

**Advice to the
Government of Alberta**
for the South Saskatchewan
Regional Plan

Note: This document is advice to the Government of Alberta. This advice considered existing Government of Alberta policies and information provided by the Government of Alberta's staff. The Government of Alberta's views and intentions may not necessarily coincide with the recommendations of the South Saskatchewan Regional Advisory Council.



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1.0 Introduction

Alberta's Land-use Framework sets out a new approach to managing the province's land and natural resources. Released in December 2008, the Land-use Framework provides a decision-making blueprint for sustaining a growing economy while balancing social and environmental goals. It establishes the following three interrelated and equally important provincial outcomes:

- Healthy economy supported by our land and natural resources;
- Healthy ecosystems and environment; and
- People-friendly communities with ample recreational and cultural opportunities.

The Land-use Framework ushered in a new era of regional land use and resource planning. Seven regions were created in the Land-use Framework that are congruent with the province's major watersheds and aligned with municipal boundaries. Each region must develop a regional plan. The South Saskatchewan Regional Plan (SSRP) is the second regional plan to get underway. When completed, the plan will provide the context for land-use decision-making within the region.

The *Alberta Land Stewardship Act*, legislation complementary to the policies outlined in the Land-use Framework, was brought into law in October 2009 and governs the establishment and implementation of regional plans. Regional plans offer a mechanism for interpreting and reconciling the Government of Alberta's policies in a meaningful way to achieve regional outcomes focused on priority values.

Regional planning requires significant local input during both plan development and implementation. To enhance the depth of local input, the Government of Alberta established a Regional Advisory Council (RAC) comprised of members with a cross-section of expertise and experience.

Since the South Saskatchewan RAC's formation in May 2009, members have dedicated a substantial amount of time and energy developing advice for the Government of Alberta. Council members attended 13 multi-day meetings in locations across the region, participated in public and stakeholder events and spent countless hours reviewing written submissions, provincial policies and other reports and information.

The South Saskatchewan RAC's work was supported by the Government of Alberta's Land Use Secretariat (LUS), a planning team representing the Government of Alberta's ministries and agencies and planning consultants. This support included research, modelling, policy and technical analysis and subject matter expertise. Complete versions of the Land-use Framework and the *Alberta Land Stewardship Act* can be found online at www.landuse.alberta.ca.



1.1 Purpose of the South Saskatchewan RAC's Advice to the Government of Alberta for the SSRP

This document describes the South Saskatchewan RAC's advice to the Government of Alberta, as a response to the *Terms of Reference for Developing the South Saskatchewan Region*. The creation of the *South Saskatchewan RAC's Advice to the Government of Alberta for the South Saskatchewan Regional Plan* (RAC advice document) completes a key stage of work. Its content will inform the second phase of public, stakeholder and aboriginal consultation and the development of the SSRP.

The regional vision statement, principles, outcomes, objectives and recommendations outlined in this report are highly interrelated and intended to be considered together as a complete suite.

1.2 Developing the Regional Plan

The terms of reference directed the RAC to explore the relationship between population growth, water supply, economic growth and land conservation¹. It also asked the RAC to provide advice to the Government of Alberta on benefits, choices and tradeoffs to balance economic development with environmental and social considerations. Specifically, the RAC provided advice on:

- **Water** – Develop options for improving source water² protection (e.g., environmental setbacks, wetland³ protection or restoration and rehabilitation of degraded sources) and other management means to protect watershed integrity, including watershed headwaters.
- **Economic development** – Examine how the region should develop, aiming for the agriculture, energy, forestry and tourism industries to be successful over the long-term. Additionally, advise on general considerations and locations for major multi-use and transportation corridors.
- **Conservation** – Observe the key criteria outlined in the terms of reference for identifying, conserving and restoring a network of landscapes valued for their water security, ecological function and biodiversity; assess and advise on which lands in the region could meet the criteria, considering development implications. Additionally, the RAC was asked to develop options for best management practices to reduce the human footprint and fragmentation of those landscapes with high conservation value in the region.

¹ Conservation - The responsible preservation, management and care of our land and of our natural and cultural resources.

² Source Water - Raw/untreated water received for treatment to provide potable water to municipal, industrial or private users. Sources may include high quality groundwater, groundwater under the influence of surface water and surface water from a lake, stream, river or watercourse.

³ Wetland - Land saturated with water long enough to promote wetland or aquatic processes as indicated by the poorly drained soils, vegetation and biological activity that is adapted to a wet environment.



- **Recreation and tourism management** – Review approaches to effectively improve management of recreation use on public lands. Identify locations of lands with high-value for recreation and tourism and advise on approaches to maintain the integrity of those lands. Finally, identify necessary infrastructure enhancements to meet the growing and changing demands.
- **Human development** – Consider impacts to aboriginal communities as well as constitutionally protected rights exercised by members of those communities. Examine development needs and healthy community objectives in the region, including the effective use of water and land.

Issues not considered by the RAC as per the terms of reference included: municipal governance; aboriginal consultation; population limits; taxation; provincial royalties; government expenditures; existing laws and regulations; and water allocation. Additionally, during the development of the RAC recommendations, some members expressed dissenting opinions on a few topics.

The terms of reference for the South Saskatchewan Region can be found online at www.landuse.alberta.ca.

1.3 Overall Regional Planning Process

The Government of Alberta, led by the Land Use Secretariat (LUS), is responsible for regional planning. The completion of this document is a key milestone in the planning process. When complete, the SSRP will provide direction to more detailed local land-use plans. Local and integrated planning must be consistent with the regional plan. Implementation of the SSRP will be supported by local policies and regulations, such as municipal zoning, and by provincial laws, regulations and policy tools.

The direction and advice provided by the RAC to the Government of Alberta has been distilled into the following four components in this document:

- A regional vision statement;
- Strategic land-use planning principles;
- Regional outcomes, objectives and recommendations with associated resource maps; and
- A regional land-use map and its associated management intents.



1.4 Next Steps

Input and feedback received on the advice document will inform the draft South Saskatchewan Regional Plan that the Government of Alberta will develop. Based on input and feedback received through consultations on the draft SSRP, the plan will be refined and finalized. The final South Saskatchewan Regional Plan will then be submitted to Cabinet for approval. Once approved by Cabinet, the plan will become a legal document and its implementation will be stewarded by the Land Use Secretariat.



2.0 Region at a Glance

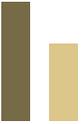
The South Saskatchewan Region is a vast area bounded by the Rocky Mountains to the west, the Canada-U.S. border to the south, the Alberta-Saskatchewan border to the east and the northern municipal boundaries of the municipal districts of Bighorn and Rocky View, and Wheatland, Newell and Cypress counties. In total, the region is 83,764 square kilometres of diverse landscapes including urban centres and communities, industrial landscapes, grasslands, cultivated agricultural lands, parkland, foothills and Rocky Mountains.

The region is home to a culturally diverse population. Although the region comprises only 12.6 per cent of Alberta's total land area, it is home to 45 per cent of Alberta's population and contains the province's largest city, Calgary. Population growth, particularly in the Calgary area, has led to expanded development. By 2076, the region's population is expected to increase by approximately two million people. In addition, 60 per cent of the land in the region is privately owned, 30 per cent is managed by the Alberta government and the remaining 10 per cent includes First Nations' reserves and other federally managed lands.

Water management in the South Saskatchewan Region is a top concern. It stands to be the limiting factor on future population and economic growth. In dry years, demand for water can exceed the volume of water available in some rivers for extended periods. Substantial population and economic growth in the region has contributed to increased water demands. Currently, the allocation limit of surface water resources has been reached or exceeded in most of the region's major water basins. Adding further complexity to management concerns, water supply and quality are impacted by and influence all land-use and resource-planning decisions.

2.1 Economy

With local economies largely influenced by agriculture, oil and gas, and tourism, the South Saskatchewan Region has experienced strong economic growth tempered by occasional periods of downturn. The region has many important provincial recreation tourism destinations. Further to the industries mentioned above, the forestry and mining industries contribute to the region's complex economy. Finally, economic diversification in the region has happened gradually. Food processing has taken root in the southern parts of the region, and renewable energy projects are being developed. The major cities in the region are also home to a range of education, business and financial services, manufacturing, information technology and other industries.



2.2 Ecosystems and Environment

Over time, the South Saskatchewan Region's landscape has been transformed. Industrial, commercial and residential developments have all increased with population. Today, parts of the region are under increasing pressure to maintain multiple uses on the same land base, including wildlife habitat, recreation and tourism, grazing, industrial and commercial development. The region is home to 80 per cent of the species at risk in the province and a number of important or vulnerable habitats; namely native grasslands, riparian areas⁴ and wetlands.

2.3 Communities

Communities in the region include five cities, one specialized municipality (Crowsnest Pass), 15 municipal districts, two improvement districts, 29 towns, 23 villages, two summer villages and seven First Nations communities on multiple reserves. Economic opportunities have attracted thousands of new Albertans from other parts of Canada and from around the world. This growing population is putting greater demands on urban infrastructure, parks, recreational opportunities, transportation corridors and more.

A detailed description of the region can be found in the *Profile of the South Saskatchewan Region*, found online at www.landuse.alberta.ca.

⁴ Riparian areas – The area along streams, lakes and wetlands where water and land interact. These areas support plants and animals, and protect aquatic ecosystems by filtering out sediments and nutrients originating from upland areas.



3.0 Regional Vision Statement and Strategic Land-use Principles

3.1 Regional Vision Statement

The RAC proposes the following vision statement for the South Saskatchewan Region. It describes a desired future in 50 years.

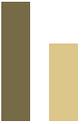
Southern Alberta is a diverse, healthy, vibrant and prosperous region where the natural beauty of the mountains, foothills, farmlands and the subtle beauty of the prairies are managed and celebrated so that future generations remain connected to the land and its history. The region prizes its natural and economic capital, and uses an integrated approach to effectively manage social, economic and environmental interaction. The principles of personal freedom, responsibility and property rights are respected, while the quality and ecological integrity of the landscape is sustained through the use of traditional aboriginal and community knowledge, sound science, innovative thinking and accommodation of rights and interests of all Albertans.

3.2 Strategic Land-use Principles

It is recognized that certain values in the region are irreplaceable and should be protected for the future. All of the South Saskatchewan Region should be used by people for their economic interests and their enjoyment. However, these activities can only be maximized by sensible policies that are mindful and respectful of environmental issues and by effective enforcement. Integrated planning can ensure these values if completed in consideration of the following strategic land-use principles⁵:

- **Plan for water** – It is essential to determine the feasibility of all water conservation, supply and storage options. Because the supply and quality of water is so important, demand is likely to increase, and supply may be challenged in the region under any scenario. Headwater and source water protection and the need to manage land use to sustain water production and water quality are critically important.
- **Respecting private land ownership** – The Government of Alberta must be guided by the principle of respecting private property rights. To acknowledge this, regional planning identifies common outcomes for private and public lands and offers implementation tools for both.
- **Developing conservation and stewardship tools** – Conservation and stewardship tools are critical to the success of future land-use planning in the region. It is imperative that the Government of Alberta develop an enhanced suite of conservation and stewardship tools (e.g., economic and market-based incentives, conservation easements, transferable development credits, mitigation banking, etc.). New tools, when developed, must be easily accessible, well understood and applicable.

⁵ Principle – A basic or shared value that guides the direction of policy formulation.

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- **Accommodating multiple users** – The South Saskatchewan Region has a history of multiple users sharing the landscape. The focus for planning should not be primarily on “if” but on “how” and under “what” conditions an activity can be allowed on the land base. Conservation and sustainable development can co-exist, and land-use planning needs to be based on triple bottom line⁶ principles and the use of market-based conservation tools.
 - **Integrated planning** – Land-use planning needs to progress to outcomes based on integrated local and regional planning that uses triple bottom line principles, incorporates multiple objectives, multiple stakeholders and involves market-based conservation and stewardship tools. Consideration should be given to reducing planning overlaps and redundancies while respecting the rights of affected jurisdictions in a collaborative approach to land-use decisions.
 - **Regulatory streamlining and efficiency** – The SSRP should lead other government initiatives to promote regulatory streamlining, harmonization and reduce levels of bureaucracy. Policies need to be integrated between departments and ministries. Regulations should be made more efficient by providing clear policy direction on key issues. Clear policy is also necessary for empowering local and provincial decision-making to achieve sustainable development outcomes.
 - **First Nations’ issues** – First Nations’ land-use issues need to be dealt with in a clear, provincial government-led process.
 - **Economic opportunity** – The success of the region will be dependent on the economic opportunities available in the region. This plan would provide more certainty and clarity regarding constraints to development.

⁶ Triple bottom line – Refers to the goal of the Land-use Framework to sustain our growing economy, but balance this with Albertans' social and environmental goals.



4.0 Healthy Economy

4.1 Economic Development Outcomes

Economic development outcome statements for the South Saskatchewan Region are as follows:

- A healthy economy supported by our land and resources;
- A prosperous, resilient, competitive and diversified economy is sustained;
- The economic viability and competitiveness of the energy industry is maintained, while ensuring exploration and development are done in ways that respect the integrity of agriculture, observes sensitive habitats and protects water resources;
- Economic sectors are valued for their contributions to other land values (i.e., ecosystem functions, biodiversity, tourism and water supply);
- Cost-effective infrastructure supports economic growth and diversification;
- The value of ecological goods and services⁷ becomes a significant element of the regional economy; and
- The economic viability and competitiveness of industry is enhanced.

4.2 Agriculture

Primary Issues

Access to water and irrigation in the South Saskatchewan Region is critical to the future growth of agricultural and agricultural-related industries. With increasing water demand in the region, the agriculture industry will be challenged to meet new demands for irrigation, livestock and food processing. In some areas, the fragmentation and conversion of agricultural land may limit future agricultural opportunities. Additionally, diversification of agriculture and agriculture-related industries will require investment in the future. Finally, market-based approaches are needed to encourage agricultural sustainability and promote conservation and stewardship.

Objectives

- 4.2.1 To enhance the economic viability and competitiveness of agriculture.
- 4.2.2 To ensure that ecological goods and services are a valued and profit-generating part of the agriculture economy.

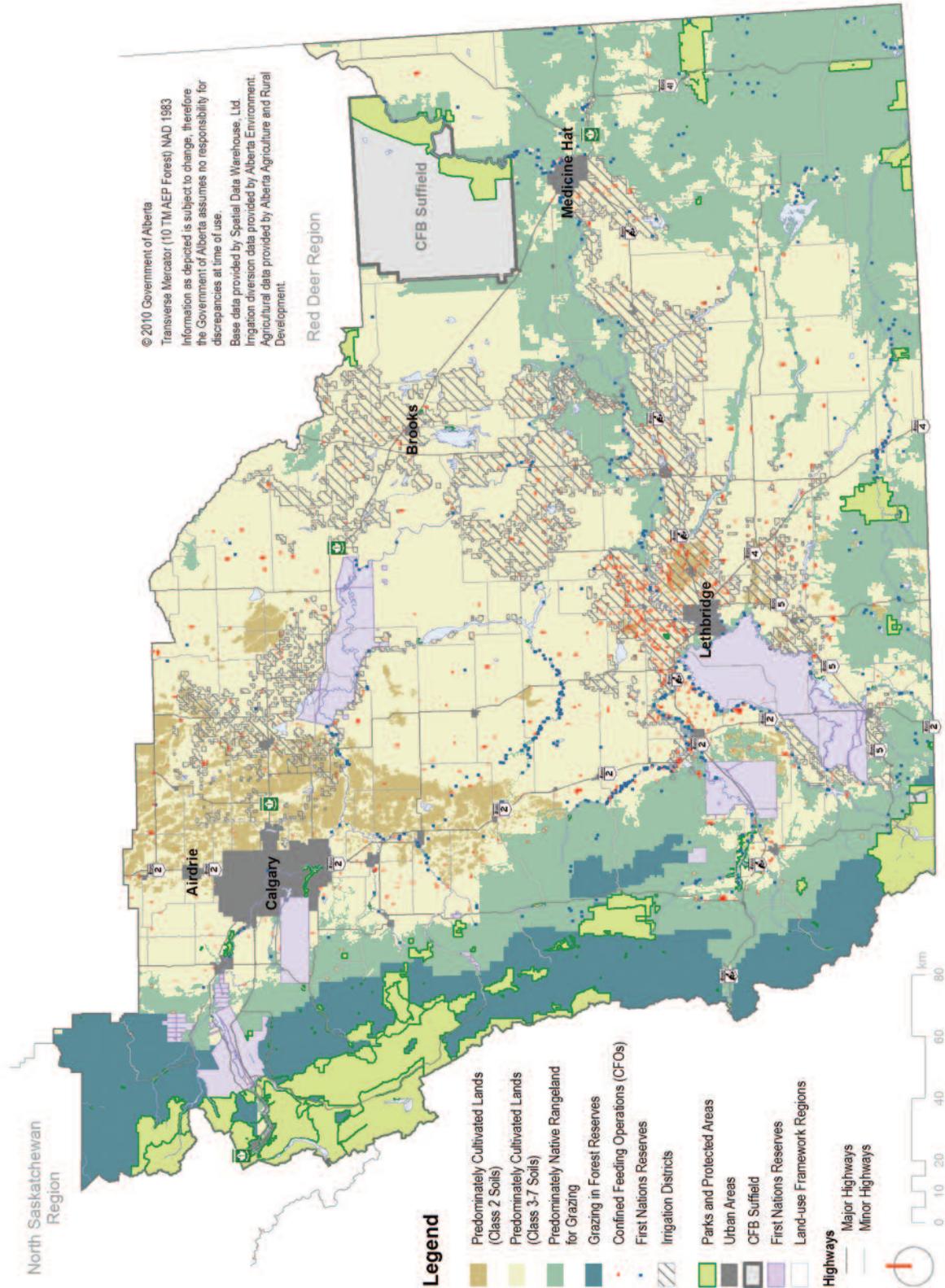
⁷ Ecological goods and services – Economic and social benefits resulting from the natural processes of a healthy environment and biodiversity. These are available to all of society and are essential to sustaining a healthy and prosperous way of life. They include groundwater recharge, flood and erosion control, wildlife habitat, productive soils, carbon dioxide sequestration and abundant clean air and water.



