

Parks and Protected Areas – Integrating the Ecological, Social and Economic Context in Land Use Planning – Lessons From British Columbia*

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Abstract

British Columbia's recent work to double the park and protected areas system provides valuable insights into the application of ecological principles in public choice over the creation and management of a new protected areas system. Land use planning undertaken by planning teams (tables) made up of representatives of key local stakeholders and community interests, working with government agencies, are the primary mechanisms to select new protected areas. The tables are provided with technical information and analyses and terms of reference. They are guided by terms of reference based on government policy and overall goals – which includes the Protected Area's Strategy. The planning tables have often achieved consensus but in so doing, they have often adapted existing policy and practice to achieve their particular objectives. The results have been substantial increases in protected areas representation in most ecosystems but there continues to be strongly stated public preference toward selection of large, wilderness areas as contrasted to small representative areas.

Introduction

British Columbia (BC) continues to be in the midst of changes to land use and management practices that are of historic proportions. This paper presents a brief introductory overview of the work presently underway in BC to double the parks and protected areas system in the province. The paper considers the historic and current forces that have shaped the initiative and the current situation. A particular focus is the interplay at open land use planning tables where professional staff and public stakeholders are working to apply scientific classification systems and concepts based on conservation biology and using technical information. In an example from one part of the province, some of the principal inter-connections and resulting conclusions are presented. The paper ends with a brief consideration of implications for future research.

Background: Recent Trends in Parks and Protected Areas Establishment

The park and protected areas system in BC has grown since the early seventies to become the largest system of its kind in Canada (Figure 1). In particular, the system has grown substantially since 1990 and now covers 10.6% of the

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A number of maps are used to illustrate the text. These were originally in colour and have not reproduced well. Copies of the maps can be obtained from: British Columbia Land Use Coordinator Office, PO Box 9426 Stn Prov Govt, Victoria BC, V8W 9V1.

province. As with many of Canada's parks, this initiative is based on achieving the twin goals of: 1) representation of elements – typifying the more than 110 eco-sections and the 16 biogeoclimatic zones described in the province (Lewis and Westmacott 1996); and, 2) protection of significant natural features. As Figure 1 illustrates, the level of representation afforded by the new additions, as measured in simple area coverage and in biogeoclimatic zone representation, has significantly altered the nature and balance of the system throughout the province. However, there are constraints on the system including: 1) public support for the previously existing non-representative areas; 2) public choice over which new areas to designate; 3) the complex nature of the interplay between BC biota and physiography, and in particular the mountainous nature of the province; and, 4) the establishment of a set target of 12% for this expansion. These constraints have resulted in a system which will not be equally representational of all features. This is leading to some continuing criticism about the application of these goals. This notwithstanding, all analyses demonstrate substantial positive changes in the system with many additions of significantly under-represented ecosystems and special natural features in every region.

In order to fully comprehend this situation, it is important to know that the nature, location and size of the new protected areas have been substantially determined by the province's strategic land use planning program. Beginning in the early 1990s and continuing today, this is a program that is driven by public representatives. Initially, three regions and two sub-regions were established. Experience gained in this led to adjustments in 1995 which are reflected in the current program covering an additional 16 sub-regions. In total, land use plans are now approved or under development for more than 80% of the land area of the province (Figure 2). A cabinet approved schedule is in place to complete the strategic land use plans for all sub-regions by early in the next century and plans have also begun for substantial marine components.

While land use planning, and in particular the work to "complete" a system of protected areas, was initially the centre of much public attention, other key initiatives are closely tied to this and have had significant impact on both ecosystem conservation and resource industries. These include: the preparation and implementation throughout the province of a new Forest Practices Code; the analysis by the Chief Forester of timber supply on all Crown forests and the re-setting of all Annual Allowable Cuts; the commencement of treaty negotiations with First Nations who claim title to much of the province; and, the establishment and funding of Forest Renewal – and now also, Fisheries Renewal – to assist and direct resource industry and labour transition in the face of environmental and economic forces.

