

Use of Ecological Management Planning In Western Saskatchewan*

Wayne Pepper and James Ireland, Erin Consulting

Introduction:

The need for ecological restoration and rehabilitation can often be prevented or much reduced through a planned approach to management. If this pro-active slant to management is linked to an understanding of what important ecological processes and functions are jeopardized by development, the effectiveness of the planning should be enhanced. ERIN Consulting Ltd. is testing this concept of "ecological management planning" in the Hatton gas field of southwestern Saskatchewan.

Currently, companies seek approval for gas well developments from regulators through a process called Environmental Protection Plans (EPPs). EPPs address environmental concerns on a site by site basis largely to alleviate problems with the development stages of oil and gas production. A new EPP is prepared each time a company seeks approval for development of new or modified wells, flow lines, roads or compressor stations. The EPPs are repetitive for each set of development plans and never address the sum total of impacts on the environment. Accumulative effects of these developments are resulting in serious fragmentation of native habitat and redundancy of gas facilities and infrastructures. Little attention is paid to longer term operating impacts or eventual decommissioning. A method of combining available information into a pro-active plan designed to reduce accumulative impacts and cut overall costs to the gas company is needed.

ERIN Consulting, an environmental consulting company based in Regina, is using an interactive ecological approach to planning, using a combination of digital geographically referenced data bases and other locally collected information. Geographic Information Systems, (GIS), technology is used for analysis and public consultation and ground based data are coupled with a basic understanding of the ecological functions and processes of the local ecosystems to refine the information into an integrated plan which attempts to address all stake holders concerns.

Methods:

Digital Saskatchewan Soil Survey data from the Institute of Pedology , U. of S., the Thematic Mapper, TM, satellite image for the area in digital form obtained from Radar Sat in Edmonton, and a digital map of the existing gas field developments supplied by the company, are critical components of the initial planning exercise. Information from previous ecological field investigations are used to add to the overall understanding of the area.

The powerful GIS software facilitates integration of the various data bases such that a series of electronic map overlays are produced. These maps reveal broad vegetation

* Presented at the 24th Annual Meeting of the Canadian Land Reclamation Association held jointly with the Saskatchewan Environmental Industry and Managers Association, Saskatoon, Sask., Sept. 28-30, 1999.

communities and habitat types, farmsteads, roads, trails, gas well sites, water bodies of various types and significant geological features such as steep slopes, sand dunes, saline areas and agriculturally altered lands. The resulting rough maps provide some indication of the best places to locate future gas developments, accounting for environmental sensitivities and economic savings to the company. We stress that overall costs to the gas company can be reduced if their activities are planned to integrate smoothly with the wildlife habitat and traditional land issues of the area.

Local landowners are encouraged to contribute to the plan. A primary concern of both landowners and wildlife managers is the need to control proliferation of roads and trails, which fragment the landscape and increase vehicular traffic. The plan has to address these concerns as well as timing of gas production activities to eliminate or reduce disturbance to humans and wild life during sensitive time periods. Specialized forms of transportation may be advisable for certain areas or access to these areas may be curtailed entirely. On the other hand, opportunities to reduce costs to the company are identified at every opportunity.

Once the inputs from all the stakeholders are incorporated into the plan, it is finalized and submitted for approval to various regulators such as Saskatchewan Environment and Resource Management, PFRA, Saskatchewan Agriculture and Food, Saskatchewan Energy and Mines and the Great Sandhills Planning Commission. Once approved, it will act as a guide and basis for developing operating plans of the company and Local Operating Agreements, (LOAs).

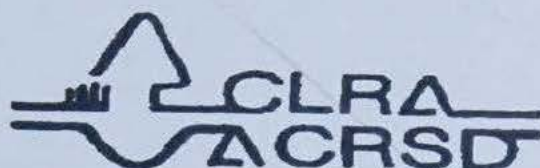
The EMP is intended to be a dynamic plan from the standpoint that it encourages continuous improvements in protecting ecological integrity and cost cutting while following the principles and objectives laid out in the plan. The need to recognize and protect sensitive soils, vegetation and wild animals will not change nor will the need to maintain a healthy profit margin for the gas company. The ways of accomplishing these goals may change as time passes throughout the life of the gas production.

Conclusion:

The Ecological planning approach combines the best scientific and anecdotal ecological, economic and cultural characteristics of the area, the concerns of stake-holders, the logistical operational issues and the long term considerations into the equivalent of a regional land use plan. The program has been accepted by individual gas companies but ERIN Consulting has identified that there are opportunities to make this approach even more effective through combining the ecological management planning for all gas operators in a particular area. This would indeed be a truly integrated approach.

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
24th Annual Meeting

This document may be cited as:

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

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Monday, September 27th

7:00 - 9:00 Registration Booth Open

Tuesday, September 28th

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 29th

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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

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 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
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Lotfi Haji, Cameco..... n/a

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David Walker, Walker and Associates..... n/a

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Session Chair: Mike Solohub – Department of Soil Science,
University of Saskatchewan

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

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