Recommendations

- 4.2.2.1 Support the diversification and sustainable growth of the agriculture industry.
- 4.2.2.2 Encourage investment, entrepreneurship and competitiveness by ensuring the agriculture industry is supported by an efficient and transparent regulatory environment.
- 4.2.2.3 Support irrigation expansion within districts as an important economic driver for rural communities with a portion of the water saved through improved publicly funded water-use efficiency measures. Secondly, explore options with the water holder to secure a portion of the irrigation water efficiency gains to help meet in-stream conservation needs.
- 4.2.2.4 Support irrigation infrastructure improvements to help realize gains in water use efficiency to meet *Water for Life* conservation and efficiency goals.
- 4.2.2.5 Identify and develop water storage.
- 4.2.2.6 Encourage agricultural production and value-adding as a priority use for water saved by the licensee through irrigation efficiency measures.
- 4.2.2.7 Encourage and support rural municipalities to minimize the extent of agricultural land conversion and fragmentation.
- 4.2.2.8 Require and support municipalities to report on the extent of agricultural land fragmentation and conversion on a five year basis, using metrics developed by the government to ensure consistency across the province.
- 4.2.2.9 Explore financial incentives and market opportunities for ecological goods and services that advance SSRP objectives and that go over and above what is required by basic agriculture management obligations.

Agricultural Resource Map





4.3 Energy

Primary Issues

To a large extent, the future economic success of the energy industry depends on new and improved resource development technology, production and processing. Also key to the industry's success is maintaining a positive investment climate and growing energy sub-sectors, such as renewable energy, that will help diversify energy supplies.

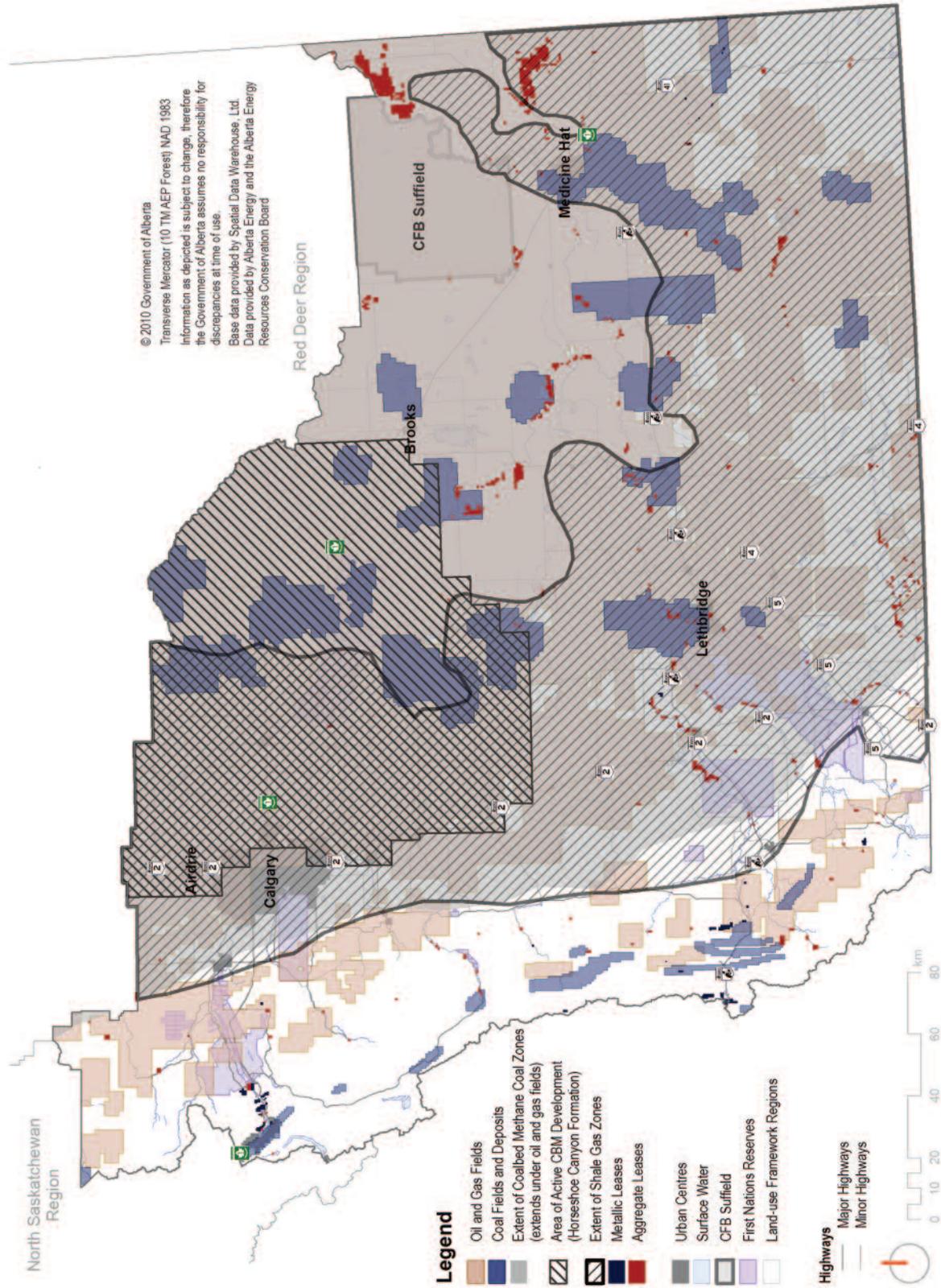
Objectives

- 4.3.1 To promote the responsible exploration, development and extraction of regional energy and mineral resources.
- 4.3.2 To ensure reasonable access to the land base in order to sustainably develop energy and mineral resources in the region.
- 4.3.3 To ensure the regulatory system is streamlined and more efficient in order to maintain and enhance the economic competitiveness of the region.
- 4.3.4 To promote renewable energy development through the removal of regulatory impediments.

Recommendations

- 4.3.4.1 Develop policies that promote new investment in energy development in the region.
- 4.3.4.2 Ensure regulatory processes for energy development consider cumulative environmental effects.
- 4.3.4.3 Advance renewable energy development in the region to diversify energy production and stimulate rural Alberta economies. This does not imply that the Government of Alberta should subsidize renewable energy development.
- 4.3.4.4 Explore opportunities for increased use of the region's coal deposits, such as clean coal technology. Facilitate research and trials of clean coal developments including coal gasification.
- 4.3.4.5 Explore financial incentives and market opportunities for ecological goods and services that advance SSRP objectives and go over and above what is required by basic energy management obligations.

Energy and Minerals Resource Map





4.4 Forestry

Primary Issues

Challenges to the forest industry include the lack of a stable land base, uncertainty around land tenure, the regulatory regime and government policy. There is also a need to reduce the administrative burden placed on the forest industry by streamlining regulatory processes. Forestry should contribute to the management of wildlife habitat, forest fuels and water resources in addition to supplying fibre. In some cases, transportation infrastructure may have to be upgraded or managed differently to help support industry needs.

Objective

- 4.4.1 To maintain and enhance the economic viability and competitiveness of the forestry industry.
- 4.4.2 To promote the economic, environmental and social benefits that communities derive from forestry and healthy forests.

Recommendations

- 4.4.2.1 Look for opportunities to use forestry as a tool to maintain or enhance ecological goods and services.
- 4.4.2.2 Incorporate the use of natural disturbance⁸ planning into regional land-use planning.
- 4.4.2.3 Support the research, marketing and commercialization of products made from raw forest materials.
- 4.4.2.4 Develop processes, systems and tools to manage the forest land base in a more holistic way, for example through the use of mitigation banking⁹ and market-based tools.
- 4.4.2.5 Implement an integrated planning process that reduces redundancy and incorporates the management of forestry with water production, biodiversity, recreation and tourism and energy production.

⁸ Natural disturbance – Any event such as fire, wind, disease, insects, ice, flood or landslide that disrupts the vegetation and abiotic environment in an area.

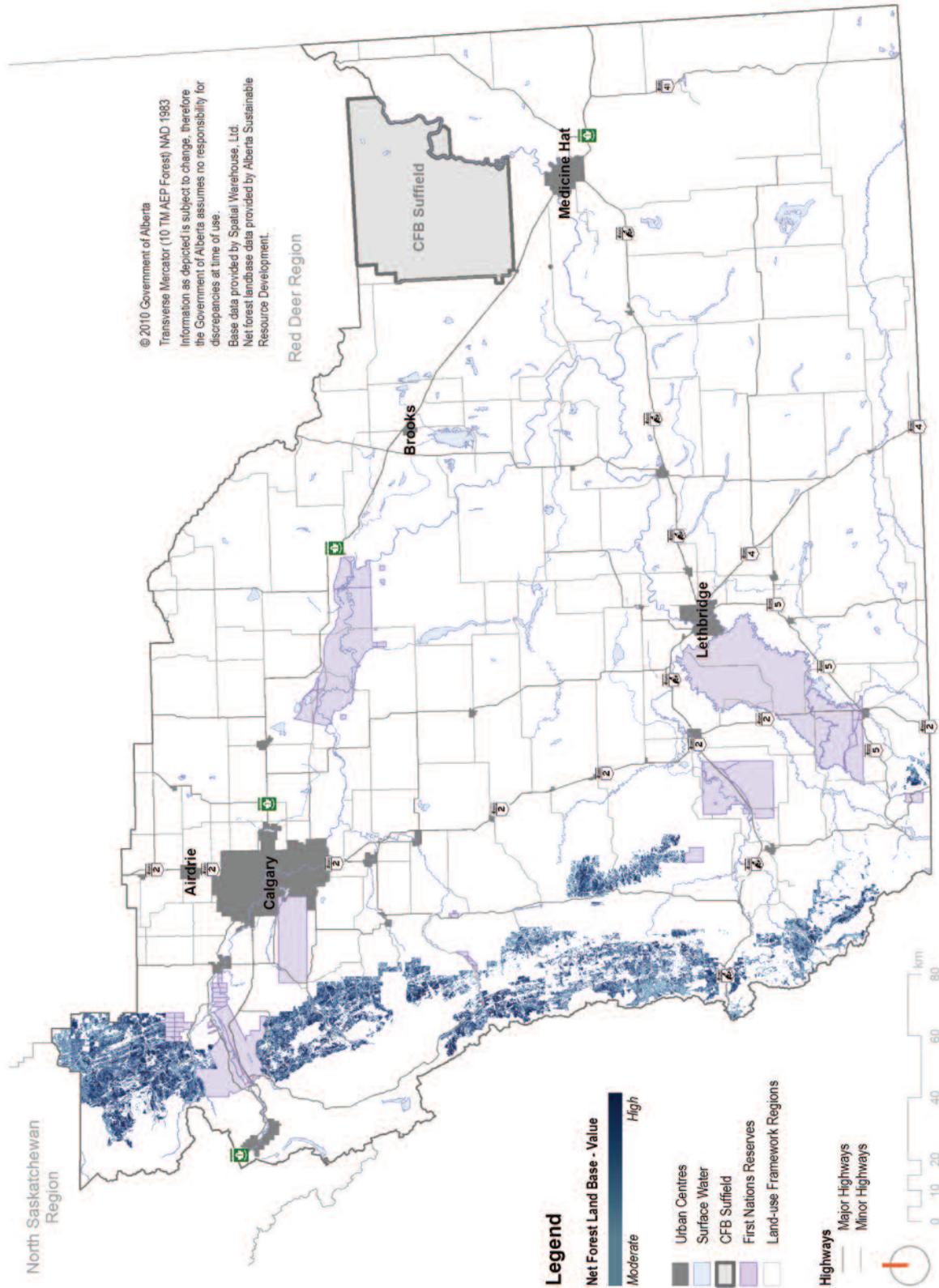
⁹ Mitigation banking – A mitigation bank includes wetland, stream or habitat conservation areas that have been restored, established, enhanced or (in certain circumstances) preserved for the purpose of providing compensation to offset expected adverse impacts to similar nearby ecosystems. A mitigation bank may be created when a government agency, corporation, non-profit organization or other entity undertakes these activities under a formal agreement with a regulatory agency.



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- Support land and resource management approaches and programs like integrated land management (ILM)¹⁰ and efficient use of land that attempt to minimize the loss of productive land base.
- 4.4.2.6 Improve existing public transportation infrastructure that currently limits or constrains forestry and the trade of forest-related products.
- 4.4.2.7 Explore financial incentives and market opportunities for ecological goods and services that advance SSRP objectives and go over and above what is required by basic forestry management obligations.

¹⁰ Integrated land management (ILM) is the strategic, planned approach to managing and reducing the human-caused footprint on public land. ILM is not a plan or a process. ILM is a way of doing business and a way of thinking, by sharing the land and working together so that land users can reduce their impact on the land.

Forestry Resource Map





4.5 Recreation and Tourism

Primary Issues

Without a secure land base, attracting investment for tourism and recreation is necessary to diversify the economy. Building upon the existing world-class tourism destinations to reach the region's fullest potential requires development of iconic tourism destinations, such as the Castle, Kananaskis and Badlands areas. These areas currently lack the critical mass of tourism attractions, infrastructure and appropriate management to maintain their nature-based, scenic and recreational attributes.

The regional recreation and tourism landscape values, and issues related to those values, contribute to the economic and community quality of life.

