

PUBLIC INVOLVEMENT IN THE DEVELOPMENT OF A
MANAGEMENT PLAN FOR THE MOOSE RIVER ROUTE
REGION OF MOUNT ROBSON PROVINCIAL PARK

by

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ABSTRACT

Recent expansion of the British Columbia provincial park system, combined with static agency funding and increased demand for public involvement, has made it extremely difficult for BC Parks to meet their commitment to a comprehensive public involvement program. To resolve this issue, 3 cost-effective public involvement techniques were selected and applied, using a case study approach, towards development of a management plan for the Moose River Route region of Mount Robson Provincial Park.

The 3 techniques selected for use were semistandardized interviews, opinion questionnaires and a Delphi advisory group. The semistandardized interviews and opinion questionnaires were used to obtain visitor use data and stakeholder opinion on appropriate management of the Moose River Route region. The Delphi advisory group used this information to create management objectives and associated action statements for the study area.

BC Parks has used both semistandardized interviews and opinion questionnaires in previous planning initiatives - the uniqueness of the Moose River Route study came from the use of the Delphi technique to facilitate interaction between members of the advisory group. Rather than meeting face-to-face, advisory group members used a series of three mailout questionnaires to create, prioritize and reach consensus on management objectives and associated action statements for the Moose River Route region.

Results from the semistandardized interviews and opinion questionnaires indicate that stakeholders are concerned with conservation of the Moose River Route region. Interest was expressed in completing wildlife-related studies, developing facilities to protect park resources and regulating visitor use. Delphi advisory group members created management objectives and associated action statements to address these concerns. Specifically, advisory group members proposed (a) the completion of comprehensive habitat assessments and wildlife movement studies, (b) the development of toilets and bear poles, and (c) the placement of restrictions on campsite location and party size.

A cursory evaluation of the Delphi advisory group process identified both strengths and weaknesses to this technique. The major strengths include fairness and cost-effectiveness, whereas the major weaknesses include limited opportunity for participant social learning, creation of statements with potential for misinterpretation and lack of resolution on particularly contentious issues. Recommendations to resolve these weaknesses are discussed.

TABLE OF CONTENTS

Abstract.....	ii
Table of Contents.....	iv
Table of Figures.....	viii
Acknowledgments.....	ix
 1. Introduction.....	 1
1.1 Statement of the Problem	3
1.2 The Study Within the BC Parks Context.....	4
1.2.1 BC Parks' Current Planning Regime	4
1.2.2 BC Parks' Proposed Planning Regime.....	5
1.3 The Study Area.....	6
1.3.1 Mount Robson Provincial Park	6
1.3.2 The Moose River Route region	8
1.4 The Following Chapters	10
 2. Literature Review	 12
2.1 Management Frameworks	13
2.1.1 Evolution of Management Frameworks	14
2.1.2 Limits of Acceptable Change	17
2.1.3 Visitor Impact Management.....	29
2.1.4 Hybrid Framework	33
2.2 Public Involvement.....	36
2.2.1 Definitions of Public Involvement	36
2.2.2 Purpose and Goals of Public Involvement	37
2.2.3 Drawbacks of Public Involvement	37
2.2.3.1 Difficulty in Reaching a Representative Public	38
2.2.3.2 Promotion of Conflict	38
2.2.3.3 Alienation of Experts	39
2.2.3.4 Uninformed Decision-Making	40
2.2.3.5 Participant Burnout	40
2.2.3.6 Time and Financial Concerns.....	41
2.2.4 Benefits of Public Involvement.....	41
2.2.4.1 Instrumental Benefits	41
2.2.4.2 Developmental Benefits.....	42
2.2.4.3 Intrinsic Benefits	42
2.2.4.4 Agency-Oriented Benefits.....	43
2.2.5 Rationale for Participation.....	43
2.2.6 Intensity of Public Involvement	46
2.2.7 Techniques.....	49
2.2.7.1 Interviews.....	50
2.2.7.2 Public Meetings.....	51

TABLE OF CONTENTS (continued)

2.2.7.3	Workshops.....	52
2.2.7.4	Focus Groups	52
2.2.7.5	Surveys.....	53
2.2.7.6	Advisory Groups	54
2.2.7.7	The Delphi Technique.....	54
2.3	Weaknesses in the Case Study Approach.....	57
2.3.1	Lack of Rigour.....	57
2.3.2	Inability to Generalize	58
2.4	Chapter Summary	59
3.	Methodology.....	61
3.1	Identify Techniques and Incorporate into Framework	61
3.1.1	The Public Involvement Techniques.....	63
3.1.2	The Basic Management Framework.....	63
3.1.2.1	Steps of the Basic Management Framework.....	67
3.2	Identify Issues, Concerns and Characteristics of the Study Area.....	71
3.2.1	Semistandardized Interviews.....	71
3.2.1.1	Selection of Interviewees	72
3.2.1.2	Composition of Interviewees	73
3.2.1.3	Interview Procedure	73
3.2.2	Opinion Questionnaires.....	74
3.2.3	Review of Existing Documentation	76
3.3	Draft Issues, Concerns and Characteristics Document.....	76
3.4	Create Delphi Advisory Group.....	76
3.4.1	Selection Criteria for the Delphi Advisory Group	77
3.4.2	Composition of the Delphi Advisory Group	78
3.5	Identify Management Objectives and Associated Action Statements.....	81
3.6	Review Study Costs and Evaluate Delphi Advisory Group Process.....	85
3.6.1	Fairness.....	86
3.6.2	Competence.....	86
3.6.2.1	Constant Review by the Responsible Agency	87
3.6.2.2	Use of a Delphi Group	88
3.6.2.3	Periodic Review by a Project Oversight Committee.....	88
3.6.3	Opportunity for Social Learning	89
4.	Results.....	91
4.1	Results Overview from Interviews and Questionnaires	92
4.1.1	Results Overview from Semistandardized Interviews	92
4.1.1.1	General Management Issues	92
4.1.1.2	Commercial Activity Issues	93
4.1.1.3	Horse Use Issues	93

TABLE OF CONTENTS (continued)

4.1.1.4	Wildlife Issues.....	94
4.1.1.5	Resource Issues	95
4.1.1.6	Facility Issues.....	95
4.1.1.7	Other Issues	96
4.1.2	Results Overview from Opinion Questionnaires.....	97
4.1.2.1	General Management Issues	97
4.1.2.2	Commercial Activity Issues	98
4.1.2.3	Horse Use Issues	99
4.1.2.4	Wildlife Issues.....	100
4.1.2.5	Resource Issues	100
4.1.2.6	Facility Issues.....	100
4.1.2.7	Other Issues	101
4.2	Results Overview from Delphi Advisory Group Process.....	101
4.2.1	Terminology	102
4.2.2	Results Overview	103
4.2.2.1	General Management Issues	103
4.2.2.2	Commercial Activity Issues	105
4.2.2.3	Horse Use Issues	106
4.2.2.4	Wildlife Issues.....	106
4.2.2.5	Resource Issues	107
4.2.2.6	Facility Issues.....	108
4.2.2.7	Other Issues	109
4.3	Results from Review of Study Costs and Cursory Evaluation.....	109
4.3.1	Review of Study Costs	110
4.3.2	Cursory Evaluation of the Delphi Advisory Group Process	112
4.3.2.1	Fairness	112
4.3.2.2	Opportunity for Social Learning	113
5.	Discussion and Conclusion.....	115
5.1	Cost-Effectiveness of the Public Involvement Techniques.....	115
5.1.1	Semistandardized Interviews.....	116
5.1.2	Opinion Questionnaires.....	117
5.1.3	Delphi Advisory Group.....	117
5.2	Fairness of the Delphi Advisory Group Process	118
5.3	Opportunity for Social Learning	119
5.4	Member Comment on the Delphi Advisory Group Process.....	120
5.5	Future Use Considerations	122
5.6	Conclusion.....	124
6.	References.....	125

TABLE OF CONTENTS (continued)

Appendix A - Issues, Concerns and Characteristics Document	132
Appendix B - Management Objectives Document	214
Appendix C - Semistandardized Interview Questions	277
Appendix D - Short Version Opinion Questionnaire.....	278
Appendix E - Long Version Opinion Questionnaire	282
Appendix F - Comments from Opinion Questionnaire Respondents	290
Appendix G - First Delphi Questionnaire.....	307
Appendix H - Second Delphi Questionnaire	318
Appendix I - Third Delphi Questionnaire.....	347
Appendix J - Evaluation Questionnaire	379

TABLE OF FIGURES

Figure 1. Mount Robson Provincial Park	7
Figure 2. The Moose River Route region	9
Figure 3. Limits of acceptable change framework.....	18
Figure 4. Visitor impact management framework	30
Figure 5. Hybrid framework created for the Berg Lake Trail study.....	34
Figure 6. Arnstein's ladder of participation.....	47
Figure 7. The six stages of the Moose River Route study	62
Figure 8. The basic management framework.....	66

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1. INTRODUCTION

Demand for public involvement in government decision-making continues to increase (McCool & Cole, 1997; Sinclair & Diduck, 1995; Webler, Kastenholz & Renn, 1995) and has reached a point where the public expects and obtains involvement in many decision-making processes, particularly those related to land use issues (Brenneis & M'Gonigle, 1992; Commission on Resources and Environment, 1995). Like many other government agencies, BC Parks has acknowledged these demands through changes in agency policy, implementing a comprehensive public involvement program in 1986 to aid and build support for park planning initiatives (British Columbia, 1996).

Unfortunately, BC Parks' commitment to a comprehensive public involvement program has become extremely difficult to maintain (Arduino, 1996). In 1989, BC Parks was responsible for planning and management of a little over 6% of the province. This figure has increased to over 10% due to a government commitment to protect 12% of British Columbia by the year 2000 (British Columbia, 1997; Wareham & Careless, 1995). Government funding has not kept pace with this rapid expansion of the provincial park system - BC Parks is still operating at funding and personnel levels that were set when parks only covered 5% of the province (R. Draper, personal communication, October 26, 1995). System expansion during a period of static government funding has made it difficult for BC Parks to solicit meaningful public input regardless of demands for public involvement or the agency's willingness to participate.

BC Parks currently uses a variety of public involvement techniques to facilitate planning initiatives. These techniques include public meetings, open houses, workshops, advisory committees, focus groups, discussion papers and questionnaires (British Columbia, 1996). Rather than forcing planning initiatives into a standard process, BC Parks encourages flexibility by letting agency planners chose the techniques they believe are appropriate for the task. This way, public involvement processes can be tailored to fit the unique circumstances behind each planning initiative (Landre & Knuth, 1993; McMullin & Neilson, 1991).

Many of the techniques that BC Parks uses for planning initiatives demand significant resources from both the agency and participants. For example, recent development of master plans for Monkman and Naikoon Provincial Parks used advisory committees as the principal public involvement technique. Advisory committees are a particularly rigourous technique because they require regularly scheduled meetings with intense, often confrontational discussion (British Columbia, 1996; Commission on Resources and Environment, 1995).

The advisory committees used in the Monkman and Naikoon planning processes were effective at obtaining consensus on a number of confrontational issues and useful at generating management options for outstanding issues (K. Kennett, personal communication, July 24, 1995). However, the resources required to complete these master plans were considerable, forcing agency planners to reevaluate the use of advisory committees for future initiatives (D. Adamson, personal communication, October 24, 1994).

1.1 STATEMENT OF THE PROBLEM

BC Parks' commitment to incorporate meaningful public input into planning initiatives has been hampered by an expanding provincial park system, increasing demand for public involvement and static government funding. BC Parks has several options to resolve this issue. They can reduce the level of public involvement on each planning initiative, limit involvement to major initiatives, or limit involvement to those initiatives with known potential for conflict (D. Adamson, personal communication, October 24, 1994). Another option, explored in this study, is the utilization of alternative public involvement techniques that reduce demands on agency resources but still obtain meaningful input from participants.

Using a case study approach, three public involvement techniques (semistandardized interviews, opinion questionnaires and a Delphi advisory group) were used to facilitate development of a management plan for the Moose River Route region of Mount Robson Provincial Park. The Delphi advisory group process was the target of a subsequent cursory evaluation because it had never been used in previous BC Parks planning initiatives.

Specifically, the four purposes of this study were to:

1. identify public involvement techniques that could reduce demands on BC Parks' resources while still obtaining meaningful input;
2. apply these techniques towards development of a management plan for the Moose River Route region of Mount Robson Provincial Park;
3. review the costs of the study; and
4. complete a cursory evaluation of the Delphi advisory group process.

The study also involved completion of two major deliverables for BC Parks. These deliverables were:

1. comprehensive results from the semistandardized interview and opinion questionnaire processes (Appendix A); and
2. comprehensive results from the Delphi advisory group process (Appendix B).

1.2 THE STUDY WITHIN THE BC PARKS CONTEXT

In 1996, BC Parks created two committees to review and provide recommendations on the challenge of managing the expanding provincial park system with static government funding (Arduino, 1996). The first committee (given the name *Project Viability*) investigated options to generate revenue and expand resource management partnerships. The second committee (given the name *Project Foresight*) investigated options to develop effective park management plans over reasonable timeframes. *Project Foresight* has proposed a number of changes that will affect how the Moose River Route study fits into BC Parks' planning regime.

1.2.1 BC PARKS' CURRENT PLANNING REGIME

BC Parks currently uses three levels of park management plans to guide planning and management of the provincial park system (British Columbia, 1996):

1. Master plans are developed for individual parks and contain sections describing (a) the vision, role and zoning of the park, (b) resource management objectives and actions, (c) visitor services objectives and actions, and (d) aboriginal considerations.

2. Interim management statements are developed for individual parks waiting to initiate a master planning process. Interim management statements contain many of the same components found in park master plans but are developed through a less rigorous public involvement process.
3. Action plans are developed for individual parks or specific units within parks and deal with issues such as land acquisition, visitor management, resource conservation and inventory needs.

The Moose River Route study falls into the action planning level of BC Parks' current planning regime in that it identifies management objectives and associated action statements needed to develop an action plan (in this case a visitor management plan) for the Moose River Route region of Mount Robson Provincial Park.

1.2.2 BC PARKS' PROPOSED PLANNING REGIME

One proposal put forward by *Project Foresight* is to restrict the focus of master plans (now called park management plans) to broad management concerns such as park vision, park role and zoning. Specific concerns, normally addressed through resource management/visitor services objectives and action statements, would be removed from park management plans and placed into proposed *implementation plans* (Arduino, 1996). *Project Foresight* hopes that the removal of these components from park management plans will give BC Parks the chance to develop a single park management plan for multiple parks with common and uncomplicated management issues (K. Kennett, personal communication, July 18, 1996).

1.3 THE STUDY AREA

1.3.1 MOUNT ROBSON PROVINCIAL PARK

Mount Robson Provincial Park (Figure 1) is one of British Columbia's oldest, largest and best known provincial parks. This high degree of recognition, coupled with easy access from a major highway, draws approximately 400,000 visitors to the park each year (Morrow, 1998). Although the vast majority of use occurs at facilities and attractions along the highway corridor, backcountry use of Mount Robson Provincial Park is also relatively high. However, distribution of this use is extremely disproportionate. The highly developed Berg Lake Trail receives approximately 11,400 visitors each year, making it the most heavily traveled backpacking trail in the Canadian Rockies (Patton & Robinson, 1992). In contrast, the remaining backcountry trails within Mount Robson Provincial Park have a combined visitation of only 600 people per year (Peepre, 1990).

A recently completed action plan for the Berg Lake Trail states that heavy use has had a negative impact on the trail corridor (Thurston, 1992). In an effort to reduce these impacts, BC Parks implemented several of the plan's recommendations including restrictions on mountain bikes and campfires as well as the implementation of a quota system. These management changes, in conjunction with increased demand for remote recreation opportunities within the park, have increased use of the Moose River Route region, precipitating the need for a management plan to resolve emerging issues.

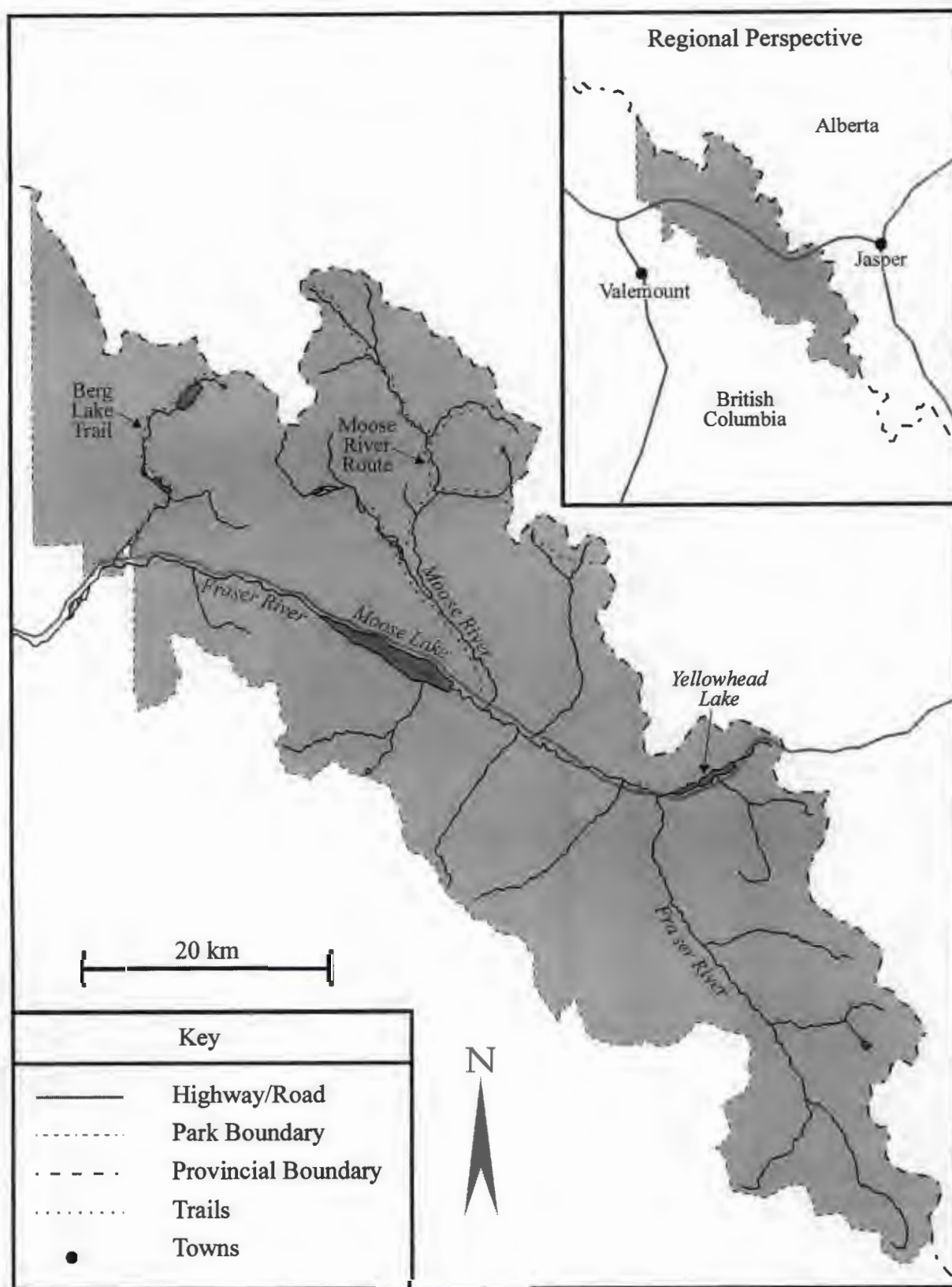


Figure 1. Mount Robson Provincial Park

1.3.2 THE MOOSE RIVER ROUTE REGION

The Moose River Route region (Figure 2) is a remote, undeveloped and highly scenic area of Mount Robson Provincial Park. The main trail through the region, the Moose River Route, originates at a trailhead on Highway 16 and extends approximately 59 kilometres to terminate at a junction with the North Boundary Trail in Jasper National Park. Three side trails branch off of the Moose River Route: one leading up Resplendent Creek, the second following Colonel Creek/Grant Brook and the third following Upright Creek.

