RUMSEY PARKLAND SOUTH
REGIONALLY INTEGRATED DECISION
November 1993
Red Deer

TABLE OF CONTENTS

1.0 INTRODUCTION

The Rumsey Block is comprised of the Rumsey Ecological Reserve and the Rumsey Parkland South (Figure 1). The Rumsey Parkland South (hereinafter referred to as the Parkland) has long been recognized for it's unique natural qualities of size, vegetation and topography. It has been managed by the Public Lands Division of Forestry, Lands & Wildlife on the basis of maintaining the area in as natural a condition as possible while utilizing it primarily for grazing, oil and gas production and undeveloped recreation. Increasing resource use over the last decade has necessitated that a management strategy be developed in order to conserve the natural values of the Parkland.

More than 80 of the aspen parkland ecoregion in Canada had been converted to agricultural uses by the mid - 1980's. Many remaining native areas continue to be fragmented by grazing, tree manipulation, road building and other human activities. In 1988, the Prairie Conservation Action Plan (World Wildlife Fund - Canada) recognized the Parkland as the largest remaining representative site of aspen parkland left in the world. Recognizing the Parkland as a unique ecological resource, and the potential impact from current human activities, an integrated planning exercise known as a Regionally Integrated Decision (RID) was initiated.

Undertaken entirely within the region a RID can be used to address resource allocation, resource use or to address resource management issues. They are typically defined in terms of a single issue or local area and are primarily of concern or interest to Forestry, Lands & Wildlife line agencies in that region. They deal with issues not addressed through other planning/program initiatives. RID's are developed based on principles of coordination, cooperation, communication and consultation recognizing the publics' right to provide input through representation to planning sessions, correspondence as well as public hearings.

To help conserve this special area, the overall management goal adopted by the planning team for the Parkland is:

"To preserve and protect the Rumsey Aspen Parkland ecosystem while allowing for responsible use of its resources."

In achieving this goal the RID will provide a foundation and direction for operational management within the Parkland. Resources will be managed such that the natural integrity of the Parkland will be conserved.

The RID will:

- Clarify long term land use and appropriate operating guidelines
- Identify new land use and management guidelines as appropriate.
- Recommend changes to existing guidelines as appropriate.
- Review land use reservations for all lands involved.
- Provide an access management plan to direct any future activities within the Parkland.
- Identify the need for further integrated resource planning for the Parkland.
- Ensure appropriate coordination between resource agencies that have resource obligations in the Parkland.

The planning exercise was undertaken involving representatives from the:

Forestry, Lands & Wildlife (FLW)
(Public Lands Division and Fish & Wildlife Division)
Alberta Energy (Minerals Division)
Energy Resources Conservation Board (ERCB)
Alberta Tourism, Recreation and Parks
Alberta Culture and Multiculturalism

This report was agreed to by all of the above participants.

Other agencies and interest groups were consulted during development of the RID.

Alberta Wilderness Association (AWA)
Independent Petroleum Association of Canada (IPAC)
Municipalities - County of Stettler
M.D. of Starland
Individual Lessee Representatives
Jake's Butte Grazing Association
Rowley Grazing Association

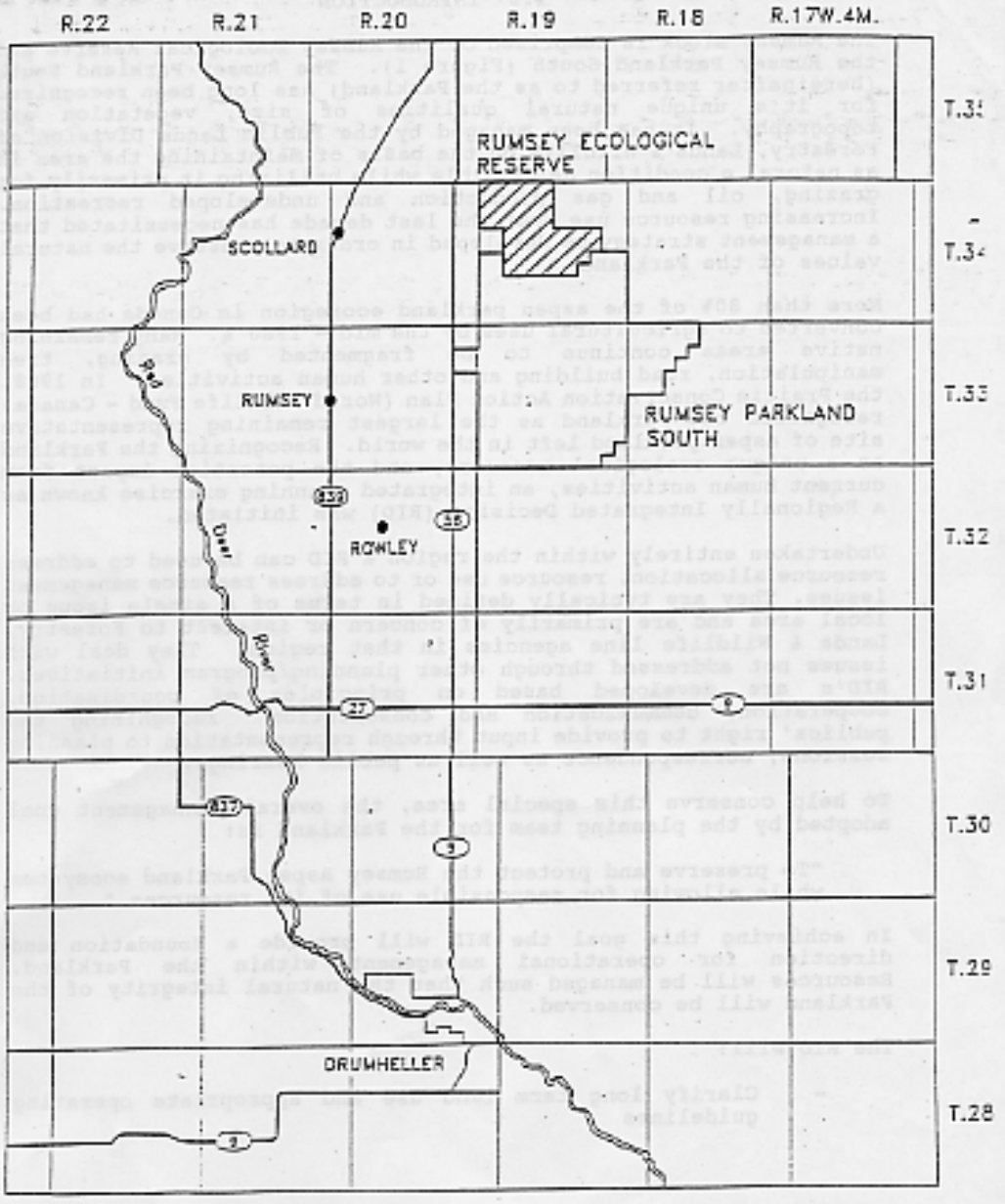


FIGURE 1.RUMSEY PARKLAND

2.0 BACKGROUND

2.1 Location

The Parkland is located in Central Alberta, about 40 kilometers (km) north of Drumheller and 80 km southeast of Red Deer. It has a total area of 150 km2 (58 mi2). It takes its name from the small community of Rumsey which lies along Highway #56, 1.6 km west of the area's western boundary.

2.2 Biophysical Description

The Parkland has a continental climate characterized by long, cold, dry winters and short, moderately warm summers. Temperature extremes of colder than minus 40 degrees Celsius and warmer than 35 degrees Celsius are possible. The average annual precipitation is 450 millimeters (mm); 300 mm of this occurring from May through September. The Parkland lies on the northern edge of the Chinook belt and is influenced by warm Chinook winds for about 12 days in the winter months.

Bedrock underlying the area consists of the Tertiary Paskapoo Formation, Cretaceous Scollard Formation and Cretaceous Edmonton Group. Overlying the bedrock are Quaternary sediments consisting of river gravels and sands, glacial sediments (till ranging from 38 meters (m) to 50m in thickness and soils. The glacial sediments (till) were deposited 10,000 years ago when large ice sheets of the Keewatin Glaciation stagnated and disintegrated leaving a hummocky terminal moraine, known as the Beaverhills Moraine, over a region from Trochu to Buffalo Lake. It exhibits a pronounced knob and kettle topography with up to 30 meters relief. The highest hills in the Parkland are flat on top and are called moraine plateau. They were formed by the deposition of debris carried by streams into holes in stagnant glacial ice and are rich in lacustrine silts and clays. Additionally, there are two large shallow basins which occur in the planning area. Drainage is generally internal to the many sloughs in the kettles.

Soils in the Parkland are principally loamy dark brown chernozems found beneath well-drained grasslands and aspen communities. Black chernozems are found under some aspen groves, while rego-humic gleysols are normally found in depressional areas. Due to either rough topography or excess water, soils in the area generally are not considered suitable for cultivation.

The vegetation found in the area is representative of aspen parkland. Native aspen parkland is described as a transition zone between the boreal forest and prairie and is characterised by an interspersion of aspen forest communities on moister and more sheltered sites and grassland on drier and more exposed sites. In the Parkland there are two major grassland communities which occupy about 75 of the area. Rough fescue dominates on mesic hill tops and north-facing slopes whereas porcupine grass and buffalo grass are found on the south-facing slopes and hill tops. Shrub communities dominated by snowberry and wolf willow are found in mesic locations throughout the grasslands. Groves of aspen generally occur on moist north-facing slopes and around depressions. Fire is thought to have played a significant role in limiting the spread of aspen into grassland communities. Depressions in the planning area are ringed with

willows and support vegetation communities which vary from sedges and cattails in shallow marshes to salt-tolerant species around saline sloughs.

2.3 History

In February, 1793 Peter Fidler passed through or very near to the area as he travelled eastward out of the Red Deer River valley. He noted the rolling terrain which was occupied by thousands of bison, and several groups of Blackfoot who hunted and camped nearby. This and other historical and archaeological information suggest an important wintering area for bison and hence, for occupation by native peoples.

