

# **Poachers' Landing Provincial Recreation Area**

## **Management Plan**

Alberta Community Development  
Parks & Protected Areas

September 2002



# POACHERS' LANDING PROVINCIAL RECREATION AREA MANAGEMENT PLAN

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## **Preface**

The Poacher's Landing Provincial Recreation Area management plan provides a long-term vision and day-to-day guidance for stewardship of the park. The plan was prepared by department staff, within the context of existing legislation and regulations. It outlines the type and extent of outdoor recreation and tourism opportunities, facilities and services. The plan provides direction regarding the delivery of heritage appreciation programs that assist Albertans and visitors to understand and appreciate our natural heritage while ensuring its ongoing preservation.

The management plan was developed with public input and is intended to provide for periodic review and revision to reflect the current thinking of Albertans on how our natural heritage will be preserved for present and future generations.

The Minister responsible for parks and protected areas has authorized the implementation of the management plan and retains the authority to amend or interpret its provisions.

## **Acknowledgements**

The Poachers' Landing Provincial Recreation Area Management Plan is recommended for approval and implementation .

We would like to thank the following people for their time and support during the planning process:

The Poacher's Landing Management Planning Committee: which includes: Jim Woodward (County of Athabasca), Don McGladdery (County of Athabasca), Casey Bizon (Poacher's Landing Recreation Club), Mike Kamelchuk (Trapper & Poacher's Landing Recreation Club), Ed Zilinski (Poacher's Landing Recreation Club), Dale Goetsch (Poacher's Landing Recreation Club), Terry Coverly (Poacher's Landing Recreation Club), Brent Rabik (ALPAC), Ted Johnson (Parks & Protected Areas), Jennifer Gammon (Parks & Protected Areas).

ALPAC for their co-operation, support and helicopter tour of the PRA and all the other stakeholder groups that provided input.

We would also like to thank Joe Prusak and Dixie Colter for help in displays and communication processes and Wolf Stroebel for providing the maps and digital data.

## **1.1 INTRODUCTION**

Poachers' Landing Provincial Recreation Area is located about 25 kilometres north east of the Town of Athabasca (north of the Alberta Pacific Pulp Mill). The Provincial Recreation Area (PRA) encompasses an area of 1,518.93 ha of Dry Mixedwood Boreal Forest. The north and west boundary is the Athabasca River. The south boundary meanders its way around the private or leased land and the La Biche River Wildland Provincial Park borders the east boundary.

The preservation and recreational value of Poachers Landing Provincial Recreation Area (PLPRA) is enhanced by its environmental diversity. Most of the forest communities found in the Dry Mixedwood Boreal Forest occur in the area. Sand dunes near the Athabasca River support forests of jack pine interspersed with poplar, white spruce and paper birch. Well-drained uplands overlying clay rich glacial till are forested by aspen and white spruce with frequent mixed stands. On moister sites particularly along the river, forests include balsam poplar and balsam fir along with white spruce, aspen and paper birch. Poorly drained organic wetlands support communities of black spruce and larch. Bog birch and willows dominate in the wettest areas. Understory shrubs, forbes, grasses and mosses are similarly diverse. Some wildlife surveys have been carried out in the area, most of these were done when the site was designated a Natural Area.

## **1.2 History of Park Establishment**

Initiatives to preserve the area for local recreational use began around 1978 when the Poacher's Landing Recreation Club obtained a Recreation Lease on 17 ha (LSD 12-10-69-19-w4m and LSD 9-9-69-19-w4m). In 1984, club members formally requested the government that the site be retained in a natural state for public recreation and enjoyment. The County of Athabasca and the local M.L.A supported this request.

In 1984 a Consultative Notation (CNT) was placed on 1,883 ha for Natural Area purposes. The CNT was upgraded to a Protective Notation (PNT) for a Natural Area on 1,350 ha in 1985.

The Order-in-Council establishing Pine Sands as a Natural Area under the Wilderness Areas, Ecological Reserves and Natural Areas Act was passed February 1987.

The Poachers' Landing Society with the support of the County of Athabasca nominated an expansion to the Natural Area. In March of 1999 the Minister of Environmental Protection requested the County of Athabasca to host a Special Places Local Committee to consider this expansion.

On June 6, 2000 the Order in Council was made to amend the Pine Sands Natural Areas designation to Poachers' Landing Provincial Recreation Area (O.C. 208/2000) and included an expansion of 150 ha (1.5 square kilometres). A further expansion to the east of the Poacher's Landing Recreation Area occurred forming the La Biche River Wildland Park.

## 1.3 Significant Features of the Park

Refer to Figure # 1 for details on locations of some of these features.

### *Athabasca River*

The Athabasca River is not in the PRA but runs along the north boundary of the PRA. It is a major feature of the landscape and an important historical water travel route.

### *Bear Creek*

Bear Creek is the largest stream in Poachers' Landing Provincial Recreation Area (PRA). This is the largest colluvial<sup>1</sup> landscape in the PRA and has regional significance<sup>2</sup>. The Bear Creek valley is dominated by mixedwood forest; willow thickets and meadows. It provides habitat for beaver, boreal toad, stalked sedge and others.

### *Colluvial Amphitheatres*

The main *colluvial amphitheatre* is the second largest colluvial landform in the PRA (located Sec. 3, Twp. 69, Rge. 20 w4m) and has regional significance. The amphitheatre is bisected by a rocky intermittent stream, which provides important habitat for winter wren, tiger salamander, Peck's sedge and brook grass. It is dominated by old growth white spruce -fir and mixedwood forest.

The second colluvial amphitheatre is referred to as the *scenic sharply defined colluvial amphitheatre* in the PRA and it can be found on the West side of the PRA. It has regional significance as well. It supports old growth mixedwood forest and has very high diversity. The provincially rare Adder's mouth has been found alongside a seepage brook. This area is very sensitive to disturbance due to the moist soil, slope, abundance of moss covered logs and the horsetail, moss and forbe covered forest floor. The exact location of these colluvial amphitheatres has not been recorded.

### *"Suicide" Slope Failure*

The "Suicide" slope failure is a colluvial feature that lies east of the mouth of Bear Creek. It formed approximately 40 years ago when a terrace failed and slid, leaving a sharp headwall and slide heap at the bottom. The height of the bluff is about 25m with part of it at an 85% slope. The local people named it "Suicide" meaning a good place to jump. A trail leads to the bluff providing a great view of the Athabasca River. This feature has local (Park) significance<sup>2</sup>.

### *Donut-hole Depressions*

These depressions are best described as deep blowouts. They can be found in an area west of the Nova/ALPAC pipelines, near the south boundary of the PRA. They appear as well-defined circular depressions rimmed by

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<sup>1</sup> soil that has reached its present position by direct, gravity induced movement

<sup>2</sup> Refer to the glossary of terms for the definitions of provincial, regional and local significance.

sand ridges. The ridges are composed of eolian<sup>3</sup> sand while the depressions/wetlands are sand overlying a sand clay loam/sandy loam. These have regional significance.

### ***Eolian Sand Dunes and Grasslands***

The landscape type occupies a large portion of the PRA (approximately 2/3) and has regional significance. The sands support an ever-changing panorama of grassland; jack pine and aspen/rose forest set in longitudinal and transverse dunes and inter-dunal flats.

### ***Alluvial Terraces***

Alluvial<sup>4</sup> terraces are found along the Athabasca River and are significant for their landform, habitat, travel corridor and species diversity. Features include colluviating slopes, abandoned channels, freshwater springs, and old growth forests. The terraces have regional significance.

### ***Forest Types***

Old Growth White Spruce Forests are scattered across the PRA mainly below the slope break on alluvial terraces and colluvial slopes. Stand age can range from 100 -200 years. These stands can be considered very diverse.

*Mature Riverine Forests* are generally found along the Athabasca River Valley and include all old growth forests. They are significant for their habitat, species diversity and as migration/travel corridors for wildlife, providing linkage to other habitats.

*Jack Pine forests* and *Aspen Forests* occupy the majority of the PRA. Stand age can range from 40 to 120 years.

### ***Freshwater Springs***

There is **no potable water** in the PRA.

There are two freshwater springs in the PRA. The spring at Poacher's Landing Recreation Area Campground (LSD 9-9-69-19- w4m) is the best known and is heavily visited by the local people. It has a flow rate greater than 50-gallons/per minute. The other spring is not as well known (in LSD 11-8-69-19-w4m) to the local people and has a flow rate of 5-gallons/per minute.

### ***Wetlands***

The only types of wetlands that occur within the PRA are "donut-hole" wetlands, grass meadows and tamarack or black spruce bogs.

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<sup>3</sup> materials deposited and sorted by wind action

<sup>4</sup> medium textured flood plain uniform deposits of recent origin

### *Cultural Features*

Poacher's Landing Recreation Area, main area (in LSD 12-10-69-19-w4m and LSD 9-9-69-19-w4m) totalling 17 ha is leased to the Poacher's Landing Recreation Club. It includes a boat launch, picnic shelter, picnic tables, about 4 campsites, fire pits, outhouses, playground and clear water spring.

The secondary recreation area is in LSD 6 & 12 of Sec.9 -69- 19-w4m. There is a campsite, picnic table, outhouse, and fire pit.

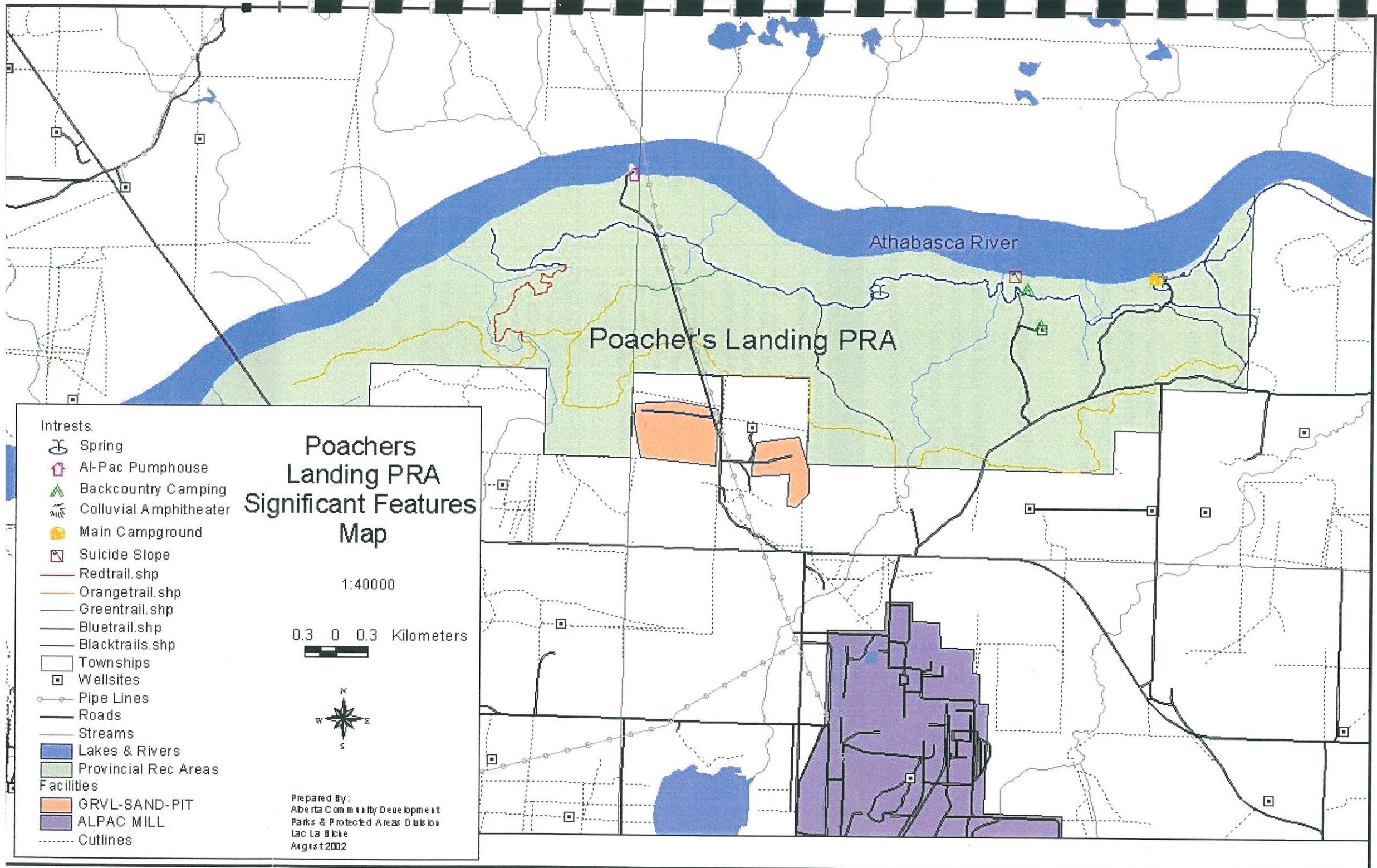
Pelican River Trail Rides (David Wood) holds LOC 880823 within the PRA. It was leased for the purposes of equestrian riding.

Some common activities include berry picking (blueberries, strawberries, saskatoon and low-bush cranberries), horseback riding, hiking, ATV use on existing trails, fishing, etc.

### *Historic Trails*

There are no historical trails throughout the PRA. There are only traditional use trails. These would include trapline trails, river access trails and old logging trails, etc.

Figure I : Poachers Landing PRA & Significant Features Map

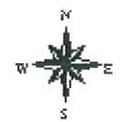


Poacher's Landing PRA

Athabasca River

### Poachers Landing PRA Significant Features Map

1:40000



- Interests**
- Spring
  - Al-Pac Pumphouse
  - Backcountry Camping
  - Colluvial Amphitheater
  - Main Campground
  - Suicide Slope
  - Redtrail.shp
  - Orangetrail.shp
  - Greentrail.shp
  - Bluetrail.shp
  - Blacktrails.shp
  - Townships
  - Wellsites
  - Pipe Lines
  - Roads
  - Streams
  - Lakes & Rivers
  - Provincial Rec Areas
- Facilities**
- GRVL-SAND-PIT
  - ALPAC MILL
  - Cutlines

Prepared By:  
Alberta Community Development  
Parks & Protected Areas Division  
Lac La Poudre  
August 2002

## 1.4 Purpose of Management Plan

This management plan will provide direction for the management, protection and use of Poacher's Landing Provincial Recreation Area. More specifically it will:

- Describe the Provincial Recreation Area (PRA)
- Place the PRA within a system of protected areas in Alberta and state its natural history themes.
- Indicate the PRA's importance within the Parks and Protected Areas of Alberta.
- Divide the PRA into Zones.
- Define and discuss the objectives and management actions for the PRA.
- Outline surrounding land use and co-operation with surrounding Stakeholders and Land Managers.
- Outline management actions based on the Management Guidelines of the Special Places Local Committee.
- Outline implementation strategies of the plan, detailing the roles of various partners both public and private.

## 1.5 Summary of Management Objectives and Guidelines

These management objectives and guidelines have been looked at and considered in the management plan Objectives and Management Actions section and meet with existing policy and regulations. For more details please refer to Section 5.0 Objectives & Management Options.

Table 1: Summary of Management Objectives & Guidelines

<b>Provincial Objective/C</b>	<b>Resource/Use</b>	<b>Management Objectives / Guidelines</b>
Preservation	Systems Related	<ul style="list-style-type: none"> <li>• To preserve representation of unique, rare and endangered plant and animal species, communities and gene pools found in the PRA.</li> </ul>
	Geological / Landforms Resources	<ul style="list-style-type: none"> <li>• To maintain the sand dunes and their associated wetlands in a natural state.</li> <li>• To allow natural processes along riverbanks, shorelines and deltas, such as slumping and flooding to continue without interference.</li> </ul>
	Aquatic Resources	<ul style="list-style-type: none"> <li>• To protect the diversity of rivers and wetlands in the PRA.</li> <li>• To protect streams from unacceptable impacts from human use.</li> <li>• To protect these aquatic resources, activity in these areas will generally be limited.</li> <li>• To protect aquatic resources from pollution by development and oil &amp; gas exploration.</li> </ul>
	Vegetation	<ul style="list-style-type: none"> <li>• Maintain the diversity of vegetation communities in the PRA.</li> <li>• To protect the sensitive lichen ground cover from destructive disturbance.</li> <li>• To allow natural disturbance regimes, which help maintain the diversity and characteristics of the area, to operate in the PRA. If this is not feasible, natural disturbances may be simulated.</li> <li>• To protect the old growth forests and the rare noteworthy species in the PRA .</li> <li>• Alberta Community Development will be responsible for fire protection in the PRA (see below for details)</li> </ul>
	Wildlife	<ul style="list-style-type: none"> <li>• To maintain habitats for the variety of wildlife found in the PRA.</li> </ul>

	Historical / Cultural	<ul style="list-style-type: none"> <li>To protect the cultural features in the PRA, such as traditional use traits</li> <li>Historical travel routes through the area should be researched and possibly reclaimed as trails or used for interpretive sign locations.</li> </ul>
Heritage Appreciation	Interpretation /Environmental Education	<ul style="list-style-type: none"> <li>To offer the opportunity for unstructured exploration of the natural and cultural heritage of the PRA.</li> <li>To offer schools &amp; groups the option for self guided environmental education opportunities in the local area or from all over the country.</li> </ul>
	Visitor Information	<ul style="list-style-type: none"> <li>To encourage visitors and surrounding communities to be stewards of the PRA.</li> <li>To provide information to visitors that will help them understand the intent of the PRA and appreciate its heritage.</li> </ul>
Outdoor Recreation	Camping	<ul style="list-style-type: none"> <li>To offer opportunities for auto access camping at Poachers Landing and backcountry camping at the designated site.</li> <li>No random camping will be allowed in the PRA.</li> </ul>
	Access / Staging Areas	<ul style="list-style-type: none"> <li>To provide controlled access and staging areas in the park.</li> <li>To have signs and barriers at all entry points to prevent highway vehicle access into the PRA on OHV trails.</li> </ul>
	Trails	<ul style="list-style-type: none"> <li>To designate a network of trails in the park suitable for OHV, equestrian use, hiking and cross-country skiing.</li> <li>To maintain the existing network of off highway trails in the vicinity of Poachers Landing.</li> </ul>
	Equestrian Use	<ul style="list-style-type: none"> <li>To facilitate equestrian use in the park.</li> </ul>
	Hunting & Fishing	<ul style="list-style-type: none"> <li>Bear baiting is not allowed in the PRA or within 1.6km of the PRA boundary (under the Wildlife Act)..</li> <li>To permit trapping to continue as long as it is sustainable with the wildlife in the surrounding area.</li> <li>Provide opportunities to access sport fishing locations (the Athabasca River).</li> <li>Hunting will not be a permitted activity within the PRA.</li> </ul>
	Snowmobile Use	<ul style="list-style-type: none"> <li>To designate a snowmobile route through the PRA which provides access to the forested lands to the north.</li> </ul>
	Recreational OHV & Watercraft	<ul style="list-style-type: none"> <li>To provide opportunities for off highway vehicles to use the designated trails within Poachers' Landing PRA.</li> <li>Motorized watercraft will be provided access to the rivers in a manner that is consistent with present day activity.</li> </ul>
	Special Events	<ul style="list-style-type: none"> <li>Scientific research and special events will be allowed in the PRA.</li> </ul>
	Other Recreational Activities	<ul style="list-style-type: none"> <li>To provide opportunities for other recreational activities which are compatible with the objectives and intent of the PRA.</li> <li>To monitor for activities which do not presently occur in the PRA, but which could take place in the future.</li> </ul>
Tourism		<ul style="list-style-type: none"> <li>To provide opportunities for tourists to experience the Poachers' Landing Provincial Recreation Area.</li> <li>To provide visitors with backcountry experiences.</li> <li>To provide a variety of natural environment based opportunities through cultural and natural heritage experiences.</li> <li>To support local businesses and tourism groups and offer economic opportunities.</li> <li>To promote the contribution of the PRA to Alberta's network of protected areas.</li> </ul>
Monitoring		<ul style="list-style-type: none"> <li>Monitoring is a systematic way of detecting and measuring changes that, over the long term, may be counter to the objectives of the PRA. These changes can act as flags for management action. A monitoring program will be instituted that will detect these changes.</li> </ul>
Dispositions	Oil & Gas	<ul style="list-style-type: none"> <li>Oil and gas dispositions existed in the PRA before its establishment.</li> </ul>

