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513 NORTH PARK
INDIANA UNIVERSITY
BLOOMINGTON, IN 47408-3895 U.S.A.



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# WATERTON LAKES NATIONAL PARK

## MOVING TOWARDS ECOSYSTEM MANAGEMENT

Dolan Biel
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## INTRODUCTION

Protection of old growth forests along British Columbia's coast, expansion of the Celgar pulp and paper mill near Castlegar, diseased bison and Wood Buffalo National Park, and a solid waste disposal site in Toronto's Rouge Valley are but a few examples of resource and land use issues that have escalated from regional concerns to provincial or national issues. Often one side of the debate advocates that the solution is the establishment of a wilderness area or a park. The Wood Buffalo and Rouge Valley examples, however, show that protecting a core area of land in itself is not the solution. The debates then move on into arguments filled with popular terminology including regional integration, threats, sustainable development (World Commission on Environment and Development 1987), and ecosystem management. Solutions appear to be elusive and parties to the issues feel that in the end what they value has been eroded or unnecessarily compromised.

Approaches to land use issues reflect positional and principled negotiation strategies (Fisher and Ury 1981) with positional strategies reacting to threats and principled strategies adopting a proactive approach which attempts to resolve the issue within a regional context. Slocombe and Nelson (cf 1990) elaborate on regional integration in the context of protected areas referring to it as a human ecological approach emphasizing resource flows, perceptions, attitudes and values.

This paper will explore a variety of regional integration strategies that are being used to address the protection of the Waterton Glacier International Peace Park. Waterton Lakes National Park and its relationship with adjacent lands in the south west corner of Alberta will be emphasized.

## WATERTON LAKES NATIONAL PARK

Waterton Lakes National Park was first protected as a forest reserve in 1895 and subsequently proclaimed as a national park in 1911. It is regarded as Canada's fourth national park. Seel et. al. (1984) describe the park resources in detail noting that it is less rugged than other parks in the Rocky Mountains and that exceptional biodiversity is a result of the meso-climate and interface of the prairie and mountain biomes. Being only 525 square kilometres in size and located in the immediate south west

corner of Alberta, protection of many park resources is dependent on land use on adjacent lands in Alberta, British Columbia and state of Montana.

As a result of the advocacy of Rotary Clubs in Montana and Alberta, Waterton Lakes National Park was joined with Glacier, the neighbouring American national park in Montana, as the world's first international peace park in 1932. Although the Peace Park was dedicated to the peace and. friendship the two countries share, it has grown to represent how countries can work co-operatively, yet differently, to protect natural resources and wilderness values. The much larger American park is one of the United States' premiere wilderness parks and includes some of the best hiking opportunities in the "southern 48" and the internationally famous Going-to-the-Sun parkway.

Adjoining the park on the west at the Great Divide is the Akamina Kishenina Recreation Area, a proposed provincial park in British Columbia. To the north of Waterton is the Castle River region of Alberta's Rocky Mountain Forest Reserve and to the east lie privately held ranch lands and the Blood Indian timber limit.

Glacier and Waterton Lakes were designated as biosphere reserves under the UNESCO Man and Biosphere programme in 1976 and 1979, respectively. A variety of land uses, often described as threats to the ecological integrity of the parks, exist around the periphery of each park (Boyer 1987: Van Tighem 1990). These threats include logging, gas and oil development, road proposals, predator control, poaching, and subdivision and development of private lands.

## REGIONAL INTEGRATION VERSUS REACTION TO THREATS

Over the past decade, managers of protected areas have realized that encroachment by incompatible land uses on adjacent lands is the largest single threat to the protected area's ecological integrity (Fay 1981; Slocombe & Nelson 1990; Zinkan, et. al. 1990). When considering the impact of adjacent land uses, the size of the protected area is often cited as a critical factor. The perception being the smaller the protected area, the greater the need to address adjacent incompatible land uses. Although large protected areas may be less impacted by adjacent land uses, size is not a guarantee of adequate protection e.g. ranching interests and Wood Buffalo National Park. In the case of Waterton Lakes National Park, the International Peace Park constitutes a large protected area. The degree of threat faced by the two parks is a function of the number and nature of adjacent land uses, the susceptibility of the actual resources to disturbance, and the configuration of the parks' boundaries.

