

MANAGEMENT OF A RIVER RECREATION RESOURCE: THE LOWER KANANASKIS RIVER – A CASE STUDY

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Abstract.—This study examined recreational use of the Lower Kananaskis River in Southwestern Alberta, Canada. Surveys and participant observations helped develop a better understanding of current use levels and interviews with key policy leaders explored management issues and concerns. Users suggested the need for improvements to river infrastructure both on and off the river. Policy leaders were more critical of the current management structure of the river than users; they indicated that park management has shown low levels of understanding of – and has been unresponsive to – the expressed needs of both users and community leaders. With the continued growth of the area, new management demands can be expected in the future. To assist in the development of management capability, the research developed an adaptive outdoor recreation management framework.

1.0 INTRODUCTION

The Lower Kananaskis River, located in Kananaskis Country in southwestern Alberta, Canada, is recognized as a premiere whitewater paddling location provincially and nationally. The Lower Kananaskis River provides recreational opportunities for commercial guiding and instructional groups, outing clubs, and public recreation users. The river is also a major source of hydroelectric power for TransAlta Utilities which manages its flow. All of these uses are governed under the corporate umbrella of various governmental, not-for-profit, and commercial groups.

In the summer of 2000, Squires (2001a) undertook a recreational use research project along the Lower Kananaskis River to determine the social carrying capacity of the area. The research resulted in numerous recommendations including: reviewing policies pertaining to guiding and instructional activities; more clearly defining the role of the Lower Kananaskis River Users' Association in river planning and management; developing a comprehensive management plan for the river; and developing management strategies that address multiple goals (Squires, 2001b, pp. 18-23).

Since 2000, Alberta Parks' staff members have noticed increased recreational use of the river and increased pressure on the river resources and day-use facilities (Cockerton, 2005). The identified need for related management improvements led to this research; the purpose of the research was to build on existing management frameworks found in the literature to develop an all encompassing outdoor recreation management framework. Four research objectives guided the investigation of recreational use of the Lower Kananaskis River and its associated day use facilities:

- Review current river use to understand the timing and type of use.
- Understand the experiences that visitors seek in their activities on the Lower Kananaskis River and the ways in which varying uses impact these experiences.
- Determine whether or not the current permitting policy is appropriate.
- Develop management recommendations for managing recreational use of the Lower Kananaskis River in the future.

2.0 KANANASKIS COUNTRY BACKGROUND

Kananaskis Country is a 4,250 km² multi-use recreation area located in the Canadian Rocky Mountains on the western border of Alberta (Alberta Parks, 2004). It is known for its wide variety of vegetation and wildlife, geological formations, diverse terrain and breath-taking mountain scenery (Alberta Parks, 2004). The area has renewable and nonrenewable resources including timber, fisheries, oil and gas development, cattle grazing, and hydroelectric development (Alberta Parks, 2004).

Kananaskis Country attracts many visitors and is an international destination for a variety of outdoor recreational activities (Alberta Community Development, 2006). Due to its close proximity to the major metropolitan area of Calgary and the variety of recreational activities available to visitors, Alberta Parks staff state that the number of visitors coming to the area has nearly doubled in recent years; approximately 80 percent of current use is by day-users (Cockerton, 2005; Alberta Parks, 2004). The use pressure applied to the area's resources has led to a management debate concerning the appropriate amount of use, the protection of the natural environment, and the approach to management.

2.1 Bow Valley Provincial Park

Bow Valley Provincial Park is a 3,200 ha provincial park that serves as the gateway to the Canadian Rocky Mountains in Kananaskis Country (Alberta Community Development, 2002). The park contains many provincially significant natural landscapes and features along with a variety of recreational opportunities and interpretive and educational programs (Alberta Community Development, 2002). Bow Valley serves both day-users and overnight visitors due to its proximity to highways providing easy access to Calgary and Canmore (Alberta Community Development, 2002). The main focus of this research is the recreational use of the Lower Kananaskis River located in Bow Valley Provincial Park and the associated day-use sites of Canoe Meadows and Widow Maker.

2.2 The Lower Kananaskis River

The Kananaskis River flows northward for 84 km from Upper Kananaskis Lake to the Bow River (Bunt et al., 1999). This research occurred on the Lower Kananaskis, a 2-km stretch of the river in Bow Valley Provincial Park. TransAlta Utilities owns and operates three hydroelectric dams along the Kananaskis (TransAlta, 2005), including the Barrier Dam which provides the majority of outflow on the Lower Kananaskis. The controlled flow along the river provides year-round recreation opportunities for many groups, including commercial operators, private users, paddlers' clubs, and other organizations and instructional groups.