Unlike the nearby Berg Lake Trail (Figure 1), the Moose River Route region contains very few facilities. Only 2 of the 14 major river crossings are bridged (both in Jasper National Park) and the majority of campsites have no more than a bear pole and fire pit. The only sites to have more than these basic facilities are the three campsites used and maintained by the two commercial outfitters operating in the region. These sites contain a primitive privy and food/supply cache in addition to the bear pole and fire pit found at other campsites.

Use of the Moose River Route region generally occurs between June and September, although winter use has also been documented (refer to Appendix A, section 5.1 for a review of use within the study area). The number of people using the region has increased in recent years but at 500 people per season is still comparatively low. The route's length and lack of facilities turns many potential visitors away. Furthermore, the vast majority of visitors (over 60%) only use the lower 17 kilometres of the trail due to a major unbridged river crossing

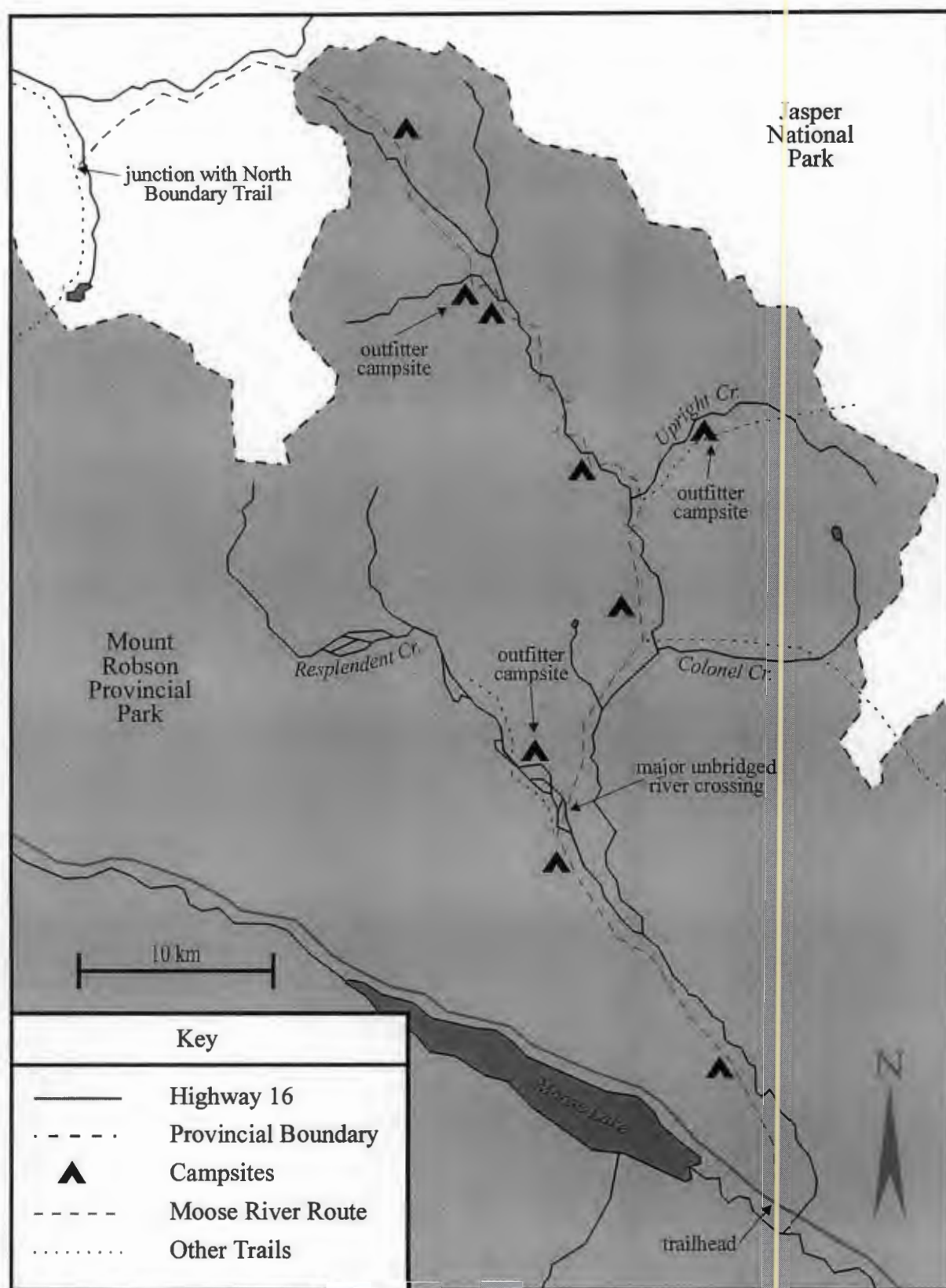


Figure 2. The Moose River Route region

at kilometre 17.8. Consequently, the upper section of the route provides visitors with opportunities for remote backcountry wilderness recreation in a region that is relatively accessible from a major highway.

1.4 THE FOLLOWING CHAPTERS

Chapter 2 consists of a literature review that focuses on two subjects closely linked to park planning and management: management frameworks and public involvement techniques. Popular management frameworks such as Limits of Acceptable Change and Visitor Impact Management are reviewed, as are common public involvement techniques such as interviews, public meetings, workshops, focus groups, surveys, advisory groups and the Delphi process.

The third chapter contains a detailed methodological review that focuses on (a) the selection and interview process completed for the semistandardized interviews, (b) the development and distribution process completed for the opinion questionnaires, (c) the creation and facilitation of the Delphi advisory group, and (d) the cursory evaluation completed on the Delphi advisory group process.

Chapter 4 contains three sections. The first two sections briefly review results from the semistandardized interview, opinion questionnaire and Delphi advisory group processes. A comprehensive review of information generated through these techniques is contained in Appendices A and B. The third section of Chapter 4 reviews the study costs as well as the results from the cursory evaluation of the Delphi advisory group process.

The fifth and final chapter consists of a discussion that focuses on the strengths and weaknesses of the Delphi advisory group process, in addition to future use considerations and recommendations.

2. LITERATURE REVIEW

The main focus of this chapter is on two subjects closely linked to park planning and management: management frameworks and public involvement techniques. Although discussed in separate sections, interaction between the two is critical to effective decision-making. Management frameworks are pointless without the use of meaningful public involvement techniques and these techniques are significantly more effective if used within the structured environment provided by frameworks (Cuthbertson, 1983; Krumpe & McCool, 1997).

Specific topics discussed in the section on management frameworks include the purpose and evolution of frameworks as well as a review of current processes. Limits of Acceptable Change and Visitor Impact Management were targeted for this review because they are popular frameworks with a significant literature base. A third framework, created for a study on the Berg Lake Trail, was also targeted for review because it contains components that complement BC Parks' existing agency structure.

Specific topics discussed in the section on public involvement include (a) the purpose and goals of public involvement, (b) the drawbacks and benefits of public involvement, (c) rationale for participation, (d) intensity, and (e) public involvement techniques. In addition to the sections on management frameworks and public involvement techniques, this chapter also contains a third section that discusses the weaknesses of the case study approach and a fourth section that summarizes the content of the chapter.

2.1 MANAGEMENT FRAMEWORKS

Information gaps on the social and biophysical characteristics of wilderness regions frequently force managers to rely heavily on value judgments when making management decisions (Hendee, Stankey, & Lucas, 1990; Thurston, 1992). However, because wilderness managers' values often differ from those of visitors (Martin, McCool, & Lucas, 1989), an open and publicly defensible process must be used to ensure that final decisions are acceptable to both visitors and stakeholders (Cole & Stankey, 1997; Thurston, 1992).

Unfortunately, very few management decisions are made in this way (Cole, 1990). All too often, decisions tend to be ad hoc and unilateral because the issue at hand is urgent in nature or because the decision-making agency believes their professional experience and legislative mandate gives them latitude to make decisions in a closed fashion (Commission on Resources and Environment, 1995).

Management frameworks provide an environment that overcomes this tendency toward ad hoc, unilateral decision-making. Frameworks such as Limits of Acceptable Change and Visitor Impact Management utilize a decision-making process that is both open and publicly defensible (Cole & Stankey, 1997). In addition to ensuring proper procedure, the use of management frameworks also improves the substantive component of the decision-making process. The decisions themselves are more effective due to the structured nature of the framework (Hendee et al., 1990).

2.1.1 EVOLUTION OF MANAGEMENT FRAMEWORKS

As Stankey and McCool (1984) state, there has been a longstanding concern over the detrimental effects of recreational activity on both the biophysical and social characteristics of wilderness. This unfocused concern reflected an intuitive appreciation that unconstrained recreational activity could threaten many of the characteristics that visitors often use to define and describe wilderness.

9c/ In the early 1960s, United States wilderness managers applied the carrying capacity concept of range management to wilderness management in an attempt to resolve the recreation impact issue (Stankey & McCool, 1984). This concept was one of the first decision-making frameworks applied to wilderness management (Hendee et al., 1990). The basic principle behind rangeland carrying capacity was that a region's natural characteristics (food, shelter, water) could only support a set number of animals (Hendee et al., 1990). If this limit was exceeded, damage would occur and ultimately lead to a reduced capability to support animals. Rangeland carrying capacity was often defined by limits in one of the natural characteristics (water, for example) rather than a combination of characteristics.

The recreational carrying capacity concept had a similar basic philosophy - wilderness regions could only support a specific number of visitors. If this limit was exceeded, unacceptable damage would occur to the region's characteristics.

When the carrying capacity concept was first applied to wilderness management, initial research focused on the effects of recreational activity on biophysical characteristics (Shelby

& Heberlein, 1986). Presumably, this initial focus was derived from the biophysical emphasis of the rangeland carrying capacity concept. However, managers soon realized that recreational carrying capacity also involved a social component (Stankey, 1997). The growing number of wilderness users was having an effect on visitor experience. Recreational carrying capacity quickly broadened to include (a) a biophysical component concerned with impacts to characteristics such as soil and vegetation, and (b) a social component concerned with impacts to the visitor experience (Hendee et al., 1990).

Unfortunately, as research into recreational carrying capacity progressed, it became apparent that the concept could not succeed through a simple transition of principles from range management (Hendee et al., 1990; Thurston, 1992). As Shelby and Heberlein (1986) note, it was much easier to determine numerical limits for animals than for people. One of the major problems with the use of recreational carrying capacity as a management framework was the strong, implied cause-and-effect relationship between level of use and impact (Hendee et al., 1990; McCool & Lucas, 1989; Shelby & Heberlein, 1986; Stankey & McCool, 1984).

For example, recreational carrying capacity implied that the greater the number of horses on a trail the greater the level of impact to the trail surface and surrounding vegetation. Although this relationship is intuitive, researchers could not establish a strong link between level of use and impact. This was not because the relationship did not exist - the difficulty was that researchers could not isolate level of use from other variables with the potential to influence impact (Thurston, 1992). For example the type of soil, amount of standing water, slope and aspect could all influence impact to the trail surface and surrounding vegetation. The

interaction of these variables made it extremely difficult for researchers to establish a strong relationship between level of use and impact (Hendee et al., 1990).

A second problem with recreational carrying capacity was the difficulty in identifying an appropriate level of use to maintain social characteristics within wilderness regions. What one visitor felt was an unacceptably high level of use another visitor might consider too low to achieve their desired experience (Thurston, 1992). How could a level of use be set for a wilderness region when visitors had differing views as to what was acceptable or unacceptable? Ultimately, this problem, in conjunction with the difficulty in establishing a strong link between level of use and impact, made the recreational carrying capacity framework ineffective for wilderness management (McCool & Lucas, 1989).

Over time, a number of frameworks evolved from and replaced recreational carrying capacity as a tool for wilderness management (Nilsen & Tayler, 1997). These frameworks include older, recreation-oriented processes such as Limits of Acceptable Change and Visitor Impact Management, as well as newer, marketing-oriented processes such as Visitor Experience and Resource Protection and Visitor Activity Management Process. Another framework, a hybrid of Limits of Acceptable Change and Visitor Impact Management, was recently created for a study on the Berg Lake Trail of Mount Robson Provincial Park.

The recreation-oriented frameworks such as Limits of Acceptable Change, Visitor Impact Management and the hybrid framework created for the Berg Lake Trail study are all conceptually similar. These frameworks consists of five basic components:

1. collection of preliminary planning information;
2. creation/review of management objectives;
3. creation of standards;
4. comparison of existing conditions to standards; and
5. implementation of management strategies to improve unacceptable conditions.

Although these recreation-oriented frameworks are conceptually similar, the more recent frameworks (Limits of Acceptable Change and the hybrid framework created for the Berg Lake Trail study) were developed because decision-making agencies could not incorporate existing frameworks (such as Visitor Impact Management) into their agency structure (Hof & Lime, 1997).

2.1.2 LIMITS OF ACCEPTABLE CHANGE

The Limits of Acceptable Change framework (Figure 3), originally proposed by Stankey, Cole, Lucas, Petersen and Frissell (1985) and recently modified by Cole and McCool (1997), is a popular 10-step process developed to resolve recreational impact issues through an open, defensible and logical decision-making process.

As mentioned earlier, one of the principal drawbacks of recreational carrying capacity was the implied cause-and-effect relationship between level of use and impact. The concept begged the question *how much use is too much use?* (Thurston, 1992). Limits of Acceptable Change adopts a broader perspective by acknowledging that there are other equally effective

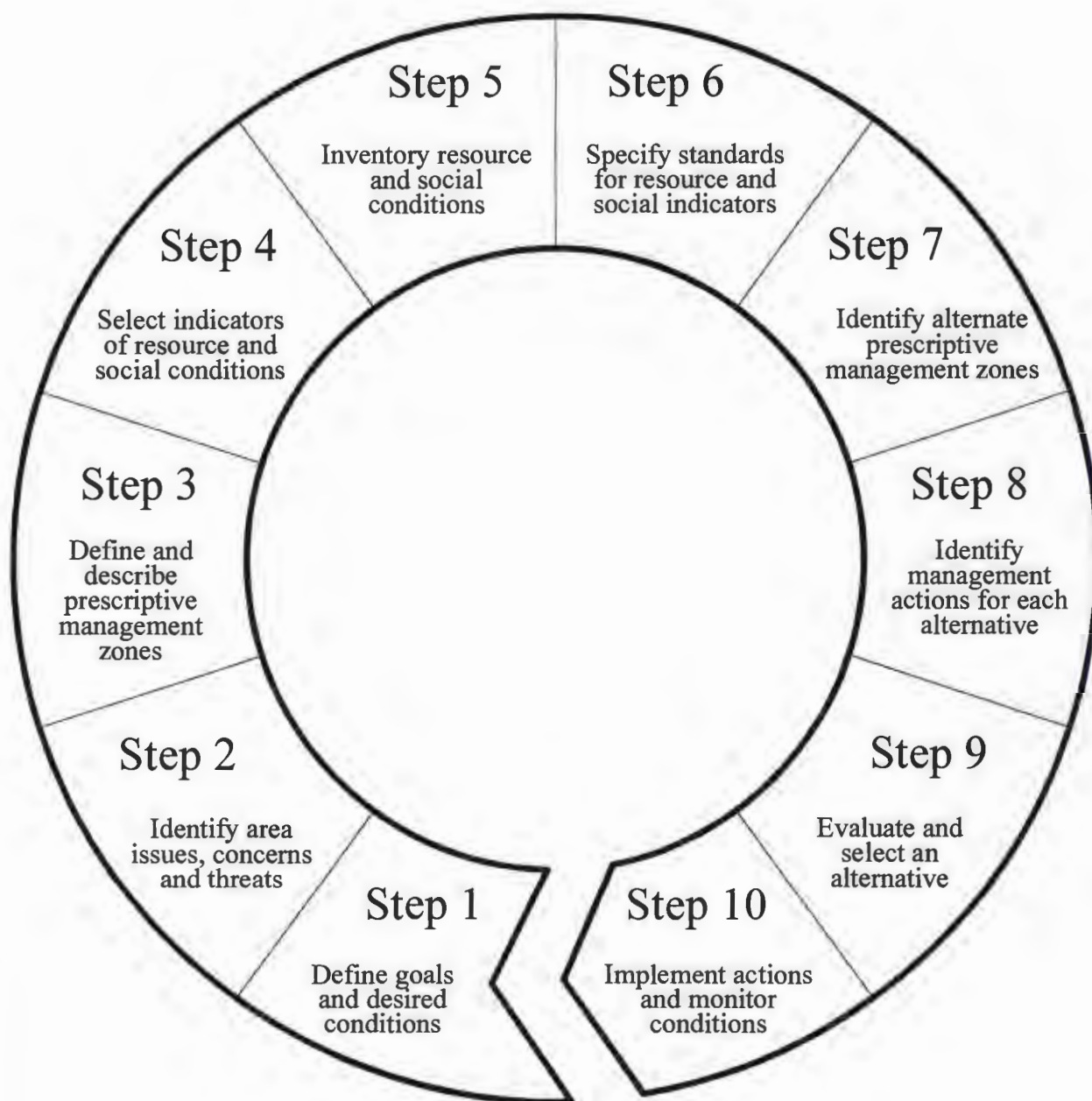


Figure 3. Limits of Acceptable Change framework (Cole & McCool, 1997)

solutions to recreational impact issues than implementation of quota restrictions (Cole & Stankey, 1997). Limits of Acceptable Change identifies acceptable levels of change within wilderness regions and then determines the best management strategy (or combination of strategies) to improve conditions that are unacceptable (Stankey et al., 1985).

