

## **Fire Management For Prince Albert National Park - Planned and Random Ignition Prescribed Burns\***

Jeff Weir - Vegetation Specialist - Prince Albert National Park

A modified fire management strategy has been developed for Prince Albert National Park as the historic full suppression strategy is no longer consistent with the Park's mandate to protect for all time the ecological integrity of an area representative of the Southern Boreal Plains and Plateaux natural region. In order to maintain the ecological integrity of this region, ecological processes such as wildfire must be managed with minimal interference. The intent of the full suppression strategy was to minimize the area burned and consequently to exclude this process from the region. A recent study of the Park's fire frequency has documented a significant change to less frequent fire disturbance since 1945 which has been attributed, in part, to fire suppression actions. Consequently, a modified fire management strategy has been developed that is intended to restore the ecological role of fire in Prince Albert National Park.

Within the logistical limitations of the Park, random ignition wildfires will be allowed to burn in the containment fire management unit, figure 1, provided they meet previously approved conditions described in random ignition prescribed burn plans. A continuous fuel break will be created around the perimeter of the containment unit by implementing planned ignition prescribed burns. The fuel break will consist of a wide strip of land on which the vegetation is naturally or otherwise less flammable than that surrounding it so that fires burning onto these lands can be more readily controlled. If a fire threatens to escape the unit, it will be suppressed directly or indirectly along the fuel break. The fuel break will be established incrementally and where possible will utilize existing landscape feature that facilitate the control of wildfires. The containment fire management strategy will be progressively implemented as containment opportunities for localized areas in the unit are created.

A full suppression unit will surround the containment unit, figure 1. In this unit wildfires will be suppressed in a manner that is designed to extinguish the fire as quickly as possible. The fire management strategy of this unit is consistent with that of adjacent Provincial lands. Consequently, this unit serves to buffer the difference between the Provincial full suppression and Park containment fire management strategy..

The Canadian Fire Behaviour Prediction (FBP) Model, and historic weather data bases will be used to develop prescribed burn plans. Prior to their approval these plans will be reviewed nationally by Parks Canada fire behaviour experts. They will also be reviewed by Saskatchewan Environment and Resource Management (Forest Protection and Fire Management Branch) and Weyerhaeuser Canada Ltd. (Saskatchewan Timberlands) personnel. These prescribed burn plans will be revised to minimize area of concern before they are submitted for approval to the Park Superintendent.

---

.

The risk of wildfires burning valued Park and Provincial resources will be minimized by ensuring that associated hazard reduction strategies are developed and implemented. Throughout the implementation of this strategy, the Park recognizes the partnership role of Saskatchewan Environment and Resource Management (Forest Protection and Fire Management, and Ecosystem Management Branches) and Weyerhaeuser Canada Ltd. (Saskatchewan Timberlands). The Park is committed to communicating and working closely with these partners. It will also communicate with municipal and First Nation governments, adjacent landowners, park and provincial stakeholder groups, and the general public. Feedback from these groups is encouraged and will be reviewed annually by Park managers. Where the Parks mandate will allow, the Parks fire management plan will be revised in order to minimize areas of concern.