		<ul style="list-style-type: none"> <li>Existing oil and gas commitments prior to designation of the PRA will be honoured. However exploration and development conditions &amp; guidelines may vary from the green zone or white zone conditions.</li> </ul>
	Trapping	<ul style="list-style-type: none"> <li>There is currently one trapping area existing in the PRA boundaries. The TPA holder is allowed to continue his activities on the trapline and is able to use snowmobiles and quads to work the trapline.</li> <li>There are presently no cabins in the PRA and no cabins will be permitted in the PRA.</li> </ul>
	Recreation	<ul style="list-style-type: none"> <li>The Poachers' Landing Recreation Club leases will be honoured and the Club, along with other volunteers should continue their role as stewards and custodians.</li> <li>Pelican Trail Rides (LOC 880823) lease will be honoured and should continue their role as stewards and custodians.</li> <li>To hold any special events within the PRA it is necessary to apply for special activity permits obtained from Parks and Protected Areas Division. These include things like snowmobile rallies, trail riding, etc.</li> </ul>
	Forestry	<ul style="list-style-type: none"> <li>No timber harvesting is allowed within the PRA.</li> </ul>
	Grazing	<ul style="list-style-type: none"> <li>Adjacent leases should be used only for unimproved pasture by existing lessees. Work with public lands to develop lease management conditions to ensure encroachment does not occur.</li> <li>Monitor for encroachment and enforce regulations as deemed necessary.</li> </ul>

## 1.6 Public Involvement

*Explains the Public involvement process utilised in detail.*

### Initial Development Stage

1. Order in Council (#208/2000)
2. Prepared mapping and background information collected - complete January 2001
3. Plan preparation, compiled baseline information - completed January to May 2001

### Information Distribution Process

This is the format used for information distribution.

1. Interdepartmental/ Interoffice review and approval.
2. Start up Management planning process.
3. Meet and consult with County of Athabasca and Poacher's Landing Recreation Club.
4. Formed a committee of Stakeholders (County of Athabasca, Poachers Landing recreation Society, ALPAC, Local Trapper, Snowmobile club, etc) (Formed July 2000)
5. Meetings with Stakeholder committee. (throughout process)
6. Develop an information package to send to the identified stakeholders that are affected directly by the changes. Sent out before Information session in August 2001. Advertisement was put in local paper regarding information session and request for public input.
7. General Meeting open to all stakeholders (Final Stakeholder Input Meeting held August 28, 2001).
8. Wait for comments to come in from stakeholders and public. Review comments and make changes to Management Plan as required. Public review and comments (incorporated October 2001).
9. Follow up meeting with review of final management recommendations. Final draft forwarded to internal management and Directors for review (completed April 2002).

## **Final Decision**

Once all the suggestions have been considered and the draft management plan is completed for final review. The department and minister will make the final decision about the plan.

1. Management Plan reviewed at the ministerial level for approval.
2. Final Decision - Final signing and agreement by the minister and the department.
  - \* Protected Areas sign off of final draft (May 2002)
  - \* ADM endorsement (May 2002).
3. Hold a public information session once plan is approved (Summer 2002).
4. Plan Implementation Summer 2002

## **Training Staff / Preparation**

- > Make sure the staff is informed about the plan and that they are aware of the public involvement process being used.
- > Roles of the staff generally stay the same. It will be a larger area to manage.
- > More staff may be required.
- > Direct contact with the communications department will be necessary

## **2.1 OVERVIEW OF PARK**

### **2.2 Regional Setting and Access**

The Poacher's Landing Provincial Recreation Area is located about 25 kilometres Northeast of Athabasca and about 30 kilometres north of Boyle.

Access to the Poachers' Landing staging area is via Highway 55 east of Athabasca then north past the Alberta Pacific pulp mill. There is a County of Athabasca road through section 4 and SW 10-69-19-W4. Poacher's Landing Recreation Club holds a License of Occupation (LOC 780630) on the access roads to their Recreation Lease, but the County of Athabasca voluntarily maintains these. Pelican River Trail Rides (David Wood) holds LOC 880823 within the PRA.

### **2.3 Description of Park**

The Provincial Recreation Area (PRA) includes 1,519.93 hectares of land in the North Central Alberta. The PRA boundary begins at the south shore of the Athabasca River and encompasses in parts townships 69, ranges 19-20 west of the fourth meridian. Poachers' Landing PRA contributes to protecting an important number of stream/river theme requirements that define the diversity of the Dry Mixedwood Subregion of the Boreal Forest of Alberta. It is a significant contribution to the Boreal Forest Natural Region.

The Poachers' Landing Recreation Area is an area of rolling, stabilized sand dunes along the south bank of the Athabasca River. Jack Pine/lichen woodlands occupy the dune crests while mixtures of pine, aspen and spruce vegetate dune slopes and interdune depressions. Lowland areas are predominantly black spruce and/or tamarack

muskegs. The Forests along the river are comprised of mixtures of balsam poplar, aspen, white spruce, balsam fir and paper birch.

Poachers' Landing is a well-known and utilized recreation area. The diverse landscape and relatively open forest are conducive to trail development, berry picking, and to river access for fishing. However, the sandy rolling terrain is highly sensitive to disturbance and abuse. Serious degradation in environmental quality could occur if it is not managed properly and respected by the users.

### **2.3.1 Archaeological/ Historical**

The PRA is situated along the Athabasca River, an area that is considered to have high potential for the occurrence of historical resource sites in an undisturbed context. The potential of development in this area to affect historical resources is considered to be high (Alberta Community Development, 2001).

#### **Archaeological Significance**

The PRA is located in a high archaeological resource zone. This zone mainly includes the shores of the Athabasca River (Alberta Forestry, Lands & Wildlife, 1987 [Map]).

#### **Historical Perspective**

##### *Athabasca River*

The Athabasca River was a major travel / fur trade route for the first explorers. The Athabasca River led to the Athabasca Pass which became the primary transportation corridor to the Columbia River Valley and led to the Pacific Ocean (McCullough, 1991). It was part of the first transcontinental water trade route.

##### *Poacher's Landing*

"Poacher's Landing" acquired its local name from the persons in the area that used to poach deer, moose and elk on the Athabasca River. The river was used as a means to transport the game meat home from hunting expeditions. Poacher's Landing was a pick up point on the river where poached animals were retrieved because of the relatively easy vehicle access, thereby reducing the risk of being caught at the Athabasca Landing. It is also a point where boats can be launched and taken out of the river.

##### *Activities*

Historically, fire has been the major natural disturbance in the PRA. Permits were issued to remove fire-killed timber in 1928-29 and throughout the 1940's. Occasional piles of sawdust and old lumber can be found in the PRA, this is evidence of this past activity, most notably along the Athabasca River.

## 2.3.2 Geology and Soils

### *Geology*

The Poachers' Landing PRA forms part of the Alberta Plains and has been covered by at least two glaciers. The elevations range from approximately 500–550m.

Local Bedrock is Upper Cretaceous marine Lea Park Formation dark grey shale and light grey glauconitic silty shale and ironstone concretions. The Lea Park formation overlies the Cretaceous Colorado Group of shales. Fossil-bearing shale fragments, likely derived from the Lea Park Formation were observed with sandstone rocks at Poacher's Landing. Bedrock outcrops can occasionally be found along the valley walls of the Athabasca River.

The Parent geological material is fine dry sand that is very vulnerable to erosion. Most of the local topography is formed of sandy glacial deposits variously reworked by wind and water other wise known as eolian deposits.

### *Surficial Deposits*

The regional landscape is fairly level glaciolacustrine<sup>5</sup>-washed ground moraine with slopes of 0-2%. Within the PRA, eolian sand dunes in the south form gently undulating plain with local relief of approximately 5-10m between ridge crests and swales. The north slope break marks a transition to terraced alluvium where elevations fall 40-50m over slopes of 10-25%. Local relief in the PRA is 50m with maximum elevations in the south and minimum elevations at the Athabasca River.

**Within** the PRA, uniform medium to fine buff-coloured sand eolian deposits predominates to the south. The major dune ridges trend -E-W and minor ridges trend NE-SW. These deposits were formed into dunes by wind action, now they are stabilized with shallow blowouts commonly occurring. The sand ranges from 2-15m thick, they are derived from older glaciofluvial and glaciolacustrine sediments. Terraced alluvial sands over fine-textured sediments extend from the shore of the Athabasca River up slope. This alluvium is most extensive in the north-central part of the area (east and west of the Nova/ALPAC pipelines corridor). On the steeper slopes facing on the river, slumped alluvium (colluvium) with discontinuous veneer of loess<sup>6</sup> (overlying a stony layers or bedrock). Information compiled from Tirnoney, 1992 and Pine Sands Natural Area Management Plan.

### *Soils*

There are four soil orders found within the PRA. The dominant soil is the Sandy Brunisol. The three other types of soil that can be found are Regosols, Gleysols and Mesisols.

Brunisols are poorly developed soils, which generally form under forest vegetation. Orthic Eutric Brunisols and Orthic Dystric Brunisols cover over 80% of the PRA. Brunisolic soils develop under well-drained forested sites. Their distribution coincides with the distribution of sandy, glaciofluvial deposits. Some of the other site-specific soils found in the area include Eluviated Eutric Brunisols, Gleyed Cumulic Regosols, Orthic Regosols, Orthic Gleysols and Rego Gleysols. These soils tend to occur on more mesic to subhydric sites.

<sup>5</sup> stratified sediments that were deposited in contact with glacial ice or in glacial lakes.

<sup>6</sup> Loess is wind deposited, unstratified dusty sediment rich in clay minerals overlying bedrock.

Organic soil occurs in some of the lowland (subhygric to hygric) areas under black spruce -tamarack muskeg vegetation. These organic soils include Orthic Eutric Brunisols (peaty phase), Terrie Mesisols and Orthic Gleysols.

### ***Landscape Types***

The landscape types in the PRA can be summarized as follows:

The landscape along the Athabasca River consists of moderately to strongly rolling stabilized sand dunes.

Portions of the Athabasca River Valley and tributary creek valleys are steep sided and slumping is common. These large landslides are generally found along the creek and river channels. One of the largest lies along the entire length of Bear Creek and the Suicide slope (local name) in LSD 12 Sec. 9, Twp. 69, Rge. 19, w4m .

Shallow peat areas are also found in poorly to imperfectly drained flats. The largest peat deposit lies in NW Sec. 7, Twp.69, Rge.19 w4m and N1/2 Sec12, Twp.69, Rge. 20 w4m.

## **2.3.3 Aquatic Systems**

### ***River, Creeks & other Aquatic Habitats***

The Athabasca River is a major feature of the area and it supports a number of species of fish. Sport fish that occur along this portion of the river include northern pike, walleye, goldeye, mountain whitefish, arctic grayling, rainbow trout, and bull trout.

Bear Creek is the largest stream in Poachers' Landing Provincial Recreation Area (PRA). Another unnamed major drainage is located in the very west section of the PRA (Sec. 3, Twp. 69, Rge. 20 w4m).

"Donut-hole" wetlands found in depressions (blowouts) between the Dunes.

### ***Sur:ficie/ Hydrography***

Most of the PRA is comprised of well-drained uplands, a few poorly drained depressions and some creeks. There are approximately five creeks, evenly distributed throughout the PRA, which drain North into the Athabasca River. Three of these creeks also provide drainage for lands outside the PRA. Small seasonal intermittent streams empty into these creeks.

Bear creek is the largest watercourse that flows NNE through Sections 5, 8 & 9 of Twp.69, Rge. 19 w4m. It is bordered by sand ridges and becomes incised to 40m depth before reaching the Athabasca River. This junction is located just west of the prominent slope failure known as "suicide". Another interesting major drainage is located in the very west section of the PRA (Sec. 3, Twp. 69, Rge. 20 w4m), this is also the location of a prominent landslide bisected by a scenic intermittent rocky stream which is considered unique to the PRA.

## ***Hydrogeology***

Groundwater flow is north northeasterly in the PRA through the Quaternary sands. At least three springs can be found in the area. They generally are found below the slope break within 100m of the river.

### **2.3.4 Climate**

The PRA experiences a continental climate, which is characterized by warm summers and cold winters. Based on the Canadian Climate Normals (Atmospheric Environment Service, A.E.S. 1982) for Athabasca the mean daily temperature for the warmest month, July, is 16.2°C and that of the coldest month, January, is -17.9°C. The mean daily temperature over the year is 1.4°C. The frost-free period is variable, but the average time between frosts, measured over 22 years, was 111 days. Based on Timoney, 1992, total annual precipitation is approximately 500 mm, about 36cm falls as rain and average snowfall of about 130cm. July is generally the wettest month.

### **2.3.5 Vegetation**

A vegetation inventory was completed as part of the preparation of the Draft Management plan for that part of Poachers' Landing Provincial Recreation Area that was previously designated as a Natural Area. This inventory is applicable for the dune and riverine portions of the Park. A detailed inventory has not been completed for the expansion areas of the site. Vegetation descriptions for these areas are interpreted from broad regional inventories.

Poachers' Landing PRA lies within the Dry Mixedwood Subregion of the Boreal Forest. This subregion is characterized by mixed upland forests of white spruce, balsam poplar, and aspen. Sandy soils support forests of Jack pine while poorly drained lowlands are dominated by black spruce and tamarack. Willow and dwarf birch grows in the wettest areas. A vegetation species list can be found in Appendix A. The following vegetation types have been described for the area: (Information compiled from Timoney, 1992 and Pine Sands Natural Area Management Plan)

#### ***Open Jack Pine Woodland***

Jack pine/lichen woodlands occupy the crests of the rolling to strongly rolling stabilized sand dunes south and east of the Athabasca River. Jack Pine range from four to seven metres tall and mature individual may approach 100 cm in diameter. Aspen occurs as an understory in some sites. Aspen and occasional white spruce increase in importance in young stands on dune slopes and interdune depressions. Common shrubs include saskatoon, chokecherry, and wild rose. Bearberry and reindeer lichen carpets the ground. Blueberry, cut-leafed anemone, wild lily-of-the-valley, wild daisy and June grass are abundant herbs.

There are three dominant communities found within these Open Jack Pine Woodlands. These include:

*Jack Pine I Northern Rice Grass I Bearberry I Big Red Stem Mossforest*

The vegetation is generally found on the south and gently north facing eolian sands above the slope break. The pine forests are mature post fire vegetation; no stand exceeds 50 years of age. These stands are often found in scattered form with grasslands and aspen forest. Dominant vegetation includes *Vaccinium vitis-idaea*, hairy wild rye, green alder, staircase moss and *Cladonia mitis*.

*Northern Rice Grass I Bearberry Grassland*

These grasslands are generally found on south facing eolian sands above the slope break. It is considered a young successional stage, that is likely less than 50 years old. Dominant vegetation includes sheep fescue, purple oat grass, hay sedge, dogbane, slender wheat grass and *Cladoniapyxidata*.

*Aspen I Prickly Rose I Vaccinium I Grassforest*

This is a dominant vegetation type in the area. It occurs on well-drained eolian fine sand on a variety of slopes and aspects. These stands are often found in scattered form with grasslands and jack pine forests. Most of these stands are considered mature and range from 40 – 50 years old. The dominant vegetation includes both blueberry (*V myrtilloides*) and bog cranberry (*V vitis-idaea*), northern rice grass, white-grained mountain rice grass, hairy wild rye, slender wheat grass, occasionally jack pine, pin cherry, Bearberry, wild sarsaparilla and twinflower.

***Mixedwood***

Mixedwood forests occur most extensively on the river breaks, along creek valleys and on some dune slopes and interdune depressions. They develop where mesic soil conditions prevail. Stand ages range from 40 to > 115 years, successional status is considered mature to mature climax.

Aspen and white spruce are dominant tree species with paper birch and balsam poplar occurring in the moister stands. A well-developed medium shrub layer characterizes these forests, with common species including alder, low-bush cranberry, honeysuckle, willows, dogwood, wild rose, saskatoon, snowberry, gooseberry, and river alder. Other common vegetation includes bunchberry, wild sarsaparilla, horsetail, *Brachythecium* mosses, fireweed, twinflower, and dewberry.

***Mesic Aspen Forests***

These forests are generally found on mesic, well-drained alluvial sand or silty sand textured soils. This type of forest requires more moisture availability, occurs typically on a north aspect slope, and has taller upper canopies.

There are two dominant communities found within these Mesic Aspen Forests. These include:

*Aspen I Hazelnut forest*

These forest types are found on well-drained till or alluvium sand or silty sand textured soils. They have mature successional status. The main feature that separates this type from others is the almost pure hazelnut shrub layer. Dominant vegetation includes bunchberry, wild sarsaparilla and dewberry.

*Aspen I Low Bush Cranberry – Dogwood – shrub I Dewberry forest*

These forest types are found on mesic, north facing well drained alluvial sands and possibly eolian sand soils. It is a younger stand ranging from 45 – 65 years old but successional stages can vary from mature, and young or old climax. Dominate vegetation can include balsam poplar (overstory), Alaska birch and white spruce (understory), pin cherry, wild raspberry, fireweed, twinflower , bunchberry and common horsetail.

***Spruce Forests***

These are considered old growth forests. They occur on a variety of sites from mesic to hygric. These forest are generally located on north facing slopes or level sites. The soils range from Brunisols to Gleysols to Mesisols.

*White Spruce I Stairstep Mossforest*

This type of spruce forest is generally found on mesic to hygric, north facing sandy soils. A dense moss cover of stairstep moss, big red stem moss, gooseneck moss, or *Eurhynchium pulchellum* characterizes the forest floor. Forest age varies from 100-125 years and is considered mature climatic stands.

*White Spruce I Labrador Tea I Horsetail I Big Red Stemforest*

This type of forest is generally found on subhygric to hygric sites, with shallow mesic peat over sand as the typical soil characteristics. Important plants in this community are balsam poplar, aspen, pussy willow, river alder, blueberry, bog cranberry, *Equisetum pratense*, stairstep moss and golden moss (*Tomenthypnum nitens*). The forest age varies from a mature shallow fen forest (45 years) to mature climax (oldest stand in PRA-190 years).

