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# alberta prairie conservation

**ACTION PLAN** [2006 - 2010]

# The Prairie Conservation Forum wishes to thank:\_\_\_\_\_



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“ The disappearance of a major natural unit of vegetation from the face of the earth is an event worthy of causing pause and consideration by any nation. Yet so gradually have the grasslands been conquered by the breaking plow, the tractor, and the overcrowded herds of man, and so intent has he been upon securing from the soil its last measure of innate fertility, that scant attention has been given to the significance of this endless grassland or the course of its destruction. Civilized man is destroying a masterpiece of nature without recording for posterity that which he has destroyed.

## Nature is an open book for those who care to read.

Before the western grasslands disappear as gradually and completely as have those of the east, let us follow the judicious plan of the conservationists in the great prairie state of Iowa and preserve some representative tracts forever for ourselves and for posterity.

Nature is an open book for those who care to read. Each grass-covered hillside is a page on which is written the history of the past, conditions of the present, and predictions of the future. Some see without understanding; but let us look closely and understandingly, and act wisely, and in time bring our methods of land use and conservation activities into close harmony with the dictates of nature.

The grassland itself is an intricately constructed community. The climax prairie vegetation is the outcome of thousands of years of sorting of species and adaptations to soil and climate. Grassland soils through untold centuries have been thoroughly protected by the unbroken mantle of prairie vegetation. The vegetation, animals and soil are closely related, intimately mixed, and highly interdependent upon each other and upon the climate. Hence grassland is much more than land covered with grass. It is a slowly evolved, highly complex organic entity, centuries old. It approaches the eternal. Once destroyed, it can never be replaced by man.

”

- From J.E. Weaver, North American Prairie, Johnsen Publishing, Lincoln, NE 1954



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# Minister's Foreword

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Prairie and parkland ecosystems are an enduring image in the psyche of Albertans. Their bountiful resources and biodiversity have provided a rich context for the unfolding of southern Alberta history, with their variety of plants and animals, their recreational opportunities, their ability to support various livelihoods and their sheer beauty.

Settlement, urbanization and industrialization of the prairies and parkland have had a significant impact, resulting in the loss of vital prairie habitat. Without proper management, our valuable remaining prairie and parkland habitat is at risk of increasing fragmentation and degradation. Conserving the legacy we have inherited for both ourselves and for future generations is a worthy goal and the collective responsibility of everyone living or working in prairie Alberta.

The Prairie Conservation Forum is an example of what can be done when Albertans from a variety of sectors - non-government organizations, provincial and federal departments and industry – work together to conserve the prairie and parkland legacy we have inherited. Members cooperate as partners to ensure that the biodiversity of Alberta's prairie and parkland is understood and preserved.

In like manner, Alberta Environment has committed to work collaboratively with citizens, business, communities and governments in practicing and sharing responsibility for resource

and environmental stewardship. Adopting place-based approaches will ensure the environment, the economy and communities are treated as a whole in a way that establishes clear goals and addresses cumulative effects. There will be continuous improvement through monitoring, review, and making changes to improve on an on-going basis.

As the Minister of Environment committed to sustainable resource and environmental management, I am pleased to introduce the Alberta Prairie Conservation Action Plan (PCAP) for 2006-2010. This key document provides the vision, goals, objectives and action recommendations for conserving Alberta's native prairie and parkland ecosystems over the next few years.

To the forty plus members of the Prairie Conservation Forum, thank you on behalf of the Alberta government for your commitment and dedication. Alberta's landscapes will continue to benefit from your work!

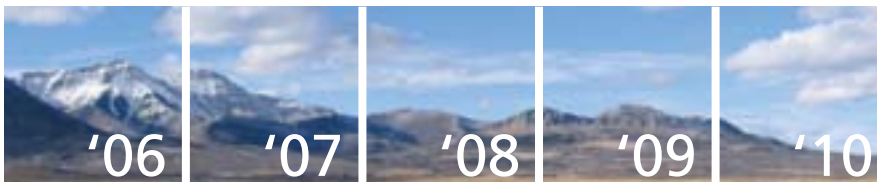


Hon. Guy Boutillier  
Minister of Environment

# Preface

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I am honoured to present this fourth generation Prairie Conservation Action Plan (PCAP) to Albertans. Our previous plan (PCAP: 2001-2005) has been revised and updated to provide a new, practical, five-year strategy that addresses both existing and new prairie conservation challenges. The new PCAP: 2006-2010 is a product of the Prairie Conservation Forum (PCF) and was developed in a cooperative manner by its nearly four-dozen member organizations.



The North American Great Plains extend from Mexico northward for approximately 1500 km, crossing the United States, and include the southern and central portions of Canada's prairie provinces. Alberta's native grasslands are predominantly comprised of the Grassland Natural Region and the Parkland Natural Region. Together, these two Natural Regions contain approximately 11 million acres of native prairie. A significant portion of both Natural Regions has been modified by human activity and various land-use practices during the past two centuries.

Since 1988, Alberta's prairie conservation action plans have provided direction for maintaining and enhancing our provincial grassland and parkland ecosystems. In our previous 5-year plan, the PCF was able to make important progress toward bringing a greater awareness to the value of native prairie by advancing the establishment of a Provincial Grass. As a result of work done by the PCF – led by Cheryl Bradley and provincial MLA Don Tannis – Alberta adopted rough fescue as a new provincial emblem. Members of the PCF have strongly influenced operational guidelines that pertain to reclamation and minimum disturbance approaches for industrial development on native grasslands. As well, the use of environmental easements and protective notations – to protect the habitats of species at risk and maintain biodiversity – has been advanced significantly.

As we look ahead to the coming five-year period 2006-2010 and beyond, we anticipate that increasing pressure will be placed on our provincial grasslands. Alberta's economy and population are growing rapidly, spurred along by a strong demand for energy and other natural resources and various goods and services. Conventional oil

and gas development is occurring at record levels. The pressing demand for energy is causing both industry and governments to more seriously consider wind power and coal bed methane as alternative energy sources. Alberta's natural landscapes also need to accommodate a growing demand for wide-ranging recreational opportunities.

While the agricultural sector has been under considerable pressure during the past several years, the ranching industry continues to rely heavily on native rangelands. The demand for additional farmland and the intensified use of existing farmland continues, driven in part by irrigation expansion projects and growing markets for specialty crops. As well, the seemingly relentless conversion of farmland to accommodate new housing subdivisions and acreages (many of which are in close proximity to major urban centers, especially Calgary and Edmonton) has the effect of shrinking our productive agricultural land base.

In response to increasing social awareness of land use change, new concepts are being discussed in relation to land development. One of the interesting concepts that has recently emerged in Alberta is that of "natural capital". While recognizing that economic growth, a strong economy and low unemployment rates are favoured by most Albertans, other important considerations, such as natural capital, are gaining increasing attention. Future land development must explicitly recognize and consider our valued natural assets. Natural capital refers to, among other things, habitats needed by fish and wildlife species, functioning riparian systems that allow us to maintain water quality, and working landscapes that are rich in biodiversity, and which afford quality recreational and leisure time experiences. We must learn to better manage our natural capital to balance the social, economic and environmental priorities of Albertans.