When dealing with incompatible land uses adjacent to a protected area, proactive and reactive responses emerge. Proactive strategies attempt to establish land use strategies which

recognize the concerns of the protected area and therefore preclude the emergence of incompatible land uses. Reactive strategies attempt to have an established threat removed - the incompatible activity stopped or mitigated. A reactive strategy may be the only course of action available when regional integration forums are not in place or when there is a highly polarized lack of consensus. In the long term, the ecological integrity of protected areas will depend on successful proactive integration of the needs of the protected area in a sustainable regional land use strategy. As Stan Rowe (1990) observed "...sustainability has to be a regional concept, an extended land and water concept involving ecosystem planning. ... Even large national parks have to be maintained as parts of the larger regions that surround them."

**WATERTON LAKES NATIONAL PARK AND REGIONAL INTEGRATION - INITIAL STEPS TOWARD ECOSYSTEM MANAGEMENT**

In Waterton Lakes National Park the prairies sweep to the base of the mountains. The inherent values of the landscape and some of the park's natural resources simply transcend park boundaries. The inter-relationship of Waterton Lakes National Park and surrounding lands has long been recognized.

The 1932 International Peace Park designation was a significant and symbolic first recognition of the need to integrate park management in a regional perspective. The United States National Park Service and the Canadian Parks Service have continued to work closely together to protect park resources and to provide appropriate services to park visitors. Both park services operate from a common agenda which reflects their similar history and policies. These shared and common objectives enable the two services to function in a supportive manner.

The designation of the two parks as biosphere reserves marked the next stage in regional integration. As a result of the Man and Biosphere programme, actions were taken to better integrate park management concerns with those of neighbouring agencies and land owners. While Glacier focused on integration of research and park management with adjacent government agencies, Waterton Lakes focused on the participation and involvement of local land owners with the park (Cowley and Lieff 1984, Lieff 1985). The achievements of the Waterton Biosphere is well documented (Ibid.) and the programme is often cited as an example of regional integration and local involvement (Slocombe 1990).

The Waterton Biosphere Association continues to be active attempting to resolve transboundary concerns and to promote sustainable ecologically sensitive land use strategies. A number of limitations of the Biosphere programme at Waterton are, however, evident. The Biosphere's focus, a protected core and adjacent lands, is not large enough to address the highly complex interrelationships of various industries e.g. tourism integration

with non renewable resource development, and in turn integration with park protection, etc. Biosphere participants also tend to share common points of view regarding resource protection as compared to having divergent perspectives on land use and associated resource impact.

In addition to the International Peace Park and the Biosphere programme, Waterton Lakes National Park managers pursue a variety of other mechanisms with the intent of having the park objectives recognized in a regional context. These efforts include public involvement in park planning, one on one meetings with land owners, participation at municipal district council meetings, participation in the Prairie Conservation Action Plan (World Wildlife Fund Canada 1989), and liaison with provincial agencies such as the Oldman River Planning Commission and the Department of Forestry, Lands and Wildlife. Generally speaking, these efforts focus on specific issues or industries. Mechanisms to deal with the broader interrelationships and the larger ecosystem remain elusive.

**CROWN OF THE CONTINENT**

In the late 1980's, following a confrontational series of public hearings regarding gas well development on Whitney Creek, north of Waterton Lakes National Park, the provincial Energy Resources Conservation Board (ERCB) indicated its interest in exploring alternatives to public hearings as a means of reaching sound resource use decisions. The ERCB's initiative combined with the support of the Canadian Parks and Wilderness Society, the Waterton Biosphere, the Canadian Parks Services and numerous other groups developed into an initiative in Alberta referred to as the Crown of the Continent. Similiar initiatives using the name, Crown of the Continent, are emerging concurrently but somewhat independentally in Montana and British Columbia.

George Bird Grinnell (1901) first used the term "the Crown of the Continent" in reference to the mountain ecosystem extending from the Crowsnest Pass at the British Columbia - Alberta provincial border in the north to south of the Bob Marshall wilderness area in Montana, from the community of Kalispell on the west to the mountain prairie interface on the east. Grinnell recognized that the area was a headwaters of three major watersheds flowing to the Pacific, Hudson Bay and the Gulf of Mexico.