*Black Spruce I Labrador Tea I Horsetail I Big Red Stemforest*

This type of forest is typically found on hygric sites, which are imperfectly-drained, level mesic peat over loamy alluvium. The soils are either gleysols or mesisols. Other dominant plants include pussy willow, river alder, velvet-fruited willow, Bebb's willow, myrtle leaved willow, tamarack, white spruce, three-leaved soloman's seal, cloudberry, stairstep moss and *Sphagnum fuscum*. Most of this forest type has been burned at some point, however the sections that have escaped fire are considered to be old growth mature climax forests.

### *Tamarack-Black Spruce Wetland*

Wetlands dominate the central portions of the wildland where drainage is poor and the water table at or near the surface. Tamarack and black spruce are the dominant tree species with lesser amounts of paper birch. A diversity of shrubs occurs including several willow species, honeysuckle, wild black current, dwarf birch, and Labrador tea. Bog cranberry, dewberry, grass-of-Parnassus, elephant head, arrow-leaved coltsfoot and sedges are common herbs above the carpet of Sphagnum and other mosses.

### *Riparian Forests*

Lush, mixedwood forests occur along the floodplain of the Athabasca River. Relatively moist soil conditions promote tree growth, so those mature individuals are larger than those in other communities. White spruce dominates a tree canopy, also comprised of aspen poplar, balsam poplar, balsam fir, and paper birch. Selective logging in the past has altered the natural composition of many of these stands. In old stands, the deciduous trees are often decadent or broken off and dead. Windfall of trees is common.

Regeneration of the overstory is evident in the abundance of saplings in the shrub stratum. A diversity of other shrubs occurs, including dogwood, low-bush cranberry, wild raspberry (*Rubus idaeus*), wild rose and honeysuckle. Common herbs include bunchberry, bishop's cap (*Mitella nuda*), wild sarsaparilla, Canada violet (*Viola canadensis*), dewberry, and wild lily-of-the-valley.

#### *Balsam poplar I Low-bush Cranberry – Dogwood I Dewberry forest*

The balsam poplar forest occurs in valley bottoms, on north slopes below the slope breaks and on lower terrace flats near the Athabasca River. This is considered a mature climax forest and has a minimum age of 150 years. Soils are typically mesic to subhygric brunisols. Species richness is high thus providing important habitat for birds and mammals. Dominant vegetation includes white spruce, paper birch (subcanopy), river alder, baneberry, wild sarsaparilla, *Ribes* spp., and common horsetail.

#### *Willow – River Alder I Grass thickets and meadows*

These thickets and meadows typically occupy the active floodplain of the Athabasca River. The soil is generally hygric to subhygric, moderately well to very poorly drained silt gleysols. Much variation in vegetation exists between sites. Vegetation ranges from sandbar willow / bluejoint / marsh horsetail / *Pohlia* moss in wet areas, to river alder – shrubby willow -Bebb's willow / dogwood / common horsetail on drier sites, to river alder -pussy willow / small fruited bulrush -common tall manna grass.

### *Non Native Plant Communities*

These communities are generally found on sites that have had some form of Human disturbance. These non-native plant species have been brought in or have naturally invaded the disturbed areas. There are four different communities and they are as follows:

#### *Red Fescue I Common Dandelion lawn*

This is considered a lawn community and is restricted to roadsides, picnic and playground areas at Poacher 's Landing. The soils are difficult to interpret as they have been mixed during disturbance. Other dominant plants found include native slender wheat grass, fringed brome, Lindley's aster and non native Kentucky bluegrass, caraway and sow thistle.

#### *Timothy -awnl ess Brome hayfield*

This hayfield is found in the NW quarter of Sec. 2, Twp. 69, Rge. 20 w4m. It is level ground with submesic soil conditions.

#### *Disturbed Subxeric Sands*

This community is found along the Nova/ALPAC pipeline right-of-way (RoW) and at Poacher's landing. The dominant plants that occur include non-native red fescue, hare's ear mustard, awnless brome, tickle grass, and native northern rice grass and bearberry. Much of the RoW is covered by bare eolian sand.

#### *Cultivatedfield*

There are three cultivated fields that extend into the PRA along the south boundary on the east side of the PRA.

### **Wetlands**

#### *"Donut-hole" Wetland*

This is considered one of the most unusual communities found in the PRA. These wetlands are formed in old deep blowouts ringed by a concentric dune. There are about six of these in the PRA. The soils parent material is eolian sand over lacustrine clay loam and sandy loam. The soils are typically Orthic Humic Gleysols. Some of the vegetation found in these holes includes basket willow / nettle / bluejoint – raceful manna grass.

### **2.3.6 Wildlife**

The diverse ecosystems and proximity to the Athabasca River provide habitat for a variety of wildlife species. The wildlife is characteristic of the boreal mixedwood region and includes a variety of species of mammals, birds and amphibians. No wildlife surveys have been conducted for the PRA. Sighting records and Trapline records helped complete the list that is included. For more details see the Wildlife Species Lists in Appendix B.

#### ***Mammals***

Thirty species of mammals have been observed in or near the PRA. Returns from the Registered Trapline indicate that beaver, coyote, weasel, mink, muskrat, red squirrel, and hare could be expected in the area, while skunk, lynx, fox, fisher, black bear, and wolf may occur.

Mule deer, white-tailed deer and moose browse extensively in riparian willow and woodland communities and use the valley as a travel corridor and winter range.

Rare and uncommon mammals of the PRA include the river otter, badger, fisher, long-tailed weasel, wolf, red fox, lynx, thirteen-lined ground squirrel, elk, and woodland caribou.

Mammals not observed but to be looked for includes shrews, bats, squirrels, voles, mice, pine marten's, mountain lions, and striped skunks. For more details see the Mammal Species List in Appendix B 1.

### ***Birds***

Sixty-one species of birds have been observed in or flying over the PRA. There is little nesting information available, as no survey has been complete within the PRA. The most important habitats for birds are mature climax forests along the Athabasca River and other riparian areas.

Some significant species include bald eagle, sandhill crane, mourning dove, great grey owl, barred owl, ruby-throated hummingbird, pileated woodpecker, white-breasted nuthatch, brown creeper, and winter wren. For more details see the Bird Species List in Appendix B2.

### ***Amphibians & Reptiles***

No amphibian surveys have been completed in the PRA. Data is based on sightings and range boundaries. Amphibian species that may be found include wood frog, boreal chorus frog, leopard frog, Canadian toad, boreal toad, tiger salamander, and the only reptile, the red-sided garter snake. The boreal toad and tiger salamander are both at the edge of their ranges and could be considered rare. For more details see the Amphibian Species List in Appendix B3.

### ***Fish***

Some fish surveys have been completed in the Athabasca River. Fish can also be found in the creek in Section 3, Twp.69, Rge.20 w4m. Some common species that are found include northern pike, walleye, goldeye, mountain whitefish and arctic grayling. For more details see the Fish Species List in Appendix B3.

## **2.4 Visitor Use**

### **2.4.1 Outdoor Recreation and Appreciation Opportunities**

Poachers' Landing Provincial Recreation Area is a unique area that offers a variety of recreational opportunities both in summer and winter. There are many things of educational, interpretative and scientific interest as well, but they have not been developed to date. There are approximately 40km of multi-use trails within Poacher's Landing PRA. Refer to Figure # 1 for details on the trails.

## **1) *Summer Activities***

### **(a) Day Use**

Main area and one auxiliary area

- Boat launch, picnic shelter, picnic tables, fire pits, outhouses, and playground.

### **(b) Camping**

- Four Campsites at main area (outhouses, picnic tables, fire pits, etc.)
- One campsite at auxiliary area (picnic table, outhouse and fire pit)

### **(c) Hiking**

- Day hiking, looptrails

### **(d) Nature Education & Appreciation**

- Viewpoints along trails
- No formal location

### **(e) Scientific Research**

- Must have Parks research permits

### **(f) Horseback riding**

- Only on existing LOC 880823, Pelican River Trail Rides

### **(g) OHV**

- ONLY on designated trails

## **2) *Winter Activities***

### **(a) Winter Camping**

- At designated campsites only

### **(b) Cross-country Ski / Snowshoeing**

No groomed trails, but feel free to explore the park

- no formal snowshoe trails exist but feel free to explore the park but stay off of the ski trails.

### **(c) OHV (snowmobiles)**

- ONLY on designated trails

## **2.4.2 Park Visitation**

Historically, day use has been popular with local people. The proximity of the park to Grassland, Boyle, Lac La Biche, and Athabasca makes it a popular place for family outings. Visitation is random and dependent on weather and variations with the level of local economic activity.

## 3.1 ROLE IN ALBERTA'S PROTECTED AREAS NETWORK

### 3.2 Objectives

#### **Purpose:**

Recreation Areas provide access to lakes, rivers, reservoirs and adjacent land belonging to the Crown for outdoor recreation and to retain land bases to support outdoor recreation and tourism. Four broad objectives are the cornerstones of Alberta's Parks & Protected Areas network and for the PRA these are as follows:

#### **Goals:**

##### **Preservation:**

Retains land bases that support outdoor recreation activities and tourism infrastructure that require semi-natural settings or provide access to these settings.

##### **Heritage Appreciation:**

May provide local opportunities for educational programs and dissemination of information.

##### **Outdoor Recreation:**

Provides opportunities for dispersed, facility based and mechanised recreation activities or serve as access points for recreation use of adjacent Crown lands and waters.

##### **Heritage Tourism:**

Provides opportunities for the private sector, groups and service clubs to manage, develop and promote outdoor recreation facilities and services that serve as tourism destinations or cater to the travelling public.

Each existing or potential protected area is assessed for its contribution to these objectives. Two tools aid this assessment: first, the Natural Regions Framework which identifies representation themes of a protected area, and second, the legislative classification of the site.

### 3.3 Natural Regions Framework

Alberta is building a network of protected areas that are representative of the province's natural heritage. A framework based on natural features has been adopted to help select and manage these areas. The framework is a hierarchy of natural regions, sub-regions, and natural history themes. Natural Regions provide the "big picture" of Alberta's landscapes, such as grasslands, mountains, and boreal forest. The sub-regions and natural history themes are subdivisions of the natural regions, and provide a more specific picture of smaller areas.

There are six Natural regions in Alberta. Differences between these regions are readily apparent by their distinct landform features and vegetation. The six regions are Boreal Forest, Rocky Mountain, Foothills, Canadian Shield, Parkland and Grassland (see Natural Regions map, Figure # 2).

Figure 2: Natural Regions Map



**Natural Subregions**

**BOREAL FOREST**

- Central Mixedwood
- Dry Mixedwood
- Wetland Mixedwood
- Sub-Arctic
- Peace River Lowlands
- Boreal Highlands



**ROCKY MOUNTAIN**

- Alpine
- Subalpine
- Montane



**FOOTHILLS**

- Upper Foothills
- Lower Foothills



**CANADIAN SHIELD**

- Athabasca Plain
- Kazan Upland



**PARKLAND**

- Foothills Parkland
- Peace River Parkland
- Central Parkland



**GRASSLAND**

- Dry Mixedgrass
- Foothills Fescue
- Northern Fescue
- Mixedgrass

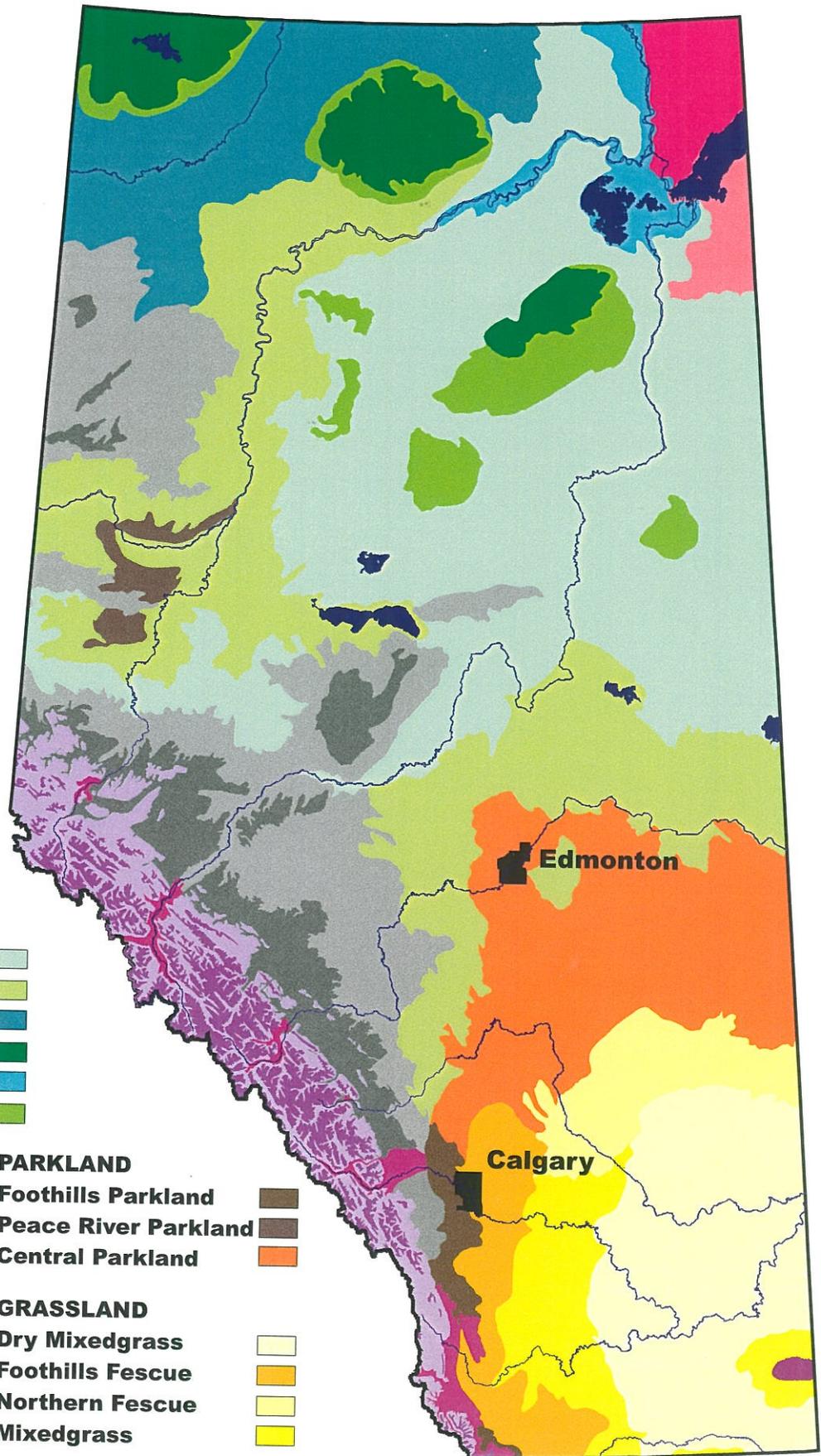
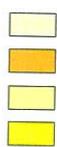


Table 2: Natural Regions Framework

Natural Regions
Natural Sub-regions
Level 1 Themes
Level 2 Themes
Level 3 Themes

Each of these Natural regions has been divided into sub-regions based on criteria that vary depending on the natural region. For instance, the Boreal Natural Region is divided into 6 subregions based on vegetation, geology, and landforms. These subregions vary with the predominant forest cover, the topography (whether they are level, undulating, or hilly), and the mix of uplands and wetlands. In the Parkland Natural Region, however, there are 3 sub-regions, based on geographical location and major differences in vegetation. In all there are 20 sub-regions in Alberta.

Sub-regions are further divided into Level 1, Level 2, and Level 3 Natural history themes. Level 1 themes are based on easily observed landforms of sub-regions, such as wetlands and valley/ridges. There are 20 Level 1 themes distributed across the sub-regions, but not all are represented in each sub-region. For example, within the two Canadian Shield sub-regions, 8 of the 20 Level 1 themes occur.

Level 2 themes are more specific breakdowns of Level 1 themes. They refer to distinctive vegetation, habitat types or highly visible geological features. Examples of Level 2 themes for wetlands in the Boreal Forest subregions are bogs, patterned fens, black spruce forests or shrub lands. Level 3 themes are finer breakdowns of Level 2 themes. They include specific features such as rare plants and animals, and specific bedrock and landform types.

Because of their detail, themes are most useful for identifying the natural diversity within Alberta. Level 1 themes can usually be seen on aerial photographs, while Level 2 and Level 3 themes require detailed biophysical studies. Analysis of these themes can determine which sites in Alberta would be the best examples of our natural heritage.

Poachers' Landing Provincial Recreation Area is in the **Dry Mixedwood Sub-region** of the Boreal Forest Natural Region of Alberta. Table 1 shows the Level 1 and Level 2 Natural History Themes represented in the park.

Table 3: Natural History Themes

<b>Natural History Themes</b>	
<b>Poachers' Landing Provincial Recreation Area</b>	
<b>Boreal Forest Natural Region</b>	
<b>Dry Mixedwood Sub-region</b>	
Level I Natural History Themes	Level II Natural History Themes
Non-Sandy Upland – Glacial Lake Bed	Deciduous Forest Mixedwood Low shrubbery Tall shrubbery Woodland
Sandy Upland –Sandy Plain	Jack Pine Forest Deciduous Forest Recently burned forest
Sandy Upland –Dune Field	Stabilised Dunes Sand dunes Jack Pine Forest Recently burned forest
Valley/Ridge - Protected Slope	White Spruce Forest Mixedwood forest Deciduous Forest spring
Valley/Ridge –Floor/Stream	White Spruce Forest Mixedwood forest Deciduous Forest River
Wetland - Mineral	Marsh Swamp White Spruce Forest Black Spruce Forest Shrubland
Wetland –Organic	Bog Patterned Fen Non-patterned Fen Black Spruce Forest Tamarack Forest Shrublands Graminoid
Lake	Eutrophic Lake
<b>Special</b>	Glacial flutings Athabasca River Islands River Terraces & Sandbars Creek Valleys River Valley Slumps

### 3.4 Classification and Legislation

Parks & Protected Areas is responsible for the administration and management of protected areas designated under the authority of the Provincial Parks Act, the Wilderness Areas, Ecological Reserves and Natural Areas Act, the Willmore Wilderness Park Act and associated regulations.

Provincial Recreation Areas are currently established under the Provincial Parks Act. This act mandates provincial parks to be developed and maintained:

for the conservation and management of flora and fauna;

for the preservation of specified areas and objects therein that are of geological, cultural, ecological, or other scientific interest; and

to facilitate their use and enjoyment for outdoor recreation.

(RSA 1980 cP-22 s3)

The purpose of Recreation Areas:

- Recreation Areas shall be developed and maintained to facilitate their use and enjoyment for outdoor recreation.