With the virtual extinction of the bison in the early 1880's the area probably remained unoccupied by man until the early 1900's when the Imperial Ranching Company used it as open range (i.e. free of charge to whoever grazed it). The Dominion Land Survey was completed in the area in 1907 and the Burns ranching interest purchased grazing rights to most of the block in 1911. Tom Usher and Jim Walters acquired the grazing lease from Burns in 1917 and operated it jointly until 1920 when the ranch was divided; Usher taking all of 34-19-W4 and eight sections in the northwest portion of 33-19-W4, and Walters leasing the rest of 33-19-W4 and all of 33-18-W4. In 1965 a portion (5,345 acres) of the Walters lease were deleted in favour of the Rowley Grazing Association and the remainder of the Walters lease was assigned to a company of four local ranchers, The Imperial Ranch Ltd. In 1967 a portion (6,706 acres) of the Usher lease was withdrawn and subsequently leased partly to the Rowley Grazing Association and partly to the Jake's Butte Grazing Association.

In the mid 1970's an inventory of Parks and Natural areas suitable for preservation and recreation purposes was undertaken by the Natural Areas Program of the Public Lands Division, Energy and Natural Resources, and the Resource Assessment Group of Alberta Recreation and Parks. This study found that of existing reserved lands in the province, less than 0.1 was Aspen Parkland, even though it constitutes over 11 of the Provincial land base. As a result, a search for additional areas representative of the Aspen Parkland was undertaken. Three areas of fifteen or more sections were found. The Rumsey Block was the largest and most representative (the other two areas being the Neutral Hills and the Wainwright Block).

To protect and preserve the block the Parks Division of Alberta Recreation and Parks asked for and obtained a Crown Reservation on the entire 180 square kilometer area. This would ensure any proposed land use activity would be reviewed and assessed from a conservation viewpoint.

In 1988, the Prairie Conservation Action Plan (World Wildlife Fund of Canada) recognized the entire Rumsey Block as the largest remaining representative example of Aspen Parkland left in the world and recommended that it be protected.

In 1990, as a result of information gathered in a detailed biophysical survey conducted in 1982 under the Natural Areas program, 13 1/4 sections of land leased by the Usher family were officially designated as the Rumsey Ecological Reserve. This "designation, administered under the Wilderness Areas, Ecological Reserves and Natural Areas Act sets this land aside for preservation for ecological purposes. The remainder of the block, referred to as "Rumsey Parkland South" constitutes the area considered in this

plan.

Interest by provincial conservation organizations in the Parkland has been growing since the late 1970's. During 1982-83, Directors of the Alberta Wilderness Association worked with representatives of the Energy Resources Conservation Board, industry and Public Lands Division in developing guidelines for oil and gas exploration which would minimize impacts on the wildland values of the area. Regional Public Lands Division staff have been responsible for implementing these guidelines.

3.0 RESOURCE SYNOPSIS, OBJECTIVES, GUIDELINES AND IMPACTS

Land use management objectives and guidelines for each resource sector have been developed to ensure that the integrity of the natural environment of the Parkland will be conserved. Each resource sector is committed to work cooperatively and mitigate the impacts of any resource use in the Parkland. Existing and new guidelines will apply to all resource sections.

3.1 Agricultural Resources

Synopsis

The Parkland is used by local farmers and ranchers for grazing and haying. Approximately 15,255 Animal Units per Month (AUM) utilize the grass over the grazing season. Cattle are the main users but there are also a few horses. The livestock graze the Parkland from approximately June 1 - October 31. The carrying capacity is 28 acres per head per year (ac/hd/yr) . Cattle numbers are set _ to ensure that 50 of the grass remains at the end of the grazing season to maintain the native grass stand, to provide for wildlife use and to protect the soil from erosion. The Parkland is divided into 5 grazing leases (Figure 2). One of the grazing leases has approximately 326 acres of cultivation.

The range being grazed is mainly native with less than 200 acres of tame grass as a result of old homestead cultivations. The main improvements for grazing in the Parkland are fences and dugouts built to improve cattle distribution and prevent overgrazing of the grassland.

The vegetation is representative of the aspen parkland. A study completed in 1985 for Jake's Butte Grazing Association estimated that 55 of the lease area was grassland. The remaining area was covered by snowberry, willow, aspen and wetland. Aspen coverage averaged 10, willow and snowberry averaged 30 and wetlands averaged 5. A study by Wroe in 1971 on the NW14-34-19-W4 estimated grassland to be 64.2, shrubs and trees 24.2 and wetlands 11.1. Fehr's study in 1982 on the Ecological Reserve found aspen coverage to be 15.3, willow 6.9, wetlands 5.3 and grasslands (including snowberry) 72.5.

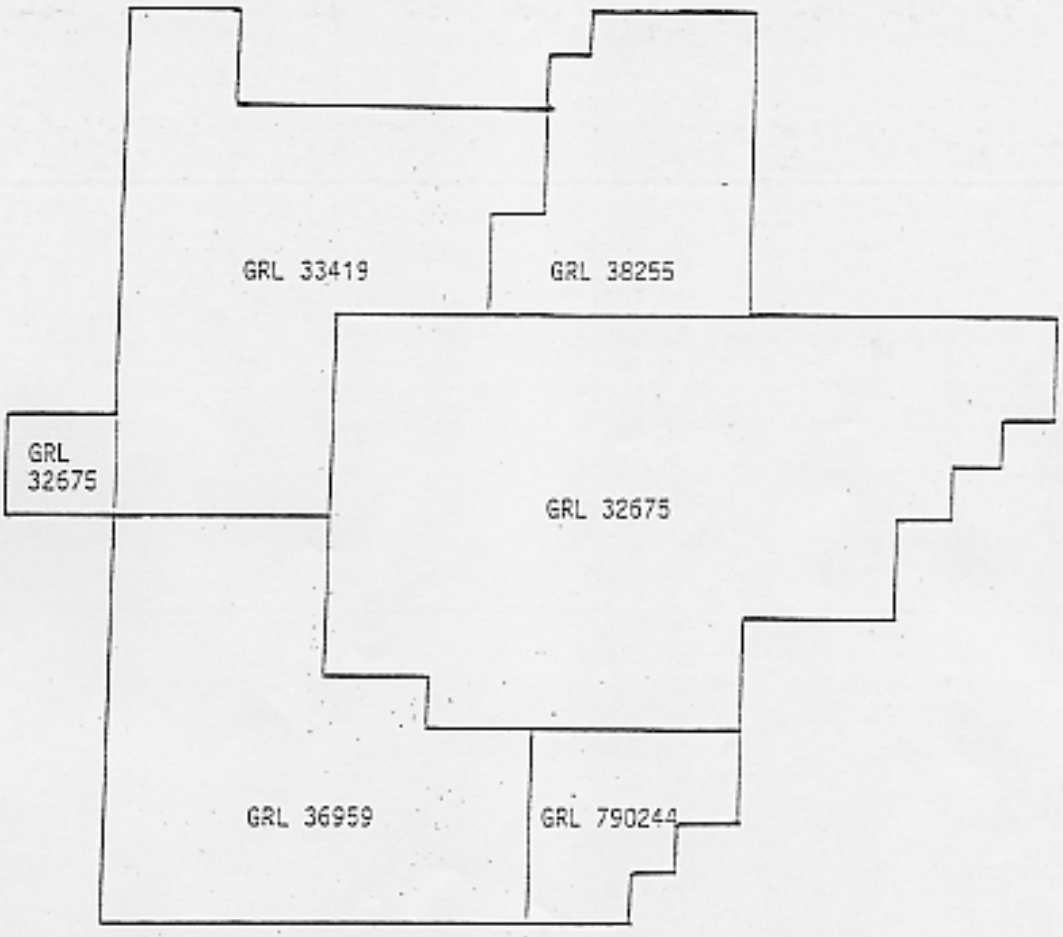
The overall range condition of the Parkland is good. This means that 51-75 of the plants found in a climax community are present on site. Heavier utilization occurs along fencelines, near corrals, dugouts and favored grazing locations. Range condition is evaluated by the Public Lands Agrologist when an inspection of the lease is done. A visual inspection determines dominant grass species, patterns of utilization and carryover. Inspections are done every 3 to 4 years as well as the year before and the year of lease renewal. The Fish and Wildlife Habitat Biologist also conducts inspections. Any concerns are discussed with the lessee.

NOTE: Range condition is the present state of the vegetation compared with that of the climax or original vegetation for the range site.

Fire suppression, absence of elk browsing and perhaps a changing climate, has resulted in an expansion of aspen and shrubs into the grassland. Historically, fire was a natural check which kept aspen from becoming established. Air photo interpretation and the

lessees confirm that aspen has expanded over the years.

Figure 2
Map of Grazing Leases in Planning Area



Objectives

1. To ensure the number of cattle put on the Parkland does not exceed the productivity of the grassland, to support that number. The current 15,255 A.U.M's may be reduced or increased depending on the amount of grass available.

2. To maintain the existing native range and ensure its condition remains at a rating of good or better.

3. To maintain the Parkland as a mosaic of trees, shrubs and grasslands. This means maintaining the existing ratio of grassland, trees and shrubs.

4. To maintain the present 321.6 acres of cultivation. These lands will be considered for exchange purposes if suitable native grasslands can be acquired that are contiguous to the parkland.

5. To continue to allow haying as provided for by the Grazing Lease Regulations.

Existing Guidelines

1. Sound range management practices are used to ensure proper utilization.

2. The carrying capacity may be increased with improved range management.

3. Periodic inspections are done to ensure the grazing leases are maintained in at least a good range condition.

4. Public Lands will consult with other resource management agencies. These would include the following:

Fish and Wildlife Division of Forestry, Lands & Wildlife
Alberta Culture and Multiculturalism
Recreation and Parks

New Guidelines

1. Initiate a program to control aspen and brush expansion to the 30% ratio. The percentage of trees and shrubs removed will take into consideration the differing natural densities that occur. Any program will consider the ecological resource of the Parkland and will involve the lessee.

2. Permanent range transects will be established for each grazing disposition. Transects will provide an indication of changes in range condition and species composition.

3. A Range Management Plan for each grazing disposition will be prepared within five years of RID approval. The plan will direct utilization, present and proposed improvements, and management practices. Endorsement of the plan will be required from Public Lands, Fish and Wildlife and the lessee.