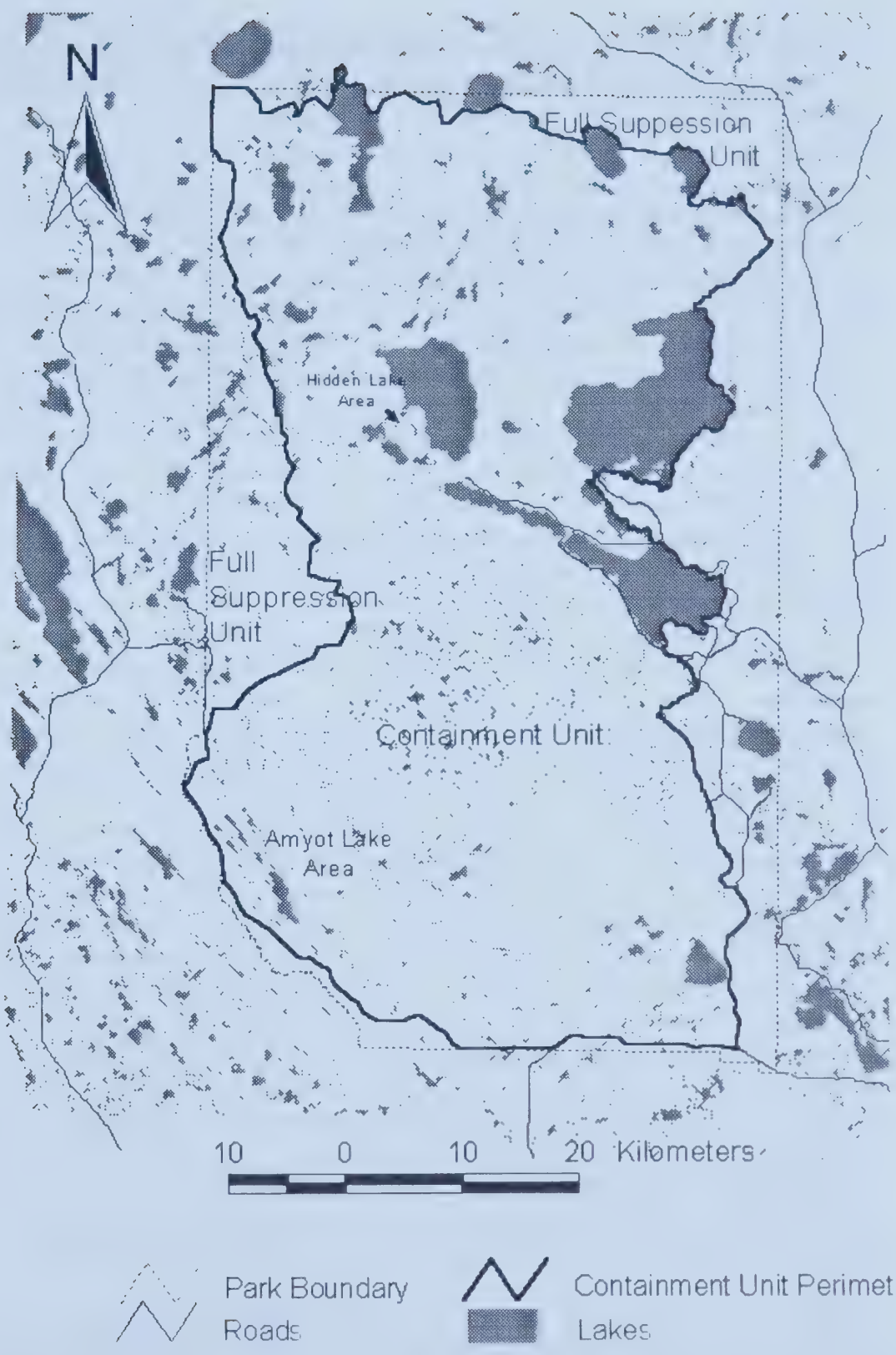
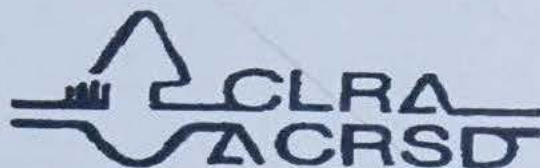


Figure 1: Map of Prince Albert National Park showing the location of Suppression and Containment Fire Management Units.

# Perspectives in Land Reclamation and Restoration

Presented by:



Canadian Land Reclamation Association/  
Association Canadienne De Réhabilitation Des Sites Dégradés



Including the Canadian Land Reclamation Association's  
24<sup>th</sup> Annual Meeting

This document may be cited as:

Feister, A.M. (compiler), 1999. Perspectives in land reclamation and restoration. 24<sup>th</sup> meeting of the Canadian Land Reclamation Association held jointly with the Saskatchewan Environmental Industry and Managers Association, Saskatoon, SK. 175pp.  
-5927

## Conference Sponsors

### Platinum

Department of Indian Affairs and Northern Development

### Diamond

Prairie Farm Rehabilitation Administration

### Gold

LUSCAR LTD.

COGEMA Resources Inc.

### Silver

Aquaphyte Remediation

### Bronze

MATRIX SOLUTIONS INC.

Native Plant Society of Saskatchewan Inc.

NORWEST SOIL RESEARCH LTD.

Saskatchewan Environment and Resource Management

### Iron

Beulah Tec Ltd.

CAN-AG ENTERPRISES LTD.

Clifton Associates Ltd.

