

Issues, Options and Concerns at Komoka Provincial Park: Public Participation in the Environmental Assessment Process*

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Abstract

Komoka Provincial Park is a 198 ha recreation class park located 5 km west of London, Ontario. A gravel pit occupies the northern portion of the park. The partially restored gravel pit should be rehabilitated to reintegrate this disturbed landscape into the greater park ecosystem. Development alternatives, including natural succession, rehabilitation with trails and/or an outdoor education centre, an environmental golf course and a campground were assessed via a collaborative approach to park planning and management through the application of a Delphi survey, market analysis and physical constraint analysis.

The future of Ontario provincial park planning and management lies in a set of effective, efficient and fair principles derived from the impact assessment and Delphi survey conducted as part of my research into the issues, options and concerns at Komoka Provincial Park. The proposed principles are intended to facilitate collaboration among the public and private sectors. While recognizing and incorporating the linkages between the abiotic, biotic, cultural and energetics ecosystem components within the greater park ecosystem, the principles provide the fundamental foundation upon which project alternatives can be generated and assessed against ecosystem integrity.

The adoption of the proposed principles for ecosystem-based planning and management presented in my study will ensure the creation of a management plan that contributes to the environmental, social and economic well-being of the Komoka Provincial Park greater park ecosystem through the sustainable development of the gravel pit property. These principles will ensure that humans are viewed as part of the ecosystem and will safeguard ecosystem integrity through the recognition of linkages between greater park ecosystem components. Reintegrating disturbed landscapes and the monitoring of new developments within Komoka Provincial Park will benefit the community through the creation of partnerships for the long-term sustainability of the greater park ecosystem for both present and future generations.

Introduction

London, Ontario, the "City in a Forest", has been subject to rapid urbanization (Pierson 1984). It is important to manage for ecological integrity in parks and protected areas in the vicinity of London, including Komoka Provincial Park. Managing for integrity is accomplished by protecting total native diversity (species, populations,

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ecosystems) and the ecological patterns and processes that maintain that diversity (Norton 1992). More precisely, ecosystem integrity can be defined as, *...a state of ecosystem development, optimized for its geographical location. Integrity will imply the continued development of the ecosystem in the face of present and future land use pressures and the assessment of ecosystem structure and function with sufficient grain and extent to accommodate for human-caused stresses. Any exhibited stress that exceeds the system's ability to maintain a naturally developing system must be considered a sign of impaired integrity that will threaten the overall integrity of the Park* (Kay 1997).

Although London contains approximately 160 parks within city limits (Pierson 1984), it does not have a provincial park within the city. Komoka Provincial Park is located approximately 5 km west of London. This 198 ha recreation class park serves London citizens with the opportunity to hike, mountain bike, or horseback ride through a Nature Reserve along the south side of the Thames River (Klinkenberg 1985).

The northern portion of the park, separated from the south by the Thames River, is a 90 ha partially rehabilitated gravel pit. Many recreational themes exist for the rehabilitation of this site, such as angling, canoeing, hiking, picnic areas, outdoor education, horseback riding, mountain biking, cross-country skiing, camping and golfing. These recreational themes can be incorporated into project alternatives with a central theme of ecological rehabilitation for the gravel pit property.

Research Goal and Objectives

The goal of this research was to direct research toward determining the advantages and disadvantages of the rehabilitation alternative, thereby contributing to the environmental, social and economic well-being of Komoka Provincial Park through the sustainable development of the gravel pit property.

The underlying objectives of my research include:

- to involve local citizens and create partnerships through a Delphi survey and rehabilitation efforts;
- to ensure that rehabilitation of the gravel pit property provides continuing availability and protection of natural resources and recreation within Komoka Provincial Park and the greater park ecosystem;
- to improve the landscape aesthetics and recreational use opportunities of the gravel pit by recommending the most appropriate rehabilitation alternative based on public values and perceptions of outdoor recreation and natural areas; and,
- to assess project alternatives against a designated set of socio-economic and ecological valued ecosystem components (VECs) to determine to the most socially and environmentally sustainable recreational development for the gravel pit property.

Overview of Methodology

Development alternatives, including natural succession, rehabilitation with trails and/or an outdoor education centre, an environmental golf course and a campground

were assessed via citizen participation or a collaborative approach to park planning and management through the application of a Delphi survey, market analysis, and physical constraint analysis.

Results of Impact Assessment

The assessment of project alternatives against the Delphi survey results, market analysis and physical constraints analysis clearly indicates that ecological rehabilitation with trails and boardwalks with an educational theme is the best development alternative for the Komoka Provincial Park gravel pit (Table 1). This project alternative allows for the reintegration of the natural environment into the greater park ecosystem while contributing to the maintenance of ecological integrity in Komoka Provincial Park. This alternative also falls within the classification of an Ontario recreation class park.

Collaborative Approach to Park Planning and Management

A significant aspect of the study involved proposing a set of ecosystem-based principles for park planning and management that encompassed public participation or collaboration. Collaboration can be defined as decision-making that encourages "joint decision-making in policy development, strategic planning, and program/service design, delivery evaluation and adjustment" (OMNR 1995). Conflict between active stakeholders may be eliminated early in the decision-making process because those with a vested interest in a project share a common vision, power, ownership and risk.

Proposed Principles for Ecosystem-Based Park Planning and Management

The following proposed principles are intended to represent a fair, efficient and effective process for an ecosystem approach to park planning and management. A strong emphasis has been placed on public participation, identified from the Delphi survey.