Three groups have played key roles in the development of the area and the decisionmaking: the Alberta Whitewater Association (AWA), the Lower Kananaskis River Users Association (LKRUA), and the Bow Valley Provincial Park. The AWA is a "...provincially recognized sport governing body for whitewater slalom, wild water/downriver, and freestyle [which] sets and maintains standards for instruction and development of these activities at all levels" (AWA, no date). LKRUA is a group composed of representatives from government, commercial industry, the recreation community, nonprofit groups, and academic institutions who are dedicated to establishing, maintaining and enhancing use of the water resources and facilities of the Lower Kananaskis River (LKRUA, no date). The third party is the Bow Valley Provincial Park. There is little published information available on the specific duties of each group. In discussions for this research, members of these groups said that it is difficult for the groups to find both monetary and human resources to make changes along the river and to maintain the river area. It has also been difficult for the different groups to come to agreement about specific things that need to be done to maintain the river. The existing river management plan simply states that,

The Widowmaker and Canoe Meadows facilities are very significant provincially and locally for teaching, training, competition, recreational paddling and commercial rafting.

Management concerns include congestion in parking areas, allocation of commercial and noncommercial use on the various sections of the river, maintaining safety and aesthetics. (Alberta Community Development, 2002, pp. 43)

There is no information in the management plan that outlines the institutional structure for managing river recreation activities.

3.0 METHODOLOGY

This study used a mixed-methods approach, combining qualitative and quantitative analysis (Creswell, 2003). The first phase of the research was a review of literature to develop a conceptual basis for the study of recreational use of the Lower Kananaskis River. The second phase involved surveying both commercial and private recreational river users and making on-site observations over a period of 3.5 months. The third phase was conducting interviews with key stakeholders involved in decisionmaking along the Lower Kananaskis River. Survey data were entered into a database and the interviews were transcribed prior to analysis.

River use observations took place between May 16 and September 4, 2006. The observations recorded the number of users (commercial and recreational) entering the area every 15 minutes and the activities in which they were participating. Additionally, surveys were conducted at points along the Lower Kananaskis River between May 28 and September 4, 2006. Of those completed, 262 surveys were deemed complete and usable (149 with recreational users, 113 with commercial users). During this time, seven structured interviews were held with key policy leaders connected to the river and its facilities.

4.0 RESEARCH FINDINGS: RIVER USERS

Most commercial use of the river occurred in July and August, while private recreational use was spread over a wider period from May through September. The majority of commercial users (97.3 percent) were rafting, while the majority of recreational users

(81.2 percent) were kayaking ($p < 0.05$). Commercial users typically went down the river only once (99.1 percent), while recreational users were more likely to make more than one pass (83.9 percent once and 14.8 percent twice) ($p < 0.05$). Commercial users (91.2 percent) were also more likely than recreational users (19.5 percent) to be first time users of the river ($p < 0.05$). The time each group spent on the river also differed; 99 percent of commercial users spent between 1 and 3 hours on the river while recreational use was more varied.

Commercial and recreational users differed significantly in their opinions about the amount of rafting occurring on the river. In general, commercial users focused more at the overall experience while recreational users focused on the river and its features. Commercial and recreational users also differed in how they ranked current management of services and facilities along the river. Both groups gave high marks to the river environment, commercial users emphasized the importance of launch areas, and the recreational users tended to mention the importance of parking. Areas that commercial users believed needed attention were the cleanliness and availability of washrooms, availability of garbage containers, and the availability of river information, maps and guides. Areas that recreational users believed needed attention were the availability of river information, the number of encounters with sport kayakers, the availability of maps/guides, and the number of overall encounters with users while on the river.

4.1 Research Findings: Policy Leaders

Analysis of the interviews with seven policy leaders provided information about a wide range of planning and management issues. The Lower Kananaskis area was recognized as a unique recreational resource with world class potential. Interviewees suggested that the current management regime was effective but outdated in a variety of ways.

Many policy leaders believed that the current recreational facilities were sufficient. Others predicted increasing problems if use levels increase in the future. Those existing problems identified were overall site

design and the need for more parking and washrooms. Other problems mentioned were congestion, high volume, and poor trails, suggesting that the site was experiencing both physical and social carrying capacity issues that needed to be addressed before the site became degraded.

There was also an identified need for more comprehensive and holistic site planning to deal with current and anticipated future problems. Several policy leaders suggested that the entire recreation system needed to be re-evaluated in terms of site planning, use flows, facilities, quotas, and permitting.