Conor Pacific Environmental Technologies Inc.

Enviro-Test Laboratories

### Organizing Sponsor

Alberta Environmental Protection

Nelson Dynes & Associates Inc.

Northern EnviroSearch Ltd.

Red Stone Environmental Inc.

Saskatchewan Wheat Pool

Stantec Consulting Ltd.

# Conference Program / Table of Contents

---

## Monday, September 27<sup>th</sup>

---

7:00 - 9:00      Registration Booth Open

---

## Tuesday, September 28<sup>th</sup>

---

7:15 - 7:45 AM    Registration

7:45 - 8:00 AM    Bus Loading from Saskatoon Inn Lobby

8:00 AM          Field Tour Departure (no delays)

7:00 - 10:00 PM   Wine and Cheese, Registration

---

## Wednesday, September 29<sup>th</sup>

---

**Page #**

**7:30                    Registration**

**8:00 - 8:05          Introductory Remarks – Saskatchewan Room ‘B’**  
                                  Tracy Patterson (CLRA) and Theresa Salamone (SEIMA)    n/a

8:05 – 8:25                    Opening remarks from Saskatchewan Environment and  
                                  Resource Management ..... n/a

**8:25 – 10:05        Saskatchewan Policy – Saskatchewan Room ‘B’**  
                                  Session Chair: Lorne Veitch – Saskatchewan Agriculture and  
                                  Food, Lands Branch, Swift Current

8:25 – 8:45                    Drilling waste management guidelines.  
                                  Todd Han, Saskatchewan Energy and Mines..... n/a

8:45 – 9:05                    Saskatchewan upstream petroleum sites remediation guidelines.  
                                  Todd Han, Saskatchewan Energy and Mines..... n/a

9:05 – 9:25                    Surface lease policy and seismic activity on agricultural Crown  
                                  Lands.  
                                  Wilf Pyle, Saskatchewan Agriculture and Food ..... 2

9:25 – 9:45                    Lease conditions and restoration criteria on Saskatchewan  
                                  Agriculture and Food Crown Land.  
                                  Todd Jorgenson, Saskatchewan Agriculture and Food ..... 12

9:45 – 10:05                  Environmental liability and contaminated site management in  
                                  Saskatchewan.  
                                  Victor Chang, Saskatchewan Environment and Resource  
                                  Management ..... 14

**10:05 – 10:30      Refreshments**

**10:30 – 12:10 Concurrent Sessions**

**Session A:**

**Remediation** – Saskatchewan Room ‘A’

Session Chair: Darlene Howat – Department of Renewable Resources, University of Alberta

- 10:30 – 10:50 Bioremedial options.  
Allan Jobson, StanTec..... 46
- 10:50 – 11:10 In-situ biodegradation of ethanol-amine in low permeability soils.  
Stuart Lunn and Ron Goodman, Esso..... 48
- 11:10 – 11:30 Yield and nutrient uptake of wheat on oil well sites: effects of topsoil depth and organic amendments  
Akinremi, O.O., Lethbridge Research Centre; F.J. Larney, Semi-Arid Prairie Agriculture Research Station; R.L. Lemke, Semi-Arid Prairie Agriculture Research Station; and V. Klaassen, PanCanadian Petroleum Ltd..... 161
- 11:30 – 11:50 Investigation of microbial bioremediation in a gold mill tailings pond.  
Carl Paton, Cameco Corporation and Ram D. Mehta, Prairie Biological Research Ltd. .... 71
- 11:50 – 12:10 Use of crop selection and cattle manure to bioremediate a heavy oil-polluted loamy sand for grain production.  
Bix Biederbeck, Agriculture and Agri-Food Canada..... 82
- Session B:**
- Revegetation and the ESSA** – Saskatchewan Room ‘C’
- Session Chair: Suzanne Gill – Alberta Agriculture, Food, and Rural Development, Public Lands Branch
- 10:30 – 10:50 Native prairie revegetation on wellsites in southeastern Alberta.  
Etienne Soloudre and M. Anne Naeth, and Andy Hammermeister, University of Alberta..... 106
- 10:50 – 11:10 Vegetation characteristics on a pipeline right-of-way twelve years after construction in Southern Alberta.  
Kelly Ostermann, University of Alberta ..... 109
- 11:10 – 11:30 Bioengineering and reclamation to stabilize a lakeshore slope.  
Jim Schaefer, University of Alberta..... 112
- 11:30 – 11:50 Restoration based on ecological function: grazing management in an endangered Australian ecosystem.  
Kim Allcock, David Board, David Hik, Alan Newsome, Roger Pech CSIRO Wildlife and Ecology, Australia, and University of Alberta..... 146
- 11:50 – 12:10 Employment Futures: What does Environmental Science Student Association have to offer?  
Margaret Wilson, University of Saskatchewan..... 157