(RSA 1980 cP-22 s3)

Under the Provincial Parks Act, the Wilderness Areas, Ecological Reserves and Natural Areas Act, the Willmore Wilderness Park Act and associated regulations, seven classes of protected areas are recognized: Ecological Reserves, Wildland Parks, Provincial Parks, Heritage Rangelands, Recreation Areas, Natural Areas and Willmore Wilderness Park. Each protected area is designated within one of these classes based on its contribution to the four provincial program objectives.

The possible classifications of recreation and protected areas under Alberta legislation are Ecological Reserves, Wilderness Areas, Wildland Provincial Parks, Provincial Parks, Natural Areas, and Provincial Recreation Areas. These classifications and the corresponding legislation are under review and a new Natural Heritage Act is being debated in the legislature.

These classifications vary in the contributions they make to the provincial objectives. For instance, Ecological Reserves contribute mostly to the preservation objective, and Provincial Recreation Areas contribute primarily to the outdoor recreation objective.

### **3.5 Contributions of Poachers Landing PRA to Provincial Objectives**

#### **To Preservation**

- Protects samples of 8 Level 1 and 38 Level 2 Natural History Themes of the Dry Mixedwood Subregion.
- Protects a wide diversity of vegetation and wildlife
- Protects significant landscapes, such as eolian dunes, terraces, rivers, wetlands and old growth forests.
- Protects historical trails and other heritage sites

#### **Heritage Appreciation**

- Offers visitors the opportunity to explore on their own the rich natural and cultural heritage found in Poacher's Landing Provincial Recreation Area.
- Acknowledges and maintains sections of historic trails

- Symbolizes the protection and peaceful refuge offered by Alberta's natural environments within provincial parks, for today and future generations.
- Enhances public awareness of our history, our natural environment and our dependence on it.

### **To Outdoor Recreation**

- Provides opportunities for recreational trail riding, hiking and cross-country skiing.
- Allows snowmobile and off highway vehicle use on trails originally developed by the Poachers Landing Recreation Society in the former Natural Area.
- Provides opportunities for other backcountry recreation such as random camping, berry picking, and bird watching.
- Provides access to the river for boating and fishing.
- Will offer facilities and services for camping and day use activities.
- Provides opportunities for winter and summer recreation activities.

### **To Tourism**

- Provides economic opportunities for local area businesses tourism-related services.
- Provides opportunities for nature-based tourism and backcountry experiences.
- Offers a variety of recreational opportunities for visitors to discover and enjoy the natural resources.

## **3.6 Guiding Principles**

The guiding principles for the management of Poachers' Landing Provincial Recreation Area are based on principles of ecosystem-based management and wilderness management:

1. Ecosystem-based management attempts to care for the land in a responsible way that will sustain its ecosystems. To manage in this way all components of the ecosystem must be considered, including the natural landscape, ecological processes, the physical and biological components and the human component.
2. Ecosystem management is a long-term view, instead of managing just for today. Poachers' Landing Provincial Recreation Area will be managed so that the park will be sustained for the future. This is an enormous undertaking, as natural system dynamics are not fully understood. The key is to adapt and revise management practices as one learns more about the natural and social conditions in protected areas.
3. Provincial Recreation Areas generally have fairly intense human activity.
4. Poacher's Landing Provincial Recreation Area presently has few human disturbances at this time and the natural system is largely self-managing. Therefore the focus will be on allowing natural processes to operate as freely as possible, and on managing human use of the area to keep interference with natural processes to a minimum. This may change over time as the area becomes better known and thus may require a change in these guiding principles and management practices.

5. Poacher's Landing Provincial Recreation Area requires the involvement and support of the users, the stakeholders and the local community to help the PRA remain intact. The park will take the lead in seeking the involvement of these people, their views and support for park objectives.
6. Poacher's Landing Provincial Recreation Area is not an island. It is surrounded by a multitude of other land uses such as farming, forestry, oil & gas, etc. The activities that go on outside the park can have impacts inside the park. Conversely, designation of a protected area can affect the management of adjacent lands. Park managers and adjacent land managers/owners need to work together in order to reach the goals and objectives of both areas.

## **4.1 PARK ZONING**

Zoning is a management tool that divides a landscape into units and identifies the intent and objectives of each unit. It is useful because the "mix" of values in a protected area varies within it. For instance, preservation values may have a higher priority in some areas, and recreation values may have a higher priority in others.

Poacher 's Landing Provincial Recreation Area is divided into 3 zones. The facility zone, the natural environment zone and the access zone. Refer to Figure #3 for details.

### **4.2 Facility Zone**

The purpose of the facility zone is to provide the land base to accommodate a range of moderate to intensive outdoor recreational activities. These land bases are often small and have been highly modified to handle the intense use. These zones will be managed so that the opportunity for these activities will be sustained as well as the sustainability of the surrounding area to the activity. Facilities and services offered in this zone are managed to encourage and attract tourists. These areas provide convenience, relative safety and less potential for damage than the more protection orientated zones.

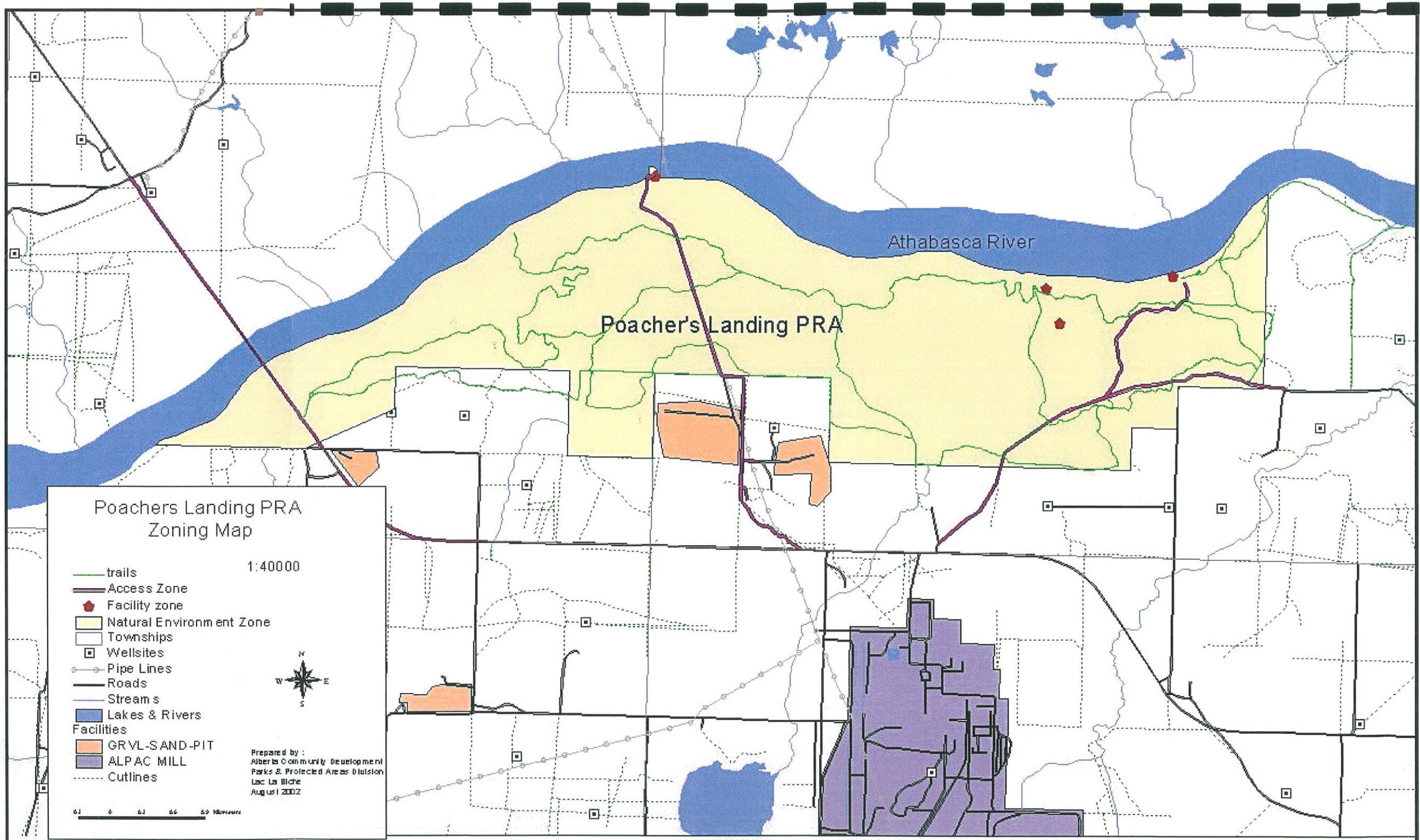
### **4.3 Natural Environment Zone**

The purpose of the natural environment zone is to offer a variety of outdoor recreation and heritage appreciation activities that let visitors explore, understand and experience the natural and cultural heritage of the park. These types of activities would include hiking, cross-country skiing, cycling, bird watching, plant identification, wildlife viewing and nature appreciation.

### **4.4 Access Zone**

The purpose of this zone is to provide access to sites within other zones or through specific sites via a trail network. This includes major park roads, trailheads, and parking areas. This zone provides convenience in accessing other sites or zones.

Figure 3: Zoning Map



Poachers Landing PRA  
Zoning Map

1:40000

- trails
- Access Zone
- Facility zone
- Natural Environment Zone
- Townships
- Wellsites
- Pipe Lines
- Roads
- Streams
- Lakes & Rivers
- Facilities**
- GRVL-SAND-PIT
- ALPAC MILL
- Cutlines



Prepared by:  
Alberta Community Development  
Parks & Protected Areas Division  
Lac La Biche  
August 2002

0 0.1 0.2 0.3 0.4 0.5 0.6 0.7 0.8 0.9 Kilometers

4;



## **5.1 OBJECTIVES AND MANAGEMENT ACTIONS**

The primary objective of management for Poacher's Landing Provincial Recreation Area (PRA) is to maintain the PRA and its natural character while accommodating backcountry recreation activities compatible with the setting. It is important for the natural process in the PRA to continue to function with minimal interference from management by humans. The interventions may include fire suppression, disease or pest control, and trapping. Trapping is a human intervention and will be managed in the PRA on a sustainable basis.

Since the natural environment of the PRA is mostly self-maintaining, the focus of management will be on control and regulation of human use and its impact on the PRA. This may be necessary in the long term depending on the demands being put on the PRA in the future. Management guidelines are to ensure that these impacts do not go beyond acceptable levels.

## **5.2 Preservation**

### **5.2.1 Systems Related**

#### **Objectives**

- To preserve representation of unique, rare and endangered plant and animal species, communities and gene pools found in the PRA.

#### **Management Actions**

To complete inventories and research activities of all areas and associated features within the PRA in order to gain a true understanding of the resources and their functions.

### **5.2.2 Geological / Landforms Resources**

#### **Objectives**

- To maintain the sand dunes and their associated wetlands in a natural state.
- To allow natural processes along riverbanks, shorelines and deltas, such as slumping and flooding to continue without interference.

#### **Management Actions**

The sand dunes are stable because of vegetation cover and climate. This stability must be maintained in order to preserve them. Monitoring will be done in dune areas where there is human activity, for instance at trails and staging areas, to detect damage that could undermine their stability.

Natural processes such as weathering and erosion by wind, water and ice will normally be allowed to continue without interference.

Slumping along the valley wall of the Athabasca River creates sites with differing topography and hydrology. This is a natural process, and will not be interfered with. Human use is discouraged in these areas, as they are highly sensitive to disturbance, and are hazardous because of their instability.

Catastrophic events such as flooding, drought, and windstorms are naturally occurring, and cannot be controlled.

### **5.2.3 Aquatic Resources**

#### **Objectives**

- To protect the diversity of rivers and wetlands in the PRA.
- To protect streams from unacceptable impacts from human use.
- To protect these aquatic resources, activity in these areas will generally be limited.
- To protect aquatic resources from pollution by development and oil & gas exploration.

#### **Management Actions**

The greatest flora and fauna diversity of the PRA is found in its wetlands and shorelines. This is a significant feature of the PRA. To protect them, activity in these areas will generally be limited.

Drainage of wetland areas may be subtle but crucial to their survival. Any developments, for instance unavoidable trail connections that may cross a portion of wetland, must allow for drainage to continue.

Erosion of banks along drainage systems caused by human activity (i.e. off highway vehicles trail crossings) will be monitored for impacts. If the erosion becomes unacceptable action will be taken to repair or prevent further degradation (i.e. culverts, bridges, boardwalks, etc) or trails may even be closed to allow for recovery/regeneration.

### **5.2.4 Vegetation**

#### **Objectives**

- Maintain the diversity of vegetation communities in the PRA.
- To protect the sensitive lichen ground cover from destructive disturbance.
- To allow natural disturbance regimes, which help maintain the diversity and characteristics of the area, to operate in the PRA. If this is not feasible, natural disturbances may be simulated.
- To protect the old growth forests and the rare noteworthy species in the PRA.
- Alberta Community Development will be responsible for fire protection in the PRA (see below for details)

#### **Management Actions – Vegetation**

Possible sources of invasion are from surrounding agricultural lands, from industrial activity in the PRA, from off-highway vehicle (OHV's) use and from horse feed brought in by trail riders. Non-native invasive vegetation will be controlled and removed if found in the PRA. Control can either be done by chemicals or by hand picking or mowing (this is dependent on the area covered by the species)

If replanting of disturbed sites is necessary in some areas, only native species will be used. The Parks & Protected Areas staff must approve the seed mixture used in the reclamation process.

Any sites of rare and endemic species identified from the vegetation inventory will be protected and monitored .

Any additional clearing of vegetation other than for planned developments is not permitted.

### **Management Actions – Fire**

Fire is a natural disturbance of the jack pine forest. However, in consideration of threats to surrounding lands as well as to recreation values within the park, wildfires will be suppressed. Alberta Community Development in co-ordination with Alberta Sustainable Resource Development (Land & Forest Service) will be responsible for fire protection (refer to the Resource Management Section 8.1 of the Parks Policies, Procedures and Directives Manual).

### **Management Actions -Disease and Pests**

Disease and Pests are another disturbance of the boreal forest. This regime will be allowed to occur naturally to help maintain and preserve the diversity of the vegetation. Outbreaks will only be controlled if they are a threat to surrounding forests.

## **5.2.5 Wildlife**

### **Objectives**

- To maintain habitats for the variety of wildlife found in the PRA.

### **Management Action**

Due to its diversity, the PRA provides habitat for a variety of wildlife. As far as is known, no endangered wildlife species inhabit the PRA, but it is home to a variety of vulnerable species of birds which use large areas of older growth forests for all or part of their breeding range. These include Cooper's Hawk, Great Grey Owl, and Pileated Woodpecker. Maintenance of vegetation diversity will ensure continued habitat for these species as well as others requiring different aged forest ecosystems.

The PRA is natural habitat for bears, and visitors should be aware of possible bear encounters. Any problem bears should be reported to Conservation Officers, who will manage the situation appropriately.

A bird and wildlife inventory will be conducted for the PRA. The inventory will focus on birds and wildlife in the significant landscape areas -old-growth forests along the river valley, and wetlands. The inventory will add to our knowledge about wildlife, particularly wildlife in old growth riparian forests.

Populations of ungulates, upland birds, fish and furbearers will be monitored and action taken to ensure maintenance within the carrying capacity of the PRA.

## 5.2.6 Historical / Cultural

### Objectives

- To protect the cultural features in the PRA, such as traditional use trails
- Historical travel routes through the area should be researched and possibly reclaimed as trails or used for interpretive sign locations.

### Management Actions

Parks & Protected Areas will protect these heritage resources, and will support community initiatives to understand and appreciate them.

Considering the PRA's proximity to the Athabasca River, and the historical travel routes that run through the area, the area may be rich in paleontological, archaeological, and historical resources. To date no historical assessments have been conducted in the PRA area, but these will be encouraged. The potential of development in this area to affect historical resources is considered high.

Therefore, pursuant to Section 33(2) of the *Historical Resources Act*, a Historical Resources Impact Assessment is required in this area prior to any future development occurring (including PNG's).

Pursuant to section 27 of the *Historical Resources Act*, should any paleontological resources be discovered during the conduct of construction activities, staff of the Royal Tyrrell Museum (Dan Spivak, 403-823-7707) are to be contacted immediately.

## 5.2 Heritage Appreciation

Heritage appreciation is the valuing of our natural and cultural heritage. The intent of the Provincial Recreation Area is to provide the opportunity for visitor to explore and learn on their own or through others, their natural and cultural heritage in the natural landscape.

### 5.2.1 Interpretation / Environmental Education

#### Objectives

- To offer the opportunity for unstructured exploration of the natural and cultural heritage of the PRA.
- To offer schools & groups the option for self guided environmental education opportunities in the local area or from all over the country.

#### Management Actions

In keeping with the intent of a PRA, Parks & Protected Areas will not offer or fund personal interpretation programs to visitors. Personal interpretive programs would be permitted if there were interest by volunteers NGO's and/or private sector, as long as it is within the PRA objectives.

Impersonal services, such as interpretive trails are appropriate in this PRA. The trails could have interpretive signs installed at points along the trails as well as maps and brochures for visitors to follow.

Themes for interpretation should relate to the PRA natural history themes, and include the formation of sand dune topography, the diversity of wetlands, old growth forests, fire as a natural disturbance, riparian ecology in the Athabasca River Valley and wildlife in the area.

## **5.2.2 Visitor Information**

### **Objectives**

- To encourage visitors and surrounding communities to be stewards of the PRA.
- To provide information to visitors that will help them understand the intent of the PRA and appreciate its heritage.

### **Management Actions**

Parks & Protected Areas will develop a brochure that will provide an overview of the natural and historical features in the PRA, a map of the PRA, information about appropriate recreational activities and PRA regulations.

Signs will be used sparingly in the PRA, and will be designed to fit unobtrusively into the park environment.

Boundary signs will be placed at appropriate points along the boundary.

Trail markers and maps will be placed along designated trails.

## **5.3 Outdoor Recreation**

The intent of the PRA is to offer opportunities for dispersed backcountry recreation, such as trail riding, hiking, cross-country skiing, and camping. Trails, existing facilities and associated facilities such as staging areas will be the only developments in the PRA. Assistance may be provided to the Poachers Landing Recreation Society to maintain the area they hold under lease.

### **5.3.1 Camping**

#### **Objectives**

- To offer opportunities for auto access camping at Poachers Landing and backcountry camping at the designated site.
- No random camping will be allowed in the PRA.

#### **Management Actions**

Any proposed facility development must meet the following guidelines.

Facility development will only be allowed in the facility zone (refer to Figure #3).

Permanent facilities/structures may be built only if they support the objectives of the PRA and are consistent with this management plan. Any new facilities/structures have to be approved by Community Development, Parks and Protected Areas Division, and a permit obtained.

Any development must be carefully assessed for its impact to the natural environment of the park. The proposed development must be consistent with the intent of this management plan.

There are currently 5 designated campsites (two Campgrounds) in the PRA.

Backcountry camping and associated fires are permitted only in designated areas in the PRA. Camping will not be permitted within one mile of the two Poacher's Landing Campgrounds and access roads. Campfires can only be held within a designated facility for fires.

Alberta Community Development may assist the local stewards in upgrading and redevelopment of facilities as required and depending on future demands.