The first step of Limits of Acceptable Change involves definition of goals and desired conditions for the study area. Attachment of this step onto the beginning of the Limits of Acceptable Change framework is a major modification to the process (Cole & McCool, 1997). Past criticism of Limits of Acceptable Change focussed on the fact that the framework was issue-driven versus goal-driven. By focussing on issues and not goals, the framework generated management objectives and management strategies that ignored strategic and potentially significant management topics (Nilsen & Tayler, 1997).

The second step of Limits of Acceptable Change involves identification of issues, concerns and threats that constitute existing or potential barriers to achieving the goals identified in the first step (Cole & McCool, 1997). The rationale for obtaining this information early in the process is that final decisions will be significantly more effective if all relevant information is obtained early on (Hendee et al., 1990). That said, it is important to note that most decision-making processes must work with incomplete information. These information gaps should not delay completion of the planning initiative.

To aid managers in the acquisition of salient information, Limits of Acceptable Change lists a series of seven questions to prompt identification of the study area's features and

characteristics as well as identification of the study area's relationship with other regions that provide comparative recreation opportunities (Hendee et al., 1990).

These seven questions are:

1. Does the area contain outstanding ecological, scientific, recreational, educational, historic, or conservation values that warrant special attention?
2. Does the area provide critical habitat for threatened or endangered species?
3. Has public input identified areas or issues that merit special attention?
4. Do land uses on contiguous areas represent situations requiring special management attention; for example, are timber harvests planned, or are changes in access likely?
5. Are there existing or potential nonconforming uses in the area that will require special attention?
6. Are there regional and/or national issues that need consideration? For example:
 - a) What is the availability of wilderness and dispersed recreation opportunities in the planning region?
 - b) What is the regional demand for wilderness and dispersed recreation?
 - c) Are the physical-biological features of the area found elsewhere in the region or does it possess unique features?
 - d) Are the types of recreation opportunities offered by the area available in other wildernesses or does the area offer unique opportunities; for example, are opportunities for long-distance backcountry horse riding available in many other areas or just this one?

7. Are there sociopolitical factors specific to the area that will influence the planning process and its possible outcomes; for example, is there established outfitter use and historical patterns of stock use?

Examples of issues, concerns and threats that could be identified in the second step include conflict between commercial and non-commercial groups, visitor desire for solitude, limited accessibility for local/regional users, negative wildlife-human interaction, poor trail conditions, campsite devegetation, presence of critical habitat for rare species and recreational damage to sensitive plant communities.

The third step of the framework involves the definition and description of prescriptive management zones. As part of the recent modifications to the Limits of Acceptable Change framework, prescriptive management zones have replaced opportunity classes (Cole & McCool, 1997). The purpose of this step is to define and describe a range of zones that managers and visitors consider appropriate and desirable for the study area. The prescriptive management zones are defined and described using three criteria: resource conditions, social conditions and managerial conditions (Hendee et al., 1990).

For example, managers and visitors may decide that two prescriptive management zones are sufficient to provide the range of zoning desirable and appropriate for a particular study area. The first prescriptive management zone could be defined as an area:

- characterized by an essentially unmodified natural environment (the resource condition);
- where interaction between users is very low (the social condition); and

- managed to be essentially free from evidence of human-induced restrictions and controls (the managerial condition).

The second prescriptive management zone could be defined as an area:

- characterized by a predominantly natural or natural-appearing environment (the resource condition);
- where interaction between users is low (the social condition); and
- managed in such a way that minimum onsite controls and restrictions may be present, but are subtle (the managerial condition).

It is important to note that the intent of the third step is to define and describe, but not apply, appropriate and desirable prescriptive management zones. The description and definition of zones occurs separately from application to allow for completion of steps four to six. Steps four to six are dependant on information generated in step three and in turn are required for completion of step seven - application of prescriptive management zones.

The first three steps of the Limits of Acceptable Change framework generate information that is purposely general in nature. The fourth step provides a degree of definition to the process by selecting resource and social indicators (Hendee et al., 1990). Indicators are defined characteristics of the study area that are measured to provide data on the area's resource and social conditions. Selection of indicators is largely driven by the goals and desired conditions defined in the first step and the issues, concerns and threats identified in the second step (Cole & McCool, 1997).

For example, opportunities for solitude may be a desired condition identified in the first step and subsequently addressed in the third step through a general statement on user interaction. In the fourth step, an indicator capable of measuring opportunities for solitude is selected. Similarly, devegetation of backcountry campsites may be a resource concern identified in the second step and subsequently addressed in the third step through a general statement on the naturalness of campsites. In the fourth step, an indicator capable of measuring the devegetation of backcountry campsites is selected.

Although indicator selection is largely driven by the goals, desired conditions, issues, concerns and threats identified in the first two steps, other criteria also guide selection.

Hendee et al. (1990) list four additional criteria:

1. the indicator should be suited to being measured in a cost-effective fashion at acceptable levels of accuracy;
2. the condition of the indicator should reflect some relationship to the amount and/or type of use occurring;
3. social indicators should be related to user concerns; and
4. the condition of the indicator should be at least potentially responsive to management control.

For example, opportunities for solitude can be measured in a wide variety of ways. A very basic method would be to determine the number of users within a particular region over a period of time and relate this figure to the potential for solitude. A more refined method would involve the use of questionnaires to obtain figures on user contact as well as user

opinion on this level of contact. Depending on the financial resources available to the managing agency, as well as the accuracy of the data collected, one measurement will be more desirable than the other.

Obviously, it is impossible for the managing agency to measure all conditions within the study area. For example, most agencies do not have the time or the resources to measure soil compaction and devegetation at campsites, soil erosion on trails, water quality, frequency of conflicts, wildlife harassment and opportunities for solitude within the study area. Even the most ambitious monitoring program will only be able to assess a small number of indicators (Merigliano, 1989). Consequently, managing agencies need to identify and select those indicators that provide the best possible information for the least amount of time and money.

Cole and McCool (1997) suggest a modification to the fourth step of the Limits of Acceptable Change framework. They believe that indicators should not be restricted to resource and social concerns, but should include other variables such as risk. For example, the first step of Limits of Acceptable Change might identify two conflicting goals: the desire to minimize risk to life and property from fire and the desire to maintain a natural fire regime. In this situation, a risk indicator is required to facilitate compromise between these two goals, much like a resource indicator is required to facilitate compromise between the goal of providing wilderness recreation opportunities and the goal of conserving threatened plant species.

Once indicators have been selected, the fifth step of Limits of Acceptable Change involves an inventory of existing resource and social conditions. This inventory collects data to satisfy the information requirements specified by the indicators selected in the previous step.

The specification of standards for each prescriptive management zone is the sixth step of Limits of Acceptable Change. Standards are specified for each resource and social indicator selected in step four and are used to judge whether conditions within the study area are acceptable or unacceptable. Standards are specified according to three general criteria:

1. standards should be related to the prescriptive management zone descriptions developed in step three;
2. standards should describe a range of conditions that follow the range of prescriptive management zones selected for the study area; and
3. standards should express the typical situation by acknowledging variability within the study area (Hendee et. al., 1990).

Going back to the example of the study area with two prescriptive management zones, potential standards for contact between parties could be described as:

- contact between parties will not exceed three per day, on at least 80% of the days between June 1 and August 31 (a standard for the more natural prescriptive management zone); and
- contact between parties will not exceed five per day on at least 50% of the days between June 1 and August 31 (a standard for the less natural prescriptive management zone).

Through specification of the number of contacts between parties, the standards quantify and relate themselves back to the qualitative prescriptive management zone descriptions developed during the third step (this meets the first criterion). Through identification of a logical progression in the number of contacts between parties (three contacts for the more natural prescriptive management zone and five contacts for the less natural prescriptive management zone), the standards are describing a range of conditions (this meets the second criterion). Through the inclusion of probabilities, the standards are acknowledging the inherent variability of wilderness conditions (this meets the third criterion).

Standards can be thought of as the critical element necessary for definition and provision of quality wilderness recreation opportunities (Whittaker & Shelby, 1992). Because the selection of standards is so critical to the planning and management of wilderness regions, the need for public involvement during this step is stressed by several authors (Hendee et al., 1990; Shelby, Stankey & Shindler, 1992). Public involvement is also required because the selection of standards involves significant value judgment. Consequently, it is in the best interest of the managing agency to obtain input from a wide variety of individuals prior to the selection of standards for wilderness conditions.

Step seven of the Limits of Acceptable Change framework involves the identification of alternative prescriptive management zones for management units within the study area. It is important to note that this step is not an application of prescriptive management zones but a preliminary look at which zones are appropriate for which management units (Hendee et al.,

1990). Allocation is based on the condition of indicators measured in step five and on the goals, desired conditions, issues, concerns and threats identified in the first two steps.

For example, a particular management unit within a study area may be characterized by high levels of use and an associated level of impact. Managers and visitors have two prescriptive management zones they can apply to this unit - primitive and natural. Although the natural zone may be the most appropriate designation for the unit given existing conditions, an issue identified in the first step was a demand by local users to return the unit to a primitive state. In this case, managers and visitors must find a balance between the reality of the unit's resource and social conditions and the desire to improve these conditions.

Step eight involves the identification of management actions for each prescriptive management zone alternative. In the previous example, managers and the public may have agreed to hold off on the selection of one zone over the other until additional information could be generated on management actions necessary to meet each zoning alternative. Consequently, the task in step eight is to identify management actions necessary to meet the standards (specified in step six) for both the primitive and natural prescriptive management zones.

As part of the recent modifications to the Limits of Acceptable Change framework, Cole and McCool (1997) observe that the identification of management actions for each zoning alternative will help decision-makers determine a priori if standards set during the sixth step are realistic for the region. Specifically, they suggest that if the cost of improving a condition

exceeds the benefit of that improvement, the standard should be changed to reflect the reality of the situation. This cost-benefit analysis should eliminate the need to change standards once a Limits of Acceptable Change plan has been finalized and implemented.

A second modification to step eight involves separating management actions into two groups: preventative and corrective (Cole & McCool, 1997). Preventative management actions can be implemented at any time, are not too restrictive to visitors and are not likely to resolve specific issues in a short period of time. In contrast, corrective management actions are implemented only when violation of standards is unavoidable, can be restrictive to visitors and are likely to resolve specific issues in a short period of time.

The purpose for separating the management actions into two groups is to help decision-makers determine which actions can be implemented when standards have not yet been violated (Cole & McCool, 1997). For example, it would be appropriate to implement visitor education techniques (a preventative management action) to forestall the need for more restrictive management actions (such as restrictions on campfires or restrictions on party size) if backcountry campsite conditions are deteriorating.

Armed with this information, the ninth step of the Limits of Acceptable Change framework involves the selection of a preferred prescriptive management zone for each management unit within the study area. Hendee et al. (1990) stress that this is not an easy decision to make. They provide a list of four questions to help guide the selection of appropriate zones:

1. Which user groups are affected and how (does it facilitate or restrict use by certain groups)?
2. Which values are promoted and which are diminished?
3. How does a particular alternative fit into the regional and/or national supply and demand considerations? Does the alternative contribute a unique kind of wilderness setting to the system?
4. What is the feasibility of managing the areas as prescribed, given constraints of personnel, budgets, etc?

The final step in the Limits of Acceptable Change framework is the implementation of management actions and the monitoring of conditions. Monitoring is crucial because it identifies the effectiveness of management actions applied to unacceptable conditions as well as trends in conditions that currently meet standards.

2.1.3 VISITOR IMPACT MANAGEMENT

There are many similarities between Visitor Impact Management (Figure 4) and Limits of Acceptable Change frameworks. Both frameworks were derived from recreational carrying capacity and contain similar steps (Shelby et al., 1992). In addition, both Visitor Impact Management and Limits of Acceptable Change were developed to resolve recreational impact issues through an open, defensible and logical decision-making process.

However, there are two relatively significant differences between the frameworks. In general, Visitor Impact Management focuses on site-specific issues, whereas Limits of Acceptable

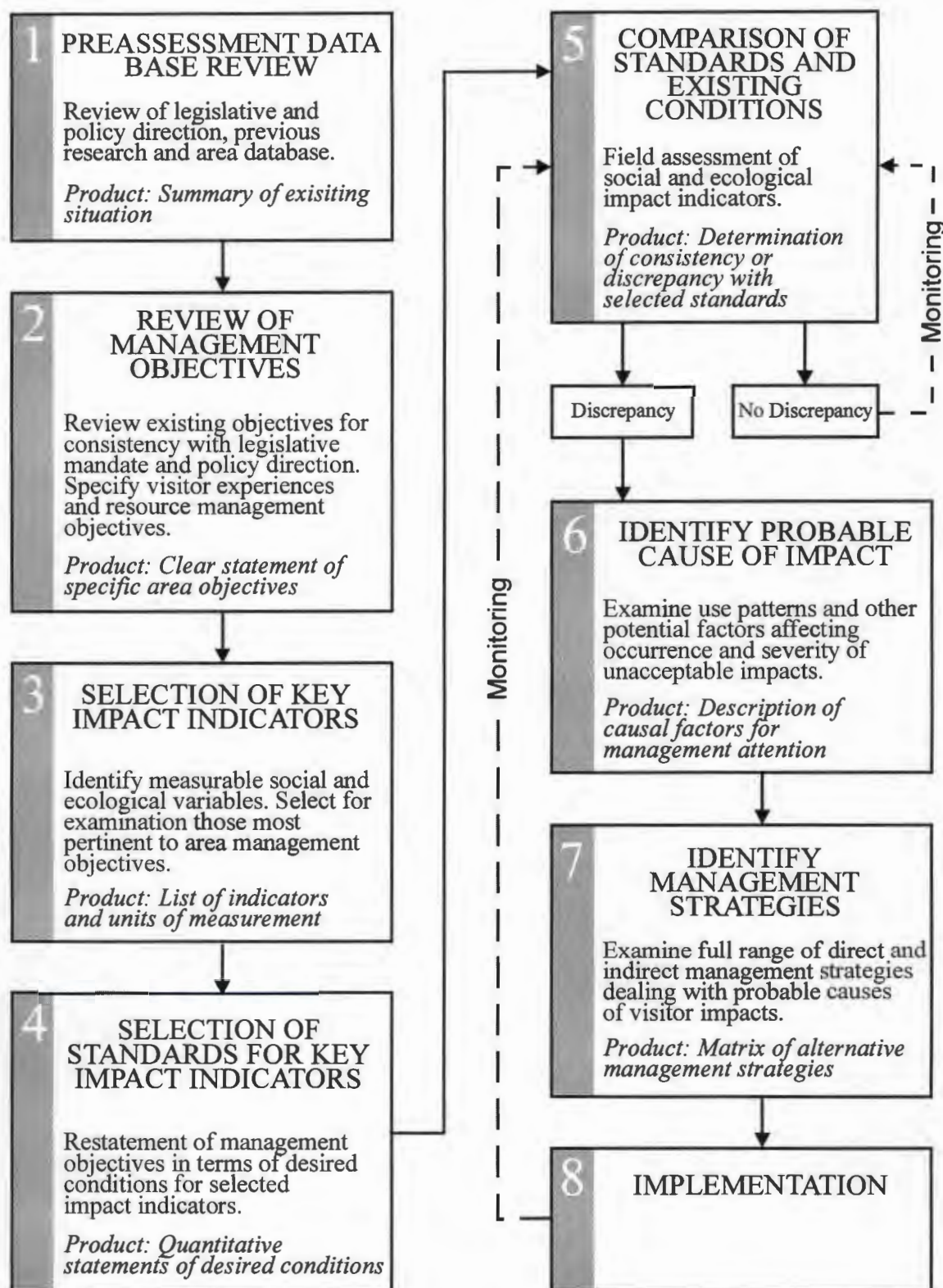


Figure 4. Visitor Impact Management framework (Graefe et al., 1986)

Change tackles large-scale land use planning issues (Nilsen & Tayler, 1997). For example, Visitor Impact Management has been used to improve problem areas such as frontcountry viewpoints, whereas Limits of Acceptable Change has been used to develop management plans for large (600,000 ha) wilderness areas (Thurston, 1992).

The second difference is that Limits of Acceptable Change inventories existing conditions before defining standards, whereas Visitor Impact Management defines standards before the inventory of existing conditions. Stankey et al. (1985) argue that there is a benefit to setting standards after the inventory - this arrangement ensures that standards are realistic goals for existing conditions. However, Stankey et al. also acknowledge that this arrangement can be used to foster management inactivity - management action can be entirely avoided if standards are set to meet existing conditions.

To resolve this issue, Stankey et al. (1985) state that there needs to be a balance between using existing conditions to lend realism to the standards and using agency experience, in conjunction with public involvement, to set standards at levels that can lead to an improvement in conditions where desired.

