get to be millionaires" by developing their land, while landowners with higher quality soils are "preserving farmland" (Informant 14). Another similarly pointed out that planners control the

real estate play by drawing what she called “arbitrary lines” between land-use districts; this creates an unjust land allocation process, particularly close to the city, where some landowners are rewarded by being allowed to subdivide while others are penalized because no one can afford to purchase large tracts of land. In her view, land-use planning was “the worst possible expropriation because there is no compensation” (Informant 5). Some participants strongly disagreed on this point, but even those who did not “believe in the marketplace per se” (Informant 14) felt the allocation of land would be more equitable if there was an appropriate system of compensation in place for landowners of designated agricultural land.

4.4 Landscape Values

Participants living in Rocky View County discussed a range of attributes, benefits, functions and services that they felt were important about ranching landscapes, and that in some cases are being impacted by the pressures described above. As outlined in the conceptual framework in Chapter 2, for the purposes of this analysis, the various elements that people feel are important about the land are collectively considered landscape values. This section describes the five categories of landscape values that were identified through thematic analysis of in-depth interviews: lifestyle, community, ecological, production and economic values.

4.4.1 Lifestyle Values

Both ranchers and acreage owners talked about the lifestyle benefits they enjoyed about living in a rural area, which include aesthetic or scenic qualities, the natural setting, quality of life (privacy, peace and quiet and “elbow room”), and recreation.

People located west of Calgary in particular appreciated the beautiful views, as noted by two Springbank residents who said, “it’s an inspiration to look out your window and see the mountains every day” (Informant 16); and “we love the view of the mountains and the sunsets that we see off our deck” (Informant 9). Participants also valued the related benefits of living in a more natural setting, which includes seeing and interacting with wildlife such as porcupines, deer, geese, badgers, coyotes, rabbits and owls. Informant 29, a rancher with four children, said,

We get to be outside and experience Mother Nature [in a way] that’s a little bit different than a city park or zoo. We get to see wild animals and interact with them – even the cows; they’re domesticated, but they give us different experiences.

Other aspects of lifestyle that people valued include privacy, peace and quiet, open space and opportunities for recreation, which participants felt improved their quality of life. One rancher near Cochrane specifically mentioned being able to enjoy the landscape without a lot of urban intrusion, while a farmer just east of Calgary referred to people’s need “to escape and have open space” (Informant 22). However, lifestyle values were particularly important for acreage owners such as Informant 9:

What we enjoy about living here really is the peace and quiet – that there’s not a lot of noise from highways or traffic. We also really don’t have any neighbourhood noise; if our neighbours have friends over and there’s a barbecue or celebration it really doesn’t impact us at all with our enjoyment of our property.

Informant 16 also emphasized the higher quality of life that his children had, by having “space for running around and being kids.” Finally, open space provides more opportunities for both children and adults to enjoy recreational activities such as horseback riding, cycling, or going for a run in the country.

4.4.2 Ecological Values

To some extent all interview participants discussed the ecological values of ranching landscapes. Seven of nine people talked about the importance of water, including water quality and cleanliness, water quantity, watershed health and flood mitigation. Three of the participants were actively involved in local watershed management groups, and thus had strong feelings about water policy. One discussed the “huge pressure” on water systems in the County, and said, “I’ve certainly tried to make the watershed part of everything because if you don’t consider the watershed as a whole the pieces fall apart” (Informant 12). Informant 5 felt that water setbacks around the Jumpingpound and Nose Creeks were important, while Informant 9 commented that good water maintenance and run-off control were vital to the sound management of ranching landscapes. One rancher noted the critical importance of water to sustaining cattle and ranch operations, and felt ranchers needed better access to water. This issue relates closely to property rights, and is examined further below, in the context of economic values.

Biodiversity is another aspect of ranching landscapes that most interview participants valued and wanted to maintain. As discussed above with reference to the characteristics of ranching landscapes, ranchers in particular appreciate native grass because of its importance to their operations:

We want to be here forever, so you don’t want to abuse your grass. You can only abuse grass once and then it’s ruined. [... Native grass is] also the most productive. The closer we get to these traditional native grasses that have been here forever – they’re the best grasses for livestock, the cattle, and that’s what we’re trying to do is maintain them (Informant 24).

There was a difference in emphasis in terms of how participants perceived some aspects of biodiversity, particularly wildlife. As noted above with reference to lifestyle, acreage owners often focused on the experience of “seeing” wildlife and how encountering small animals contributed to a feeling of living in a natural setting. According to one Springbank resident, many of her neighbours are actively trying to preserve dark skies and habitats for small mammals, and are concerned about the effects of development on animal habitats. Ranchers had a more complex view of wildlife, particularly larger predators and ungulates, in part because of economic considerations. For example, Informant 24 valued the opportunity to interact with wildlife and emphasized the importance of maintaining habitats and large connected landscapes. He also commented, however, that in his area, “huge herds of elk can be destructive to your fences and crops; if they get into a hay yard they just absolutely destroy it and make it no good for cattle.” Informant 29, who is also west of Calgary, agreed that he loved the diversity of wildlife on his property, but elk herds had grown to such a point that they had become “a liability to us [... They] will come and they’ll literally devastate a field.”

The interconnections between wildlife and economic values underscore another important theme that emerged from the interviews, which is the idea of the landscape as a system. Ranchers in general viewed ecological aspects of ranching landscapes from an integrated “bigger picture” perspective in which water, soil, grass and other systems have to be managed in balance – both to maintain a properly functioning ecosystem and to support agricultural production as the basis of their livelihood.

If I manage all of those systems in coordination, I'm not going to mess up my business. I guess the best I do is try to anticipate and work with Mother Nature, instead of just blasting ahead with a plan that does not consider Mother Nature. Because then I'd really be in trouble (Informant 12).

One participant noted that he and his family were “extremely passionate” about “maintaining the land the way it should be” (Informant 24). Other landowners also talked about the importance of taking care of the land. Informant 14 called himself a “disillusioned organic farmer” but said, “being an environmentalist is at the core of my thinking. [...] It's just a question of what's right.” From his point of view, “ranchland and beef is the most environmental,” in comparison to farming and tilling practices. At the same time, he conceded that environmental considerations depend somewhat on financial constraints, as producers are more likely to prioritize the environment when they are not worried about “the bottom line” (Informant 14).

4.4.3 Community Values

Community values include a range of family and community connections that participants, particularly agricultural landowners, associate with ranching landscapes. While the lifestyle values described above relate to the enjoyment of a property, community values relate more to a way of life that is integrated with the rhythms and requirements of agricultural work. An important dimension of this way of life is the social network that exists among farmers and ranchers. Informant 14, a landowner near Calgary where significant acreage development has occurred, recalls that about thirty years ago “there was a community of farmers and you'd go to the fowl supper and you'd meet everybody.” Such gatherings are less common in

his area today, though the participant observed at a recent funeral that community ties continue to be important to retired farmers:

To them the farm is a very important social and cultural – it's part of their life. They lived here because [my father-in-law] lived here for forty years. You know what I mean? And there was a lot of talk there about how important the farm was to all those people at the funeral. And everybody coming up afterward and saying how glad they are that we're still here. [...] So what I'm saying is it's not just us – there's hundreds and hundreds of people that have worked here.

This comment also suggests that community connections support other economic values that relate to the role of larger farms and ranches as places of employment.

The same landowner further pointed out that community connections allow operators to benefit from trading and cooperating with each other; however, as the number of farmers shrinks, operators have to become more self-sufficient.

Family heritage is strongly linked to people's feeling of connection to place and their pride in stewarding the land, which are especially important to multi-generational landowners. One fourth-generation rancher west of Calgary talked about the importance of his family's connection to the land:

That's powerful. You know, the legacy of being here and doing what your father and grandfather and great-grandfather did is very important. There's a value system that you've grown up in. There's a huge level of responsibility to make sure that you live up to the previous generations and to make sure that you're looking after the land that was handed to you. So that's very important to me (Informant 24).

A mixed farmer in the east part of the county echoed these sentiments, crediting his grandmother with instilling in him a land stewardship ethic. Still operating on the property his grandparents established in 1903, Informant 22 said, "we've got a pride in the fact that we are still here, it's still productive land, we've looked after it well. And we'd like to see that continue." Another participant speculated on the

future of his property, which he and his wife are currently in the process of transferring to their grown children:

You know, they could sell it. I very much doubt they would, particularly while we're alive. And part of the reason is social, cultural, family, why they wouldn't – because it's been in the family (Informant 14).

Family heritage thus informs people's feeling of connection to specific places or properties. However, family heritage can also enhance a feeling of connection to the landscape more broadly. One rancher whose operation does not include any of his family's fourth-generation property commented that ranching landscapes were nevertheless important to him: "for me it's a little bit of the history too. We have quite a bit of history there, from a family perspective" (Informant 29).

4.4.4 Production Values

Several interview participants from Rocky View discussed the importance of the land for its food-producing role. One landowner who is currently investigating a conservation easement for his cropland commented, "there's a value in keeping the land available for food production [...] reasonably close to an urban centre. Not 50 miles out, but right close where people can come and see" (Informant 22). All three acreage owners noted the importance of food security and maintaining the capacity for food production, while one rancher was particularly concerned about the implications of current growth trends in the Calgary region and the need to plan for the food needs of future populations. While generally not comprising the most productive soils, ranching landscapes support livestock production, which three participants felt was a "decent," "environmental" and "sustainable" use of the land. One farmer and two ranchers also emphasized the educational role of food

production. Informant 29 felt a responsibility to educate both his own children and the broader public that,

[...] even though ranches encompass a large amount of land, there is a value to more than just the people on the land, working the land. There's a value to the urban centres, you know? And for me it's the education of where does your food come from and what does it take to get there?

As this comment suggests, ranching landscapes fulfill an important food production role, but also contribute to people's understanding of the food cycle and provide access to locally produced food.

4.4.5 Economic Values

Economic values overlap considerably with community, ecological, and production values to the extent that all are critical to a successful agricultural operation. The economic values that participants identified with ranching landscapes generally relate to the rights associated with the land and water, and the land's role in supporting a viable business.

Participants expressed strong but diverse views on the issue of property rights. One point of consensus was that everybody "has a different view of what property rights are and should be" (Informant 14). One rancher felt that property rights have become contentious in Alberta because of erroneous claims, made for political reasons, that the Alberta Land Stewardship Act had taken away property rights that landowners have never had in Canada. At the same time landowners do feel strongly about the issue because, as another rancher said, "they become so attached to the back-40. You know, it becomes just part of their fibre" (Informant 2). Views were most divergent on the extent to which landowners should have the right

to subdivide or control how their land is used. On the one hand, Informant 22 felt that “society as a whole has rights to determine what can be done,” and noted an increasing shift within Rocky View County toward that perspective. On the other hand, Informant 24 commented that, “having the ownership of that property allows us to use it to finance and get mortgages and things like that, so we can afford to run our operations.” While conceding that “there’s no question there’s a greater good sometimes,” he felt that landowners should have the right to subdivide in order to “cash-flow the rest of the operation” as a strategy for survival. He also believed that producers need water rights; “we have access to a limited amount of water, but they aren’t rights. [...] A ranch cannot survive without water. You cannot do anything without water or water rights.”

The importance of property rights to the success of agricultural operations leads to the second main economic value of ranching landscapes that producers discussed, which is the land’s role in supporting a viable business operation. Participants noted a number of challenges to achieving viability, which include the need to pay employees competitive wages, low profit margins in the cattle industry for much of the past three decades, the fact that the older generations hold onto property as their retirement fund, the related difficulty for younger producers to get into the business, and, most critically, the high price of farmland in the Calgary region, which makes it difficult to earn a return from agriculture. One rancher who does not own the property he manages summed up the challenges:

How do you compete with stuff like the oil, and the guys from downtown Calgary who want a pretty acreage? How does a guy like me – or my kids – compete with the downtown oil types? So far as agriculture goes, it’s really hard, especially if you’re starting with not much; unless you have an in, as in

a family operation or something like that, it's really hard to get your foot in the door (Informant 29).

This participant felt that as land prices go up, most people eventually compromise on the intangible things they value in relation to the land – such as heritage or religious beliefs – by selling out to developers. At the same time, he affirmed that, “for myself, I will probably ranch forever, even if I know there are economically better options, because that’s what I believe in.”

4.6 Conclusions

This chapter has presented the results of the data analysis of qualitative interviews for Rocky View County. It has described and interpreted how participants who live in Rocky View perceive and value ranching landscapes, first outlining the characteristics and boundaries of ranching landscapes, and then describing five categories of landscape values: lifestyle, ecological, community, production and economic values. This chapter also described and interpreted the land-use concerns and pressures participants discussed, with reference to four broad themes: competing land uses, rural-‘rurban’ tensions, economic pressures, and political pressures. Chapter 5 will present parallel results for the MD of Foothills case, and further analysis and comparisons will be presented in Chapter 8.

CHAPTER 5: MD OF FOOTHILLS CASE ANALYSIS

5.0 Introduction

As previously stated, the objectives of this thesis are to develop an in-depth understanding of how people who live in Rocky View County and the MD of Foothills perceive and value ranching landscapes; and to suggest land-use planning approaches that help to sustain the diverse values embedded in ranching landscapes in the Calgary region. This chapter addresses the first objective, presenting the results of the MD of Foothills case study. It follows the same format as Chapter 4, beginning with a brief introduction to the MD's demographic and agricultural profile, followed by an analysis of case study data. This analysis focuses first on ranching landscape characteristics, and then proceeds to a discussion of pressures and landscape values as discussed by 14 interview participants. It includes data, where applicable, from one Rocky View County participant who also owns land in the MD of Foothills, as well as a land-use planning expert who is also a property owner in the MD.

5.1 Profile of the MD of Foothills No.31

The Municipal District of Foothills No.31 (MD of Foothills) is located directly south of Calgary and Rocky View County. In addition to eight hamlets and urban service areas, the MD surrounds the Towns of Okotoks, High River, Turner Valley, and Black Diamond, the Village of Longview and the Eden Valley First Nation (see Figure 5.1). The MD of Foothills has a population of 21,258 (Alberta Municipal Affairs, 2013), making it the third most populous county in Alberta. Like Rocky View, Foothills has

experienced significant growth as a result of a booming regional economy, its population more than doubling since 1991 (Alberta Municipal Affairs, 1991; 2013). Much of the new growth has occurred in areas bordering Calgary, Okotoks and High River, and along the Highway 22X and Highway 2 corridors, where land has been fragmented into smaller residential parcels (MD of Foothills No.31, 2012).

The historical development of the MD of Foothills resembles that of Rocky View in many respects. Agriculture first developed in the 1880s when large ranches including the Bar U and OH were established in the western foothills area, and by the early 1900s settlers began to farm the land (Evans, 2004). Today agriculture remains the dominant land use in Foothills, and residents identify strongly with the MD's agricultural heritage (MD of Foothills, 2010). Of the 892,342 acres of farmland in the MD, approximately 44% is in crops, 10% is tame or seeded pasture, and another 40% is natural pasture. The land supports cattle, bison and elk ranches, as well as a large number of horse and pony operations, and diverse nursery and greenhouse production (Government of Alberta, 2014a).

Specific data on the conversion and fragmentation of agricultural land are not available for recent years in the MD of Foothills. However, some of the major issues affecting agricultural land in the MD have been documented in more regional studies and reflect similar trends as in Rocky View County. Population growth has resulted in a greater density of structures in the municipality, an increase in traffic along Highway 22 (known as the "Cowboy Trail"), and greater demand for country residential development and recreation opportunities (Duke et al, 2003). Much of the development has occurred on better quality agricultural land near Calgary,

Okotoks and High River. Meanwhile, ranchers have been particularly concerned with fragmentation along the eastern slopes of the Rockies, noting increasing recreational use, higher land prices, and impacts on rural communities and wildlife habitat (Resource Planning Group, Policy Secretariat, 2002; Gardner, 2007).

In response to growth pressures, the MD of Foothills began developing a Growth Management Strategy in 2011. This process resulted in the delineation of five districts within the MD, each with internal variability but common historic settlement patterns, dominant land uses, physical characteristics, environmental concerns and growth pressures and opportunities (MD of Foothills, 2012). The East District is bordered on the west by Highway 2, and is characterized by largely unfragmented, flat prairie grasslands. With highly productive soils, the primary land use in the East District is farming, though there has also been some oil and gas development. The South Central District has a mix of farming and ranching, with increasing subdivision and development toward the north part of the district. The Central District borders Calgary and incorporates High River, Okotoks and the Highway 2 corridor; this area has seen the greatest amount of country residential, recreational and industrial development. The North West, transitioning from prairie to rolling foothills, comprises important headwater and natural areas, and a mix of agriculture, natural resource extraction and country residential development. The South West District, meanwhile, has a large proportion of leased Crown land that supports ranching operations, alongside some farming and natural resource development. This district is characterized by native grasses, important headwaters, and diverse wildlife (MD of Foothills, 2013).

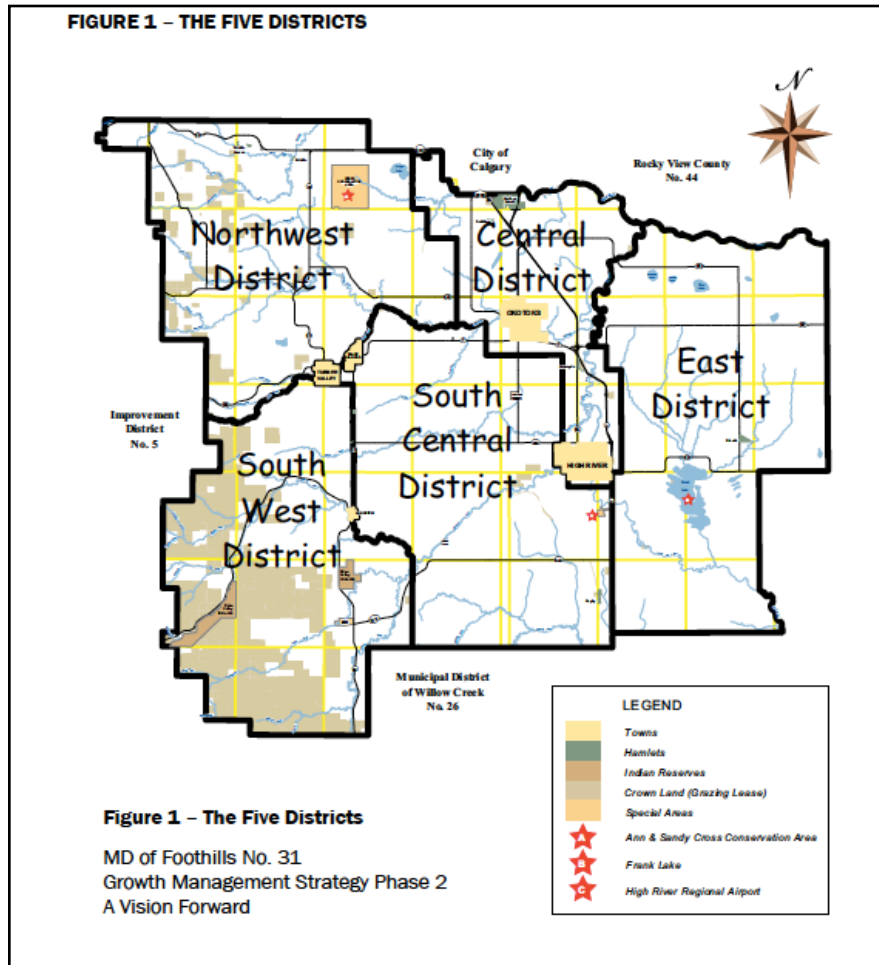


Figure 5.1: The Five Districts, MD of Foothills (Source: MD of Foothills No.31, 2013).

5.2 Ranching Landscapes

This section begins with a description and interpretation of how interview participants understood the characteristics and boundaries of ranching landscapes. It then proceeds to an analysis of the land-use pressures and landscape values that MD of Foothills participants discussed.

5.2.1 Characteristics

Interview participants in the MD of Foothills all agreed that ranching landscapes constitute a specific type of agricultural land, though their precise features were

difficult to identify clearly. Participants' descriptions included both biophysical and socio-cultural characteristics, although there are numerous connections between the two. The boundaries of ranching landscapes in the MD are not distinct, though interview participants drew on a combination of landscape characteristics, urban settlements and transportation corridors to specify the general outline of where ranching landscapes begin and end.

Participants living in the MD of Foothills described ranching landscapes with reference to a range of biophysical characteristics. These included large tracts of wide-open, un-subdivided or unbroken land; higher, rougher and hillier land; marginal agricultural land that can't be farmed; a cooler climate; and mixed forest and open meadows. The most often discussed feature of ranching landscapes was native grass. One mixed farmer/rancher near High River said ranching landscapes were "definitely about the grass" (Informant 17), which another rancher stressed, "we treat like gold" (Informant 8). Many participants described ranching landscapes in terms of how they differ from cropland. For example, a third generation rancher from the southwest part of the MD characterized ranching landscapes as "native ecosystems," adding:

Farming is still maintaining open space or green space or whatever you want to call it - producing food. But it's not a native habitat, right? So to me, that's different right off the get-go (Informant 13).