Poachers Landing Recreation Society will continue to act as custodians and maintain Recreation Lease site (the campground they developed and the LOC they have) for the term of their lease.

Currently there is no demand to provide minimum facilities for backcountry campsites. This could be considered depending on future demands.

### **5.3.2 Access / Staging Areas**

#### **Objectives**

- To provide controlled access and staging areas in the park.
- To have signs and barriers at all entry points to prevent highway vehicle access into the PRA on OHV trails.

#### **Management Actions**

The PRA has one main access/staging area and it is at the southwestern end of the PRA (LSD 12-10-69-19-w4m & LSD 9-9-69-19-w4m). It provides access, parking and a small camping area for visitors. The area also serves as staging for the designated off highway vehicle trails, boats and equestrians (who use trails starting at the south end of the PRA).

The Poachers' Landing Recreation Society lease will be honoured and the society along with other volunteers will continue their role as stewards and custodians.

Alberta Community Development shall assist the local stewards in upgrading and redevelopment of facilities as required.

### **5.3.3 Trails**

#### **Objectives**

- To designate a network of trails in the park suitable for OHV, equestrian use, hiking and cross-country skiing.
- To maintain the existing network of off highway trails in the vicinity of Poachers Landing.

## **Management Actions**

A designated trail plan will be prepared for the PRA, based on the following guidelines.

The system will be built on existing trails as much as possible. The trails will be multi-use trails appropriate for OHV, equestrian use, hiking, and cross-country skiing. The trails will have a loop design to provide options and make them more interesting.

Suitable additions to the trail system will be identified and developed over time, depending on demand and resources. Some trails will be closed because they do not provide loop options, or they disturb sensitive areas.

Signs will mark natural and cultural heritage points of interest along the trails. If possible, trails will provide access to features such as viewpoints over the river valley. Most of the trails will be signed at trailheads and junctions, using signing material that fits with the surroundings.

Alberta Community Development will be responsible for signage of boundaries and trails as required. Volunteers should assist with placement and maintenance.

Parks & Protected Areas staff will not groom ski trails in the park, but volunteers will be allowed to groom them.

Poachers Landing Recreation Society will continue to maintain the off highway vehicle trails they developed in the vicinity of the staging area.

## **5.3.4 Equestrian Use**

### **Objectives**

- To facilitate equestrian use in the park.

### **Management Actions**

Equestrian users include commercial trail riders and recreational trail riders.

Commercial trail riders who operate in the PRA will be required to purchase a Commercial Guiding Permit (S.44(1)(2) of the Provincial Parks Act -General Regulations). This permit can be obtained from Parks & Protected Areas Office.

Commercial Trail Riding Operating Conditions apply to commercial trail riders in the PRA. (Refer to the Public Lands Act, A.R. 292/79). Recreational trail riders will comply with these conditions, particularly those applying to random camping and to care of horses.

Disposal of horse manure could become a problem if use increases. This will be monitored , and action taken if the amount increases beyond acceptable levels.

Pelican River Trail Rides (David Wood) holds an LOC 880823, expires 2005-02-28, within the PRA. They have operated since 1988 under a Letter of Authority through the PRA and under LOC on miles of trail outside the PRA as well. Pelican River Trail Rides provides backcountry equestrian tours for locals and tourists.

### **5.3.5 Hunting and Fishing**

#### **Objectives**

- Bear baiting is not allowed in the PRA or within 1.6km of the PRA boundary (under the Wildlife Act)..
- To permit trapping to continue as long as it is sustainable with the wildlife in the surrounding area.
- Provide opportunities to access sport fishing locations (the Athabasca River).
- Hunting will not be a permitted activity within the PRA.

#### **Management Actions**

All OHV motorized activity will be restricted to designated trails within the park.

Trapping will continue as a permitted activity.

Given the levels of use in the PRA bear baiting is not allowed and will not be permitted in the PRA.

Schedule 9, Part 2 of the Wildlife Regulations, does not allow for hunting in a Provincial Recreation Area. There for hunting will not be allowed within the PRA.

### **5.3.6 Snowmobile Use**

#### **Objectives**

- To designate a snowmobile route through the PRA which provides access to the forested lands to the north.

#### **Management Actions**

Existing off highway vehicle and snowmobile trails would be designated during the trail planning process.

The designated trails are the only opportunity for snowmobiling in the park. Off-trail snowmobiling is not allowed. The PRA will be monitored for compliance with trail use guidelines.

Registered traplines (within park boundaries) owners will be allowed to use snowmobiles along existing trails for trapline purposes only not recreational use.

### **5.3.7 Recreational OHV and Watercraft**

#### **Objectives**

- To provide opportunities for off highway vehicles to use the designated trails within Poachers' Landing PRA.
- Motorized watercraft will be provided access to the rivers in a manner that is consistent with present day activity.

#### **Management Actions**

Existing trails will be designated and retained.

If demand for dirt bike use in the region increases, Community Development and Sustainable Resource Development may assist these users to find a site appropriate for their use and rallies.

Trails for OHV use (developed by the Poachers Landing Recreation Society in the vicinity of the former Pine Sands Natural Area) will be designated in the trail plan. Signs will be erected to reflect appropriate use.

Alberta Community Development will investigate as new legislation is being developed the potential for splitting OHV's into various categories.

Random use of off highway vehicles will not be permitted.

Poachers Landing Recreation Society will continue to maintain this system of off highway vehicle trails. No new trails will be constructed.

Loading ramps are available at the Poachers Landing Staging Area. These will continue to be maintained by the Poacher's Landing Recreational Club.

Small outboard boat access and potentially larger outboard boat use (on the Athabasca River only) is permitted.

### **5.3.8 Special Events**

#### **Objectives**

- Scientific research and special events will be allowed in the PRA.

#### **Management Actions**

Special event and research permits will need to be obtained by organizers to allow an event or study to take place in the PRA. These permits will be approved on the basis of:

The event or project is compatible with the objectives of the park ; and

No damage to significant or special features of the park, or impairment of its aesthetic values, is incurred.

The physical space requirements of facilities for the event or study.

The impact of the event or study on the safety of other users of the PRA.

If the event or study requires the exclusive use of an area in the PRA.

Permits can be obtained from Parks & Protected Areas Office.

### **5.3.9 Other Recreational Activities**

#### **Objectives**

- To provide opportunities for other recreational activities which are compatible with the objectives and intent of the PRA.
- To monitor for activities which do not presently occur in the PRA, but which could take place in the future.

#### **Management Actions**

Parks & Protected Areas will monitor for other recreational uses of the PRA and their impacts.

Any new activity being considered would not be allowed to interfere with the original intent of the PRA.

## 5.4 Tourism

### Objectives

- To provide opportunities for tourists to experience the Poachers' Landing Provincial Recreation Area.
- To provide visitors with backcountry experiences.
- To provide a variety of natural environment based opportunities through cultural and natural heritage experiences.
- To support local businesses and tourism groups and offer economic opportunities.
- To promote the contribution of the PRA to Alberta's network of protected areas.

### Management Actions

Tourism in this area is limited to individual nature study, photography, hiking, fishing, recreational OHV use and hunting. This PRA is presently an area mainly used by local people and little is known about it.

Park management will continue to provide the local community with information about the park.

The focus of promotion will be on the natural features of the PRA and its contribution to the community and to Alberta's network of protected areas.

Parks & Protected Areas will work with local tourism groups to enhance opportunities for backcountry tourism in the PRA.

Parks & Protected Areas will work with local people and tourism groups to promote the PRA and the other recreation and protected areas in the region.

## 5.5 Monitoring

Monitoring is a systematic way of detecting and measuring changes that, over the long term, may be counter to the objectives of the PRA. These changes can act as flags for management action.

A monitoring program will be instituted that will detect these changes. Below is a list of factors identified in this plan that will be included in a monitoring program.

### *Natural Resource Factors*

- sand dunes for evidence of destabilization
- erosion along stream beds, particularly at stream crossings
- evidence of non-native plant invasions
- presence/health of rare and noteworthy vegetation species
- state of old-growth forests
- state of wetlands
- natural movement of surface and groundwater

*Social Resource Factors*

- compliance of trail and backcountry users with regulations
- conditions of staging areas, for instance build-up trampling , damage to trees, erosion, garbage, etc.

This list may be adapted as Parks & Protected Areas learns more about the ecology of the PRA and about visitor use patterns.

The monitoring program will identify the indicators to be monitored and the frequency of monitoring . Specific indicators will need to be selected to monitor some factors, such as the old growth forests, the grasslands and the wetlands.

## **6.1 SURROUNDING LANDS**

One of the principles of ecosystem management of protected areas is that they do not exist in isolation from surrounding lands. The activities on lands around a protected area may have an impact inside the protected area. In turn, management practices within the park may affect adjacent lands.

Poachers' Landing Provincial Recreation Area recognizes this principle and the importance of regional cooperation in making decisions about land use.

## **6.2 Surrounding Land Use**

Poacher s' Landing Provincial Recreation Area has green zone, crown land to the north and white zone, private and public land to the south.

### **6.2.1 ALPAC Plant Site and FMA**

Alberta Pacific Forest Industries Inc. (ALPAC), a bleached kraft pulp mill, is located south of the Athabasca River in Twp.69, Rge. 19-w4m between Athabasca and Lac La Biche. The supply of fibre for the mill comes from within the ALPAC Forest Management Area (FMA) which covers about half of the Northeast Boreal Region and portions of the Northwest Boreal Region. ALPAC employs about 440 people in the mill and 660 people in woodland operations.

The plant site is situated 1.6km south of Poacher's Landing Provincial Recreation Area.

ALPAC presently has dispositions (EZE 910128 & EZE 890236) for their water intake and cooling water discharge line, powerline, and access road which runs through the PRA along an existing Nova pipeline right-of-way. The right-of-way is 40m wide by 2km long. There are also associated facilities such as a pump house and service road that are situated within this area of the PRA.

At the western end of the PRA the ALPAC haul road and bridge crossing across the Athabasca River runs through the PRA.

### **6.2.2 Private Land**

Some of the lands surrounding the park are privately owned. The private land use is mainly agricultural, cultivated lands to pasture lands.

## **6.2 Dispositions**

There are a number of dispositions in the PRA that serve various types of activity. The dispositions are for oil and gas, trapping and recreation.

## 6.2.1 Oil and Gas

Oil and gas dispositions existed in the PRA before its establishment.

### Management Guidelines

Existing oil and gas commitments prior to designation of the PRA will be honoured. However exploration and development conditions & guidelines may vary from the green zone or white zone conditions.

New mineral dispositions may be awarded but no surface access will be allowed and will be an addendum as a condition of sale.

Metallic, industrial, coal and aggregate exploration or development will not be allowed, as per legislation (Provincial Park Act amendment 1996).

The development of oil and gas leases will need to address the impacts of development on the park environment. This planning will be done in co-operation with Parks & Protected Areas, and will need the approval of Parks & Protected Areas before development begins. Parks & Protected Areas may deem that the plans require public consultation and review prior to development of a lease.

In general, development will be done with the least environmental impact. Sensitive areas may require more detailed assessment and mitigation of impact. For instance, corridors through wetlands will be constructed to preserve the drainage patterns.

Geophysical exploration (seismic activity) that is not connected to existing commitments will not be permitted in the PRA. Conditions for geophysical exploration of existing commitments will include, but not be limited to, the following:

- Seismic lines must be hand cut with a maximum width of 1.5 meters.

- Existing linear disturbances will be used whenever possible.

- In environmentally sensitive areas, exploration will be allowed to proceed only if no surface disturbance will occur.

Industrial access will be planned so as not to impact either significant natural features or recreational potential of the PRA. Whenever possible, existing access corridors will be used rather than creating new corridors. New access corridors will be reclaimed once project is complete.

Industrial access for petroleum and natural gas exploration and development is restricted to winter access only.

Support vehicles will be allowed only on approved, designated routes.

All surface disturbances will be completely rehabilitated to conform to the surrounding landscapes.

## **6.2.2 Trapping**

The PRA is within registered Trapping Area (TPA 1836). There is currently one trapping area existing in the PRA boundaries. The TPA holder is allowed to continue his activities on the trapline and is able to use snowmobiles and quads to work the trapline.

### **Management Guidelines**

The trapline that exists in the PRA will continue. If the trapline becomes vacant or the trapper wishes to sell his trapline, the Alberta Government has first right of refusal to the sale of the trapline via the referral process. If it were sold then the new terms and conditions would have to be followed by the new owner.

Trapping will continue under some conditions (firearms discharge permits are required, only senior and junior partners can trap within the PRA, and continue to use OHV's with Parks and Protected Areas authorization.

Trapping will continue as permitted activities. There are presently no cabins in the PRA and no cabins will be permitted in the PRA. The RFMA holder is allowed to use a snowmobile to work his trapline.

## **6.2.3 Recreation**

Poacher's Landing Recreation Club holds a Recreation Lease (780026) on about 17 ha (parts of section N & SW 9, NW 10-69-19-W4) (Map 1). Recreation club members at Poacher's Landing have installed a picnic shelter, two toilets, picnic tables, and garbage cans. In addition, a picnic table, and two toilets are located in a small clearing at "Suicide" viewpoint in NW 9-69-19-W4.

There is a County road through section 4 and SW 10-69-19-W4. Poacher's Landing Recreation Club holds a License of Occupation (LOC 780630) on the access roads to their Recreation Lease, but the County maintains these.

Pelican River Trail Rides (David Wood) holds LOC 880823 within the PRA.

### **Management Guidelines**

The Poachers' Landing Recreation Club leases will be honoured and the Club, along with other volunteers should continue their role as stewards and custodians.

Pelican Trail Rides (LOC 880823) and Poachers Landing Recreation Club (LOC 780630 & REC 780026) temporarily hold these leases and are responsible for the care of these leases. These leases will be reviewed at the time of expiration.

To hold any special events within the PRA it is necessary to apply for special activity permits obtained from Parks and Protected Areas Division. These include things like snowmobile rallies, trail riding, etc.

## **6.2.4 Forestry**

There is presently no forestry activity in the PRA. However, timber licenses were issued until the 1960's to harvest wood out of the PRA area (Personal Communication, 2001).

### **Management Guidelines**

No timber harvesting is allowed within the PRA.

The park is not within ALPAC 's Forest Management Area (FMA).

## **6.2.5 Grazing**

Grazing leases occur adjacent to the boundary of the PRA. Improvement of these leases outside the PRA may impact the park.

### **Management Guidelines**

Adjacent leases should be used only for unimproved pasture by existing lessees. Work with public lands to develop lease management conditions to ensure encroachment does not occur.

When the disposition expires, no transfers occur and/or the land is no longer needed, the lease would be cancelled and may have potential for addition to the PRA.

Monitor for encroachment and enforce regulations as deemed necessary.

## **7.1 REGIONAL COORDINATION**

A park is an ecosystem designated by boundaries however it is still adjacent to other ecosystems; it cannot be managed in isolation from surrounding lands. It has boundaries but this doesn't make it an island. The activity on lands around the park may have an impact inside the park and consequently the presence and management practices of the park may affect the management of lands adjacent to the park.

Poacher 's Landing Provincial Recreation Area recognizes this principle and the importance of regional co-operation and co-ordination in making decisions about land use activities. It seeks to be a good neighbour with the adjacent land managers , owners and with the local community.

## **7.2 Adjacent Land Use**

The PRA is bounded on the north by the Athabasca River, and bounded on the south and east by private lands.

Parks & Protected Areas will work towards continuing good relations with the private landowners whose land abuts the PRA boundary. Parks & Protected Areas will keep them informed of management decisions that may affect them, and would appreciate landowners doing the same.

## **7.3 Local Community**

The nearest community is Grassland which is located approximately 20km Southeast of the PRA. Other communities located near the PRA include Boyle (40km South), Plamondon (43km Southeast), Lac La Biche (69km Southeast), Athabasca (52km Southwest).

Local interest groups, such as the Poachers Landing Recreation Society, the County of Athabasca and Alberta Pacific Forest Industries have a stake in the well being of the PRA. The Parks & Protected Areas will work with these and other local interest groups to maintain the PRA for the future.

## **7.4 Other Agencies/NGO's**

### **7.4.1 Poachers Landing Recreation Club**

Poachers Landing Recreation Club was incorporated on February 23, 1978. They hold the recreation Lease REC 780026 at Poacher's Landing (since October 31, 1978) and LOC 780630 which provides access to the recreation lease. They have a membership of 120 families. They have been proponents and Stewards to the Natural area and are now Stewards to the Provincial Recreation Area.

The Poacher's Landing Recreation club maintains the campsites, does trail maintenance and placed trail/interpretive signs, and help keep the park clean. They are the Stewards of the Park. They work with schools and the Junior Forest Warden Program.

#### **7.4.2 County of Athabasca**

The PRA lies within the County of Athabasca. The County presently voluntarily maintains the road (LOC) to Poacher's Landing.

#### **7.4.3 Alberta Community Development**

Community Development is responsible for managing all recreation, resource use and protection in the PRA.

Enforcement of all applicable Provincial statutes and regulations required for management of the PRA (including the Provincial Parks Act, Fisheries Act, Wildlife Act, Water Act and other Acts) will be done in a co-ordinated fashion by Conservation Officers, Inspectors, Investigators and Public Lands Officers from the various departments of Community Development, Sustainable Resource Development and Environment.

#### **7.4.4 Alberta Sustainable Resource Development and Alberta Environment**

The Fish & Wildlife Service will assist Community Development in enforcing the Fish and Wildlife Regulations.

The Land & Forest Service will support and assist Community Development with any fire suppression when required. (Refer to the Resource Management Section 8.1 of the Parks Policies, Procedures and Directives Manual).

Public Lands will continue to administer pre-existing leases issued under their Act. Any new leases, renewals or changes in conditions (guidelines, etc) of an existing lease will require Parks approval and will be issued under Parks Legislation by Community Development.

Alberta Environment will assist Community Development in enforcing the Water Act and any other land use inspections.

#### **7.4.5 RCMP**

The RCMP from Boyle and Lac La Biche will provide support when necessary.

#### **7.4.6 Alberta Transportation**

Alberta Transportation is responsible for roads and infrastructure in and around the park.

## **8.1 PLAN IMPLEMENTATION**

### **8.2 Management Actions**

This section lists all the actions discussed throughout the management plan. The actions are organized below under ongoing and project orientated actions.

Alberta Community Development shall be responsible for preparation of the management plan in co-operation with the local committees.

The management plan will clearly define the roles and responsibilities of the volunteers within the Department so that the local stewards can continue their role as custodians in a suitable capacity.

Alberta Community Development shall be responsible for the implementation and enforcement of the management plan.

All of these actions will be addressed further in an operational plan.

#### **8.2.1 Ongoing Actions**

These are on going actions that presently proceed through park operations. These will be reviewed regularly by the park manager to ensure that the intentions of this management plan are being followed.