The first step of Visitor Impact Management involves the collection and review of all data relevant to the planning process (Graefe et al., 1986). Examples of relevant data include agency policy and legislation, visitor use data and results from visitor surveys. Based on this information, management objectives for the study area are reviewed as part of step two and changes made if considered appropriate.

The third step of Visitor Impact Management involves the selection of key impact indicators that can be used to measure social and ecological variables. Much like Limits of Acceptable Change, the selection of indicators is based on information generated in the first step of the process but is also influenced by time and financial constraints.

Setting standards for indicators is the fourth step of the Visitor Impact Management framework. Standards are influenced by the information obtained in the preassessment data base review as well as the management objectives reviewed during the second step. Similar to Limits of Acceptable Change, the setting of standards is critical because it is standards that ultimately define the quality of the wilderness recreation experience. Again, if at no other point in the planning process, public involvement should be incorporated at this step because of its importance to the process.

Once standards have been selected for the key impact indicators, a field assessment of these indicators must be completed to compare standards with existing conditions (Graefe et al., 1986). If there is no discrepancy between existing conditions and standards, the key impact indicators are monitored to ensure that they remain acceptable. If there is a discrepancy between existing conditions and standards, the process moves to the sixth step.

The sixth step of Visitor Impact Management involves an identification of the reason (or reasons) why a particular impact indicator does not meet standards. In many cases, this information can be obtained through an examination of use patterns within the study area or through an examination of other factors that have the potential to influence the indicator.

Once the probable cause of the impact has been identified, management options can be generated to improve the key impact indicator (step seven).

The eighth and final step of Visitor Impact Management involves implementation of the management strategy (or strategies) identified in step seven, followed by monitoring to determine if implementation is effective. If the impact indicator does not meet or exceed the standard in a reasonable length of time, steps five through eight are repeated until the indicator improves (Graefe et al., 1986). Alternatively, it is also possible that the standard for that particular indicator has been set too high. If this is the case then the process can be reinitiated at the first step and the standard revised to reflect the reality of conditions.

2.1.4 HYBRID FRAMEWORK

A recently completed study on the Berg Lake Trail of Mount Robson Provincial Park created and utilized a management framework adapted from the Limits of Acceptable Change and Visitor Impact Management processes (Figure 5). The hybrid framework was developed specifically for use within the BC Parks system but contains many steps also found in Limits of Acceptable Change and Visitor Impact Management (Thurston, 1992). Because of the similarities between these three frameworks, this discussion will only focus on those steps and components that are unique to the hybrid framework.

The first unique feature of the hybrid framework is the selection of two standards in step five. The first standard, limit of acceptable change (LAC), is common to both Limits of

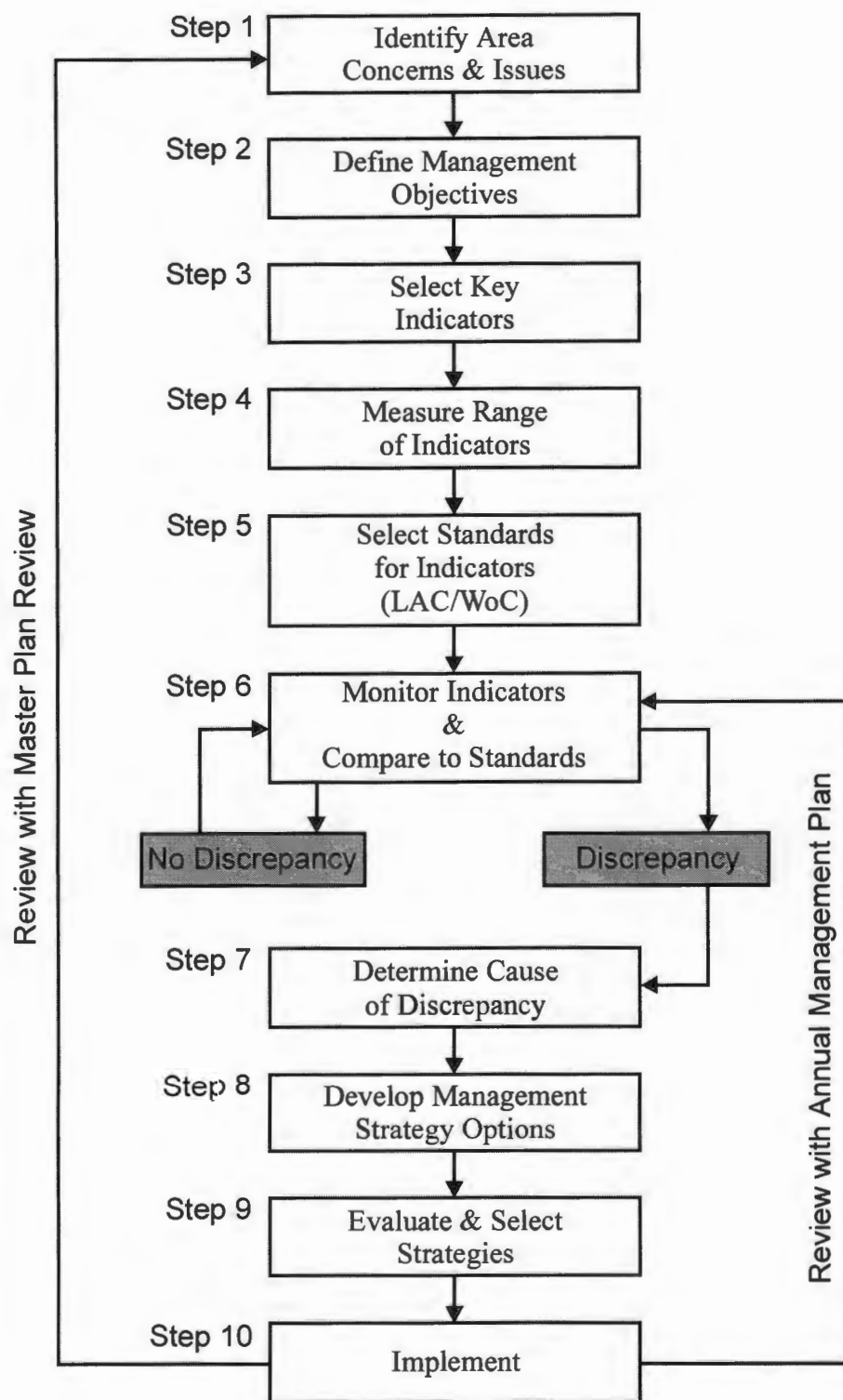


Figure 5. Hybrid framework created for the Berg Lake Trail study (Thurston, 1992)

Acceptable Change and Visitor Impact Management processes. The second standard, warning of change (WoC), is unique to the hybrid framework. The rationale behind selecting two standards is that managers do not address conditions approaching the limit of acceptable change until conditions have fallen below that standard (Thurston, 1992). If a warning standard is also selected, managers have time to investigate and identify potential management strategies before the limit of acceptable change is exceeded.

A recent modification to step eight of the Limits of Acceptable Change framework has since acknowledged and compensated for this weakness in the original framework (Cole & McCool, 1997). Those management actions considered to be preventative can be implemented at any time (even if the standard has not been compromised), whereas those management actions considered to be corrective should only be implemented when the standard has been compromised or is in imminent danger of being compromised.

The second unique feature of the hybrid framework is the incorporation of existing BC Parks planning processes into the framework. Whenever BC Parks completes a review of the master plan for Mount Robson Provincial Park the hybrid framework is activated at the first step. Whenever BC Parks completes a review of the annual management plan for the Berg Lake Trail the hybrid framework is activated at the sixth step. Although it is important to incorporate existing agency processes into the framework, the continuous evaluative nature of the framework should not be anchored to these two reviews. Issues, concerns and existing conditions are always changing - the hybrid framework should constantly reevaluate these components independently of master plan or annual management plan reviews.

2.2 PUBLIC INVOLVEMENT

2.2.1 DEFINITIONS OF PUBLIC INVOLVEMENT

Public involvement can be defined in many ways depending on the perspective of the group or individual making the definition. From an agency-oriented perspective, public involvement can be defined as a process by which the views of interested parties are integrated into an agency's decision-making process (Praxis, 1988). From a participant-oriented perspective, public involvement can be defined as a series of actions that ordinary members of a political system take in order to influence (or attempt to influence) outcomes (Nagel, 1987).

Praxis (1988) and Nagel (1987) also have different definitions of the public. Praxis defines the public as any person, persons, or group of people who have a distinct interest or stake in an issue. Nagel defines the public to be ordinary members of a political system excluding those individuals who perform public involvement duties as a requirement of their principal job. For example, bureaucrats and politicians would not be considered ordinary citizens and therefore not the public. Similarly, union executives would not be considered ordinary citizens, whereas rank-and-file union members would be.

Nagel's (1987) exclusionary definition of the public is more appropriate than the definition provided by Praxis (1988) because it acknowledges the tie between public involvement and democracy - public involvement involves influence from the bottom up, not from the top down (Nagel).

2.2.2 PURPOSE AND GOALS OF PUBLIC INVOLVEMENT

According to Praxis (1988), the purpose of public involvement is two-fold: to inform the public about the decision-making process and to solicit information regarding the public's needs, values and proposed solutions or actions. The goal of public involvement is better overall agency decision-making.

Cuthbertson (1983) provides similar process-oriented statements for the purpose and goals of public involvement. The purpose is to enhance the quality of decision-making by providing opportunity for the public to contribute pertinent information. The goals are to discover:

- the issues of concern to those who are interested in or may be affected by decisions on the issue;
- the full range of public values that apply to these issues; and
- the full range of possible solutions to problems and consequences of each solution.

2.2.3 DRAWBACKS OF PUBLIC INVOLVEMENT

There are a wide variety of drawbacks associated with public involvement (Brenneis & M'Gonigle, 1992; Harten, 1990; McMullin & Neilson, 1991; Tipple & Wellman, 1989).

These include but are not limited to:

- difficulty in reaching a representative public;
- promotion of conflict;
- alienation of experts;
- uninformed decision-making;

- participant burnout; and
- time and financial concerns.

Although several of these drawbacks are relatively minor, the remainder are significant and should be addressed by facilitators prior to implementation of a public involvement process (McMullin & Neilson, 1991). Nagel (1987) emphasizes that the drawbacks associated with public involvement should not be used to justify elimination of public involvement from agency decision-making.

2.2.3.1 DIFFICULTY IN REACHING A REPRESENTATIVE PUBLIC

Difficulty in reaching a representative public can be resolved by using a combination of public involvement techniques (Blahna & Yonts-Shepard, 1989; Harten, 1990). The wider the variety of techniques selected for use, the greater the chance of reaching individuals with differing views and opinions. Surveys, combined with other techniques such as advisory groups and workshops, are particularly useful at obtaining representative opinion. Of course, as the number of techniques are increased, so are the resources required to implement them.

2.2.3.2 PROMOTION OF CONFLICT

It is very possible for a public involvement process to increase conflict between opposing parties rather than resolve issues (Praxis, 1988). McMullin and Neilson (1991) suggest that facilitators set realistic expectations with participants before initiating a public involvement process. Landre and Knuth (1993) provide similar advice - they feel that it is important for both facilitators and participants to acknowledge that there may be deeply held differences of

opinion. If participants enter into the decision-making process with the expectation of consensus, they may be setting themselves up for disappointment regardless of the progress achieved.

2.2.3.3 ALIENATION OF EXPERTS

Incorporating public involvement into the decision-making process has the potential to decrease the influence of experts (for example agency personnel), potentially alienating them from the decision-making process (Stankey, 1997). This change in the power relationship between experts and members of the public has generated a significant amount of debate on the value of expert opinion. Some individuals believe that expert opinion should carry no more weight than that of the public, whereas others feel that expert opinion is both legitimate and relevant (Needham & de Loë, 1990).

Both Henry (1994) and Nagel (1987) believe expert opinion is relevant, arguing that it is foolish to deny that people differ significantly in both native intelligence and expertise acquired through specialization. However, because experts have biases, there is no guarantee that these individuals will use their superior intelligence or expertise to make decisions that are beneficial for the public. Nagel observes that combining knowledge with power and competence with correct motivation is an ongoing difficulty of public involvement processes.

Needham and de Loë (1990) suggest that one way to get around this difficulty is to accept expert opinion as only one component of the decision-making process. Similarly, both McMullin and Neilson (1991) and Mitchell (1991) suggest that balance of opinion is the best

approach to take when the decision-making process is value-laden or hampered by a lack of information. Such is the case with many resource management decisions (Krumpe & McCool, 1997).

2.2.3.4 UNINFORMED DECISION-MAKING

Nagel (1987) argues that it is unreasonable to assume that the average individual could make informed decisions on issues as complicated as the licensing of nuclear power plants or the regulation of recombinant DNA experiments. However, both McMullin and Neilson (1991) and Webler et al. (1995) argue that participants can make informed decisions if existing information is presented in a form they can understand. Much like the argument on alienation of experts, striving to obtain a balance of input will help resolve this drawback to public involvement.

2.2.3.5 PARTICIPANT BURNOUT

Participant burnout is a very real concern that facilitators must gauge prior to starting a public involvement process (Hale, 1993; Nagel, 1987). Facilitators must realize that the public has other responsibilities and may not be able to commit significant amounts of time and energy into an intensive public involvement process. That said, it is also important for facilitators to understand the benefits of, as well as the motivations for, participation. Armed with this information, facilitators can structure public involvement processes to motivate individuals to participate, perhaps through an emphasis on the benefits of participation.

2.2.3.6 TIME AND FINANCIAL CONCERNS

When decision-making processes first started to incorporate public involvement, there was the perception that this commitment increased decision-making costs and lengthened the process (Nagel, 1987). However, agencies soon realized that it was more time and cost efficient to incorporate public involvement at the outset of the decision-making process (Landre & Knuth, 1993; McMullin & Neilson, 1991; Praxis, 1988). As McCool and Cole (1997) note, if meaningful public involvement is not incorporated into a decision-making process, agency personnel will lose time and finances either responding to administrative appeals or responding to court litigation.

2.2.4 BENEFITS OF PUBLIC INVOLVEMENT

Nagel (1987) organizes the benefits of public involvement into three classes: instrumental, developmental and intrinsic. These benefits are described from a participant perspective - what the participant is capable of obtaining from the public involvement process.

2.2.4.1 INSTRUMENTAL BENEFITS

Instrumental benefits are the substantive benefits that accrue to individuals who participate and ultimately obtain what they want from the public involvement process. An example of an instrumental benefit would be a decision to locate a new elementary school in one neighbourhood over another. Those individuals unable to get what they want from the process do not receive instrumental benefits.

2.2.4.2 DEVELOPMENTAL BENEFITS

Developmental benefits are arguably the most important benefits that society can obtain from public involvement (Nagel, 1987). Developmental benefits refer to the knowledge that participants take away from the public involvement process. For example, public involvement participants may acquire new values, attitudes, skills, knowledge and beliefs. In addition, participants have the opportunity to:

- learn how the political system works (and how to influence it in the future);
- gain an appreciation for different viewpoints; and
- learn respect for freedom of expression.

However, Nagel (1987) acknowledges that not every public involvement participant will walk away with developmental benefits. Some participants will actually do the opposite - they become cynical and partisan, rejecting the concept of tolerance. This diseducative effect may be the result of frustration over never obtaining instrumental benefits or the result of frustration over never having expectations met.

2.2.4.3 INTRINSIC BENEFITS

Intrinsic benefits include an enhanced sense of self worth and an improved identification with the community. Intrinsic benefits are similar to developmental benefits in that they both revolve around the personal growth of participants. Intrinsic benefits differ from developmental benefits in that participants are fully aware of the intrinsic benefits they have obtained from the process, whereas developmental benefits are more often recognized by an outside observer (Nagel, 1987).

2.2.4.4 AGENCY-ORIENTED BENEFITS

Other literature on the benefits of public involvement does not take the participant-oriented view that Nagel (1987) does. Freudenburg (1983), McCool and Cole, (1997), Sinclair and Diduck (1995) and Webler et al. (1995) identify four additional benefits that have an agency-oriented perspective:

1. increased trust in government;
2. enhanced agency accountability;
3. reductions in agency time and resources; and
4. improved ease of implementation.

2.2.5 RATIONALE FOR PARTICIPATION

There are a wide variety of theories on why individuals chose to participate in public involvement processes. These range from simple explanations to mathematical equations. Praxis (1988) states that individuals chose to participate in public involvement processes if they are strongly affected. They will chose not to participate if they are not strongly affected or if they feel that they cannot influence the decision-making process to any great extent. Criteria that determine whether an individual has the potential to be affected by a decision-making process include geographical proximity to the decision, economic concerns, social concerns, environmental concerns and values (Praxis).

Nagel (1987), expanding on Olson's (1965) fundamental work on collective action, provides a more elaborate theory to explain why individuals chose to participate in public involvement processes. This theory is based on Olson's assumption that individuals are rational egoists -

they make calculated decisions (based primarily on their own personal welfare) when deciding whether to contribute to a collective goal. Nagel presents the modified theory in a cost-benefit format - individuals will chose to participate if the costs do not outweigh the benefits.

$$P(B_i + B_g) + S + D - C > 0$$

where:

- P is an individuals' power to affect the outcome of a decision-making process. This value can range from zero (no power) to one (complete power). For example, P would be one if your vote was the vote that decided an election.
- B_i is the personal value that an individual places on the results of a decision-making process. For example, this component represents how much an individual will personally benefit from the election of a candidate that best represents the individuals' interests.
- B_g is the altruistic value that an individual places on the results of a decision-making process. For example, this component represents how much other people will benefit if an individuals' preferred candidate wins an election.
- S is the personal incentive value that an individual places on the results of a decision-making process. For example, this component could represent a patronage job that will not materialize if an individuals' preferred candidate is not elected.
- D is the strength of an individuals' sense of duty to participate.

C is the costs an individual incurs in participating. For example this component could include the time and trouble of registering to vote and going to the polls.

Nagel (1987) emphasizes that all of the components of the formula are subjective and therefore cannot be measured or calculated in an absolute sense. Ultimately, individuals will determine the weight of the various components and make a decision on their own. For example, all other components being equal, one person will chose to participate while another will chose not to participate simply because the first individual puts more weight on sense of duty (D).