- Public participation and local knowledge are key in the ecosystem approach to park planning and management. Human values play a dominant role in the development of ecosystem management goals and should not be regarded as less important than scientific knowledge (Grumbine 1994).
- Collaborative partnerships between those with a vested interest and government share a common vision, power, ownership and risk.
- Human values and perceptions are important components of the ecosystem approach. An honest effort is required by project stakeholders to gain an understanding of this valued ecosystem component.
- Humans are embedded in nature (Booth and Kessler 1996; Grumbine 1994). From an ecological perspective, this means that "people cannot be separated from nature and are the fundamental influences on ecological processes and are in turn affected by them" (Grumbine 1994: 31).
- A systems perspective is necessary for ecosystem planning and management. A systems approach recognizes that the greater park ecosystem is a complex assemblage of interdependent, interacting components and hierarchical levels whereby everything is connected to everything else, socially, economically and ecologically with inputs from both human values and sci-

Valued Ecosystem Components (VECs)	Project Alternatives				
	Natural succession (do nothing)	Ecological rehabilitation with multi-use trails and boardwalks	Ecological rehabilitation with multi-use trails and boardwalks with an educational theme	Audubon environmental golf course	Tenting campground
Abiotic Environment					
Air Quality	~	~	~	-	-
Geology	~	~/-	~/-	-	-
Soils	~	~/-	~/-	-	-
Wetlands (drainage)	+	+	+	-	-
Watercourses	+	+	+	-	-
Earth Berms	+	+	+	+	+
Biotic Environment					
Vegetation Composition	+	+	+	+/~	-
Wildlife Habitat	+	+	+	-	-
Landscape as a Natural Resource	+	+	+	-	-
Vegetation Succession	+	+	+	-	-
Critical Habitat Areas	+	+	+	+	+
Wildlife Movement Corridors	+	~/-	~/-	-	-
Cultural Environment					
Landscape Aesthetics	+	+	+	~	~/-
Community Character	+	+	+	~	~/-
Local Economy	-	-	+/-	+	+
Demographics (Baby Boomers)	~	+	+	+	+/~
Environmental Education	+	+	+	+	-
Community Vision, Values	+	+	+	~	~
Energetics					
Energy Flows	+	+	+	-	-
Nutrient Flows	+	+	+	-	-
Ecosystems Integrity	+	+	+	-	-
Recreation Park Classification	-	+	+	+	+

+ positive impact

- negative impact

~ neutral or no impact

Table 1: Impact Assessment Summary

entific knowledge (OMNR 1994; RCFTW 1992; Slocombe 1993).

- A transdisciplinary approach to planning and management in the environmental assessment process will ensure that social, economic and ecological components are given equal consideration in addressing proposed rehabilitation alternatives that will facilitate long-term management and sustainability.
- Evaluating the degree to which institutions or processes take or facilitate using an ecosystem approach will allow the formulation of consistent goals and objectives across disciplines, organizations, and departments (Slocombe 1993).
- Inter-agency cooperation between different levels of government, the private sector and non-government organizations will reduce conflict during the decision-making process and facilitate the implementation of recommended alternatives.
- The ecosystem approach employs multidisciplinary data collection, including monitoring, on past and present system state, behaviour, and functioning (Slocombe 1993).
- Adaptive planning and management is based on the collaboration of interest groups, the identification of shared values, continuous learning, and continuous evaluation and modification (Trist 1980). As such, it is an open-ended process that will cope with the uncertain, the unexpected, and the unknown (Holling 1978).
- Interdisciplinary teams (scientists, managers, policy makers, and others with a vested interest) are the crux of adaptive management and should be encouraged to participate in the environmental assessment process.
- Monitoring will be conducted for these reasons:
 - (1) to assess general environmental conditions; (2) to establish environmental baselines, trends and cumulative effects; (3) to document environmental loading, sources and sinks; (4) to test environmental models and verify research; (5) to determine effectiveness of environmental regulations; (6) to educate the public about environmental conditions; and, (7) to provide information for decision-making (Mitchell 1997: 261).*
- Planning and management decisions will comply and adapt to existing plans, policies and regulations.
- The new paradigm of ecology will be adopted whereby systems can: be open; be regulated by processes arising outside their boundaries; exhibit multiple equilibria or end points; have multiple and probabilistic succession; be subject to natural disturbances; and, incorporate humans and their effects (Pickett and Parker 1995).
- Social, economic and ecological functional data collection is necessary to manage a greater park ecosystem.
- Ecological boundaries are not arbitrary lines drawn on a map. Information regarding watershed, bioregion and ecosystem-based management units will provide the definition for the greater park ecosystem boundary.
- Managing for ecosystem integrity will involve protecting total native diversity and the ecological patterns and processes that maintain that diversity (Grumbine 1994).
- Native species should be used to preserve integrity in any rehabilitation or restoration project.

Summary

Public participation in the decision-making process at Komoka Provincial Park is key to providing the public with desirable recreation development. A collaborative process will allow those with a vested interest to guide new developments in Komoka Provincial Park through their direct involvement in establishing park planning and management documents. The proposed park planning principles will ensure that humans are viewed as part of the ecosystem and will safeguard ecosystem integrity through the recognition of linkages between greater park ecosystem components. Reintegrating disturbed landscapes and the monitoring of new developments in Komoka Provincial Park will benefit the community through the creation of partnerships for the long-term sustainability of the greater park ecosystem for both present and future generations.

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