Another rancher with land in both the west and east parts of the MD described his ranch and farm properties as "two different ecosystems":

They could literally be in different time zones. The ranch starts at 4500 feet and goes up from there; it's on the eastern slopes, on the edge of the tree line. The farm is prairie - it's flat prairie, 3500 feet [...] They're different ecosystems - they're distinctively different that way (Informant 8).

One of the most frequently discussed features of ranching landscapes was their historical and continuing use for grazing livestock. Informant 10 explained that the corporate property he manages in the northwest of the MD was viewed as “cheap junk land” in the 1950s, because it could only be used for grazing:

Historically, if you could farm it, the return on investment [...] was typically better from cropping than it was through raising livestock. So the livestock production tended to be focused on the non-arable land.

Informant 11 described “pure ranching” as a relatively short-lived phenomenon that existed prior to the First World War, after which ranching activity in the MD of Foothills became integrated with farming (see also Evans, 2004). This perhaps accounts for the hesitation some participants had in drawing a clear distinction for ranching landscapes based on land-use activity alone. Informant 7, for example, has an intensive permaculture operation near Millarville, immediately adjacent to her sister who operates a horse ranch. She questioned whether her property was part of the ranching landscape, despite its physical characteristics, because of its use for farming. This suggests that while ranching landscapes can be distinguished in part by their physical characteristics, their primary agricultural use for grazing is also an important feature.

Another grouping of ranching landscape features that participants discussed involves the character of ranchers. One young ranch operator near Priddis described ranching as a “wonderful way of life” in which he had been raised (Informant 20). According to another participant, this ranching way of life reinforced a particular trait among landowners:

We're a distinct breed. Everyone talks about the entrepreneur in the city – there isn't a rancher that's not an entrepreneur. You go out and you take a risk. And you're at the mercy of Mother Nature. If it gives you a good year you're okay; if it doesn't, well you suck it up and do it again. That's the way we operate (Informant 12).

One participant whose family has been near Millarville for more than a century also noted a common cultural background among landowners, many of whom share a British heritage (see Lehr, Everitt & Evans, 2009). She emphasized the close community ties and sense of place that relate to this common background, noting that, "we call ourselves Millarville people because Millarville is not so much a little town or a little place as a state of mind" (Informant 7). As discussed further below, these community connections are changing, but are nevertheless an important part of the identity of local landowners.

Some of the ranching landscape characteristics that participants discussed focused on landowners' relationship with and responsibility toward the land. Ranchers talked about using horses rather than machines to reduce their footprint on the land, and using fewer inputs such as herbicides, which would kill the grass they depend on. Informant 13 felt that ranchers needed to understand the ecological system in order to operate their business, which reinforced a distinctive mindset:

There's that certain cultural aspect – I mean, we're not too worried about being cowboys, but there's certainly that, if you're worried about that cultural mindset. I think that would separate people, certainly. And how they look at cows and how they look at the land. Not always for the better, but pretty good operations.

This mindset was not always viewed in a positive light, as discussed by a mixed farmer/rancher near High River who felt that,

There can be kind of a ranching snob thing. [...] Just the nature of farming has become so technical, and in some ways somewhat removed from natural

systems, because of the advanced machinery – I think it’s coming back, but I think there’s been a kind of snobbery on the part of the ranching community that they are more connected to the land (Informant 17).

As this last comment suggests, some participants distinguished between ranchers and farmers in trying to articulate what makes a ranching landscape. However, Informant 8, who both farms and ranches, cautioned against creating an oppositional distinction between the two, stressing that they “both have a heart for the landscape.” Again, while interview data does suggest that participants recognize socio-cultural characteristics that make ranching landscapes different from cropland, it is not always possible to draw sharp lines between the two because of the transitional nature of the foothills region, in which both farming and ranching activities overlap.

5.2.2 Landscape Boundaries

Participants articulated a range of views about the location of ranching landscapes. Landowners in the Priddis, High River and Okotoks areas considered ranching landscapes to be somewhat intermixed with farmland, reflecting the mixed-use nature of those parts of the MD. The line between farm and ranch land was further blurred because of the tendency of ranch operations to include multiple parcels of land in different areas. Nevertheless, there was general agreement about where the larger and more traditional ranching landscapes were located. Informant 10 identified the Priddis/Millarville area as the eastern edge, while Informant 27 put the boundary “somewhat west of High River, but not tremendously far.” Two participants said that ranching landscapes started west of Highway 2, but three others agreed that more traditional cattle ranches began even further west at

Highway 22, where there were large tracts of leased grazing land. Turner Valley, Black Diamond, the OH Ranch, and Longview – all located within 20km of each other – were identified as the northern edge of the MD’s ranching landscapes, which continued south beyond the municipal borders.

5.3 Landscape Pressures

Participants discussed many factors that are putting pressure on ranching landscapes as both material and socio-cultural entities. This section describes the five different types of pressures that were identified through thematic analysis: threats to landscape productivity, competing land uses, rural-‘rurban’ tensions, economic pressures, and political pressures.

5.3.1 Threats to Landscape Productivity

While the focus of the interviews was on ranching landscapes at a broad level, some landowners discussed pressures that affect the productivity of the specific pastures they manage. One landowner described the challenge of preventing invasive weeds and other plant species. He also talked about forest encroachment, resulting in part from forest management policies that have reduced the linear edge between the bush and grassland. Intensification of water usage was another major concern. A landowner near Priddis commented on the “dangerous water usage” and the decreasing availability of water in creeks related to higher-density use (Informant 11). A farmer further east was also worried about how high-density acreage development nearby will impact his water availability. Finally, a younger fourth-generation rancher talked about the outdated or “traditional” land management

practices that impact his operation. He commented that, “I’m still fighting the older generation; [my dad] has got some ideas about production practices, and I have some very different views” (Informant 20). Recognizing the economic pressures that his generation faces, he noted that, “we can’t just kind of exist on the land anymore and sit back with our arms folded and watch the crop grow and hope that everything’s going right.” More innovative and holistic land management practices were needed instead, to maintain both an economically and environmentally sustainable operation.

5.3.2 Competing Land Uses

Participants identified a number of competing land uses related to population growth and urban-based development that put pressure on ranching landscapes. Five people mentioned linear disturbances due to road and highway development. Seven people also talked about oil and gas activity. One rancher who also farms a parcel east of High River had over 30 miles of pipeline and a host of other energy infrastructure on his property. He commented that “I now have places where you have to close your eyes to drive through the structures [...]; you literally hope that when you had your GPS set the last time there isn’t any deviation” (Informant 8). He also reflected, “I’ve never met a utility that I wouldn’t give back the money that they paid, to make it go away.” A few participants observed that oil and gas activity has actually decreased in the MD of Foothills because people have not allowed it on their property. Among the resisters was a third generation rancher near Longview, who questioned whether the energy regulation system in Alberta was set up in favour of the energy industry over agriculture. His family had managed to avoid some

pressure for oil development through media campaigns, “coercion” and a conservation easement on their land – but had given up significant financial compensation to do so.

The most significant concern that participants identified was residential development, and the related pressures of urban encroachment and urban-based demand for recreation and other services. Agricultural operators located in the Priddis, Millarville and Okotoks areas in particular talked about Calgary’s encroachment, with a certain amount of resignation. A long-time Millarville-area landowner said she has “watched the city creep this way,” and knows that it is just a matter of time before her own land is annexed (Informant 7). Another participant said his area near Okotoks is no longer agricultural; “we’re just persisting with it because we don’t want to sell” (Informant 19). The hilly ranching landscapes are a particular draw for acreage development because of their aesthetic beauty, as a Priddis ranch manager reflected. He said, “this is gone. This is too late, this immediate area here. I mean, you drive around here and there’s just no end of big, big houses and country residential now.” Other parts of the MD were still felt to be agricultural, but landowners along areas of Highway 22X and Highway 2 believed that urbanization was inevitable; “you just have to accept it. It’s part of the reality of where you live” (Informant 20).

5.3.3 Rural-‘Rurban’ Tensions

In addition to its role in fragmenting the landscape and displacing agriculture, producers associated acreage development with other changes to rural communities. A Millarville area landowner recalled that, “I knew everybody when I

was a kid in the '50s," but the influx of acreage developments has brought a lot of "newcomers" to her area (Informant 7). Two participants questioned why "hobby-based" owners who keep two horses that "chew the grass into the dirt" (Informant 20) are considered agriculture within the MD, even though their properties are not tied to income.¹ Others had received complaints from neighbours about things like equipment operating at night or manure on the roads. One participant said his acreage neighbours wanted nothing to do with him, which contrasted with the usually friendly relations among farmers. He resented that agricultural land was being converted into a "weekend retreat" for people whose lives happen in the city:

The acreage land is not being used for anything. When you drive around all you see is these manicured lawns, and there's no gardens, it's just lawns. And to me, that's wrong, because that land needs to be used for something other than a lawn (Informant 19).

The decreasing sense of community is further compounded by corporate land ownership. Because they can afford to purchase large tracts of land, corporate buyers help to reduce fragmentation; however non-family corporate ranching is seen as "a very different way to farm than somebody who lives on the land and has a vested interest in it every day" (Informant 20). As a Longview rancher put it,

What you're not doing is putting kids in the school, and you're not part of the fabric of the community – you're not as involved, and so the community loses something there (Informant 13).

The combined increase in acreage residents and absentee corporate landowners is thus associated with a reduced sense of rural community, as well as a disconnect between people and the land.

¹ According to the *Municipal Development Plan*, all lands are considered agricultural lands unless zoned for other uses. See MD of Foothills No.31, 2010, p.12.

Recreational land uses were a major source of tension for four ranchers and two smaller agricultural landowners. Two participants objected to the insensitive use of land for golf courses, which takes “very good farmland” out of production (Informant 19), and leads to harmful effects such as pesticide run-off in the rivers. Participants talked about the increasing presence of hunters, random campers, ATV users, cyclists, and “young guys who steal cars and bring them out and race on these country roads” (Informant 10). Some had negative encounters with people accessing their private land and leased grazing land – such as a rancher near Longview where para-gliders had “scared the living hell out of every animal that was on the homeplace” (Informant 13). Another ranch manager near Priddis said, “you put up with a lot of crap, especially in the fall, you know with the hunters. A lot of them are very good and they come and ask permission; a lot of them aren’t – they’re just yahoos or they’re out here at night poaching” (Informant 10). Three landowners attributed such behaviours to a lack of understanding and respect among urban populations for agricultural operations and, sometimes, the land itself.

Finally, rural-‘rurban’ tensions also include perceived differences in perspectives on the land. Long-time MD landowners felt that new residents came with different expectations for roads and other services, and that increased dumping, vandalism and property damage again suggested a lack of respect for the land. Environmental issues seemed to be a particular point of tension. For example, a Priddis rancher felt that during a recent meeting on wildlife management there was a distinct line between ranchers and farmers who made their living on the land, and “rurbans [...] the rural-urban people, you know, the acreage and country

residential” (Informant 10). Another rancher in Longview talked about pressures from urban-based animal welfare and environmental groups:

They’re not going to be out there in a spring blizzard saving a calf, because that’s too difficult. But they think they’re more concerned about my animals’ welfare than I am? Or my land? The effort that we put in, and the time and the hours – most people wouldn’t conceive of for the pay (Informant 13).

While the perceived differences in perspectives could be exaggerated, agricultural producers interviewed for this study believed there was a notable gap between rural communities and urban populations, and that country residential property owners were more urban than rural in their outlook. This difference in perspectives impacts the sense of community cohesion, but also influences the land-use priorities within the MD. The implications for land-use planning are considered further in Chapter 8.

5.3.4 Economic Pressures

The most significant economic pressure that participants discussed was the increasing cost of land due to real estate demand. Higher land values make it more difficult to secure access to a large enough land base to achieve the necessary economies of scale, and further add debt and debt-servicing costs that eat into profit margins. Higher costs are also discouraging for young people entering the industry, as for one fourth-generation rancher who expressed doubt about his future role in the family operation:

I have a real opposition to getting up in the morning, working real hard all day and at the end of the day knowing that I’m dollars and cents behind where I started in the morning. And that’s something that I’ve been very open with my father about in looking at the handing of our operation on (Informant 20).

Producers are further pressed by fluctuating market conditions, and the lack of benefits or protection from income loss. This can create a situation where landowners are compelled to make land-use decisions that prioritize short-term benefits over the long-term wellbeing of the landscape – such as subdividing, developing part of their property, or even over-grazing. One participant near Okotoks continues to farm in order to retain his grandfather’s property; however, his son who farms with him has a different view:

From where I see it, we’ve just been looking after [the land] for five generations. And the time comes when the city gets too close, the land value is too high to be farming it. [...] For many reasons, mostly money and too many neighbours, it’s time to think about moving on and starting again someplace farther from people (Informant 32).

Another land manager argued that economic pressures can affect land management decisions, commenting that for young couples or ranchers who have not inherited land, it is “much more of a challenge to be a good environmentally responsible manager of the landscape” (Informant 10).

Some landowners defend what they believe to be their right to subdivide first parcels out, because it represents an important option for estate planning or succession planning. The question of subdivision is also fundamentally a political issue about who should control private property. One landowner resented the MD’s ability to restrict “one-out” subdivisions, which can drastically change property values. He commented that,

Even though we have a history of never selling anything – we’ve got land in the family from 1883 – I don’t like the idea of you telling me that I can’t, even though I never will. And it’s kind of a paradox that they’ve got going on. You look after it and you’ll eventually get penalized for it (Informant 8).

On the other hand, a former Councillor with the MD noted that subdivided parcels are often purchased by speculators, which takes the land out of agriculture and further drives up land values. A farmer and rancher himself, he sympathized with producers' financial pressures and the fact that sometimes, "the reason they're trying to apply for a subdivision or whatever is they're stressed financially and they're trying to get themselves out of a hole." Yet at the same time, he felt that land-use decisions "shouldn't be about the estate planning, it shouldn't be about that financial [pressure]" (Informant 18).

A related financial pressure over which landowners expressed a desire for more control was the cost of maintaining and feeding wildlife. Several ranchers believed their role in taking care of the land helped to provide space, habitats, and a source of food for wildlife ranging from insects to grizzly bears. A land manager from Priddis had noted an increase in sightseers coming to the countryside to enjoy deer, elk and birds. While he shared their appreciation for wildlife, he also pointed to the costs involved when ungulates compete for his cattle's feed, or when cougars attack his livestock. He questioned, "why is it just the landowner that has to pay for that, when everyone else benefits?" (Informant 10). Another rancher speculated that if landowners were allowed to earn income from hunting leases, as they do in some American jurisdictions, it would likely change their attitude: "If all of a sudden elk was making you \$40,000 a year, you'd probably tolerate fixing your fence easier" (Informant 13).

A final economic pressure that emerged from the interview data was more specific to acreage properties. One acreage owner near Okotoks commented that the

MD had added “no end of acreages” (Informant 21), which decreased his property values and made it difficult for him to sell. Several agricultural property owners described this phenomenon as NIMBY-ism, which itself illustrates an anti-urban attitude that underlies some of the community tensions described above. The spouse of one farmer said, “the acreage people who moved out here and have everything – don’t want anymore. What they fail to realize is we didn’t want them here to begin with” (Interview 18). Another rancher had a similar perspective:

You know, it’s funny, everybody moves out here and they want their little slice of paradise, but they don’t want anybody next door. [...] Well, we hated it when the first urbanites started moving out just for the view. You have to realize that we’re changing and being progressive moving forward. So I think that their views are a little naïve and/or selfish in that respect (Informant 20).

The acreage owner near Okotoks recognized that, “it’s like anybody moving into Okotoks or elsewhere; you want to be the last one in and then no more” (Informant 21). Yet, while he was generally in favour of development, he was sensitive to how many new properties were developed, feeling that “it has to be managed somehow.”

5.3.5 Political Pressures

There were two broad categories of political pressures that participants discussed, namely the political voice of land managers, and political influence on decision makers. Agricultural producers commented on their shrinking representation within the municipality and decreasing voice in land-use decisions. As Informant 20 noted, “unfortunately a majority of Albertans are now urban. And those urban people [...], they have no idea what it is to manage these assets out here as far as agricultural land.” Participants were generally satisfied with the opportunities they

had to provide input, but some nevertheless felt that their interests were ignored by Councillors who had no obligation to listen. One property owner in particular felt powerless to influence land-use issues because his concern for wildlife and the wellbeing of the land did not correspond to the human-centric world-view of decision-makers. At a more regional level, many participants similarly felt overshadowed by the municipality's standing relative to Calgary. One acreage owner believed the Calgary Regional Partnership was doing an adequate job of finding ways to get along with rural constituents, but four producers were skeptical. One felt the Calgary Metropolitan Plan had become an "urban plan":

They were making us wear a lot of their sort of planning mentality [and] it's not the same for the rurals; it never will be. You take an urban setting and you have a distinct boundary. You just zone this, this and this. That's not how it works [in] the rurals" (Informant 18).

Another participant objected to the uneven voting structure of the CRP, saying, "Calgary has over a million people, but the rurals have 95% of the land base. [So] we should be on the same par with the city" (Informant 17).

Political influence on land-use decisions was another critical issue. Participants felt that decision-makers on Council were overly influenced by stakeholders with a "corporate profit agenda" (Informant 20), an "insatiable appetite for growth," and a deeply-held view that "growth pays" (Informant 18). Participants also felt that Councillors were susceptible to making emotional decisions based on their knowledge of constituents' circumstances, and tended to cater to votes, and thus short-term interests. At a broader provincial level, good ideas and policies sometimes got lost in the shuffle of changing ministers, or "corrupted by the politics" (Informant 18). As a specific example, two different

landowners commented that the Wildrose Party had attacked the Land-use Framework for political reasons, and had intentionally created confusion over property rights. While these two participants supported the Land-use Framework and a role for the Province in land-use planning, others voiced a deep-seated lack of trust in government. A rancher from the Longview area, for example, saw the Province's "umbrella policies" as "social engineering" (Informant 8), and felt the marketplace would take care of agricultural land more effectively than a centralized policy approach.

The question of whether land use is best managed by the government or the marketplace was fundamental to many landowners' perspectives, as was the related question of who pays for landscape conservation. Several participants believed landowners currently bear the responsibility for taking care of the land, but are not compensated for doing so:

Ranchers are looking after the conservation of landscapes for nothing. The big question is how do you value that? What are the instruments that are going to create fairness? (Informant 15).

This particular landowner felt that land conservation policies without compensation amounted to "dictatorship," and echoed others' support for voluntary, market-based approaches. Another Longview-area rancher supported the Alberta Land Stewardship Act's voluntary conservation tools, but felt the Act itself should be revised to address the issues of expropriation and compensation more fairly. Three landowners specifically proposed a market-based ecological goods and services system where landowners are compensated for providing public goods on private land, such as clean water, wildlife habitat or carbon sequestration. While noting that

such a scheme might not be politically salable, one ranch manager felt that “it’s quite legitimate that you would be compensated for maintaining the [wildlife] habitat that’s beneficial for everybody” (Informant 10). Another commented that, “it’s not that I want them to pay me for those goods and services; I want them to learn what the gift is. So it seems that society only recognizes things that they have to pay for” (Informant 12).

5.4 Ranching Landscape Values

Participants living in the MD of Foothills discussed a range of things they valued in ranching landscapes, some of which were threatened by the pressures discussed above. This section describes five categories of landscape values identified through thematic analysis: lifestyle values, community values, ecological values, production values and economic values. As with the landscape pressures, there are considerable areas of overlap between these five themes.

5.4.1 Lifestyle Values

Participants from Foothills enjoyed many things about living in the MD, but acreage residents particularly appreciated the lifestyle that rural living offered. Two landowners living close to Calgary felt lucky to be away from the city, but to have easy access “to use it when we want” (Informant 31). Open space was important for a rancher near High River, while one acreage owner valued privacy above all:

Having been in business with so many people in town, it’s nice to go home and be out of the way, in the trees. You don’t really have to talk to anybody else. You’re there and, you know, you have some downtime. That’s most important (Informant 21).

Lifestyle values also include an appreciation for the aesthetic or visual qualities of the land. The same acreage owner enjoyed the “beautiful Rocky Mountains,” being surrounded by a natural setting, and living in a landscape that supports deer and other wildlife. Meanwhile another participant living on a non-commercial property near Millarville commented that her urban friends have a huge appreciation for the landscape:

Everyone always says how beautiful it is. And when I moved here I definitely felt the need to share that, because you don’t get a lot of opportunities when you live in Calgary to come to a farm (Informant 31).

5.4.2 Community Values

The community values that participants discussed relate mainly to their personal, family and community connections to the land, and were particularly important for multi-generation landowners. One rancher near Longview commented that an important part of rural communities is the small family farm, which has been under pressure due to increasing corporate land ownership. A ranch manager near Priddis acknowledged that some of his acreage neighbours work hard to support the community, but felt people who make a living off the land “have a lot more in common and similar common values” (Informant 10). Other participants talked about a sense of commonality and neighbourliness that is central to the rural way of life, and which is further reinforced by a focus on agricultural work. This is illustrated by a Longview rancher’s comment that, “when you love your work [...] it ends up being your ministry, your life. It’s who you are” (Informant 15).