From the policy leaders' points of view, levels and types of interaction among the various users of the river were considered appropriate; they tended to think that individuals had adapted to one another and learned to work around each other but there was also some concern that increased future use could create problems that are beyond the capacity of the existing management institutions. There were differing opinions about the level of current use. Most policy leaders felt that the level of current use is acceptable. A few suggested that the use level could be increased, but only with appropriate planning. One felt that the current use level was too high and should be reduced. All of the policy leaders agreed that use level is likely to increase in the future, were concerned about the impacts of such an increase and felt that better planning and management would be necessary to ensure that increased use does not hinder people's experiences.

Several different themes emerged related to management responsibilities. There was a difference of opinion on the effectiveness of the current contracted washroom clearing and garbage collection services; some policy leaders felt that these contractors were doing a good job while others felt that the contractors were doing a bad job. There was general consensus that the provincial government had allocated insufficient funding for this aspect of provincial park management. One possible remedy is to introduce new use fees that would be used for cleaning services and facility maintenance.

There were also major concerns about management effectiveness but, in general, the interviewees were undecided about which management organization or combination of organizations should handle or coordinate different responsibilities. It was also clear that an overall management review is needed to address the many issues raised, including site design, use monitoring, quota enforcement, fees, finance, and policing powers. It is probable that an upgraded arrangement involving the current actor groups would be sufficient if it were established on a firm financial and legal basis. There is also a need to develop a much more effective and interactive system for issuing and monitoring quotas and permits. The implementation of such a system would require enhanced management capability.

Overall, the respondents expressed a guarded approval of the existing system. Discussion of the various identified problems led to the suggestion that a review of the entire management system (related to land, water, and all recreation activities) should be undertaken. However, the current lack of monitoring, the absence of staff, and the inability of policy leaders to point to a clear decisionmaking framework at this park suggests that the current park agency does not have sufficient capability to undertake such a review and to ensure the implementation of recommendations. There was consensus among policy leaders that change was desirable, which indicates a positive political atmosphere in which a full management review can be undertaken.

5.0 DISCUSSION

At a basic level, managers' tools and approaches should be geared towards "... (a) influencing visitor decision processes; (b) controlling visitor behavior; or (c) mitigating the impacts of visitors" (Eagles & McCool, 2002, pp.132). When individuals visit a recreational area or participate in recreational pursuits, managers should focus their attention on the provision of these pursuits and on the potential problems that may come about from these recreational endeavors (Eagles & McCool, 2002). This research found that users generally were satisfied with current

management. Policy leaders were more critical, pointing out many areas in need of improvement, including concern about a lack of management responsiveness and negative outcomes of future increases in use.

It is important to re-emphasize that few of Squires' (2001a) recommendations about the management of the Lower Kananaskis River were implemented; in the present study, policy leaders and some users expressed concern about this. The lack of improvement in management strategies in the intervening 5 years can be seen as an indication of the lack of management capability by the park agency. Therefore, if the recommendations of this current research are to be useful, there is need to improve the park's management framework.

Manning's Outdoor Recreation Management Structure (1999) was used in this research. This management structure has four stages: 1) inventory existing recreation conditions; 2) determine management objectives; 3) develop management prescriptions; and 4) monitor and evaluate success (Manning, 1999) (Fig. 1).

Manning's framework assumes that an organization has the capability to develop and implement management objectives, including monitoring. In this research, it was found that the management organization that did not have the capability to perform these tasks. Therefore, it became important to add an additional component to Manning's framework, a

method of assessing the organization's management capability.

For the purpose of this research, management capability is defined as the ability of an organization to reach its mission and goals; in particular, the organization needs capability in the following areas: 1) staff; 2) staff expertise; 3) budgetary resources; 4) legal effectiveness; and 5) management guidelines. Hockings et al. (2006) suggest that effective management of protected areas requires adequate resources in the areas of human capacity, facilities, information, operational money, and equipment. All organizations especially require sufficient human capacity including adequate numbers of well trained staff persons, both part time and full time (Eagles et al., 2002). Eagles (2003) also provides a list of seven competencies that are required for effective tourism management: 1) understanding the visitors' needs and wants; 2) service quality management; 3) leisure pricing policy; 4) leisure marketing; 5) tourism and resource economics; 6) finance; and 7) tourism management. Some of these competencies may occur centrally and be shared across a park agency while others may occur at the park level. Each situation would need to be evaluated to determine the appropriate amount and location of these competencies.