In short, BC is in the midst of a complex and demanding process of change in the way in which all its natural resources are allocated and managed. It is a change that has impacted every community and continues today. The resulting changes to both protected areas and the management of surrounding lands move the province toward a more ecologically sustainable model for resource development. In the next sections, the issues of the forces and the practices that are driving these changes are briefly considered in terms of their implications for protected areas today and the challenges for the future.

Figure 1a: Ecosections of British Columbia – Percent Protected 1970
(Reproduced from colour original.)

Figure 1b: Ecosections of British Columbia – Percent Protected 1980
(Reproduced from colour original.)

Figure 1c: Ecosections of British Columbia – Percent Protected 1991
(Reproduced from colour original.)

Figure 1d: Ecosections of British Columbia – Percent Protected 1998
(Reproduced from colour original.)

Figure 2: Strategic Land Use Plans in British Columbia as of January 28, 1998
(Reproduced from colour original.)

The Reasons for Growth in Protected Areas

The forces which have combined to drive this historic growth in the park and protected area system of BC have been presented elsewhere (e.g., Thompson 1996). In summary, they include the following:

- **Historical Roots:** A century of continuous and increasingly frustrated public debate about government policies concerning industrial allocation of natural resources.
- **Options:** BC has some of the most significant relatively unutilized large natural areas remaining in temperate regions.
- **Increased Competition:** With population increases and increased resource utilization, the limits to both the available resource base and wilderness areas became clear.
- **Public Advocacy:** Public advocates brought international focus and leadership to intense debate about protection of world class resources, with a focus on old growth forests.
- **Uncertainty:** The resulting valley by valley clashes, demonstrations and illegal acts caused investment uncertainty and community instability because of BC's dependency on vulnerable export markets.
- **Public Consensus:** A clearly stated need for change was endorsed throughout society – radical solutions were acceptable.
- **Political Leadership:** A new government set an agenda for long-term change and drove those changes purposefully.

Parks and protected areas played a central role in both shaping and being shaped by these forces.

Historically, parks were designated primarily on the basis of advice from technical staff with a small amount of public consultation. This has all changed. Public debate about the establishment of new protected areas has precipitated a number of the changes in the decision-making process in BC which provides useful lessons to resource managers and decision-makers elsewhere. However, it must be re-emphasized that protected area designation is only one part of the intricate interplay of issues and responses.

Over a period of a decade, as conflicts rose to a crescendo by 1990, governments and resource managers came to understand more clearly that Canadians place a high – perhaps even a paramount – value on the protection of our natural legacy. This value has been increasingly influenced and informed by growing scientific knowledge and models about the principles and practices of ecosystem management. However, we also have learned that this science can never be considered as absolute or the resulting concepts seen as inviolable in the intense societal debate about which areas to protect and why.

In order to make effective resource management decisions it is now necessary to understand the forces and inter-relationships between conservation science and resource management practice on the one hand and the social, cultural and economic forces in society as a whole on the other. As society has become concerned with, and intimately involved in, resource management, so too must the professional resource manager and the elected official grapple with how to manage and direct the interplay of these forces and to understand the new roles they are expected to play.

There has been intense pressure everywhere for decentralization of decision making and public empowerment. The public has become far better informed about and involved in decisions that have provincial, national and international implications. As BC's First Nations become involved in these debates, the pressure for decentralization is enhanced. This fundamentally alters the way in which the traditional elites in society – academics, resource managers, company presidents and provincial premiers can wield their influence.

As a result of these forces, it was apparent in BC by 1992 that "(the) public and private interests had converged in seeking government leadership and advocating for a land use plan to be developed through open, community based public involvement of all stakeholders in land and resources" (Thompson 1996). It is this process and the lessons learned for parks and protected areas which is the focus of the next section.