Similarly, all other components being equal, one person will chose to participate while another will chose not to participate simply because the first individual feels that the loss of 1 hour of pay to vote is not that significant a cost (C), whereas the second individual feels that the loss of 1 hour of pay is very significant. In this example, the absolute cost is the same for both individuals but the perceived costs is higher for the second individual.

Although this theory is relatively complex, it is worthwhile for public involvement facilitators to have an understanding of the motivations behind participation. Armed with this information, facilitators can create a public involvement process that motivates individuals to participate, ultimately improving the quantity and quality of information generated through the process.

2.2.6 INTENSITY OF PUBLIC INVOLVEMENT

Public involvement techniques obtain input from participants with varying degrees of intensity. Some techniques are very intensive, requiring significant resources from both facilitators and participants, whereas other techniques require few resources.

Arnstein (1969) was one of the first researchers to arrange public involvement processes along an intensity continuum. She uses an eight rung ladder (Figure 6) to classify the intensity of eight public involvement processes. According to Arnstein, the first two rungs, *manipulation* and *therapy*, are not true public involvement processes. The objective of these processes is to simply educate and cure participants. Similarly, the following two rungs, *informing* and *consultation*, do not provide participants with a true opportunity to participate. Arnstein considers *informing* and *consultation* to be levels of tokenism - participants have the opportunity to express their views and opinions but these views are not incorporated into final decisions. *Placation*, the fifth rung on the ladder, is a higher level of tokenism - participants have the opportunity to advise but once again, their opinion is not necessarily incorporated into final decisions (Arnstein, 1969). Only the last three processes, *partnership*, *delegated power* and *citizen control* provide the public with true opportunities to participate in decision-making processes.

Sinclair and Diduck (1995) also use intensity to classify public involvement processes. However, unlike Arnstein's (1969) eight rung ladder, Sinclair and Diduck arrange public involvement processes into five tiers:

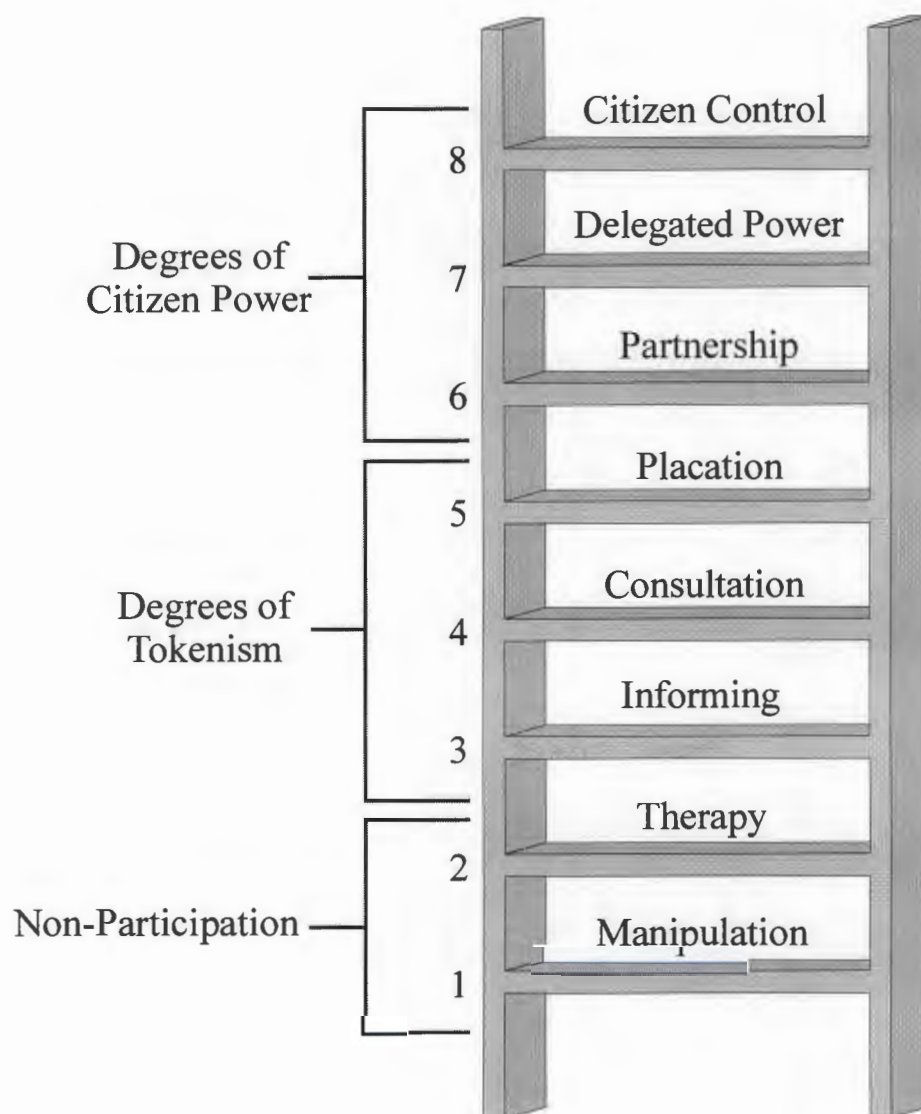


Figure 6. Arnstein's ladder of participation (Arnstein, 1969)

1. public education/information;
2. information feedback;
3. consultation;
4. extended involvement; and
5. joint planning.

Much like the first four rungs of Arnstein's ladder, Sinclair and Diduck's lower tiers (public education and information feedback) are not considered public involvement processes.

Consultation is the first true process, whereas extended involvement and joint planning represent intensive, time-demanding processes.

Nagel (1987) is another researcher to classify public involvement processes - describing participation along two continuums. The first continuum, intensity, is the same one used by both Arnstein (1969) and Sinclair and Diduck (1995). However, Nagel does not create and arrange terms to anchor the continuum - preferring instead to use costs and time to differentiate lower intensity processes from higher ones. The second continuum that Nagel describes is extent - public involvement becomes increasingly extensive as more individuals chose to get involved.

Although it is tempting to believe that higher intensity public involvement processes are better than lower ones, this is not necessarily true for all situations. Brenneis and M'Gonigle (1992) argue that one of the basic principles underlying public involvement is that decision-makers are democratically accountable. Consequently, public involvement processes cannot

transfer decision-making authority to an unaccountable group. To do so would undermine the democratic goals of public involvement. High-intensity processes such as citizen control (Arnstein, 1969) and joint planning (Sinclair & Diduck, 1995) may not be feasible in these situations.

Similarly, both the Commission on Resources and Environment (1995) and Praxis (1988) emphasize the importance of reviewing the nature of the planning initiative before selecting public involvement techniques. Low-intensity techniques are appropriate for non-controversial initiatives, where there is limited time and general agreement on data. High-intensity techniques are appropriate for complex initiatives where interest groups are willing to work together and there is the expectation for meaningful public involvement.

2.2.7 TECHNIQUES

There are a multitude of public involvement techniques currently in use - a confirmation of the demand for and growth of public involvement processes over the last several decades. However, classifying and describing these techniques can be difficult - what one individual considers a public meeting another individual considers an open house. This disagreement may or may not be an argument in semantics - there could be very real differences between the two techniques. For simplicity, this discussion will take a broad approach and only classify and describe a small number of techniques (refer to Praxis, 1988 for a thorough review of public involvement techniques). However, it is important to reiterate that an individuals' decision to call a technique a public meeting versus an open house may be deliberate - very real differences may exist.

2.2.7.1 INTERVIEWS

Interviews are a high-intensity, public involvement process often used to obtain detailed information from participants (Marshall & Rossman, 1989). Berg (1989) identifies three types of interviews: standardized, semistandardized and unstandardized.

Standardized interviews are completed when researchers are confident that:

- they have a solid grasp of the research topic and can generate comprehensive interview questions; and
- the terminology and wording of the interview questions will have the same meaning for each interviewee.

If researchers are less confident in their grasp of the research topic, or are concerned that interviewees may interpret questions differently, they may choose to use a semistandardized interview format. Semistandardized interviews consist of both predetermined questions as well as questions that are formulated during the interview process (Berg, 1989). Those questions that are formulated during the interview process are used to explore topics that researchers were unaware of prior to the start of the interview.

Unstandardized interviews are completed without a predetermined list of interview questions. Researchers select this type of interview when they are unsure of their grasp of the research topic, or are concerned that interviewees will interpret the predetermined list of questions differently.

The main benefit of interviews are their capacity to obtain detailed information in a time-effective manner (Marshall & Rossman, 1989). Drawbacks of the technique include interviewer bias and difficulty in analyzing the data.

2.2.7.2 PUBLIC MEETINGS

Public meetings (also known as open houses) are a medium-intensity, idea-generating group process frequently used by government decision-making agencies (Hale, 1993; Harten, 1990). In general, public meetings are arranged by the decision-making agency and coordinated by a professional facilitator (British Columbia, 1996; Praxis, 1988). Public meetings can be considered different from open houses in that open houses obtain input through a less-structured format - the public is free to drop in and discuss issues in a casual environment (British Columbia, 1996).

Harten (1990) identifies two main drawbacks to public meetings: the opinion expressed at these meetings is unrepresentative and there is potential for emotion to run high. The first drawback is not unique to public meetings - most other group processes have the potential to be unrepresentative. The only recourse for facilitators is to augment public meetings with representative public involvement techniques such as surveys (Landre & Knuth, 1993).

The second drawback does not necessarily occur at every public meeting, but if emotions do run high, there is significant potential for the meeting to intensify conflict rather than diffuse it. Facilitators can mitigate the potential for conflict by tempering participants' expectations before the start of the meeting.

2.2.7.3 WORKSHOPS

Workshops are another medium-intensity, idea-generating group process. Workshops are more intensive than public meetings because interaction occurs in small groups (Commission on Resources and Environment, 1995). In general no more than 15 people work together to identify solutions to a common problem or issue. Workshops are usually organized by the decision-making agency and directed by a facilitator. One of the main weaknesses associated with this technique is its potential to be unrepresentative. This can be mitigated through careful selection of workshop participants to ensure that these individuals represent a broad range of perspectives and interests (British Columbia, 1996).

2.2.7.4 FOCUS GROUPS

Focus groups (also known as task groups) are a third medium-intensity, idea-generating group process (British Columbia, 1996). In general, focus groups are more intensive than workshops and tend to tackle more than one issue at a time (Commission on Resources and Environment, 1995). Focus groups have a wide variety of uses including the identification of issues related to a decision-making process, as well as the acquisition of public opinion on government proposals as contained in documents such as draft management plans and position papers.

Like the previous group process techniques, the principal drawback of focus groups is their potential to be unrepresentative. Unfortunately, it is difficult for facilitators to mitigate this weakness through careful selection of participants because focus groups very often consist of single interest groups meeting with decision-makers to discuss the issue at hand (Sinclair &

Diduck, 1995). The only recourse for facilitators is to obtain a balance of opinion through the use of other techniques or through the use of focus groups consisting of other interest groups.

2.2.7.5 SURVEYS

Surveys differ from the previous three techniques in that they are not an idea-generating group process (Needham & de Loë, 1990). Although capable of idea generation, the main focus of surveys is the collection of representative public opinion. Surveys are a low-intensity technique that can be administered by telephone, through the mail, or in person (for example, at public meetings or workshops).

Hale (1993), McMullin and Neilson (1991) and Milbrath (1983) identify five main benefits to surveys:

1. they take little time to complete;
2. they can obtain representative public opinion;
3. they can obtain opinion from individuals who might not otherwise participate;
4. they can obtain opinion from a large segment of the population; and
5. they can change both agency and politician's perceptions of public opinion.

Milbrath (1983) identifies two drawbacks to surveys:

1. they only obtain opinion at a single point in time; and
2. they do not obtain the richness of information garnered from face-to-face discussions.

A public involvement process that combines surveys with more intensive techniques such as workshops or advisory groups can obtain meaningful and representative opinion in a relatively cost and time-effective manner.

2.2.7.6 ADVISORY GROUPS

The advisory group is an extremely popular, high-intensity idea-generating group process with many synonyms including citizen committee, advisory committee, task force panel and management board. The main criticism is that membership is easily controlled by the decision-making agency and is often unrepresentative (Hale, 1993; Praxis, 1988). Facilitators can mitigate these two drawbacks by structuring the advisory group to be representative of public opinion - information that can be obtained through the use of surveys.

2.2.7.7 THE DELPHI TECHNIQUE

The Delphi technique is a low-intensity, idea-generating group process (Needham & de Loë, 1990). Other idea-generating group processes with higher levels of intensity include workshops, focus groups and advisory groups. This difference in intensity can be attributed to the Delphi technique's use of questionnaires, rather than face-to-face meetings, to generate information.

Specifically, the Delphi technique uses a series of confidential questionnaires to identify and refine ideas or concepts (Allen, 1978; Fish & Osborn, 1992). For example, an initial Delphi questionnaire might ask participants to generate policy options on a particular issue. This information would be collected and incorporated into a second questionnaire that would ask

respondents to score their level of support for each option. The scores would be analyzed and incorporated into a third questionnaire that would ask respondents to revise their level of support for each policy option given the group level of support. Additional questionnaires might be used to further refine the level of support or to generate arguments supporting or refuting the merits of each policy option.

It is important to note that this description is only one way to structure a Delphi study - the Delphi technique can be utilized in a wide variety of ways. However, according to Fish and Osborn (1992), every Delphi study should contain basic components that include:

- feedback of information collected in previous questionnaires;
- opportunity for participants to revise their views;
- opportunity for participants to react to and assess differing views; and
- confidentiality.

The Delphi technique provides numerous advantages over other idea-generating group processes of higher intensity. According to Fish and Osborn (1992), Helmer (1994), Needham and de Loë (1990), Rotondi and Gustafson (1996) and Ziglio (1996) these benefits include:

- increased quality and quantity of information because participants are not inhibited by interpersonal stress from face-to-face meetings;
- increased quality and quantity of information because participants have time for independent and reflective thinking;
- increased closure for participants;

- increased level of participant equality;
- zero potential for paralysis of the decision-making process from acrimonious debate often observed at face-to-face meetings;
- increased opportunity for resolution because participants can revise their position without fear of losing face;
- increased economies of time and expense, particularly when participants are geographically separated; and
- increased opportunity for efficient interaction of participants with diverse backgrounds.

The main drawback of the Delphi technique is that there is potential for ineffective information exchange - a consequence of the absence of verbal communication (Ziglio, 1996). This drawback can occur between participants of the Delphi process or between participants and the facilitator. For example, participants may generate written concepts that other participants do not understand. Similarly, facilitators may generate written instructions that participants have difficulty following. Ziglio recommends that facilitators provide clear instructions and key words to ensure that the information generated through the Delphi technique is both effective and desired.

With respect to the number of participants, Needham and de Loë (1990) suggest that the Delphi technique works most effectively when there are between 10 and 50 participants. A larger number of respondents will increase the length and costs of the process, whereas a smaller number of respondents will lower the quality and quantity of ideas generated through the technique. With respect to the participants themselves, Ziglio (1996) suggests the simple

criterion that participants be capable of generating responses that are significantly more meaningful than those of randomly selected individuals. Needham and de Loë provide additional direction by suggesting that stakeholders with first-hand experience and familiarity with the issues are just as capable as individuals with specialized training such as agency personnel, scientists and researchers.

Helmer (1994) suggests that facilitators structure the Delphi technique so that respondents are the actual decision-makers versus simply acting as advocates for opposing recommendations. If participants know that they are ultimately responsible for the final decision, they may be more likely to moderate their arguments through consideration of opponent's positions, eventually making it possible to reach a mutually acceptable decision.

2.3 WEAKNESSES IN THE CASE STUDY APPROACH

Case studies have the reputation of being a less desirable form of inquiry than other research strategies such as experiments or surveys (Yin, 1994). This reputation has developed because researchers associate case studies with two weaknesses: lack of rigour and an inability to generalize.

2.3.1 LACK OF RIGOUR

Lack of rigour is a serious concern because it can introduce equivocal evidence and bias into findings (Yin, 1994). Unfortunately, case studies tend to encounter this deficiency more often (and resolve it less often) than other research strategies.

For example, there have been many circumstances where the basic nature of a case study has shifted over the course of the study. The initial study questions were drafted to reflect a particular orientation, but as research occurred, it became apparent that the results were addressing questions with a different orientation than the ones contained in the research design. All too often, researchers simply modified the original study questions to reflect the new orientation yet continued with the original research design. Yin (1994) states that it is this practice that gives case studies their poor reputation. In this situation, Yin recommends that researchers develop a new research design to match the study questions and then reinitiate the case study.

There are specific situations where modification of the research design is appropriate, if not absolutely necessary (Yin, 1994). For example, researchers may initiate a single-case study and discover early on that the case is not unique and a multiple-case study is the correct research design. Yin states that it is appropriate to change the research design, but researchers must be careful not to modify the theoretical concerns or objectives of the case study. If the theoretical concerns or objectives are modified, the researchers can be correctly accused of biasing the research and misinterpreting the findings.

2.3.2 INABILITY TO GENERALIZE

The second weakness associated with the case study approach is an inability to generalize (Yin, 1994). One strategy that experimental researchers use to overcome this weakness is to perform multiple experiments - a strategy that can also work for case study researchers. However, for a variety of reasons it may not be practical or feasible for researchers to

perform multiple case studies. Under these circumstances, the case study researcher must acknowledge that their results can be generalized to theories but not to populations (Yin).

2.4 CHAPTER SUMMARY

This chapter has identified several park planning and management issues that should be reemphasized before moving onto a detailed review of methodology. First, it is critical to have a guiding management framework in place before embarking on a planning initiative. Frameworks provides a logical and defensible structure to the planning process and ensure that public involvement is incorporated in a timely and meaningful manner.

This chapter described two popular frameworks (Limits of Acceptable Change and Visitor Impact Management) as well as a third framework used for a previous BC Parks study (the hybrid framework created for the study on the Berg Lake Trail). Although each framework is unique, all three contain five basic components (see section 2.1.1 for a list of these components). New frameworks continue to be developed as more agencies embrace the framework concept but require processes that complement their existing agency structure.