Objectives

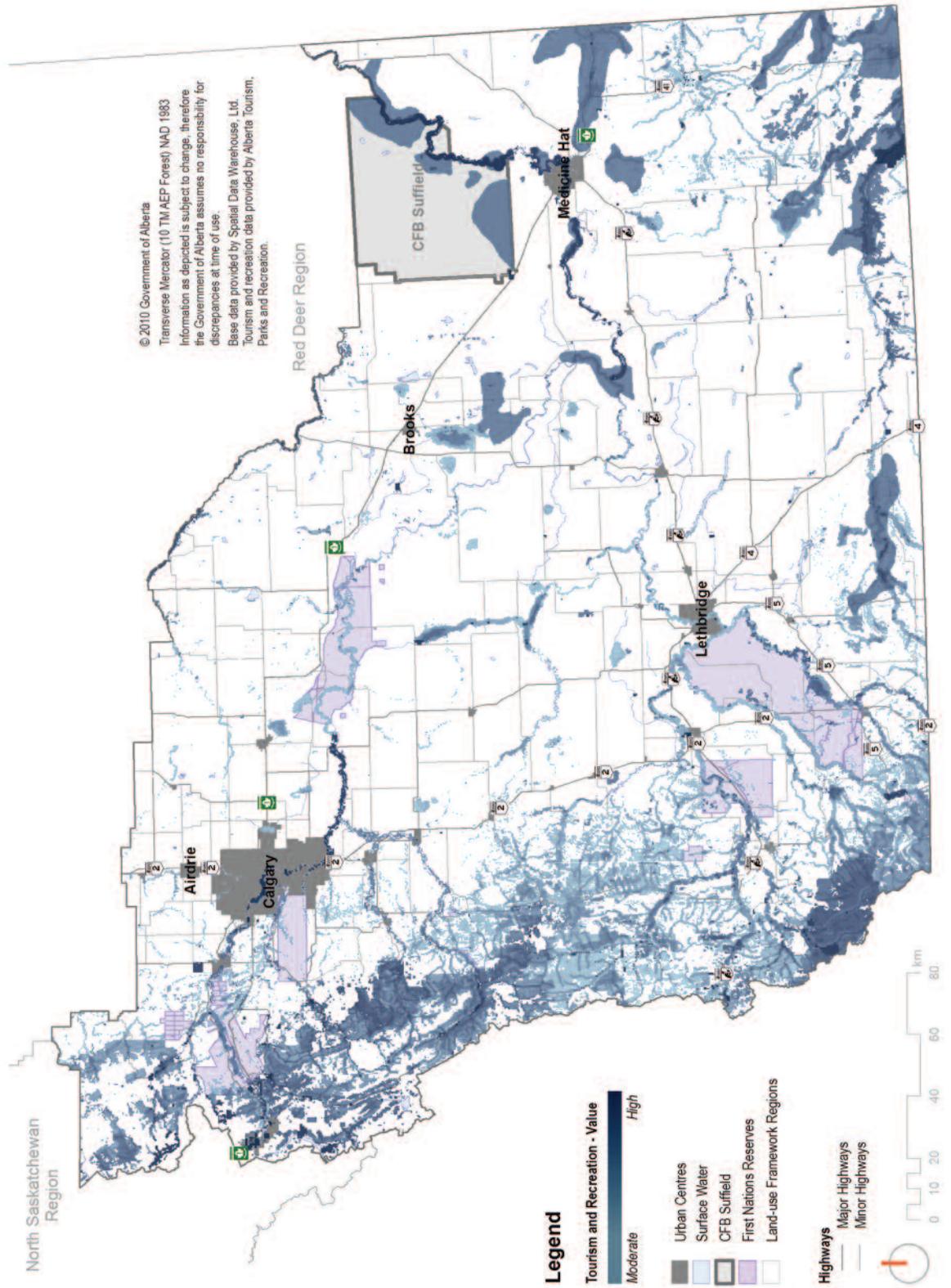
- 4.5.1 To recognize and position the region as a world-class, year-round tourism destination using both public and private lands to meet the demand.

Recommendations

- 4.5.1.1 Identify tourism nodes and establish tourism development plans within recreation/tourism areas and market these nodes to tourism developers.
- 4.5.1.2 Increase the competitiveness and security of the tourism and recreation industries by providing long-term tenures within identified recreation and tourism areas.
- 4.5.1.3 Identify and develop new areas capable of becoming iconic tourism destinations¹¹. Areas that should be considered include the Castle, Crowsnest Pass, Kananaskis and the portion of the Canadian Badlands in the region.
- Develop and manage the Castle and Crowsnest Pass as iconic nature-based tourism destinations. Effectively manage the Castle without necessarily designating it as a provincial park.
- 4.5.1.4 Develop a better understanding of the recreation and tourism opportunities on private land as well as its associated challenges and barriers.

¹¹ Iconic tourism destination – A provincially unique and awe-inspiring area that has the potential to attract significant visitors and gain national and international recognition. An iconic destination contains a critical mass of tourism accommodations, attractions, activities and amenities.

Tourism and Recreation Resource Map





4.6 Economic Growth and Value Added Industries

Primary Issues

The economy must be allowed to be productive and responsive to change. This involves creating the right business climate built around fair, effective and efficient regulation. It also involves developing human capacity, quality of life, supportive infrastructure, access to markets and a balanced fiscal system. Respect for private property rights and an entrepreneurial spirit are also key elements to economic success.

It is important to support economic growth by creating a positive investment climate. This should not be interpreted as advocating for government subsidies or picking winners and losers. To support economic growth, consideration must be given to investing in education, research and development infrastructure.

Objectives

- 4.6.1 To enhance the market-based economy of southern Alberta through investments in infrastructure, productivity enhancements and the development of human capital.
- 4.6.2 To support the development of value-added products and services.

Recommendations

- 4.6.2.1 Improve the physical infrastructure that supports research and development, and education and training.
- 4.6.2.2 A government priority should be to streamline business regulatory processes to make them more efficient and effective. Government regulation must be fair, straightforward and stable to encourage investment.
- 4.6.2.3 To the extent possible, allow for the best economic use of land and other natural resources while accounting for the region's dynamic social, environmental and economic pressures.
- 4.6.2.4 Encourage the service and small business sectors that contribute to the comparative and competitive strengths of southern Alberta.
- 4.6.2.5 Support the development of new and expanded regional and inter-regional supply chains to allow both the mature and emerging sectors to take advantage of provincial and export opportunities.
- 4.6.2.6 Improve and expand the development of communications tools and infrastructure into rural areas so that people have the freedom to choose where they live and do business.

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- 4.6.2.7 Support industry innovations that reduce water use, land disturbance and carbon footprint, and that work towards a zero-waste goal.
 - 4.6.2.8 Enable policies that support market-driven decisions for ecological goods and services.

4.7 Infrastructure

Primary Issues

Shifting economic development, regional demographics, lifestyles and technologies will require more adaptable and responsive transportation networks and systems. The region will also need to be responsive to the future demands for non-transportation infrastructure for drinking water, sewer, water treatment, garbage collection, waste treatment, recycling, electricity generation and transmission and recreational services. Additionally, multi-use corridors¹² and nodal energy opportunities should be explored as a way to effectively support economic development.

Objectives

- 4.7.1 To facilitate the efficient movement of people, goods, services and energy within the region and to other regions.
- 4.7.2 To ensure infrastructure planning, development and servicing align at local and regional scales, and reflect social, economic, cultural and ecological values and provincial infrastructure needs.
- 4.7.3 To address the water infrastructure needs of industry, society, communities and the environment (e.g., the assimilative capacity of rivers to complete the treatment process).
- 4.7.4 To develop infrastructure and transportation in a timely manner to efficiently move people, supplies and products within and outside the region to support economic development.
- 4.7.5 To minimize the environmental and ecological impacts of infrastructure.

Recommendations

- 4.7.5.1 Plan infrastructure for the future by considering changes in technology, population centres, energy sources and transportation.

¹² Multi-use corridor – A multi-use corridor is a dedicated land area that co-locates transportation and utility infrastructure.



- 4.7.5.2 Plan, design and build corridors and infrastructure to minimize land fragmentation, and to avoid, minimize or mitigate impacts on highly significant historic resources, wildlife and critical habitat, endangered and native species, wildlife movement and migratory routes and critical water areas (e.g., source water headwaters, riparian areas).
- 4.7.5.3 Adopt design and construction techniques that will promote economic growth while protecting valued resources.
- 4.7.5.4 Approach transportation development within a cumulative environmental effects perspective.
- 4.7.5.5 Co-ordinate transportation services in order to meet regional needs. Public and private transportation providers and stakeholders must work together to ensure regional transportation needs can be met in a safe, integrated effective and cost-efficient manner.
- 4.7.5.6 Best efforts should be made to support non-motorized transportation corridors (e.g., bike paths) along highways.
- 4.7.5.7 Future utility and facility infrastructure needs of urban centres must be anticipated, planned for and adequately funded. This includes right of ways for electricity generation, transmission and distribution facilities, oil and gas pipelines, new regional water and wastewater treatment, and recreational areas.
- 4.7.5.8 Manage existing water storage infrastructure to optimize water release, withdrawal timing and water quality. Additionally, strategic water storage opportunities should be identified and developed.

Explore multiple-use corridors in consideration of the following:

- 4.7.5.9 The economic benefits and costs of developing multi-use corridors.
- 4.7.5.10 Multi-use corridors should be located east, not west, of Highway 2.
- 4.7.5.11 Site multi-use corridor segments within the region to meet the following criteria:
 - Routes connect regions and have the potential to be part of a provincially continuous system;
 - Routes provide access to other markets and support economic competitiveness and growth;
 - Routes with the least costs in terms of ecological disturbance; and
 - Consider creative development options when looking at areas with important social and ecological values (e.g., burying power and telephone lines).



5.0 Healthy Ecosystems and Environment

5.1 Environmental Outcomes

Environmental outcome statements for the South Saskatchewan Region are as follows:

- The health of ecosystems, which consists of water, land, air and biodiversity,¹³ is valued by Albertans and needs to be sustained or improved through responsible stewardship.
- The biodiversity and ecosystem health and quality of forests, grasslands, parklands, aquatic environments, Badlands and dunes are sustained through responsible stewardship and are valued by Albertans.

5.2 Water Management

Primary Issues

Source water is critical to the security of water supply and the health of aquatic ecosystems. Development and extreme natural events, such as drought, wildfire, disease and insect outbreaks, affect the region's headwaters¹⁴ and the sustainability of water quality and quantity.

Proper planning, design and management will also support the management of source water, the region's wetlands and riparian areas as well as the services they provide. Management of these resources would be improved with consistent mapping and information, and with a consistent wetland classification system.

Water scarcity is another issue. Pressure on limited water resources is increasing and water allocation limits have been reached or exceeded in most of the region's water basins. Compounding the scarcity issue are the effects of climate variability (i.e., drought and flooding) that make balancing water supply with demand more difficult.

Objectives

- 5.2.1 To protect source waters through the maintenance of watershed integrity¹⁵ and ecosystem function.
- 5.2.2 To achieve watershed integrity through the implementation of provincially-approved: watershed management plans; water management plans; and environmental management frameworks.
- 5.2.3 To protect source water from pollution to ensure the ability to derive good quality water for people and other uses.

¹³ Biodiversity – The assortment of life on earth, such as: the variety of genetic materials in all living things; the variety of species on earth; and the different kinds of living communities and the environments in which they occur.

¹⁴ Headwaters – The source for a stream, located in the upper tributaries of a drainage basin.

¹⁵ Watershed integrity – The quantity and quality of water a watershed produces relative to natural conditions and climate variability; a measure of the degree of natural ecological structure and function within a watershed.



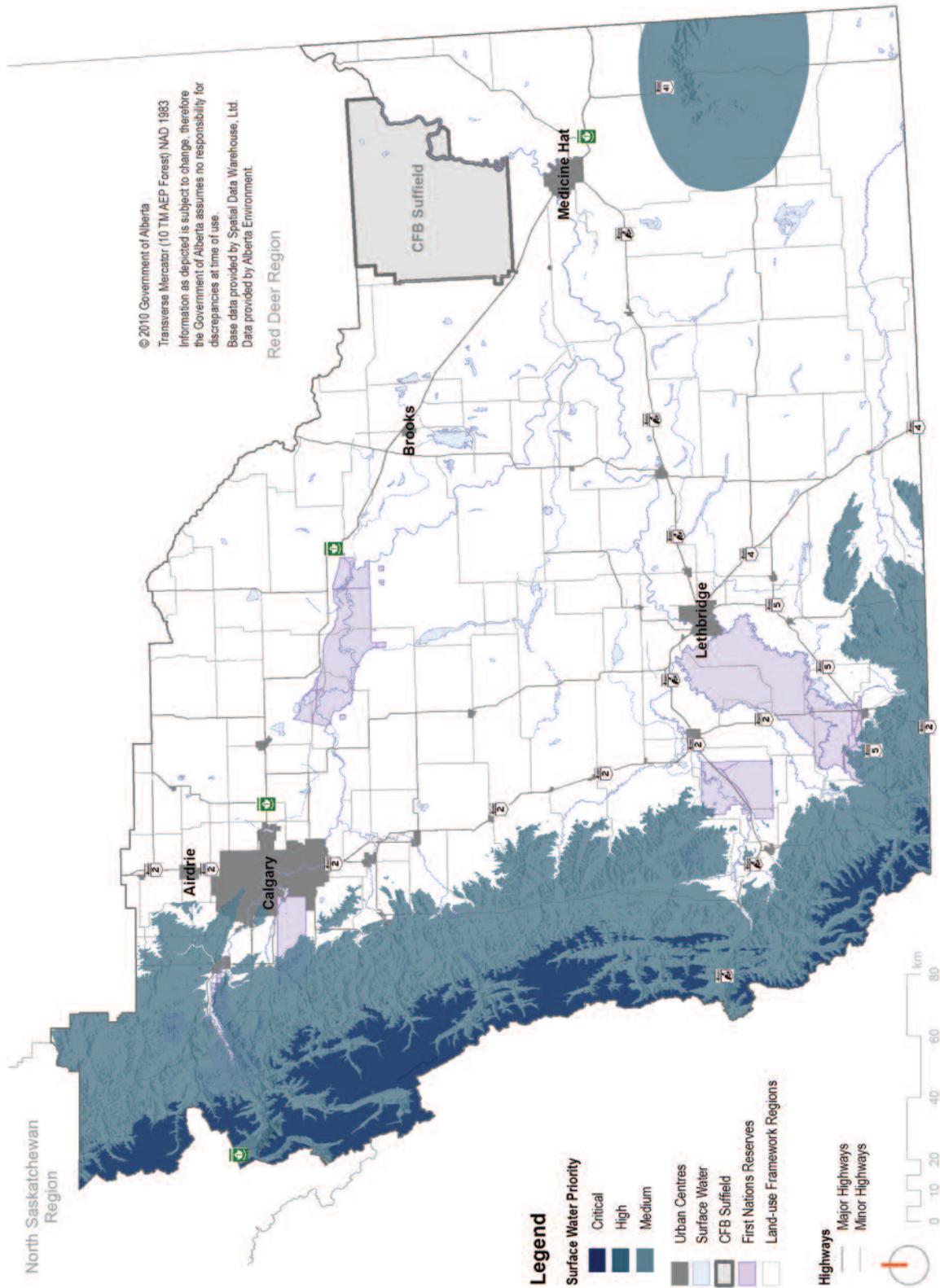
- 5.2.4 To recognize and manage land use for the headwater values where rivers and streams and groundwater originate. Especially in critically sensitive areas.
- 5.2.5 To support watershed integrity by maintaining, developing and, where possible, restoring wetlands and riparian areas in appropriate areas.
- 5.2.6 To maintain, where reasonably possible, the health and function of aquatic ecosystems affected by disturbance, erosion, invasive species and contamination.
- 5.2.7 To maintain and restore, where reasonably possible, riparian areas to support watershed integrity.
- 5.2.8 To maintain the health and function of riparian areas affected by disturbance, erosion, invasive species and contamination.
- 5.2.9 To manage groundwater quality and supply through management frameworks.

Water Recommendations

- 5.2.9.1 Take measures to ensure source water quality and quantity are sustained in co-ordination with measures taken concerning groundwater, riparian areas, wetlands, aquatic biodiversity and headwaters. The priority is to ensure areas that are currently in a desired condition are kept that way.
- 5.2.9.2 Using a risk management approach, identify and facilitate the implementation of practices that reduce point and non-point sources of water pollution.
- 5.2.9.3 Help meet the provincial *Water for Life* target of a minimum of 30 per cent for water conservation, efficiency and productivity by requiring mandatory water-use licensees in the South Saskatchewan Region. Implementation strategies could include universal water measuring, auditing of water users, etc., focusing initially on the seven major water users in the province¹⁶.
- 5.2.9.4 Facilitate the co-operative development of watershed management plans and support their implementation.
- 5.2.9.5 Develop a mechanism for regular monitoring, reporting and public engagement.
- 5.2.9.6 Explore opportunities to develop and apply market mechanisms to support watershed management objectives.
- 5.2.9.7 Enhance the development of water allocation transfer mechanisms to facilitate short- and long-term transfers and assignment of water in water-stressed basins.
- 5.2.9.8 The Government of Alberta meets with First Nations to address water issues.

¹⁶ Seven major water-using sectors – Chemical and petrochemical, forestry, irrigation, mining/oil sands, municipal, oil and gas and power generation.

Priority Surface Water Resource Map



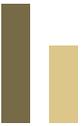


Headwaters:

- 5.2.9.9 Manage land in the headwaters (e.g., Eastern Slopes and Cypress Hills areas) so that maintaining watershed integrity is given highest priority by considering impacts of land disturbance in management decisions.
 - Manage land uses on their compatibility to ensure the maintenance of watershed integrity and function.
- 5.2.9.10 Manage the cumulative effects of activities in headwaters so the volume and timing of water quantity and water quality is maintained or enhanced.
- 5.2.9.11 Require best management practices by land users in headwater areas, and expand ongoing public engagement and education programs.
- 5.2.9.12 Integrate planning for access and resource management in headwater areas with watershed management plans, objectives and values, and ensure effective enforcement. Watershed planning and advisory councils and watershed stewardship groups should be actively involved in developing and implementing watershed plans.