Appropriate governing structure is also an important prerequisite to good management. Agencies must have the capability to fully utilize the powers derived from the legislation. For example, a park agency must

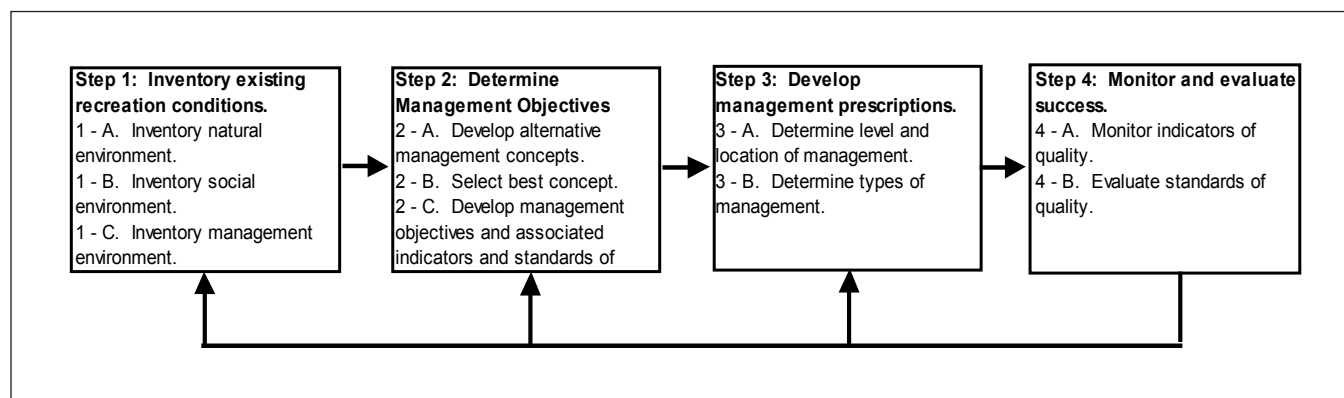


Figure 1.—Outdoor recreation management structure (Adapted from Manning, 1999)

have the power to implement all aspects of visitor and tourism management. A government agency should also have a stated vision that guides actions, perhaps in the form of a management plan. This is a common measure of management effectiveness (Hockings et al., 2006). Therefore, for an organization to have sufficient managerial capability, it requires sufficient numbers of appropriately trained staff, appropriate budgets, a competent legal structure, and a plan.

Realizing the enormous range of management capability occurring within a large agency, Hornback and Eagles (1999) proposed that there are five levels of effectiveness for public use programs. Similarly, we suggest five levels of management capability: 1) initial; 2) basic; 3) intermediate; 4) developed; and 5) advanced (Fig. 2). Within each level of management capability, the subcriteria of staff, staff expertise, budgetary resources, legal effectiveness, and management guidelines can be assessed.

The Bow Valley Provincial Park is currently at the initial level when it comes to staff expertise, budgetary resources, and at the basic level when it comes to staff numbers, legal effectiveness, and management guidelines (Fig. 2). This suggests that the management capability of Bow Valley Provincial Park needs to be upgraded in all five areas.

What might be the most appropriate level of management capability for Bow Valley Provincial Park? At a minimum, the park should have one full-time staff person devoted to recreation and tourism management. This would be capability level 4. This person should have specialized training in recreation and tourism management. This is capability level 5. Funding should be at level 4, which is an adequate amount of monetary resources assigned to the resource and the ability to gain further resources for management needs through the use of petitions. This research is unable to fully assess the legal competence