4. No further cultivation over the present acreage will be allowed.

5. Public Lands Division will conduct a biophysical inventory of the Rumsey Parkland as budgets permit.

Impacts

The grassland resource can withstand a certain level of grazing and can even benefit from it. Well managed grazing removes excess vegetation and helps to maintain a healthy grassland plant community. The impacts from agricultural use are generally localized. They include dugouts, cattle trails, salting grounds, haying, grazing, vehicular traffic and the potential to introduce non-native species to the Parkland.

3.2 Cultural Resources

Synopsis

The Parkland displays a high potential for archaeological sites. Previous surveys in the area have resulted in the discovery and reporting of over twenty archaeological site locations. Additionally, work in adjacent areas has resulted in the recording of high numbers of sites. These results, combined with the fact that archaeological sites have been discovered in the planning area, suggests a high probability for the existence of additional sites.

In general, the region shows considerable complexity and diversity of site types. Review of collections from this region, combined with other research, indicate that the region has been occupied throughout the pre-historic period. Site types and features found in the Rumsey area include: tipi rings, cairns, medicine wheels, effigies, ribstones, caches, buffalo jumps and buffalo pounds. Projectile point types suggest occupation from the Early Pre-historic Period (ca. 10,000 B.P.) to the historic period (ca. 1700 A.D.).

The Parkland is considered to have medium potential for the discovery of palaeontological resource. It is underlain by the Cretaceous Scollard Formation and Edmonton Group which are known to contain both fossil invertebrate fauna and microflora remains. The overburden above the bedrock varies in thickness therefore any major near surface development project could impact in situ fossil vertebrate or microflora. Bedrock exposures may occur along road cuts and roadway expansion or development could affect the palaeontologic resources. While there are no known palaeontologic sites within the area at present, there are several important sites in the adjacent area.

At present, the Historic Sites Service Inventory does not contain any information on sites within the study area. However, the Springwater School, which was built in 1922 lies immediately adjacent to the study area in the S.W. 6-33-18-W4M.

By their nature, historical resources are non-renewable, and as such are extremely vulnerable to impact by developments involving land surface disturbance. Once impacted, these sites cannot be replaced.

Objectives

1. To protect and/or preserve historical resource (archaeological, palaeotological, natural and historic period) as defined in the Historical Resources Act from potential or actual impact related to resource developments.

2. To manage historical resources sites for scientific, educational and interpretive

purposes.

Existing Guidelines

1. A Historical Resources Impact Assessment is required for any land surface disturbance. The assessment proponent must hire a qualified consultant at his expense to conduct this work on behalf of the proponent.

2. The Historical Resources Act provides designation of any historic resource as either a registered or provincial historic resource as a means of protecting the site.

3. Any historic resources discovered during the course of excavation for purposes other than seeking historic resources will be reported to Alberta Culture and Multiculturalism.

New Guidelines

1. The Archaeological Survey of Alberta should place a consultative notation on the Parkland in-order to review all proposed development projects involving land surface disturbance, with the exception of seismic programs within the planning area.

Impacts

Land surface disturbances destroy historical resources which are a non-renewable resource.

3.3 Wildlife Resources

Synopsis

As a result of biophysical inventories and assessments by Wroe (1971), Bradley and Bradley (1977) and Fehr (1985) a significant amount of information has been acquired related to the flora, vegetation and fauna in the Rumsey Block. Additional wildlife related assessments on a broad scale have been limited, however more specific information continues to be obtained through routine surveys for deer and sharp tailed grouse.

The presence of this large block of native grassland is very important to a variety of song birds, raptors and small mammals. They require this type of habitat in order to meet the requirements for their life cycle.

The Parkland is located within Wildlife Management Unit (WMU) 166. This WMU is aerially surveyed for deer during the winter on a regular schedule of once every three to five years. The last deer survey conducted in parts of the Parkland was in January, 1989. The estimated densities of deer per square mile in the best cover was12.0 white-tailed deer and 9.7 mule deer. The densities of deer in the open areas averaged 1.16 white-tails and 1.38 mule deer per square mile. The extrapolated results produced estimates of 360 white-tailed deer and 305 mule deer.

Areas which display good habitat diversity generally result in excellent wildlife populations and the Parkland is no exception. Historically, large numbers of bison had

used this area as a wintering area. The free ranging bison are now gone, but both mule and white-tailed deer are found. Based on aerial survey information, the numbers have been increasing over the last several years. Increases are attributed to mild winters and a conservative hunting regime.

Sharp-tailed grouse have been surveyed in a study area within the Parkland annually since 1986. The estimated population for 1991 is 4.1 sharp-tailed grouse per square mile or 238 total. Ruffed grouse are also found and have been increasing in recent years. The 1991 population estimate is 2.8 ruffed grouse per square mile or162 total.

Because of the variety of habitat the Parkland is excellent for passerines.

Ducks Unlimited surveyed the area in 1947 and recommended draining a number of potholes into each other to create permanent waterbodies which would serve as prime water fowl breeding habitat. This work, called the Big Valley Pothole Development Project, was carried out in the late 1950's and early 1960's but met with little success. In the wet years it is still used extensively by waterfowl, but due to the dry conditions in the last ten or more years, permanent water is almost exclusively restricted to the dugouts, which has restricted the use of the area by waterfowl.

However, because of the knob and kettle topography, it certainly retains the potential for waterfowl use if climatic conditions result in adequate water.

Objectives

1. To maintain viable populations of all indigenous species including ungulates, carnivores, waterfowl, furbearers, game birds, birds of prey, song birds and other non-game species.

2. To maintain a mosaic of habitat types to optimize populations of wildlife species.

3. To assist in the alignment of new road access to minimize impacts to wildlife so existing wildlife populations are not reduced or eliminated.

4. To review agricultural improvement proposals to minimize negative impacts to wildlife so important habitat areas are not lost.

5. To assist the oil and gas industry in location planning to minimize impacts to wildlife.

6. To assist Public Lands in maintaining grazing at a suitable level to minimize impacts to wildlife.

7. To maintain opportunities for consumptive and non-consumptive use of wildlife resources.

Existing Guidelines

1. Fish and Wildlife resource considerations are incorporated into all land use activities.

2. Hunting regulations are reviewed regularly in relation to hunter use, harvest levels and the condition of game populations, to ensure the long term survival of game populations.

3. In important wildlife areas, various resources may be employed to maintain and enhance the quality of the habitat. Such measures could include operational restrictions at certain times of the year and access management to reduce the potential for harassment of animals. These measures would be negotiated with the surface lessees.

New Guidelines

1. Based on the available information it is recommended that the present 1990 land uses be maintained. The Fish and Wildlife Division will continue to conduct aerial and ground surveys and make the appropriate changes to the hunting regulations as they are warranted.

2. Disturbance of wildlife populations during sensitive time periods will be minimized, (eg. early spring sharptail grouse dancing grounds, early spring - early summer – waterfowl nesting).

Impact

There is no documented or obvious indication that the resource users have negatively impacted wildlife within the Parkland. Fish and Wildlife survey information also suggests that the ungulate populations as well as grouse numbers are increasing in the Parkland.

3.4 Recreation Resources

Synopsis

At present the Parkland receives very low levels of dispersed recreational use such as hiking, nature appreciation, photography, wildlife viewing and hunting. At current use levels these recreational activities have negligible impact on the resources of the Parkland. However, as this area has been recognized as the largest remaining representative site of Aspen Parkland left in the world, offering scenic beauty and a diversity of wildlife, pressure from people wishing to experience this resource can be expected.

Alberta Parks Services currently has a reservation on the Parkland. The intent of this reservation is to protect the Aspen Parkland ecosystem while allowing the public opportunity to view, experience and learn about the Aspen Parkland environment and to:

a) conserve and manage the flora and fauna

b) preserve specified areas and objects therein that are of geological, cultural, ecological or scientific importance, and

c) facilitate their use and enjoyment for outdoor recreation.

Future management will consider opportunities that would enhance the public understanding of the environment.

Objectives

1. Alberta Parks Services will continue to hold a reservation to achieve the above intent.

2. To promote sound environmental management to ensure the long term integrity of the environmental and recreational resource.

3. To maintain dispersed non-motorized recreational opportunities that are harmonious with recreational activities in a sensitive ecological area.

Existing Guidelines

1. Alberta Parks Service will participate in the land use referral process.

New Guidelines

1. Evaluate and monitor user impact of the Parkland.

2. Review status of protective notation reservation to ensure the intent of "preservation of the area" is adequately emphasized in the wording of the reservation.

3. Review recreational activities that occur within the Parkland to ensure the environmental integrity of the resource base is maintained.

Impacts

At present the Parkland receives very low levels of dispersed recreational use. There is potential for greater impact on the Parkland should recreational use increase in the future without appropriate management strategies in place.

3.5 Mineral Resources

Synopsis

A total of 58 wells have been drilled within the Parkland since 1951. As of December 31, 1991, 30 wells have been abandoned, 8 wells are on production, and 13 have been capped as potentially productive gas wells. Six wells are designated as suspended (i.e. activity has temporarily ceased) and 1 is standing, or awaiting confirmation of productive status. Figure 3 shows the location and status of wells in and adjacent to the Parkland. In addition to the above 24 shallow (less than 500 meter) test holes were drilled during the early 1950's. The purpose of a test hole is to obtain geological and/or geophysical information such as the depth to the bedrock surface.

Most of the production within the Parkland is from relatively shallow formations (down to 1300 meters depth). Gas production is from the Cretaceous Belly River, Viking and Mannville formation, and the Mississippian Banff. Oil has been found in the Viking and Banff formations. Total proven gas reserves discovered to date within the Parkland are 1 045 million cubic meters, of which 226 million cubic meters have been produced. Total proven oil reserves of 240 thousand cubic meters have been assigned to wells within the Parkland, with 4600 cubic meters produced to date.

In terms of total reserves and productive capacity, the Parkland area is typical of other shallow pools within east-central Alberta. Compared to total provincial reserves, the above numbers represent less than 0.01 of total oil and less than 0.0001 of provincial gas reserves.