Six landowners spoke in depth about their feeling of connection to the land, based on their “ancestral roots” (Informant 17). It is because his land has been in

the family since 1898 that one farmer near Okotoks continues to farm, despite the significant potential benefits of selling. A fourth-generation landowner near Priddis called her land “sacred ground” for her family:

We just really value that [the farm] is a place for our family and that we feel rooted here. I’m becoming more and more aware of that. And even this house – we sleep in the part of the house that was built in 1902 (Informant 7).

For a rancher near Longview, a strong connection to the land was integral to ranching landscapes; the “roots kind of bind you to the place” (Informant 8).

Meanwhile, another third generation rancher has tried to impress upon his children, “an appreciation for being lucky enough to own property like this. [...] It’s a gift to be born onto land like that” (Informant 13). Noting the challenges that future producers will continue to face, a fourth-generation rancher near Priddis reflected that he will keep ranching “at least for my generation, for sure,” because he loved the way of life (Informant 20).

5.4.3 Ecological Values

Participants also discussed a wide range of ecological values that they felt were important to conserve in ranching landscapes, including clean air, clean water, healthy watersheds, dark skies, natural vegetation, soil health and diversity, wildlife, and wildlife habitat. One landowner identified privately owned, connected landscapes with few people as the “best bet for your large carnivores, long-term” (Informant 13). Five participants talked about the importance of native fescue grass, which supports livestock production but also helps sequester carbon. As two ranchers noted, this function is not currently recognized by Alberta’s carbon offset program, under which perennial and forage crops do not meet offset protocol

criteria (Alberta Agriculture and Forestry, 2014). Ecological values were particularly significant to several landowners who had chosen to put conservation easements on their properties. One participant and her husband had worked with a land trust to protect riparian areas, to which they felt a strong personal connection. Another non-agricultural landowner and his wife put an easement on their land near Priddis to protect “the wild creatures that live on the land: the animals, the plants, and everything that lives on it” (Informant 11). Taken together, the diverse ecological values of ranching landscapes constitute what nine participants collectively described as a “functioning” or “balanced” ecosystem that sustains life.

In general the landowners interviewed from the MD of Foothills were very passionate about taking care of the land and leaving it in better shape for future generations. One participant felt his property was “pretty awesome the way it is” (Informant 13), and had used a conservation easement to keep it intact for his children. Another rancher felt strongly about teaching his kids to be “good engaged stewards” (Informant 15). Several participants acknowledged that not all ranchers and farmers are good stewards, but noted that ranchers have an added financial interest in keeping the land in the best possible condition. The result of overgrazing, as one corporate ranch manager pointed out, is that “the productivity of your pastures starts to decline, and your pastures get invaded with invasive species – weeds and bush and brush and so on” (Informant 10). Ranchers therefore need to preserve the grass, on which everything depends. For a predominantly grass-based rancher near Longview, sustainable range management practices increase the land’s resilience and are at the core of his operation:

Especially when we're so supported by grazing on our place, my responsibility is absolutely to take care of it [...] do our very best range management and water health wise. It means the world to me to manage our place carefully, and I get a lot of satisfaction out of that (Informant 13).

This landowner observed that for many ranchers, "conservation" is a "dirty word" – but from his point of view, all ranchers are conservationists by default. "My whole business is based on the health of the environment I work on. It has to be." Another rancher summed up the benefits of good stewardship: "a functioning ecosystem equals a profitable business. [...] If you look after it, it looks after you" (Informant 8).

5.4.4 Production Values

Many participants felt it was important to keep ranching landscapes in production as a vital part of the food system, and as a way to educate the public about where "good quality food" comes from (Informant 19). A major emphasis was on the sustainability of grazing as a food production system. While recognizing the fuzzy line between farmers and ranchers – and the fact that both may be concerned about the land – several ranchers talked about the benefits of grazing over crop production. One corporate ranch manager felt that grazing land was irreplaceable, and supported "the most sustainable food production system on earth" (Informant 10). Another rancher talked about the inputs involved in farming compared to ranching, which can maintain the landscape without machinery or fuel: "if you want to talk about purely sustainable agriculture, it's grass, right? [...] All we have to do is take care of it and hope for rain" (Informant 13). Another rancher from Priddis felt that "spraying something poisonous on something that people intend to eat or consume at some point doesn't line up" – though he was also optimistic that more

and more young producers were “looking at holistic and sort of harmonious ways to operate on the land” (Informant 20).

5.4.5 Economic Values

The final category of landscape values that participants discussed is the economic value of ranching landscapes, which overlaps with most of the other values described thus far. For the agricultural landowners in this case, the ability to operate a viable business is paramount to the way they look at the land. This is reflected by one rancher’s comment that, “to me the one thing – everyone’s ‘oh the lifestyle’ or this or that – but it’s got to be a viable business” (Informant 13).

Producers depend on the land to make a living and support their families. However, in the context of the economic pressures discussed above, this particular function of ranching landscapes is becoming more and more difficult to maintain. Three participants talked about the need to be innovative, creative and “smarter” in order to remain viable, while at the same time caring properly for the land. A few felt they were managing well enough, but not everyone was positive about the future.

Thinking about her son, who is in the process of taking over the family’s cattle operation, one participant speculated that, “I don’t know if you could support the family with [the ranch]” (Informant 17). Another said, “the younger generation, my generation and younger [...] we’re so conscious of the fact that if we don’t do the numbers right we’re not going to be able to continue to operate” (Informant 20).

5.6 Conclusions

This chapter has presented the results of the analysis of qualitative interviews for the MD of Foothills. It has described and interpreted how participants who live in Foothills perceive and value ranching landscapes, based on five categories of landscape values: lifestyle, ecological, community, production and economic values. This chapter also described and interpreted the land-use concerns and pressures participants discussed, with reference to five broad themes: threats to productivity, competing land uses, rural-'rurban' tensions, economic pressures, and political pressures. A cross-case analysis of both the MD of Foothills and Rocky View County findings will be presented in Chapter 8, following the assessment of each municipality's land-use planning framework in Chapters 6 and 7.

CHAPTER 6: ROCKY VIEW COUNTY LAND-USE PLANNING FRAMEWORK ASSESSMENT

6.0 Introduction

This chapter examines the third research question of this thesis, which is the extent to which Rocky View County's land-use planning framework addresses the landscape values and pressures that participants discussed. It begins with a brief description of the provincial and local land-use planning framework for Rocky View County. The remainder of the chapter presents the results of a two-part evaluation: first, a needs assessment focused on the gaps between the landscape values and pressures discussed in Chapter 4, and the land-use planning framework; and second, an evaluation of the quality of Rocky View County's planning framework based on five criteria outlined below.

6.1 Description of Land-Use Planning Framework

Rocky View County's land-use planning framework consists of a mix of provincial, regional and local legislation, policies and governance structures. The provincial land-use planning context introduced in Chapter 1 is summarized again here, followed by a brief overview of Rocky View County's local land-use policies and plans. Tables 6.1 and 6.2 list the policies, legislation and reports that were examined for this study, and the policy cycle stage (formation, implementation or accountability) to which each document applies, following Rist (2000). While this analysis does not include all land-use planning mechanisms that apply in Rocky View County, it represents those that are most relevant to the research questions of

this thesis, and those identified by land-use planning experts who participated in this study.

6.1.1 Overview of Provincial Land-Use Planning Context

At the provincial level, the Municipal Government Act (MGA) is the primary legislation governing planning on private lands (LeSage & McMillan, 2008). The Public Lands Act (PLA; Government of Alberta, 2000c) and Public Lands Administration Regulation (PLAR; Government of Alberta, 2011) regulate planning on Provincial public lands. The introduction in 2008 of the Land-use Framework (LUF; Government of Alberta, 2008), enabled by the Alberta Land Stewardship Act (ALSA; Government of Alberta, 2009), laid the groundwork for regional planning on both public and private lands. The South Saskatchewan Regional Plan (SSRP; Government of Alberta, 2014) was the second regional plan to be introduced under the LUF, and applies to the study area of this thesis. While the SSRP continues to delegate land-use decisions to municipal governments, it requires local government bodies to ensure their regulatory instruments comply with the SSRP, to achieve regional goals and outcomes. It includes a broad strategy to maintain an agricultural land base, and four policies aimed specifically at agricultural land use. The SSRP expects municipalities to identify areas where agriculture should be the primary land use; to limit the fragmentation and conversion of agricultural land; to direct non-agricultural land use to specific development areas; and to mitigate conflicts between CFOs and other land uses (Government of Alberta, 2014b).

Table 6.1: Regional and Provincial Planning Documents Examined

Document Type	Policy Cycle Stage	Document Name
Policy	Implementation	Land-use Framework (2008)
	Implementation	Calgary Metropolitan Plan (2014) ²
Legislation	Implementation	Municipal Government Act (2000)
	Implementation	Alberta Land Stewardship Act (2009)
	Implementation	Public Lands Act (2000)
	Implementation	Public Lands Administration Regulation (2011)
	Implementation	Recreation Access Regulation (2003)
	Implementation	South Saskatchewan Regional Plan (2014)
Report	Formation	South Saskatchewan Regional Plan RAC Advice to Government (2011)
	Formation	Municipal Government Act Review. Emerging Themes: A Summary of Municipal Partner and Stakeholder Considerations (2015)

6.1.2 Overview of Rocky View County’s Land-Use Planning Framework

Rocky View County’s framework for land-use planning comprises a number of key plans and policies. An Agricultural Context Study (Rocky View Municipal District, 2009) and Agriculture Master Plan (Rocky View County, 2011) were completed as groundwork for a new municipal development plan. A Growth Management Strategy (Rocky View County, 2009), public consultation regarding growth, and a report by the Reeve’s Task Force on Growth Planning (2011) were also completed ahead of the municipal development plan review. The new County Plan (Rocky View County, 2013a) is a statutory plan pursuant to Part 17 of the Municipal Government Act, which establishes the policy framework for Rocky View’s development. It includes

² While Rocky View County is not a signatory to the Calgary Regional Partnership, the Calgary Metropolitan Plan (produced by the CRP) was included in the content analysis to better understand the regional planning context.

goals for the agriculture sector broadly and policies for agricultural land use specifically, based on the vision that,

Rocky View is an inviting, thriving, and sustainable county that balances agriculture with diverse residential, recreational, and business opportunities (Rocky View County, 2013a, p.7).

Following the release of the County Plan, Rocky View revised its Land-Use Bylaw (Rocky View County, 2014), introduced an Agriculture Right to Farm Policy (2013b) and drafted Agricultural Boundary Design Guidelines (2015). The County also has an Agriculture Service Board that provides input on policy issues, and mechanisms that govern Rocky View’s relationship to neighbouring municipalities. While the County is not a member of the Calgary Regional Partnership, it has approved Intermunicipal Development Plans with Calgary, Airdrie, Cochrane and Crossfield.

Table 6.2: Rocky View County Land-Use Planning Documents Examined

Document Type	Policy Cycle Stage	Document Name
Policy	Formation	Agricultural Context Study (2009)
	Formation	Agriculture Master Plan (2011)
	Implementation	Growth Management Strategy (2009)
	Accountability	Rural Growth Management: A Discussion on Growth (2012)
	Accountability	Agriculture Right to Farm Policy (2013)
	Accountability	Draft Agricultural Boundary Design Guidelines (2015)
Legislation	Implementation	County Plan (2013)
	Implementation	Rocky View County/City of Calgary Intermunicipal Development Plan (2012)
	Implementation	Land-Use Bylaw (2014)
Report	Formation	Report of the Reeve’s Task Force on Growth Planning (2011)
	Accountability	Council’s Response to the Reeve’s Task Force Recommendations (2012)
	Accountability	County Plan Implementation Report (2014)

6.2 Needs Assessment

This section presents the first of a two-part evaluation of Rocky View County's land-use planning framework. The objective of the needs assessment is to answer the question "to what extent does Rocky View County's land-use planning framework address the landscape values and pressures that participants discussed?" Thematic analysis of Rocky View County interviews, as presented in Chapter 4, identified five broad categories of ranching landscape values: lifestyle, community, ecological, production, and economic values. There were also four categories of landscape pressures, namely competing land uses, rural-'rurban' tensions, economic pressures, and political pressures. Gaps between these themes and the document analysis results were analyzed with consideration for Rist's (2000) three policy cycle stages (formation, implementation and accountability), to gain a clearer understanding of the ways in which participants' needs are currently addressed in the land-use planning process.

The emphasis on participants' perspectives is consistent with goal-free evaluation, which focuses on the intended and unintended impacts of a program (Youker, 2013, p.437). Provincial and local land-use planning documents were analyzed separately, but are integrated here because the participants themselves rarely distinguished between land-use planning jurisdictions. Overall, the needs assessment indicates that many of the landscape values and pressures that participants discussed are reflected in the local and provincial land-use planning

frameworks. However, there are several notable gaps, the most significant of which are the focus of this discussion.

6.2.1 Compensation Framework for Stewardship Efforts

As outlined in Chapter 4, landowners in Rocky View referred to a number of ecological goods and services for which they currently bear the substantial cost of maintaining, such as clean water, wildlife and open space. The costs landowners discussed ranged from lost development potential in designated agricultural districts, to garbage dumped on private property, to increased cost of feed due to competition from elk herds. Producers expressed a desire for more policies and market-based tools as compensation for maintaining public goods, particularly near urban centres where various pressures were greater. At the provincial level, the LUF, the ALSA and the SSRP all specifically recognize landowners' roles in providing ecological goods and services (EGS). EGS are defined in the LUF (Government of Alberta, 2008, p.34) as the economic and social benefits derived from natural processes, including "groundwater recharge, flood and erosion control, wildlife habitat, productive soils, carbon dioxide sequestration and abundant clean air and water." The LUF commits to providing market-based incentives as a measure of compensation to landowners. Accordingly, the ALSA enables four voluntary conservation and stewardship tools, which are conservation easements, conservation directives, conservation offsets and transfer of development credits.

Of the four ALSA stewardship tools, Rocky View participants were most familiar with conservation easements. Landowners who had used an easement on their own property felt it was a beneficial way to keep working landscapes intact for

agricultural use, while also protecting ecological landscape values. However, some participants were uncomfortable with the tool, feeling that the perpetual development restrictions that conservation easements imposed could bind and even penalize future generations. Another potential drawback was that, in a rapidly developing area, an easement would create an “island” that would be “just another way of wrecking land” because of the impact of surrounding uses (Informant 14). One rancher’s spouse felt easements let “government know what you are doing” (Informant 12), while another opposed the use of public funds by large conservation organizations to purchase land, which elevated prices and further squeezed out agriculture. Finally, one farmer noted that cropland is generally not eligible for tax benefits under the federal Ecological Gifts program. A participant with expertise in voluntary conservation tools confirmed that, without beneficial tax treatment, a landowner donating agricultural land as an easement could actually be penalized with a significant capital gains tax. In her view, there is a “strong need for beneficial, or at least non-detrimental tax treatment on agricultural land gifts” (Informant 6).

Participants were interested in, but less familiar with, transfer of development credit (TDCs) schemes. Many jurisdictions outside of Alberta, particularly in the United States, have successfully implemented transfer of development rights programs, which allow landowners in a “sending” or conservation area to sell development rights on an open market to someone in a “receiving” area (Greenaway & Good, 2008). Part 3 of the Alberta Land Stewardship Act enables TDC schemes (Government of Alberta, 2009); however the tool has yet to be fully applied in Alberta. According to a provincial land-use policy expert, the

use of TDCs depends on local authorities' "willingness to carve up the municipality into sending and receiving areas, and [...] to put easements on the sending areas" (Informant 30). Rocky View's County Plan (Rocky View County, 2013a) includes an "action" to access the TDC program, but nothing has yet been implemented. A landowner in Rocky View felt that local politicians were hesitant to require developers to purchase credits as a stipulation of the development permit. As he noted, "to date the County has said that's unworkable; we don't want to get involved" (Informant 22). Another regional planning expert felt municipalities also lack a good understanding of how to use the ALSA tools. This points to a need for more technical support to municipalities who are interested in implementing TDC programs. At a broader level, the limitations of the ALSA tools noted above suggest a continuing need for a range of policies and market-based solutions to provide support for agricultural land stewardship in Rocky View County.

6.2.2 Appreciation for Grass

Interview participants from Rocky View placed a high value on native grass in relation to ranching landscapes. Ranchers valued grass primarily for its role in sustaining healthy livestock and agricultural production, but also as part of what they considered a balanced ecosystem in which different natural systems function together. Others commented on the importance of grasslands for watershed protection and wildlife habitat. One land-trust specialist emphasized the critical role of native or fescue grasslands' litter layer, "the dead grass built up over years that protects the soil," and the role grass plays in sequestering carbon, thereby mitigating climate change (Informant 25; see also Elofson, 2012). As the thematic

analysis of qualitative interviews further revealed, native grass is core to Rocky View participants' aesthetic experience of the foothills, and the ranching way of life. Therefore, in addition to its multiple functions within healthy grassland ecosystems, native grass is critical to people's sense of place in Rocky View's ranching landscapes.

Provincial land-use plans and policies generally refer to native grasslands as habitats and as part of a healthy ecosystem. The SSRP includes a map of both public and private "intact native grasslands," which are defined as those "not substantially altered by land-use practices" (Government of Alberta, 2014b, p.146). It contains policies aimed at preventing the conversion of these landscapes, and specifies the "connectivity of intact native grasslands" as the highest priority under the Land Trust Grant Program (Government of Alberta, 2014b, p.75). The SSRP also recognizes the positive impact of careful grazing practices in promoting healthy grasslands. Accordingly, one of the ways it aims to foster good stewardship on public grazing lands is by rewarding leaseholders who in some way have demonstrated "careful grazing," with longer grazing tenure terms. Outside of Heritage Rangelands, which are designated conservation areas governed by separate legislation, Policy 3.8 further suggests that, "criteria will be used to assess management on public lands" (Government of Alberta, 2014b, p.70). However, while range stewardship resources are available (see Alberta Environment and Parks, 2015b), there are no clear statements in the South Saskatchewan Regional Plan to illustrate what constitutes good grassland stewardship practices, or how they will be assessed and monitored.

Content analysis of local land-use plans and policies in Rocky View County revealed very few references to grass, grasslands or native rangelands. The Agriculture Master Plan mentions grasslands as part of the natural capital, which, briefly, consists of “the land and water resources that anchor our quality of life and support economic activity” (Rocky View County, 2009, p.60). The County Plan has one environmental policy to “encourage development to retain and reintroduce natural habitat and native grasslands” (Rocky View County, 2013a, p.31). Finally, the County’s vision for West Rocky View includes the “retention of large ranches and farms, [and] retention of native rangeland” (Rocky View County, 2013a, p.90). However, there is no direction to specify how this vision will be accomplished. Further, while grasslands may be presumed to be included within “environmentally sensitive areas” or “natural landscapes,” there is no explicit consideration of grasslands, or native grass in particular, within the local land-use planning process. Instead, the first two criteria considered within the Land-Use Bylaw’s General Development Regulations (Rocky View County, 2014, p.54) include topography and soil characteristics – criteria that are more likely to support the development, rather than conservation, of native grasslands in the foothills.

6.2.3 Support for Community Values

Rocky View County interviews suggest that ranching landscapes embody a range of social and cultural values that are sustained by rural communities, and contribute to a strong sense of place. Participants described these values as the social networks, value system, respect for the land, and way of life that are embedded in ranching practices and transferred from one generation to the next. A provincial land-use

policy expert commented that the cultural history associated with “iconic” ranching landscapes is “part of what Alberta is [...] and it’s important to maintain that identity” (Informant 30). Within provincial planning documents, some cultural heritage values are managed through a “land-based regulatory system” (Government of Alberta, 2014b, p.32) that protects designated historic resources, and requires developers to submit proposals for review (Government of Alberta, 2014b). The SSRP also specifies a strategic direction to include Aboriginal traditional knowledge in land and natural resource planning, following the LUF commitment to knowledge-based decision-making informed by “science, evidence and experience” (Government of Alberta, 2008, p.16) – though whether knowledge-based and science-based perspectives are compatible with one another remains to be seen. Finally, the SSRP includes guidelines for building sustainable communities, within its Implementation Plan. However, this Implementation Plan is “presented in a general manner which allows municipal interpretation in a locally meaningful and appropriate fashion” (Government of Alberta, 2014b, p.107). Thus the development of specific mechanisms relating to rural communities is left largely to municipalities.

In local land-use planning documents, community values are reflected in the use of the terms “rural character” and “rural community.” In the Growth Management Strategy (Rocky View Municipal District, 2009, p.24), rural community is characterized as the “underlying fabric of agricultural and ranching heritage.” The County Plan associates rural character with features such as dark skies, open vistas and working agricultural lands, and includes a table (p.35) listing the tangible and intangible characteristics that define Rocky View’s communities. Policy 21.0 for

Recreation, Social and Culture (Rocky View County, 2013a, p.82) includes objectives to celebrate the County's "rural and western roots," to identify and conserve significant historic resources, and to market local assets. However, no inventory of significant vistas, historic resources or "local assets" is included or referenced in the County's planning documents. Development permit applications are required to include a statement of past or historical land uses under the Land Use Bylaw, which suggests a sensitivity to agricultural heritage; but there are otherwise few mechanisms within the land-use planning process to foster community values.