Land Use Planning and Protected Areas Establishment

Recognizing the forces discussed in the previous section, BC adopted a radical approach to resolving this issue involving the following:

- A new land use plan for the entire province by early in the next century.
- Planning to be done by roundtables of public and resource managers, sharing decision-making advice with cabinet, and working on a consensus-seeking model.

- A target to double protected areas by 2000 based on the goals of ecosystem representation and special features protection.
- A new forest sector strategy based on renewing the resource and the industrial sector; setting new sustainable annual allowable cuts; encouraging industry employment adjustment and transition; and establishing a new Forest Practices Code.
- Commencement with the federal government on a treaty process with all First Nations.

A crucial first step in land use planning was to make an external body—the Commission on Resources and the Environment—responsible. The Commission was established in 1992 and took the first radical and unpopular steps that permitted the government to subsequently learn from and adapt experience for application to the entire province and eventually replace the Commission with a government led process.

For parks and protected areas the impact has been dramatic. In open, balanced community processes the public has for the first time directly determined the size, location and boundaries of new protected areas. Debate at the planning tables also has provided a forum to resolve conflicting values. The results are very powerful. Government has not once changed the basic recommendations of a public consensus recommendation from any planning tables. The implications for resource scientists and professionals are profound.

The planning tables have provided recommendations on which new areas to protect. They are guided by systematic, science-based analysis provided by resource managers for all 112 provincial ecoregions and the gaps in current representation. The professionals also provide information to the tables on which areas are considered best candidates to achieve the goals of representation and feature protection. It is the public tables that then select the areas to be proposed to government as new protected areas. In so doing they provided insights into: the relevance and application of the emerging principles of conservation biology; the relevance of economic impact analysis; and the current models of professional park and protected area stewardship. There have also been many lessons on effective process management along the way.

Lessons from Land Use Planning

In 1992, the province commenced three regional plans, by 1998 decisions had been made and implemented. Six sub-regional plans had also been completed, approved and implemented. New plans were underway in a further 12 sub-regions (Figure 2). With 80% of the province now in planning, it is possible that the processes can be completed on schedule by early next century.

For parks and protected areas we have learned:

1. The Protected Areas Strategy policy set is critical to success. However, while working within a strict framework, it is vital to retain some flexibility in application of the strategy.
2. Protected areas issues must be dealt with as part of a negotiated package of land designations and objectives. Dealing with protected areas issues alone results in an imbalance at the negotiating table.

3. The rational science based gap analysis of “representation” informs negotiations. However, public desire for protection of large wilderness areas, as against small representative areas, has often substantially influenced choices at the table.
4. Extremely large and complex wilderness ecosystems, such as those occupied by wide ranging carnivores like wolves and grizzlies cannot be accommodated in their entirety inside even very large protected areas. These ecosystems require other management regimes. The planning tables have proposed a number of innovations to deal with this issue and retain certainty for all parties.
5. Traditional parks agency models of resource stewardship are being outstripped and challenged by a combination of funding shortages, community antipathy to restrictive management, and the need for cooperative management between neighbouring land owners.
6. Application of the current park legislation is being “tested” by the requirement for a limited amount of flexibility in management applications. The planning tables and First Nations have often achieved agreement on protection of areas, so long as certain traditional activities – which are not usual in parks – continue or certain future options remain. This has meant that legislation other than the Park Act has had to be used.
7. Economic impact analyses are completed for every recommendation but in practice these do not often change the recommendations because the knowledge they portray has been implicitly understood and considered by the participants during the negotiations.