I invite Albertans from all walks of life to join with the Prairie Conservation Forum in fulfilling the action recommendations presented in this new prairie conservation action plan. The intentional contributions of individuals, industry, interest groups and communities really do make a difference. Working together we can sustain and enhance our prairie heritage.

Brian Laing  
2005 - 2006 Chairperson  
Prairie Conservation Forum

Figure 1:  
**North America  
Great Plains**





# Prairie Conservation in Alberta

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## Alberta's Native Prairie<sup>1</sup> Landscape

In North America, only Texas and North Dakota retain a larger native prairie land base than Alberta (Map 1). Extensive tracts of public and private rangelands in east central Alberta and the Palliser Triangle are home to a largely intact native mixed grass prairie ecosystem on which the ranching community depends. Ranching provides a unique livelihood and lifestyle, makes a significant contribution to the provincial economy, and can be compatible with preserving native prairie over time.

Prairie landscapes have significant heritage value and provide ecological, cultural, and economic benefits for all Albertans. Maintaining native prairie rangelands under longterm stewardship is critical to the success of prairie conservation efforts in Alberta. It will demand an enlightened understanding of ecological and economic relationships and an ability to resist short-term pressures to fragment and intensify land use.

"The Milk River-Sage Creek area is hard to describe in anything less than superlatives. Its uplands, wetlands and valleys comprise one of the largest undisturbed grasslands in Canada. For generations this wilderness has been protected by its isolation and by grazing patterns that have perpetuated the richness and diversity of the native grassland. Today those factors are changing and the future of the area as a wild place and as a refuge for native plants and animals that have long disappeared from much of the Great Plains rests in our hands."

-Cliff Wallis

## Developing a Prairie Conservation Strategy

The first Prairie Conservation Action Plan (PCAP) was released by World Wildlife Fund Canada and the governments of Manitoba, Saskatchewan and Alberta late in 1988. It was a five-year blueprint, concluding in 1994, aimed at prairie-wide efforts to conserve and manage native prairie species, communities, and habitats.

Following the conclusion of the first prairie-wide PCAP, provincial PCAPs were developed in Alberta, Saskatchewan and Manitoba. The Prairie Conservation Forum (originally the Prairie Conservation Coordinating Committee), which was announced in 1988 by the Government of Alberta in response to the original PCAP, is currently comprised of some fifty member

organizations. These organizations represent all three levels of government, non-government organizations, industry, academia, and agricultural and environmental interest groups. The Forum exists to promote the Alberta PCAP and to provide an ongoing profile for prairie and parkland conservation initiatives. The first meeting of the PCF took place in November 1989; at the conclusion of the first PCAP, the Alberta PCAP 1996 – 2000 and Alberta PCAP 2001 - 2005 were drafted by the Prairie Conservation Forum (PCF).

The first made-in-Alberta PCAP, 1996-2000, was the product of a process involving an assessment of accomplishments during the period 1989-94, a multi-party workshop,

<sup>1</sup> Throughout this document the word 'prairie' refers to both prairie (dry mixed-grass, mixed-grass, northern fescue, and foothills fescue) and parkland (central parkland, foothills parkland) natural regions within Alberta.





and a public review. The Alberta PCAP broadened the base of support for prairie conservation. It acknowledged community empowerment, the emergence of ecosystem management, information technology, the importance of micro-fauna, and changes in the role of government. The 1996-2000, 2001-2005 and 2006-2010 Alberta PCAPs remain true to the enduring characteristics of the PCAP produced by the World Wildlife Fund and the inputs from our many partner organizations and the interested public. The focus remains on the conservation of native species, communities and habitats; a commitment to a prairie-wide vision; and the adoption of multi-party partnerships, i.e., networking with other

conservation initiatives and employing cooperative approaches wherever possible.

When the PCF met in Wainwright in December 2000, it was anticipated that a thorough assessment and major rewrite of the next Alberta PCAP would be undertaken. However, the Prairie Conservation Forum is of the continuing opinion that the basic framework adopted in the first Alberta PCAP (i.e., vision, principles, goals and many objectives) continues to remain relevant in the new millennium. As a result, fundamental revisions have not been made to the 2006-2010 plan. Revisions are largely tweaks to the plan, e.g. compacting the four main goals into three; deleting action

statements that have been implemented or that received little support or interest in previous plans; making minor modifications to some goals and objectives; and including several new action recommendations which represent logical 'next steps' and current realities. The 'Strategic Issues' section of this plan contains new material.

The Alberta PCAP is consistent with the Government of Alberta's natural resources and environmental policies as found in Alberta's Commitment to Sustainable Resource and Environmental Management.

# Vision, Principles and Goals



## Prairie Provinces Vision for Conserving Canada's Prairie and Parkland Ecosystems

Canadians need to ensure that native prairie, with its wild plants and animals, survives in the west and is conserved for its intrinsic values, from which this and future generations can benefit.

## Alberta Prairie Conservation Forum's Vision for Alberta's Prairie and Parkland Ecosystems

The biological diversity of native prairie ecosystems in Alberta is being conserved for the benefit of current and future generations.

## Guiding Principles

A conservation ethic will guide all activities and management decisions on the prairies.

All stakeholders will have the opportunity to be involved in the process of achieving the prairie conservation vision. Stakeholders will work cooperatively and form partnerships to achieve prairie conservation objectives.

Stakeholders will be empowered at a local community level to work towards prairie conservation initiatives, drawing on local knowledge and expertise.

## Alberta PCF Goals

### Goal 1: Research

Enhance the information base for Alberta's native prairie and parkland landscapes.

### Goal 2: Stewardship

Conserve Alberta's native prairie and parkland landscapes.

### Goal 3: Education

Increase awareness of the values and importance of Alberta's native prairie and parkland ecosystems.

The Alberta PCAP is a strategic plan that provides direction for conserving native prairie and parkland landscapes throughout Alberta. All Albertans who use and enjoy these natural landscapes are encouraged to put the plan's provisions into effect. It is anticipated that individuals, organizations or user groups (in addition to PCF member organizations) who support the direction contained in this plan will undertake various implementation activities to achieve the plan's goals and objectives. In the coming months the Prairie Conservation Forum will identify specific actions that the Forum will take to implement this plan. Wherever possible, collaborative approaches and partnerships will be adopted to conserve our native prairie and parkland landscapes.