Wetlands:

- 5.2.9.13 The government needs to continue with the development and approval of a new provincial wetlands policy.
- 5.2.9.14 Create strong economic incentives for wetland restoration, maintenance or development as part of a broader program to develop an ecological goods and services revenue stream.
- 5.2.9.15 Develop and encourage practices that restore native plant and animal communities by reducing the occurrence and spread of invasive, non-native species.
- 5.2.9.16 Develop and implement best management practices to ensure that land uses immediately adjacent to wetlands keep wetlands in good health.
- 5.2.9.17 Increase the level of education and outreach, and provide stewardship opportunities to inform stakeholders of the importance of wetlands and best management practices to protect them.
- 5.2.9.18 Improve our mapping and knowledge of wetland areas.
- 5.2.9.19 Simplify the provincial wetland classification system and develop a tool to guide the assessment of wetland value (economic, social and ecological). This tool should consider wetland function as a critical component of value, and should help minimize the loss of higher value wetlands.

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- 5.2.9.20 Identify and adopt regional and subregional targets for wetland conservation and restoration in provincially-approved watershed management plans through consultation with stakeholders.

Riparian Areas:

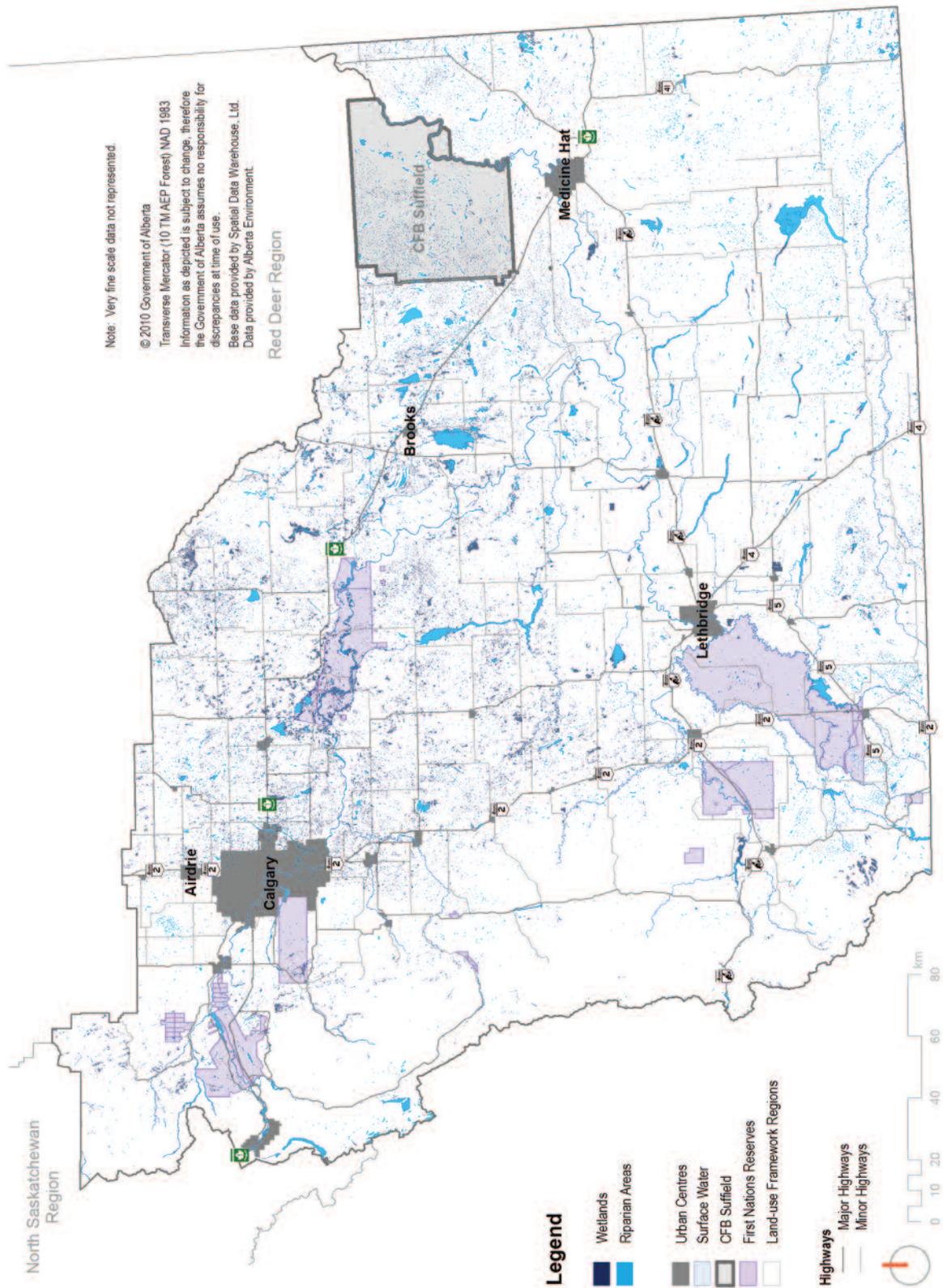
- 5.2.9.21 Develop new regional riparian area management policies and strategies.
- 5.2.9.22 Maintain and, to the greatest degree possible, restore riparian function. Filling in the flood plains is not an acceptable practice.
- 5.2.9.23 Encourage improved stewardship by increasing education and outreach, and providing stewardship opportunities.
- 5.2.9.24 Develop and encourage practices that restore native plant and animal communities by reducing the spread of noxious and restrictive species.
- 5.2.9.25 Evaluate and improve existing regional co-ordination efforts among government, private organizations and individuals for ensuring protection and maintenance of riparian function.
- 5.2.9.26 Improve our mapping and knowledge of riparian areas.
- 5.2.9.27 Include riparian restoration or retention as part of a broader program to develop an ecological goods and services revenue stream.

Groundwater:

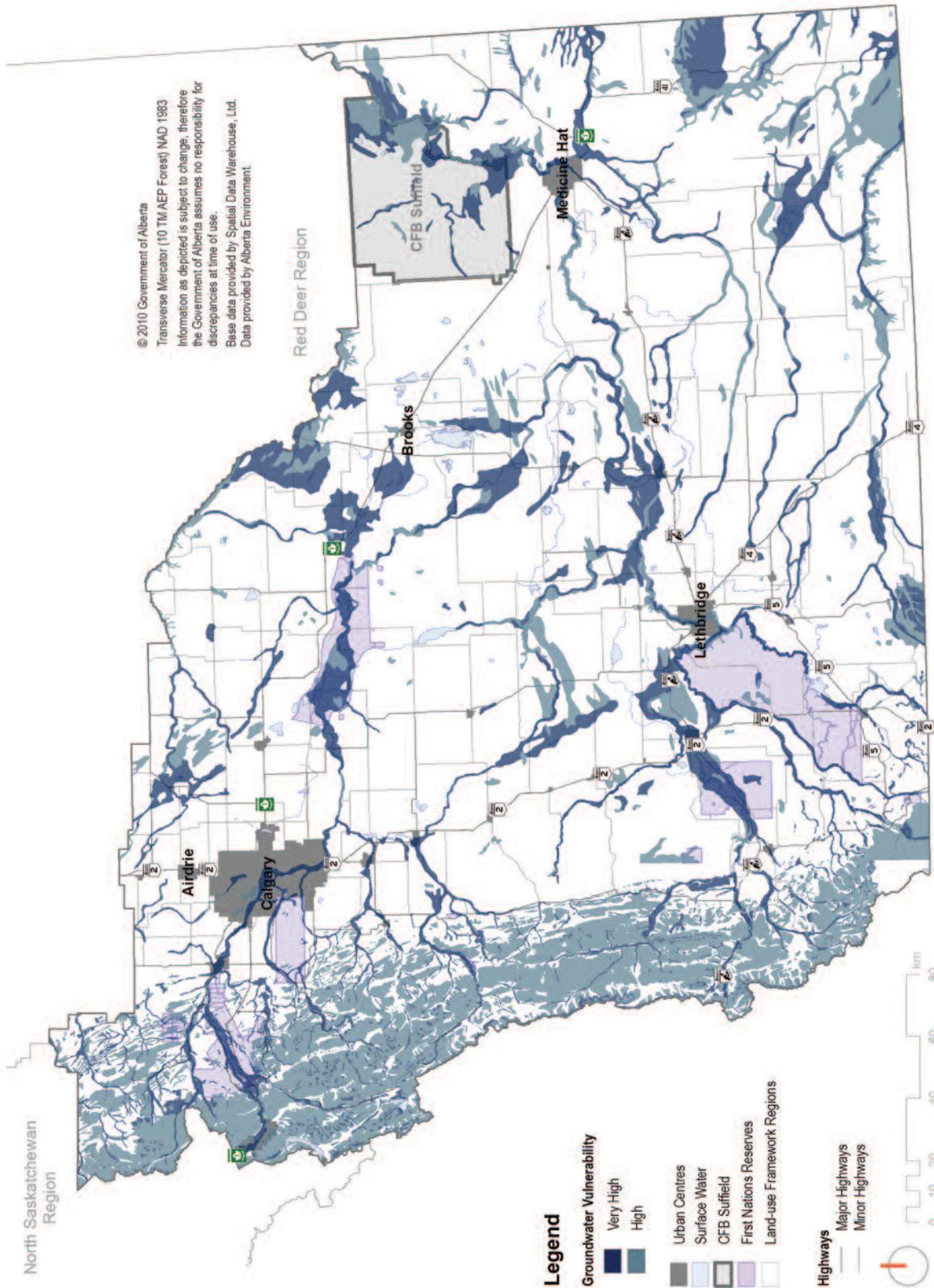
- 5.2.9.28 Vulnerable aquifers¹⁷ should be protected from potential contamination and overuse by requiring development proposals to assess potential impacts and provide management plans to ensure groundwater protection.
- 5.2.9.29 Develop a regional groundwater management framework to ensure aquifers are protected and groundwater/surface water interaction and integrity are sustained across the region.
- 5.2.9.30 Municipalities using groundwater sources should develop wellhead protection area plans in collaboration with stakeholders.

¹⁷ An aggregate vulnerability approach will be used, which is defined as the additional risk to intrinsic aquifer vulnerability, associated with proposed and existing land development.

Wetlands and Riparian Areas Resource Map



Groundwater Resource Map





5.3 Biodiversity

Primary Issues

Biodiversity is vital to healthy ecosystems and the provision of ecological goods and services. Approximately 80 per cent of the species at risk in the province are found in the South Saskatchewan Region. The biodiversity of our wetlands, riparian areas, native¹⁸ grasslands and forests are under pressure from development, other land uses and land conversion. While lands owned by the Government of Alberta contribute greatly to the maintenance of biodiversity, it cannot be conserved without the co-operation of private landowners. Best management practices exist for reducing the impacts of human development on ecosystem health, biodiversity and the quality of lands. By implementing these practices, land fragmentation can be minimized and ecosystem connectivity can be maintained.

Objectives

- 5.3.1 To maintain, where feasible, healthy populations of native organisms and habitats with targets established using an integrated management approach informed by ongoing inventorying and monitoring.
- 5.3.2 To manage specific wildlife populations for non-consumptive enjoyment and a harvestable surplus¹⁹ while recognizing the requirements for First Nations' rights.
- 5.3.3 To assess wildlife population trends, and to recover those species designated as being of special concern, endangered or threatened to a healthier state.
- 5.3.4 To manage or reduce over-abundant or problematic wildlife populations to target levels.
- 5.3.5 To identify and support measures that will proactively help to conserve species and habitats in general, as well as reduce the number of new species that are likely to be designated as species at risk.
- 5.3.6 To reduce the risk to biodiversity, native landscapes²⁰ and wildlife populations, minimize the conversion of native landscapes.

¹⁸ Native - An assemblage of plants in a specific place or region that has adapted to environmental and biological conditions. Native vegetation is typically dominated by native plant species, but may include non-native plants or naturalized plants. Vegetation may be classified by type based on characteristics such as dominant plant communities or dominant plant species. Some native vegetation assemblages, such as annual grassland, may contain significant numbers of introduced plant species that have adapted to local conditions. For the purposes of the SSRP process, "native vegetation" and "natural vegetation" can be used synonymously.

¹⁹ Harvestable surplus - The number of individual animals that can be harvested from a wildlife population without affecting long-term stability or average population size.

²⁰ Native landscape - A landscape that contains an assemblage of plants and plant communities that are indigenous to a particular region.

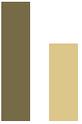
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- 5.3.7 To manage for the natural and sustainable range of variability of age classes, species composition and spatial patterns of priority vegetation communities.
 - 5.3.8 To provide public education on stewardship opportunities and on how to minimize impacts on ecosystems, land, air, water and biodiversity.
 - 5.3.9 To deliver economic benefits and incentives, as well as recognition, to rights owners whose stewardship sustains or restores native ecosystems and particularly, species at risk.
 - 5.3.10 To minimize the loss of health and function of ecosystems from human disturbances, invasive species and contamination.
 - 5.3.11 To encourage the development and use of best management strategies and practices.
 - 5.3.12 To ensure human safety is an essential aspect of wildlife management and that human-wildlife conflicts are reduced.
 - 5.3.13 To minimize the conversion of native landscapes and maintain the natural range of vegetative communities and succession patterns.
 - 5.3.14 To protect historical resources through responsible land-use management.

Recommendations

- 5.3.14.1 The Government of Alberta should complete the development of a regional biodiversity management framework.
- 5.3.14.2 Respect private property rights by developing a suite of conservation and stewardship tools (e.g., economic and market-based incentives, conservation easements, transferable development credits, mitigation banking and paid access for hunting) that can be voluntarily used by landowners and disposition holders to help sustain biodiversity.
- 5.3.14.3 Identify an integrated network of public and private lands that contribute to the conservation of biodiversity (refer to Conservation Concept map). On public lands, establish conservation management areas that represent important natural features, patterns and processes, and habitats.
- 5.3.14.4 Conserve critical habitats for species of concern.
- 5.3.14.5 Develop and promote practices that reduce the spread of invasive non-native species and, where feasible, restore native plant and animal communities.
- 5.3.14.6 The Government of Alberta needs to create a new species target database using an integrated management approach.