Second, there are a wide variety of public involvement techniques available to decision-makers. Specific techniques reviewed in this chapter include interviews, public meetings, workshops, focus groups, surveys, advisory groups and the Delphi process. These techniques vary in their level of intensity, their ability to obtain representative opinion and the amount and quality of information they are capable of generating. If an appropriate combination of

techniques is used, the drawbacks associated with one technique are compensated through the strengths in another and a well-balanced, effective public involvement process is created.

Third, there are a wide variety of drawbacks associated with public involvement. General drawbacks reviewed in this chapter include difficulty in reaching a representative public, promotion of conflict, alienation of experts, uninformed decision-making and participant burnout. Acquiring an appreciation and understanding of the drawbacks associated with public involvement will help decision-makers develop processes that avoid, or at the very least minimize, these weaknesses.

Finally, a review of the rationale for participation provides insight into the motivations for participation. Acquiring an understanding of the rationale behind participation helps decision-makers structure public involvement processes in a way that motivates individuals to participate, ultimately improving the quantity and quality of information generated.

3. METHODOLOGY

This study required the completion of six stages (Figure 7). The first stage involved the identification of cost-effective public involvement techniques and incorporation of these techniques into a guiding management framework. Using a case study approach, the framework and associated techniques were applied over the following four stages to facilitate development of a management plan for the Moose River Route region of Mount Robson Provincial Park. The sixth and final stage involved a review of the study costs and a cursory evaluation of the Delphi advisory group process.

The case study approach was selected for use because it was considered to be the most appropriate research strategy to investigate the Delphi advisory group as a public involvement technique. The Moose River Route study fits into case study methodology because it involves the examination of a contemporary event, does not manipulate participants, relies on direct observation and relies on systematic interviewing (Yin, 1994). However, there are several weaknesses associated with the case study approach. These weaknesses are discussed in section 2.3.

3.1 IDENTIFY TECHNIQUES AND INCORPORATE INTO FRAMEWORK

The first stage of the study involved the identification of cost-effective public involvement techniques and incorporation of these techniques into a framework to guide development of a management plan for the Moose River Route region.

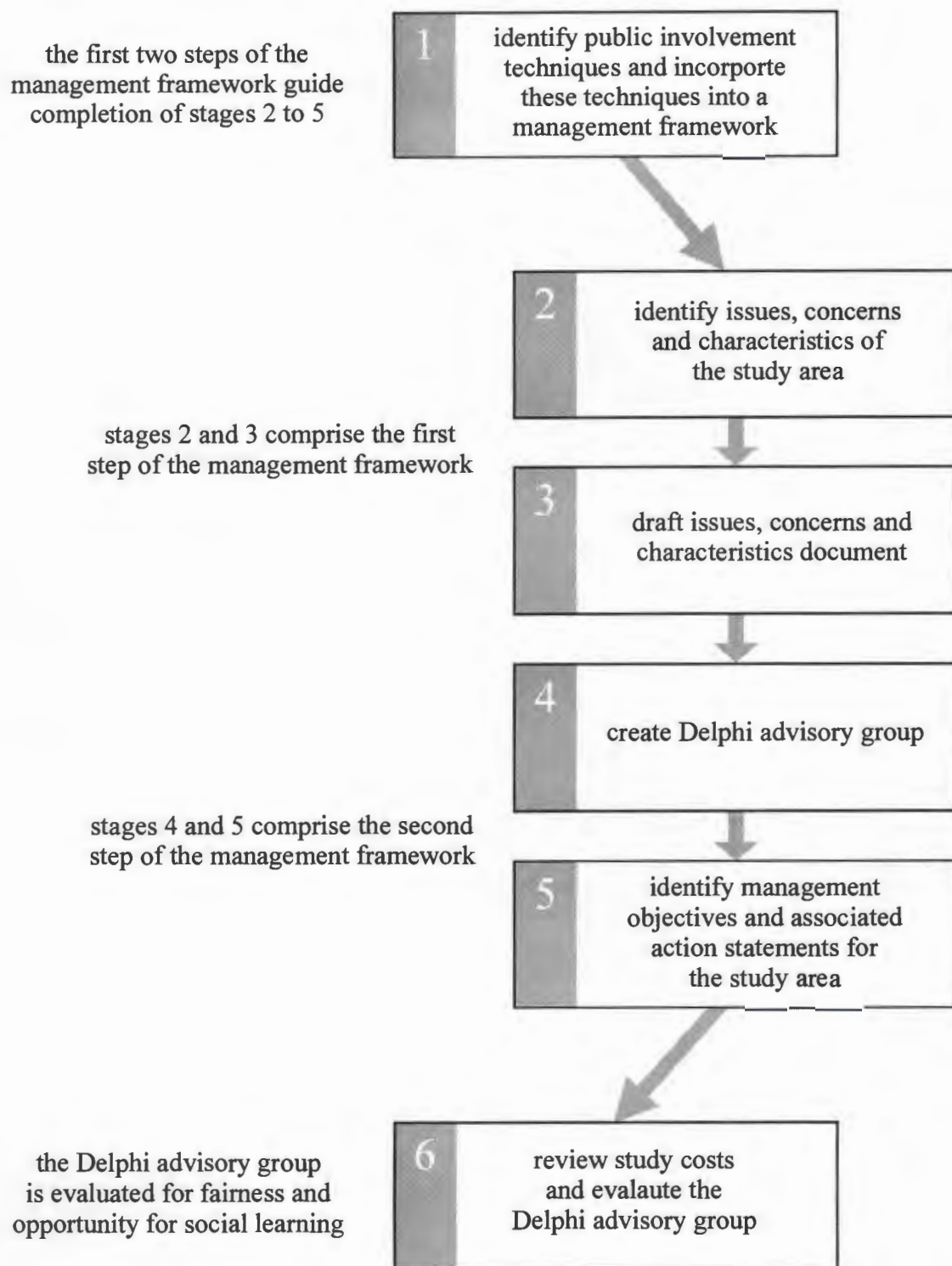


Figure 7. The six stages of the Moose River Route study

3.1.1 THE PUBLIC INVOLVEMENT TECHNIQUES

A literature review was completed to identify public involvement techniques that could obtain meaningful input in a cost-effective manner. Three techniques were selected;

1. semistandardized interviews;
2. opinion questionnaires; and
3. a Delphi advisory group.

Once identified, it was necessary to incorporate the techniques into a framework that would guide development of a management plan for the Moose River Route region.

3.1.2 THE BASIC MANAGEMENT FRAMEWORK

According to Hendee et al. (1990) development of park management plans can be a lengthy and involved process. If there is no framework in place to guide the planning initiative, it is possible that critical steps could be missed or completed out of order. To avoid this complication, a literature review was completed to identify potential management frameworks that could be applied to this study. Three potential frameworks were identified:

1. Limits of Acceptable Change;
2. Visitor Impact Management; and
3. a hybrid framework created for a study on the Berg Lake Trail.

Once the potential frameworks were identified, each one was reviewed in detail to determine their applicability to the Moose River Route study. Unfortunately, this review identified a

number of issues that made application of the potential frameworks either impossible or undesirable.

Specifically, there were two deterrents to use of the Limits of Acceptable Change framework:

1. The framework was designed for large-scale wilderness planning (Nilsen & Tayler, 1997). If it had been applied to this study the framework would have been ineffective at obtaining the level of detail necessary to resolve the region's planning issues.
2. The framework was designed specifically for use by the US Forest Service. Consequently, it contains steps and components that are incompatible with BC Parks' management structure. For example, Limits of Acceptable Change uses a zoning process that is different from the one used by BC Parks.

There was one deterrent to use of the Visitor Impact Management framework:

1. The framework measures existing conditions after standards have been created for those conditions. If existing conditions end up being significantly higher than standards then managers are faced with a situation where there is no need to implement any management strategies. Conversely, if existing conditions end up being significantly lower than standards then managers are faced with a situation where no management strategy (or combination of strategies) can improve conditions to an acceptable level. Under either situation the planning process loses credibility.

There was one deterrent to use of the hybrid framework created for the Berg Lake Trail study:

1. The continuous evaluative nature of the framework is anchored to a review of the Mount Robson Provincial Park master plan and a review of the annual management plan for the Berg Lake Trail. Under most circumstances these reviews will identify and address major changes to the planning area in a timely manner. However, it is also possible that significant and potentially damaging changes could occur between reviews. Management frameworks should maintain a degree of autonomy from other agency processes so that issues can be addressed as the need arises.

Because there were deterrents to the use of each potential management framework, a new framework was created for use in the Moose River Route study (Figure 8). This framework is an adaptation of Limits of Acceptable Change, Visitor Impact Management and the hybrid framework used for the Berg Lake Trail study.

The framework created for this study was given the name *basic management framework* because the framework is both basic in nature and management-oriented. Specifically:

1. The framework is basic in nature because it does not contain any components that are specific to BC Parks. Theoretically, another wilderness management agency could use this framework to develop management plans.
2. The framework is management-oriented because it moves beyond planning to on-the-ground implementation of management strategies (Stankey, 1997).

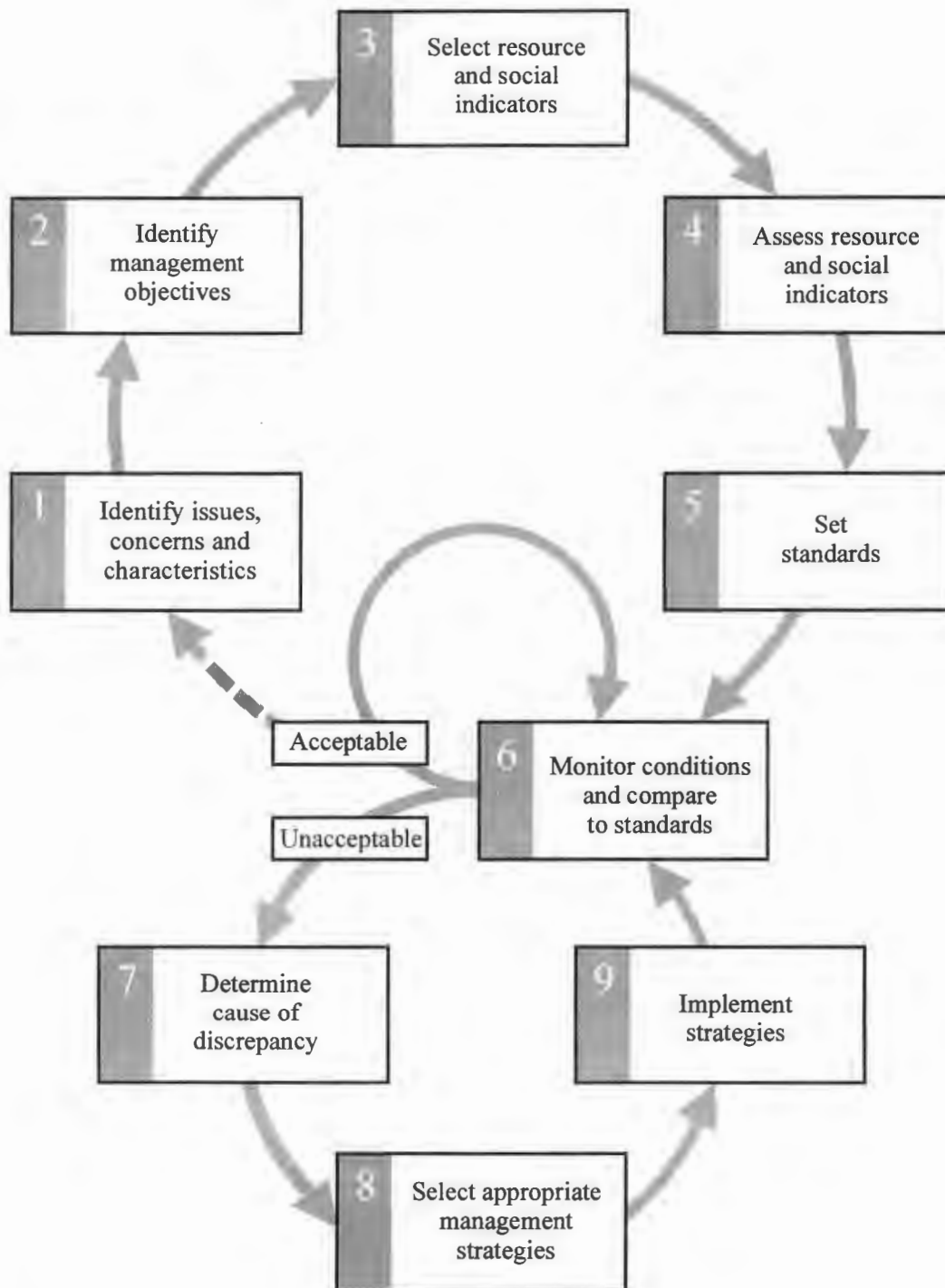


Figure 8. The basic management framework

3.1.2.1 STEPS OF THE BASIC MANAGEMENT FRAMEWORK

This section describes how the basic management framework can be applied towards development of a park management plan. It does not describe how the framework was used to develop the management objectives and associated action statements for the Moose River Route region - this information is contained in sections 3.2 to 3.5.

Much like Visitor Impact Management and the hybrid framework created for the Berg Lake Trail study, the first step of the basic management framework involves the identification of issues, concerns and characteristics that have the potential to affect planning and management of the study area. The purpose of this step is to obtain all relevant information on the region before decisions are made. Relevant information includes (but is not limited to) agency legislation and policy, visitor use data, visitor opinion (as obtained from public involvement processes), reported user group conflict, reported human/wildlife interaction, wildlife habitat, outstanding resource features and outstanding recreational features.

The second step of the basic management framework involves the creation of management objectives to describe (in relatively broad terms) how the study area should be managed. These management objectives should evolve through an analytical and reflective evaluation of the issues, concerns and characteristics identified in the first step of the framework. Public involvement is particularly important because the management objectives ultimately define how the study area will be managed. Examples of management objectives that could be generated during this step of the framework include *maintain the wilderness atmosphere of the region* and *keep facility development to a minimum*.

The third step involves selection of resource and social indicators. The purpose of indicator selection is to identify specific conditions within the study area that should be measured during field assessment. Examples of resource indicators that could be selected include *number of established campsites* and *extent of trail erosion*. Examples of social indicators that could be selected include *number of reported contacts with other parties* and *frequency of reported user group conflict*.

The selection of resource and social indicators is based on the objectives identified in the second step. For example, if the objective *maintain the wilderness atmosphere of the region* is identified, then a potential indicator to measure the wilderness atmosphere could be the number of reported contacts with other parties. Unfortunately, wilderness management agencies cannot measure all of the conditions within a study area. Consequently, they need to identify and select those indicators that provide the best possible information for the least amount of time and money.

The fourth step of the basic management framework involves measurement of the indicators selected in the third step. For example, if the resource indicator *extent of trail erosion* is selected, then trail profiles are one method to measure and monitor trail sections that are affected by erosion. Similarly, if the social indicator *frequency of reported user group conflict* is selected then some procedure must be created to obtain conflict data from visitors using the study area.

The fifth step involves the creation of standards for the resource and social indicators selected in the third step. Ultimately, it is standards that define conditions within the study area. For example, if the social indicator *number of reported contacts with other parties* is assessed in the fourth step, then a potential standard could be *meeting no more than two other parties on the trail and no more than one other party at a campsite*. Standards are created based on an interpretation of the broad objectives identified in the second step but are also influenced by conditions measured in the fourth step.

Once standards have been set, the sixth step of the basic management framework involves a comparison of existing conditions to standards. If conditions are below standards (unacceptable), then the process proceeds to the seventh step. If conditions are above standards (acceptable), then conditions are monitored on a continual basis to ensure that degradation does not occur. The process of continuous monitoring is represented in the basic management framework by the small, circular arrow leaving and feeding back into step six (Figure 7).

On occasion, it may be necessary to leave this feedback loop and reinitiate the management framework at the first step. This would be necessary if, for example, characteristics within the study area changed or if managers felt that issues within the region had evolved. This adaptive management process is represented in the basic management framework by the large upper circle connecting steps one through six.

The lower section of the basic management framework is used only if conditions fall below the standards set during the fifth step. The purpose of the seventh step is to determine the reason(s) why a particular condition does not conform to the standard. In many cases there may be multiple reasons for a discrepancy between conditions and standards. For example, if trail erosion becomes unacceptable it could be due to increased use of the region but could also be due to normal use during particularly wet periods.

Once the reason has been identified, the eighth step of the basic management framework involves selection of appropriate management strategies to correct the condition. In the case of the unacceptable trail erosion, management strategies could include construction of water bars along the trail, placement of gravel on the trail surface or restrictions on travel during particularly wet periods.

Once a strategy has been identified, it is implemented in the ninth step of the framework. The unacceptable condition is then monitored (back to step six) to determine if the strategy is effective. If the condition improves and exceeds the standard, the condition is monitored on a continual basis to ensure that degradation does not occur (the loop leaving and feeding back into step six). If the condition remains unacceptable, steps six through nine are repeated until the unacceptable condition becomes acceptable. This adaptive management process is represented in the framework by the lower circle connecting steps six through nine.

3.2 IDENTIFY ISSUES, CONCERNS AND CHARACTERISTICS OF THE STUDY AREA

The second stage of the study involved the identification of issues, concerns and biophysical/social characteristics of the Moose River Route region. This stage was critical because very little information was available on the region. To identify the most accurate and up-to-date information, two principal data-gathering techniques were used: semistandardized interviews and opinion questionnaires. Additional information was compiled through a review of existing documentation on the Moose River Route region.

3.2.1 SEMISTANDARDIZED INTERVIEWS

Semistandardized interviews were conducted with 27 individuals and one group of 14 individuals to generate information and opinion on issues, concerns and characteristics that could affect planning and management of the study area. Information generated through this process was also used to develop two opinion questionnaires that were distributed following the interview process.