6.2.4 Minimize Agricultural-Residential Conflicts

Another need relating to community values involves the urban-'rurban' tensions between agricultural and residential landowners in the County. Some of the tensions related to farming activities are addressed in provincial and local right-to-farm policies, specifically the Agricultural Operation Practices Act (AOPA; Government of Alberta, 2000a, p.7) that protects persons carrying out a "generally accepted agricultural practice" from nuisance claims. Content analysis of local plans illustrates that Rocky View County has attempted to minimize agricultural and residential land-use conflicts in numerous ways. The County's Agriculture Right to Farm Policy (Rocky View County, 2013b) confirms the intent of the AOPA by supporting "agricultural operations in their day-to-day business with minimum adverse impacts from neighbours." The County has also developed Draft Agricultural Boundary Design Guidelines (Rocky View County, 2015a) and numerous regulations within the Land Use Bylaw (Rocky View County, 2014a) that

are intended to minimize conflict by buffering the transition areas between agricultural and residential land uses.

Because many of these local efforts to minimize conflicts are fairly recent, it may be too soon to observe their impacts. However, there continue to be tensions over day-to-day farming operations such as operating large equipment on busy rural roads, or applying fertilizer to crops. Perhaps more significantly, the County's land-use framework does not address the underlying differences in perspectives that interview participants noted between agricultural and residential neighbours – or between agriculture and conservation interests. As a land trust advisor commented,

you have the ranching people who have a culture and understand [the ranching landscape], and know why it's valuable. And then you have the urban people who love it as well and would like to protect it, but really don't understand it and don't know how to protect it (Informant 25).

One participant felt the ranching community needed specific support in “battling some of the issues with wildlife and species at risk” (Informant 24), and what he saw as an anti-agriculture attitude among urban-based environmental groups, whose conservation goals compromise landowners' ability to manage their land. The Land-use Framework (Government of Alberta, 2008, p.15) posits stewardship as a “shared responsibility” involving all Albertans including “industry, landowners, aboriginal peoples, individual Albertans and governments.” However, the needs assessment suggests that further clarification is required to identify what rights and obligations this responsibility entails for different land users – in particular who has a legitimate right to decide what constitutes acceptable land management practices or “good” land stewardship.

6.2.5 Succession Planning

Thematic analysis of Rocky View County interviews reveals that family heritage plays a role in connecting people to the land and to a feeling of responsibility to properly care for it. Provincial land-use policies and plans recognize landowners' role in managing public and private land, and offer voluntary incentives, as noted above, to encourage this stewardship ethic. However, an expert on voluntary tools and incentives commented that the intangible personal and family values that often motivate the decision to protect property with a conservation easement are not eligible "purposes" under the ALSA, which is oriented toward broader public interests. The challenge, as she noted, is that "all these stories that come with [a] place" are difficult to measure, conserve, or even conceive of in terms of public good (Informant 6).

While family heritage values are difficult to manage directly, they are indirectly supported by local planning mechanisms that offer land management flexibility to producers. Interviews in Rocky View County suggested that many landowners value the ability to subdivide or develop their land, which can help finance agricultural operations or retirement – although these are one-time injections of funds and therefore not a sustainable source of income. Subdividing is also often done for succession-planning purposes, to assist young producers in setting up agricultural operations on smaller parcels or for retiring producers to pass along the bulk of their operation to their children. The County Plan (Rocky View County, 2013a, Policy 8.18) responds to landowners' desire for flexibility by allowing the subdivision of parcels over 50 acres for agricultural purposes, without

redesignation. By reducing regulations for “Agriculture First Parcels Out,”³ the County aims to transition “larger portions of land to potential operators or family members who may be interested in farming those lands” (Rocky View County, 2011, p.103).

Even if the subdivided portion remains in agriculture in the short term, however, subdivision can exacerbate other problems such as increased land values or conflicts between agricultural and residential neighbours. As an agriculture expert with Rocky View County commented, “whether it’s a cash infusion because [the landowner] just sold it outright, or whether it’s actually designed to be for a family member, it does fragment things” (Informant 3). In the view of one farmer,

individual parcels [of land] should not be used for estate planning purposes. In other words, if a person’s got a need to generate money for retirement, or needs to split up family assets, chopping up the property into small pieces so they can do their estate planning is not good land-use planning for society. We need to encourage some other methods for allowing landowners to do their estate planning (Informant 22).

While there are numerous insurance products and other tools available to landowners (e.g. Renaud, 2003), thematic and content analysis echoes this perceived need for a greater range of succession-planning options to keep ranching landscapes intact, remove barriers to entry into commercial agriculture for younger producers, and by extension support the continuing stewardship of land by agricultural families.

³ As defined in the County Plan (Rocky View County, 2013, p.24), a First Parcel Out is “the subdivision of a single residential or agricultural parcel created from a previously un-subdivided quarter section.” An Agriculture First Parcel Out (p.39) applies only to a parcel of land greater than 20.23 hectares (50 acres), designated for agricultural use.

6.2.6 Reliable Data on Land-use Changes and Impacts

In contrast to the view discussed above that landowners should have the right to subdivide or develop their land, acreage owners and some producers in Rocky View County felt that agricultural land should be protected because of its vital food-production role and other social benefits. The Calgary Metropolitan Plan (Calgary Regional Partnership, 2014, p.32) reflects a consensus that “better” agricultural land should be preserved through the adoption of compact settlement patterns and more efficient use of land – principles that are central to the Province’s Land-use Framework. Rocky View County’s own approach to growth management integrates “compact residential development” (Rocky View County, 2013a, p.47) and priority growth areas, though with the more multi-faceted objectives of reducing land-use conflicts and servicing costs rather than strictly protecting agricultural land.

However, as one regional planner commented, there is often a gap between planning intentions and the political will to carry them out, specifically,

politicians and governments buying into their own plans even and saying, we recognize the value of our agricultural landscapes and we’re going to do whatever we need to protect them. And maybe that’s saying no to developers. And I think local governments have a hard time doing that (Informant 26).

On the other hand, while Alberta Agriculture and Forestry has begun to monitor and report on the fragmentation and conversion of agricultural land at the provincial scale (Alberta Agriculture and Forestry, 2016), the significance of farmland loss remains contested. In the opinion of one provincial land-use policy expert, the extent of the problem has been significantly overblown by people who want to protect land because “it feels good and it seems to be the right thing to do”

(Informant 30). This participant felt there were potentially valid reasons to protect ranching landscapes, such as their cultural identity or food security in the longer term; however, “for policy purposes, there is no apparent need to protect agricultural land [in Alberta] in the short term” (Informant 30). Rocky View County has also begun to report changes in agricultural land use (Rocky View County, 2014b). However, reliable and up-to-date information is needed to understand how fragmentation and conversion are impacting specific landscape values over the long term and into the future. This information would contribute to the discussion about whether agricultural land in Alberta needs stronger protection or regulation. It could also potentially help clarify rationales for development decisions, reduce the political influence on decision-makers, and close the gap that participants noted between County policy intentions and inconsistent land-use decisions.

6.2.7 Clarity on Recreational Access to Land

Many Rocky View County participants considered recreation to be an important aspect of ranching landscapes’ lifestyle values. The results of the content analysis of provincial land-use plans and policies indicated that recreation is also a significant land-use consideration from a policy perspective. Recreation is one of eight statements of policy included in the SSRP’s Implementation Plan and it is discussed in the ALSA and LUF as an important use of both public and private land. However, participants expressed concerns about recreational access to private land and leased public land, and a lack of respect and/or understanding among recreationalists for ranching operations. Sections 5 and 6 of the Recreational Access Regulation (Government of Alberta, 2003) clearly set out the terms under which

grazing-lease holders have a duty to allow access to recreational users, and the requirement that recreationalists contact the leaseholder prior to accessing public land. Thus there are mechanisms in place to deal with the issue of recreational access to grazing leases. However, it is clear from interviews that there remain problems in ensuring recreationalists understand and respect those regulations. Although remedies can be pursued through the courts, there is also an unresolved problem of recreational users trespassing on private land, and sometimes damaging private property.

6.3 Land-Use Planning Framework Assessment

The second of the two-part evaluation for this study involves an evaluation of Rocky View County's land-use planning framework, based on the five criteria outlined in Section 3.7.3. For the Agricultural Land Use Planning in Canada study, to which this thesis contributes, David Connell (2015) proposed four principles for evaluating agricultural land-use planning policy and practice: maximize stability, minimize uncertainty, integrate across jurisdictions, and accommodate flexibility. According to Connell, the first two principles are critical measures of the respective strength and weakness of an agricultural land-use planning framework. To be effective, land-use plans and policies also need to integrate across jurisdictions and have a measure of flexibility "in order to moderate the restrictive effects of maximizing stability and minimizing uncertainty" (Connell, 2015, p. x). These four principles were used to evaluate Rocky View County's land-use planning framework, and were also discussed with key informants, whose assessments are considered in this analysis. A

full description of each principle as defined by Connell (2015) is provided in Appendix D.

Based on widespread concerns that emerged through thematic analysis as “political pressures,” perceived procedural fairness has been added as a fifth evaluation criterion. Concepts of fairness and justice are part of a very broad discussion that has taken place both within and beyond geography. Philosopher John Rawls first elaborated a theory of justice in 1971 that posited a widely debated view of “justice as fairness” (Rawls, 1999, p.10). In this view, justice represents a set of principles that would be agreed upon by hypothetically “free and equal persons,” (p.12) and would therefore be accepted as fair. This is in contrast to a more utilitarian view of justice as “the greatest good for the greatest number,” which could potentially represent “tyranny by the majority” (McKay et al., 2012). One stream of social psychology research has extended this debate with a particular focus on procedural justice, and the way in which subjective “justice judgments” act as “determinants of attitudes and behavior” (Lind & Tyler, 1988, p.2). Gross (2007) draws on these theories in her “community fairness framework,” outlining a number of principles to increase the social acceptance of a development proposal. Following Lind and Tyler (1988), she distinguishes between distributive justice as, “the equitable distribution of *outcomes*, which can be either public goods or public ‘burdens’”; and procedural justice, which “is concerned with the *processes* by which decisions are made” (p.2729; italics original).

The key elements of procedural justice are appropriate participation and the ability to be heard (voice), access to information, and impartial decision-making

(Gross, 2007; Doherty & Wolak, 2012; McKay et al., 2012; Kerselaers et al., 2013). As Gross and others have shown (Syme et al., 2006; Kerselaers et al., 2013), community perceptions of justice are important because they help to increase the legitimacy and acceptance of policies and outcomes, as well as trust in decision-makers. Rocky View County landowners voiced significant concerns over the distributive justice of stewardship responsibilities and rewards, which were explored above in the needs analysis and will be discussed in more depth in Chapter 8. The focus of this evaluation component is on the perceived procedural fairness of the land-use planning process in Rocky View County. While “fairness” and “justice” are often used interchangeably in the literature (Gross, 2007), Cutter (1995, p.112) describes justice as a “politically charged term” that “connotes remedial action to correct an injustice imposed on a particular group of people.” Fairness, on the other hand, emphasizes more subjective, community-based judgments and contextual appraisals (Syme et al., 2006); in other words, “what it is that makes some procedures *seem* to be more fair than others” (Lind & Tyler, 1988, p.3; emphasis original). Procedural fairness in this analysis considers both participants’ experience of the planning process, as elaborated in Chapter 4, and the ways in which fairness is addressed in Rocky View County’s land-use planning framework.

6.3.1 Maximize Stability

Since the dissolution of regional planning commissions in 1995, land-use planning in Alberta has been characterized by local or regional variability and inconsistency, especially in terms of how land-use decisions are made in response to local priorities (Resource Planning Group, Policy Secretariat, 2002; Kaplinsky & Percy,

2014). The Land-use Framework (Government of Alberta, 2008) introduced a stronger level of provincial oversight through regional land-use planning, and higher expectations for municipalities to meet regional outcomes for private and public land use. It therefore attempts to specify policy direction and guidelines that local governments are not able to provide (Government of Alberta, 2008). As noted in Chapter 1, public concerns over the perceived infringement of property rights introduced by the Alberta Land Stewardship Act (Government of Alberta, 2009) resulted in a plan for the South Saskatchewan region that one Rocky View County representative characterized as lacking “teeth” (Informant 4). The SSRP (Government of Alberta, 2014b) does require that municipal regulatory instruments comply with the regional plan, though policies relating to agricultural land are not supported by enforceable or legally binding regulations that would help maximize stability as described by Connell (2015). This arrangement suits some Rocky View participants’ preference for policies that leave “room for interpretation based on local needs” (Informant 5), though others feel it is not strong enough. One Rocky View County representative gave an overall assessment that,

the South Sask Plan I think is a great document. The only thing that is missing is that link to require compliance. [...] The Provincial policy needs to be there. Whether it’s weak – weakly enforceable or not, at least it is there and so at the staff level we can keep holding up this provincial policy (Informant 3).

Within the local planning framework, the County Plan (Rocky View County, 2013a) establishes clear and specific policies to support agriculture, which attempt to minimize conflicts between land uses. These policies are implemented through regulations in the Land-Use Bylaw (Rocky View County, 2014), which governs individual property development. According to Connell (2015), one of the key

elements of stability is a clear and enforceable statement of purpose to protect agricultural land. Rocky View's Agriculture Master Plan (Rocky View County, 2011, p.2) outlines a long-term policy framework and vision for agricultural lands in the County. However, the objective is not expressly to protect agricultural land but to facilitate a sustainable and viable agricultural sector, and to address "conflicts and opportunities arising from growth, regional urbanization and competition for agricultural lands" (p.2). Efficient use of land strategies that focus residential, business and industrial growth to strategic locations indirectly support the retention of agricultural land. However, the County Plan echoes the Agriculture Master Plan in emphasizing the diversification of the agriculture industry through flexible agricultural land management policies.

6.3.2 Minimize Uncertainty

Uncertainty relates to the potential for inconsistent application of rules and regulations, to ambiguous language, or gaps and exceptions in policies (Connell, 2015). The SSRP (Government of Alberta, 2014b, p.109) has four specific policies for agriculture that municipalities are "expected" to follow. It also introduces regular monitoring, evaluation and reporting of agricultural land fragmentation and conversion by the Province (Alberta Agriculture and Forestry, 2016). However, as noted above, these policies are not binding, and local area authorities are directed to incorporate the Land-use Framework principles "where appropriate" (pp.88, 109). This leaves opportunity for considerable variability in how agricultural land-use decisions are made at the municipal level. As a policy specialist with the County commented, "as I see it now, the municipalities are still going to be pretty much

masters in their own area. And, you know, we'll see to what extent the SSRP actually assists in that" (Informant 1).

The County uses a hierarchy of planning instruments to create a community- and site-specific policy framework designed to minimize uncertainty in the development process (Rocky View Municipal District, 2009b). The County Plan (Rocky View County, 2013a) is quite explicit about how it will direct residential and business growth, and in general the policies that relate to agricultural land use have a high degree of specificity. For example, the directive term "shall" is used in conjunction with many residential development policies (e.g., Policy 10.2), requirements for area structure plan contents (e.g., Policies 9.6, 10.1 etc.), and other issues impacting agricultural operations. The Land Use Bylaw (Rocky View County, 2014) outlines the permitted and discretionary uses within distinct Land Use Districts, and requires decision-makers to consider a development application's consistency with the County Plan and other municipal policies (Rocky View County, 2014). However, the discretionary uses leave potential for political processes to exert influence over policy recommendations in the decision-making process. Further, the County Plan is subject to review on an annual basis (Informant 3). Interview participants widely agree that decision-makers in Rocky View County are "vulnerable to political lobbying, particularly by the development industry" (Informant 4), and that decisions are often inconsistent with policies. It is too soon to assess whether the current County Plan will help to address this concern in the longer term. However, the first County Plan implementation plan report indicates that, in 2013-14, Council approved few redesignations or subdivisions above and

beyond what administration recommended, noting that “on balance most applications are consistent with the County Plan” (Rocky View County, 2014, p.34).

6.3.3 Integrate Across Jurisdictions

Integrating policies vertically and horizontally across jurisdictions involves the cohesion and consistency between provincial, regional and local governments (Connell, 2015). Rocky View County’s policies have a high degree of vertical integration with the provincial framework. Both the Agriculture Master Plan (Rocky View County, 2011) and the County Plan (Rocky View County, 2013a) make direct references to the Land-use Framework (Government of Alberta, 2014b) and the Municipal Government Act (Government of Alberta, 2000b), as well as the regulations within which municipalities must work. Both plans also reference the South Saskatchewan Regional Plan (Government of Alberta, 2014b), which imposes “some forced jurisdictional alignment” (Informant 30) through the compliance requirements noted above. Within the Calgary region, there is less policy integration at this time because of Rocky View County’s decision to withdraw from the Calgary Regional Partnership – a decision that participants, as discussed in Chapter 4, largely support. However, the regional policy context is currently in flux with the announcement of a new mandatory growth management board for the Calgary area, and “at this point it isn’t clear how it will all work out in the long run” (Informant 30). As noted in Chapter 1, amendments to the Municipal Government Act, including details about growth management boards, are expected to be tabled in the Legislature in spring 2016, with new legislation proclaimed before the 2017 municipal elections (Government of Alberta, 2015b).

6.3.4 Accommodate Flexibility

According to Connell (2015), an effective legislative framework accommodates a measure of flexibility in order to change when needed and apply to a range of circumstances. Flexibility is a significant principle for land-use planning in Alberta, where the Municipal Government Act (Government of Alberta, 2000b) delegates authority for land-use decisions to local governments. In Rocky View County, the Agriculture Master Plan (Rocky View County, 2011) repeatedly notes that producers need land management flexibility and the removal of prohibitive regulations, as the success of their business operations is directly linked to the successful management of the land base. Policies such as simplifying agriculture first parcel out subdivisions may not be in keeping with other jurisdictions' efforts to reduce land fragmentation, as the Agriculture Master Plan notes (Rocky View County, 2011, p.55); however, they are seen by many to be important to maintaining the viability of the agriculture sector more generally. The County Plan's vision for agriculture as a vital part of the County's social, economic and environmental integrity incorporates both traditional farming and ranching, and innovative operations (Rocky View County, 2013a). This vision requires support for the diversity and flexibility of agricultural operations, and of agricultural land management in particular.

6.3.5 Perceived Procedural Fairness

Procedural fairness includes appropriate participation and inclusivity in consultation processes, the ability to be heard (voice), access to information, and impartial decision-making (Gross, 2007; Doherty & Wolak, 2012; McKay et al., 2012; Kerselaers et al., 2013). The political pressures described in Chapter 4 illuminate the

range of Rocky View County participants' views on procedural fairness. With regards to the provincial planning process, one participant who had been involved in committees and focus groups for the Land-use Framework felt that policy clearly reflected her interests and input, while another said the South Saskatchewan Regional Plan provided many opportunities for people to get involved, and "very well represents all of the competing interests [...] I think it's a very fair document" (Informant 22). However, another rancher was critical of policy-makers' tendency to "come up with policies and then consult stakeholders later." He felt the vision and strategies in the South Saskatchewan Regional Plan were important, but wanted to "make sure that we've got a proper voice as stakeholders in that" (Informant 24).

In terms of municipal policy development, several participants and planning experts agreed that grassroots input by the County's Agriculture Service Board was a key strength of the planning framework. Another strength was the extensive public and industry stakeholder consultations that Rocky View County staff conducted as part of the Agriculture Master Plan, to create a broadly agreed upon vision for agriculture in the County (Rocky View County, 2011). However, one acreage owner suggested this level of consultation is not typical for specific development decisions, which he felt were biased in favour of developers:

People's input is not really seriously considered because, either decisions have been made before hand, or the alternatives have been presented and they're looking for feedback after the fact. But unless there's literally a tidal wave of opposition, those decisions are already made (Informant 16).

Another participant pointed to the Reeve's Task Force on Growth Planning, which Council formed in 2010 to help define growth and planning issues in the County (*Report of the Reeve's Task Force on Growth Planning, 2011*). As Informant 5 said,

“there is a lot of feeling that the feedback from the Reeve’s surveys hasn’t been heard,” particularly farmers’ desire for fewer restrictions on land-use and subdivision. Overall, participants felt they had adequate opportunities to provide input into the local planning process, though not everyone took advantage of those opportunities because the demands of agricultural work and other commitments limited their availability. One planning expert suggested that Rocky View and other municipalities could improve communication with producers to clarify how policies apply to them, and make a more focused effort to involve producers in the planning process.

6.4 Conclusions

This chapter has presented the results of the two-part evaluation of the provincial and local land-use planning framework for Rocky View County. The first part described seven needs that were identified based on an assessment of the gaps between interview data and document analysis. Some of the needs that stand out include a stronger framework for supporting landowners’ stewardship efforts; a more complex process for assessing the importance of agricultural land (and native grass in particular) within the development process; mechanisms that help to foster rural character and rural community; a process for better understanding and mitigating conflicts between agricultural producers and residential landowners; and more succession and estate planning tools as alternatives to subdividing land. The second part of this chapter evaluated the quality of local and provincial land-use planning frameworks based on five criteria. Overall this evaluation suggests that, while many recent policy changes have the potential to increase stability and

minimize uncertainty within the local and provincial land-use planning framework, the South Saskatchewan Regional Plan lacks the enforceability required to ensure local land-use decisions align with municipal and provincial policy objectives.