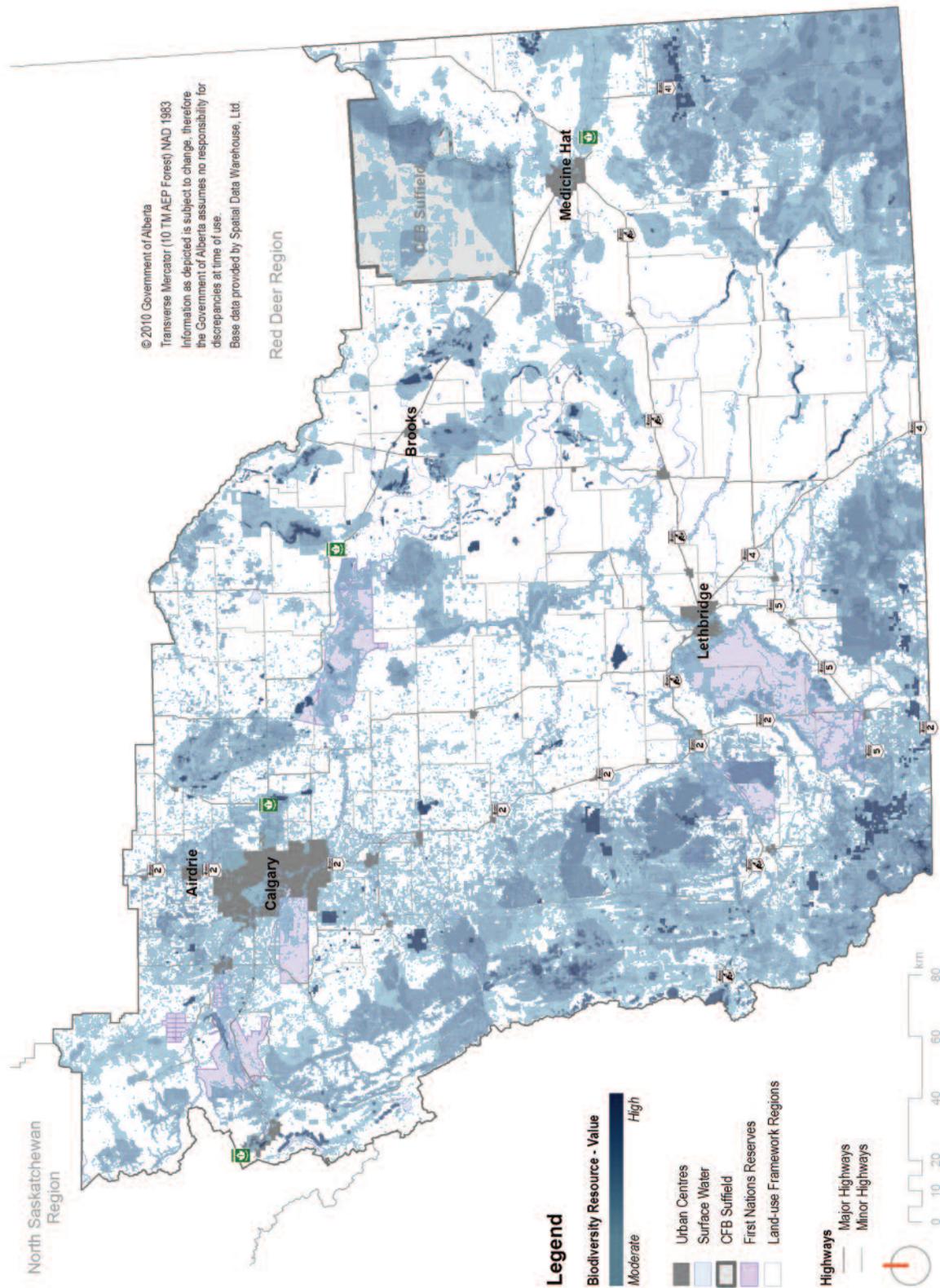
- 5.3.14.7 Conserve important wetland and riparian areas for their biodiversity, water security features and recreation/tourism values.
- 5.3.14.8 Where feasible, and in priority order, avoid, minimize or mitigate the conversion of native grasslands on public lands. Promote their restoration through the use of conservation and stewardship tools, incentives and other stewardship approaches.
- 5.3.14.9 Establish a network of conservation management areas on public land that represent all the natural features, patterns and processes of each natural region and capture important natural features and habitats. Refer to Candidate Conservation Management Areas map.
- 5.3.14.10 Manage for the natural variability of age classes, species composition and spatial patterns of vegetation communities.
- 5.3.14.11 Natural and managed disturbances (e.g., wildfire, prescribed burns, timber harvesting and grazing) are used to help manage vegetation, sustain biodiversity, manage risk from uncontrolled wildfire and disease, and to enhance the provision of ecological goods and services.
- 5.3.14.12 Native grasslands are conserved by controlling tree and shrub encroachment and surface disturbance.
- 5.3.14.13 The loss of ecosystem health and function from human disturbance, invasive species and contamination is minimized.
- 5.3.14.14 Science-based targets are established for the retention of native land by landscape type and thresholds for the disturbance/fragmentation of native landscapes.
- 5.3.14.15 Landscapes where function, patch size and connectivity have been significantly diminished, and where fragmentation exceeds thresholds under the regional biodiversity framework, are reclaimed and restored where practical.
- 5.3.14.16 Apply an integrated land management approach when planning recreation, tourism, access, forestry, grazing, watershed, etc. to minimize losses of native vegetation.
- 5.3.14.17 Local governments, First Nations, industry, non-government organizations and the public work together to co-ordinate activities and reduce fragmentation caused by roads, access and facilities.



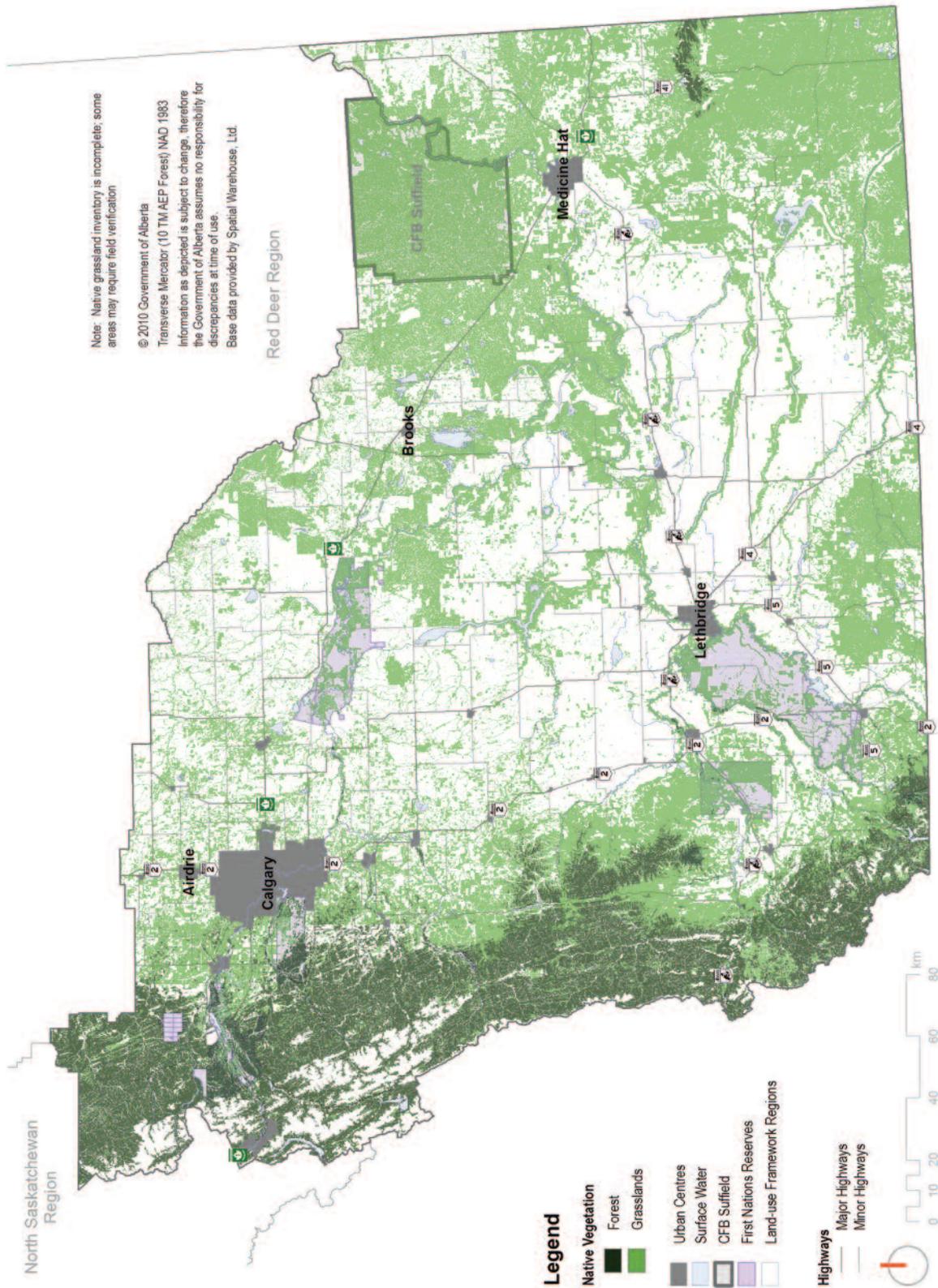
Best Management Practices for Reducing Human Footprint

- 5.3.14.18 Expand stakeholder engagement across all sectors regarding the effectiveness of current land-use practices and the development of new best management practices.
- 5.3.14.19 Gather information on best management practices and, where gaps in knowledge exist, promote the development of leading-edge best management practices.
- 5.3.14.20 Inform users about existing and emerging best management practices.
- 5.3.14.21 Require co-operative integrated land management planning and practices.
- 5.3.14.22 Actively manage existing and future human disturbances. Work with local governments, First Nations, industry and other stakeholders to:
 - Co-ordinate activities and reduce fragmentation caused by roads and other linear disturbances; and
 - Aggregate land uses where feasible.
- 5.3.14.23 Apply rigorous inventorying, monitoring and assessments to gauge progress with the direction provided in the SSRP.
- 5.3.14.24 Minimize impacts to lands in specified localities surrounding designated/candidate historical sites to protect associated cultural features that contribute to the heritage value of those sites, including their viewsheds, through best management practices.

Biodiversity Resource Map



Native Vegetation Resource Map

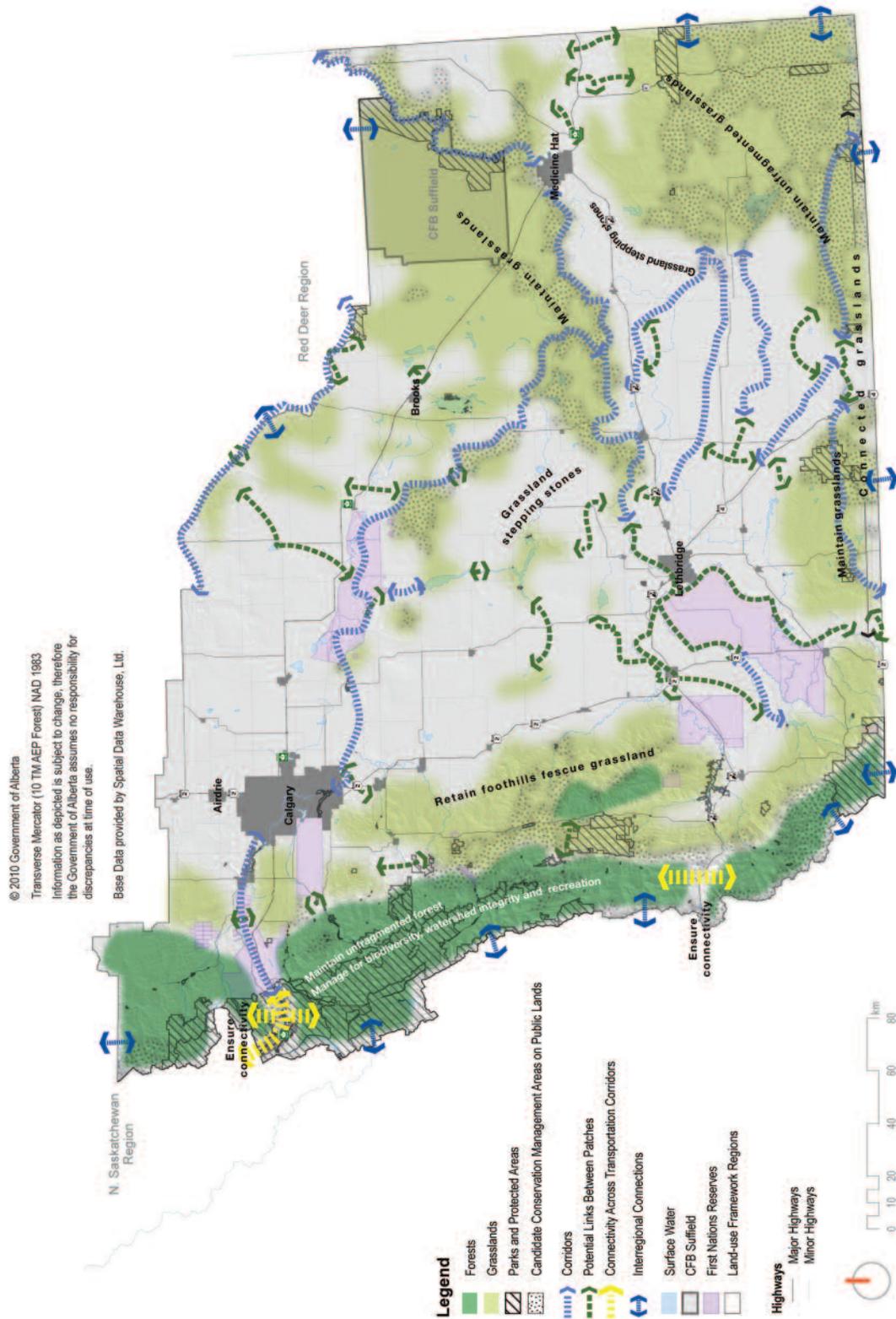




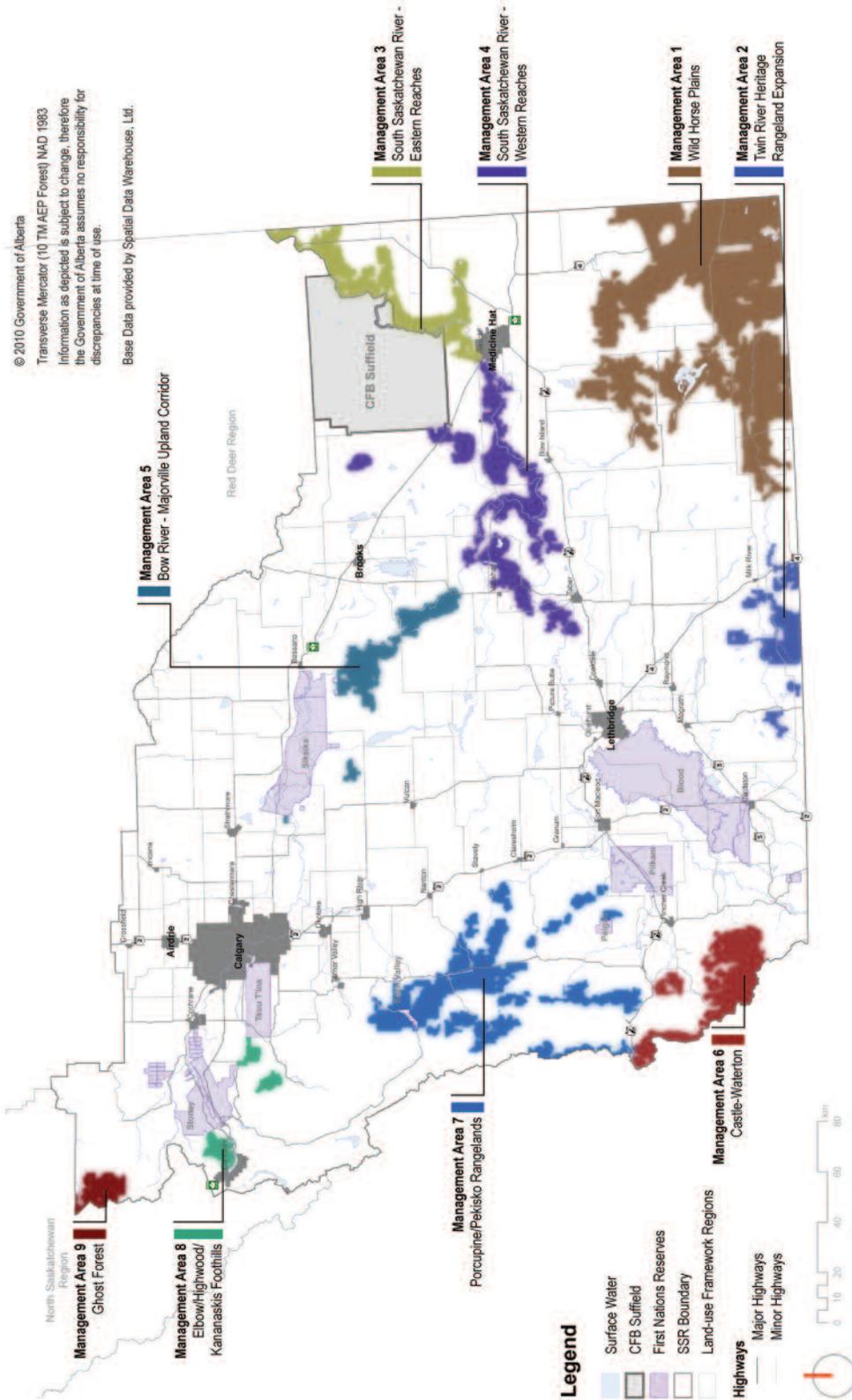
Conservation Network Concept Map

Over the long-term, balancing development and population growth with the conservation of valued landscapes will be a challenge. The following conceptual map shows the RAC's long-term strategy for the conservation of ecological values across the region on both private and public lands.

Conservation Network Concept Map



Candidate Conservation Management Areas on Public Lands Map





5.4 Air Quality

Objective

5.4.1 To manage the integrity of air quality to enhance and maintain ecological integrity and human health.

Recommendations

- 5.4.1.1 Develop an air quality framework for airshed zones in the region.
- 5.4.1.2 Monitor air quality.
- 5.4.1.3 Where monitoring shows it is necessary, establish air management plans.



6.0 Healthy Communities

6.1 Healthy Communities with Ample Recreation Opportunities Outcomes

Regional healthy communities' outcome statements for the South Saskatchewan Region are as follows:

- The region is home to healthy people and healthy communities.
- Citizens in the region enjoy a high quality of life in communities that embrace active living and recreation.
- Community development needs are anticipated and accommodated.
- Land-use decisions consider cultural heritage and historical resources.
- The recreational preferences of the region's residents and visitors are met with a diversity of recreation opportunities.
- Aboriginal perspectives and aboriginal traditional land uses are respected.
- Recreational and tourism use of public land respect disposition, tenure and rights holders.