# Strategic Issues

## Biodiversity, Environmental Quality and Human Values

Promoting the conservation of biological diversity in prairie and parkland ecosystems has been the *raison d'être* of PCAPs from the time the first prairie-wide PCAP was published in 1988. And if our society wants a high quality prairie and parkland environment it is a goal that cannot be surrendered. There will not be healthy watersheds, high quality airsheds or sustainable land management if there is impoverished biodiversity. Biodiversity is the variety of life in all its forms. It is the lifeblood of ecosystems. And it is



Prairie conservation is part science and part belief. Science provides a common understanding of prairie ecosystems and their functions. However, people will not act to protect prairie ecosystems unless they believe it is the right thing to do. Amazing things happen when the minds and hearts of even a small group of people are engaged toward a common goal rooted in sound science and ethics. This is my hope for prairie conservation.

-Cheryl Bradley

**Biodiversity** is the most important environmental priority.

ecosystem functionality that provides the suite of ecological goods and services (clean air, water, carbon storage, building soils, processing wastes etc.) that supports a healthy environment. So if society wants a healthy environment, sustaining biodiversity is the most important environmental priority.

But conserving prairie biodiversity is not just about 'the business case for environmental functionality'. It's also about what things prairie people value. Being part of the prairie provinces has been a big part in defining our society. Of course people have shaped the prairies, but we

have also been shaped by them - vast expanses of space, extremes of heat and cold, drought and fertility, meadowlarks singing and antelope running under the biggest sky anywhere. Is not our sense of who we are defined by what we experience in the places we live our lives? Do we then value and want future generations to have the experiences of the prairie landscape we enjoy today? Do we want them to experience vast open native rangelands, coulees and badlands, green needlegrass, ferruginous hawks, Sprague's pipits and rattlesnakes?





## Strategic Issues continued

---

Threats to landscape integrity include:

Urban expansion

Resource extraction

Introduced species

Climate change uncertainty

Agricultural conversions and intensification

Development of energy resources including wind, coal and natural gas

### Contemporary Challenges

The last Alberta PCAP (2001-2005) reviewed some of the threats to landscape integrity in Alberta's prairie and parkland: urban expansion and subdivisions driven by a growing population with many affluent Albertans seeking a country lifestyle; agricultural conversions as new markets support specialty crops such as potatoes on sandy soils; resource extraction as high commodity prices drive full extraction of aging conventional oil and gas fields; and introduced species invading the native landscape along river corridors and linear disturbances on the landscape. All these pressures continue to exist and have been joined by a suite of new ones: the development of wind farms dotting exposed ridges on the prairie landscape; feedlot expansion and intensification; development of a non-conventional gas industry to exploit coalbed methane and growing recognition

that the time to capitalize on the vast prairie coal reserves may be coming.

Perhaps more fundamentally, the socio-economic context is changing. Post 9/11 and BSE, open borders are no longer taken for granted and the need to maximize value-added in Alberta and develop new markets is growing rapidly. In an uncertain geopolitical world, declining conventional energy supplies and rapidly industrializing Chinese and Indian economies are bringing the vulnerabilities of our carbon-based economy into sharp focus. But before the post-carbon economy asserts itself, the carbon economy must run its course. And Alberta is a short- to medium-term nexus for North American energy security. Finally, there are the uncertainties of climate change and what it might mean for everything.

### Governance Trends

The last 5 years have seen a profound shift in discussions about approaches to environmental governance. There is more discussion about intergenerational equity and the democratic deficit. The federal government has required ministries to develop sustainable development strategies and has committed significant financial resources to supporting ecological goods and services. Concern over greenhouse gases has fuelled an interest in carbon sequestration. The Canada West Foundation has put 'Natural Capital' on the

opinion pages of our newspapers. There are more demonstrations and cooperative ventures than ever before. And the ground has shifted in the provincial government where there is much talk of integrated environmental management using partnership-based-systems and place focused approaches.

The province has developed both Clean Air and Water strategies, is developing a provincial Biodiversity Strategy and is about to launch both a Provincial Land Strategy and a Sustainability Strategy for Southern

Alberta. An interdepartmental office of sustainable resource and environmental management has been established to ensure the new approaches to environmental governance take root.

Finally, three key ministries (Energy, Environment and Sustainable Resource Development) have signed a Sustainable Resource and Environmental Management charter, committing themselves to working together to achieve agreed-upon natural resource and environmental management outcomes.



Is not our sense of who we are  
**defined by**  
what we experience in  
**the places**  
we live our lives?



Strategic Issues continued

2006- 2010  
Alberta PCAP

The current Alberta PCAP is designed to sustain the focus on biodiversity, be relevant to contemporary challenges and align with current trends in environmental governance.

The plan rests on three goals that build logically to the Prairie Conservation Forum's vision of conserving biological diversity:



GOAL 1  
Research

This goal encompasses the data collection, inventory and research activities necessary to adequately determine the state of biodiversity in prairie and parkland Alberta and to understand the likely implications of continuing intensification of human activities on this landscape. Key priorities are to develop a detailed spatial inventory of human and native cover types and to build a better understanding - both of the suite of ecological goods and services that different land uses provide and of beneficial practices to enhance those benefits.