The sale of rights to produce oil and gas within the Parkland provides financial benefits in the form of bonus bids and yearly lease rentals. Bonus payments averaged $340 000.00 per year over the past ten full years of lease sales. Lease rentals totaled about $70 000.00 per year. Production of oil and gas also provides benefits in terms of royalty payments which total approximately 20 of the sale price.

Development of oil and gas occurs in several phases. Initially, seismic may be run to identify potential target zones within an area. Subsequently, exploratory wells may be drilled to confirm the existence of pools. Wells which have shown productive capability may either be placed on production or capped for production at a later date.

Petroleum and natural gas rights are owned by the Crown and administered by the Alberta Department of Energy, except for the 2 3/4 sections of freehold mineral rights which are privately owned. Most of the Crown rights are under lease and in some areas two leases are superimposed, with different companies owning rights to different formations (Figure 4). Most leases have already been proven productive (32 of the 45 Crown leases still remaining) and as a result have been continued for another 5 year term. However, the 10 leases issued during 1987 - 1990 are still in their primary 5 year term and will require the drilling of a productive well to the appropriate horizon on or nearby the lease in order to be continued.

As of March 1, 1992, 16 1/2 sections have no mineral dispositions. Twenty-one sections of the 38 1/2 sections under Crown P&NG lease have productive wells drilled on them, while 7 of the 40 sections leased have no wells drilled on them. A further 13 of the Crown leased sections have only abandoned or unproductive wells on them. On the basis of the pool size to date, it is possible that additional wells might be drilled either to deeper formations or to more favorable geologic locations on the 18 leased sections that currently have no productive wells.

The production phase of petroleum and natural gas development has resulted in the building of all-weather, low profile roads to 13 well sites. All-weather roads to producing wells (either current or past production) were constructed to facilitate removal by truck of the oil from the one productive oil well and salt water from the producing gas wells. It is unlikely that sufficient productive capacity would be developed to make an oil pipeline cost effective. All-weather road construction improves safety conditions and provides service and emergency access (not needed thus far) for the operators. Pipelines are in place to remove natural gas from 9 wells. An additional 9 capped gas wells do not have all weather access. Placing additional or new gas wells on production would require the installation of additional flowlines. Figure 3 shows existing pipelines in the Parkland area.

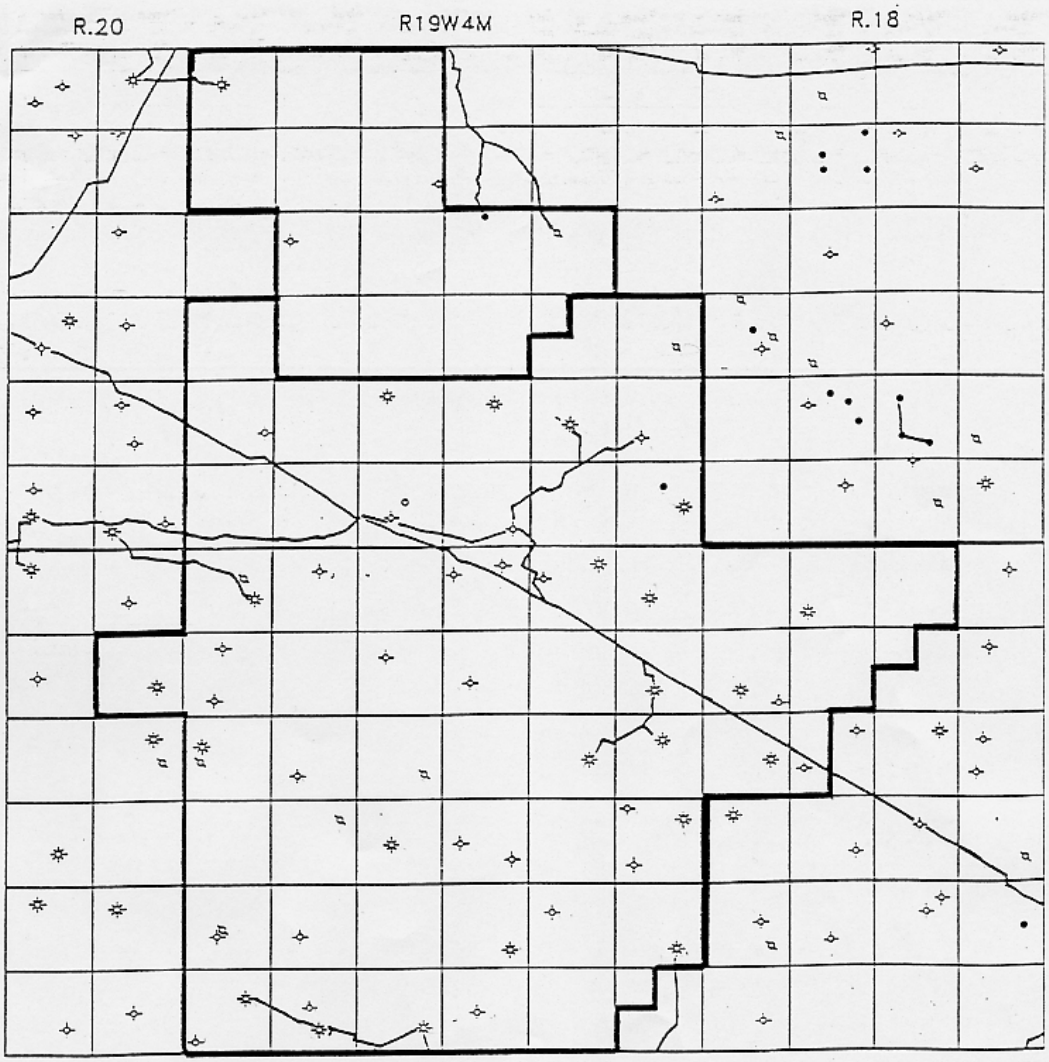


FIGURE 3. WELL LOCATIONS, WELL STATUS AND PIPELINES OF RUMSEY ARE

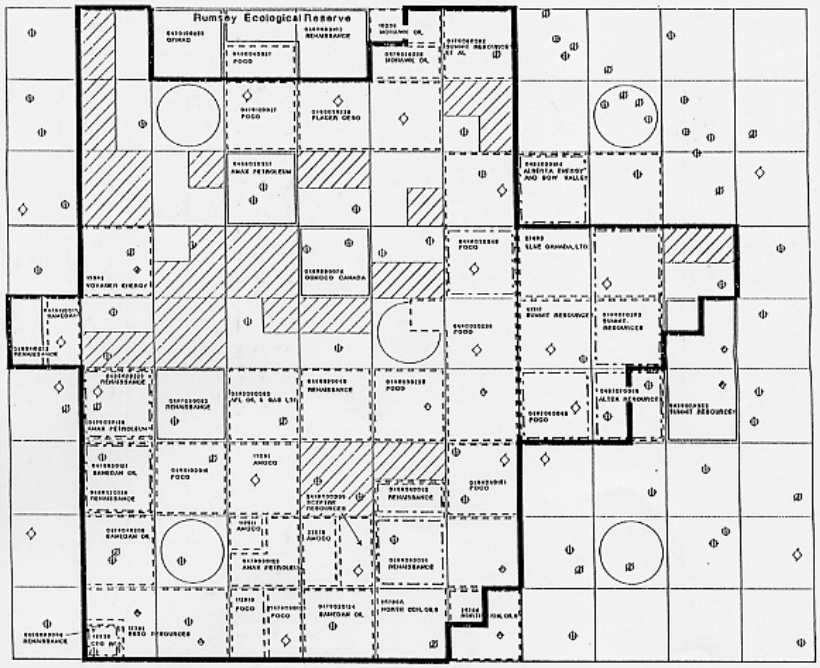
FIGURE 4.

RUMSEY PARKLAND SOUTH

MINERAL DISPOSITIONS

PARKLAND BOUNDARY

AREA OF NO SURFACE ACCESS FOR PETROLEUM AND NATURAL GAS ACTIVITY



AGREEMENTS

- All Rights
- Shallow Rights
- Deeper Rights
- Freehold

WELLS

GAS
- Upper Cretaceous
- Lower Cretaceous
- Mississippian
- Capped Gas

OTHER
- Standing
- Suspended
- Abandoned

OIL
- Lower Cretaceous

Objectives

To allow for the exploration and development of oil and natural gas resources where consistent with minimizing land disturbances and promoting environmental protection.

Existing Guidelines

1. Disturbance of wetlands will be avoided.
2. Cut and fill operations will be minimized.
3. Sites of rare and sensitive flora will be avoided.
4. Cleared areas must be reseeded using the seed of native grasses common to the area or as directed by the Public Lands Officer who may allow natural revegetation by encroachment of native vegetation.

Seismic

1. Clearing woodlands will not be permitted.
2. Hand cut lines will be allowed through treed areas.

Drilling

1. Drill sites will be topographically positioned to minimize disturbances required to level the site and to minimize aesthetic impact. Some areas may preclude drilling because of steep terrain.
2. The size and shape of the drilling site will be modified to minimize surface impact. Top soil will be stripped within the drill site for reclamation purposes.
3. Directional or slant hole drilling will be used if a significantly more environmentally suitable site will result.
4. The drill site will be reclaimed to the natural topographic condition.
5. Disposal of sump fluids will conform to current ERCB guidelines.
6. Permanent wellsite facilities will be designed to blend with the surrounding landscape.
7. After the exploration phase and before the development phase a master plan will be developed which allows for the efficient extraction of the under ground resources while minimizing the amount and impact of road building.

Pipelines

1. Major pipelines will be routed to avoid crossing the Parkland.
2. Only the minimum amount of topsoil disturbance required along the route will be undertaken using the best available technology.
3. The pipeline right of way will be reclaimed to the standards as indicated in Appendices.
4. A master plan will be developed which minimizes the amount and degree of pipeline construction required for development of proven reserves.

New Guidelines

1. Oil and gas exploration and development will continue in the Parkland as per the provisions of the RID including existing guidelines for oil and gas development.

2. The addenda for public offerings of Crown petroleum and natural gas rights will reflect the access restrictions as specified in the RID.