On process management we have learned:

1. Consensus processes require major investments in training the participants; preparing the information base before the public table is convened; and providing the appropriate guidance, such as the protected areas strategy, to the tables at the correct time once negotiations begin.
2. Government has to play an equal role at the tables and directly manage the process toward completion. To do so, it must proceed in a manner that is not biased or arbitrary and is definitely open to change.
3. The terms of reference for plans must be prepared and signed onto by all parties before planning begins. These ensure a balance of participant interests and potential benefits. All “communities” need to participate and have a stake in the results.
4. The processes must take place at a geographic scale that is relevant to and intimately known by the participants. People who know the resource and the communities are better able to plan than outside advocates and “experts”. For this reason, regional plans in heavily settled parts of the province have not worked as well as sub-regional plans.
5. These are negotiations and to be successful the conditions for effective negotiation must exist. All parties must benefit from the negotiations and have something to lose if they fail.
6. Planning tables can lose contact with the general public and their expectations. If they do, they can be vulnerable to political lobbying. Open, continuous public communications are vital.
7. Involvement of First Nations is of paramount importance. This requires much effort before planning begins and resourcing assistance during the planning.

On decision making and implementation we have learned:

1. Working to a single consensus is far more powerful than the traditional options approach. It is worth struggling to achieve and may take more time.
2. Resource managers will be uncomfortable with the results of public consensus and will seek to change things if they have not been part of the process.
3. The resulting plans must be clear as to intent and objective but open to flexible and practical implementation. It is a significant challenge for public consensus processes to achieve this level of clarity.
4. There has to be sufficient opportunity for continuing public and community oversight and commentary during the implementation phase.
5. Implementation is more difficult and costly than planning and benefits greatly from clear plans and objectives.

The recent completion and announcement of government decisions on the Fort Nelson and Fort Saint John land use plans demonstrate much about the progress being made and provide many lessons and exciting challenges for the future.

Land Use Planning and New Protected Areas in North East BC

Covering approximately one quarter of the province, the northeast or Omineca Peace region has been the focus of eight distinct sub-regional (LRMP) land use plans (Figure 2). These began in the period 1992-93 and have benefited from the lessons gained through the earlier regional plans.

In 1997, the first planning teams began to reach their conclusions. First in Vanderhoof and then in Fort Nelson and Fort Saint John, the public and inter-agency teams achieved consensus recommendations on complete strategic land use plans which recommend zoning, objectives and broad strategies for all Crown lands in their district. Government has approved these recommendations and anticipates receiving plans from Robson Valley, Prince George, Dawson Creek and Fort Saint James in 1998. As Figure 1 demonstrates, the approved plans have significantly altered the parks and protected areas system. Further changes can be expected in 1998.

Closer examination of the Fort Nelson and Fort Saint John land use plans (LRMPs) provides further insights concerning parks and protected areas.

The Fort Nelson and Fort Saint John Experience

These two sub-regions cover an area of almost fourteen and a half million hectares in the northeast corner of the province. Remote and largely roadless until the Second World War construction of the Alaska Highway, this is a region of BC that is similar to northern Alberta. Its economy reflects the geography. It is based on agriculture in the southern "Boreal Plains"; natural gas exploration and development in a north to south band on the Boreal and the Taiga Plains; forest products in the centre and north; and nature based tourism—especially hunting—in the north and west and particularly in the northern extension of the Rocky Mountains which is an extremely large and remote wild area. Lightly populated, totalling 24,500 (1991 census), the area includes one of the fastest growing populations in the province—Fort Nelson with a population of 5000. Most of these people are dependent on a resource industry for their livelihood.

The Challenge of Land Use Planning

Protected areas issues presented the planning processes with the following challenges:

- The Northern Rockies part of the region is acknowledged by wildlife experts as the most significant wilderness wildlife habitat south of the sixtieth parallel. It is typified by complex predator-prey ecosystems involving grizzly, wolves and large ungulates living in a wilderness condition.
- Geologists estimate this same area to be underlain by possibly several trillion cubic feet of natural gas. However, limited exploration has occurred since there are no roads.
- A similar situation prevails for mineral prospects – some of which are anticipated to be very high.
- Forestry activity is presently situated in the river valleys and plains near Fort Saint John and Fort Nelson. In the future this activity will extend into the Foothill Ranges and the valleys of the Rockies.
- Eco-system gap analysis demonstrated that much of the area of greatest wildlife and wilderness interest in the “Rockies” was already “represented” in several large spectacular mountain wilderness parks – Kwadacha, Muncho Lake, Stone Mountain and Wokkpath – while the Boreal and Taiga plains had little representation and few advocates.
- The guide-outfitting businesses in the region had significant concerns about future extractive resource development – but almost equal concerns about the impact of potential park designation on their hunting business and wildlife management activities. Local elected officials made it quite clear that they were opposed to any provincial parks.
- National and international conservation interests were strongly urging protection of the entire five million hectare Northern Rockies as a centrepiece of the Yellowstone-to-Yukon strategy to provide linkage among the national parks in Alaska, the Yukon and the Canadian Rockies.