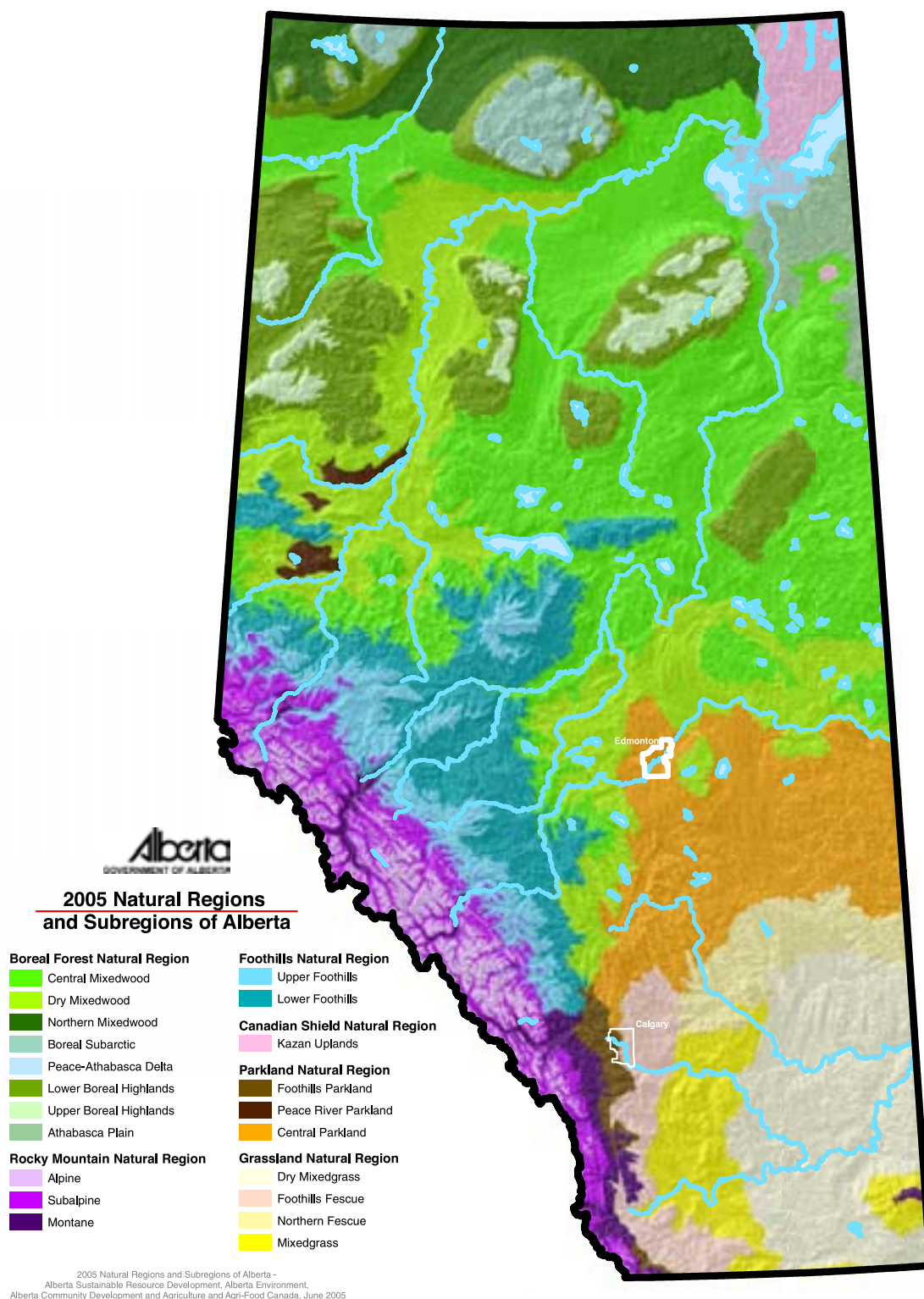
GOAL 2  
Stewardship

'Taking stock of the evidence' and 'deciding what to do' empower people to take stewardship action. There will be human use of all our prairie landscapes and there will be environmental services provided on all our prairie landscapes. The relative contributions will change dramatically however from place to place, reflecting what we have to work with and what our society's objectives are. The challenge is to bring the desired outcomes into consistent alignment so that the PCF can pursue its mission of biodiversity conservation with other groups working to manage watersheds, manage airsheds or manage land use.

GOAL 3  
Education

People appreciate what they understand. All the information in the world is of no value if only a few 'specialists' are aware of it. The story of the state of the prairie needs to be built, told and widely understood. The challenge is to broaden the base, to have a wide dialogue with Albertans that builds public awareness and engagement, that allows people to see what's happening and what the consequences are, that promotes a societal convergence on the evidence, and results in a societal commitment to take positive action. Both formal training and informal, practical workshops on conservation will assist in achieving this goal.

Figure 2:  
2005 Natural Regions and Subregions of Alberta





# GOAL 1 | Research

## Enhance the information base for Alberta's native prairie and parkland landscapes.



This goal encompasses the data collection, inventory and research activities necessary to adequately determine the state of biodiversity in prairie and parkland Alberta and to understand the likely implications of continuing intensification of human activities on this landscape. Key priorities are to develop a detailed spatial inventory of human and native cover types and to build a better understanding - both of the suite of ecological goods and services that different land uses provide and of beneficial practices to enhance those benefits.

### Objective 1.1:

*Describe Alberta's native prairie and parkland landscapes by promoting, conducting, compiling and analyzing relevant research.*

#### Actions:

##### 1.1.1

Create a detailed grassland vegetative inventory of native and non-native species in the Grassland Natural Region.

##### 1.1.2

Conduct a fifteen-year change analysis of the entire reconnaissance level inventory of the Grassland Natural Region including fine-scale analyses for selected sites.

##### 1.1.3

Encourage efforts to characterize the suite of ecological goods and services provided by different landscape and land use types.

##### 1.1.4

Monitor the network of sites in the Dry Mixed Grass, Mixed Grass, Northern Fescue, Foothills Fescue, and Parkland areas to improve our understanding about species and ecosystems.

### Objective 1.2:

*Build sustainable data systems to ensure the maintenance, availability and analysis of research data.*

#### Actions:

##### 1.2.1

Enhance inventories, data collection and analysis activities focused on native fish species and aquatic ecosystems, including ephemeral prairie streams and wetlands.



##### 1.2.2

Coordinate the collection of data on indicators of prairie environmental conditions.

##### 1.2.3

Continue to assess the status and priority habitat needs of the top 100 prairie and parkland species and produce status reports on species at risk.

##### 1.2.4

Re-invigorate the Prairie Ecology Research Committee (PERC); regularly (at least quarterly) update and make available the PERC database of scientific information and literature on prairie and parkland ecosystems and species.

##### 1.2.5

Facilitate data sharing between governments, municipalities, non-governmental organizations and industry.

*"Wildness reminds us what it means to be human, what we are connected to rather than what we are separate from."*

- Terry Tempest Williams



## Objective 1.3:

*Conduct research into key priority areas.*

### Actions:

#### 1.3.1

Establish a research program on prairie ecology at a post-secondary institution in Alberta.

#### 1.3.2

Conduct research into landscape management and multi-species approaches that sustain biodiversity.

#### 1.3.3

Conduct research into minimal disturbance techniques on native prairie, and methods of restoring the ecological structure and function of disturbed sites.