6.2 Healthy Communities

Primary Issues

Currently there is a lack of sufficient local knowledge and/or resources available to consistently apply land-use planning tools, concepts and best practices in the region. Additionally, meeting societal needs for community services, recreation facilities, schools, etc., is too often reactionary, incremental and piecemeal. Finally, the manner in which we design and plan our communities can enhance or hinder an active lifestyle, resulting in growing health issues and decreased quality of life for residents.

Objectives

- 6.2.1 To promote complete and connected communities that integrate work, education, housing, roads, transit, culture, nature, recreation and health services.
- 6.2.2 To foster a built environment and community design that supports active living so all residents can enjoy healthy living and a high quality of life.
- 6.2.3 To promote the sustainability of communities.
- 6.2.4 To support the timely planning and provision of social infrastructure.
- 6.2.5 To ensure planning addresses the housing supply needed to accommodate the region's future population.
- 6.2.6 To promote collaboration and co-operation among municipalities to accommodate future populations.

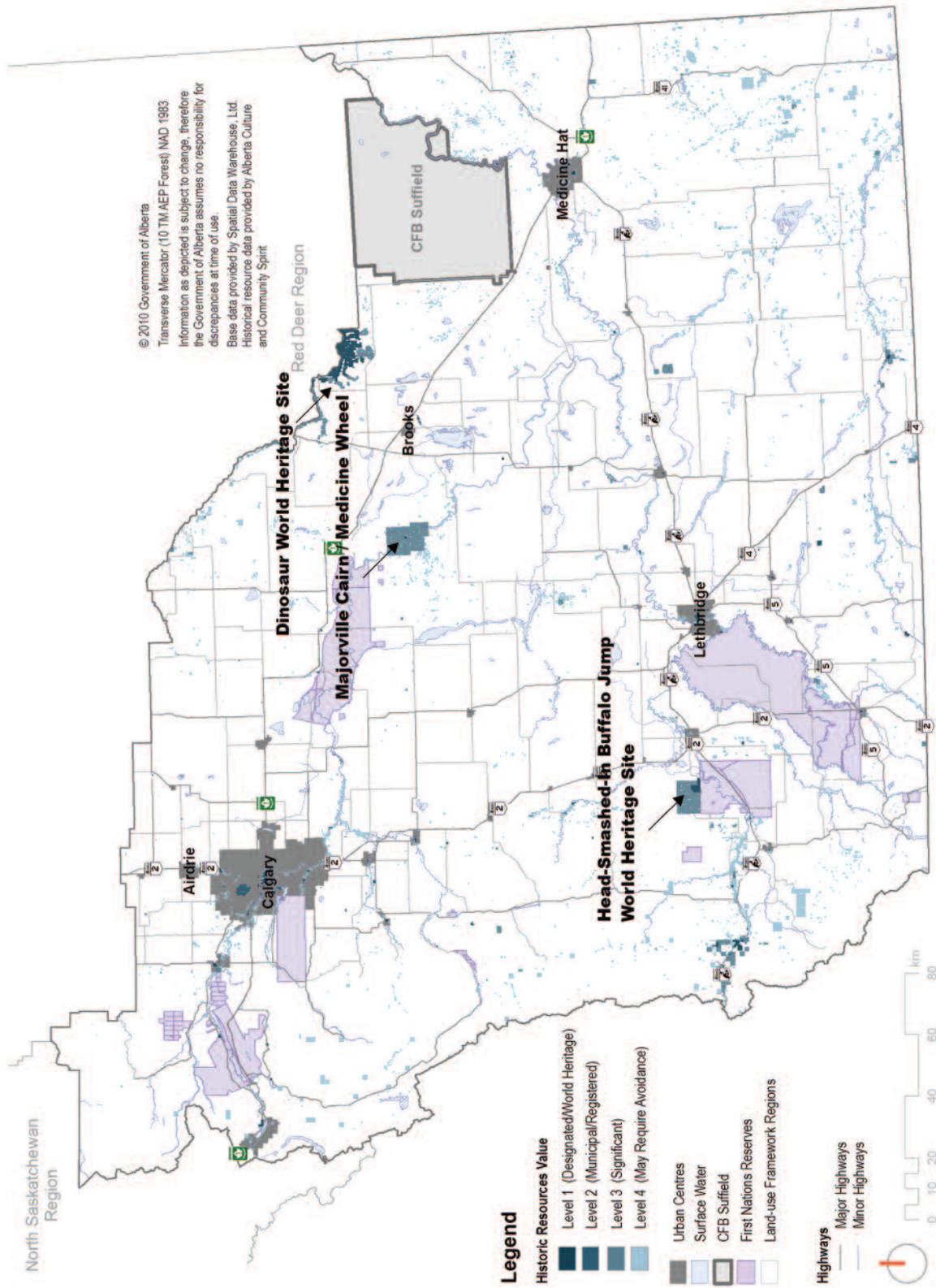


- 6.2.7 To consider cultural diversity in land-use management decisions.
- 6.2.8 To protect historical resources through responsible land-use management.
- 6.2.9 To promote the protection of cultural resources through responsible land-use management.

Recommendations

- 6.2.9.1 Raise awareness of the best practices, concepts and tools available for land-use planning and assist communities to apply them.
- 6.2.9.2 Develop a more collaborative mechanism for communities to partner with the public and private sectors to meet social needs.
- 6.2.9.3 Promote collaboration and co-operation among municipalities to accommodate future populations.
- 6.2.9.4 Forecast and plan for the development needs and implement programs and services that meet these needs.
- 6.2.9.5 Provide accessible and affordable recreation facilities, parks and open space.
- 6.2.9.6 Local government and land managers explore partnership opportunities to revitalize, develop and enhance parks, open space and recreation within and in close proximity to municipalities.

Historical Resource Map





6.3 Aboriginal Peoples and First Nations Communities

Primary Issues

There are a number of issues specific to aboriginal peoples and First Nations communities. Planning processes should consider implications on aboriginal peoples and strive to ensure treaty rights are respected. Planning should also consider opportunities for increased aboriginal participation in the regional economy. Finally, the management of wildlife and natural resources should consider aboriginal traditional land use and value aboriginal traditional knowledge.

Objectives

- 6.3.1 To continue to encourage aboriginal participation in the regional economy.
- 6.3.2 To maintain opportunities for aboriginal traditional land uses within the region.

Recommendations

- 6.3.2.1 Identify barriers to aboriginal peoples' inclusion into the economy and work with aboriginal peoples and organizations to develop strategies to ensure greater inclusion into the provincial economy.
- 6.3.2.2 Work with aboriginal peoples and governments to develop formal roles and responsibilities for aboriginal peoples in land-use planning and environmental assessment and monitoring.
- 6.3.2.3 Work with aboriginal peoples and governments to co-ordinate planning processes and to improve the quality of information used to make planning decisions.
- 6.3.2.4 Consider the special/unique circumstances of aboriginal peoples and governments in planning and funding allocations for physical and social infrastructure.
- 6.3.2.5 Assess the state of knowledge of fish and wildlife resources and effectively manage allocations that affect aboriginal peoples' rights and interests.
- 6.3.2.6 Encourage aboriginal peoples to share traditional land-use knowledge for the purposes of land management and planning.
- 6.3.2.7 Use aboriginal traditional knowledge to enhance the understanding of cumulative effects and develop appropriate mitigation/minimization strategies.



6.4 Recreation and Tourism

Primary Issues

Currently the planning, supply and management of recreation opportunities do not meet existing or projected demand, especially when considering expected population growth in the Calgary area. The challenge is maintaining the integrity of the region's most important recreation resources, degradation of regionally significant scenic areas and maintaining a supply of parks, open spaces and recreation infrastructure to meet current and projected demands. Further to that, providing appropriate and adequate recreation opportunities that satisfy the region's residents and visitors on limited public land and within close proximity to growing populations. The region also has a large amount of aging and outdated recreation and tourism infrastructure, as well as infrastructure that is inaccessible to some users.

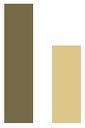
Objectives

- 6.4.1 To understand the recreation preferences of residents and the supply of recreation opportunities to meet those preferences.
- 6.4.2 To ensure the broadest range of recreation opportunities is available in the region (refer to the Recreation Concept map).
- 6.4.3 To sustain regionally and locally significant priority scenic areas and corridors.
- 6.4.4 To manage recreation in the region to reduce, minimize and mitigate, where feasible, negative impacts on land, water and biodiversity while maintaining safe, respectful and enjoyable opportunities.

Recommendations

High value recreation and tourism areas and managing recreation on public lands.

- 6.4.4.1 Develop a better understanding of recreation and tourism preferences and the region's supply of recreation and tourism features and opportunities.
- 6.4.4.2 Identify and maintain suitable lands for recreation and tourism. Establish policies (management intents) for these areas which identify appropriate recreation and tourism activities and facilities, as well as the requirements for mitigating or eliminating conflicts associated with other land-use activities.
- 6.4.4.3 Where appropriate, recreation and tourism opportunities should be retained in areas outside of lands designated for recreation and tourism.
 - Develop an integrated access management plan for the entire Eastern Slopes.



- 6.4.4.4 Enhance education and outreach programs and information about the region's recreation opportunities.
- 6.4.4.5 Develop an all-season land- and water-based regional trail system that links communities, neighbourhoods and destinations with the region's parks and other recreation and tourism areas.
- 6.4.4.6 Develop and deliver recreation opportunities through public, private and recreational community partnerships.
- 6.4.4.7 Create a supportive and enabling policy environment that encourages the recreation community and private sectors to develop and deliver recreation opportunities on public and private lands.
- 6.4.4.8 Develop and implement a user-pay system(s) to assist with funding the development and management of necessary recreation planning, management and infrastructure. Explore market mechanisms and ecological goods and services with users and benefiting user groups.
- 6.4.4.9 Enhance and ensure timely, fair and firm enforcement of rules and regulations for recreating on public lands.
- 6.4.4.10 Unmanaged recreation activities that do not demonstrate stewardship and respect for the natural environment, other values and land uses should not be permitted on public lands.
 - Motorized recreation, including rallies and races, should not be permitted on public lands unless authorized on designated trails, routes or areas;
 - Motorized activities should not be permitted in riparian areas or wetlands, and mud bogging should be prohibited on public lands; and
 - Unmanaged camping should not be permitted on public lands unless authorized in designated areas.

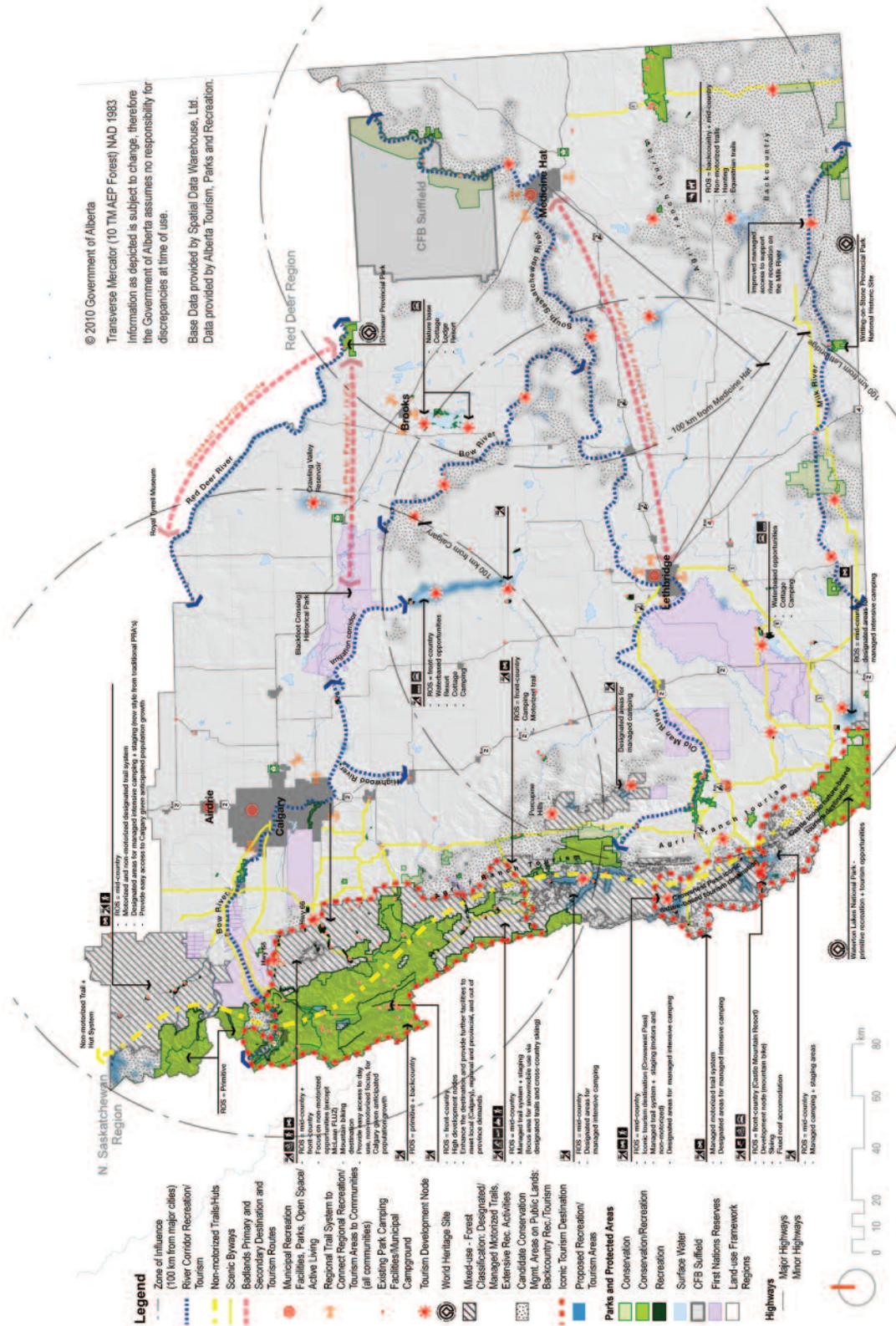
Maintaining the integrity of high value recreation and tourism areas and infrastructure enhancements.

- 6.4.4.11 Enhance the regional network of provincial and municipal parks and open spaces.
- 6.4.4.12 Maintain and enhance public access to recreational water bodies.
- 6.4.4.13 Encourage and enhance appropriate public access to scenic areas, corridors, viewpoints and attractive landscapes while minimizing and mitigating, where possible, the impacts on wildlife habitat and migration routes.



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- 6.4.4.14 Enhance recreation and tourism infrastructure to meet growing and changing demands.
 - 6.4.4.15 Expand the capacity and services at existing recreation and tourism destinations.
 - 6.4.4.16 Seek opportunities through partnerships to enhance existing infrastructure (e.g., roads, sewer, water) in current parks and recreation attractions.
 - 6.4.4.17 Implement strategies to promote visitation to under-utilized recreation and tourism infrastructure.
 - 6.4.4.18 Promote and encourage the provision of accessible and inclusive recreation infrastructure opportunities.
 - 6.4.4.19 Work with the private, not for profit and public sectors to expand the supply and diversity of the recreation opportunities and tourism products where they are currently lacking.
 - 6.4.4.20 Develop new serviced and un-serviced designated camping opportunities in the Eastern Slopes and eastern areas of the region.

Tourism and Recreation Concept Map





7.0 Land-use Direction and Management Intent

Alberta's existing Green and White Area land-use designations were created in 1948 and no longer meet the needs of the province. More detailed land classifications are needed that are better suited to the rich mix of land uses and economic activities in the South Saskatchewan Region. Clearly stated management intents for these classifications are also needed to give policy guidance to local and provincial governments.

Introduction

The South Saskatchewan Regional Plan (SSRP) must provide direction to plans prepared at finer scales including, among others, municipal development plans, range plans, watershed plans and forest management plans. Competition between different land uses can result in conflicts and inefficient outcomes, especially if land uses are incompatible with one another. In addition, some of the policy direction provided in the SSRP will not apply to all areas in the region equally. Therefore, a land-use map is necessary to show land managers, municipalities and others where the different management intents apply.

The following land-use classes and associated management intents provide direction for both public and private land. However, the SSRP must respect property rights and interests and provide direction to sustain and enhance land uses in the region. Land stewardship will be encouraged through the targeted use of conservation tools (e.g., market-based incentives) and programs. The focus of these programs will be on voluntary programs on privately-held lands, but may also be applied to help in the management of public lands under lease.