3. Public Lands Division will continue the assessment of previously reclaimed roads and trails, wellsites and pipelines. The study will focus on the success of the recommended native seed mixtures and the ability of the indigenous native grasses to invade these reclaimed sites.

4. Public Lands will continue to review the methods and seed mixtures presently used to re-establish the vegetation on surface disturbed sites.

5. Revegetate disturbed areas using native seed mixture that will allow the encroachment of the adjacent native vegetation.

Impacts

Oil and gas development has had a significant impact on some portions of the area. These include: opening of new access routes into the area, and the introduction of non-native plant species prior to and as part of the reclamation process. The extent to which these impacts will affect the overall integrity and uniqueness of the Parkland has not been fully determined. Every effort will be made to minimize and mitigate future impact.

3.6 Ecological Resources

Synopsis

The natural ecology of the Parkland forms the basis for the historical and current land use as well as of future goals and aspirations for the area. Over millennia, its landscape has been moulded into the aspen parkland ecosystem we have today. The Parkland sustains significant populations of wildlife, including about 290 vascular plant species, 80 birds, 20 mammals, 5 amphibians and reptiles and unknown numbers of insects, non-vascular plants and microorganisms.

It is the native aspen parkland ecosystem which is attracting so much interest today, provincially, nationally and even internationally. As extensive landscape alteration has occurred throughout the world, native ecosystems are increasingly appreciated for their recreational, ecological, cultural, aesthetic, scientific and existence values. More than 80 of the aspen parkland within Canada's prairie provinces has been converted to agricultural use, and the balance continues to be fragmented by range improvement, road building, encroachment of urban settlements etc. The 180 km2. Rumsey Block (including the Rumsey Ecological Reserve and Rumsey Parkland South) is the largest representative remnant of the aspen parkland natural region which once covered 255,000 km2. Furthermore the Rumsey Block is the only intact area of aspen parkland large enough to meet the scientific criteria for a functioning ecosystem.

The World Conservation Strategy (WCS), introduced in 1980 by an international organization of scientists, government officials and business men, identifies the Canadian prairies (including the aspen parkland) as an area of international significance

for conservation. WCS was endorsed by the Canadian government. In 1989, the Prairie Conservation Action Plan (PCAP), developed by World Wildlife Fund Canada, specifically identified the Rumsey Block as the largest remaining representative site of aspen parkland in the world and as an area requiring provincial protection. PCAP was endorsed by the government of Alberta. PCAP recommends that, by 1992, management plans be developed to include long-term protective mechanisms which will perpetuate the full range of natural life in areas such as the Parkland. It urges that the benefits and values which are derived from wildlife and wild spaces, although difficult to measure in economic terms, should be weighted against the benefits of activities detrimental to their continued existence.

Valuating the ecological resources in the Parkland in economic terms is^ very difficult. Establishment of a 35 km2 ecological reserve just north of the planning area is official recognition by the Alberta Government of the area's ecological significance as is the long-standing reservation by Alberta Recreation and Parks on the Parkland. There is evidence that increasing numbers of people are visiting and using the area for nature appreciation and other recreational purposes.

Objectives

1. To ensure that the preservation and protection of the Parkland's ecological integrity is the underlying principle upon which management decisions will be based.
2. To officially recognize the Parkland to protect its unique ecological resources.

Guidelines

1. Ecological expertise will be used to conduct biophysical inventories with emphasis on rare and sensitive ecological resources within the Parkland.
2. A review will be conducted on the cumulative effects of existing oil and gas developments as it relates to the ecological integrity of the Parkland.
3. Further studies will be conducted to assess the success of past and current reclamation activities.
4. Continual assessments will be made of the factors affecting vegetation change in the area (i.e. fire, climate, grazing) for reference in maintaining the ecological integrity in the Parkland.
5. Forestry, Lands and Wildlife and Tourism, Recreation and Parks will review and explore options for legally designating the Parkland, in recognition of protecting its unique ecological resources.

Impacts

Impacts on the Parkland are primarily a result of a variety of resource uses. Agricultural practices, oil and gas activities and recreational uses can have an incremental or cumulative effect on the ecological resource. The extent to which these impacts may affect the ecological resource of Parkland has not been fully determined.

4.0 ACCESS MANAGEMENT PLAN

Synopsis

There are various types of access within the Parkland related to the requirements of the individual resource users.

Undeveloped access is considered to be a form of access which has minimum surface disturbance. This type of access may be a one time use over the grassland or a trail that becomes slightly defined and evident due to periodic use. For the most part this type of access has no designated routes other than what is dictated by the topography. Recreationists and grazing lessees tend to be the primary users of this kind of access.

Another type of undeveloped access designates a route, minimizing surface disturbance. Undeveloped access with designated routes has been used primarily and for the most part successfully by the petroleum industry during drilling operations (Figure 5). Surface disturbance (cut and fill) may be allowed at specific sites in order that a vehicle may negotiate a particular topographic barrier such as a hill or slope. The success of this type of access relates directly to the intensity of use, time of year, weather conditions and topography encountered.

Developed access, is the physical alteration of the surface along a continuous corridor to accommodate vehicular use. There are two types of developed access in the Parkland. The first is a graded trail which has limited construction strategy, using straight side cuts on slopes, gravel placement in low spots and is narrow in width (i.e. one vehicle). There is no raised road bed and generally no ditching. This type of access was established throughout much of the Parkland and is used by the grazing lessees, the oil and gas industry and the general public (Figure 5).

The second type of developed access is termed a low profile road that incorporates construction details such as drainage ditches, natural backsloping through cut and fill areas and increased road width. Salvage, landscaping and revegetation of topsoil in the ditch areas is a construction requirement with this type of developed access. This road design was chosen and constructed to meet operation efficiency demands of the petroleum industry with environmental and safety considerations in mind. The low profile roads within the Parkland have been constructed according to the present guidelines and specifications (Figures 6 & 7). This form of access development has a higher initial impact but it tends to contain traffic, thereby alleviating off road travel.

Developed access has created an internal structure of trails and roads to many parts of the Parkland impacting its natural quality. There is approximately 74 km. of developed access within the Parkland of which 48 km. is level graded trails and 26 km. is low profile roads (Figure 5). Of the 74 km. there are only 8 km. of low profile roads not deriving from previously developed access.

The individual grazing lessees and associations use different forms of transportation necessary to their cattle operation. Horses, ATV's and motorized vehicles are considered essential and are used throughout the grassland with no restriction.

Public use of the Parkland is mostly hunting and occasionally hiking/nature appreciation. ATV use appears to be limited at this time.

Seismic activities are restricted to the existing access network of trails and roads and all off road use must be with low ground pressure vehicles.

The Parkland lies within the municipal jurisdiction of the County of Stettler and M.D. of Starland. To date there has been no road allowance development within the area. Primary-highway #56 from Drumheller north to Stettler runs along the west side of the parkland 1 mile from its boundary. Secondary highway 589 is located at the extreme north perimeter of the ecological reserve and is oriented east to west. While on the east side of the area secondary 851 serves as a north/south connection between primary highway 9 and secondary 589. All of these perimeter primary roads as well as the majority of secondary gravel roads pass by or dead end outside the Parkland.

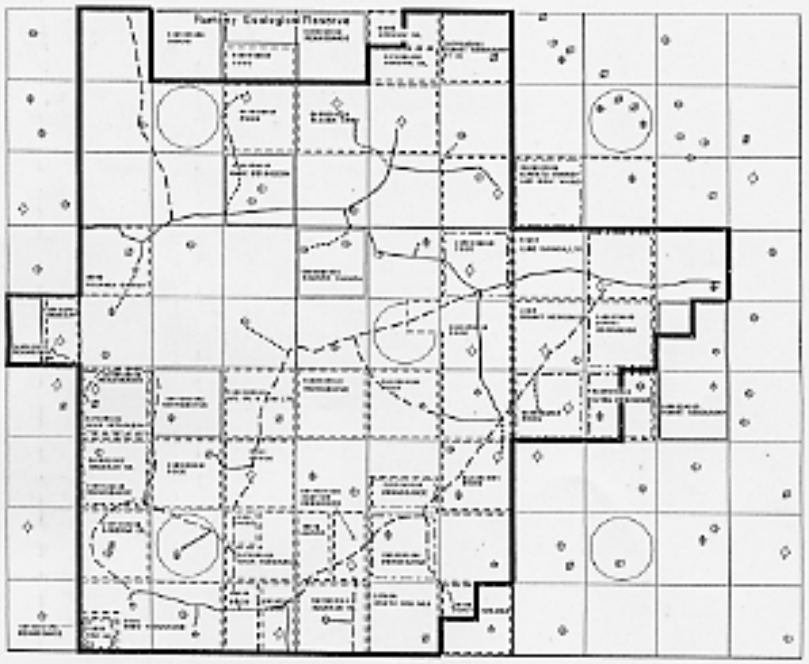
There are a number of entrance points into the Parkland area either as a result of petroleum and natural gas or grazing lessee activity. These entrances may come from undeveloped road allowances, from private land and in some cases secondary gravel roads. Public Lands has posted all the entrances requesting vehicles stay on existing trails unless otherwise authorized.

Objectives

1. To allow limited developed and undeveloped access in the Parkland.
2. To minimize the impact of public access in the Parkland.
3. To reclaim roads and trails to as natural a condition as possible.

FIGURE 5.