#### 1.3.4

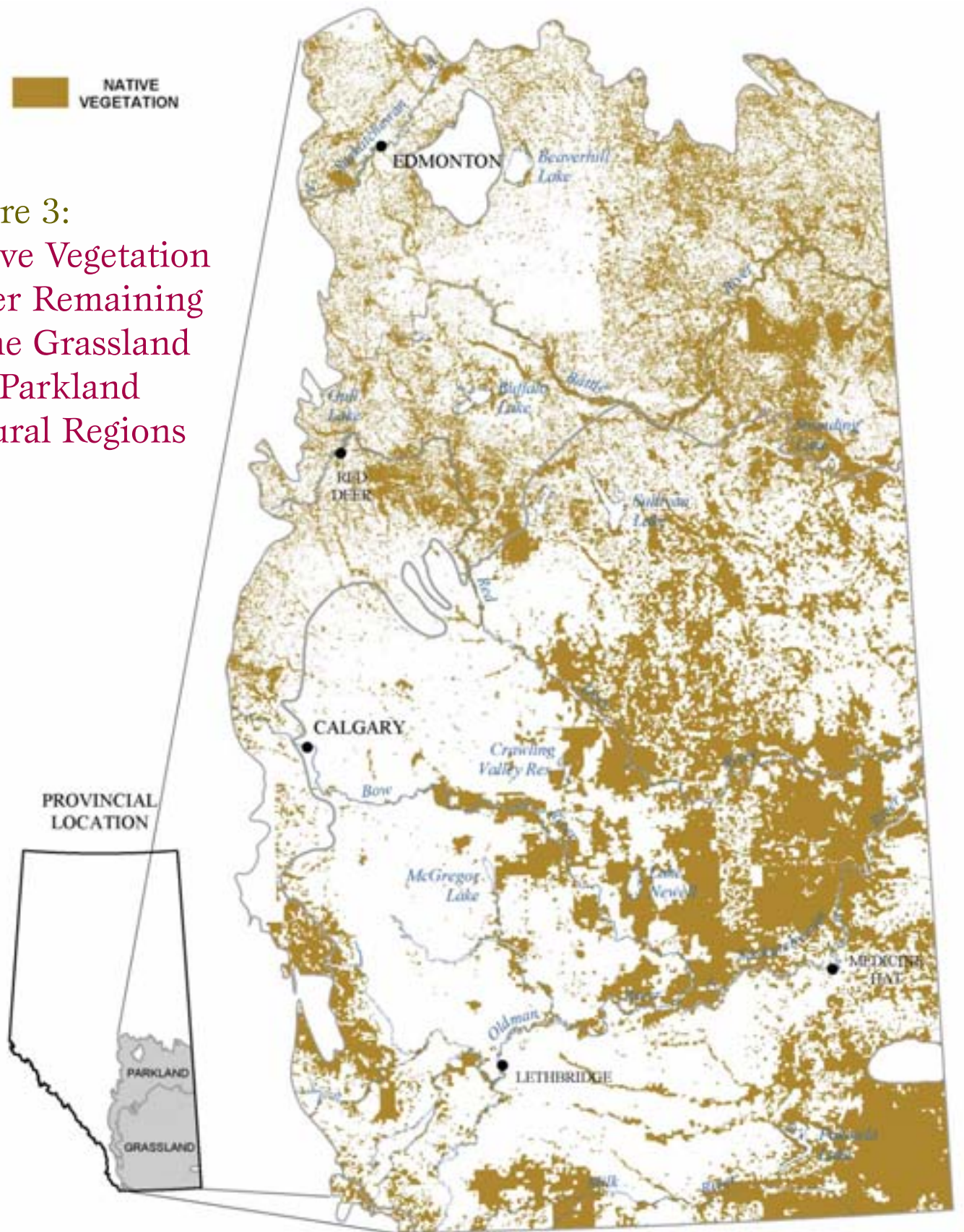
Promote economic research into the value(s) of native prairie and parkland vegetation, watersheds, landscapes, airsheds, etc.

#### 1.3.5

Develop a means to simulate cumulative effects on the prairie landscape that assesses past changes and predicts outcomes for biodiversity conservation, to be completed in the current PCAP (2006-2010).



Figure 3:  
Native Vegetation  
Cover Remaining  
in the Grassland  
and Parkland  
Natural Regions



Base Data provided by Spatial Data Warehouse Ltd.  
Vegetation Data source: Native Prairie Vegetation Inventory (1991-1993) - Grassland Natural Region / Foothills Parkland Natural Subregion, Central Parkland Native Vegetation v. 1.2 (2002-2004) - Central Parkland Natural Subregion  
Produced by Resource Information Unit, Resource Information Management Branch, Strategic Corporate Services, Alberta Sustainable Resource Development, Southeast Region, Lethbridge, January 2006.  
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## GOAL 2 | Stewardship

### Conserve Alberta's native prairie and parkland landscapes.

'Taking stock of the evidence' and 'deciding what to do' empower people to take stewardship action. There will be human use of all our prairie landscapes and there will be environmental services provided on all our prairie landscapes. The relative contributions will change dramatically however from place to place, reflecting what we have to work with and what our society's objectives are. The challenge is to bring the desired outcomes into consistent alignment so that the PCF can pursue its mission of biodiversity conservation in a fully complementary fashion with other groups working to manage watersheds, manage airsheds or manage land use.

#### Objective 2.1:

*Develop and implement policies and programs and advise on laws and regulations that encourage the conservation and restoration of Alberta's native prairies and parklands.*

#### Actions:

##### 2.1.1

Advise appropriate provincial agencies and municipal bodies of laws, regulations, policies, programs and activities that may be detrimental to the sustainability of Alberta's native prairies and parklands.

##### 2.1.2

Develop clear and coherent strategies, policies and landscape level planning mechanisms that conserve and restore Alberta's native prairies and parklands.

##### 2.1.3

Update Alberta's Wildlife Policy to incorporate the conservation of Alberta's native prairies and parklands.

##### 2.1.4

Identify improvements that could be made to the energy disposition and licensing process that would improve public involvement and reduce the cumulative environmental effects of the energy industry on prairie and parkland ecosystems.

##### 2.1.5

Promote policies preventing the cultivation of native prairie and parkland habitats on Alberta's Public Lands.

##### 2.1.6

Promote policies such as Forest Land Use Zones (FLUZ) to regulate vehicle access on public lands in the prairie and parkland region.

#### Objective 2.2:

*Support land use management practices and protective mechanisms that sustain diverse ecosystems and restore species at risk populations across the whole prairie and parkland landscape.*

#### Actions:

##### 2.2.1

Implement the wide use of range and riparian health assessments to enhance the level of stewardship on native prairie landscapes.

##### 2.2.2

Encourage cooperative initiatives among agencies, NGOs and landholders; develop benchmarks for

improved management and land use practices through biophysical and range inventories.

##### 2.2.3

Implement cooperative conservation initiatives delivered by land and resource managers, landholders, industry and the public.

##### 2.2.4

In consultation with interested and affected parties, develop and implement recovery plans at a landscape level for the highest priority landscape in each of the prairie and parkland subregions. This would include species reintroductions as required.

##### 2.2.5

Expand riparian management programs, e.g. Cows and Fish, in the prairies and parklands.

##### 2.2.6

Expand PCF membership to include more of the bodies responsible for making decisions affecting prairie ecosystems.

##### 2.2.7

Identify appropriate models and practices for sustainable recreational activities and tourism on native prairie and parkland.



## Conserve Alberta's native prairie and parkland landscapes.

### Objective 2.3:

*Protect significant, representative, and sensitive prairie and parkland ecosystems.*

#### Actions:

##### 2.3.1

Develop land use plans, designate parks and protected areas, and promote other mechanisms, e.g. conservation easements, to protect environmentally significant native prairie and parkland landscapes and connecting corridors on public and private lands.

##### 2.3.2

Within five years of designating parks and protected areas, undertake biophysical inventories, develop management plans that protect ecosystem integrity, and establish monitoring programs.

##### 2.3.3

Strengthen the inter-provincial cooperation of prairie and parkland protection in the Dilberry/Manitou Lakes area, the Middle Sand Hills/Great Sand Hills, and the Cypress/Milk River southwest pastures complex.

### Objective 2.4:

*Restore degraded prairie ecosystems.*

#### Actions:

##### 2.4.1

Support management practices that help restore ecosystem functions, connectivity and biodiversity in degraded native prairies and parklands.