In Alberta, a locally based group of diverse interests has formed the Crown of the Continent Society (Alberta) in attempts to encourage integrated and sustainable land use decisions for the Alberta portion of the Crown of the Continent. Participants in the initiative reflect a spectrum of interests; recreation, conservation, industries, and municipal, provincial and federal government agencies.

Given that the Crown of the Continent participants hold often different and conflicting views on land use, the participants adopted a decision making strategy that reflects strategic planning theory (Duncan 1989). A common basis of understanding was developed by describing a vision for the ecosystem and a series of value statements. The vision articulates local co-operation and the preservation, wise use and restoration of the natural environment. The values outline enduring ideals and shared beliefs that will guide decisions in reaching the vision.

Crown of the Continent - Vision Statement

"To guarantee to future generations of all living things a masterpiece of nature, known as the Crown of the Continent, through a locally based co-operative approach which will ensure the preservation, wise use and restoration of the natural environment and the well being of area communities."

Crown of the Continent - Values

A co-ordinated approach to all planning and use of Crown of the Continent resources.

A protected and preserved central core with an adjacent carefully managed zone of co-operation.

A guarantee for future generations.

Empowerment, involvement, and support of residents of the Crown.

Economic development which is sustainable - a healthy economy and a healthy environment are inextricably intertwined.

Awareness and understanding of the Crown among all parties.

Wise use and enjoyment of the Crown's natural and cultural resources.

The Crown of the Continent initiative is still in a early formative stage but offers one avenue for sustainable ecosystem management. Its promise lies in its diverse membership and the fact that it will attempt to address a large, ecologically definable area.

## ELEMENTS THAT WOULD LEAD TO A SUSTAINABLE STRATEGY

Analysis of the International Peace Park, the Waterton Biosphere, and the Crown of the Continent initiative, identifies a number of elements which are important to success and this in turn indicates some prerequisites for a sustainable ecosystem management approach.

### local initiative is essential

The International Peace Park, the Waterton Biosphere, the Crown of the Continent and other notable designations dealing with land use decision making such as the Greater Yellowstone Ecosystem Coalition, and joint management regimes associated with Indian land claims in Canada's north, all share a common base - local concern, initiative and involvement.

### all sectors must be involved

The Waterton Biosphere and the Crown of the Continent initiative differ from other forums such as environmental lobby groups in that they encourage the involvement of all sectors concerned with land use.

Experience with both the Crown and the Biosphere, however, shows that the difficulty of getting critical sectors involved must not be underestimated. Some agencies may not be permitted to participate or, because of the focus on local representation, some industry representatives may be reluctant to participate regarding themselves as non residents. Individual residents may be too busy or not interested enough to become involved.

### regional integration rather than reaction to threats

"An approach to solving park management problems through regional integration contrasts with approaches that focus on better defending a park in face of identified threats" (Slocombe and Nelson 1990).

The concept of a threat is a relative one with the definition of threat being dependent on a particular point of view e.g. Agriculture Canada's position regarding bison disease in Wood Buffalo National Park. Furthermore, when discussing threats to wilderness, the discussion focuses on impacts on the protected areas and often ignores the impacts of protecting an area on adjacent lands. For instance, by restricting development in a park, accelerated and less controlled development may occur on adjacent lands.

Fisher and Ury (1981) in Getting to Yes describe two strategies for conflict resolution. Positional strategies based on reacting to threats, will by nature be confrontational and therefore limited in effectiveness if the long term objective is a framework for making mutually beneficial decisions. Principled

strategies, which attempt to seek resolution in a broader regional framework, will establish trust and thereby present the foundation for ecosystem sustainability. Principled strategies also provide a framework for aligning the individual's right to use privately held lands or resources with the broader interests of society.

sustainable development models are becoming increasingly complex

Layers of complexity are introduced as the interrelationships of issues, resources and natural processes become better understood and as the geographic boundaries of the area of concern expand. The Crown of the Continent is addressing a larger geographic area than is the Waterton Biosphere and consequently will have to be more complex in order to cope with a more diverse range of issues and stakeholders. Dealing with this complexity will be an evolving process. For this reason the Crown of the Continent Society (Alberta) will initially focus on issues within the Alberta portion of the "Crown" as compared to the entire ecosystem.