12:10 – 1:45      **Lunch** -- Saskatchewan Room 'B'

1:45 – 3:25      **Concurrent Sessions**

**Session C:      Native Plants and Revegetation** – Saskatchewan Room 'A'  
Session Chair: Anne Naeth – Department of Renewable  
Resources, University of Alberta

1:45 - 2:05      Relative performance of native prairie grasses and forbs for  
revegetation of a pipeline disturbance on native prairie.  
David Walker, Walker and Associates..... 126

2:05 – 2:25      Revegetation of wellsite disturbances on Fescue Prairie in east-  
central Alberta.  
Jay Woosaree, Alberta Research Council..... 118

2:25 – 2:45      The evolving native plant industry in Saskatchewan.  
Nora Stewart and Andy Hammermeister, Native Plant  
Society of Saskatchewan..... 115

2:45 – 3:05      Cameco, Key Lake greening project, in harmony with nature -  
(1978-1999 & beyond).  
Lotfi Haji, Cameco..... n/a

3:05 – 3:25      Rare Plant Rescue During Pipeline Construction (*Erigeron*  
*compositus* Pursh. var. *glabratus* Macoun, Fern-leaf Fleabane on  
the 1998 Foothills Pipe Lines Expansion Project.)  
David Walker, Walker and Associates..... n/a

**Session D:      Soils and Restoration**– Saskatchewan Room 'C'  
Session Chair: Mike Solohub – Department of Soil Science,  
University of Saskatchewan

1:45 - 2:05      Soil information resources for the prairies.  
Alvin Anderson and Glenn Padbury, Agriculture and  
Agri-Food Canada ..... n/a

2:05 – 2:25      Setting reclamation standards: When is soil decompacted?  
Richard Johnson, Alberta Research Council..... 175

2:25 – 2:45      Using oily waste to restore productivity in a severely eroded  
loamy sand.  
M.C.P. Jarvis<sup>1,3</sup>, V.O. Biederbeck<sup>2</sup>, K.G. Hanson<sup>2</sup>, T.A.  
Fonstad<sup>3</sup> ;<sup>1</sup> Imperial Oil Resources, <sup>2</sup> Semiarid Prairie  
Agricultural Center, and <sup>3</sup>, University of Saskatchewan ..... 68

2:45 – 3:05      Remediation of potash slime tails through use of cross-linked  
polyacrylamide hydrogel.  
Kathleen Cameron, University of Saskatchewan..... 169

3:05 – 3:25      Fifteen years of subsoil/mine spoil development on a

reconstructed profile.

Danielle Bailey and Donald Pluth, University of Alberta..... 174

**3:25 – 4:00 Refreshments**

**4:00 CLRA National Annual General Meeting – Sask. Room ‘C’**

**5:30 – 6:30 Cocktail Hour – Saskatchewan Room ‘B’**

**6:30 Banquet and Awards – Saskatchewan Room ‘B’**

Awards

Banquet Presentation: New forms of work organization in the Canadian mining industry.

Dr. Bob Russell, Department of Sociology, University of Saskatchewan ..... n/a

---

**Thursday, September 30th**

---

**8:10 - 8:15 Announcements**

**8:15 - 10:00 Alberta Policy – Saskatchewan Room ‘B’**  
Session Chair: Steven Deugau – Knox Resources Inc.

8:15 - 8:35 Development and status of reclamation certification criteria in Alberta.  
Chris Powter, Alberta Environmental Protection..... 18

8:35 - 8:55 Pipeline reclamation certification standards - a capability assessment approach.  
Al Fedkenheuer, TransCanada Transmission Ltd..... 24

8:55 - 9:15 Alberta's new native plant guidelines.  
Heather Gerling, Alta. Agric. Food and Rural Dev. .... 31

9:15 - 9:35 Alberta's orphan well program.  
Pat Foo, Alberta Energy and Utilities Board ..... 39