Chapter 7: MD OF FOOTHILLS LAND-USE PLANNING FRAMEWORK ASSESSMENT

7.0 Introduction

This chapter presents the assessment of the land-use planning framework for the MD of Foothills. It follows the same format as Chapter 6, beginning with a description of the planning framework, followed by an analysis of the gaps between interview data and document analysis. It then evaluates the quality of the MD's land-use planning framework based on Connell's (2015) four proposed planning principles plus one additional criterion.

7.1 Description of Land-Use Planning Framework

As with Rocky View County, the land-use planning framework for the MD of Foothills includes a mix of provincial and local legislation, policies and governance structures. This section provides an overview of the local land-use planning framework for the MD of Foothills. Table 7.1 lists the municipal policies, statutory plans, and reports that were examined, again identifying the policy cycle stage (following Rist, 2000) to which each document principally applies. This analysis focuses on the documents that were most relevant to the research questions, based on feedback from land-use planning experts who were interviewed for this study.

7.1.1 Overview of the MD of Foothills Land-Use Planning Framework

Land-use planning in the MD of Foothills is governed by the provincial legislative framework as described for Rocky View County in Chapter 6. At the local level, the Municipal Development Plan (MDP; MD of Foothills No.31, 2010) is the MD's

highest-level statutory plan, outlining the principles, goals, objectives and policies for how the community will develop. These are guided by the vision that,

the MD of Foothills encompasses a diverse rural landscape in which leadership and planning support a strong agricultural heritage, vibrant communities, a balanced economy and the stewardship of natural capital for future generations (MD of Foothills No.31, 2010, p.4).

Following the MDP, consultants prepared a Riparian Setback Matrix Model in 2010 as a tool to help the municipality protect riparian areas facing development pressures (Haag et al., 2010). The MD also introduced a Dark Sky Bylaw (MD of Foothills No.31, 2011) to regulate light pollution. Based on public consultations to understand residents' values and attitudes toward growth, the municipality introduced a Growth Management Strategy (MD of Foothills No.31, 2013) that builds on the MDP and aims to provide more certainty to landowners and direction to Council regarding development proposals. The municipality has recently completed a comprehensive update to its Land Use Bylaw (MD of Foothills No.31, 2014) that sets out specific guidelines to govern subdivision and development within different land use districts in the MD. While it is not part of the current Calgary Regional Partnership, Foothills has Intermunicipal Development Plans (IDPs) with Longview, Okotoks, Black Diamond/Turner Valley and High River; it is also currently adopting IDPs with four surrounding rural counties and revising its IDP with the City of Calgary (MD of Foothills No.31, 2016).

Table 7.1: MD of Foothills Planning Framework Documents Examined

Document Type	Policy Cycle Stage	Document Name
Policy	Implementation	The Riparian Setback Matrix Model (2010)
	Implementation	“A Vision Forward” – Growth Management Strategy (2013)
Legislation	Implementation	Municipal Development Plan (2010)
	Implementation	Dark Sky Bylaw (2011)
	Implementation	Land Use Bylaw (2014)
	Implementation	Town of High River and MD of Foothills: Intermunicipal Development Plan (2012)
Reports	Formation	“What We Heard” – GMS Public Consultation Report (2012)
	Formation	City of Calgary & MD of Foothills Intermunicipal Development Plan Update (Summary of Feedback Received) (2015)

7.2 Needs Assessment

This section presents the first of a two-part assessment of the land-use planning framework for the MD of Foothills, using the same process followed for Rocky View County. The objective is to answer the question, “to what extent does the land-use planning framework for the MD of Foothills address the landscape values and pressures that participants discussed?” The needs assessment involved a comparison between the document analysis results, and themes discussed in Chapter 5. Rist’s (2000) three policy cycle stages (formation, implementation and accountability) have been used as an analytical framework to gain a clearer understanding of how participants’ needs are currently addressed in the land-use planning process. The assessment also considers data from interviews with land-use planning experts where applicable. As with Rocky View County, the needs assessment shows considerable agreement between the landscape values and pressures that participants discussed, and the content of land-use planning

documents. However, there are several gaps, which are the focus of the six needs described here.

7.2.1 Support for Stewardship Efforts

Agricultural landowners in the MD of Foothills described a deep connection to and respect for the landscape. While acknowledging that not all producers were good environmental stewards, most ranchers and farmers who participated in this study expressed a commitment to holistic or sustainable land management practices that benefit both their own agricultural operations and the land itself. However, the needs assessment revealed a gap in mechanisms to support landowners' stewardship roles. The primary tool currently available to landowners is the conservation easement, as provided for in the Alberta Land Stewardship Act (ALSA; Government of Alberta, 2009). As in Rocky View County, Foothills participants had mixed opinions about conservation easements. Three landowners had considered using the tool, while three more had already used easements to protect wildlife, riparian areas, and open space on their properties. On the other hand, one rancher commented that his neighbours feared conservation easements as overly restrictive and detrimental to land values, though he himself felt it had no impact on his short or long-term options; "it was good business, it's good philosophy, and it's zero issue" (Informant 13). Another noted that,

there is a possibility that in the future, that this land, because of the conservation easement, might be worth even more. Because people know this will never be developed, ever (Informant 17).

One land trust expert believed some landowners worried that easements may limit or restrict property rights. However, he pointed out that easements are a voluntary

agreement between a landowner and a land trust and do not involve “takings” by the government; therefore, “we need to educate the politicians relating to public policy that this is not a property rights issue” (Informant 25). Another rancher was comfortable with local land trusts using easements to protect land for future generations, but had real concerns with larger conservation organizations “using public money to bid on the marketplace for land [...] That’s social engineering that should not be on the landscape” (Informant 8).

While these perspectives indicate a need for more information to clarify the benefits and potential drawbacks of easements for landowners, the thematic analysis also points to a clear preference for voluntary tools over regulatory policies. Land designations or regulations that restrict landowners’ ability to subdivide are especially thorny. Some participants expressed “zero trust in our bureaucracy and our government” (Informant 8), or in “policies that force conservation without compensation” (Informant 15). A corporate rancher summed up the issue in this way:

[Subdivision is] like an inalienable right to farmers and landowners to say, well yes I want this farmland preserved but I still want the right to subdivide [...] because when I sell that, either I’m going to retire and live there, or my son or somebody else could farm and have the rest of the place (Informant 10).

When it was introduced in 1995, the Municipal Government Act transferred authority for subdivision decisions from regional planning bodies to municipal authorities (Climenhaga, 1997). The MGA’s Subdivision and Development Regulation (Government of Alberta, 2002) enables a landowner to apply to subdivide a parcel of land; however, it is up to local authorities to review and either

approve or deny applications. Yet, as an official with the MD noted, landowners view subdivision as an enshrined right. She felt that “it’s important to consider the broader future of the landscape and cumulative effects” of fragmentation. From the perspective of an MD representative, municipalities need to have “more and better tools” as an alternative (Informant 27). Again, while the ALSA enables transfer of development credit (TDC) schemes as a municipal tool that could help meet this need, there is confusion about how the tool will be rolled out, as this participant’s comments indicate:

How is that going to work? Is that going to be piloted by municipalities, or is the province going to give us a framework? [...] I think there’s been a pull, on our Council anyway, to say wait a minute, let’s just see if it flies and see what the pit-falls are before we try to do it ourselves. [...] Maybe [the push] needs to come from higher up – not that they have to do it, but they have to create the environment where it’s easy for someone else to do it (Informant 27).

Another planning expert in the region commented that the downloading of responsibility for TDC programs from the Province to municipalities “complicates it to the point of not being realistic” (Informant 23), because municipalities would have to coordinate cross-jurisdictional sending and receiving areas. Even if a TDC system were put in place, one land trust advisor felt that it would move money around but “not properly solve any big part of this issue – inappropriate land use” (Informant 25). From his point of view the most workable solution to support private land stewardship would lie in clearly defined “dominant land uses” and provincial guidelines, combined with limited-term, market-based easements (Informant 25).

Overall there is an appetite among Foothills participants for some form of market-based compensation system to ensure the provision of EGS, particularly

water and watershed protection. However, one specific aspect of EGS that emerged in thematic analysis but not in content analysis was wildlife. As noted in Chapter 5, many producers valued wildlife on ranching landscapes, but incurred economic losses when their land became the “breadbasket for ungulates and bears” (Informant 15). One non-commercial property owner believed that land-use planning mechanisms were required in order to consider the needs of non-human elements more equitably, and to deal specifically with ranchers’ antipathy toward wildlife. This view was reinforced by the following two ranchers’ comments:

Right now, that part of it’s not functioning very well and we actually manage our grassland to discourage some of the wild animals, because they are detrimental to our bottom line (Informant 8).

Everybody will pay for any other kind of recreation [...] If people just got used to the fact that you pay to ski, you pay to go to a hockey game, you pay to go to a park – it would change our attitude to hunters and wildlife management big time, if it was a source of income (Informant 13).

None of the provincial or local land-use documents examined directly address the conflict between the landscape as wildlife habitat and as a place of livestock production, other than perhaps the ALSA’s conservation tools more generally. As the comments above suggest, however, a program where landowners could benefit directly from hunting activity on their property would potentially provide more incentive for producers to manage wildlife as a beneficial aspect of their livelihoods.

A final need relating to stewardship that was identified is access to and sharing of information on best management practices. One rancher who is committed to holistic range management and year-round grazing commented that he “just learned along the way,” with some support from producer groups and forage associations (Informant 13). As an official with the MD commented,

a lot of farmers and ranchers want to do the right thing, but there needs to be more clarity around what are the best management practices. We need more information and more education (Informant 28).

The South Saskatchewan Regional Plan (SSRP; Government of Alberta, 2014b) states that good stewardship of public lands will be assessed on specific criteria; however, as noted in Chapter 6, these assessment criteria are not elaborated within the provincial land-use documents examined.

7.2.2 Minimize Recreational Conflicts

Participant interviews illuminate the high value that ranching landscapes have for recreational use, as well as a range of related pressures that rural landowners experience. At the provincial level, the Land-use Framework (Government of Alberta, 2014b, p.10) lists recreation as one of the main land uses for both white (settled) and green (forested) lands, and confirms watershed protection and recreation as the highest priority uses of the Eastern Slopes (p.45). The LUF also notes that “there is friction between different recreational groups when they all compete for the same area,” (p.44) and commits to developing a strategy “to manage recreational use that will include [public lands and] associated private lands” (p.50). Within the South Saskatchewan Regional Plan (Government of Alberta, 2014b), recreation is described as a positive aspect of both quality of life and economic diversification for the region. It sets out policies to manage increasing demand from all-terrain vehicle and other recreational users, through the development of trails and management plans. The SSRP also lists various “education, awareness and compliance efforts” to promote “responsible land use and shared stewardship” (p.91).

While provincial documents deal extensively with recreation issues, only one specific regulation was identified that directly addresses participants' concerns with recreational use of public grazing lands or private land. This is the Recreation Access Regulation (Government of Alberta, 2003) described in Chapter 6, which requires recreational users to contact leaseholders prior to accessing Crown grazing leases. Further, one landowner noted that expectations for public land use are more systematically enforced for agricultural than for recreational uses, some of which, such as mud-bogging,⁴ have detrimental impacts on the land:

On the grazing side they do an inventory on our grazing lease every five years, and if there's a problem they identify it and you deal with it, or else there's a penalty. [But] ongoing use of ATVs, the impact of that is constant. My recommendation on the mud-bogging side is they should just stop it. No more. I mean, that should just not be an accepted use on any public land (Informant 18).

Content analysis of local planning documents shows that recreation is also a significant municipal priority. Regulations in the Land Use Bylaw (MD of Foothills No.31, 2014) focus on municipal parks and community recreation facilities. The Municipal Development Plan (MD of Foothills No.31, 2010, p.25) is somewhat broader in scope, promoting recreation "while protecting the rural integrity, landscape, and environment." Accordingly, the MD's recreation policy includes specific objectives to minimize conflict with existing land uses and to support recreation where it will have a "minimal impact on the environment, agriculture, water and municipal infrastructure" (p.26). Recreation development criteria do

⁴ Mud-bogging is a form of recreation involving the use of off-highway vehicles on muddy back country trails, including stream crossings; it has become contentious because of uncontrolled use, and the potential for damage to riparian areas on Crown land (see Van Tighem, 2013; Derworiz, 2014).

include the agricultural capability of the lands; however it is unclear how capability is to be defined – whether by Canada Land Inventory (CLI) soil classifications, or based on a more complex land-rating scheme for assessing the suitability or “importance” of land for agriculture (Smit et al., 1987, p.363). Further, no policies were found that deal directly with the types of ad-hoc pressures participants discussed, such as cyclists on rural roads or para-gliders trespassing through private property.

7.2.3 District-Specific Plans

Thematic analysis reveals that ranching landscapes in the MD of Foothills have diverse social, cultural, political and biophysical characteristics that are unique from agricultural land in other parts of the municipality. Interviews with municipal residents and landowners also suggest that development pressures vary significantly from one part of the MD to another. This variability is reflected in local land-use planning documents, particularly the Growth Management Strategy (MD of Foothills No.31, 2013), which recognizes five unique districts. The MD has differentiated growth targets and strategies for each district. However, these strategies are not currently supported by district-specific plans or regulations within the Land Use Bylaw. Strategies for the South West District, which is primarily ranching-based, recognize the region’s value for agriculture and natural processes such as water production, and its cultural heritage and values (MD of Foothills No.31, 2013). However, there is no explicit consideration of native grass, wildlife, soil diversity, or the carbon sequestration role that participants living in the area felt were critical to maintain.

On a related theme, the content analysis suggests that landscape fragmentation is an important concern in provincial land-use policies. The Land-use Framework (Government of Alberta, 2008) and the South Saskatchewan Regional Plan (Government of Alberta, 2014b) both identify a need to reduce the fragmentation and conversion of agricultural land, and to preserve the diversity of the land base (see also Alberta Agriculture and Forestry, 2016). Local plans (e.g. MD of Foothills No.31, 2010, p.5) indicate a clear intention to limit the fragmentation of agricultural land, which is also a major concern for both producers and land-use planning experts interviewed in the MD of Foothills. As noted above, the perception that landowners have a right to subdivide is a sensitive issue that can work against efforts to keep landscapes intact. As an official with the MD noted:

We need to measure the fragmentation that is happening, in order to inform and clarify planning strategies. This type of data would help provide the reasons, information, and means to get public on board with preserving land – without which, you get voted out (Informant 28).

Detailed and reliable data on the extent and long-term effects of fragmentation could also provide a clearer rationale for municipal efforts to densify existing country residential areas, where one MD representative noted a “resistance to any kind of more efficient use of land” (Informant 27).

7.2.4 Support for Community Values

Interview participants valued the “social fabric” of ranching landscapes that is supported by multi-generational family operations, a deep connection to the land, a sense of commonality, and a rural way of life. The assessment of Rocky View County’s planning framework, in Chapter 6, discusses the components of provincial

plans and policies that promote community values, and notes that within the SSRP (Government of Alberta, 2014b), the implementation of sustainable community development policies is directed primarily toward municipalities.

Content analysis of local land-use documents shows that community values are a high priority for the MD of Foothills. The introduction to the Municipal Development Plan (MD of Foothills No.31, 2010, p.3) asserts the “intention to maintain agriculture as the dominant land use in the MD,” and to “create strategies for sustainable development that maintains the rural character of our landscape.” The plan defines rural character based on five qualities: wide-open spaces, scenic vistas, dark skies, historic and archaeological resources, and air, water, soil and biodiversity. Accordingly, the Land Use Bylaw (MD of Foothills No.31, 2014) considers rural character within the purpose and intent of agricultural districts, sets out specific open-space districts, and includes a Dark Sky Bylaw as an appendix. As a representative of the MD commented,

The rural character was something that came up over and over and over again to landowners in the MD – that they wanted to preserve that. And certainly out in the southwest country, that heritage and that ranching culture is extremely important to them [...] It’s certainly something we’ve talked about a lot and intend to go and do more consultation on (Informant 27).

The Growth Management Strategy (MD of Foothills No.31, 2013, p.23) lists a number of strategies, such as visual impact statements and inventories of natural and built heritage places, which could be used to identify and preserve elements of rural character. Thus, while aspects of what participants described as community values are well reflected within municipal planning documents, there are further

opportunities for the municipality to begin implementing some of these strategies to help foster rural character.

7.2.5 Minimize Agriculture-Residential Conflicts

Another gap identified in the needs assessment relates to the changing nature of rural communities. Thematic analysis reveals pressures that some participants felt were eroding the community values of ranching landscapes, such as corporate land ownership, an influx of acreage residents, and a weakening understanding among urban residents of the land as their source of food. An official with the MD noted that “there are a lot of interesting mixes between old, traditional ranches and modern land uses associated with newer folks coming in. You need to have this ever present in mind when planning in the MD of Foothills” (Informant 28).

From a land-use perspective, the municipality has developed some strategies to minimize conflict between agricultural and residential uses, such as screening standards and a community standards bylaw (MD of Foothills No.31, 2014, Appendices G & J). However, these do not specifically address the types of agricultural operations that participants referred to as sources of tension with residential neighbours, such as noise from late-night harvesting, dust, or slow moving equipment on the roads. The needs assessment suggests a gap in terms of specific mechanisms at the local level to support the rights of agricultural operators, as provided for in the Agricultural Operation Practices Act (Government of Alberta, 2001), while acknowledging potential impacts on neighbouring residents. Participants also suggested the potential value of tools to educate urban and acreage

residents about food production, rural living, respect for the land, and the water cycle, to more broadly encourage land stewardship.

7.2.6 Clear Food Vision

For agricultural producers interviewed in the MD of Foothills, productivity was an important landscape value. As discussed in the thematic analysis in Chapter 5, livestock and other farm production is the basis of farmers' and ranchers' livelihoods, and an intrinsic part of how they view a "functioning" landscape. In addition to supporting their own business operations, ranchers also emphasized the broader benefits of ranching as a sustainable food production system and the source of a "healthy protein product" (Informant 13). At the provincial level, food is not mentioned at all in the Land-use Framework (Government of Alberta, 2008), but is presumed to be included within "agriculture," which itself is not defined. The SSRP (Government of Alberta, 2014b, p.12) is more explicit, commenting that Alberta's agriculture sector is "mainly focused on export markets," but that there is growing demand for local food among consumers who "increasingly consider factors such as human health and environmental impacts when purchasing food." The Calgary Metropolitan Plan (Calgary Regional Partnership, 2014, p.31) suggests a concern among its primarily urban members with food security, and the "need for strategies and collaborative actions to ensure continued access to safe, affordable, and sustainably-produced food for the region's population."

Locally, land-use plans and policies emphasize the importance of maintaining agricultural land, but contain very few references to food. An exception is the Growth Management Strategy (MD of Foothills No.31, 2013), which twice refers to

the role of land in providing food as a human need “essential to our well-being” (p.20). The MDP (MD of Foothills No.31, 2010, p.11) views “all land as potential agricultural land and worth conserving.” However, it relies on the Canada Land Inventory (CLI) soil capability system as one of its criteria to define agricultural land, which can potentially lead to an undervaluation of grazing land, since CLI ratings are based on the suitability of soil to produce field crops (Smit et al., 1987). Further, there is little consideration of the broader social value of food and food security, beyond the role of production as a private business. This overlaps with the need identified above for more district-specific development criteria, in that a more explicit articulation of the value of ranching landscapes for food production could add to a more complete landscape assessment as the basis for development decisions.

7.3 Assessment of Beneficial Principles and Practices

The second assessment component of this study involves an evaluation of the land-use planning framework for the MD of Foothills, based on the five criteria presented in Chapter 6. These include Connell’s (2015) four proposed planning principles of maximize stability, minimize uncertainty, integrate across jurisdictions, and accommodate flexibility, as well as a fifth criterion of perceived procedural fairness. The evaluation incorporates analysis of land-use planning documents, and interviews with both MD of Foothills inhabitants and planning experts.

7.3.1 Maximize Stability

As noted in Chapter 6, local authorities are largely responsible for making land-use decisions in Alberta; however, municipal plans and policies are required to comply with regional plans. While this provides a measure of stability, the South Saskatchewan Regional Plan (Government of Alberta, 2014b) is more focused on enabling than enforcing. One planning expert noted that the SSRP “is so high level that it can mean a lot of different things to a lot of different people. [...] It doesn’t really place a lot of limitations around what people can and can’t do on the land” (Informant 23). As a provincial land-use policy specialist confirmed,

The South Saskatchewan Regional Plan was designed to create an environment to ensure and maintain agricultural land rather than enforcing its preservation. The goal was to make sure the business and economic climate is such that if municipalities want to go there, they can and will. It was not about telling them what to do but making it enticing (Informant 30).