##### 2.4.2

Use native plant species in weed-free, non-invasive seed mixes, for restoration within native prairie ecosystems and, where opportunity exists, on tame pastures and former croplands.

##### 2.4.3

Support soil conservation practices on tilled agricultural lands.

##### 2.4.4

Assess the implementation of the EUB Information Letter (IL) Guidelines for Minimizing Surface Disturbance on Native Prairie.



"The extreme southeastern corner of Alberta and southwestern Saskatchewan was once a forgotten corner but it is forgotten no more. The recent construction of a major pipeline corridor and activity by oil and gas companies suggests that these extensive grasslands could be converted into more highly developed landscapes. These areas abound in unique and rare natural phenomena, but it is the variety in both the rare and the common features that give them their tremendous value. Resting atop a badland butte and gazing across the canyons and rolling grasslands, one can contemplate the natural majesty of the Great Plains. For anyone who has heard the melodies of grassland birds riding the warm summer breezes or watched as a Golden Eagle drifts low over a coulee rim, these will always be among the world's most special places."

- Cliff Wallis



## GOAL 3 | Education

### Increase awareness of the values and importance of Alberta's native prairie and parkland ecosystems.

People appreciate what they understand. All the information in the world is of no value if only a few 'specialists' are aware of it. The story of the state of the prairie needs to be built, told and widely understood. The challenge is to broaden the base, to have a wide dialogue with Albertans that builds public awareness and engagement, that allows people to see what's happening and what the consequences are, that promotes a societal convergence on the evidence, and results in a societal commitment to take positive action. Both formal training and informal, practical workshops on conservation will assist in achieving this goal.

#### **Objective 3.1:**

*Promote an understanding and appreciation of our native prairie and parkland ecosystems.*

#### **Actions:**

##### **3.1.1**

Develop and deliver education and awareness materials and programs on Alberta's provincial grass and related prairie and parkland conservation topics.

##### **3.1.2**

Promote PCF through its website, presentations, field tours, occasional papers and member organizations.

##### **3.1.3**

Encourage the media to support prairie and parkland conservation initiatives through coverage of prairie and parkland conservation issues.

##### **3.1.4**

Recognize outstanding environmental stewardship through award programs.

##### **3.1.5**

Encourage interpretive programs, exhibits and publications on prairie and parkland topics at zoos, parks, museums and nature centres.

##### **3.1.6**

Promote prairie and parkland conservation and appropriate use of native plants through urban garden centres and demonstration sites.

##### **3.1.7**

Raise awareness about the appropriate use and impacts of vehicles and equipment on native prairie and parkland.

#### **Objective 3.2:**

*Share information and resources to assist land users and decision-makers in conserving native prairie and parkland habitats and species.*

#### **Actions:**

##### **3.2.1**

Incorporate the knowledge and experience of landholders into educational and extension materials on native prairie and parkland conservation.

##### **3.2.2**

Continue extension programs, including range management courses, short courses, seminars, conferences, and field days showcasing demonstration sites to promote the adoption of beneficial management practices.

“Carl Sagan twenty years ago worried about what we are doing to perpetuate our future as a member of the Cosmos, and I worry today that very little has changed. Native grass sits like a fossil on the ground at our feet. We take the water, the air and the views that are a natural consequence of this cover type, as a given. The reality is that Native grass is the web which holds us to the past, and will support us in the future. The trick is to show people what life support these lands provide. So what will it take to bring the Native grass into focus for the people of Alberta? We can measure and analyse, dissect and itemize prairie components until it no longer exists. The bottom line will be the decision to defend any future loss of the last remnants of this class. Where will we draw the line in the sod and say “this stays”? Alliances, friends and the realization that we stand at the edge of evermore hold the key. Save it now or for evermore bid it farewell. I will sleep better just to know we did what we could.”

- Francis Gardner



### 3.2.3

Use cumulative effects models and GIS based land use inventories to raise awareness about trends and consequences, and to assist land use decision making processes in achieving environmental quality objectives and conserving native ecosystems.

### 3.2.4

Collaborate with species-at-risk recovery teams to help communicate their work to landholders, municipal and provincial staff and the media.

### 3.2.5

Develop additional topics to communicate significant prairie research to decision makers through the PCF Occasional Paper series.

### 3.2.6

Continuously update the PCF website to include electronic prairie database, tools for conservation and relevant reports/news

on native prairie and parkland environments.

### Objective 3.3:

*Encourage the incorporation of prairie and parkland ecosystem studies in formal educational curricula at all levels.*

#### Actions:

#### 3.3.1

Develop and promote the use of prairie and parkland educational resources in schools.

#### 3.3.2

Expand the delivery of prairie conservation courses, such as the one developed for the University of Lethbridge, to other universities and colleges.

"In July, when the pools of water are fast drying up under the sun, and when the grass of their more southern pastures has been consumed, these animals make their way northward to the fertile valleys of the Saskatchewan and its tributaries. They appear to cling to the line of the Milk River, probably because they depend upon its water ..... The plains between the Milk River and the Sweetgrass Hills are a sort of neutral ground between the Indian tribes and are generally left unoccupied by them; the Sioux and Assiniboines do not appear to cross the west bank of the stream, and the Blackfeet, who cling to the skirts of the Rocky mountains, rarely approach the Buttes. As a consequence, perhaps of this state of things, this strip of country was, in July, 1874, full of buffalo, which were slowly moving north in large herds."

- Captain Featherstonhaugh 1876





# Glossary

The following definitions are provided for some of the key terms used in the Alberta PCAP.



## **Anthropogenic**

Environmental modification through the work or activity of humans.

## **Benchmark**

The variety or variability of organisms from all sources including terrestrial, marine and other aquatic and the ecological complexes of which they are a part.<sup>2</sup>

## **Biological Diversity (Biodiversity)**

A measure of the type and nature of organisms occurring on a landscape.

## **Community**

The populations of different species interacting with each other in a particular habitat.

## **Connectivity**

Habitat linkages that connect distinguishable areas (i.e., habitat nodes/patches) within a landscape.

## **Conservation**

The wise use, management and protection of resources to maintain their quality and quantity on a sustainable basis.

## **Conservation Ethic**

A way of acting and thinking within a conservation oriented framework.

## **Corridor**

An intact passageway that allows for the free movement of animals between habitats in a landscape.

## **Crown Land**

Lands held by the Crown in right of the provincial or federal government. In Alberta, provincial Crown Land is administered under the authority of the Public Lands Act.

## **Cumulative Effects**

The incremental and combined effects (impacts) of human actions and projects on the environment within a

geographically defined area.

## **Demonstration Site (Project)**

An area set aside for the express purpose of testing, confirming, or establishing the outcome of resource management interventions for the benefit of informing others.

## **Ecological Integrity (see also Landscape Integrity)**

An ecosystem condition in which natural processes are intact and fully functional and in which biodiversity (i.e., native species and communities) and ecological components are sustained.

## **Ecosystem**

The structure and function of living and non-living components and the ecological processes that link them.