The semistandardized interview technique was selected for use because the researcher was familiar with many, but not all, of the issues that could affect planning and management of the study area. The predetermined questions provided a degree of uniformity to the interview process (Berg, 1989) and explored well-known issues including resource conservation, recreational use, facility development and commercial activity. In contrast, those questions that were formulated during the interview process investigated issues unfamiliar to the researcher.

Many of the predetermined questions used in the semistandardized interview process were modified from questions used in the Limits of Acceptable Change planning process (refer to section 2.1.2 for a list of these questions).

3.2.1.1 SELECTION OF INTERVIEWEES

The intent of the interview process was to identify preliminary issues and concerns related to planning and management of the Moose River Route region. It was not the intent of the researcher to generate representative opinion on planning and management of the Moose River Route region.

The interview process was initiated by asking three government personnel (two from BC Parks and one from Parks Canada) to identify individuals and groups interested in planning and management of the Moose River Route region. The three government personnel were asked to identify individuals and groups that could provide a wide range of perspectives. This request generated a diverse list of 43 individuals and groups including commercial outfitters, recreation groups, local business owners, local historians, government personnel, wildlife specialists, guidebook authors and mountain guides.

During July and August of 1995, attempts were made to contact all 43 individuals and groups on this list to request an interview. Unfortunately, many potential interviewees could not be reached due to seasonal work commitments. Many other potential interviewees declined an interview because they were not interested in the study. Interviews were scheduled with those individuals and groups interested in the study and the interviews completed between July

1995 and January 1996. Although every attempt was made to complete interviews in person, two interviews were completed over the phone.

3.2.1.2 COMPOSITION OF INTERVIEWEES

The 27 individuals who participated in the semistandardized interview process had a wide variety of professions and interests. Specifically, these individuals consisted of 4 local business owners (1 from a helicopter company, 2 from a recreational guiding company and 1 from a bed and breakfast operation), 2 local historians, 2 local commercial horse outfitters, 9 personnel from BC Parks (including 4 planners, 1 resource officer, 1 recreation officer, 1 area supervisor, 1 frontcountry ranger and 1 backcountry ranger), 5 personnel from Parks Canada, 2 wildlife experts (1 from Parks Canada and 1 from BC Environment), 1 individual from BC Lands and 2 individuals from the Ministry of Forests (both these individuals had recreation responsibilities). The one group interview was completed with 14 individuals from a local horse recreation association.

3.2.1.3 INTERVIEW PROCEDURE

Each interview followed the same format. The researcher opened the interview by thanking the interviewee for their time. The researcher then described the purpose of the Moose River Route planning project and the various stages of the study. Once the interviewee was comfortable, they were asked to sign a release statement explaining that they could stop the interview at any time or refuse to answer any of the questions. They were also asked if the interview could be recorded.

Once the release statement had been discussed and signed, the researcher started the interview by working through the predetermined questions (Appendix C). Once all the predetermined questions had been asked, the researcher brought up other issues that had emanated from comments made by the interviewee during the interview process. Once these issues had been explored, the researcher thanked the interviewee for their time and the interview was terminated. In most cases, this process lasted between 20 and 30 minutes although several interviews lasted well over 2 hours.

3.2.2 OPINION QUESTIONNAIRES

Major issues and concerns identified through the interview process were explored in two opinion questionnaires mailed during October and November of 1995. A short version questionnaire (Appendix D) was sent to 305 individuals using a mailing list compiled by BC Parks during their 1990-1992 master planning process for Mount Robson Provincial Park. A long version questionnaire (Appendix E) was sent to 98 individuals using a mailing list compiled by the researcher during the 1995 season. This list was created by taking visitor names and addresses from the trailhead registry and compiling them with a client list provided by the commercial outfitter operating in the region. Response rate was 64% and 69% for the short and long version questionnaires, respectively.

The primary purpose of the short version questionnaire was to obtain stakeholder opinion on appropriate management of the Moose River Route region. The long version questionnaire collected similar information but included additional questions obtaining trip-specific information such as length of stay, party size and form of travel. Both questionnaires

contained a blank page to allow for additional comment/opinion from respondents. These comments are documented in Appendix F.

The questionnaire mailing process followed a modified Dillman technique (Salant & Dillman, 1994). Rather than using five separate mailouts as recommended by Dillman, three mailouts were sent to save on costs. The first mailout package for the short version questionnaire was sent on October 20th and included a cover letter, the questionnaire, a return envelope and two information sheets (one sheet explained the study while the other described the study area). The second mailout, consisting of a postcard reminder, was sent to non-respondents 1 week after the initial mailout (October 27th). A third mailout package, identical to the first, was sent to non-respondents 2 weeks after the postcard reminder (November 10th).

The questionnaire mailing process for the long version questionnaire followed the same format as the short version questionnaire but was initiated 1 week later to stagger the workload. The first mailout package for the long version questionnaire was sent on October 27th and included a cover letter, the questionnaire, a return envelope and the two information sheets. The second mailout, consisting of a postcard reminder, was sent to non-respondents 1 week after the initial mailout (November 3rd). A third mailout package, identical to the first, was sent to non-respondents 2 weeks after the postcard reminder (November 17th).

3.2.3 REVIEW OF EXISTING DOCUMENTATION

The third and final source of information on the Moose River Route region was obtained from existing documentation. Wildlife studies reviewed at this time included a bear hazard evaluation completed in 1989 (McCrary & Mallam, 1989) and a zoological habitat assessment completed in 1973 (Dalziel, 1973). Additional information included weather statistics (Canada, 1981), unpublished trail use statistics for the Moose River Route (data exists from 1989 onwards) and unpublished trail use statistics for the North Boundary and Miette River Pack Trails (data exists from 1983 onwards). Habitat maps for both Mount Robson Provincial Park and Jasper National Park were reviewed and relevant sections reproduced for use in this study. For a thorough review of existing documentation on the Moose River Route region refer to Appendix A, section 5.

3.3 DRAFT ISSUES, CONCERNS AND CHARACTERISTICS DOCUMENT

The third stage of the study involved the creation of a document (Appendix A) describing the issues, concerns and biophysical/social characteristics of the Moose River Route region. The information contained in the document was generated through semistandardized interviews, opinion questionnaires and a review of existing documentation. The document was drafted between January and March of 1996 and went through two revisions before going to print in May of 1996.

3.4 CREATE DELPHI ADVISORY GROUP

The fourth stage of the study involved the creation of a 12-member Delphi advisory group. The advisory group fell within the size range recommended by literature (see section 2.2.7.7)

but also took into consideration the time and financial constraints of the study. Careful consideration was also given to composition of the advisory group because members were ultimately responsible for the identification and prioritization of management objectives.

3.4.1 SELECTION CRITERIA FOR THE DELPHI ADVISORY GROUP

Five criteria (presented in order of importance) were used to create the 12-member Delphi advisory group.

1. Given BC Parks' dual mandate of conservation and recreation, it was felt that the Delphi advisory group should have six conservation-oriented members and six recreation-oriented members.
2. Given the recorded conflict between horse users and hikers, it was felt that the six recreation-oriented members should be comprised of three individuals principally concerned with horse use and three individuals principally concerned with hiking.
3. Given the jurisdictional reality of the Moose River Route region, it was felt that the Delphi advisory group should have representation from both BC Parks and Parks Canada.
4. Given the high level of local interest in the Moose River Route region, it was felt that the Delphi advisory group should have local representation.
5. Given the complex nature of the study, it was felt that wherever possible, the Delphi advisory group should be comprised of individuals previously familiar with the region.

Reconciling these criteria to create a fair and defensible Delphi advisory group was difficult. The conservation and recreation balance was achieved by reviewing semistandardized interview transcripts and identifying individuals who expressed a conservation orientation

and individuals who expressed a recreation orientation. Once potential candidates were identified based on this criterion these individuals were cross-referenced with the remaining four criteria and positions tentatively filled.

It was necessary to go outside the pool of semistandardized interviewees to fill 3 of the 12 Delphi advisory group positions. To maintain the conservation and recreation balance, potential members were queried on their conservation/recreation orientation before being asked if they were tentatively interested in participation.

Once all 12 advisory group positions had been tentatively filled, each potential member was contacted to confirm their interest in the study. If the potential member expressed interest, their membership was confirmed and the selection criteria explained so that the member was aware of the overall composition of the group and their position within that group. Those advisory group members who were affiliated with recreation organizations were asked to represent the interests of all organization members (not their personal interests), while those advisory group members who were affiliated with government agencies were asked to represent the interests of the agency (not their personal interests).

3.4.2 COMPOSITION OF THE DELPHI ADVISORY GROUP

Based on the five selection criteria, the Delphi advisory group was composed of:

1. 6 members with a conservation orientation and 6 members with a recreation orientation;
2. 3 members concerned with horse use and 3 members concerned with hiking;
3. 4 personnel from BC Parks and 2 personnel from Parks Canada;

4. 8 local members; and
5. 9 members previously familiar with the Moose River Route region.

Specifically, the 12 Delphi advisory group positions were filled by:

1. The BC Parks area supervisor for Mount Robson Provincial Park.

The area supervisor for Mount Robson Provincial Park operates out of the park visitor centre and manages day-to-day operations of Mount Robson Provincial Park, Hamber Provincial Park and Kakwa Recreation area. This individual has been through the Moose River Route region on several occasions and is extremely familiar with the region's planning issues and concerns.

2. The BC Parks recreation officer for the Prince George District.

The recreation officer operates out of the district office in Prince George and is responsible for upholding BC Parks' mandate to provide high quality recreation opportunities within the provincial park system. This individual recently traveled the Moose River Route and as the BC Parks liaison for this study has become very familiar with the region's planning issues and concerns.

3. The BC Parks resource officer for the Prince George District.

The resource officer operates out of the district office in Prince George and is responsible for upholding BC Parks' mandate to conserve park resources for future generations. This individual has been on the first eight kilometres of the Moose River Route and has flown over the region three times.

4. A BC Parks regional planner from the northern region planning services team.

This regional planner now operates out of the district office in Parksville and is responsible for coordination and development of planning initiatives for BC Parks. This individual developed the master plan for Mount Robson Provincial Park and is intimately familiar with the region's planning issues and concerns.

5. A Parks Canada warden responsible for wildlife management.

This individual works out of the warden office in Jasper National Park and is responsible for coordination of the park's wildlife program including the wildlife-human conflict section and the wildlife research section. This individual has never been in the Moose River Route region.

6. A Parks Canada warden responsible for inter-agency coordination and planning.

This individual works out of the warden office in Jasper National Park and is responsible for ecosystem management and large landscape issues including social considerations. This individual has never been in the Moose River Route region.

7. A member of the Valemount Saddle and Wagon Club.

This individual lives in Valemount, was a former president of the Valemount Saddle and Wagon Club and was involved in the master planning process for Mount Robson Provincial Park. This individual has traveled through the Moose River Route region on horseback on many occasions.

8. The president of the Yellowhead Outdoor Recreation Association.

This individual lives in Valemount and is a Mount Robson Provincial Park seasonal backcountry ranger. As a backcountry ranger, this individual has been through the

Moose River Route many times and is familiar with the area's planning issues and concerns.

9. The president of the Ozalenka Alpine Club.

This individual lives in McBride and was involved in the master planning process for Mount Robson Provincial Park. This individual has never been in the Moose River Route region.

10. A member of the Caledonia Ramblers.

This individual lives in Prince George and was involved in the master planning process for Mount Robson Provincial Park. This individual has been on the first fifteen kilometres of the Moose River route.

11. The owner/operator of Borderline Guides.

This individual lives in Valemount and is the primary horse outfitter making trips into the Moose River Route region. This individual is extremely familiar with the region having made well over 100 trips into the area for business purposes.

12. The owner/operator of Headwaters Outfitting.

This individual lives in Valemount and has made over 20 commercial and personal trips into the Moose River Route region. This individual was also involved in the master planning process for Mount Robson Provincial Park.

3.5 IDENTIFY MANAGEMENT OBJECTIVES AND ASSOCIATED ACTION STATEMENTS

The fifth stage of the study involved the identification of management objectives and associated action statements for the Moose River Route region. It was this stage that differentiated the study from other BC Parks planning initiatives. Instead of attending face-

to-face meetings, Delphi advisory group members used three mailout questionnaires to identify and prioritize management objectives for study area.

The Delphi process was initiated by giving each member of the advisory group a copy of the issues, concerns and characteristics document in June, 1996. Advisory group members were asked to review the document and use it as a resource during the creation of management objectives for the study area. Specifically, members were asked to create management objectives and associated action statements to address the major issues and concerns identified in the document.

Six weeks after distribution of the issues, concerns and characteristics document, the first Delphi questionnaire (Appendix G) was sent to advisory group members. This questionnaire asked members to create management objectives and associated action statements for the Moose River Route region. The questionnaire provided examples of appropriately phrased statements and contained space for 20 management objectives and 40 associated action statements (2 action statements for each objective). Although the original timeline allotted 6 weeks to complete this questionnaire several advisory group members took over 4 months due to heavy workloads and conflict with vacations.

Once all 12 first Delphi questionnaires had been received (November, 1996) work on the second Delphi questionnaire commenced. Using a procedure similar to Adams, Piercy, Jurich and Lewis (1992) and Fish and Osborn (1992), the management objectives and associated action statements underwent a rigorous review process that included:

- editing for spelling, grammar and readability;
- separating multiple-concept statements into single-concept statements;
- eliminating statements inconsistent with the Mount Robson Provincial Park master plan;
- eliminating statements inconsistent with BC Parks' policy; and
- consolidating statements that proposed the same management objective or associated action statement.

Once a finalized list of management objectives and associated action statements had been created, the statements were incorporated into a draft second Delphi questionnaire. This draft questionnaire was submitted to BC Parks for review in January 1997, revisions made and the finalized questionnaire (Appendix H) mailed to advisory group members in February, 1997.

This questionnaire asked members to indicate their level of agreement/disagreement with each management objective and associated action statement by selecting an appropriate score based on a 7-point Likert-type scale. A score of 1 indicated strong disagreement to the statement while a score of 7 indicated strong agreement.

Once all 12 second Delphi questionnaires had been returned (a process that took 1 month), the median, 1st quartile, 3rd quartile and interquartile range were calculated for each statement using a spreadsheet program with a basic statistical package. The management objectives and associated action statements were then separated into two groups: statements where consensus had been reached and statements where consensus was not attained.

The interquartile range (the range between the 1st and 3rd quartiles) was used to define consensus following Adams et al. (1992) and Fish and Osborn (1992). Any management objective or action statement that had an interquartile range of less than or equal to 1.5 indicated strong consensus among Delphi advisory group members. Any statement with an interquartile range of greater than 1.5 indicated disagreement among members.

The third Delphi questionnaire was drafted in April 1997 and sent to advisory group members in May. This questionnaire was individually tailored to each member - it contained the 12 scores for each unresolved statement as well as the score assigned to that statement by the individual receiving the questionnaire. Delphi advisory group members could see how their score compared to other members but ownership of scores was not revealed. Following Allen (1978), advisory group members were asked to review each unresolved statement and either change their score to obtain consensus or provide a written response justifying their position on that issue. An example of the third Delphi questionnaire is contained in Appendix I.

Unlike the previous two questionnaires, the third Delphi questionnaire did not have a 100% response rate - one advisory group member chose not to complete the questionnaire. This member felt that the scorings provided in the second questionnaire were appropriate and did not need further consideration. Consequently, for analysis purposes the scorings from the second Delphi questionnaire were considered this members' final scorings.

Once all 12 third Delphi questionnaires had been received or accounted for (September, 1997), the median, 1st quartile, 3rd quartile and interquartile range were calculated. The management objectives and associated action statements were then separated into two groups: statements where consensus had been reached and statements where consensus was not attained.

3.6 REVIEW STUDY COSTS AND EVALUATE DELPHI ADVISORY GROUP PROCESS

The sixth and final stage involved a review of the study costs and a cursory evaluation of the Delphi advisory group process. A literature review was completed to identify potential criteria that could be used for the advisory group evaluation. This review identified:

- process-oriented criteria such as empowerment, degree of influence, feedback and fairness;
- outcome-oriented criteria such as competence and satisfaction with results; and
- interactive criteria such as opportunity for social learning (Syme & Sadler, 1994, Webler et al., 1995).

Selecting appropriate criteria for the cursory evaluation was difficult because criteria tend to be highly specific to the process or program that is being evaluated (Rossi & Freeman, 1993; Syme & Sadler, 1994). A study completed by Webler et al. (1995) recommended the use of fairness, competence and opportunity for social learning. These criteria were eventually selected by the researcher because of the inclusion of social learning. This criterion was appealing because it investigates one of the principal benefits of public involvement - developmental benefits (see section 2.2.4.2 for a review of developmental benefits).

3.6.1 FAIRNESS

Fairness is a critical evaluative criterion for public involvement processes. If participants feel that a process has been unfair, final recommendations may be difficult, if not impossible, to implement. Webler et al. (1995) suggest that evaluations of fairness consider criteria such as participants' perceptions of the openness of the process and participants' perceptions on the amount of time made available for consultative stages.

The fairness of the Delphi advisory group process was evaluated by sending members an evaluation questionnaire (Appendix J) that asked for their opinion on the process. The questionnaire was mailed in mid January 1998 with a requested turnaround time of 6 weeks. Eight of the 12 Delphi advisory group members responded to the evaluation questionnaire.

3.6.2 COMPETENCE

According to Webler et al. (1995), the information and recommendations developed through a public involvement process must be technically competent. If not, facilitators have wasted their time and resources, as well as the time and resources of participants. Rather than evaluating competence at the conclusion of their study, Webler et al. utilized *three levels of oversight* to ensure competency throughout the course of their public involvement process.

These *levels of oversight* were:

1. constant review of the process by the responsible government agency;
2. use of a Delphi group; and
3. periodic review by a project oversight committee.

The Moose River Route study utilized a similar arrangement to ensure competency.

3.6.2.1 CONSTANT REVIEW BY THE RESPONSIBLE AGENCY

A broad range of BC Parks personnel were actively involved in the Moose River Route study, particularly during the semistandardized interview and Delphi advisory group processes. BC Parks personnel involved in the semistandardized interview process included:

- four park planners;
- the district recreation officer;
- the district resource officer;
- the Mount Robson Provincial Park backcountry ranger;
- the Mount Robson Provincial Park frontcountry ranger; and
- the Mount Robson Provincial Park area supervisor.