Land-use Classification

The South Saskatchewan Region has a rich mix of land uses and economic activities. Almost all areas in the region have more than one land use. The following is the land-use classification scheme followed by more detailed descriptions and management intent for each class:

- A. Agriculture
 - A1. Cultivated lands
 - A2. Native rangeland
- B. Conservation
- C. Mixed-use - forest
- D. Population centres
- E. Recreation/tourism



A. Agriculture

Land use in the South Saskatchewan is dominated by agriculture for both crop production and livestock grazing. Extensive arable lands have been cultivated and the region contains the majority of irrigated land in the country. Productivity is among the highest in western Canada. Grazing on native rangeland²¹ and tame pasture is a major economic land use in the region. The stewardship of native rangelands also provides many ecological goods and services. Agricultural lands provide substantial economic, environmental and social benefits not only to rural communities but also to the region and the entire province.

Other important land uses occur on both private and public agricultural lands. These include the extraction of significant energy reserves, industrial development and recreational activities such as hunting (subject to regulations, approvals and owner permission where appropriate). Urban and country residential development is also occurring on private agricultural lands adjacent to and near major urban centres.

Land-use issues for cultivated areas differ from those of rangelands, resulting in different management intents. For this reason, two sub-classes are provided:

A1. Cultivated agriculture

These arable, non-native lands are important for the cultivation of crops and tame pasture. Predominantly privately owned, they include some of the most productive agricultural soils in the province, as well as areas with extensive irrigation infrastructure. They are recognized as key to the success of the agricultural sector in the region. The areas often contain remnant patches of native landscapes as well as other ecologically important areas such as wetlands and riparian areas.

Management intent: The overriding intent for these areas is supporting the long-term productive use of the land through maintenance of soil productivity, improved agricultural infrastructure and the mitigation of agricultural land fragmentation and loss resulting from development activities. Energy resources are often present and may be developed in locations where conflicts with other uses can be avoided or mitigated. As these are largely private lands, owners will be encouraged to maintain important ecological resources such as wetlands and riparian areas through stewardship practices, conservation tools and other voluntary programs. Best management practices for development will be promoted to minimize farmland conversion and fragmentation.

²¹ Native rangeland - For the purposes of the SSRP process, refers to grasslands or plants in a specific place or region that has adapted to environmental and biological conditions. Native vegetation is typically dominated by native plant species, but may include non-native plants or naturalized plants. Vegetation may be classified by type based on characteristics such as dominant plant communities or dominant plant species. Some native vegetation, such as annual grassland, may contain significant numbers of introduced plant species that have adapted to local conditions. Note "native vegetation" and "natural vegetation" can be used synonymously.



A2. Native rangeland

This class contains vegetation resources that are critically important to the region's ranching industry. These grasslands have ecological value and are vital to sustaining grassland biodiversity, including many species at risk. They also play an important role in connecting core wildlife habitat areas. These areas contain important water security and other conservation features that provide ecological goods and services. They frequently have high scenic and other recreation/tourism values. While most of the region has been adequately inventoried and mapped, some locations require further investigation to delineate areas of native rangeland from tame, seeded pastures.

Management intent: The intent is to retain these native rangelands for their importance to livestock grazing and for other significant benefits including water security and biodiversity. They should be managed to sustain the multiple ecological goods and services they provide. Recreation and tourism opportunities are also present and should be supported in select locations. Energy resources may be present on these lands, and may be developed where conflicts with other uses can be avoided or mitigated. Best management practices (including access management and footprint thresholds on public lands) will be used to avoid, minimize or mitigate associated development impacts.

For private native rangelands, voluntary stewardship will be encouraged through the targeted use of conservation tools (e.g., market-based incentives) and programs. Where development does occur, best management practices will be promoted to minimize native rangeland loss and fragmentation.

On public native rangelands, the conversion to arable agriculture or other permanent uses will not be considered. Managed livestock grazing will be the primary approach to emulate natural disturbance. Other management tools such as prescribed burns could also be used to support environmental and economic objectives. Integrated land management will be mandatory to reduce linear disturbance and development footprint. Natural resource extraction will be co-ordinated to reduce conflicts with other uses, including recreation and tourism features and settings. Prompt reclamation of disturbance from resource extraction will occur. Development in areas of high scenic value will be designed in a manner that maintains scenic values. Public motorized access and other intensive recreation activities are to be actively managed on designated roads, routes, trails and areas. Integrated management plans that consider all permitted uses will be prepared for major rangelands. Management of these lands should also consider expected revisions to the *Public Lands Act*.

B. Conservation

Lands with high conservation value contain regionally and provincially important ecological and historical features and should be managed to ensure the unimpaired maintenance of water security and ecological outcomes (features, processes and biodiversity). These lands may serve as benchmark reference areas for assessing the ecological performance of more developed areas. Natural disturbance or emulation of natural disturbance is essential to maintaining more natural vegetation states for the provision of biodiversity and ecological



goods and services. Grazing will continue in these areas as it is an important management tool supporting the attainment of the ecological outcomes. However, grazing should only be permitted with a current range management plan²² that outlines how conservation objectives will be met.

Valued natural and historical resources for conservation may be found on both public and private lands. In cases where small and dispersed parcels of public lands are present in largely privately-held areas, activities on these public lands will be co-ordinated with the owners of adjacent land to support the conservation value of these sites where possible.

Identification of conservation management areas is a complex process and requires extensive scientific analysis, expert input and consultation with First Nations and other stakeholders who would be directly affected by designating an area. The RAC has initiated the process by identifying areas based on the information and knowledge available during its deliberations, and expects further refinement of the areas will be required through the regional plan development and site specific planning.

Management of conservation areas is vital in ensuring water security and ecological outcomes. Inherent in this management is the concept not of “if” or “who” has access and activity rights in these areas, but “how” access and activities can occur - while ensuring the specified water security and ecological outcomes - thus supporting the social and economic attributes of the areas.

Potential areas of high conservation values will be selected and managed to ensure water security and specified ecological outcomes. These areas will be established as to boundaries and finalized once further evaluation occurs to confirm their selection. For each of these, mandatory integrated conservation management plans (ICMPs) must be developed within three years. Those ICMPs would be developed in co-operation with stakeholders affected by the plan and in consultation with First Nations, other stakeholders, local constituents and interested members of the public. The ICMPs would recognize and integrate any existing plans such as watershed management plans, resource management plans, access management plans and regional frameworks. Once area boundaries are finalized and the ICMPs are in place, the areas could be officially declared and the plans made operational.

The integrated conservation management plan needs to include a detailed critical analysis of what the area would be like without a change in existing management practices.

The RAC advises that this conservation management approach and each candidate area be considered as one package. If the integrated conservation management plan concept is not accepted by the government, these selected areas are not endorsed by the committee.

²² Range management plan - An operational manual or management guide for a specific area of rangeland. Plans direct livestock grazing management to maintain or enhance rangeland health and other ecosystem functions and values.



For conservation values on private lands, private landowners with lands identified as having high conservation values would be encouraged to use voluntary stewardship programs and other initiatives to help attain regional biodiversity outcomes.

Management intent: The specific programs used under the regional plan to manage private lands for conservation will be dependent on the conservation tools developed under the *Alberta Land Stewardship Act*. These tools are still under development.

For conservation on public lands, lands administered by the government would be designated as conservation management areas, which provide a network of lands that achieve water security; provide unimpaired ecological features, systems and biodiversity; and represent the region's natural diversity.

Management intent: Conservation management areas designated on public lands may use a variety of options to differentiate and protect these lands, including special management areas and other designations.

No permanent industrial, residential, commercial or intensive recreation/tourism surface development will be permitted, unless the activity will not significantly impact water security and ecological outcomes detailed for the specific conservation management area. Similarly, existing tenures and freehold rights will be managed. Approvals for surface access for energy or mineral development (e.g., seismic programs or well sites) in conservation management areas will be issued to enable the development of Crown mineral tenures that existed before a conservation management area was established. They will also be issued to develop new Crown mineral tenures which can be accessed and developed while maintaining the water security and desired ecological outcomes. Surface access to these resources will be held to a standard higher than for access to other zones (e.g., best management practices). Expired subsurface tenure will return to the Crown. Forest harvesting practices will be modified and adapted to achieve desired environmental outcomes. Where certain natural disturbance processes, such as fire, present significant risk to social assets and public safety, management tools that emulate these disturbances, such as timber harvesting, prescribed burning and grazing, will be used to ensure ecosystem function, processes and ecological outcomes will be sustained. FireSmart strategies will be used to reduce the impacts of unplanned wildfire.

Primitive and backcountry recreation and tourism activities, such as wilderness hiking, hunting, fishing and low-impact camping, are generally compatible and will be actively managed in conservation management areas. These areas will also support aboriginal traditional land uses including subsistence gathering, hunting and fishing.

ICMPs outlining how activities would occur would be developed for each conservation management area, with all users, within three years of designating the area. These plans will also address access management strategies. Generally, public motorized access into conservation management areas will be discouraged and, where permitted, will be limited to designated trails, routes, roads and staging areas.



The location of multi-use corridors will first seek opportunities to avoid conservation management areas. Where an alternative option does not exist, they may be sited in conservation management areas and mitigation efforts will work to reduce the impact of the corridors on natural systems and processes.

In all cases, land-use decisions must meet water security objectives.

Candidate Conservation Management Areas on Public Lands

The following nine candidate conservation management areas have been preliminarily identified on public lands.

1. Wild Horse Plains

The Wild Horse Plains Candidate Conservation Area extends across the dry mixedgrass prairie found on provincial public lands in the southeastern corner of the province. This area provides important connections for wildlife movement between Alberta, Montana and Saskatchewan. It extends and bolsters smaller existing protected areas, including the Pakowki Lake Provincial Bird Sanctuary, the OneFour Heritage Rangeland, Kennedy Coulee and Writing-On-Stone Provincial Park; and to the south of Cypress Hills Provincial Park. Species at risk²³ found within this candidate area include:

Endangered:

Burrowing Owl, Ferruginous Hawk, Greater Sage-grouse, Mountain Plover, Mountain Short-horned Lizard, Soapweed, Swift Fox and Western Spiderwort.

Threatened:

Northern Leopard Frog, Small-flowered Sand-verbena, Stonecat and Western Silvery Minnow.

Species of concern:

Loggerhead Shrike, Long-billed Curlew, Prairie Falcon, Sprague's Pipit and Weidemeyer's Admiral.

²³ Species at risk include those plants and animals listed on the Alberta Conservation Information Management System (ACIMS) and the Alberta Fisheries and Wildlife Management Information System (FWMIS).



2. Twin River Heritage Rangeland Extension

The Twin River Heritage Rangeland Extension Area is located southeast of Lethbridge, primarily along the western reaches of the Milk River. This area provides an important stepping stone between the native prairie to the east and the Rocky Mountains to the west, and provides protection for reaches of the Milk River. The extensive private lands, such as the McGregor Ranch, surrounding this site make it an essential component of the conservation network to ensure connectivity. This area is important for the movement of antelope, deer and game birds. The Twin River Heritage Rangeland and Ross Lake Natural Area would be expanded by this designation. Species at risk found within this candidate area include:

Endangered:

Burrowing Owl, Ferruginous Hawk and Swift Fox.

Threatened:

Northern Leopard Frog, Peregrine Falcon, Stonecat and Western Silvery Minnow.

Species of Concern:

Prairie Falcon.

3. South Saskatchewan River Corridor - Eastern Reaches

The South Saskatchewan River Corridor - Eastern Reaches Area extends along the southeastern bank of the South Saskatchewan River, north of Highway 1 and Medicine Hat. This also includes patches to the east of Medicine Hat along Highway 1. This would complement existing protected areas, as the conservation area borders the Prairie Coulees Natural Area and the National Wildlife Area on Canadian Forces Base (CFB) Suffield, and provides additional connections and stepping stones along the South Saskatchewan River toward Many Island Lake in Saskatchewan. Species at risk found within this candidate area include:

Endangered:

Burrowing Owl, Ferruginous Hawk, Mountain Short-horned Lizard, Ord's Kangaroo Rat, Piping Plover and Tiny Cryptanthe.

Threatened:

Lake Sturgeon, Northern Leopard Frog and Small-flowered Sand-verbena.

Species of Concern:

Loggerhead Shrike, Long-billed Curlew, Prairie Falcon and Western Small-footed Bat.

Data Deficient:

Slender Mouse-ear-cress.



4. South Saskatchewan River Corridor - Western Reaches

The South Saskatchewan River Corridor - Western Reaches Area includes public lands along the reach of the South Saskatchewan River between Lethbridge and Medicine Hat, and the southernmost reaches of the Bow River. This important corridor of dry mixedgrass prairie links the Oldman and Bow river corridors to the eastern prairie grasslands, including patches west of CFB Suffield which serve as stepping stones to the north. Species at risk found within this candidate area include:

Endangered:

Burrowing Owl, Ferruginous Hawk, Mountain Short-horned Lizard, Swift Fox and Tiny Cryptanthus.

Threatened:

Lake Sturgeon, Northern Leopard Frog and Small-flowered Sand-verbena.

Species of Concern:

Long-billed Curlew and Prairie Falcon.

5. Bow River-Majorville Upland Corridor

The Bow River-Majorville Upland Corridor Area includes locations along the western bank of the Bow River between Highway 36 and the Siksika Native Reserve, providing linkages to the Little Bow, Tillebrook, Kinbrook Island and Dinosaur provincial parks, which are important for wildlife connectivity between these areas. This block of prairie is the only large piece of mixedgrass prairie remaining on public land in the region. Species at risk found within this candidate area include:

Endangered:

Burrowing Owl and Ferruginous Hawk.

Threatened:

Lake Sturgeon, Northern Leopard Frog and Peregrine Falcon.

Species of Concern:

Prairie Falcon.



6. Castle-Waterton

The Castle-Waterton Area is composed of lands in the Eastern Slopes of the Rocky Mountains, south of the Crowsnest Pass, and the foothills to the east. The majority of the lands within this area are contained in the Castle Special Management Area Forest Land Use Zone (FLUZ). This area secures an important connection between the Alberta provincial parks system to the north, the British Columbia provincial parks system to the west and Waterton-Glacier International Park to the south. Species at risk found within this candidate area include:

Endangered:

Limber Pine and Whitebark Pine.

Threatened:

Grizzly Bear.

Species of Concern:

Bull Trout, Harlequin Duck and Long-toed Salamander.

7. Porcupine/Pekisko Rangelands

The Porcupine/Pekisko Rangelands Area extends north of Crowsnest Pass to the southern boundary of the Elbow-Sheep Wildland Provincial Park, and provides a connection between the Porcupine Hills to the Rocky Mountains. These lands border the Don Getty and Bob Creek wildlands, the Chain Lakes and Willow Creek provincial parks, the OH Ranch and Black Creek heritage rangelands and Plateau Mountain. Species at risk found within this candidate area include:

Endangered:

Limber Pine and Whitebark Pine.

Threatened:

Northern Leopard Frog and Grizzly Bear.

Species of Concern:

Bull Trout, Harlequin Duck and Long-toed Salamander.

8. Elbow/Highwood/Kananaskis Foothills

The Foothills Area is composed of a number of small areas within the Eastern Slopes to the west of Calgary, intended to fill gaps between existing protected areas of the Bow Valley Provincial Park and Don Getty Wildlands. This area provides essential connectivity to maintain wildlife movement from the rangelands to the Rockies. Species at risk found within this candidate area include:

Threatened:

Peregrine Falcon and Grizzly Bear.

Species of Concern:

Bull Trout, Harlequin Duck and Long-toed Salamander.



9. Ghost Forest

The Ghost Forest Area covers areas in the northern section of the Eastern Slopes in the region, to the west and north of the Bow River and the Stoney Native Reserve. These lands connect Banff National Park to the west with the Don Getty Wildland to the south. Species at risk found within this candidate area include:

Threatened:

Grizzly Bear.

Species of Concern:

Bull Trout and Harlequin Duck.

C. Mixed-use - Forests

Mixed-use areas are public lands found within forested landscapes that contain multiple economic assets, primarily grazing, forestry, energy resources and recreation and tourism features. These areas are also important for water security, landscape connectivity, biodiversity, species of concern and First Nations' rights and traditional uses. Much of the area is of high scenic value and is heavily used for recreation and tourism.

Management Intent: The intent of the mixed-use class is to encourage and support activities associated with natural resource development while maintaining large contiguous areas of forest cover within acceptable thresholds of fragmentation and open access route density. The importance of these areas to water security, biodiversity and vegetation management must be considered in all land-use decisions. The development of economic resources will be co-ordinated to reduce conflicts with other values, including species of concern as well as recreation and tourism features and settings.

Detailed operational planning within mixed-use areas will be co-ordinated and integrated for consistency between forest management plans, access management plans, energy approvals, biodiversity needs, watershed plans and other relevant plans.