Together these factors would usually result in the sort of escalating conflict between the various interests which has been seen previously elsewhere in BC and Canada. The result here, however, was a text book example of consensus public land use planning and was similar to the experience of the Chilko Lake team (1994); the Kamloops LRMP (BC 1995); the Lower Mainland PAS team (1996); and the Vanderhoof and Bulkley (BC 1997, 1998) LRMPs.

The Results – Applying the Lessons from Elsewhere

In a previous section of this paper, some of the lessons from earlier processes were identified. In the northeast, these have been applied to good effect.

1. On Process Organization and Management

- In Fort Nelson and Fort Saint John, two separate local public planning teams worked closely with staff to resolve the park and protected area issues as part of a package of negotiated solutions to all resource zones and objectives.
- Government staff led the two teams and included representatives from local communities, resource industries, agriculture, local conservation groups,

guide outfitters, trapper and others, all of whom know and identify strongly with the area.

- These local residents worked positively with provincial and national public advocates representing various values, who were prepared to sit down and work through issues with them at their community tables.
- The process went through various stages over more than four years that allowed the participants to absorb information and communicate with the general public.
- The province provided resource information and analysis to the table including innovative socio-economic impact studies. In particular the province provided analysis of park and protected area values and, when negotiations bogged-down, gave new policy directions including setting targets for the amount of protected areas.

2. On Protected Areas

- The tables negotiated the location of 31 new protected areas and set their boundaries covering 1.25 million hectares. Their choices amply demonstrate the reality of social choice as contrasted to purely scientific measures of representation. The new protected areas increase representation of many but not all eco-sections; however, they add considerably to representation of the previously well represented areas. This recognizes the great significance of these ecosystems ecologically and for recreation – and especially their wilderness condition.
- The tables reached several unusual “compromises” about protected area values and management regimes that allowed all parties, with the single exception of the mining industry, to agree on all aspects of the plans. The most important of these concessions were:
 - Directional drilling for natural gas was proposed under a number of small new protected areas and around the periphery of several large ones. This pragmatic solution allows some resource development to encourage employment and wealth generation that will offset any loss of development potential in the protected area. This was known to be contrary to strict interpretation of the provincial Protected Areas Strategy, but was justified by the entire table because it can be done with no surface impact and because it will ensure resource revenues which would not otherwise be available. In January 1998 sale of rights under one of these areas realized \$7 million to the provincial treasury.
 - An extremely large Special Management Area covering 3.5 million hectares was agreed to covering most of the area previously advocated as park. This decision recognizes the natural values but also the impossibility of protecting the entire northern Rockies eco-system. A specific plan directs the following: industrial activity will occur subject to further planning to ensure continuing wilderness values; the work will be guided by the direction set by the planning table; and an advisory committee of local people and recognized experts will be established and a special \$2 million trust fund will be formed, outside normal budgets to ensure management of the area.
 - All of this will be legislated in 1998 to ensure all parties observe the terms. This designation and management regime is without precedent in BC, and is quite probably unique in Canada. It is akin to a Biosphere Reserve but with legislated guarantees.

- The new protected areas will be parks but their management must be subject to the agreements established at the land use tables. As a result, both hunting and guide outfitting shall continue within them.
- One new park may, in the future, have an access corridor for mineral exploration. However, this can only occur if an open public assessment process concludes that this is the best option.