## **Ecosystem Function**

The set of processes that integrate ecosystem components.

## **Ecosystem Management**

The art and science of conserving natural landscape diversity, productivity and processes while providing a sustainable flow of products to meet society's needs.

## **Environmental Indicators**

A measurable variable – describing an environmental state or condition – that is used to assess the effectiveness of chosen strategies in achieving stated resource management goals, targets and objectives.

<sup>2</sup> Wilson, A.E. 1992. The diversity of life. Belknap Press, Harvard University.



# Glossary

## **Ephemeral**

Short-lived, as in water bodies such as ponds that fill or streams that flow briefly after precipitation events.

## **Fauna**

All species of vertebrate and invertebrate animals.

## **Flora**

All species of vascular and non-vascular plants.



## **GIS (Geographic Information System)**

A powerful mapping tool for collecting, storing, retrieving, displaying and transforming or manipulating mapped data. GIS makes 'smart maps' in that any type of data can be mapped where it occurs in real space and used to answer management questions for particular applications. It can be used to model 'what-if' scenarios – which are an important component of environmental and risk assessments – and is used in cumulative impacts modelling as well as examining trends over time and space.

## **Habitat**

The place where an animal or plant lives.

## **Industrial Footprint**

The area disturbed by an industrial project or activity.

## **Landscape**

All of the biotic and abiotic features of an area including vegetation, microbes, wildlife, topography, soils, geology and-

climate. A landscape can be a small feature such as a hill, or a regional feature such as a natural region or subregion (see definition of these terms).

## **Landscape Integrity**

The quality of a landscape mosaic in which the structure and function of naturally occurring landforms, surface features and landscape characteristics are maintained while accommodating acceptable levels of disturbance.

## **Management Plan**

A set of actions to ensure that a particular species or habitat does not become rare, threatened or endangered.

## **Microfauna**

Insects and other small invertebrates like mites, nematodes and worms that serve an essential role in ecosystems.

## **Monitoring**

The act of assessing some entity with the intent of detecting changes over time. Ecosystem monitoring, for example, might include establishing some benchmarks or records of initial condition and then surveying those benchmarks every few years for changes in wildlife, plant and microbial composition.

## **Native Prairie**

An area of unbroken grassland or aspen parkland dominated by non-introduced species.

## **Native Prairie Ecosystem**

See 'native prairie' and 'ecosystem'. Includes soil, hydrology, vegetation, climate, microbes, wildlife, landscape features, and the processes which link them.

## **Natural Capital**

Refers to those naturally occurring assets that are found on, above or below the earth's surface including: water bodies, soils, forests and grasslands, minerals, energy resources, fish and wildlife, scenery, landforms, etc.

# Glossary

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## **Natural Region/Subregion**

A natural region is a broad landscape division characterized by a distinct set of climatic, vegetation, soil, and topographic features. A natural subregion is a finer subdivision of the natural region based on landform variations over a smaller area. There are six natural regions subdivided into 20 natural subregions in Alberta.

## **Parkland**

The 'parkland' includes two natural subregions (Central Parkland and Foothills Parkland) developed on dark-brown or black chernozemic soils. Characteristic vegetation includes rough fescue in grassland portions and trembling aspen in the forested areas. This natural region has a well developed shrub and herbaceous layer. In the Central Parkland rainfall is distributed evenly through the summer months, providing water for abundant pothole wetlands. The Foothills Parkland occupies a narrow transitional zone between foothills fescue grasslands and montane forests. The frost free period averages only 90 days.

## **Protection**

Retention of the integrity, authenticity, and intrinsic value of the native prairie resource in perpetuity.

## **Public Land**

Provincial Crown Land. Defined in Alberta's Public Lands Act as "land of the Crown in right of Alberta."

## **Range, Rangelands**

Generally, lands supporting native or introduced plants which are a source of forage for domestic and native animals, and a source of other values derived from ecosystem functions.

## **Range Management**

The art and science of optimizing the returns from rangelands in those combinations most desired by and suitable to society through the manipulation and conservation of range ecosystems.

## **Recovery Plan**

A set of actions for a particular threatened, endangered or extirpated species, aimed at increasing its numbers so that it can be de-listed.

## **Resource**

Any part of the environment which society perceives as having value.

## **Riparian Management**

The actions associated with controlling resource uses in ecosystems along streams and on their floodplains to ensure their continuing integrity and function.

## **Species**

A unit used to classify living things, describing any groups that share general physical characteristics, and which theoretically can mate and produce fertile offspring.





## Species at Risk

An umbrella term that refers to species which fall into the following (federal) categories: extirpated, endangered, threatened, or of special concern (vulnerable).

*“Extirpated”* species are those that no longer exist in the wild in Canada but exist elsewhere.

*“Endangered”* species are those that face imminent extirpation or extinction.

*“Threatened”* species are those which are likely to become endangered if limiting factors are not reversed.

*“Special Concern”* (Vulnerable) species are those which may become threatened or endangered because of a combination of biological characteristics and identified threats.

## Stewardship

“The individual and corporate responsibility of one generation to maintain the natural inheritance that it has received, both for its benefit and for the benefit of future generations. A commitment to conserve and maintain the natural features of the land.” (Source: Grasslands – Toward a North American Conservation Strategy. 2003)

## Sustainable Development

The act of balancing human needs for resources with the maintenance of healthy natural ecosystems that support human existence.

## Tame Pasture (tame grassland)

Landscapes which have been converted from natural vegetative cover to forage species through cultivation and seeding.

## White Area

Established by the Government of Alberta in 1948, the ‘White Area’ is that portion of the province which is suitable for human settlement and agricultural use.

## Wildlife

All native species of plants, animals (including all invertebrates and vertebrates) fungi, and some unicellular life forms.

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# Prairie Conservation Forum

The Prairie Conservation Forum is a voluntary association of Alberta organizations whose interests or jurisdictions relate to prairie and parkland landscapes. It exists to encourage effective implementation of the Prairie Conservation Action Plan and to provide an ongoing profile for prairie and parkland conservation initiatives. Its key functions include:



- providing a forum for networking and information exchange
- steering implementation of the PCAP
- promoting public awareness and education

Any organization wishing to participate in the work of the Forum may join the Prairie Conservation Forum. All Forum meetings are open to the public. The Prairie Conservation Forum meets about three times annually in various centres in prairie and parkland Alberta.