Thematic analysis suggests that most participants prefer to retain local control of land-use planning decisions. However, one landowner who was involved in the development of the SSRP felt there was a need for stronger policing to enforce provincial guidelines; as he said, “you may as well not have these goals for the plan unless you’re going to have boots on the ground” (Informant 18).

Meanwhile, at the local level, the Municipal Development Plan (MD of Foothills No.31, 2010, p.11) states that “maintaining the agricultural land base is very important to our economy, our environment and our way of life here in the MD of Foothills No.31.” This statement is supported by a specific goal to protect the maximum amount of land in the MD, and policies to discourage subdivision except the first parcel out of a quarter section. The MDP’s implementation plan (p.63)

further sets out targets for minimizing the fragmentation and conversion of agricultural land – though specific figures have not yet been identified. Other growth management strategies have also been developed to increase density and minimize the amount of land converted to residential and other uses. One former Councillor with the MD noted that the municipality had worked hard to create strong plans for more efficient use of land; however the political will often shifts as new Council members are elected. While municipal development plans are currently reviewed periodically “as determined by Council” (MD of Foothills, 2010, p.44), this participant believed the municipal development plan “has to have some longevity to it [...and] a longer lifecycle than just one term of a council” (Informant 18).

7.3.2 Minimize Uncertainty

There is a notable degree of uncertainty within the provincial land-use planning framework related to the South Saskatchewan Regional Plan’s (Government of Alberta, 2014b) lack of enforceable regulations. One planning expert in the Foothills area compared the SSRP to guidelines that existed under Regional Planning Commissions, prior to their dissolution in 1995:

a one-mile no development buffer around a major urban centre; that’s pretty clear. But, you know, from my reads of the South Saskatchewan Regional Plan, there isn’t anything that definitive (Informant 23).

Locally, one of the strengths of the planning framework for minimizing uncertainty is the MD’s Growth Management Strategy (MD of Foothills No.31, 2013). A public consultation report produced by the MD (MD of Foothills No.31, 2012) indicated that residents recognized the need for growth in order to sustain the community, but they generally wanted growth to be planned and managed. Accordingly, the

Growth Management Strategy (MD of Foothills No.31, 2013, p.1) suggests that managed growth based on district-specific growth targets will provide certainty to landowners about where “development is more likely to be supported.” Policies on clustered development to ensure more efficient use of land offer some additional certainty. However, as an MD representative noted,

there’s always the big unknown, which is how Council will choose to interpret and apply policy that’s in place when they’re making decisions on specific applications. And that’s been our big challenge, particularly the one-offs – a parcel here, a parcel there (Informant 27).

Thus, as in Rocky View County, the extent to which uncertainty is minimized in Foothills’ planning process depends to some extent on the discretion of decision-makers, and how consistently strategies are applied. For one landowner, this reinforced a need for clearer provincial rules to ensure municipalities are “getting the job done” (Informant 18).

7.3.3 Integrate Across Jurisdictions

Local planning documents are well integrated with provincial land-use policies, recognizing that the MD’s Municipal Development Plan (MD of Foothills No.31, 2010) was released four years prior to the South Saskatchewan Regional Plan. The municipal plan cites relevant sections of the Municipal Government Act, while the Growth Management Strategy (MD of Foothills No.31, 2013) includes an overview of principles drawn from the Land-use Framework and South Saskatchewan Regional Plan that inform the local policy framework. The MDP’s appendices also include detailed descriptions of the local planning framework and how each type of municipal policy and plan interrelates. Regional integration is somewhat

compromised by the municipality's withdrawal from the Calgary Regional Partnership; however, Intermunicipal Development Plans between Foothills and its municipal neighbours offer a mechanism to support cooperative relationships. Watershed planning was one specific area that two interview participants felt needed to be better integrated with land-use planning at the regional level.

7.3.4 Accommodate Flexibility

As already noted, flexibility is built into the land-use planning process in Alberta, which provides for autonomous land-use decision-making at the municipal level. One planning expert linked this structure to a cultural preference for “the notion of the western frontier to a certain extent, and being able to profit from your land,” which has led to a “fear of freezing what a person can do” (Informant 23). Others offered the assessment that agricultural landowners supported the preservation of land, so long as such protection did not infringe on private property rights. According to a provincial land-use policy expert, a similar dynamic occurred in municipal and provincial relations, in which municipalities “want more guidance and direction, but only up to a point where it aligns with what they want” (Informant 30). Thus the SSRP creates a vision for the region, and gives municipalities the flexibility to interpret that vision based on local priorities.

Locally, the MD has attempted to build flexibility into its land-use planning process in a number of ways. One is to encourage agriculture, even on smaller parcels, by defining it very broadly in local plans; “anything from horses to chickens and gardens are all mixed in with the big ranches and farms” (Informant 28). Another strategy was to create a more flexible agriculture business district that

allows for agricultural processing and retailing of agricultural products (MD of Foothills, 2014), in order to “make it easier for producers to do what they needed to do without having to rezone their land” (Informant 27). Councillors in the MD have some discretion to approve development permits, and “have been very insistent upon maintaining that discretion. They really like to be able to make judgment calls” (Informant 27). As discussed above with reference to stability and uncertainty, however, this type of flexibility can have drawbacks in terms of allowing decisions that are inconsistent with broader planning strategies. For this reason, one planning expert commented that in terms of the efficient use of land, the current planning process “isn’t working in Alberta. The result is the sprawl that we’re seeing – the low-density sprawl” (Informant 23).

7.3.5 Perceived Procedural Fairness

Interview participants from the MD of Foothills discussed several aspects of fairness with reference to the political pressures described in Chapter 5. Some of these related to the equitable distribution of stewardship responsibilities, as outlined above. However, the perceived procedural fairness of the land-use planning process was also a major concern amongst participants. From a provincial perspective, few of the participants in this study were directly involved in the development of the South Saskatchewan Regional Plan. One landowner who did provide input felt the SSRP missed some of the “fairly solid recommendations” stakeholders had made, noting that, “a lot of good ideas get changed or corrupted by the politics” (Informant 18). Meanwhile, another landowner believed the “awesome tools” provided in the Alberta Land Stewardship Act were redundant until the Province dealt more

meaningfully with sections of the Act that remained problematic from a property rights perspective (Informant 8).

The local land-use planning process attempts to integrate public values, as illustrated by a major consultation process the MD undertook as part of its growth management planning. According to an MD representative,

People were hugely receptive to the Growth Management Strategy. [...] We held five open houses in the five different areas of the MD and they were quite well attended, and people were very supportive. And when it came to the public hearing, there was no opposition at all (Informant 27).

One acreage owner commented that, “we have a good relationship with the Councillors – they’re accessible. If something needs to be discussed, debated, it has been brought out” (Informant 21). Meanwhile, another non-commercial property owner felt that “Foothills is very strict about land use [...] you follow a lot of regulations. [...] But I guess that’s fair” (Informant 7). A landowner who had previously subdivided parcels from his property said the MD “as a whole has been fairly favourable to us. They raise a lot of issues that I don’t even think are necessary, but they’re trying to justify their cause and keep things under control” (Informant 19). These comments generally suggest a high level of perceived procedural fairness in the MD of Foothills, and a recognition that decisions are made within the context of established policies. On the other hand, one participant raised the question of whether all voices had an equal right to be heard – such as some acreage owners who tend to oppose projects “just because they don’t want another neighbour” (Informant 20).

7.4 Conclusions

This chapter has presented the results of the two-part evaluation of the provincial and local land-use planning framework for the MD of Foothills. The first part described six needs based on an assessment of landscape values and pressures that were not fully addressed in the land-use planning framework. These needs include a stronger framework to support landowners' stewardship efforts, mechanisms to help foster community values, and a more complex process for assessing development proposals based on district-specific landscape characteristics. This chapter has also noted a need in the MD of Foothills for a stronger food vision as part of a more complete landscape assessment process, and more policies and educational tools to minimize tensions between producers and residential landowners.

The second part of this chapter has evaluated the quality of the land-use planning framework for the MD of Foothills, based on five criteria. As with Rocky View County, the evaluation suggests that landowners value the flexibility and local autonomy that characterizes the current land-use planning framework. However, local decisions are not always consistent with broader land-use planning strategies, which is exacerbated by a lack of enforceable regulations at the provincial level.

CHAPTER 8: CROSS-CASE ANALYSIS

8.0 Introduction

Chapters 4 to 7 presented the empirical results of the Rocky View County and MD of Foothills case studies. This chapter discusses the overall findings that emerge from a cross-case synthesis, in relation to the three research questions of this thesis. It begins by analyzing the characteristics and values of ranching landscapes in the Calgary region, and the contextual factors that influence how people view the land and their own stewardship responsibilities. It then compares the results of the land-use planning framework assessments for both municipalities.

8.1 Ranching Landscape Characteristics and Values

In-depth interviews yielded rich and descriptive responses that address the first two questions of this thesis, which are: 1) “How do people who live in Rocky View County and the MD of Foothills perceive and value ranching landscapes?” and 2) “What pressures are ranching landscapes experiencing?” The cross-case synthesis shows that Rocky View County and the MD of Foothills yielded very similar findings with regards to these two questions, and can be considered “replications” of the same type of case (Yin, p.166). This section presents the key findings relating to ranching landscape characteristics and values.

8.1.1 Conceptualizing Ranching Landscapes

The conceptual framework for this study proposes that ranching landscapes are a form of cultural landscape, embodying a range of interacting land-use practices, material features, intrinsic values, and socio-cultural characteristics. Data from both

municipalities reveals widespread agreement that ranching landscapes contribute to a unique sense of place relating to diverse material and cultural characteristics that make them distinct from other types of agricultural land. Ranching landscapes are defined by physical properties that include large expanses of native grass, rolling hills, and marginal soil for crop production. They are also social constructions, defined by their historical and continuing economic use for grazing cattle and hay production (MacLachlan et al., 2005). Participants associated ranching landscapes with a way of life, a cowboy mythology, specific political viewpoints and a particular connection to the land.

As partly “imagined” places, ranching landscapes have fuzzy and shifting boundaries that do not align with existing geopolitical borders or natural regions. In this sense they represent a vernacular or perceptual region that is, “perceived to exist by [its] inhabitants and other members of the public at large” (Jordan, 1978, p.293; also Zelinsky, 1980). Most participants agree ranching landscapes begin west of Highway 2 and are most recognizable west of Highway 22, continuing from Rocky View County southward, along the “Cowboy Trail.” Finally, while some participants viewed grazing as a traditional use of the land and emphasized the multi-generational nature of the ranching industry, participants also described an evolution in land management practices, knowledge and perspectives about the land. This data confirms, as other research has documented (e.g. MacLachlan et al., 2005; Elofson, 2012; Hanson, 2013), that ranching landscapes are dynamic and change over time.

Not everyone agreed on the specific characteristics of ranching landscapes, or even that they exist at all as distinct entities, given the mixed nature of many agricultural operations in the Calgary area. Further, both the documents examined in this study and participants themselves often used other more environmental names including foothills, Eastern Slopes, grasslands or rangeland, rather than “ranching landscape,” to refer to a similar regional identity (Jordan, 1978). Nevertheless, the cultural landscape approach offers a comprehensive framework to understand how people within the study area relate with the environment in which they live and work. It highlights, as Taylor and Cadieux (2013) emphasize in their own work, the different ideals, societal attitudes and political choices that have shaped the landscape. In particular, the cultural landscape framework illuminates the connections and conflicts between diverse values in ranching landscapes in the Calgary area, as well as the contextual factors that influence how people view and experience the land.

8.1.2 Landscape Values

Ranching landscapes are embedded with diverse values that people feel are important to maintain, particularly in light of the pressures on Calgary-area rural landscapes. Both the Rocky View County and MD of Foothills case studies identify five groupings of landscape values, namely lifestyle, ecological, community, production and economic values, with important sub-themes within each grouping (see Table 8.1). There is broad consistency on the range of values identified in each municipality, though some values are more richly defined in one case over the other.

Table 8.1: Cross-Case Comparison of Landscape Value Themes and Sub-Themes

Theme	Rocky View County Sub-Themes	M.D. of Foothills Sub-Themes
Lifestyle Values	Aesthetic/scenic qualities	Aesthetic/visual qualities
	Natural setting (wildlife)	Natural setting (wildlife; vegetation)
	Quality of life	Easy access to city
	Open space; “elbow room”	Open space
	Recreation	Privacy
		No traffic
Ecological Values	Water quality/quantity	Clean water
	Watershed health	Watershed health
	Wildlife/wildlife habitat	Wildlife/wildlife habitat/corridors
	Biodiversity	Natural vegetation
	Grass	Native grass
	“Undisturbed” native range	Riparian areas
	Landscape connectivity	Landscape connectivity
	Landscape as system	Functioning/balanced ecosystem
	Dark skies	Dark skies
	Flood mitigation	Carbon sequestration
	Stewardship	Clean air
		Soil health/diversity
		Careful management and stewardship
	Community Values	Agricultural way of life
Social networks		Common values related to making a living off the land
Farm as workplace		Neighbourliness
		Common cultural background
Connection to place		Connection to the land
Family heritage		Ancestral roots
		Small family farms
Pride of stewardship		Land as a gift; “sacred ground”
	Stewardship for future generation	
Production Values	Food security	Connection to food
	Sustainable food production	Sustainable/quality food production
	Educational role of food production	Education about quality/local food
Economic Values	Viable business operation	Viable business operation
	Right to subdivide	Right to subdivide
	Rights to land and water	Right to manage land

There are also important interconnections between the themes and sub-themes, which are often most clearly defined in relation to each other. For example, the importance of healthy grasslands to ranchers is strongly related to the role of native grass in sustaining beef production. Likewise, stewardship relates to both family heritage and future concerns, as well as to ecological values. These findings add a significantly richer understanding of how producers in southern Alberta value and perceive the land, than suggested by other related studies that are more narrowly focused on economic, lifestyle and environmental value orientations alone (e.g. Hall, 2014; Howard, 2014).

At the same time, this study confirms previous findings that relate more specifically to ranching landscapes. The 2011 *Values and Voices* (Stark et al., 2011) report on the significance of the southern Alberta foothills landscape revealed that residents most valued water security, traditional lifestyle and culture, aesthetics, diverse wildlife, low impact recreation, clean air, sustainable food production, and an ethic of stewardship. The MD of Foothills and Rocky View County case studies echo the importance of these eight values. Again, however, they add a more nuanced understanding of how these values overlap – and sometimes conflict, as discussed more fully below – and suggest additional factors that are important to consider in the land-use planning process. For example, economic values stand out as a particular area of concern that was only briefly examined in the *Values and Voices* report.

More broadly, the five themes identified in this research reflect the range of landscape functions, benefits, services and values that have been proposed in the

academic literature. For example, recent scholars have elaborated on the Millennium Ecosystem Assessment's (2005) four broad categories of provisioning, regulating, supporting and cultural services, by distinguishing further sub-categories of landscape services that enhance human wellbeing (e.g. de Groot et al., 2010; Daniel et al., 2012; Milcu et al., 2013; Iniesta-Arandia, 2014). Multifunctional agriculture, meanwhile, has focused largely on food security and safety, environmental protection, and rural vitality and cohesion as functions arising from agricultural activity (van Huylbroek et al., 2007; Haaland et al., 2011; Huang et al., 2015). To facilitate the adoption of economic incentives to enhance specific public goods and services (Vanni, 2014), both bodies of literature tend to minimize the interconnectedness of landscape values, particularly their cultural dimensions and "geographical boundedness" (Leyshon, 2014, p.720). In this sense, this study contributes toward Leyshon's (2014, p.720) call for geographers to engage not just in predicting, modeling and mapping ecosystem services, but in recognizing the interactions between "environmental spaces, cultural practices and cultural benefits." Further, it suggests the value of examining why landscapes are important in terms that are locally meaningful (for example, describing "sustainable food production" rather than "provisioning services"), as well as context-specific.

8.1.3 Contextual Factors Influencing Landscape Values

The cross-case synthesis also involved analysis of the contextual factors that influence how people view the land. This study found that some of the most significant factors in shaping people's perspectives, and by extension their land-use decisions, are the characteristics and primary use of a landholding; its location

relative to urban centres; the nature of land-use pressures affecting it; and several personal and family circumstances.

The size of a landholding, its ownership structure, and its role in providing income (or not) all influence how participants view the land. As other research has also shown (e.g. Howard, 2014; Iniesta-Arandia, 2014), this study found that a key factor is whether or not the land is the basis of a family's livelihood. Despite the diversity of property types represented in this study, there was a pronounced difference between agricultural and residential owners' views. Residential owners, or what Abrams and Bliss (2012) call "amenity owners," emphasized lifestyle values relating to beautiful views, privacy, open space and a natural setting. Producers, on the other hand, spoke in greater depth about the agricultural way of life, viable business operations and, for ranchers in particular, what they viewed as a "functioning ecosystem." The size of landholding was less of a factor, although participants with larger parcels and grazing leases voiced more concern with property rights and often had stronger views on land-use planning issues. Ownership structure was another factor that participants themselves identified, as several felt that family-based producers had a stronger interest in the long-term health of the landscape and rural communities than did "absentee" corporate owners.

The particular land-use pressures that participants experienced, and the location of their landholding relative to urban centres, also strongly shaped their views. The conversion and fragmentation of agricultural land for acreage development and urban-related uses stands out as the most significant landscape

pressure for agricultural landowners, because it drives up land prices, fragments the land base, and influences the social and political character of agricultural communities. The cross-case synthesis illustrates that growth pressures vary in nature between and within municipalities; however, they are generally more intense for landowners adjacent to urban centres where recreational uses are more intrusive, conflicts with residential neighbours are more prevalent, and landowners face a higher risk of having their land expropriated for projects such as Calgary's Ring Road or the Springbank Dry Dam. In both municipalities, these pressures make it more difficult for agricultural producers to carry out day-to-day operations and more likely that they will eventually sell their land. Again, these concerns contrast with the pressures discussed by residential owners, which centered on commercial development proposals (and the related tax implications), servicing needs, a perceived oversupply of acreage properties, and to a lesser extent disruptions to the aesthetic qualities of the landscape caused by "junky" storage yards.

Further to landholding characteristics, a range of personal and family circumstances also shape people's perspectives on the land. Age was important in some situations, as with two younger producers whose business and innovation-oriented perspectives contrasted with their fathers (one of whom participated jointly in the interview), who were more sentimentally attached to the land and more traditional in their management approach. Three of the five participants who had or planned to put conservation easements on their property were past retirement age and less concerned about being able to support a family. This suggests that a combination of debt-equity cycle and life-stage, which does not

always correspond to age, may also inform perspectives and management decisions. The duration of a family's tenure on the land was another important aspect of family circumstances. Several third, fourth and fifth generation landowners emphasized a positive view of stewardship; they felt lucky to have been born onto the land, which they talked about as a "gift". This inheritance also engendered a sense of responsibility and concern for future generations, particularly for participants who had children likely to take over their operations. In this sense, the prospects of inter-generational transfer play a role as well.

Finally, one of the most significant personal factors shaping participants' views of the land was their attitude about the proper scope of government activity. While there was a full spectrum of views, some landowners had little trust in the government and believed in the capacity of the marketplace to allocate land according to societal demands for development or conservation. Their preference was for market-based incentives to encourage the provision of public goods, over regulatory approaches or publicly funded conservation programs. Others were adamant that the long-term wellbeing of the land required planning and a stronger government role. The two extremes align closely with what Arnold (2009) describes as opposing modern liberal and classical liberal views, modern liberals being supportive of an active state role in solving public goods and "public bads" problems, and classical liberals preferring "noncoercive, nonstatist solutions" (p.25). While they were willing to accept a measure of government involvement, some ranchers in particular espoused the more classic liberal belief that "ownership of productive assets lies in the first instance with private parties" (Arnold, 2009,

p.329) – irrespective of the actual limitations on property rights and constitutional protection as provided for in Alberta (see Kaplinsky & Percy, 2014). Classical liberal views also informed the desire for a compensation framework to resolve what many landowners viewed as the unfair costs involved in providing public goods that everyone enjoys, such as clean water, wildlife habitat and open space.

8.1.4 Value Conflicts

Analyzing these contextual factors illuminates several conflicting values among participants. In their study of “green sprawl,” Taylor and Cadieux (2013) note the inherent contradiction in the growing impulse toward a “residential experience of nature in exurbia” (xvii) – specifically the contrast between the positive qualities people associate with exurban living, and the negative impacts of sprawl on open space, agricultural land and agricultural communities (see also Cadieux, 2011). Other scholars have found that despite this paradox, “exurban migrants typically profess more ‘environmental’ values and priorities than do ‘traditional’ rural residents,” (McCarthy, 2008, p.134; see also Walker & Fortmann, 2003). This study identifies a similar contradiction, in which acreage owners’ concerns for water, wildlife habitat, food security and aesthetic landscape qualities did not take account of the problematic aspects of exurban development: what many planning experts and producers saw as a waste of productive land, lack of knowledge about how to properly care for the land, and a “nimby” attitude about densification.