It is a significant tribute to the power of consensus achieved by local residents, that the Premier and Ministers accepted the entire land use plan package without changes. In so doing, it was fully recognized that they contain departures from the norm. Perhaps most significantly, local First Nations endorsed the results too and the oil and gas industry voluntarily relinquished tenures in the new protected areas while also agreeing to provide matching funds for ecological research in the area.

Future Challenges Implications for Managers and Researchers

The experience of the past decade in BC clearly shows the power and effectiveness of local stakeholders in decision making and the role that they play in working with experts and specialized knowledge. Although the revolution in resource management in BC is still underway, it seems unlikely that the course of community based strategic planning will be fundamentally changed now. For example, treaty negotiations with First Nations throughout the province will likely add impetus to public, local empowerment, while also changing and re-shaping its nature. Resource managers and politicians also have been challenged by the pace and direction of the changes, and will continue to be stretched to adapt, adjust and respond.

Researchers can help if they themselves are part of the process, understand the currents of change and are able to look ahead and anticipate the choices that must be made. If they do, they will provide useful information, analysis and support for the decisions which must be made.

In the field of parks and protected areas, there are a number of areas of potentially fruitful research that would help managers and decision-makers. On the topic of biological systems, it is clear that the evolution of complex natural inter-relationships is imperfectly understood. Questions remain about the nature of change and the system's sensitivity to and resulting disturbance from various activities. The protected areas and surrounding special management zones, riparian corridors and forest ecosystem networks have been set in place to provide a framework to proactively manage change, often on the basis of relatively little inventory and research. There continues to be significant need for long-term studies of population-habitat interrelationships, particularly as they apply to species such as wolves, caribou and grizzlies. In this regard, the Muskwa-Kechika area will provide an ideal laboratory. The guarantee of funding from government and industry presents an opportunity to develop long-term studies of the area's ecology.

The question is far broader still of course, since we continue to need evidence of whether and how the protected areas and other zones contribute to sustaining biological diversity across the landscape.

Given the effective relationship that has emerged between public perceptions and behaviour in the environment, it might be argued the topic of social and economic values and the interrelationship between humans and environment is a vital research field. There continue to be many fascinating issues which recent experiences raise. For example, what is the role of information from the various educational systems, the media and other information sources, as a factor in the development of public attitudes toward environment? How do local people interact with and form opinions about environment and how might science better inform their opinions? In turn, resource managers need better information and understanding about those relationships so that they can adjust their behaviour accordingly.

Research in resource and environment governance and decision-making models around the world could be valuable in assisting the various parties to understand and direct the evolution in BC toward effective local empowerment in management of the process. At times, the challenge seems to be how to effectively undertake any of this research when the systems being studied are themselves subject to ever-faster change. It may be argued that it is the change itself that might be the subject of attention, while efforts to understand the fundamental processes and forces are also vital too.

What is clear to this author is that research can not simply focus on protected areas or on the established models for protected area establishment. The systems with which we are dealing are large, fluid and constantly evolving. The challenge for researchers is to expand their horizons to keep up with society's needs.

References

- British Columbia, Province of. 1995. Kamloops Land and Resource Management Plan. Victoria.
- British Columbia, Province of. 1997. Vanderhoof Land and Resource Management Plan. Victoria.
- British Columbia, Province of. 1998. Bulkley Land and Resource Management Plan. Victoria.
- Chilko Lake Study Team. 1993. Consensus Report of the Chilko Lake Study Team. Final Report.
- Lewis, K and S. Westmacott. 1996. A Protected Areas Strategy for British Columbia: Provincial Overview and Status Report. BC Land Use Coordination Office. Victoria.
- Lower Mainland Protected Areas Regional Public Advisory Committee. 1996. Recommendations for Finalizing the Protected Areas Strategy in the Lower Mainland.
- Thompson, D. 1996. Sustainable Forest Management and Land Use Planning in British Columbia. BC Land Use Coordination Office. Victoria.