- Promote environmental education
- Promote the park in local and provincial travel brochures and at trade shows.
- Work with local societies, agencies and volunteers to develop and deliver interpretation/education programs.
- Promote and protect shorebird, migratory bird and waterfowl nesting or staging areas.
- Protect fisheries and spawning grounds.
- To protect the diversity of wetlands and shore life.
- Continue to allow trapping in the PRA.
- Provide vegetation, bird and wildlife inventory to the public.
- Continue to provide a variety of natural environment based opportunities through cultural / heritage experiences, wildland / backcountry experiences, and winter activities.
- To protect old growth forests and the rare and noteworthy species in the park.
- To maintain habitats for a variety of wildlife that is within the park.
- To continue to provide camping and day use opportunities.
- To offer the opportunity for unstructured exploration of the natural and cultural heritage of the park.
- Honour existing recreation leases.
- To allow natural disturbance regimes to occur with some management for disease, pest or fire if required.
- No forestry or industrial activity will occur.

### **8.2.2 Task or Project Orientated Actions**

These projects will require varying amounts of planning and time to complete.

- Complete a Wildlife (Birds, Mammals & Amphibians) Inventory of the PRA
- Develop a fire management plan.
- Develop a Pest and Disease Management Plan
- Signing trails
- To offer backcountry camping and winter recreation in the PRA.
- Develop a brochure that will include a map of the new area as well as an overview of the park as it has been expanded.
- No new facilities or developments will occur in Poacher's Landing PRA at this time.
- To explain the role of Poacher 's Landing Provincial Recreation Area within the protected areas network.

### **8.2.3 Proposed Development Projects**

The following table is a list of projects identified in the plan, and a proposed target date for completing each one. Meeting the target date will depend on available funding.

- Sign placement and posting in the new section of the park.
- OHV and snowmobile access will be allowed on designated trails. Trails will require signing.
- Inspect toilet facilities and make sure there location and design comply with parks regulations and health authority requirements.
- Move the east boundary of Poacher's Landing PRA to the creek located approximately 2km east of the existing boundary. This would make the park boundary easier to define on the ground if the creek is the boundary.
- Recommend protecting lands around Jackfish Lake. This area is seen as a possible connector for a future trail system to the Town of Athabasca and to Poacher's Landing PRA.

### **8.2.4 Role of Stewards**

- Stewards under Parks are expected to watch for violations.
- Report violations to Conservation Officers for enforcement.

### **8.2.5 Boundary Adjustments and Other Recommendations**

- Move the east boundary of Poacher's Landing PRA to the creek located approximately 2 km east of the existing boundary. This would make the park boundary easier to define on the ground if the creek is the boundary. These boundary adjustments came out of the Public Involvement process and have strong community support.
- Recommend protecting lands around Jackfish Lake. This area is seen as a possible connector for a future trail system to the Town of Athabasca and to Poacher's Landing PRA. County will pursue it further.

- Recommend protecting Landing North of La Biche River Wildland Park for recreational purposes. This will continue to be pursued by the county and local community members.

### **8.3 Plan Review**

This management plan will be reviewed on a five-year basis from the date of its approval. Earlier reviews may be required or can be initialized sooner if significant issues arise that need addressing.

The Parks & Protected Areas will initiate the review if warranted and all members of the local groups and agencies who helped in its preparation, as will the general public, will be asked to participate in the review.

Details of plan implementation will be included in the annual operating plan for recreation and protected areas.

The review will generally focus on the objectives and management actions outlined in this plan. Also issues that arise subsequent to the approval of this plan will be addressed. Other sections may need updating to reflect changing situations and regulations.

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## GLOSSARY OF TERMS

Alluvial	medium textured flood plain deposits of recent origin
Alluvial eolian	medium to coarse textured, stone free deposits of either alluvial or eolian origin which have been resorted by wind action, often forming dune like topography.
Alluvial lacustrine	medium textured, stone free and fairly uniform deposits, usually occurring on level to gently undulating topography.
Colluvial	massive to moderately well stratified, non-sorted to poorly sorted sediments with any range of particle sizes from clay to boulders and blocks that have reached their present position by direct, gravity-induced movement.
Eolian	medium to fine textured sand and coarse silt particle sizes, stone free deposits which have been well sorted, poorly compacted and may show internal structure such as cross bedding or ripples. These materials have been deposited and sorted by wind action, forming dune topography.
Fluvial	Sediment generally consisting of gravel and sand with a minor fraction of silt and rarely clay. They are commonly moderately well sorted and display stratification. These materials have been transported and deposited by streams and rivers.
Glaciolacustrine	stratified sediments with generally alternating light & dark bands (varves) deposited in glacial lakes. Lacustrine materials were deposited in contact with the glacial ice (i.e. kettles, slumps).
Lacustrine	Fine textured sand, silt and clay deposited on the lake bed; or moderately well sorted and stratified sand and coarser materials that are beach and other near shore sediments. Stone free, uniform deposits usually occurring on level topography. These materials have been deposited by wave action or have settled from suspension in bodies of standing fresh water.
Local Significance	possessing attributes which are attractive and that may be expected to simulate local travel (less than 2 hours driving time). These are features that receive formal recognition in publications and by other agencies or groups. These areas are of limited distribution in the local area (i.e. park) or being the best or only representative of that feature in the local area.
Loess	wind deposited, unstratified dusty sediment rich in clay minerals.
Organic	Peat deposits greater than 30% organic matter by weight. Deposits maybe as thin as 10cm thick or greater than 60cm thick.

Provincial Significance	possessing attributes which in and of themselves render the feature attractive to resident Albertans. Such feature may stimulate intra-provincial travel. They possess attributes such that the loss or destruction of that feature can be expected to adversely affect the natural or cultural heritage or diversity of the conservation-outdoor recreation system and/or the province or of concern to people beyond the province. These feature are formally recognized in scientific journals , publications, by groups, provincially recognized groups and public interest groups. These features are of limited distribution in the province or being the best or only representative of that feature in Alberta.
Quaternary	a period in the geological time scale.
Regional Significance	possessing attributes which are attractive and that may be expected to stimulate intra-regional travel (i.e. about 2 to 2.5 hours driving time. These are features that receive formal recognition in publications, by agencies and groups. These features have a history of preferred use by research groups, universities, etc. They are of limited distribution in a region of the province or being the best or only representative of that feature in that region.
Succession	the change in community composition over time following a major disturbance. This change is measured by the composition of plant populations, by their reproduction and distribution on the substrate and by their coexistence. The end point of succession is referred to as climax.

**Appendix A**

# Appendix A

## Vegetation Species List

## Plant Species found within Poachers' Landing PRA

List of Plant Species Compiled from Timoney-et al.,1992, Wallis et al.,1991, ALPAC, 1989, Moss, 1983, Johnson et al.,1995, and Vitt et al.. 1988..

+ = Rare in Alberta

- = Local in Region

\* = Rare in Region

**BOLD** = maybe found

TREES	
Common Name	Scientific Name
<b>Birch Family (Betulaceae)</b>	
Alaska Birch	<i>Betula neoa/askana</i>
Paper Birch	<i>Betula papyrifera</i>
<b>Pine Family (Pinaceae)</b>	
Tamarack/Larch	<i>Larix laricina</i>
White Spruce	<i>Picea glauca</i>
Black Spruce	<i>Picea mariana</i>
Balsam Fir	<i>Abies balsamea</i>
Jack Pine	<i>Pinus banksiana</i>
<b>Willow Family (Salicaceae)</b>	
Balsam Poplar	<i>Populus balsamifera</i>
Aspen	<i>Populus tremuloides</i>
SHRUBS	
Common Name	Scientific Name
<b>Birch Family (Betulaceae)</b>	
Green Alder	<i>Alnus crispa</i>
River Alder	<i>Alnus tenuifolia</i>
Bog / Dwarf Birch	<b><i>Betula glandulosa</i></b>
Dwarf Birch	<i>Betula pumila</i>
Beaked Hazelnut	<i>Corylus cornuta</i>
<b>Crowberry Family (Empetraceae)</b>	
Crowberry	<b><i>Empetrum nigrum</i></b>
<b>Currant &amp; Gooseberry Family (Grossulariaceae)</b>	
Wild Black Currant	<b><i>Ribes americanum</i></b>
Skunk Currant	<i>Ribes glandulosum</i>
Wild Gooseberry	<i>Ribes hirtellum</i>
Wild Black Currant	<i>Ribes hudsonianum</i>
Bristly Black Currant	<i>Ribes lacustre</i>
Wild Gooseberry	<i>Ribes oxycanthoides</i>
Wild Red Currant	<i>Ribes triste</i>
<b>Dogwood Family (Cornaceae)</b>	
Red Osier Dogwood; Kinnikinnik	<i>Cornus stolonifera</i>
<b>Heath Family (Ericaceae)</b>	
Bog rosemary	<b><i>Andromeda polifolia</i></b>
Common Bearberry (Kinnikinnik)	<i>Arcostaphylos uva-ursi</i>
Common Labrador Tea	<i>Ledum groenlandicum</i>
Small Bog Cranberry	<i>Oxycoccus microcarpus</i>
Blueberry	<i>Vaccinium myrtilloides</i>
Bog Cranberry .Cow-berry	<i>Vaccinium vitis-idaea</i>

<b>Honeysuckle Family (Caprifoliaceae)</b>	
Twin-flower	<i>Linnaea borealis</i>
Twining Honeysuckle	<i>Lonicera dioica</i>
Bracted Honeysuckle	<i>Lonicera involucrata</i>
Mountain fly Honeysuckle	<i>Lonicera villosa</i>
Snowberry	<i>Symphoricarpos albus</i>
Buckbrush/Wolfberry	<i>Symphoricarpos occidentalis</i>
Low-bush Cranberry	<i>Viburnum edule</i>
<b>Oleaster Family (Elaeagnaceae)</b>	
Canadian Buffalo-berry	<i>Shepherdia canadensis</i>
<b>Rockrose Family (Cistaceae)</b>	
Sand Heather	<b><i>Hudsonia tomentosa</i></b>
<b>Rose Family (Rosaceae)</b>	
Saskatoon	<i>Amelanchier alnifolia</i>
	<i>Potentilla sp.</i>
Pin Cherry	<i>Prunus pensylvanica</i>
Choke Cherry	<i>Prunus virginiana</i>
Prickly Rose	<i>Rosa acicularis</i>
Common Wild Rose	<i>Rosa woodsii</i>
Wild Red Raspberry	<i>Rubus idaeus</i>
<b>Willow Family (Salicaceae)</b>	
	<i>Salix sp.</i>
Little-tree Willow	<i>Salix arbuscula/oides</i>
Beaked Willow	<i>Salix bebbiana</i>
Hoary Willow	<b><i>Salix candida</i></b>
Pussy Willow	<i>Salix discolor</i>
	<i>Salix drummondiana</i>
Sandbar Willow	<i>Salix exigua</i>
Whiplash Willow	<i>Salix lucida</i>
Yellow Willow	<i>Salix utex</i>
	<i>Salix maccalliana</i>
Myrtle-leaved Willow	<i>Salix myrtillofolia</i>
Bog Willow	<b><i>Salix pedicellaris</i></b>
	<i>Salix petiolaris</i>
Flat-leaved Willow	<b><i>Salix planifolia</i></b>
Balsam Willow	<b><i>Salix pyrifolia</i></b>
	<i>Salix pseudomonticola</i>
	<b><i>Salix serissima</i></b>

	Scientific Name
<b>Adder's-tongue Family (Ophioglossaceae)</b>	
Moonwort	<i>Botrychium lunaria</i>
Grape Fern	<i>Botrychium virginianum</i>
<b>Arrow-Grass Family (Juncaginaceae)</b>	
Slender Arrow Grass	<i>Scheuchzeria palustris</i>
Arrow Grass	<i>Triglochin maritima</i>
Slender Arrow Grass	<i>Triglochin palustris</i>
<b>Arum Family (Araceae)</b>	
Water Arum / Wild Calla	<i>Calla palustris</i>
<b>Bladderwort Family (Lentibulariaceae)</b>	
Common Bladderwort	<i>Utricularia vulgaris</i>
<b>Bluebell Family (Campanulaceae)</b>	
Bluebell; Harebell	<i>Campanula rotundifolia</i>
<b>Borage Family (Boraginaceae)</b>	
Blue-bur	<i>Lappula occidentalis</i>
Tall Mertansia	<i>Mertansia paniculata</i>
<b>Buck-Bean Family (Menyanthaceae)</b>	
Buck Bean	<i>Menyanthes trifoliata</i>
<b>Buckwheat Family (Polygonaceae)</b>	
Water Smartweed	<i>Polygonum amphibium</i>
	<i>Polygonum douglasii</i>
Smartweed	<i>Polygonum lapathifolium</i>
Water Dock	<i>Rumex britannica</i>
Golden Dock	<i>Rumex maritimus</i>
Western Dock	<i>Rumex occidentalis</i>
Narrow-leaved Dock	<i>Rumex triangulivalvis</i>
<b>Bur-Reed Family (Sparganiaceae)</b>	
Bur-reed	<i>Sparganium eurycarpum</i>
<b>Carrot Family (Umbelliferae)</b>	
Caraway	<i>Carum carvi</i>
Water Hemlock	<i>Cicuta bulbifera</i>
Water Hemlock	<i>Cicuta maculata</i>
Cow Parsnip	<i>Heracleum lanatum</i>
Snake-root	<i>Sanicula marilandica</i>
Water Parsnip	<i>Sium suave</i>
<b>Cattail Family (Typhaceae)</b>	
Common Cattail	<i>Typha latifolia</i>
<b>Composite Family (Compositae)</b>	
Common Yarrow	<i>Achillea millefolium</i>
Siberian/Many-flowered Yarrow	<i>Achillea sibirica</i>
Broad-leaved Pussy-toes	<i>Antennaria neglecta</i>
Pussy-toes	<i>Antennaria parvifolia</i>
Pussy-toes	<i>Antennaria rosea</i>
Amica	<i>Amica chamissonis</i>
Biennial Sagewort	<i>Artemisia biennis</i>
Plains Wormwood	<i>Artemisia campestris</i>
Pasture Sagewort	<i>Artemisia frigida</i>
Marsh Aster	<i>Aster borealis</i>
Lindley's/Fringed Aster	<i>Aster ciliolatus</i>
Showy Aster	<i>Aster conspicuus</i>
Western Willow Aster	<i>Aster hesperius</i>
Smooth Aster	<i>Aster laevis</i>
Purple-stemmed Aster	<i>Aster puniceus</i>

Flat-topped White Aster	<i>Aster umbellatus</i> *
Tall Beggar-ticks	<i>Bidens frondosa</i>
Canada Thistle	<i>Cirsium arvense</i>
Narrow-leaved Hawk's Beard	<i>Crepis tectorum</i>
Wild Daisy	<i>Erigeron</i> sp.
	<i>Erigeron canadensis</i>
Smooth Fleabane	<i>Erigeron glaberrimus</i>
Fleabane/Wild Daisy	<i>Erigeron philadelphicus</i>
	<i>Eupatorium purpureum</i> *
Narrow-leaved Hawkweed	<i>Hieracium umbellatum</i>
Pineapple Weed	<i>Matricaria matricarioides</i>
Palmate-leaved Coltsfoot	<i>Petasites palmatus</i>
Arrow-leaved Coltsfoot	<i>Petasites sagittatus</i>
	<i>Petasites vitifolius</i>
Marsh Ragwort	<i>Senecio congestus</i>
Cut-leaved Ragwort	<i>Senecio eremophilus</i>
Ragwort	<i>Senecio pauperculus</i>
	<i>Solidago</i> sp.
Canada Goldenrod	<i>Solidago canadensis</i>
Giant Goldenrod	<i>Solidago gigantea</i>
	<i>Solidago missouriensis</i>
Mountain Goldenrod	<i>Solidago spathulata</i>
Sow Thistle	<i>Sonchus</i> sp.
	<i>Taraxacum</i> sp.
Common Dandelion	<i>Taraxacum officinale</i>
<b>Crowfoot Family (Ranunculaceae)</b>	
Red & White Baneberry	<i>Actaea rubra</i>
Canada Anemone	<i>Anemone canadensis</i>
Long-fruited Anemone	<i>Anemone cylindrica</i>
Cut-leaved Anemone	<i>Anemone multifida</i>
Prairie Crocus	<i>Anemone patens</i>
	<i>Anemone riparia</i> *
Blue Columbine	<i>Aquilegia brevistylis</i>
Marsh Marigold	<i>Caltha palustris</i>
	<i>Caltha ratans</i>
	<i>Coptis trifolia</i>
Tall Larkspur	<i>Delphinium glaucum</i>
Small-flowered Crowfoot	<i>Ranunculus abortivus</i>
White Water Crowfoot	<i>Ranunculus circinatus</i>
Creeping Buttercup	<i>Ranunculus cymbalaria</i>
Yellow Water Crowfoot	<i>Ranunculus gmelinii</i>
Bog Buttercup	<i>Ranunculus lapponicus</i>
Macoun's Buttercup	<i>Ranunculus macounii</i>
	<i>Ranunculus pensylvanicus</i>
Cursed Crowfoot	<i>Ranunculus sceleratus</i>
	<i>Thalictrum</i> sp.
Flat-fruited Meadow Rue	<i>Thalictrum sparsiflorum</i>
Veiny Meadow Rue	<i>Thalictrum venulosum</i>
<b>Dogbane Family (Apocynaceae)</b>	
Spreading Dogbane	<i>Apocynum androsaemifolium</i>
<b>Dogwood Family (Cornaceae)</b>	
Bunchberry	<i>Cornus canadensis</i>

Common Name	Scientific Name
<b>Evening Primrose Family</b>	
(Onagraceae) Enchanter's Nightshade	
<i>Circaea alpina</i>	Fireweed
<i>Epilobium angustifolium</i>	
Purple-leaved Willowherb	<b><i>Epilobium ciliatum</i></b>
Northern Willowherb	<i>Epilobium glandulosum</i>
Willowherb	<i>Epilobium palustre</i>
Yellow Evening Primrose	<b><i>Oenothera biennis</i></b>
<b>Fern Family (Polypodiaceae)</b>	
Bladder Ferns	<i>Cystopteris fragilis</i>
Oak Fern	<i>Gymnocarpium dryopteris</i>
Ostrich Fern	<b><i>Matteuccia struthiopteris</i></b>
Smooth Woodsia	<b><i>Woodsia glabella</i></b> *
<b>Figwort Family (Scrophulariaceae)</b>	
Common Red Paintbrush	<b><i>Castilleja miniata</i></b>
Cow-wheat	<b><i>Melampyrum lineare</i></b>
Swamp Lousewort	<b><i>Pedicularis parviflora</i></b>
Yellow Rattle	<b><i>Rhinanthus minor</i></b>
American Brooklime	<i>Veronica americana</i>
<b>Flax Family (Linaceae)</b>	
Wild Blue Flax	<b><i>Unum lewisii</i></b>
<b>Fumitory Family (Fumariaceae)</b>	
Golden Corydalis	<b><i>Corydalis aurea</i></b>
<b>Gentian Family (Gentianaceae)</b>	
Felwort	<i>Gentianella amarella</i>
<b>Geranium Family (Geraniaceae)</b>	
Crane's-bill	<b><i>Geranium bicknellii</i></b>
	<i>Geranium carolinianum</i> *
<b>Ginseng Family (Araliaceae)</b>	
Wild Sarsaparilla	<i>Aralia nudicaulis</i>
<b>Goosefoot Family (Chenopodiaceae)</b>	
Lamb's-quarters	<b><i>Chenopodium album</i></b>
Strawberry Blight	<b><i>Chenopodium capitatum</i></b>
<b>Grass-of-Parnassus Family (Parnassiaceae)</b>	
Grass-of-Parnassus	<i>Parnassia sp.</i>
Grass-of-Parnassus	<b><i>Parnassia palustris</i></b>
<b>Hornwort Family (Ceratophyllaceae)</b>	
	<b><i>Ceratophyllum demersum</i></b>
<b>Horsetail Family (Equisetaceae)</b>	
Common/Field Horsetail	<i>Equisetum arvense</i>
Swamp Horsetail	<i>Equisetum fluviatile</i>
Scouring Rush	<i>Equisetum hyemale</i>
	<i>Equisetum palustre</i>
Meadow Horsetail	<i>Equisetum pratense</i>
Dwarf Scouring Rush	<i>Equisetum scirpoides</i>
Woodland Horsetail	<b><i>Equisetum sylvaticum</i></b>
Variiegated Horsetail	<i>Equisetum variegatum</i>
<b>Indian-pipe Family (Monotropaceae)</b>	
Pine-sap	<i>Monotropa hypopitys</i> *
Indian Pipe	<b><i>Monotropa uniflora</i></b>
<b>Iris Family (Iridaceae)</b>	
Blue-eyed Grass	<i>Sisyrinchium montanum</i>