RUMSEY PARKLAND SOUTH
ACCESS ROUTES
PARKLAND BOUNDARY



ACCESS ROADS
Undeveloped Access (Designated Routes)
Graded Trail
Low Profile Road
Reclaimed Access

AGREEMENTS
All Rights
Shallow Rights
Deeper Rights
Freehold

WELLS
GAS
Upper Cretaceous
Lower Cretaceous
Mississippian
Capped Gas
OTHER
Standing
Suspended
Abandoned
OIL
Lower Cretaceous

FIGURE 6. RUMSEY PARKLAND SOUTH
LOW PROFILE ACCESS SPECIFICATIONS

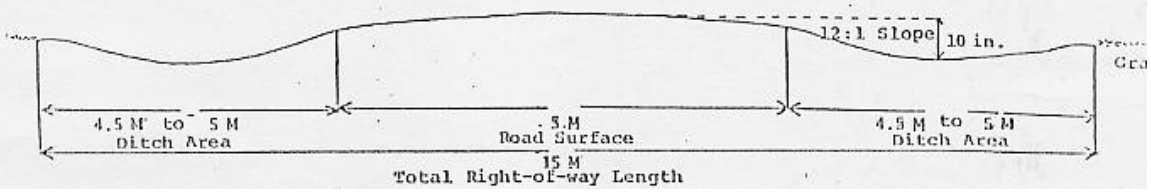
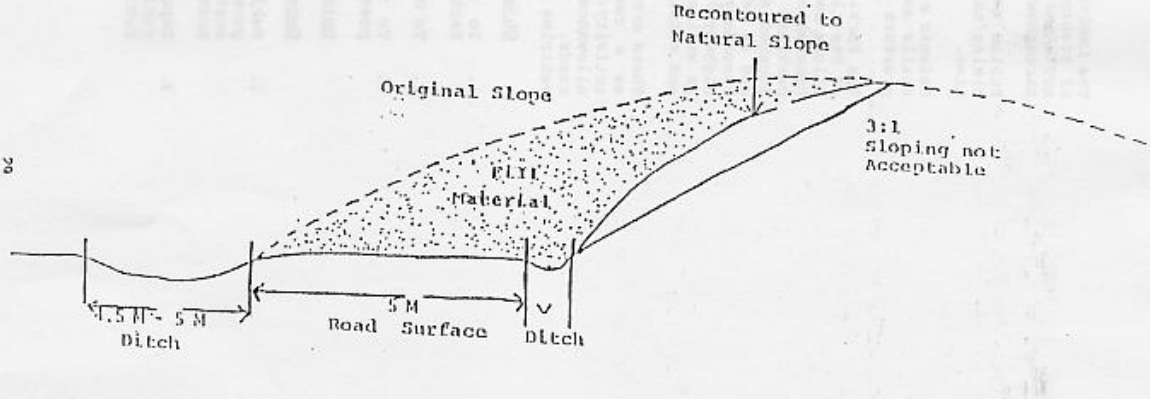


FIGURE 7. RUMSEY PARKLAND SOUTH
LOW PROFILE ACCESS SPECIFICATIONS



Guidelines

General

1. Public access by non-motorized means is allowed with permission from the grazing lessees. Public vehicular access must use existing upgraded roads and trails and permission must be obtained from the grazing lessee.

2. Depending on the grazing lessee's operational requirements the reclamation of certain roads and trails may be waived by the Public Lands Division.

3. Off highway vehicles (OHV) and snowmobile use will be allowed with permission from the grazing lessee. Seasonal restrictions may be required depending on susceptibility to surface damage.

4. Minimum access will be allowed for grazing lessees and/or associations for operational purposes that will not adversely affect the Parkland as determined by the Public Lands Division.

Seismic

1. All conventional wheeled vehicles must remain on existing trails and roads and cultivated fields.

2. Tracked equipment is not permitted.

3. Wheeled vehicles which exert low ground pressure may be permitted off the trails and roads.

Petroleum And Natural Gas Rights Sold Prior To January 1, 1991

Access for Exploration Drilling

1. Existing access routes (Figure 5) will be used as much as possible for exploration drilling purposes.

2. Exploration access off existing access routes will be permitted as approved by the Public Lands Division. Surface disturbance (blading, vegetation removal, cuts and fills) will be kept to a minimum and must be reclaimed to the standards as indicated in Appendices.

3. Exploration drilling using undeveloped access will only be permitted under frozen or dry ground conditions as determined by the Public Lands Division.

Production Access

1. Existing access routes as outlined in Figure 5 will be used as much as possible for production purposes.

2. Developed access construction will be permitted to a low profile standard to production wells in a manner which minimizes surface impacts (refer to Figures 6 & 7).

3. Developed and undeveloped access which are no longer required will be reclaimed to the standards as indicated in Appendices. Reclaimed roads and trails may be available for future production.

4. These guidelines will also apply to surface access to public lands that overlie freehold mineral rights.

Petroleum And Natural Gas Rights Sold After January 1, 1991

1. The petroleum and natural gas mineral rights sold on lands that do not have access as indicated in Figure 5 will be sold with a "no surface access" addenda.

Exploration and Production Access

1. The existing access routes including those previously reclaimed as shown in Figure 5 constitute the only access routes permitted for use to drill and develop the petroleum and natural gas resource with the exception of the following:

Roads constructed to allow development of petroleum and natural gas rights issued prior to January 1, 1991.

2. Existing access routes, as outlined on Figure 5, which are no longer required will be reclaimed to the standards as indicated in Appendices.

3. Upgrading of access routes (Figure 5) to a low profile standard may be allowed if shown necessary for production and if done in a manner that minimizes surface impacts (refer to Figures 6 & 7).

4. An agreement will be formalized with the participating municipalities to prohibit road allowance development within the Parkland.

5. Locked gates be erected by the mineral disposition holder at all roads held under LOC and MSL. Keys will be provided to grazing lessees and/or associations and Public Lands personnel.

Impacts

Access has the greatest single impact of any land use related demands within the Parkland. Undeveloped trails initially result in minimal surface disturbance. However excessive use may result in vegetation removal, erosion, topsoil compaction and/or pulverization. Adverse climatic and ground conditions such as thawing and rain during use may cause rutting or loss and mixing of topsoil.

Developed roads may vary in the degree of surface disturbance created, however, the preservation of topsoil as part of the construction strategy promotes reclamation to a relatively natural condition. The impact of introducing grass species that are considered native but not indigenous to the Parkland has not been fully determined.

Developed and undeveloped access may result in additional vehicular and general public use of the Parkland. This has the potential for increased impact to the grazing operations.

5.0 IMPLEMENTATION

5.1 Introduction

This chapter details how the RID will be put into effect and kept current. The purposes are several fold, as follows:

- To ensure that direction in the RID is carried out.
- To ensure that the carrying out of that direction does meet the intentions of the RID.
- To ensure that the provisions of the RID remain relevant and can be modified according to changing conditions.
- To ensure that substantive changes to the RID occur with appropriate checks and balances.
- To ensure ongoing and meaningful public involvement as the RID is implemented.

5.2 Implementation Overview

The RID presents the resource management policy for public lands and resources within the Parkland. It is a policy document and does not have legal status. As such it is intended to guide resource managers, industry and the public with responsibility or interests in the area. Land use proposals are expected to conform to the intent of the RID and to adhere to the objectives and guidelines presented. Given the scope of the existing RID, further integrated resource planning does not seem necessary.

Implementation of the recommendation of this RID is subject to the normal budgetary approval process.

5.3 Putting the RID Into Effect

The Rumsey RID will be implemented within an existing framework of relevant legislation, agency responsibilities, policies and administrative mechanisms -- such as existing systems for referral and interdepartmental review. As the land management agency, and using the Public Lands Act as the authority to place appropriate conditions on surface land use activities, the Public Lands Division will assume primary responsibility for putting the RID into effect, but all participating agencies will assume implementation responsibilities that relate to their own areas of jurisdiction.

The resource management activities of all provincial government agencies within the Parkland, will be conducted in conformance with the provisions of the RID.

5.4 Changes to the RID

There are two kinds of changes that can be made to the approved RID as follows:

Housekeeping revisions - Minor changes, including non-contentious corrections or updates. Included in this category are:

- a correction or clarification;
- addition, deletion or modification of a provision that defines an action to which a government agency is committed, where that action can be met in a more effective way that was identified in the RID;
- adjustment of any provision to ensure compliance with a new regulation, act or cabinet-approved policy.

Amendments - Any substantive change to the resource management direction in the RID. This includes modification to any provision of the RID that results in a significant change to the allowed resource uses or the priority given to resource uses in all or part of the Parkland.

The Central Regional Resource Management Committee (RRMC) will be responsible for undertaking both housekeeping revisions and amendments. Any stakeholders affected by a housekeeping revision will be contacted as appropriate. All proposed amendments will be screened by the RRMC. In assessing amendment requests, the RRMC must balance the fact that the RID must remain flexible and responsive to changing circumstances against the fact that the RID will be compromised if changed arbitrarily. Accordingly, amendment requests must demonstrate that there is significant new information or new circumstances that warrant changing the approved RID. Amendment requests that are accepted for consideration will be reviewed by the affected government agencies and affected public. Based on the upshot, the RRMC will determine whether or not the RID should be changed.

Requests for amendment that might affect the RID in major fundamental ways may be deferred and addressed with the context of a major RID review.

5.5 Monitoring and Review

In order to track the progress of implementation and in order to know whether the RID is working or not, it is important to have some ongoing formal means of documenting its progress and evaluating its effectiveness.

The RRMC will be responsible for firstly, monitoring work accomplishment and compliance with the RID and secondly, evaluating the effectiveness and relevance of the provisions of the RID.

The results will be reported in an annual "Highlight Summary" report that will provide updates on the implementation of all plans in the Central Region for which the RRMC is responsible. This summary will be made available both to the general public and provincial government agencies.

Every five years, the RRMC will produce a Plan Assessment report that will evaluate whether or not the plan remains current and whether or not a Major RID review is required.

Over time, plans become dated in fundamental ways. In order to ensure the continuing relevance and appropriateness of the plan, the RRMC may decide to undertake a major RID review. A major RID review would entail:

- a comprehensive assessment of all aspects of the RID;
- a major rewriting of the RID as required; and
- a public review.

Appendix A: Oil And Gas Development Rumsey Block

ERCB INFORMATIONAL LETTER IL 90-21

ERCB INFORMATIONAL LETTER IL 90-21

26 November 1990

To: All Operators and Mineral Lease Holders in the Rumsey Area

OIL AND GAS DEVELOPMENT - RUMSEY BLOCK

The Rumsey Block is made up of approximately 50 sections of relatively undisturbed aspen parkland, as shown on the attached map. The rarity of such a large contiguous area of this type of ecosystem led to the development of site-specific guidelines for off and gas development within the Block which have been in effect since 1982. The guidelines represent a policy established by Forestry, Lands and Wildlife, Recreation and Parks, and the ERCB.