## The current membership of the Prairie Conservation Forum is as follows:



### **Agriculture and Agri-Food Canada PFRA**

[www.agr.gc.ca](http://www.agr.gc.ca)  
- Mark Wonneck  
- Bill Bristol

### **Alberta Agriculture, Food and Rural Development**

[www.agric.gov.ab.ca](http://www.agric.gov.ab.ca)  
- Greg Hale

### **Alberta Beef Producers**

[www.albertabeef.org](http://www.albertabeef.org)  
- Craig Horner

### **Alberta Conservation Association**

[www.ab-conservation.com](http://www.ab-conservation.com)  
- Linda Cerney  
- Randy Lee  
- Richard Ehlert

### **Alberta Conservation Tillage Society / Dryland Salinity Control Association**

- Vern McNeely

### **Alberta Fish and Game Association**

[www.afga.org](http://www.afga.org)  
- Francois Blouin

### **Alberta Native Plant Council**

[www.anpc.ab.ca](http://www.anpc.ab.ca)  
- Cheryl Bradley  
- Reg Ernst

### **Alberta Sustainable Resource Development**

[www.srd.gov.ab.ca](http://www.srd.gov.ab.ca)  
- Dom Ruggieri  
- Suzanne Hawkes

### **Alberta Wilderness Association**

[www.albertawilderness.ca](http://www.albertawilderness.ca)  
- Cliff Wallis  
- Cleve Wershler

### **Canadian Forces Base – Suffield (Department of National Defence)**

[www.army.forces.gc.ca/cfb\\_suffield/home.html](http://www.army.forces.gc.ca/cfb_suffield/home.html)  
- Major Fern Martins  
- Wes Richmond  
- Brent Smith  
- Delaney Boyd  
- Karen Anderson

### **Canadian Parks and Wilderness Society**

[www.cpaws.org](http://www.cpaws.org)  
- Derek Ebner

### **City of Calgary**

[www.calgary.ca](http://www.calgary.ca)  
- Chris Manderson

### **Community Development (Alberta) Parks and Protected Areas**

[www.albertaparks.ca](http://www.albertaparks.ca)  
- Wayne Pedrini  
- Cam Lockerbie  
- Heidi Eijgel  
- Terry Krause

### **Community Development (Alberta)**

[www.cd.gov.ab.ca](http://www.cd.gov.ab.ca)  
- Dr. W. Bruce McGillivray  
- Mark Steinhilber  
- Gerry Ward  
- George Chalut

**Ducks Unlimited Canada**

[www.ducks.ca](http://www.ducks.ca)

- Morgan Stromsmoe
- Brett Calverley
- Jerry Brunen

**Eastern Irrigation District**

[www.eid.ab.ca](http://www.eid.ab.ca)

- Tom Livingston
- Rick Martin

**Economic Development (Alberta)**

[www.alberta-canada.com](http://www.alberta-canada.com)

- Kevin Crockett

**EnCana Corporation**

[www.encana.com](http://www.encana.com)

- Vasile Klaassen

**Energy (Alberta)**

[www.energy.gov.ab.ca](http://www.energy.gov.ab.ca)

- Jennifer Steber

**Energy and Utilities Board (Alberta)**

[www.eub.gov.ab.ca](http://www.eub.gov.ab.ca)

**Environment Canada - Canadian Wildlife Service**

[www.cws-scf.ec.gc.ca](http://www.cws-scf.ec.gc.ca)

- Olaf Jensen
- Ron Bennett

**Federation of Alberta Naturalists**

[www.fanweb.ca](http://www.fanweb.ca)

- Donald Stiles
- Andrew Stiles

**Fish and Wildlife Service (Alberta Sustainable Resource Development)**

[www.srd.gov.ab.ca/fw/index.html](http://www.srd.gov.ab.ca/fw/index.html)

- Richard Quinlan

**Grasslands Naturalists**

[natureline.info](http://natureline.info)

- Rob Gardner
- Dawn Dickinson
- Henry Binder

**MD of Ranchland No. 66 Agricultural Service Board**

- Carolyn Wilson

**National Energy Board**

[www.neb-one.gc.ca](http://www.neb-one.gc.ca)

- Kent Lien
- Pamela Romanchuk

**Natural Resources Conservation Board (Alberta Sustainable Resource Development)**

[www.nrcb.gov.ab.ca](http://www.nrcb.gov.ab.ca)

- Dr. Robert Powell
- Kristen Lorenz

**Nature Conservancy of Canada**

[www.natureconservancy.ca](http://www.natureconservancy.ca)

- Dana Blouin
- Nic DeGama-Blanchet
- Renny Grilz

**Parks Canada (Waterton Lakes National Park)**

[www.pc.gc.ca](http://www.pc.gc.ca)

- Bill Dolan

**Pekisko Group**

[www.pekisko.ca/](http://www.pekisko.ca/)

- Harvey Gardner

**Public Lands and Forestry (Alberta Sustainable Resource Development)**

[www.srd.gov.ab.ca](http://www.srd.gov.ab.ca)

- Brian Laing

**Regional Services (Alberta Environment)**

[www.environment.gov.ab.ca](http://www.environment.gov.ab.ca)

- Ian Dyson
- Cheryl Dash

**Resource Information Management Branch (Alberta Sustainable Resource Development)**

[www.srd.gov.ab.ca](http://www.srd.gov.ab.ca)

- Livio Fent
- Marilyn Rayner

**Ann and Sandy Cross Conservation Area**

[www.crossconservation.org](http://www.crossconservation.org)

- Jacquie Gilson

**Shell Canada Ltd.**

[www.shell.ca](http://www.shell.ca)

- Roger Creasey

**Society for Range Management**

[www.rangelands.org](http://www.rangelands.org)

- Ed Nelson
- Barry Adams

**Southern Alberta Applied Research Association**

- Jerry Holtman

**Southern Alberta Land Trust Society**

[www.salts-landtrust.org](http://www.salts-landtrust.org)

- Jane Pederson

**Special Areas Advisory Council**

- Kyle Christianson
- Gerald Kornelson

**Special Areas Board**

[www.specialareas.ab.ca](http://www.specialareas.ab.ca)

- Dug Major
- Corinne Kelts

**Transportation (Alberta)**

[www.infratrans.gov.ab.ca](http://www.infratrans.gov.ab.ca)

- Al Nilson

**University of Alberta**

[www.ualberta.ca](http://www.ualberta.ca)

- Dr. Mark S. Boyce

**University of Calgary**

[www.ucalgary.ca](http://www.ucalgary.ca)

- Dr. Cormack Gates
- Peggy Desserud

**University of Lethbridge**

[www.uleth.ca](http://www.uleth.ca)

- Dr. Andy Hurly
- Dr. Cam Goater

**Western Sky Land Trust Society**

[www.westernskylandtrust.ca](http://www.westernskylandtrust.ca)

- Tracy Tarves

**Wildlife Society (Alberta Chapter)**

[www.albertadirectory.net/actws](http://www.albertadirectory.net/actws)

- David Scobie
- Douglas M. Collister

**Prairie Conservation Forum****Operations: Alberta Environment**

[www.environment.gov.ab.ca](http://www.environment.gov.ab.ca)

- Ian Dyson, PCF Secretary
- Cheryl Dash, PCF support
- Louella Cronkhite, PCAP support

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Gerald McKeating, Chair. March 1993. 14 pages.

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Teacher's Guide Grade 7-9 Science. Alberta Environment. March 2005. 60 pages.

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