<b>Lily Family (Liliaceae)</b>	
Wild Chives	<i>Allium schoenoprasum</i>
Fairy Bells	<i>Oisporum trachycarpum</i>
Western Wood Lily	<i>Lilium philadelphicum</i>
Wild Lily-of-the-valley	<i>Maianthemum canadense</i>
Star-flowered Solomon's Seal	<i>Smilacina stellata</i>
Three-leaved Solomon's-Seal	<i>Smilacina trifolia</i>
<b>Madder Family (Rubiaceae)</b>	
Northern Bedstraw	<i>Galium boreale</i>
Small Bedstraw	<i>Galium trifidum</i>
Sweet-scented Bedstraw	<i>Galium aparine</i>
<b>Mint Family (Labiatae)</b>	
Giant Hyssop	<b><i>Agastache foeniculum</i></b>
Wild Mint	<i>Mentha arvensis</i>
Skullcap	<i>Scutellaria galericulata</i>
Hedge Nettle	<i>Stachys palustris</i>
<b>Milkwort Family (Polygalaceae)</b>	
	<i>Polygala pauciflora</i> *
<b>Mistletoe Family (Loranthaceae)</b>	
Dwarf Mistletoe	<i>Areceuthobium americanum</i>
<b>Moschatel Family (Adoxaceae)</b>	
Moschatel	<i>Adoxa moschatellina</i>
<b>Mustard Family (Cruciferae)</b>	
	<b><i>Arabis divaricarpa</i></b>
Drummond's Rock Cress	<i>Arabis drummondii</i>
Tower Mustard	<i>Arabis glabra</i>
	<b><i>Arabis hirsuta</i></b>
	<b><i>Arabis lyrata</i></b>
	<i>Cardamine pratensis</i> *
Hare's-ear Mustard	<i>Conringia orientalis</i>
Wormseed Mustard	<i>Erysimum cheiranthoides</i>
Common Peppergrass	<b><i>Lepidium densiflorum</i></b>
Yellow Cress	<i>Rorippa palustris</i>
<b>Nettle Family (Urticaceae)</b>	
Common Nettle	<i>Urtica dioica</i>
<b>Orchid Family (Orchidaceae)</b>	
Venus's Slipper	<b><i>Calypso bulbosa</i></b>
Pale Coral Root	<i>Corallorhiza innata</i>
Lady's Slipper	<i>Cypripedium passerinum</i>
Rattlesnake Plantain	<i>Goodyera repens</i>
Northern Green Orchid	<i>Habenaria hyperborea</i>
Blunt-leaved Orchid	<i>Habenaria obtusata</i>
Bracted Orchid	<b><i>Habenaria viridis</i></b>
Northern Twayblade	<i>Listera borealis</i>
One-leaved Adder's-mouth	<i>Maianthemum canadense</i>
Adder's Mouth	<i>Maianthemum canadense</i> *
Round-leaved Orchid	<i>Orchis rotundifolia</i>
Ladies'-tresses	<b><i>Spiranthes romanzoffiana</i></b>

Common Name	Scientific Name
<b>Pea Family (Leguminosae)</b>	
Alpine Milk-Vetch	<i>Astragalus alpinus</i> -
	<i>Astragalus canadensis</i>
Milk Vetch	<i>Astragalus striatus</i> -
Wild Licorice	<i>Glycyrrhiza lepidota</i>
Pea Vine/Netchling	<i>Lathyrus ochroleucus</i>
Yellow Lucerne	<i>Medicago falcata</i>
Alfalfa/Lucerne	<i>Medicago sativa</i>
White Sweet Clover	<i>Melilotus alba</i>
Yellow Sweet Clover	<i>Melilotus officinalis</i>
Reflexed Loco-weed	<b><i>Oxytropis deflexa</i></b>
Late Yellow Locoweed	<i>Oxytropis monticola</i>
Alsike Clover	<i>Trifolium hybridum</i>
Red Clover	<i>Trifolium pratense</i>
White/Dutch Clover	<i>Trifolium repens</i>
Wild Vetch	<i>Vicia americana</i>
<b>Pink Family (Caryophyllaceae)</b>	
	<b><i>Cerastium arvense</i></b>
Long-stalked Chickweed	<i>Cerastium nutans</i>
Sandwort	<b><i>Minuartia dawsonensis</i></b>
Blunt-leaved Sandwort	<i>Moehringia lateriflora</i>
Bladder Campion	<i>Silene cucubalus</i>
	<i>Silene drummondii</i>
Chickweed/Starwort	<i>Stellaria calycantha</i>
	<b><i>Stellaria crassifolia</i></b>
Long-leaved Chickweed	<i>Stellaria longifolia</i>
Long-stalked Chickweed	<i>Stellaria longipes</i>
<b>Plantain Family (Plantaginaceae)</b>	
Common Plantain	<i>Plantago major</i>
	<i>Plantago maritima</i> *
<b>Pondweed Family (Potamogetonaceae)</b>	
	<b><i>Potamogeton amplifolius</i></b>
	<b><i>Potamogeton filiformis</i></b>
	<b><i>Potamogeton natans</i></b>
	<b><i>Potamogeton gramineus</i></b>
	<i>Potamogeton obtusifolius</i> *
White Stem Pond Weed	<b><i>Potamogeton praelongus</i></b>
	<b><i>Potamogeton pusillus</i></b>
Clasping-leaf Pond Weed	<b><i>Potamogeton richardsonii</i></b>
	<b><i>Potamogeton vaginatus</i></b>
<b>Primrose Family (Primulaceae)</b>	
Fairy Candelabra	<i>Androsace septentrionalis</i> -
Tufted Loosestrife	<b><i>Lysimachia thyrsoiflora</i></b>
Star-flower	<i>Trientalis borealis</i>
<b>Rose Family (Rosaceae)</b>	
Woodland Strawberry	<i>Fragaria vesca</i>
Wild Strawberry	<i>Fragaria virginiana</i>
Yellow Avens	<i>Geum acaule</i>
Yellow Avens	<i>Geum macrophyllum</i>
	<i>Potentilla</i> sp.
Silverweed	<i>Potentilla anserina</i>
	<b><i>Potentilla bipinnatifida</i></b>
Rough Cinquefoil	<b><i>Potentilla norvegica</i></b>

Marsh Cinquefoil	<b><i>Potentilla palustris</i></b>
Brook Cinquefoil	<i>Potentilla rivalis</i>
Trailing Raspberry	<i>Rubus arcticus</i>
Cloudberry	<i>Rubus chamaemorus</i>
Dewberry	<i>Rubus pubescens</i>
<b>Sandalwood Family (Santalaceae)</b>	
Bastard Toad Flax	<i>Commandra umbellata</i>
Northern Comandra	<i>Geocaulon lividum</i>
<b>Saxifrage Family (Saxifragaceae)</b>	
	<b><i>Chrysosplenium iowense</i></b>
Alum-root	<i>Heuchera richardsonii</i>
Bishop's-cap/ Mitrewort	<i>Mifflin nudicaulis</i>
Grass-of-Parnassus	<b><i>Parnassia palustris</i></b>
<b>St. John's-wort Family (Hypericaceae)</b>	
St. John's-wort	<i>Hypericum majus</i> *
<b>Sundew Family (Droseraceae)</b>	
Oblong-leaved Sundew	<b><i>Drosera anglica</i></b>
Sundew	<b><i>Drosera rotundifolia</i></b>
<b>Touch-me-not Family (Balsaminaceae)</b>	
Jewelweed	<i>Impatiens capensis</i>
<b>Violet Family (Violaceae)</b>	
	<i>Viola</i> sp.
Early Blue Violet	<i>Viola adunca</i>
Western Canada Violet	<i>Viola canadensis</i>
Marsh Violet	<b><i>Viola palustris</i></b>
Kidney-leaved Violet	<b><i>Viola renifolia</i></b>
Great-spurred Violet	<i>Viola selkirkii</i> *
<b>Waterleaf Family (Hydrophyllaceae)</b>	
Scorpion Weed	<b><i>Phacelia franklinii</i></b>
<b>Water-Lily Family (Nymphaeaceae)</b>	
White Water Lily	<i>Nymphaea tetragona</i> *
Yellow Pond-lily	<b><i>Nuphar variegatum</i></b>
<b>Water-Milfoil Family (Haloragaceae)</b>	
	<b><i>Myriophyllum exallescens</i></b>
<b>Water-Plantain Family (Alismataceae)</b>	
Arrowhead/Wapato	<i>Sagittaria arifolia</i> *
<b>Water-Starwort Family (Callitrichaceae)</b>	
	<b><i>Callitriche hermaphroditica</i></b>
	<b><i>Callitriche verna</i></b>
<b>Waterwort Family (Elatinaceae)</b>	
Waterwort	<i>Elatine triandra</i> *
<b>Wintergreen Family (Pyrolaceae)</b>	
One-flowered Wintergreen	<i>Moneses uniflora</i>
One-sided Wintergreen	<i>Orthilia secunda</i>
Common Pink wintergreen	<i>Pyrola asarifolia</i>
Greenish-flowered Wintergreen	<i>Pyrola chlorantha</i>

**LICHENS**

Common Name	Scientific Name
	<b>Alectoria fremontiiir</b>
	<b>A/ectoria simplicior</b>
Horsehair	<b>Bryoria Spp.</b>
	<b>Bryoria chalybeiformis</b>
Speckled Horsehair	<b>Bryoria fuscescens</b>
	<b>Calop/aca murorum</b>
	<i>Candellariella vitellina</i>
	<b>Cetraria cucullata</b>
	<i>Cetraria ericetorum</i>
	<b>Cetraria halei</b>
Iceland/Island Moss	<b>Cetraria islandica</b>
	<b>Cetraria nivalis</b>
Powdered Sunshine/Moon Cetrari,	<i>Cetraria pinastri</i>
	<i>Cetraria platphy/a</i>
	<b>Cetraria sepincola</b>
	<b>C/adina alpestris</b>
	<b>C/adina arbuscu/a</b>
Yellow/Green Reindeer Lichen	<b>C/adina mitis</b>
Grey/True Reindeer Lichen	<b>C/adina rangiferina</b>
	<b>Cladina stellaris</b>
	<b>Cladonia spp.</b>
Spike Lichen	<b>Cladonia amaurocraea</b>
	<b>Cladonia arbuscu/a</b>
	<i>C/adonia botrytes</i>
	<i>C/adonia cenotea</i>
	<i>Cladonia cervicornis</i>
	<i>ssp. verticillata</i>
	<i>Cladonia ch/orophaea</i>
	<b>Cladonia ctavulifera</b>
	<i>Cladonia coccifera</i>
	<i>C/adonia cornuta</i>
	<i>C/adonia crispata</i>
British Soldier Lichen	<b>C/adonia cristatetta</b>
	<b>C/adonia deformis</b>
	<i>C/adonia ecmocyna</i>
	<i>Cladonia fimbriata</i>
	<i>C/adonia gracilis</i>
	<i>C/adonia mitis</i>
	<i>Cladonia multiformis</i>
	<i>C/adonia phyllophora</i>
	<i>Cladonia pleurota</i>
Brown Pixie Cup	<i>C/adonia pyxidata</i>
	<i>Cladonia rangiferina</i>
	<i>C/adonia scabriuscula</i>
	<b>C/adonia squamosa</b>
	<i>C/adonia subulata</i>
::>rickle Cladonia/Spike Lichen	<i>Cladonia uncialis</i>
	<b>Dermatocarpon miniatum</b>
	<b>Disptoschistea scruposus</b>
3pruce Moss/Northern Perfume	<i>Evernia mesomorpha</i>
	<i>Hypogymnia physodes</i>
	<b>Icmadophila ericetorum</b>
im Lichen	<i>Lecanora spp.</i>

	<i>Lecanora cf granu/osa</i>
Lustrous Brown Lichen	<i>Melanelia elegantula</i>
	<b>Parmelia spp.</b>
	<b>Parme/ia saxatilis</b>
	<i>Parmelia sulcata</i>
	<b>Parmeliopsis ambigua</b>
	<b>Parmeliopsis hyperopta</b>
	<b>Parmeliopsis ptacorodia</b>
	<i>Peltigera aphthosa</i>
Dog Pelt/Dog Lichen	<i>Peltigera canina</i>
	<i>Peltigera didactyla</i>
	<i>Peltigera malacea</i>
	<i>Peltigera polydactyla</i>
	<i>Peltigera rufescens</i>
	<b>Pe/tigera spuria</b>
Granulated Shadow/Wreath Lichen	<i>Phaeophyscia orbicularis</i>
Hooded Rosette/ Hooded Lichen	<i>Physcia adscendens</i>
Grey-eyed Rosette/Hoary Rosette	<i>Physcia aipolia</i>
	<b>Physcia stellaris</b>
	<b>Platismatia glauca</b>
Punctured Gristle/Cartilage Moss	<i>Ramalina dilacerata</i>
Dusty Gristle/Cartilage Moss	<i>Ramalina pollinaria</i>
	<b>Rhizocarpon spp.</b>
	<b>Stereocaulon spp.</b>
	<b>Stereocau/on condesatum</b>
	<b>Stereocau/on paschale</b>
Woolly Coral	<i>Stereocau/on tomentosum</i>
	<i>Trapeliopsis granulosa</i>
Rocktripe	<b>Umbilicaria spp.</b>
	<b>Umbi/icaria proboscidea</b>
Beard Lichen	<b>Usnea spp.</b>
	<b>Usnea glabrescens</b>
	<b>ssp. Gtabretta</b>
Old Man's Beard	<b>Usnea hirta</b>
	<i>Usnea scabrata</i>
	<i>ssp. nylanderiana</i>
	<i>Usnea subfloridana</i>
	<b>Usnea subfusca</b>

MOSESSES, CLUB MOSESSES	
Common Name	Scientific Name
Ragged Moss	<i>Aacomnium palustre</i>
	<i>Barbu/a unguiculata</i>
	<b>Bartramia pomiformis</b>
	<i>Brachytecium sp.</i>
	<i>Brachytecium campestre</i>
	<i>Brachytecium erythrorrhizon</i>
	<i>Brachytecium oedipodium</i>
Waterside Feather Moss	<i>Brachytecium rivulare</i>
	<i>Brachytecium rutabulum</i>
Golden Ragged Moss	<i>Brachytecium sa/ebrosum</i>
Tick Ragged/Grass Moss	<i>Brachytecium turgidum</i>
	<i>Bryum sp.</i>
	<i>Bryum caespiticium</i>
Tall Clustered Thread Moss	<i>Bryum pseudotriquetrum</i>
	<i>Bryum uliginosum</i>
Giant Water/Feather Moss	<i>Cal/iergon giganteum</i>
	<i>Campylium chrysophyl/um</i>
False Willow Moss	<i>Campylium hispidulum</i>
	<i>Campylium polygamum</i>
Yellow Star Moss	<i>Campylium stellatum</i>
Purple Horn-toothed/Fire moss	<i>Ceratodon purpureus</i>
Common Tree Moss	<i>Climacium dendroides</i>
Fern Moss	<i>Cratoneuron filicinum</i>
	<i>Dicranella grevil/iana</i>
	<i>Dicranum spp.</i>
	<i>Dicranum acutifolium</i>
	<i>Dicranum flagel/are</i>
	<i>Dicranum fragil/ifo/ium</i>
	<i>Dicranum fuscescens</i>
	<i>Dicranum polysetum</i>
	<i>Dicranum undu/atum</i>
Erect-fruited Iris Moss	<i>Distichium capil/aceum</i>
Common Hook Moss	<i>Drepanoc/adus aduncus</i>
	<b>Drepanoc/adus exannulatus</b>
Red Hook Moss	<i>Drepanocladus revolvens</i>
	<b>Drepanoc/adus tundrae</b>
Sickle/Hook Moss	<i>Drepanoc/adus uncinatus</i>
Common Beaked Moss	<i>Eurhynchium pu/chellum</i>
	<i>Haplocladium microphyl/um</i>
	<b>Hedwigia ciliata</b>
Blandow's Feather Moss	<i>He/odium blandowii</i>
Stair/Step Moss	<i>Hylocomium splendens</i>
	<i>Hygrohypnum ochraceum</i>
Sheet Moss	<i>Hypnum cupressiforme</i>
	var. <i>filiforme</i>
Clay Pigtail Moss	<i>Hypnum lindbergii</i>
Meadow Pigtail Moss	<i>Hypnum pratense</i>
	<i>Hypnum recurvatum</i>
	<i>Isopterygium pulchellum</i>
Mountain Carved-back Moss	<i>Oncophorus wahlenbergii</i>
Aquatic Apple/Swamp Moss	<i>Philonotis fontana</i>
	<i>P/atydictya jungermannioides</i>
	<i>Pohlia sp.</i>