Strategies based on sound vision and values

Often strategies and plans tend to view an ecosystem and concepts such as wilderness as static and lasting. Global environmental changes and shifts in population demographics are going to have profound influences on any ecosystem. A vision of the ecosystem in the future must, therefore, be articulated and set in a context of existing and anticipated trends.

The Crown of the Continent initiative shows that a common basis of understanding can be developed around a conceptual vision for the ecosystem. A series of statements of values is another step in creating a basis of common understanding and trust. The vision describes a sense of the future and the statements of values outline enduring ideals and shared beliefs that will guide decisions to reach the vision. A basis is thereby created for principled, rather that positional, discussions.

Once a vision and values have been articulated, strategic objectives which target the vision and reflect the values can be developed. The Prairie Conservation Action Plan is an example of how a variety of interests in a voluntary framework can then develop actions (goals) which in turn contribute to achievement of the broader objectives.

traditional government organization and scientific specialization will have to be realigned

Integrated resource or ecosystem decisions often do not align with traditional government organization and scientific specialization. Each industry or government agency hires specialized staff: lands administrators, foresters, park managers, fisheries biologists, agricultural specialists, etc.

Each "specialist's" interpretation influence and may restrict their organization's perspective at a time when sustainable land use strategies require understanding and integration of diverse factors. Universities are starting to restructure curricula in this regard and the concept of a conservation biologist as a sustainable resource manager is emerging. Change in industry organizational structures is occurring to some degree but the inherent jurisdictional perspective of government departments suggests that government restructuring will be difficult and slow.

**information needs to be readily available and integrated**

Debates over land use are frequently aggravated by the fact that hard environmental information may not be available and potential impact is often described in subjective rather than scientific terms. Chase (1987) points out that in order for data to be accepted by all parties, the data must be available to all and have been presented in a forum which provides an opportunity for peer critique. Slocombe and Nelson (1990) extend the requirements of data further, pointing out that "regional integration requires study of resource flows and perceptions, attitudes and values."

The need for fair and ready access to resource information and modelling by all parties involved in the management of the Crown of the Continent was recognized by Darrow et. al. (1990) who advocate the establishment of an ecological data centre as an integral component in management of the Crown of the Continent ecosystem.

**political leadership in the form of legislation will be required**

The Waterton Biosphere Association and the Crown of the Continent Society rely on volunteer co-operation and influence and as outlined, this local initiative and involvement is an essential component in ecosystem management. Fundamentally, however, ecosystem management involves co-ordinating land use. Consequently, land use legislation and integration of industrial and government processes will be required. Legislative commitment is essential as are the involvement and support of elected representatives and associated bureaucrats.

**Education**

A focus of both the Waterton Biosphere and the Crown of the Continent has been the need for communication and educational strategies. Both initiatives have recognized that the degree to which an area will proceed with sustainable land use decisions will, in part, be dependent on the population's understanding of an ecosystem and its resource interrelationships. The Waterton Biosphere has participated in curriculum development, public presentations, non personal educational media and school field programs. The Crown of the Continent initiative with the support

of the Canadian Parks and Wilderness Society and Shell Canada has developed an information video as an essential first step in public awareness.

**Research**

A strength of past Biosphere initiatives has been the undertaking of a variety of research initiatives e.g. land clearing, production of pasture crops, and elk population dynamics. In addition to undertaking the research, the Biosphere has provided opportunities for local residents to be involved in the actual conduct of it.

Experience in Waterton and other biosphere reserves indicates it is relatively easy to address obvious and short term research requirements. Maintaining ongoing research initiatives and defining a role as an ecological benchmark for monitoring change are, however, more difficult and require long term direction in the form of a research strategy, money and manpower.

**CONCLUSION**

In summary, the objectives of the Waterton Glacier International Peace Park require the development of mutually supportive land use strategies on adjacent lands. These efforts have become increasingly complex, evolving towards a framework for ecosystem management. Eleven elements that contribute to ecosystem management have emerged as components of such a framework; local initiative, involvement of all sectors, a strategy of regional integration rather than reaction to threats, the need to cope with increasing complexity, strategies based on a vision and values, realignment of traditional organization and scientific specialization, readily available and integrated information, political leadership, education and a research strategy.

The Crown of the Continent initiative offers a framework for sustainable ecosystem management. Its promise lies in diverse membership and the fact that it will attempt to address a large ecologically recognizable area.

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