A decision was taken by the above agencies to proceed with the development of a management plan for the area in the form of a Regionally Integrated Decision (RID) early in 1989. The Central Region's Resource Management Committee (RRMC) endorsed the RID approach in November 1989 and initiated the RID Committee in January 1990. The participating team members on the RID committee include representatives from the Department of Forestry, Lands and Wildlife (Public Lands, Fish and Wildlife), and the Departments of Energy, Recreation and Parks, and Culture, along with the ERCB. The consultative team members consist of grazing lessees, industry, municipalities, and the Alberta Wilderness Association (AWA).

The RID timetable projects completion and public review of the draft Management Plan for the area by June 1991.

Application Review Process

Alberta Energy, Alberta Forestry, Lands and Wildlife, and the ERCB are committed to ensure that any new developments within the Block are carried out in an orderly and consistent fashion. In order to do this, and also to provide all stakeholders with an opportunity to learn in advance of any proposed developments, the following principles in reviewing development applications will be followed:

1. Issuance of Mineral Leases

The Department of Energy will

- (a) upon application, grant term extensions to expiring leases, pursuant to section 8(l)(h) of the Mines and Minerals Act, where surface access is denied, and

- (b) not issue any new agreements until the RID has been completed and approved.

2. Issuance of Mineral Surface Leases

The Public Lands Division of Forestry, Lands and Wildlife will

- (a) advise companies requesting Mineral Surface Leases (MSLS) that they must have a well licence granted by the ERCB prior to any access road or lease construction, and

- (b) submit any applications for the upgrading of existing roads or construction of new, permanent access roads within the Block, to the RID committee for comment before processing of such applications.

3. Issuance of Well Licences

The ERCB will advise the RID committee and the AWA of receipt of any applications for well licences within the Rumsey proposed parkland boundary.

This process is being initiated as an interim measure to ensure protection of the Rumsey Block while the RID planning process is under way. It is expected that the RID process will establish a general framework for all forms of land use and development in the Block, including oil and gas, grazing, and recreational uses.

[Original signed by]

M. G. Turnbull, Assistant Deputy Minister
Alberta Forestry, Lands and Wildlife
Public Lands Division

and

M. J. Day, Assistant Deputy Minister
Alberta Energy
Mineral Resources Division

and

B. F. Bietz, Board Member
Energy Resources Conservation Board

Appendix B: ERCB/FLAW Oil And Gas Activity Guidelines for the Rumsey Parkland South

20 April 1989

TO: Operators and Mineral Leaseholders in the Rumsey Area

The Rumsey Aspen Parkland located approximately 40 kilometers north of Drumheller and just east of Highway 56 has long been recognized as the largest of the few remaining relatively undisturbed examples of Aspen Parkland in North America. The Government is therefore proceeding to declare thirteen and one quarter sections of this area as an ecological reserve. A further fifty sections have been reserved for a future provincial park. The expectation is that the ecological reserve will be declared before the end of 1989. The declaration of the park will not occur for a number of years.

Plans for the protection of this area have been in place for some time and there have been and will continue to be restrictions on land use, which are intended to minimize impacts of activities such as oil and gas exploration.

The attached guidelines will be applied to oil and gas activities by the Alberta Departments of Forestry, Lands and Wildlife, Recreation and Parks, Energy, and the Energy Resources Conservation Board. The guidelines represent a policy established in 1982, and were recently reaffirmed through discussion with those government departments and the Board. The regional officer from Public Lands will continue to monitor these guidelines in concert with industry. The guidelines are intended to apply primarily to the proposed park, but also, if any further development is allowed, to the proposed ecological reserve.

In particular, operators of wells in the parkland should not expect to be able, to construct a network of high grade “all weather roads”. The cooperation of the industry in minimizing land disturbance by the sharing of surface leases and roads will be expected.

Within the ecological reserve, existing wells will be allowed to continue production to depletion. New wellsites will be permitted within the proposed park in accordance with the previously mentioned guidelines.

The cooperation of the oil and gas operators owning mineral rights in this area is solicited in order to preserve this unique ecological feature within Alberta.

G.J. DeSorcy

Chairman

GUIDELINES FOR OIL/GAS IN THE RUMSEY PARKLAND

There are four main activities associated with oil and gas exploration, that could have a detrimental effect on the Rumsey Parkland: seismic, drilling, road-building and pipeline construction. While each has potential for unique impacts, the following guidelines apply in all cases:

- New disturbances will be restricted to existing roads and trails, as much as possible.
- Disturbance of wet lands will be avoided.
- Sites of rare or sensitive flora will be avoided.
- Soil-stripping will be kept to a minimum and soil replaced when reclamation is undertaken.
- Cut and fill operations will be minimized.
- Cleared areas must be re-seeded using the seed of native grasses common to the area or, if directed by a Public Lands Officer, allowed to re-vegetate with native vegetation.
- Significant archaeological sites must be avoided.

SEISMIC

Of the four types of activities associated with oil and gas exploration and development, with appropriate precautions, seismic can be the least detrimental to the wildland character, especially in the fairly open landscape of the Aspen Parkland.

- Portable seismic operations will be considered off of existing roads and trails.
- Clearing of grasslands, woodlands or shrublands will be avoided.
- Wheeled equipment which exerts low ground pressure may be permitted. Tracked equipment is not permitted. All other wheeled equipment must remain on existing roads and trails.

DRILLING

The impacts of drilling activities are localized to the drill site and if carefully planned can be short-lived. With respect to these activities in the Rumsey Aspen Parkland:

- Drill sites will be topographically positioned to minimize disturbances required to level the site and to minimize aesthetic impact. Some areas may preclude drilling because of particularly steep terrain.

- Directional or slant hole drilling will be used if a significantly more environmentally suitable site will result. The size and shape of the drilling site will be modified to minimize surface impact.

- The amount of clearing on the site will be only that required to accommodate the actual rig and sump tanks. Presumably if drilling is conducted in winter, the need for a larger clearing to satisfy fire safety standards is eliminated.

- The need for ditching or diking around the drill site to contain drill fluids will be assessed individually on each site. Presumably if only an internal drainage system is involved, there is little, if any, need for ditching or diking.

- Disposal of sump fluids will conform to current guidelines.

- The drill site will be reclaimed to the natural topographic state.

- Permanent well-site facilities will be designed to blend with the surrounding landscape.

ROAD BUILDING

Road building is potentially the most detrimental of the four major activities associated with oil and gas exploration and development. Impacts can be long-term in that motorized access is provided to areas which were previously inaccessible.

- Existing road and trail alignments will be used as much as possible for exploration purposes unless they were poorly planned environmentally. Consideration will be given to directional or slant-hole drilling where it could be used to minimize road construction.

- New exploration roads and trails will be designed to blend into the natural landscape by following natural contours, keeping cut and fill to a minimum (in many instances no clearing is necessary) and making roads no wider than absolutely necessary. The extent of road-building will be consistent with its purposes (i.e. temporary road to a temporary site).

- Roads which are no longer required for access will be recontoured and reclaimed.

- After the exploration phase and before the development phase, a master plan will be developed which allows for efficient extraction of the underground resources while minimizing the amount and impact of road-building.

PIPELINE CONSTRUCTION

Major pipelines will be routed to avoid crossing the parkland. Where pipeline construction is necessary in the parkland:

- A master plan will be developed which minimizes the amount and degree of pipeline construction required for development of proven reserves.
- Only the minimum amount of topsoil disturbance required along the route will be undertaken using the best available technology.
- Slopes will be recontoured after the pipe has been laid.

Distribution List:

Pembina Resources Limited
P.O. Box 1948
Calgay, AB. T2P 2M7

Passburg Petroleums Limited
1200 - 140 - 4 Ave. S.W.
Calgary, AB. T2P 3N3

Mobil Oil Canada, Limited
P.O. Box 800
Calgary, AB. T2P 2J7

Altex Resources Limited
1500 - 700 - 4 Ave. S.W.
Calgary, AB. T2P 3J4

Poco Petroleums Limited
25 Floor, BV 4
250 - 6 Ave. S.W.
Calgary, AB. T2P 3H7

Samedan Oil of Canada Inc.
1505 - 505 - 3 Street S.W.
Calgary, AB. T2P 3E6

Suncor Inc.
P.O. Box 38
Calgary, AB. T2P 2V5

Esso Resources Canada Limited
237-4 Ave. S.W.
Calgary, AB. T2P OH6

Renaissance Energy Limited
3300 - 400 - 3 Ave. S.W.
Calgary, AB. T2P 4H2

Hudson's Bay Oil & Gas Co. Ltd
P. 0. Box 200
Calgary, AB. T2P 2H8

Dome Petroleum Limited
P.O. Box 200
Calgary, AB. T2P 2H8

Amoco Canada Petroleum Co.Ltd.
P.O. Box 200
Calgary, AB. T2P 2H8

Mohawk Oil Company Ltd.
2500 - 10104 - 103 Ave.
Edmonton, AB. T5J 1V3

Voyager Energy Inc.
2700 - 205 - 5 Ave. S.W.
Calgary, AB. T2P 2V7

Gulf Canada Resources Limited
401 - 9 Ave. S.W.
Calgary, AB. T2P 3C5

Ladd Exploration Company
800 - 707 - 7 Ave. S.W.
Calgary, AB. T2P OZ2

PanCanadian Petroleum Limited
Box 2850
Calgary, AB. T2P 2V7

Appendix C:

Rumsey Parkland South Operating Conditions for Mineral Surface Lease Pipeline Agreements

License of Occupation

Rumsey Parkland South Operating Conditions For Mineral Surface Lease

1. (60) Have in possession, or have his contractor in possession of, a copy of this authorization which is to be retained on the job site during all phases of preparation, construction, development, maintenance and abandonment.

2. (61) Contact and advise the Public Lands Office in Red Deer, Alberta (Phone 340-5451), of your intentions prior to entry upon the lands and again at the completion of operations.

3. (83) Strip and pile the top soil separately from any woody material and subsoil in such a manner that it can be distributed evenly over the disturbed area when operations have been completed.