9:35 – 9:55 Qualified reclamation practitioners in Alberta.  
David Lloyd, Alberta Environmental Protection ..... 40

**9:55 – 10:30 Refreshments**

**10:30 – 12:00 Focus Sessions (Plenary) – Saskatchewan Room ‘B’**  
Session Chair: Kerby Loewen – Prairie Seeds Inc.

10:30 – 11:15 1)The Great Sandhills  
Planning and development authority for Saskatchewan Rural Municipalities and planning districts.  
Ralph Leibel, Saskatchewan Municipal Government..... 128

	Use of ecological management planning in Western Saskatchewan Wayne Pepper and Jim Ireland, ERIN Consulting Ltd. ....	136
11:15 – 12:00	2) Focus Session - Legal Considerations in the Environmental Sector Julian Bodnar, Barrister and Solicitor (Stevenson Gillis Hjelte Tangjerd).....	n/a
	Gary Meschishnick, Barristor and Solicitor Wallace Meschishnick Clackson Zawada .....	n/a
12:00 – 1:30	<b>Lunch</b> – Saskatchewan Room ‘A’	
1:30 – 3:10	<b>Concurrent Sessions</b>	
<b>Session A:</b>	<b>Remediation</b> – Saskatchewan Room ‘C’ Session Chair: Lisa Groves – EnviroTest Labs	
1:30 – 1:50	Phytoremediation as an in-situ technique for the restoration of oil-contaminated sites. C.M. Frick, J.J. Germida, and R.E. Farrell, University of Saskatchewan .....	95
1:50 – 2:10	Integration of toxicity testing and chemical analyses for site assessment and remediation. Deib Birkholz, Enviro-Test Laboratories and Stephen Goudey, HydroQual Laboritories Ltd. ....	98
2:10 – 2:30	Evaluating soil amendments for brine spill remediation. Ken Greer, Western Ag. Consulting and Jeff Schoenau, University of Saskatchewan .....	n/a
2:30 – 2:50	Decommissioning and reclamation of an abandoned herbicide plant. Ralph Bock, Saskatchewan Environment and Resource Management .....	n/a
2:50 – 3:10	Surface water management with the Little River Pond Mill. Kathleen Cameron, Sunset Solar Systems Ltd.....	99
<b>Session B:</b>	<b>Ecosystem Restoration</b> – Saskatchewan Room ‘B’ Session Chair: Corinne Tchorzewski – Saskatchewan Environment and Resource Management, Sustainable Land Management Branch	
1:30 – 1:50	Physical restoration of the Kingsmere River in Prince Albert National Park. Michael Fitzsimmons, Prince Albert National Park and Guy Melville, Saskatchewan Research Council .....	138
1:50 – 2:10	Fire management for Prince Albert National Park - planned and random ignition prescribed burns.	

	Jeff Weir, Prince Albert National Park .....	141
2:10 – 2:30	Ecosystem management applied to riparian and aquatic habitat restoration. Karl Lauten, Saskatchewan Environment and Resource Management .....	144
2:30 – 2:50	Working relationship of SERM and industry in the West Boreal EcoRegion of Saskatchewan. Randy Slater, Saskatchewan Environment and Resource Management; Stan McBride, Wascana; and Shawn Daschuk, NESL .....	n/a
2:50 – 3:10	Composite Tailings (CT) reclamation research & development at Syncrude Canada Limited's oilsands mining operation. Clara Qualizza, Syncrude Canada Ltd. ....	n/a
<b>3:10 – 3:30</b>	<b>Refreshments</b>	
<b>3:30 - 4:40</b>	<b>Social and Forestry Issues – Plenary – Sask. Room ‘B’</b> Session Chair: Sheila Lamont – Saskatchewan Conservation Data Centre	
3:30 – 3:50	Ecosystem based management in El Salvador. Jim Ireland and Wayne Pepper, ERIN Consulting Ltd. ....	154
3:50 – 4:10	Public participation in a multi-stakeholder process. Mark Liskowich, Northern Mines Monitoring Secretariat ....	156
4:10 – 4:30	Innovative regeneration applications to reclaim harvested sites in the boreal forest. Derek Sidders, Canadian Forest Service .....	n/a
4:30 – 4:40	<b>Closing Remarks – Saskatchewan Room ‘B’</b>	