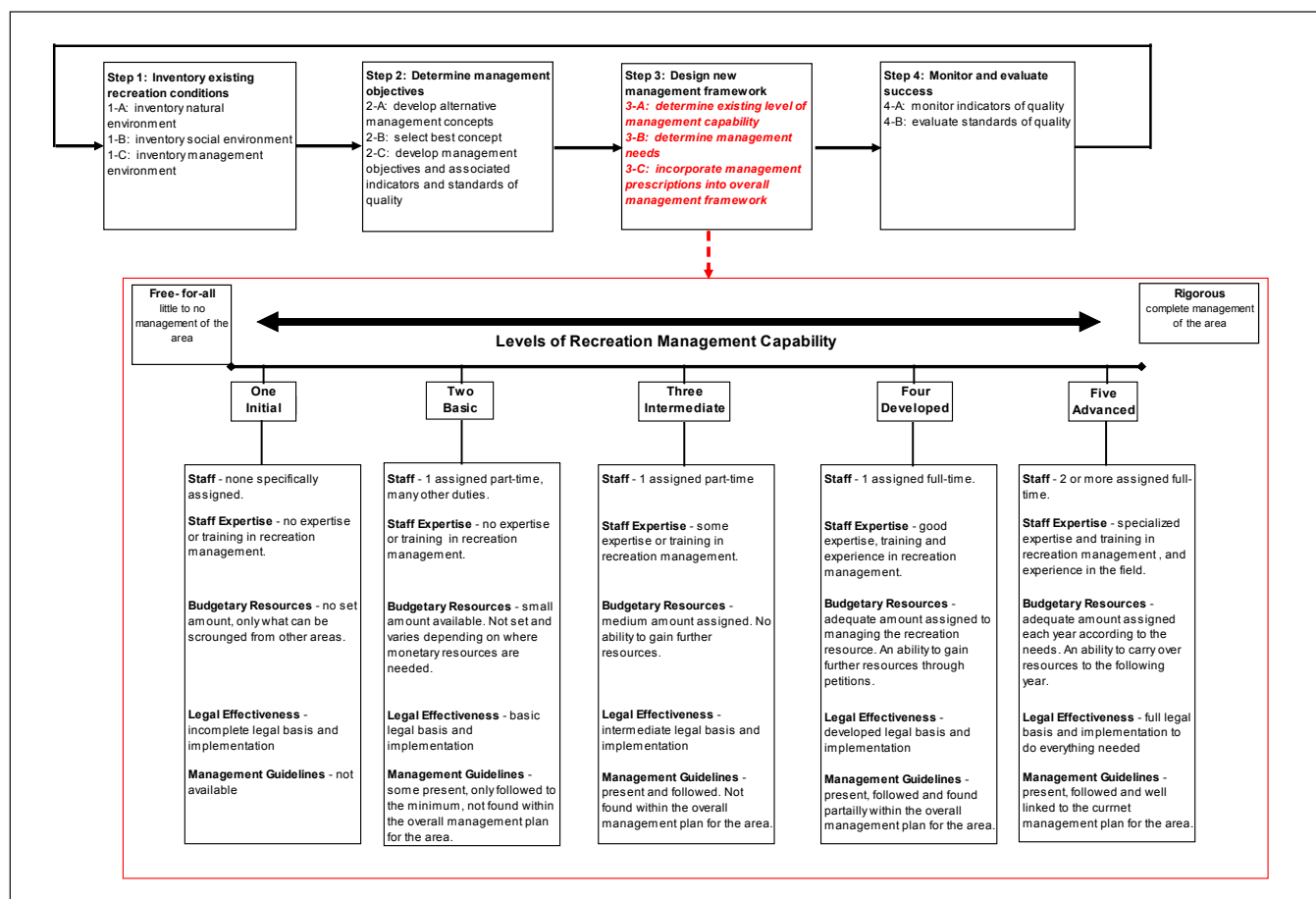


Figure 2.—Revised outdoor recreation management structure (adapted from Manning, 1999, and Hornbeck & Eagles, 1999)

of the Bow Valley Provincial Park but we predict that it is currently at level 5. The management capability for planning should be upgraded to Level 5. At present, the park management plan is deficient in both content and process with regards to visitor and tourism management. Therefore river-based management should be placed into the overall park management plan and should be fully linked to the overall goals of the plan. In this case, with a world class river recreation activity, level 3 is not sufficient; the site requires management capabilities at levels 4 or 5.

The addition of a management capability component to Manning's (1999) overall management framework produces a more comprehensive approach to outdoor recreation management. This new, adapted framework might be useful to other outdoor recreational resources and settings. Use of this framework helps ensure that any organization has the capability to meet the goals and objectives for recreation and tourism.

6.0 CONCLUSIONS

This research examined the type and amount of recreational use of the Lower Kananaskis River, the impact of recreational use on users' experiences, and the strengths and weaknesses of current management structure. Findings include recommendations for more effectively managing recreational use of the river and associated day-use sites in the future.

This research found that the two main user groups, commercial and recreational users, have generally adapted well to each other's activities. The users reported a high level of satisfaction with their experience and the river itself. However, it is anticipated that continued increases in use will begin to create problems with users' overall satisfaction with their experiences. Users recognize the need for better infrastructure both on and off the river. Changes were needed in the parking areas to accommodate all of the vehicles and users, work was needed at the put-ins and take-outs to accommodate the increase in users, and changes were necessary on the river features and at the day use sites.

In interviews, policy leaders emphasized several well known management issues and highlighted problems with the current management structure. Policy leaders were more critical than users of the current management structure; the critical comments from the policy leaders were expected, as they are more aware of the management issues than recreational users. The policy leaders made many insightful comments about the need for management changes; they generally recognized that management has not been responding to the needs of the users and has not implemented recommendations that emerged from previous research.

The major theoretical contribution of this research is the addition of levels of recreation management capability to Manning's (1999) Outdoor Recreation Management Framework. This was done by adapting Hornback and Eagles' (1999) approach of using five levels of public use measurement, in an attempt to develop a tool for assessing and improving management capability.

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