4. (88) Construct a fence along the perimeter of the wellsite. This fence is to be removed upon written notice given by a Public Lands Officer.

5. (90) Repair or replace any existing range improvements (such as fences, .water supplies, etc.) damaged by your operations.

6. (95) Construct a berm or dike of compacted impermeable soil of a minimum height of 1 metre along the perimeter of the wellsite to prevent the escape of any deleterious material.

7. (96) Construct sump pits in impermeable soil in a location and in a manner approved in writing by a Public Lands Officer.

8. (99) Notify a Public Lands Officer 72 hours prior to any service rig conducting operations on this site and obtain approval in writing for the disposal of any effluent with the service rig operations.

9. (98.1) Sites for disposal of testing fluids must be approved in writing by a Public Lands Officer prior to disposal.

10. Upon cancellation and abandonment landscape and/or recontour, stabilize to a natural landform and re-vegetate (with specified Rumsey Parkland Mixture) all disturbed land surfaces as a result of your operations.

11. Obtain a well license from the ERCB prior to wellsite or access construction.

NOTE: If access is included with MSL application refer to LOC operating conditions.

Rumsey Parkland South Operating Conditions For Pipeline Agreements

1. (60) Have in possession, or have his contractor in possession of, a copy of this authorization which is to be retained on the job site during all phases of preparation, construction, development, maintenance and abandonment.

2. (61) Contact and advise the Public Lands Office in Red Deer, Alberta (Phone 340-5451), of your intentions prior to entry upon the lands and again at the completion of operations.

3. (69) Not deposit or push debris, soil or other deleterious materials into or through any watercourse or on the ice of any watercourse.

4. (79) Dispose of all woody debris in a manner as may be directed in writing by a Public Lands Officer.

5. (84) Landscape and/or recontour, stabilize and revegetate all disturbed land surfaces within one full growing season.

6. (90) Repair or replace any existing range improvements (such as fences, .water supplies, etc.) damaged by your operations.

7. (108) Carry out debris disposal, cleanup and reclamation concurrently with the operations.

8. Strip and pile the topsoil along the ditch line separately from any woody materials and subsoil in such a manner that it can be distributed over the disturbed area when operations have been completed.

9. With the exception of the pipeline ditch no surface disturbance (blading, vegetation removal, cuts or fills) will be permitted on the pipeline right of way without prior authorization from an Officer of the Public Lands Division.

10. All disturbed areas within the pipeline right of way shall be restored to the original ground surface contours.

11. Vehicle traffic as it relates to this operation is restricted to the pipeline right of way.

12. Disturbed area must be seeded using the special seed mixture for the Rumsey Parkland. Contact the Public Lands Office in Red Deer (Phone 340-5451) for information regarding seed mixture.

13. In the event of adverse ground conditions, work which may cause excessive damage to soil or vegetation may be suspended by written and verbal notice from an Officer of the Public Lands Division.

14. Exercise all measures necessary to eliminate conditions which may be as a result of this operation, hazardous to livestock.

* It should be noted that an alternative to operating condition ft 12 in an attempt to establish native grass is operating condition # 15.

15. Those areas of disturbance on the pipeline right of way (Ditch line) will be allowed to revegetate without supplementary seeding. If supplementary seeding is necessary the company will be advised by the Public Lands Division in Red Deer of the native seed mixture to be used.

Rumsey Parkland South Operating Conditions - For License of Occupation

1 (60) Have in possession, or have his contractor in possession of, a copy of this authorization which is to be retained on the job site during all phases of preparation, construction, development, maintenance and abandonment.

2 (61) Contact and advise the Public Lands Office in Red Deer, Alberta (Phone 340-5451), of your intentions prior to entry upon the lands and again at the completion of operations.

3. (79) Dispose of all woody debris in a manner as may be directed in writing by a Public Lands Officer.

4 (90) Repair or replace any existing range improvements (such as fences, water supplies, etc.) damaged by your operations.

5. No surface disturbance (blading, vegetation removal, cuts or fills) will be permitted on the access right of way without prior authorization of the Public Lands Officer.

6. Flag the access route/area and have its location approved in writing by a Public Lands Officer prior to commencement of construction.

7. If access development is required design specification must be approved by the Public Lands Officer in Red Deer.

8. If necessary upon cancellation and abandonment landscape and/or recontour, stabilize to a natural landform and revegetate (with specified Rumsey Parkland Mixture) all disturbed land surfaces as a result of your operations. The Public Lands Officer may specify portions of the access that will not require final reclamation.

9. Contact the Public Lands Officer in Red Deer at 340-5451 regarding seed mixture information.

10. Approved access construction will require stripping and piling topsoil separately from the woody material and subsoil in such a manner that it can be distributed evenly over the disturbed area when operations have been completed.

11. In the event of adverse ground conditions work which may cause excessive damage to soil or vegetation may be suspended by verbal notice followed by written notice from the Public Lands Officer.

12. Exercise all measures necessary to eliminate conditions which may be a result of this operation hazardous to livestock.

13. Obtain a well licence from the E.R.C.B. prior to access construction.

Appendix D:

Public Lands Division

Reclamation Native Seed Mixture For Rumsey Parkland South

Revised: January, 1992

Objective

The objective is to re-establish the native species on the disturbed areas. Ideally the species should also be in the same relative proportions to each other as the native grass stands.

The Methods

Several methods can be used to achieve the above objectives. The method chosen will depend primarily on the degree of disturbance.

Method No. 1

After properly spreading the topsoil over the disturbed area, the native grasses are allowed to revegetate the disturbed area.

- Suitable where the width of disturbance is 15 feet or less and where water or wind erosion is not a significant problem.
- Requires weed control to be carried out regularly.
- May require 3 to 5 years or more to fully revegetate the area.
- Continuous grazing of the site will slow down the revegetation process.

Method No. 2

After properly spreading the topsoil over the disturbed area, a mulch containing native seeds is spread over the disturbed area.

- Suitable for any size area provided a suitable area for collecting the seed mulch is available.
- The seed mulch should be collected from a native grass area in close proximity to the disturbed area. Mowing must be done at a time when the seeds are mature but before they will shatter.
- The mulch will help keep the ground surface moisture from evaporating which will aid the establishment of the grasses.
- Rough Fescue often has a low germination (less than 50), therefore, the seed mulch should contain at least 30 pounds of seed per acre equivalent.
- Grazing should not occur on the disturbed areas for at least three years after seeding to ensure the plants are well established. If the top soil is very shallow it may take an additional one to two years for the area to become well established.

Method No. 3

After properly spreading topsoil over the disturbed area, the mixture of native grass seed (revised 1992) can be sown. The species should be bought separately,and each species must be certified, and then mixed. Each species must have a seed certificate.

REVISED RUMSEY SEED MIXTURE (1992)

Rough Fescue	Festuca scabrella	2.5 Kg	12.5%
Indian Ricegrass	Oryzopsis Hymenoides	4.0 Kg	20%
Green Needlegrass	Stipa viridula	5.0 Kg	25%
June Grass	Koeleria macrantha	2.0 Kg	10%
Western Wheatgrass	Agropyron Smithii	3.5 Kg	17.5%
Streambank Wheatgrass	Agropyron riparium	3.0 Kg	15%
		20 Kg/ha	100%

Weed Control

Weed control is necessary in order to enhance the establishment of the grass.

Note: There are no substitutions for the recommended seed mixtures. For further information please contact:

Public Lands Division
Rm. 504, First Red Deer Place
4911-51 Street
Red Deer, AB. T4N 6V4
Phone: 340-5451

Appendix E:

Planning Team, Consulting Members and Interest Groups

Planning Team Members

Barry New-ton - Alberta Culture

Cynthia Langlo - Energy Resources Conservation Board

Kevin Williams - Alberta Energy

Brian Lajeunesse - Fish and Wildlife

Felix Gebbink - Public Lands Division

Barry Cole - Public Lands Division

Wayne Pedrini - Recreation and Parks

Consulting Members

Wilbur Stewart
Stewart Farming Ltd.
Box 235
Big Valley, AB. TOJ OGO

Rob Atlin
R.R.tl
Byemoor, AB. TOJ OLO

Thomas Usher
Usher Ranching Ltd.
Box 250
Big Valley, AB. TOJ OGO

William Melnyk, Sec./Tres.
Jakes Butte Grazing Association
Big Valley, AB. TOJ OGO

Jack Webster, President
Jakes Butte Grazing Association
Box 102
Big Valley, AB. TOJ OGO

Bradley J. Olsen, Sec./Tres.
Rowley Grazing Association
Box 172
Morrin, AB. TOJ 2BO

Cheryl Bradley
Alberta Wilderness Association
625 - 18th Street
Lethbridge, AB. T1J 3E9

Scott Colebrook
IPAC
3500, 250 - 6 Ave. S.W.
Calgary, AB. T2P 3H7

County of Stettler
Box 1270
Stettler, AB. TOC 2LO

M.D. of Starland
Box 249
Morrin, AB. TOJ 2BO

Palliser Regional Planning Commission
115 Palliser Trail
P.O. Drawer 1900
Hanna, AB .TOJ 1PO
Attention: Mike Reiley, Senior Planner

Red Deer Regional Planning Commission
2830 Bremner Ave.
Red Deer, AB. T4R 1M9
Attention: W.G.A. Shaw

INTEREST GROUPS

Red Deer River Naturalists
Box 785
Red Deer, AB. T4N 5H2
Attention: Dorothy Dixon, Director

Sherwood Park Fish & Game Association
Box 3098
Sherwood Park, AB. T8A 2A6
Attention: Andy Boyd

Canadian Parks and Wilderness Society
Groat Road Building
11759 Groat Road
Edmonton, AB. T5M 3K6

Alberta Cattle Commission
216, 6715 - 8th Street N.E.
Calgary, AB. T2E 7H7
Attention: Chris Mills

Canadian Nature Federation
453 Sussex Drive
Ottawa, Ontario KIN 624
Attention: Kevin MacNamee

Canadian Wildlife Service
Western & Northern Region
2nd Fl. 4999 - 98 Ave.
Edmonton, AB. T6B 2X3
Attention: Gerald McKeating
Prairie Conservation Coordinating Committee