Industrial/commercial and recreational activities will be co-ordinated to reduce and manage impacts within established thresholds or targets. Integrated land management will be mandatory to reduce linear disturbance and development footprint. Progressive reforestation and reclamation of disturbance from resource extraction will occur as soon as possible. Development in areas of high scenic value is to be designed in a manner that maintains scenic values. Public motorized access and other intensive recreation and tourism activities, such as random camping, will be actively managed to designated roads, routes, trails and areas.

In areas outside of the net land base, vegetation management tools that emulate natural disturbance, such as FireSmart principles, prescribed fire and tree cutting, will be used as necessary to reduce risks to public safety and to support economic, social and environmental objectives.



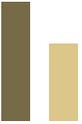
D. Population Centres

Population centres in the South Saskatchewan Region include cities, towns, villages and hamlets. These areas will continue to expand and increase in density from both in-migration and natural growth. Urban areas will account for the majority of population growth in the region, putting increased pressure on existing infrastructure and services as well as on native landscapes and biodiversity. Higher demand for recreation opportunities will put increased pressure on recreation facilities, parks and open space in population centres and on public recreation lands close to major centres.

Although public municipal and private lands will be present in population centres, the focus of management will be on supporting local governments in managing these areas.

Management intent: The development of sustainable communities that provide the quality of life and amenities needed to attract and retain a growing workforce for a burgeoning economy is a priority. Communities that are safe, healthy and inclusive will support thriving economies. The SSRP will support the wise use of land, water and energy.

The emphasis of land-use policy in population centres should be on creating complete and connected communities that provide a diversity of services and housing types, and encourages people to live and work in the community. The efficient provision of infrastructure and services will be encouraged, in part through support for efficient development. Co-ordination between municipalities for the provision of infrastructure and services will be promoted. Compact forms of development, transit-ready communities, development that supports active living, the provision of recreation facilities, parks and open space and affordable housing are encouraged, but the responsibility for implementation will be with municipalities. While specific growth boundaries will not be set by the South Saskatchewan Regional Plan, municipalities will be required to plan for the efficient provision of infrastructure. In addition, development within or close to population centres will be encouraged to reduce the physical footprint and impact of residential, commercial and industrial developments on the land.



E. Recreation/Tourism

Recreation and tourism areas contain regionally and provincially significant recreation and tourism features. These lands are important to developing the potential of the region's tourism industry and in meeting current and future recreation demands.

Recreation and tourism values on private lands can contribute greatly to providing recreation and tourism opportunities.

Management intent: Private landowners will be encouraged to offer a range of recreation and tourism developments in key locations for economic development purposes. Certain environmental, scenic and esthetic values relevant to recreation and tourism may be managed through conservation tools under the *Alberta Land Stewardship Act*. These tools are still under development.

Recreation and tourism on public lands with high recreation and tourism value will be designated and managed by the province of Alberta.

Management intent: Recreation and tourism areas on public lands will be managed to ensure recreation and tourism values (features, settings and scenic quality) are maintained to achieve desired regional recreation and tourism outcomes. Development of other resource-based industries may be permitted as long as the recreation/tourism values are maintained. Development in areas of high scenic value is to be carried out in a manner that maintains scenic values. Recreation and tourism activities and developments are to be actively managed in accordance with the assigned recreation/tourism opportunity spectrum class to provide quality experiences while avoiding or mitigating land-use conflicts and impacts to ecological features, systems and biodiversity and public safety.

Unmanaged recreation activities that do not demonstrate stewardship and respect for the natural environment, other values and land uses should not be permitted in these areas. When possible, nodal infrastructure, including campgrounds and other facilities, will be sited to help accommodate demands for recreation on public lands currently met through unmanaged activities.

Specific tourism and recreation management and development plans will be developed for each area. Natural disturbance or the emulation of natural disturbance will be required to achieve environmental, social and economic objectives.

The following recreation and tourism opportunity spectrum (ROS) classes are used to provide general management direction on these lands. These classes generally describe the level of development and the types of natural settings that users of these areas can experience, and suggest the types of development compatible with these areas.



Primitive - typically large and essentially un-modified natural landscapes with no recreation or tourism infrastructure and very limited evidence of, and interaction with, other visitors and management controls. The area is typically inaccessible by motorized vehicles, although minimal air access may occur. Visitors experience solitude, isolation from human civilization, risk and personal challenge.

Backcountry - generally un-modified natural landscapes with minimal recreation or tourism infrastructure and limited evidence and interaction with other visitors. The area is closer to roads but typically inaccessible by motorized vehicles, and minimal air access may occur. Visitors experience solitude, closeness to nature, risk and personal challenge.

Mid-country - a natural appearing landscape where human modifications exist but are in harmony with the surroundings. The provision of recreation and tourism infrastructure is the minimum necessary to facilitate the recreation and tourism activities and mitigate environmental impacts and conflicts. Evidence of, and interaction with, other visitors exists, but is subtle. The area is accessible by motorized vehicles via primitive roads and trails and supports motorized and non-motorized recreation and tourism activities. Visitors can experience some isolation from civilization, interaction with nature and a moderate degree of risk and personal challenge.

Front-country - mostly natural appearing landscapes with obvious human modifications that are generally in harmony with the surroundings. Recreation and tourism infrastructure and management controls are obvious and desired. The area is easily accessible; evidence and interaction with other visitors is common. Motorized and non-motorized activities occur. Opportunities to experience solitude are rare.

Developed - a substantially modified landscape with obvious development and resource use. Recreation and tourism infrastructure and management controls are common and desired. Evidence of, and interaction with, other visitors is frequent and desired. The visitor experiences some modern conveniences and a feeling of security from personal risk.

Highly developed - a landscape that is dominated by human modifications and use. Recreation and tourism infrastructure and management controls are extensive, elaborate and desired. Large numbers of users are expected and the sights and sounds of others dominate. The visitor experiences numerous modern conveniences, interaction with manicured environments and a feeling of high personal security.

It should be noted that conservation management areas on public lands will include primitive and backcountry recreation and tourism opportunities. Recreation activities in these areas will also be required to pursue these objectives.

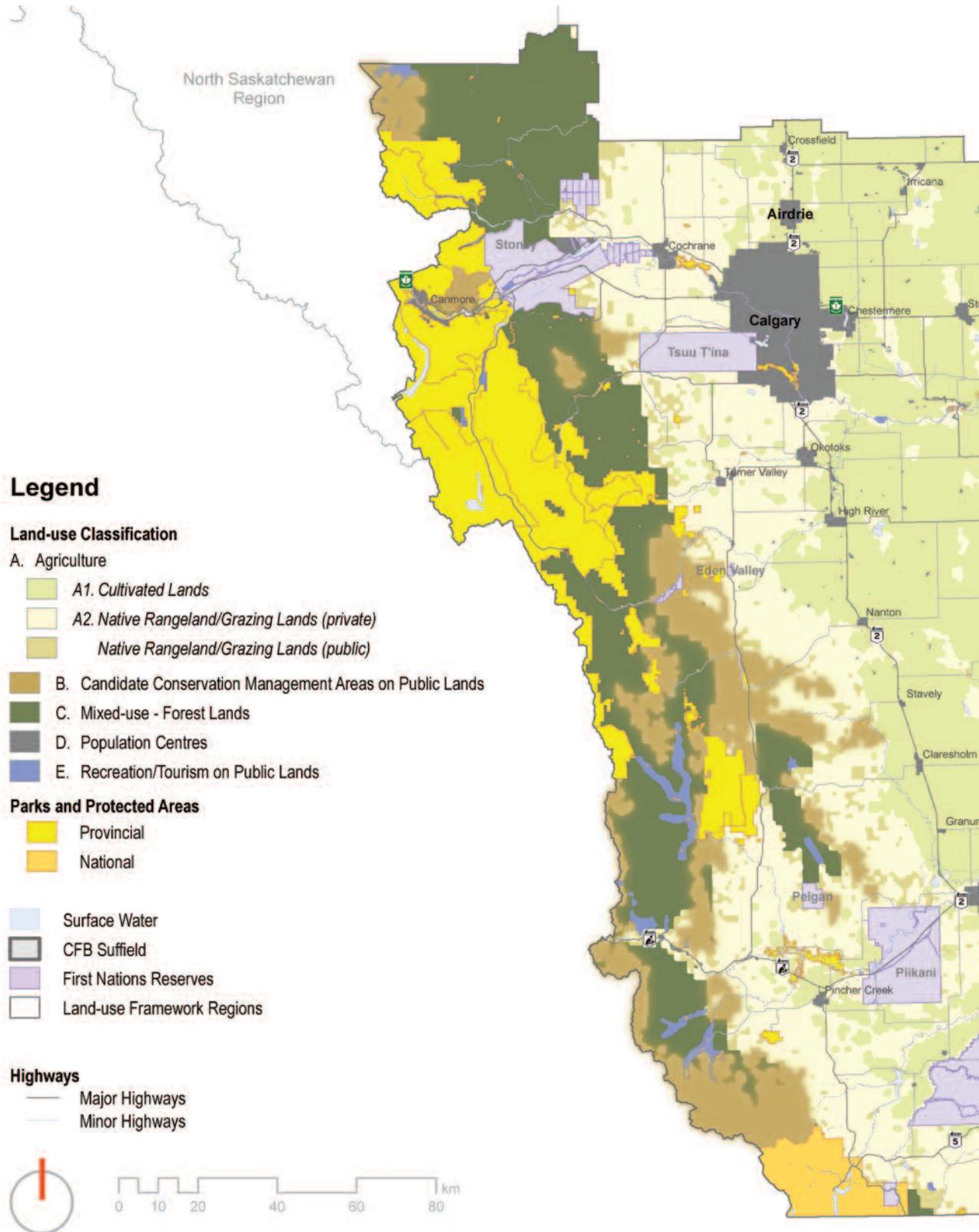
7.1 Overall Land Use

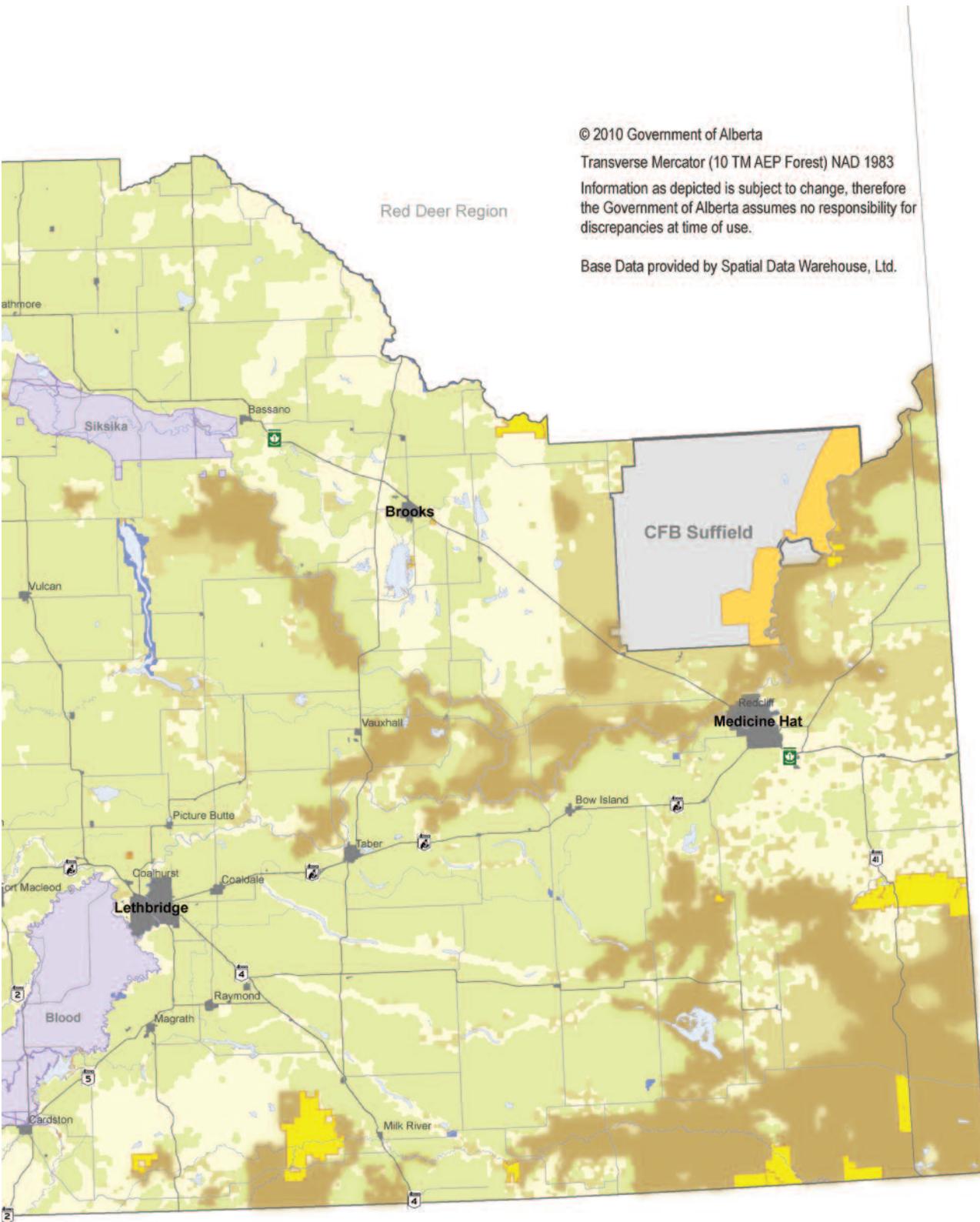
The South Saskatchewan Regional Advisory Council's recommendation on land-use classification is outlined on the map on the next page and the statistics below:

Land-use Class	Area (km ²)	Area (% of land)
Conservation Management Areas on Public Lands	9,381	11.4%
Wild Horse Plains	4,168	5.1%
Twin River Heritage Rangeland Expansion	430	0.5%
South Saskatchewan River - Eastern Reaches	731	0.9%
South Saskatchewan River - Western Reaches	1,127	1.4%
Bow River-Majorville Upland Corridor	505	0.6%
Castle-Waterton	745	0.9%
Porcupine/Pekisko Rangelands	1,337	1.6%
Elbow/Highwood/Kananaskis Foothills	167	0.2%
Ghost Forest	171	0.2%
Agriculture	55,438	67.2%
Cultivated	33,449	40.5%
Grazing	21,989	26.7%
Grazing on Public Lands	17,107	20.8%
Grazing on Private Lands	4,882	5.9%
Forestry	5,142	6.2%
Recreation/Tourism on Public Lands	411	0.5%
Urban Centres	1,539	1.9%
Parks and Protected Areas (PPAs)	5,099	6.1%
Provincial PPAs	4,160	5.0%
Federal: Suffield National Wildlife Area	458	0.5%
Federal: Waterton Lakes	481	0.6%
Military	2,173	2.6%
First Nations Reserves	3,364	4.1%
Total Land	82,547	
Total Water	1,213	



RAC Recommended Land-use Classification





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Transverse Mercator (10 TM AEP Forest) NAD 1983

Information as depicted is subject to change, therefore the Government of Alberta assumes no responsibility for discrepancies at time of use.

Base Data provided by Spatial Data Warehouse, Ltd.



8.0 South Saskatchewan Regional Advisory Council Members

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Assistant Deputy Minister
Alberta Agriculture and Rural Development
Edmonton AB

Vice Chair
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Partner
Beaumont Church LLP
Calgary AB

Jay Bartsch
Former Field Operations Manager
Ducks Unlimited Canada
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Linda Bruce
Calgary Regional Partnership
Airdrie AB

Lisa Fox
Executive Director
Sustainability Resources Ltd.
Cochrane AB

Wolf Keller
Director, Water Resources
City of Calgary
Calgary AB

John Kerkhoven
Senior Stakeholder Relations Advisor
Suncor Energy
Calgary AB

Georgina Knitel
President
Ag Plan Inc.
Lethbridge AB

Leah C. Lawrence
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Clean Energy Capitalists Inc.
Calgary AB

Gord Lehn
Woodlands Manager
Spray Lakes Sawmills
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Ron McMullin
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Alberta Irrigation Projects
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Ralph Nelson
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High River AB

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Alberta Association of Municipal Districts and
Counties Representative
Irrigation farmer
Taber AB

Daniel J. Smith, Q.C.
Barrister and Solicitor
Smith & Hersey Law Firm
Medicine Hat AB

John E. Squarek
President and CEO
Oasis Energy Inc.
Lethbridge AB



Bryce Starlight
Consultation Coordinator
Tsuu T'ina Nation
Tsuu T'ina AB

Bill Szabon
Councillor
Town of Nanton
Nanton AB

Kevin Van Tighem
Superintendent
Banff Field Unit
Parks Canada Agency
Government of Canada
Banff AB