The Rocky View and Foothills interviews suggest that acreage owners are much more heterogeneous than often portrayed by other landowners. For example, four out of five had agricultural backgrounds, including two who owned farm and

ranch properties elsewhere. However, producers in both municipalities perceived a sense of entitlement and privilege among the “downtown oil types” who could afford acreages or “trophy ranches,” and pointed to what they saw as a problematic shift in political power toward urban-centered interests. At the same time they felt that popular perceptions of wealthy ranchers (e.g. Johnson, 2015, which discusses criticisms of “cowboy welfare”; see also Evans, 2001) were both inaccurate and unfair. Indeed, interviews with ranchers in this study illuminate the challenges that smaller family-based ranchers face in making a reasonable living from the land. Exaggerated stereotypes of both acreage owners and ranchers thus stand out as a barrier to mutual understanding. While reinforcing what participants called an “anti-agriculture attitude,” they also perpetuate an “anti-urban ideology” noted in rural planning contexts elsewhere (Cadieux et al., 2013, p.317). These divisions mask what Reimer (2013) sees as a fundamental interdependence between urban and rural (and in this case rurban) places, which, if better recognized, could provide opportunities for social cohesion and community development.

A political ecology lens sharpens the focus on one of the fundamental issues at play, which is the divergence between what producers value as the right to make decisions on their own land, and the shared or common landscape benefits that residential owners enjoy. In their case study of Nevada County, Walker and Fortmann (2003, p.480) found a similar conflict between producers’ view of the land as “largely separable and individualized,” and an amenity-oriented view in which landscapes are spaces of “multiple interdependencies and responsibilities to the common good.” This value conflict relates to the previous discussion about the

differing views on property rights and the appropriate role of the government. It also underlies a broad tension between agricultural producers and conservation advocates. At the heart of the tension are questions such as whose interests dominate the land-use planning process, who is responsible for taking care of the land, who benefits from the conservation of landscapes, and who pays. These questions reflect a common theme within political ecologies, which Robbins (2012, p.21) has summarized as a disruption of “local systems of livelihood, production, and socio-political organization” by interests “seeking to preserve the ‘environment’.”

Within the Calgary area, the tension between agriculture and conservation interests is exacerbated by a widespread tendency (among participants and within land-use planning documents) to depict ranching landscapes as intact, undisturbed, or pristine. In several cases ranchers themselves used these terms to emphasize that ranching helped protect natural landscape functions, in response to criticisms raised by the “environmental lobby.” However, as Cadieux and Taylor (2013; also Cadieux, 2011) have found, “naturalizing” ranching landscapes in this way can be problematic from a land-use planning perspective. They argue that when landscapes are seen as natural, “it becomes easier to leave unquestioned the political intents and choices involved in the production of those landscapes” (p.19). On the one hand it underplays the prior and continuing agricultural uses of the land, thereby disenfranchising producers (Cadieux, 2011). Conversely, as a participant in the MD of Foothills noted, seeing ranching landscapes as primarily productive landscapes

potentially undervalues other natural processes that are important to protect, such as riparian zones.

8.1.5 Implications for Land-Use Planning

This study reveals that landscape values overlap and are contingent on a variety of contextual factors. In his research on southern Alberta landowners' willingness to use market-based instruments, Howard (2014) concluded that economic values were the primary factor motivating land-management decisions, followed by environmental concerns and lifestyle values. Results reported here suggest that such a clear hierarchical ordering does not apply to ranching landscapes, if at all to agricultural land in southern Alberta. Economic values weigh heavily in some people's decisions to subdivide, develop, overgraze, or adopt innovative practices; however, a range of property characteristics, spatial factors, and personal circumstances all have an important bearing on how people view the land.

There are important value conflicts within ranching landscapes in the Calgary area, primarily between production-oriented and amenity-oriented views of the land, and between production and conservation interests. To some extent this study echoes Hall's (2014, p.149) distinction between "dependents" who derive their income from agriculture and "hobby farmers" who do not. However, the mixed nature of many agricultural operations in both municipalities, combined with the diverse backgrounds of acreage owners interviewed in this study, suggests that caution should be exercised in delineating landowner "types" with such clearly opposing interests. Instead, it supports what Wilson (2007, p.269) sees as a "spectrum" of farm types within multifunctional rural space, bounded on either end

by productivist and non-productivist actions and thought. Within that spectrum, there are potentially areas of consensus, or at least common concern defined by inter-relations and links between rural and urban interests (Reimer, 2010; 2013). Farmers, ranchers, acreage owners and experts consulted for this study, for example, widely agree on the importance of watershed protection, food production, and open space. A 2007 report on the Eastern Slopes suggested even broader rural and urban agreement about the importance of protecting the watershed and ecological landscape values (Gardner, 2007). As others (Cadieux, 2011; Cadieux and Taylor, 2013) have shown, however, these values can mean different things to different people, and leaving those meanings unquestioned can lead to misunderstanding, disappointment, and exacerbated land-use tensions.

Drawing out the conflicts and interconnections between landscape values helps reveal these differing meanings, and the complexity of people's relationships with the land. It illuminates how even seemingly disparate landscape values such as native grass, neighbourliness, and food production, can work together to create a strong sense of place and a positive stewardship ethic (see Figure 8.1). This study reaffirms other findings (e.g. Farmer et al., 2011; Hurley, 2013; Winthrop, 2014; Plieninger et al., 2015), that people's sense of place, or place attachment, strongly influences their management decisions. The implication of this for land-use planning is that, to echo Kerselaers et al. (2013, p.205), strategies and solutions to encourage good land stewardship need to "match the different values at play." They also need to incorporate mechanisms to help resolve some of the value conflicts that stem from competing ideals and uses of the land.

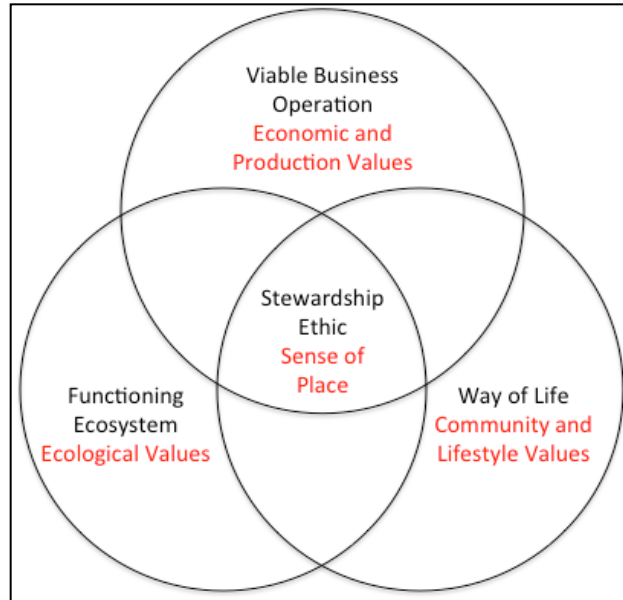


Figure 8.1: Conceptualization of Landscape Values, and Elements of Stewardship

8.2 Land-Use Planning Framework Assessments

Further to offering an in-depth understanding of how people value ranching landscapes, the cross-case synthesis provides key findings relating to the third research question: “to what extent do the local and regional land-use planning frameworks address the landscape values and pressures that participants identified?” The assessments of current provincial and municipal land-use planning frameworks show that many of participants’ values and concerns are being addressed, though there are a number of important gaps. Because Rocky View County and the MD of Foothills approach similar issues with different strategies, the two planning frameworks represent contrasting cases (Yin, 2014). This section compares the strength of each framework with reference to the needs analyses and the five assessment criteria described in Chapters 6 and 7.

8.2.1 Comparison of Land-Use Planning Frameworks

Most participants offered tentative reviews of the South Saskatchewan Regional Plan (SSRP; Government of Alberta, 2014b), which had only recently come into force when interviews were conducted. Participants in both municipalities felt the Land-use Framework (LUF) and the SSRP provide a strong overall vision for land use in the province, though planners and several landowners expressed disappointment in the SSRP's weak regulatory components. According to Connell's (2015) land-use planning principles, the lack of binding regulations to protect agricultural land is one of the two major weaknesses within the provincial framework for maximizing stability and minimizing uncertainty. The other major source of weakness is also one of its strengths: The extent of flexibility and local autonomy provided by the Municipal Government Act (Government of Alberta, 2000b), despite its recognized value in responding to local needs, creates opportunities for political influence over land-use decisions.

The perceived property rights restrictions in the Alberta Land Stewardship Act (Government of Alberta, 2009) were a concern to several landowners. At the same time, this study suggests that the Act's voluntary stewardship and conservation tools are among the strongest mechanisms currently available in Alberta to foster diverse ranching landscape values. Because they restrict development and fragmentation, conservation easements can protect both the targeted landscape values (which under ALSA, section 25 include the environment, natural scenic or aesthetic values, and agricultural purposes) and by extension other lifestyle, community and economic values embedded in "working" ranching

landscapes. Another benefit of the ALSA tools is that they respond to the preference discussed above for voluntary incentives rather than regulatory “command-and-control” (Cocklin et al., 2007, p.987) approaches to land-use planning.

On the other hand, both case studies identify landowner concerns that limit the potential adoption of the tool. A further shortcoming, which Ryan et al. (2014) have noted, is that conservation easements provide only parcel-level protection rather than a more contiguous landscape-scale approach. Therefore, as both Ryan et al., and Hanson (2013) suggest, a mix of other tools and approaches is required to encourage the stewardship of private land in Alberta. Several landowners expressed interest in a transfer of development credit program, though municipal planners and decision-makers felt the Province needed to play a stronger role in educating and coordinating local authorities to help them implement a TDC scheme. Ranchers in both counties also suggested a carbon-offset program, some form of payment system for ecosystem goods and services, particularly water, an incentive-based managed lands program where they could benefit from hunting fees, and other rewards for on-farm efforts that improve environmental sustainability.

At the local level, there is notable variation between how each municipality recognizes and manages diverse landscape values, and the stages of the policy cycle in which different values are addressed. Encircling Calgary on three sides, Rocky View County is focused on managing growth, enabling diverse and innovative agriculture, and diversifying its municipal tax base. Its strengths include grassroots policy input from the local Agriculture Service Board, and a comprehensive vision for agriculture developed through broad community consultation for the

Agriculture Master Plan (Rocky View County, 2011). This vision recognizes variability between districts in the County, and is integrated into land-use policies and regulations that respond to local demands and opportunities, and offer some flexibility to landowners. The County monitors changes in agricultural land use and reports on the progress of actions identified in the County Plan (Rocky View County, 2014b). It has also developed policies and guidelines to reduce conflicts between agricultural and residential land users. On the other hand, Rocky View County's land-use planning framework provides only general support for community values and little consideration for native grasslands within the development approval process, except as environmentally sensitive areas. While some participants felt the County was beginning to change, many people voiced concern with procedural fairness issues, including the fact that, despite having good policies, decision-makers often failed to conform with them because of pressure from the development community.

The MD of Foothills, meanwhile, is more agricultural in its focus and has a better-articulated framework for protecting both the land resource and the multiple values embedded in agricultural landscapes. From this perspective, it is stronger than Rocky View County according to Connell's (2015) first principle of 'maximize stability.' The MD of Foothills has incorporated public values into its growth management strategy (MD of Foothills No.31, 2012), and has attempted to identify the unique characteristics and land-use patterns of five separate planning districts. However, this work has not yet been fully implemented in terms of district-specific plans that spell out the goals for development and conservation in each area. To

date the MD has fewer policies than Rocky View County to help minimize day-to-day conflicts between agricultural and residential uses (such as right to farm or agriculture boundary design guidelines). Like Rocky View, Foothills misses important aspects of rural character, grasslands, and other landscape values in its development application process. The municipality's Riparian Setback Matrix Model (Haag et al., 2010) appears to be a strong tool to address participants' concern for riparian areas, if applied consistently.

Despite their relative strengths and weaknesses, both municipalities share common challenges related to the increasing pressures on agricultural land, many of which are associated with Calgary. Neither has entirely addressed the nuisance issues that accompany increased human presence on the land, such as trespassing, dumping or, at a broader scale, recreational land use that is harmful to riparian areas. In both municipalities there continues to be tension between landowners' desire for subdivision rights and the negative impacts that subdivision causes – even for producers. Almost all acreage owners, producers, planners and decision-makers involved in the study voiced a strong desire for a voluntary, cooperative regional growth management process that is fairer and less biased toward urban interests than the current Calgary Regional Partnership model. Finally, this study suggests that both municipalities would benefit from some mechanism by which local decision makers can be held accountable to stakeholder input and both municipal and regional land-use policies, in order to reduce the potential for what Ruming (2012, p.400) describes as regulatory capture – “the possibility that ‘client

satisfaction' (i.e. development applicants) could supplant public interest as the key performance measure.”

8.2.2 Beneficial Principles for Land-Use Planning

The final question to be considered in this discussion is whether the five criteria used to assess the land-use planning frameworks are appropriate within the local and provincial contexts examined. In his article on planning reform in Australia, Ruming (2012) considers the appropriate balance between certainty, flexibility, and the role of negotiation within discretionary/performance and regulatory/conformance planning systems, and the “continuum between these ideal forms” (Ruming, 2012, p.399). He found that in the shift toward neoliberal governance and a more codified planning framework in New South Wales, local actors valued aspects of both regulatory and discretionary systems; they wanted flexibility and negotiation, as well as clear planning guidelines and development codes. Research for this study suggests many points in common between the institutional planning contexts of New South Wales and Alberta, and similar results with regards to Connell’s (2015) four proposed beneficial planning principles. Planners, decision-makers and public participants all valued the discretion, flexibility and local autonomy that has characterized Alberta’s land-use planning framework for the past two decades. At the same time, they expressed widespread support for more clarity and consistency within the planning process to provide certainty to landowners and developers, and to promote a longer-term framework for decision-making.

While too much flexibility can counteract attempts to increase stability and certainty, it is important for other reasons that become clear from this study. Some flexibility in land-use regulations is necessary to encourage innovation, changing priorities, and beneficial land management practices. An overly restrictive approach to agricultural land-use planning would be untenable in Alberta, which, as novelist Aretha Van Herk (2001, p.230) observes, has “always hated governments, its sticky fingers, its interfering ways” (p.230). Given the lack of reliable data and agreement on the need to protect agricultural land in Alberta, this study suggests that stability and certainty might better be measured by place-based solutions that protect place-rich landscapes and spaces, rather than all agricultural land, or even “prime” agricultural land indiscriminately. Thus, overall, Connell’s (2015) four proposed principles provide a useful and largely appropriate analytical framework to examine the strengths and weaknesses of local land-use planning frameworks. At the same time, the Rocky View County and MD of Foothills case studies show the need to consider the principles’ applicability within the specific institutional planning context being assessed.

The results of both case studies also emphasize the relevance of procedural fairness as a fifth important principle for land-use planning. This reaffirms Emami’s (2014) finding that a fair process is critical for the successful implementation of regional planning goals and objectives in Alberta. In the Calgary area, many agricultural producers feel that, despite managing extensive land and water resources, their voices are not being heard within a planning process that is increasingly dominated by urban interests. The critical components of a fair regional

decision-making process that Emami proposed are therefore relevant to both the Rocky View and Foothills cases. However, this study also identifies significant procedural fairness concerns within intermunicipal and municipal-provincial planning processes that need more attention. As Alberta's institutional arrangements for land-use planning shift with the implementation of regional plans and proposed mandatory growth management boards, procedural fairness will be a key consideration at multiple planning scales.

8.3 Summary

This chapter presented a cross-case synthesis and analysis of the Rocky View County and MD of Foothills case studies. It began with a discussion of key findings relating to the characteristics and values of ranching landscapes, also identifying several value conflicts and important contextual factors that shape peoples' perceptions of the land. It then considered the implications of these findings for land-use planning, and land stewardship in particular. Finally, this chapter discussed the results of the local land-use planning framework assessments, and the relevance of five principles for land-use planning more broadly. The final chapter will consider several suggestions for alternative approaches, which extend from these key findings.

CHAPTER 9: POLICY SUGGESTIONS AND CONCLUSIONS

9.0 Introduction

This thesis began by describing the problem of competing land-use pressures on ranching landscapes in the Calgary area. Chapters 1 to 3 presented an overview of Alberta's land-use policy context, a review of academic literature focusing on rural change, and a description of the research design of this study. Chapters 4 to 7 presented the empirical results of the case studies of Rocky View County and the MD of Foothills. The cross-case synthesis in Chapter 8 achieves the first objective of this thesis, which is to develop an in-depth understanding of how people who live in the two rural municipalities around Calgary perceive and value ranching landscapes. Chapter 9 fulfills the second objective of the thesis, to suggest approaches for land-use planning that can potentially help sustain diverse ranching landscape values in the long term. It concludes by considering some limitations of this study and areas for further research.

9.1 Suggestions for Land-Use Planning

This study sought out diverse views about what ranching landscapes mean to people who live in Rocky View County and the MD of Foothills. While there were some areas of broad agreement, participants disagreed on many points. Significant areas of conflict were found between agriculture and conservation goals, between private property rights and the public good, and between the degree of public acceptance for voluntary and market-based, versus regulatory approaches to land stewardship. There are no simple solutions to the concerns and needs identified in

this study. As Cocklin et al. (2007) point out, however, there is a wide range of regulatory, price-based, voluntary and educational mechanisms that are available to policy makers to help encourage sustainable land management – and these tools are not mutually exclusive. This section outlines a framework for land stewardship, based on a holistic multifunctional view of ranching landscapes. Not all of the suggestions flow directly from the findings of this study; rather, the framework is an “adaptive research outcome” (Gross, 2007, p.2735) that has been developed from key insights of this study, as well as theoretical constructs from the academic literature. It includes five interconnected elements that could potentially help to balance conflicting interests, foster innovation, and enhance the stewardship of ranching landscapes in the Calgary area.

9.1.1 Working Landscape Approach

This study identified conflicts between production and conservation values within ranching landscapes in the Calgary area. These conflicts are in part reinforced by current provincial policies that approach land stewardship primarily through conservation tools that are designed to protect natural landscapes and achieve environmental outcomes (e.g. South Saskatchewan Regional Plan, Strategy 3.15). As recent landscape research suggests, however, working landscapes might better be managed through a stewardship approach that fosters multiple landscape values through best management practices, while accommodating change and innovation that is vital to working landscapes (Matthews & Selman, 2006; Huntsinger & Oviedo, 2014; Plieninger et al., 2015). A “working landscape” concept (Abrams & Bliss, 2012; Huntsinger & Oviedo, 2014), based on a broad conceptualization of

multifunctionality (Wilson, 2007), could reposition ranching landscapes not just as “intact native grasslands” (Government of Alberta, 2014b, p.133), but as interacting natural and cultural systems. This view more explicitly recognizes the multiple private and public goods the landscapes provide, in addition to the “jointedness” (Vanni, 2014, p.6) of these goods to the human activity through which they are maintained. A broad multifunctional approach to ranching landscapes does not diminish the importance of ecological services or functions. Rather, it more fully acknowledges the presence of people on the land (Cocklin et al., 2007; Matthews & Selman, 2006), and the potential to achieve conservation outcomes through, not in spite of, agricultural activities.

9.1.2 Fair Compensation

Alberta’s Land-use Framework (2008) presents a vision of stewardship as a shared responsibility, and recognizes the need to reward private landowners for the public goods they help to provide. However, this study indicates that the responsibility for land stewardship in the Calgary rurban area is currently unevenly shared. Many of the land-use planning needs identified in the two case studies are fundamentally about distributive justice, which relates to “the equitable distribution of [...] public goods or public ‘burdens’” (Gross, 2007, p.2729; see also Cutter, 1995). Public goods can be defined by market criteria of non-excludability and non-rivalry, which refer to the idea that a good is available to everyone and is not reduced for others when consumed by one person. Because users do not pay for these goods, there is no incentive to provide them, and the result is a market-failure that requires public

intervention to balance the provision of public goods with societal demand (Penker et al., 2013; Vanni, 2014).

The Alberta Land Stewardship Act's voluntary stewardship and conservation tools offer partial compensation to landowners who give up development rights on their land, thereby helping to promote natural landscape functions. However, just as Huntsinger and Oviedo (2014) found in relation to California rangelands, more resources and incentives may prompt Calgary-area producers to adopt more environmentally sustainable or holistic production practices at the pasture scale. Some researchers raise important criticisms of financial payment programs that commodify nature and oversimplify people's complex relationships with the environment by positing stewardship as a burden or a cost (Singh, 2015). Popular perceptions of wealthy ranchers as a "super-rich ranching fraternity" (Evans, 2001, p.77) also potentially limit the political salability of compensation programs. However, as Reimer (2010; 2013) points out, there are currently few mechanisms that properly recognize "invisible goods and services" (2010, p.15) like clean water or recreation opportunities, which rural places contribute. Innovative programs that make these contributions more visible can help create "inter-community alliances" and economic opportunity among both rural and urban people (Reimer, 2010). Further to incentivizing the provision of public goods, other mechanisms could also help to mitigate costs that landowners incur in providing public goods, including lost economic value as measured in a conventional land market (Penker et al., 2013; McFarland, 2015).