	<b>Poh/ia drummondii</b>
	<i>Pohlia nutans</i>
	<i>Poh/ia wahlenbergii</i>
Woodsy Leafy Moss	<i>Plagiomnium cuspidatum</i>
Marsh Magnificent Moss	<i>Plagiomnium ellipticum</i>
Common Leafy Moss	<i>Plagiomnium medium</i>
Red Stemmed Feather Moss	<i>Pleurozium schreberi</i>
	<b>Ptilidium ciliare</b>
Common Hair Cap	<b>Polytrichum commune</b>
Juniper Hair Cap/Moss	<i>Polytrichum juniperinum</i>
Slender/Bog Hair Cap	<i>Polytrichum strictum</i>
	<i>Polytrichum piliferum</i>
Knights Plume	<i>Ptilium crista-castrensis</i>
Stocking/Aspen Moss	<i>Pylaisiel/a polyantha</i>
	<b>Rhacomitrium canescens</b>
Slender Round Moss	<i>Rhizomnium gracile</i>
Felt Round Moss	<i>Rhizomnium pseudopunctatum</i>
Goose neck Moss	<i>Rhytidiadelphus triquetrus</i>
	<i>Schistidium rivulare</i>
Yellow-Green/ Poor Fen Peat	<b>Sphagnum angustifolium</b>
	<b>Sphagnum capillarum</b>
	<b>Sphagnum contortum</b>
Rusty Peat Moss	<i>Sphagnum fuscum</i>
White-toothed Peat Moss	<b>Sphagnum girgensohnii</b>
	<i>Sphagnum nemoreum</i>
	<b>Sphagnum obtusum</b>
Squarose Pea/S Spreading-leaved	<b>Sphagnum squarrosum</b>
	<b>Sphagnum teres</b>
	<i>Sphagnum warnstorffii</i>
Wirey Fern Moss	<i>Thuidium recognitum</i>
Golden Fuzzy Fen Moss	<i>Tomenthypnum nitens</i>
	<i>Tortu/a mucronifolia</i>
<b>Club Moss Family (Lycopodaceae)</b>	
Stiff Club-moss	<i>Lycopodium annotinum</i>
Common/Running Club-moss	<b>Lycopodium c/avatum</b>
Ground Cedar	<i>Lycopodium obscurum</i>
Ground Cedar	<i>Lycopodium complanatum</i>
<b>Little Club-moss Family (Selaginellaceae)</b>	
	<i>Selaginella rupestris</i> +
<b>Liverworts</b>	
	<i>Aneura pinguis</i>
Snake Liverwort	<i>Conocephalum conicum</i>
Leafy Liverwort	<i>Lophozia ventricosa</i>
Green Tongue Liverwort	<i>Marchantia polymorpha</i>
Cedar-shake Liverwort	<i>Plagiochila aspe/loides</i>
	<i>Preissia quadrata.</i>
Naugehyde Liverwort	<i>Ptilidium pulcherrimum</i>

Common Name	Scientific Name
<b>Grass Family (Gramineae/ Poaceae)</b>	
Hybrid	<i>Agropyrum sp.</i>
	<i>Agropyron albicans</i>
	<i>var. griffithsii</i>
Northern Wheat Grass	<i>Agropyron dasystachyum</i>
Quack/Couch Grass	<i>Agropyron repens</i>
Slender Wheat Grass	<i>Agropyron trachycaulum</i>
	<i>var. unilatera/e</i>
Redtop	<i>Agrostis alba</i>
Hair Grass / Tickle Grass	<i>Agrostis scabra</i>
Bent Grass	<i>Agrostis sto/onifera -</i>
Short-awned water foxtail	<i>Alopecurus aequalis</i>
Slough Grass	<i>Beckmannia syzigachne</i>
Fringed Brome	<i>Bromus ci/iatus</i>
Awnless Brome	<i>Bromus inermis</i>
(Northern Brome)	<b>ssp. pumpellianus</b>
BluejointUMarsh Reed Gras	<i>Calamagrostis canadensis</i>
Northern Reed Grass	<i>Calamagrostis inexpansa</i>
	<i>Ca/amagrostis cf Stricta</i>
Plains Reed Grass	<b>Ca/amagrostis montanensis</b>
Reed Grass	<b>Ca/amagrostis neg/ecta</b>
Sand Grass	<i>Ca/amovilfa longifolia</i>
Brook Grass	<i>Catabrosa aquatica *</i>
Drooping Wood Reed	<i>Cinna /atifolia</i>
Poverty Oat Grass	<i>Danthonia spicata *</i>
Tufted Hair Grass	<b>Deschampsia cespitosa</b>
Canada Wild Rye	<b>Elymus canadensis</b>
Hairy Wild Rye	<i>Elymus innovatus</i>
Red Fescue	<i>Festuca rubra</i>
Northern Rough Fescue	<i>Festuca saximontana -</i>
Rough Fescue	<b>Festuca scabrel/a</b>
(Manna Grass)	<b>Glyceria borea/is</b>
Tall Manna Grass	<i>Glyceria grandis</i>
(Manna Grass)	<i>Glyceria pu/chella</i>
Fowl Manna Grass	<i>Glyceria striata</i>
Sweet Grass	<i>Hierochloe odorata</i>
Foxtail Barley	<i>Hordeum jubatum</i>
June Grass	<i>Koe/eria macrantha -</i>
Mountain Rice Grass	<i>Oryzopsis asperifolia</i>
	<i>Oryzopsis micrantha *</i>
Northern Rice Grass	<i>Oryzopsis pungens</i>
Timothy	<i>Phleum pratense</i>
Reed Canary Grass	<i>Phalaris arundinacea</i>
Common Reed Grass	<b>Phragmites australis</b>
Interior Bluegrass	<i>Poa interior</i>
	<i>Poa nemoralis</i>
Fowl Blugrass	<i>Poa palustris</i>
Kentucky Bluegrass	<i>Poa pratensis</i>
False Malic	<i>Schizachne purpurascens</i>
Cord Grass	<i>Spartina pectinata *</i>
(Needle Grass)	<b>Stipa viridula</b>
<b>Rush Family (Juncaceae)</b>	
Alpine Rush	<b>Juncus alpinoarticulatus</b>

Wire/Arctic Rush	<i>Juncus balticus</i>
	<i>Juncus brevicaudatus *</i>
Toad Rush	<b>Juncus bufonius</b>
Knotted Rush	<b>Juncus nodosus</b>
	<b>Juncus tenuis</b>
	<b>Juncus vaseyi</b>
Wood Rush	<i>Luzula acuminata *</i>
	<b>Luzu/a parviflora</b>
<b>Sedge Family (Cyperaceae)</b>	
Bronze/Silvery-flowered	<b>Carex aenea</b>
	<i>Carex adusta *</i>
Water Sedge	<b>Carex aquatilis</b>
	<i>Carex atherodes</i>
Golden Sedge	<i>Carex aurea</i>
	<i>Carex bebbii</i>
	<b>Carex brunnescens</b>
Hair-like Sedge	<i>Carex capillaris -</i>
Prostrate Sedge	<b>Carex chordorrhiza</b>
	<b>Carex crawfordii</b>
	<b>Carex curta</b>
Bent Sedge	<i>Carex deflexa *</i>
Dewey's Sedge	<i>Carex deweyana</i>
Two-stamened Sedge	<b>Carex diandra</b>
Two-seeded/Soft-leaved	<i>Carex disperma</i>
Northern/Yellow Bog Sedge	<i>Carex gynocrates</i>
	<b>Carex he/eonastes</b>
Inland Sedge	<b>Carex interior</b>
	<i>Carex /acustris *</i>
Hairy-fruited/Slender Sedge	<b>Carex lasiocarpa</b>
Bristle-Stalked Sedge	<i>Carex lept/ea -</i>
Mud/Shore Sedge	<b>Carex limosa</b>
	<i>Carex cf Loliacea *</i>
	<b>Carex nigricans</b>
Norway Sedge	<i>Carex norvegica -</i>
	<b>Carex pauciflora</b>
	<b>Carex paupercu/a</b>
	<b>Carex pratico/a</b>
Peck's Sedge	<i>Carex peckii *</i>
Ross's Sedge	<i>Carex rossii -</i>
Bog Sedge	<b>Carex rostrata</b>
Hay Sedge	<i>Carex siccata</i>
	<i>Carex stipata</i>
Thin-flowered/Sparse-leave	<b>arex tenuiflora</b>
	<i>Carex trisperma *</i>
	<b>Carex umbel/ata</b>
Sheathed Sedge	<i>Carex vaginata</i>
	<i>Carex vulpinoides *</i>
Needle Spike-Rush	<b>E/eocharis acicularis</b>
	<i>Eleocharis compressa *</i>
Creeping Spike-Rush	<b>Eleocharis palustris</b>
	<b>Eleocharis quinqueflora</b>
Cotton Grass	<b>Eriophorum brachyantherum</b>
	<b>Eriophorum chamissonis</b>
Slender Cotton Grass	<b>Eriophorum gracile</b>
	<b>Eriophorum po/ystachion</b>

**GRAMINOIDS (Grasses, Rushes, Sedges) Cont'd**

Common Name	Scientific Name
Cotton Grass	<b><i>Eriophorum vaginatum</i></b>
Thin-leaved Cotton Grass	<b><i>Eriophorum viridi-carinatum</i></b>
	<i>Rhynchospora capillacea</i> *
Great Bulrush	<b><i>Scirpus acutus</i></b>
	<i>Scirpus clintonii</i> *
Wool Grass	<i>Scirpus cyperinus</i> *
Small Fruited Bulrush	<i>Scirpus microcarpus</i>
	<i>Scirpus rufus</i> *
	<b><i>Scirpus validus</i></b>

# **Appendix B**

## **Wildlife Species Lists**

Mammal Species List B1  
Bird Species List B2  
Amphibian & Fish Species List B3

## Poachers' Landing PRA Mammals Species List

List of species compiled from Pattie, 1999., Timoney, 1992., Wallis, 1991 and Alberta-Pacific, 1989.

Mammals	
Common Name	Scientific Name
<b>Shrews</b>	
Masked Shrew	<i>Sorex cinereus</i>
Arctic Shrew	<i>Sorex arcticus</i>
Northern Water Shrew	<i>Sorex palustris</i>
Dusky Shrew	<i>Sorex monticolus</i>
Pygmy Shrew	<i>Microsorex hoyi</i>
<b>Bats</b>	
Little Brown Bat*	<i>Myotis lucifugus</i>
Big Brown Bat	<i>Eptesicus fuscus</i>
Hoary Bat	<i>Lasiurus cinereus</i>
Northern Bat	<i>Myotis septentrionalis</i>
Silver-haired Bat	<i>Lasionycteris noctivagans</i>
<b>Rodents</b>	
Beaver*	<i>Castor canadensis</i>
Muskrat*	<i>Ondatra zibethicus</i>
Woodchuck*	<i>Marmota monax</i>
Red Squirrel*	<i>Tamiasciurus hudsonicus</i>
Least Chipmunk*	<i>Eutamias minimus</i>
Flying Squirrel*	<i>Glaucomys sabrinus</i>
Richardson Ground Squirrel*	<i>Spermophilus richardsonii</i>
Thirteen Lined ground Squirrel*	<i>Spermophilus tridecemlineatus</i>
Franklin's Ground Squirrel	<i>Spermophilus franklinii</i>
Porcupine*	<i>Erethizon dorsatum</i>
Northern Pocket Gopher*	<i>Thomomys talpoides</i>
Northern Bog Lemming	<i>Synaptomys borealis</i>
House Mouse	<i>Mus musculus</i>
Alberta Phenacomys Vole	<i>Phenacomys ungava</i>
Meadow Vole*	<i>Microtus pennsylvanicus</i>
Yellow-cheeked vole	<i>Microtus xanthognathus</i>
Deer Mouse*	<i>Peromyscus maniculatus</i>
Boreal Red-backed Vole	<i>Clethrionomys gapperi</i>
Heather Vole	<i>Phenacomys intermedius</i>
Western Jumping Mouse	<i>Zapus princeps</i>
Meadow Jumping Mouse	<i>Zapus hudsonius</i>

Common Name	Scientific Name
<b>Rabbits, Hares</b>	
White-tailed Jackrabbit	<i>Lepus townsendii</i>
Snowshoe Hare*	<i>Lepus americanus</i>
<b>Carnivores</b>	
Wolf*	<i>Canis lupus</i>
Coyote*	<i>Canis latrans</i>
Red Fox*	<i>Vulpes vulpes</i>
Black Bear*	<i>Ursus americanus</i>
Badger*	<i>Taxidea taxus</i>
Marten	<i>Martes americana</i>
Fisher*	<i>Martes pennanti</i>
Mink*	<i>Mustela vison</i>
Wolverine	<i>Gula gulo (Gula luscus)</i>
River Otter*	<i>Lutra canadensis</i>
Canada Lynx*	<i>Lynx canadensis</i>
Least Weasel	<i>Mustela nivalis</i>
Stripped Skunk	<i>Mephitis mephitis</i>
Short-tailed Weasel (Ermine)*	<i>Mustela erminea</i>
Long-tailed Weasel*	<i>Mustela frenata</i>
Mountain Lion	<i>Felis concolor</i>
<b>Ungulates</b>	
Moose*	<i>Alces alces</i>
Elk*	<i>Cervus elaphus</i>
White-tailed Deer*	<i>Odocoileus virginianus</i>
Mule Deer*	<i>Odocoileus hemionus</i>
Woodland Caribou*	<i>Rangifer tarandus sylvestrus</i>

\* observed species

## Poachers' Landing PRA Bird CheckList

List of Bird Species Compiled from Fisher 1998, Timoney 1992 and Wallis 1991.

• Species recorded in Park

Loons, Grebes	Pelican to Vultures	Nighthawks-Woodpeckers	Chickadees to Dippers	Sparrows, Allies
Common Loon•	American White Pelican	Common Nighthawk•	Black-capped Chickadee*	Clay-colored Sparrow
Pied-billed Grebe	American Bittern	Ruby-throated Hummingbird•	Boreal Chickadee*	American Tree Sparrow
Western Grebe	Great Blue Heron	Belted Kingfisher	Marsh Wren	Savannah Sparrow*
Red-necked Grebe	Double-crested Cormorant	Downy Woodpecker•	Winter Wren•	White-throated Sparrow•
Eared Grebe	Turkey Vultures	Hairy Woodpecker•	House Wren•	Song Sparrow•
Horned Grebe	<b>Pheasants, Grouse, Allies</b>	Three-toed Woodpecker	Sedge Wren	Chipping Sparrow•
<b>Waterfowl</b>	<b>Gray Partridge</b>	Black-backed Woodpecker	Brown Creeper•	LeConte's Sparrow
Canada Goose•	Ruffed Grouse•	Pileated Woodpecker•	White-breasted Nuthatch*	Fox Sparrow
Snow Goose	Sharp-tailed Grouse	Northern Flicker•	Red-breasted Nuthatch*	Lincoln's Sparrow
Ross' Goose				Sharp-tailed Sparrow
Greater White-fronted Goose				Swamp Sparrow
Tundra Swan	Sora	Olive-sided Flycatcher	Golden-crowned Kinglet	Vesper Sparrow
Trumpet Swan	Yellow Rail	Yellow-bellied Flycatcher*	Mountain Bluebird	Harris' Sparrow
Green-winged Teal	Virginia Rail	Least Flycatcher*	Swainson's Thrush*	White-crowned Sparrow
Blue-winged Teal	American Coot	Alder Flycatcher	American Robin*	Snow Bunting
Common Goldeneye	Sandhill Crane*	Western Wood Pewee	Veery	Lapland Longspur
Redhead		Eastern Phoebe	Hermit Thrush*	Dark-eyed Junco*
Mallard	Killdeer	Say's Phoebe	<b>Vireos, Warblers</b>	<b>Finches, Allies</b>
Northern Pintail	American Avocet	Eastern Kingbird	Solitary Tanager Vireo•	Rose-breasted Grosbeak
Northern Shoveler	Greater Yellowlegs		Red-eyed Vireo*	Common Redpoll
Canvasback	Lesser Yellowlegs	Bohemian Waxwing	Philadelphia Vireo	Hoary Redpoll
Bufflehead	Upland Sandpiper	Cedar Waxwing•	Warbling Vireo	American Goldfinch*
Gadwall	Solitary Sandpiper	Northern Shrike	Northern Waterthrush	Purple Finch
American Widgeon	Spotted Sandpiper*	Gray Catbird	Ovenbird*	Evening Grosbeak
Eurasian Widgeon	Marbled Godwit		Wilson's Warbler	Pine Grosbeak
Ring-necked Duck	Short-billed Dowitcher		Tennessee Warbler*	Red Crossbill
Lesser Scaup	Common Snipe		Orange-crowned Warbler	White-winged Crossbill
Surf Scoter	Wilson's Phalarope	Tree Swallow•	Yellow Warbler*	Pine Siskin*
White-winged Scoter		Cliff Swallow	Mourning Warbler*	House Sparrow
Common Merganser	Ring-billed Gull	Bank Swallow	Connecticut Warbler*	
Red-breasted Merganser	California Gull	Barn Swallow	Common Yellowthroat	
<b>Ruddy Duck</b>	Herring Gull		Canada Warbler*	
<b>Hawks, Falcons, Allies</b>	Franklin's Gull	Gray Jay•	Magnolia Warbler*	
Peregrine Falcon	Bonaparte's Gull*	Blue Jay•	Yellow-rumped Warbler*	
American Kestrel	Black Tern	Black-billed Magpie	Black-throated Green Warbler•	
Gyrfalcon	Forster's Tern	American Crow•	Palm Warbler	
Merlin	Common Tern	Common Raven•	Cape May Warbler	
Osprey			Blackburnian Warbler	
Bald Eagle*			Bay-breasted Warbler	
Golden Eagle		Yellow-headed Blackbird	Black and White Warbler	
Northern Harrier		Common Grackle	Blackpoll Warbler	
Swainson's Hawk	Northern Hawk Owl	Brown-headed Cowbird*	American Redstart	
Broad-winged Hawk	Great-horned Owl*	Brewer's Blackbird	<b>Tanagers, Cardinals, Allies</b>	
Red-tailed Hawk•	Snowy Owl	Rusty Blackbird	Western Tanager	
Northern Goshawk*	Barred Owl*	Western Meadowlark		<b>Other Species</b>
Cooper's Hawk	Great Gray Owl*	Baltimore Oriole		
Sharp-shinned Hawk*	Northern Saw-whet Owl			
	Long-eared Owl			
	Short-eared Owl			
	Boreal Owl			

## Poachers' Landing PRA Fish, Amphibians & Reptiles List

List of species compiled from Timoney et al., 1992., Wallis et al., 1991, Nelson et al. 1992. and Alberta-Pacific, 1989.

Fish	
Common Name	Scientific Name
White Sucker	<i>Catostomus commersoni</i>
Long-nose Sucker	<i>Catostomus catostomus</i>
Spoonhead Sculpin	<i>Cottus ricei</i>
Brook Stickleback	<i>Culaea inconstans</i>
Northern Pike	<i>Esox lucius</i>
Goldeye	<i>Hiodon alosoides</i>
Yellow Perch	<i>Perca flavescens</i>
Trout-perch	<i>Percopsis omiscomaycus</i>
Mountain Whitefish	<i>Prosopium wiliamsoni</i>
Walleye	<i>Stizostedion vitreum</i>
Minnows	
Lake Chub	<i>Couesius plumbeus</i>

Amphibians	
Common Name	Scientific Name
Frogs	
Northern Leopard Frog	<i>Rana pipiens</i>
Wood Frog*	<i>Rana sylvatica</i>
Boreal Chorus Frog	<i>Pseudacris triseriata</i>
Toads	
Canada Toad	<i>Bufo hemiophrys</i>
Boreal Toad*	<i>Bufo boreas</i>
Salamanders	
Tiger Salamander -	<i>Ambystoma tigrinum</i>
Reptiles	
Common Name	Scientific Name
Snakes	
Red-sided Garter Snake	<i>Thamnophis sirtalis</i>

\* observed species  
 - Historical records