As Vanni (2014, p.3) suggests, however, public goods are also socially defined, and include a range of goods and resources that are “placed or left in the public domain by policy choice.” This wider view of public goods, which would include many of the non-marketable lifestyle and community values identified in this study, recognizes a need for different types of policy tools and governance structures to address equity considerations. Recognizing that policy options are more likely to be adopted if their outcomes are seen to be fair (Syme et al., 2006; Gross 2007), policy tools should in particular take into account the uneven geographical distribution of risks and resources (Cutter, 1995; Syme et al., 2006). Finally, strategies to ensure distributive justice through a compensation framework at the broader landscape scale should not only recognize “‘pure’ environmental goods” (Vanni, 2014, p.7), but also other interconnecting community, lifestyle, production and economic values that promote sustainability and a strong stewardship ethic.

9.1.3 Integrated Landscape Assessment

This study has emphasized the highly place-specific nature of many landscape values and policy needs. According to Penker et al. (2013, p.65), because of landscapes’ particularities, management goals are inherently “pluralistic, ambiguous, context-dependent” and difficult to standardize. This finding is echoed by others (Cocklin et al., 2007; Wilson, 2007; Kerselaers et al., 2013; Potschin & Haines-Young, 2013), who recognize that policy instruments need to be matched to particular ecological, political, economic and cultural contexts. Both the MD of Foothills and Rocky View County have moved toward integrating public values into

finer scale planning regions that reflect the diversity of agricultural landscapes within each municipality, and the range of values embedded in them. Yet the criteria used to assess development permit applications in both cases remain fairly uniform, and could be expanded to more fully assess the potential impacts on a wider range of values such as native grass, wildlife, family heritage, or sense of place.

The Province's cumulative effects management (CEM) approach responds to broad stakeholder calls for a longer-term framework to manage the impacts of various developments on the land (Holroyd, 2008; Parkins, 2011; Hanson, 2013). Parkins (2011) characterizes Alberta's CEM framework as a "technocratic" approach that relies on computer-based ecological and economic models to measure impacts; it thereby subordinates the political process and any "entrenched political interests that are considered to be disruptive and counterproductive to the planning process" (Parkins, 2011, p.3). Holroyd (2008) suggests that attempts to properly assess and manage cumulative effects, and to identify thresholds for what is acceptable and what is not, should be based on both science and social values. The Land-use Framework (Government of Alberta, 2008, p.31) focuses on identifying "appropriate thresholds, measurable management objectives, indicators and targets for the environment," in balance with economic and social considerations. However, the policy lacks clarity on specific indicators to measure the social or cultural impacts of potential developments. As proposed in Chapter 8, environmental, economic and social values are highly interconnected, and together inform people's land stewardship ethics. This study therefore echoes cultural landscape and cultural ecosystem services researchers' calls for more noneconomic, deliberative

techniques that involve people in eliciting and assessing both what is important to protect, and what is most vulnerable (Cadieux, 2011; Milcu et al., 2013; Iniesta-Arandia et al., 2014; Plieninger et al., 2014). Engaging the public in identifying landscape values can enable a more holistic consideration of the potential impacts of land-use decisions.

9.1.4 Social Learning Opportunities

Research on Alberta's shift from a "government to governance" approach to environmental resources notes a need for flexible and adaptive management that derives from "a dynamic and ongoing process of social learning" and the participation of multiple actors (de Loë, 2009, p.24). Literature on landscape governance also strongly supports the need to incorporate social learning opportunities into the planning process, in order to identify value differences and agreements, to increase understanding between diverse local actors, and to share local ways of knowing (Dakin, 2003; Reimer, 2013; de Groot et al., 2014; Raymond et al., 2014; Plieninger et al., 2015). De Groot et al. (2014, p.1167) describe social learning as a participatory approach to planning that involves all stakeholders in a long-term working relationship, and is oriented toward developing new "knowledge, attitudes, skill and behaviours to deal with differences constructively, adapt to change and cope with uncertainty." Social learning opportunities put value disagreements "on the table" for discussion, provide insights for what is important to participants, and help to clarify different visions for the future of a landscape. In so doing, they help to build consensus among landowners, planners and other local actors (Dakin, 2003; de Groot et al., 2014).

One of the underlying challenges for land-use planning that this study reveals is the misunderstandings and value differences between various landowners and land users, in particular those who derive income from the land and those who benefit primarily from landscape amenities. Cadieux (2011, p.347) suggests that for amenity-oriented users, a more explicit exploration of different landscape ideals might help people acknowledge their “agency and effect” with respect to how their own lifestyle choices impact the land. Researchers also suggest that knowledge exchange and social learning opportunities can positively influence producers’ willingness to adopt beneficial management practices, above and beyond what economic incentives might do (MacLachlan et al., 2005; Vanni, 2014; Singh, 2015). Social learning opportunities can identify areas of common interest and concern between a range of rural and urban stakeholders, and help build social cohesion (Reimer, 2013). They also promote the integration of local knowledge and land management expertise into decision-making processes, thereby increasing the perceived procedural fairness, credibility and legitimacy of decision-making (Vanni, 2014; Raymond et al., 2014). Finally, as Singh (2015) also suggests, collaborative and learning-based approaches can empower communities and promote a more positive view of stewardship.

9.1.5 Coordinated, Multi-scale Solutions

Finally, the literature suggests and this study reaffirms the importance of matching the scale of land-use solutions to the scale of the problem being addressed (Kerselaers et al., 2013; Cohen & Bakker, 2014; Huntsinger & Oviedo, 2014; Vanni, 2014; Morrison et al., 2015). As others have shown, particular challenges arise with

mismatched ecological and social scales (Cohen & Bakker, 2014), or when local solutions are applied in response to “extra-local problems” (Morrison et al., 2015, p.1612). In examining decentralized planning environments in Australia and the USA, Morrison et al. (2015, p.1612) suggest that the complex challenges of declining rural systems require strategies that work across scales and across “government, civil society and private sector spheres.” Alberta’s increasingly dispersed and networked governance arrangements for land-use planning, as outlined in Chapter 1, point to a similar need for cross-scale and cross-sector approaches to deal with competing land uses and impacts.

Using a landscape approach in this study highlights that grazing lands in the western parts of both Rocky View County and the MD of Foothills (and continuing south) are largely contiguous in terms of their ecological values, their historical and continuing land uses, and their cultural, social and political characteristics. However, for the past two decades, these landscapes have been managed primarily through municipal planning frameworks that do not always match the scale of the landscape functions and pressures identified in this study. Alberta’s recent rescaling of regional planning along watershed boundaries, while an inherently political choice (Cohen & Bakker, 2014), offers the potential to better integrate water and land governance, and to coordinate approaches to other landscape-scale problems. It also offers a framework whereby conservation strategies can be tailored to various pasture, ranch and landscape scales, as Huntsinger and Oviedo (2014) recommend. Finally, it can help to promote the provision of public goods at a scale that is more relevant to the goods or resources being managed (Vanni, 2014).

However, the appropriate balance between municipal, regional and provincial levels of authority is a contested issue in the Calgary region. Many participants agreed that land-use decisions should be made by local authorities who have a better knowledge of local needs and priorities. Others recognized that local decision-making has not succeeded in reducing exurban sprawl, or in protecting the long-term wellbeing of the land. Meanwhile, differing priorities and interests among Calgary-area municipalities appear to be difficult to reconcile through current inter-municipal planning mechanisms. Morrison et al. (2015, p.1606) question whether “devolved, privatized and networked modes of governance” in Australia and the USA are meeting the complex challenges of declining rural systems. This appears to be a relevant question in Alberta as well. Dispersed decision making increases the risk of privileging “individual stakes at the expense of a long-term vision” (Kerselaers, 2013, p.204), while making it more difficult to measure the cumulative impacts of various land uses (Holroyd, 2008). For this reason, Cocklin et al. (2007, p.996) suggest that, in the broad interest of multiple stakeholders, governments must in the end remain “arbiters of the wider social interest.”

Wilson (2007, p.315, emphasis original) advocates a differentiated policy approach to help guide individual actions, where policy acts “as a *facilitator* of strong multifunctionality pathways at different spatial scales.” In Alberta, stronger provincial leadership and higher-level decision-making around landscape-scale problems and inter-municipal planning issues might promote longer-term perspectives and help to resolve current impasses. In keeping with continued local autonomy, stronger provincial leadership might also facilitate decisions that are

difficult to make at the local level because of the political influence and other pressures that decision-makers face. As emphasized already in this study and elsewhere (Emami, 2014), a key consideration in striking a publicly acceptable balance between multiple scales of governance will be the distributive and procedural fairness of the land-use planning process.

9.2 Limitations and Areas for Further Research

This study focused on two particular cases, with a view to generating overall insights that emerge from a comparative case analysis. It proposed a framework for land stewardship consisting of five suggestions for land-use planning, as well as other analytical findings that may have relevance to rural contexts elsewhere. However, to some extent this thesis is inherently limited by its case study design; while participants brought a wealth of knowledge and a diversity of perspectives, they cannot be considered representative of the broader population. The study's focus was on landowners and planning experts within the two counties, but it did not include other stakeholders who have an interest in land-use policy-making. Further research is needed to understand land-use issues from urban, exurban, Aboriginal, watershed planning, energy development, natural resource extraction, conventional agriculture, and other perspectives. Finally, this study was constrained to a view of the policy framework at the time of writing, which may have missed currently evolving developments or policy outcomes that have yet to become apparent, such as those related to the current Municipal Government Act review. Further research may illuminate the success of recent regional planning objectives

in resolving some of the landscape issues identified herein, or point to further policy needs beyond what this study considered.

9.3 Conclusions

This thesis has highlighted what ranching landscapes mean to people who live in the rural area around Calgary, and considered the implications of different perspectives for land-use planning. By assessing the land-use planning frameworks for Rocky View County and the MD of Foothills, this study has identified several important gaps between what people value in the landscape and what is addressed in the land-use policy framework. Building on key research findings and theoretical insights from the literature, this final chapter has suggested a framework for enhancing landscape stewardship through a mix of policy approaches. While the framework is sensitive to the unique characteristics and needs of ranching landscapes in the Calgary region, many of the insights can also be applied elsewhere to help promote the diverse values and broad multifunctionality of agricultural landscapes in other rapidly developing regions.

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Appendix A: Interview Protocol (Residents/Landowners)

Demographic data collected:

Gender

Age

Location of property [eco-region/planning district]

Length of [family's] time on property

Type of agricultural operation

Primary use of land

Owner/Renter

Children to take over property/business[?]

1. Can you tell me about your [ranching] operation?
 - [Probes include demographic data above]
 - Have you always lived here? If not, what drew you here?
 - What are the things you enjoy about living here?

A. Perceptions of ranching landscapes

2. Do you think that ranching landscapes have special characteristics that make them different from other farmland?
 - Are there ranching landscapes distinct in any political/ecological/cultural/social/economic way?
 - What would you say are the boundaries to the ranching landscapes in Rocky View County/MD of Foothills?

B. Ranching landscape values

3. How do you see yourself in relation to your land?
 - a. What is your responsibility toward the land? What do you expect from it?
2. What do you think are the most important values the land has for you?

Probes: for example, its ability to produce food, as a source of income, clean air/water, sense of place, feeling of connection etc.

Probe: when you make decisions about managing your land, what are the most important considerations?
3. In what ways do you think the land has value for the general public?
 - a. What rewards do landowners receive (or should they receive) for helping to protect the values we talked about?

C. Pressures

4. Do you feel that ranching landscapes have experienced any long-term changes during the past ten years?
 - a. Do you think the change will continue?
 - b. How do you feel about the change?

D. Land Use Policy Framework

5. How well do you think the [County Plan] and the South Saskatchewan Regional Plan promote and protect the [aspects of the landscape that you care most about]?
 - a. Are there specific land use policies that you feel are beneficial for protecting those values?
 - b. Are there aspects of the land-use planning framework that you feel threaten them?
 - c. Do you think anything needs to change?
6. How do you feel about the land use planning process in this county/MD generally?
7. Have you ever considered using a conservation easement or another voluntary tool to protect your land?
 - a. If you have, what factors influenced your decision?
 - b. If not, would you consider placing a conservation easement on your land? Why or why not?

Is there anything else that you feel is important that we haven't talked about?

Thank you for your time, and for sharing your thoughts about ranching landscapes and the land-use planning process.

Appendix B: Interview Protocol (Land-Use Planning Experts)

[Describe purpose of study]

A. Legislative Framework

[confirm agricultural land use policies and other related legislation and plans at both the local and regional level]

1. Is this an accurate overall description of the land-use planning framework, from your perspective? Are there any other relevant documents or governance bodies that are important to consider?

In this next set of questions I will ask about different aspects of the land-use planning framework.

2. Do you think there is such a thing as a ranching landscape, that's different from other farmland?
3. Thinking about agricultural land in general and ranching landscapes in particular, why are they important?
 - a. Probe: what landscape values do they have for people who live in and beyond the county/MD?
4. What are the most important mechanisms in the land-use planning process for protecting [those values identified as important]?

B. Beneficial Principles for Agricultural Land-Use Planning

I want to get your feedback to help improve my understanding, with consideration for 4 principles that have tentatively been identified as beneficial for agricultural land-use planning. I will then open up the discussion to ask how you think ranching landscapes could/should be better protected.

5. [describe 'maximise stability']: How strong do you think the regional planning framework is from the perspective of stability?
6. [describe 'minimise uncertainty']: Again, thinking about the local and regional land use plans, to what extent do you think the planning framework provides certainty?
7. [describe 'accommodate flexibility']: To what extent do you think the planning framework accommodates flexibility?
8. [describe 'integrate across jurisdictions']: to what extent do you think the planning framework integrates across jurisdictions?

C. General Questions on Agricultural Land-Use Planning

9. Do you think ranching landscapes and agricultural land generally in the Calgary area needs to be “protected”?
10. If so, what do you believe are the most beneficial aspects of the legislative framework that helps protect ranching landscapes and agricultural land more broadly?
11. In what ways, if any, do you think the legislative framework should be changed?
12. To what extent do you believe [local land-use planning framework] integrates multiple perspectives such as those of citizens, local organisations, professional organisations representing farmers, and environmental groups?

Close

13. Do you have any other comments that you’d like to share?

Thank you for participating in this interview.

Appendix C: Letter of Introduction and Consent

Stewarding Ranching Landscapes in the Calgary Region

INTRODUCTION AND LETTER OF CONSENT

University of Lethbridge

[Date]

Dear [Name Removed];

You are being invited to participate in a thesis research project about the agricultural land use planning process in Rocky View County and the MD of Foothills. In particular this project will focus on how people who live in both counties view the land, and what they feel is important about ranching landscapes. This project will also review the local land-use planning framework of each county, to assess whether those values are reflected and protected in the land use policies. The overarching goal of the project is to formulate policy recommendations for agricultural land-use planning in Alberta, aimed at conserving ranching landscapes and their diverse values.

The research is organized around three objectives:

1. To explore the meaning of ranching landscapes in Rocky View County and the MD of Foothills, from diverse stakeholder perspectives.
2. To critically assess the extent to which local land-use planning frameworks reflect diverse landscape values.
3. To identify beneficial principles and practices for protecting diverse ranching landscape values.

This interview will require about one hour of your time. During this time, you will be interviewed about [your experiences as a ranch operator/your knowledge of the local land use planning framework]. The interview will be conducted in a location that is convenient and comfortable for you. In addition to taking hand-written notes, we would like to digitally record the interview for accuracy. It is your right to request that the entire interview or any part of the interview not be recorded.

Your participation in this research is completely voluntary. There are no anticipated risks or discomfort involved in this research; nor will you benefit directly. However, your participation will provide the opportunity to create a better understanding of residents' views of ranching landscapes, and insights that may shape future policy and research related to agricultural land-use. You have the right to refuse to answer any question you do not wish to answer and you can terminate the interview at any time. Should you terminate the interview before its completion, you will be asked if the information you have provided to that point can be retained or if you would like it destroyed.

A verbatim transcript will be sent to you for review as soon as possible after the interview is complete. To protect your anonymity and identity, your name will not be included in the transcript, which will use a Study ID Number instead. All consent forms and transcripts will be kept secure, either in a locked cabinet at the University of Lethbridge or in password protected computer files; only the researcher and the thesis supervisor will have access to the interviews. After five years, all interview materials including hand-written notes, audio files, and the transcription of your interview, will be destroyed.

The perspectives you offer will be combined with those of other landowners and inhabitants of Rocky View County and the MD of Foothills. The results from this study will be used for the completion of a Master of Arts thesis. The results may also be presented in writing in journals read by land use planners, to help them better understand landowners' views about ranching landscapes, and may be presented in person to local land use stakeholders. At no time, however, will your name be used or any identifying

information revealed. If you wish to receive a copy of the study's findings, you may contact the researcher at the telephone number given below.

If you require any information about this study, or would like to speak to the researcher, please call Aimee Benoit at [...] at the University of Lethbridge, or email at aimee.benoit@uleth.ca. Questions regarding your rights as a participant in this research may be addressed to the Office of Research Ethics, University of Lethbridge (Phone: 403-329-2747 or Email: research.services@uleth.ca).

I have read the above information regarding this interview on the experience of agricultural land use planning, and consent to participate the interview.

_____ (Participant's Printed Name)
_____ (Signature)
_____ (Date)

_____ (Researcher's Printed Name)
_____ (Signature)
_____ (Date)

Appendix D: Description of Principles for Agricultural Land-Use Planning

Principles for guiding agricultural land use planning

An agricultural land use planning legislative framework provides the context and constraints for what local governments must and can do to protect its agricultural lands. An effective framework of policies, legislation, and governance structures presents an opportunity for local governments, which can then choose how much they want to take advantage of this opportunity. Within this context it is helpful to be able to assess the quality of an agricultural land use planning framework and understand how well it works and why. For this purpose we have identified the following four principles, which are described below:

- Maximise stability
- Minimise uncertainty
- Integrate across jurisdictions
- Accommodate flexibility

The concepts of stability and uncertainty must be understood with a view of the world as unpredictable and essentially unknowable. This contrasts with a rational view of the world as something that we can understand fully – if only we had all of the right data and the ability to process the information. This worldview of an open future presents challenges because planning, by its very function, is focussed on making a desirable future a visible part of today’s land use decision-making processes (Connell, 2009). The aim of planning is not to predict the future or claim to be all-knowing but to envision a desirable future with the information available. The functions of planning are to maximise what we can know about the future and to minimise what we do not know, thereby establishing a domain of understanding within which to make the best possible land use decisions in the present. This leads to the first two principles of agricultural land use planning.

Maximise stability

Something that is stable is difficult to topple; it stands strong and cannot be easily moved. Likewise, a stable legislative framework for protecting farmland is one that is not easily changed at the whim of shifting political interests; it is well-entrenched in acts of legislation, policy, and governance structures that are based on clear, concise language, and can hold up to court challenge. It is something that people can count on to secure the land base for agriculture and to know what the rules are. In this sense, a measure of stability is a measure of the thing itself – the legislative framework – as it is written in its present form. Thus, stability is a critical measure of the strength of an agricultural land use planning framework.

Minimise uncertainty

In addition to maximising the stability of a legislative framework through clear rules and regulations we must also consider how the framework will be implemented and applied to land use decisions. People want to know they can rely on these rules and

regulations to be applied consistently and to know how it will be applied under different circumstances. In this sense, people want not only a stable land base for agriculture but also a legislative framework that provides some certainty about how it will be used to make agricultural land use decisions. However, what we do not know is boundless so we must accept that we cannot eliminate uncertainty. What governments can do is to minimise uncertainty by eliminating loop-holes, ambiguous language, and open-ended conditions. Perhaps more importantly, uncertainty can be minimised through consistent interpretations and applications of the legislative framework. In this sense, a measure of uncertainty is a future-oriented measure of expectations about how the legislative framework will be applied to land use decisions. Thus, the presence of uncertainty is a critical measure of the weakness of an agricultural land use planning framework.

Integrate across jurisdictions

Integrating policies and priorities across jurisdictions is a foundation for building cohesion across provincial, regional, and local governments. This principle of integration can be viewed as a “policy thread” that weaves together traditional areas of responsibility (Smith, 1998). One can also think of integration as a formal “linkage” between policies that provides consistency among them. Such formal linkages can come in the form of a provincial policy that requires a lower-level policy “to be consistent with” provincial statements. The aim of such vertical mechanisms is to ensure that lower-level policies are set within the context of broader public priorities. The same principle of integration applies horizontally, too, so that plans and strategies are co-ordinated and consistent across local governments. In order to successfully integrate policies across jurisdictions there must be sufficient details about the legislative context that guides and constrains local government plans and strategies.

Accommodate flexibility

Creating an effective legislative framework is an act of balance without being too stable so that it cannot be changed when needed, or too strict so that it cannot be applied in a range of circumstances. Thus, flexibility is necessary in order to moderate the restrictive effects of maximising stability and minimising uncertainty. The principle is to enable decision-makers to accommodate a controlled level of flexibility without compromising the primary functions of the legislative framework to provide stability and reduce uncertainty. The means to accommodate flexibility is typically done through governance mechanisms, such as quasi-judicial provincial commissions, advisory committees, and application processes.

Source: Connell, D.J. (2015). *Agricultural land use planning in Canada. Principles and Beneficial practices for integrating public priorities for agriculture and food across jurisdictions*. Unpublished report, University of Northern British Columbia.