BC Parks personnel involved in the Delphi advisory group process included:

- a park planner;
- the district recreation officer;
- the district conservation officer; and
- the Mount Robson Provincial Park area supervisor.

In addition to the above agency involvement, the BC Parks liaison reviewed every stage of the study - from preparation of the thesis proposal document to distribution of the evaluation questionnaire. Specifically, this individual provided comment on draft versions of the:

- thesis proposal document;
- semistandardized interview questions (and associated interview protocol);
- two opinion questionnaires (and associated cover letters/information sheets);

- issues, concerns and characteristics document;
- three Delphi questionnaires (and associated cover letters)
- management objectives document (and associated cover letter); and
- evaluation questionnaire (and associated cover letter).

3.6.2.2 USE OF A DELPHI GROUP

The public involvement process completed by Webler et al. (1995) utilized a Delphi group to provide expert recommendations on the location of landfill sites. The recommendations generated by this Delphi group were fed into the planning process to ensure competency. The Moose River Route study utilized a similar process - a carefully selected Delphi advisory group generated management objectives and associated action statements for the Moose River Route region. See section 3.4 for a review of the process used to select Delphi advisory group members.

3.6.2.3 PERIODIC REVIEW BY A PROJECT OVERSIGHT COMMITTEE

The project oversight committee that was created for the study by Webler et al. (1995) selected the methodology used in the public involvement process and reviewed all documentation distributed to participants. The thesis committee created for the Moose River Route study completed similar tasks. This committee was intimately involved in the selection of methodology and, like the BC Parks liaison, provided comment on draft versions of all documentation generated during the course of the study.

3.6.3 OPPORTUNITY FOR SOCIAL LEARNING

Webler et al. (1995) define social learning as a process that changes the social condition of participants - in particular, changes to participants' personal awareness and how they see their interests linked to the shared interests of others. Webler et al. identify two components to social learning: cognitive enhancement and moral development.

In general, cognitive enhancement refers to the acquisition of knowledge on:

- the planning problem;
- the potential solutions;
- other individuals' values; and
- the methods used to resolve the problem.

In general, moral development refers to:

- development of a sense of self-respect and responsibility;
- development of skills in moral reasoning and problem solving;
- development of a sense of group solidarity;
- development of skills in cooperation; and
- an ability to take on the perspective of others.

Results from Webler et al.'s (1995) evaluation of social learning indicate that moral development occurs through intimate and frequent contact between participants. For example, Webler et al. discuss how:

- regularly scheduled meetings enhances solidarity, mutual respect and confidence in others;
- interaction during site visits helps participants adopt others' perspectives;
- interaction during site visits encourages participants to empathize with each other; and
- arranging meetings in familiar environments such as small restaurants or pubs promotes collegiality.

Given the observations by Webler et al. (1995), moral development was not evaluated in the Moose River Route study because of the absence of face-to-face interaction between members of the Delphi advisory group. However, the cognitive enhancement component of social learning was evaluated through the same questionnaire (Appendix J) that was used to evaluate the fairness of the Delphi advisory group process.

4. RESULTS

Results were generated in three stages of the study:

1. stage two involved the identification of issues, concerns and biophysical/social characteristics of the study area through the use of semistandardized interviews and opinion questionnaires;
2. stage five involved the identification of management objectives and associated action statements for the study area through the use of a Delphi advisory group; and
3. stage six involved a review of study costs and a cursory evaluation of the Delphi advisory group process through the use of an evaluative questionnaire.

An extremely large amount of information was generated over the course of the Moose River Route study, particularly in stages two and five. To maintain document flow and ease of readability, this chapter will review all of the results from stage six but will only review major results from stages two and five. Specifically, the review of stages two and five will focus on controversial issues prevalent throughout the planning process - issues that were identified through semistandardized interview or opinion questionnaires and addressed (but not necessarily resolved) through the creation of management objectives and associated action statements.

A complete review of issues, concerns and biophysical/social characteristics of the Moose River Route region is contained in Appendix A. A complete review of the management objectives and associated action statements created by the Delphi advisory group is contained in Appendix B.

4.1 RESULTS OVERVIEW FROM INTERVIEWS AND QUESTIONNAIRES

The second stage of the study involved the identification of issues, concerns and biophysical/social characteristics of the Moose River Route region. The issues and concerns were identified through two techniques: semistandardized interviews and opinion questionnaires.

4.1.1 RESULTS OVERVIEW FROM SEMISTANDARDIZED INTERVIEWS

4.1.1.1 GENERAL MANAGEMENT ISSUES

The semistandardized interview process identified a number of general issues and concerns related to planning and management of the Moose River Route region. Overall, interviewees felt that the region should be managed to emphasize conservation concerns over recreation values. A variety of justifications were provided but most focussed on the pristine, ecologically sensitive nature of the region and the existence of many high-use recreational areas adjacent to the region, or in other nearby parks. Two interviewees mentioned the possibility of giving the lower section of the Moose River Route region (near the highway) a recreational focus while maintaining the upper section of the region in a wilderness state.

The majority of interviewees felt that existing recreational activities (hiking, horseback riding, backcountry skiing and helicopter use) were appropriate for the region. However, several interviewees believed that any helicopter use was inappropriate because of disturbance to wildlife and conflict with other user groups, particularly hikers. None of the interviewees objected to the existing exclusion of mountain bikes, citing concerns over potential conflict with hikers and horse users.

Similar to opinion on appropriate activities, most interviewees felt that the current level of use within the Moose River Route region was appropriate. Many interviewees feared that increased use would result in a need for hardened facilities such as trail repairs, trail rerouting and campsite development. Some individuals mentioned the need for user fees to defray costs associated with management and maintenance of the Moose River Route region.

4.1.1.2 COMMERCIAL ACTIVITY ISSUES

Interviewees did not have any direct concerns with commercial activity in the Moose River Route region. However, interviewees mentioned other indirect issues such as the appropriateness of helicopter activity and concerns over grazing.

4.1.1.3 HORSE USE ISSUES

The single most controversial issue brought up by interviewees was the horse use restriction placed on the Berg Lake Trail during the 1990-1992 master planning process for Mount Robson Provincial Park. This restriction makes it very difficult for visitors to reach the Berg Lake region by horse unless they travel with one of two commercial guides operating in the area. Although many interviewees felt this issue should have been addressed in the planning process for the Moose River Route region, the terms of reference for this study did not permit changes to the park master plan.

Other controversial horse use issues identified through the interview process revolved around grazing. Many interviewees were concerned about changes in species compositions, reduced forage production from grazing-induced soil damage, competition with ungulates and

introduction of non-native species. Suggestions to resolve these issues included the carrying of feed and backcountry grazing restrictions.

4.1.1.4 WILDLIFE ISSUES

One of the most frequent wildlife-related concerns mentioned by interviewees was the need for a thorough wildlife assessment of the Moose River Route region. Interviewees felt that the assessment should collect basic information such as species inventory, population estimates, movement patterns and habitat suitability (on a seasonal basis), as well as more complex information identifying effects of recreational activity on wildlife. Interviewees felt that the goal of the wildlife assessment should be to determine what types of recreational activity might be appropriate for the region, as well as when and where this activity could occur.

Closure of the Slide Lake campsite was mentioned by several interviewees who felt that visitors would still use the campsite regardless of the bear hazard (for a detailed description of this issue refer to Appendix A, section 5.4). It was thought that the best way to deal with the problem would be to provide a permanent bear pole, warn visitors of the bear hazard and provide tips on camping in bear country.

Additional wildlife-related issues identified through the interview process included (a) the importance of passes within the Moose River Route region as wildlife corridors, (b) potential displacement of wildlife from mineral licks, and (c) potential displacement of grizzly bears by horse grazing and recreational activity throughout the Moose River Route region.

4.1.1.5 RESOURCE ISSUES

The appropriateness of fires and access to firewood were the two main resource-related issues brought up during the interview process. The large majority of interviewees felt that fires were appropriate for the Moose River Route region. Several individuals suggested locating campsites close to avalanche slopes so timber brought down on a seasonal basis could be used for firewood. Others felt it would be acceptable to carefully select immature trees close to campsites rather than skidding logs in from avalanche slopes.

Access to Arctomys cave was a third resource-related concern brought up by interviewees. Every interviewee who mentioned this issue felt that recreational use of the cave should never be promoted and access never improved because of concerns over safety.

4.1.1.6 FACILITY ISSUES

The issue of facility development was closely tied to the level of use within the Moose River Route region. Many interviewees had difficulty identifying what (if any) facilities were appropriate because they felt that the level of facility development was completely dependant upon the level of use. Working from what they considered to be an appropriate level of use, the majority of interviewees felt that facility development should be minimal. Of course, some individuals preferred zero facility development while others wanted basic facilities to support recreational use and to protect the region's resources. All interviewees agreed that the Moose River Route region should never become as popular and developed as the Berg Lake Trail.

With respect to specific facilities, the majority of interviewees considered bear poles and outhouses to be appropriate for higher use campsites so long as they were easy to maintain and unobtrusive. Other facilities identified by respondents included fire rings, tent pads and rustic shelters for campsites, as well as a detailed information board, outhouse and corral for the trailhead. Bridges were considered inappropriate by the majority of interviewees because they would improve access to the region and ultimately increase the number of visitors. However, several interviewees mentioned that bridges might be necessary to protect stream habitat if continued recreational activity lead to sedimentation problems.

4.1.1.7 OTHER ISSUES

In addition to general management, commercial activity, horse use, wildlife, resource and facility concerns, interviewees brought up a number of other issues related to planning and management of the Moose River Route region.

A number of interviewees mentioned the need to adopt a systems approach to planning and management of the Moose River Route region. These individuals felt that there was no point in developing the region if similar recreational experiences could be offered in other areas. Similarly, many interviewees considered the experience offered by the Moose River Route region to be particularly unique and consequently felt that the area should be left as it currently exists.

Many interviewees mentioned that linking the Berg Lake Trail with the Moose River Route would provide a spectacular loop trip around Mount Robson. One interviewee felt that this

trip could offer a backcountry experience on par with the West Coast Trail. However, several interviewees were concerned about any proposal that could potentially increase use of the Berg Lake Trail.

4.1.2 RESULTS OVERVIEW FROM OPINION QUESTIONNAIRES

4.1.2.1 GENERAL MANAGEMENT ISSUES

Opinion questionnaire respondents would like to see the Moose River Route region managed for conservation concerns over recreation values. This opinion was obtained by presenting respondents with a 5-point continuum and asking them to indicate their preference for management direction by circling one of the five points. A score of 1 indicated a preference for conservation, whereas a score of 5 indicated a preference for recreation. Respondent's overall score was 2.75, with 3.00 being midpoint on the 5-point scale. This emphasis on conservation is similar to opinion expressed by semistandardized interviewees.

Opinion questionnaire respondents were asked to provide their opinion on the appropriateness of eight recreational activities within the Moose River Route region. Of those eight, backpacking, mountaineering, cross-country skiing, rock climbing, caving, fishing and horseback riding were considered appropriate. Helihiking was the only activity not considered appropriate; mirroring the opinion expressed by semistandardized interviewees. Interestingly, respondents scored the appropriateness of horseback riding relatively low - an opinion that was not observed during the semistandardized interview process.

Although the opinion questionnaire did not ask respondents about an appropriate level of use within the Moose River Route region, many individuals used the space on the back of the questionnaire to express their concerns with this issue. The majority of respondents to comment on the issue felt that the Moose River Route region should be maintained at its current level of use. Similar to arguments made by semistandardized interviewees, respondents to the opinion questionnaire felt that increased use would result in increased facility development which in turn would lead to increased use and yet more facilities.

4.1.2.2 COMMERCIAL ACTIVITY ISSUES

The appropriateness of commercial activity within the Moose River Route region was a contentious issue for opinion questionnaire respondents. Although 60% of respondents supported this activity, many individuals used the space provided on the back of the questionnaire to express their concern. Several respondents cited trail damage from commercial horse activity as justification for the exclusion of commercial activity.

Respondents were invited to comment on the types of commercial activity they thought were appropriate for the area. Analysis identified six distinct statements. Fifteen percent of respondents felt that guided horseback riding and hiking were the only commercial activities appropriate for the region. An equal percentage indicated that commercial helicopter activity was inappropriate. Fourteen percent believed that guided horseback riding was the only appropriate activity, whereas 6% felt that guided hiking was the only appropriate commercial activity. Twelve percent were not concerned about the type of commercial activity but felt

that any activity should be limited in scope. Finally, 10% of respondents felt that all types of commercial activity were appropriate.

These results indicate that although there is support for commercial activity within the Moose River Route region, there is no single activity that has strong support from respondents. The combination of guided hiking/horseback riding has support from some respondents but an almost equal percentage felt that horse use should be the only commercial activity. Similarly, many respondents felt that commercial helicopter activity is inappropriate within the Moose River Route region, but there were as many respondents who felt that all commercial guiding activity (including helicopter use) is appropriate.

4.1.2.3 HORSE USE ISSUES

The most prevalent horse use issue brought up by respondents was trail damage from horse activity in the Moose River Route region. Over 10% of the comments on the back page of the questionnaire raised this issue, with the majority of those individuals in favour of excluding horse use from the area. A smaller percentage of individuals used the space on the back page of the questionnaire to appeal for continued horse use in the Moose River Route region.

The horse restrictions placed on the Berg Lake Trail during the Mount Robson Provincial Park master planning process was a second issue brought up by respondents. Similar to the opinion expressed by semistandardized interviewees, respondents were not in favour of these restrictions.

4.1.2.4 WILDLIFE ISSUES

A number of respondents made wildlife-related comments on the back page of the opinion questionnaire. Respondents were concerned about critical wildlife habitat, travel corridors, the bear hazard at Slide Lake campsite, negative wildlife/human interaction and the need for a wildlife assessment. Most of these issues were also identified by interviewees during the semistandardized interview process.

4.1.2.5 RESOURCE ISSUES

Although there was not a significant amount of comment on resource-related issues, respondent concerns included negative impacts to trail-side flora from horse use, the need for an ecological assessment of the Moose River Route region and the need to regulate use of Arctomys cave to ensure protection of the cave's fragile ecosystem.

4.1.2.6 FACILITY ISSUES

Similar to the question on appropriate recreational activity, respondents were asked to indicate their level of support for seven facilities within the Moose River Route region. Of those seven, bear poles, trail markers, trail repairs, outhouses, bridges and fire rings were considered desirable. Tent pads were the only facility considered undesirable. Respondent's strong support for trail markers and trail repairs, as well as their general support for bridges and fire rings contrasts with semistandardized interviewees' conditional support for bear poles and outhouses.

The vast majority of facility-related comments provided on the back page of the opinion questionnaire argued for minimal facility development within the Moose River Route region. Respondents felt that facilities should only be put in place for resource protection; an opinion expressed by a number of semistandardized interviewees. A surprising number of respondents indicated that they had gotten lost while travelling in the Moose River Route region - possibly providing an explanation for the relatively high level of support shown for trail markers in the long version opinion questionnaire.

4.1.2.7 OTHER ISSUES

Much like the semistandardized interview process, other issues and concerns raised through the opinion questionnaire process included the use of a systems approach for planning and management of the Moose River Route region and possible promotion of a loop trip between the Moose River Route and the Berg Lake Trail.

4.2 RESULTS OVERVIEW FROM DELPHI ADVISORY GROUP PROCESS

Stage five was the second stage of the study to generate results - the identification of management objectives and associated action statements for the Moose River Route region. Similar to the overview of results from stage two, this section will only touch on major and controversial management objectives and associated action statements. For a complete discussion of the results from stage five, refer to Appendix B.

4.2.1 TERMINOLOGY

Before discussing results from the Delphi advisory group process, it is necessary to review the terminology used in this discussion. Delphi advisory group members were asked to indicate their level of support for each statement by scoring statements on a 7-point scale. A score of 1 indicated strong disagreement with the statement, whereas a score of 7 indicated strong agreement. The management objectives and associated action statements were then grouped into five different levels of support based on their average score.

Statements with an average score between:

6.01 and 7.00 were considered to have *strong support* from members;

5.01 and 6.00 were considered to have *support* from members;

3.01 and 5.00 were considered to be *neutral* to members;

2.01 and 3.00 were considered to be *rejected* by members; and

1.00 and 2.00 were considered to be *strongly rejected* by members.

The scorings provided by Delphi advisory group members were also used to determine consensus. Consensus was defined as any statement with an interquartile range between 0.00 and 1.50. Statements with an interquartile range greater than 1.50 were considered to be *unresolved*, whereas statements with an interquartile range lower than 1.50 were considered to be *resolved*. Interquartile range is a statistical representation of the spread of scores - the greater the interquartile range, the greater the spread in scores and the lower the level of agreement on a particular statement.

Delphi advisory group members created 225 discrete statements through the first Delphi questionnaire - 46 management objectives and 179 associated action statements. Upon completion of the third Delphi questionnaire, 33 of the 46 management objectives (72%) were resolved and 128 of the 179 associated action statements (72%) were resolved.

4.2.2 RESULTS OVERVIEW

4.2.2.1 GENERAL MANAGEMENT ISSUES

Delphi advisory group members created 18 management objectives and 63 associated action statements to address general management issues. Fourteen of the 18 management objectives (78%) and 49 of the 63 associated action statements (78%) were resolved.

Similar to opinion expressed by interviewees and respondents, advisory group members felt that the Moose River Route region should be managed to emphasize conservation concerns over recreation values. In general, conservation-oriented objectives received support from members while development-oriented objectives were either rejected or unresolved. For example, management objectives proposing minimization of potential crowding and completion of an environmental assessment were supported, whereas objectives proposing development and promotion of the region were either unresolved or rejected.

Other major conservation-oriented statements that received advisory group support included management objectives and associated action statements aimed at monitoring and regulating levels of use within the Moose River Route region. Specifically, support was given to proposals for mandatory visitor registration, camping restrictions and quota restrictions.

Interestingly, the level of support for quota restrictions was dependant on the type of use - advisory group members supported quotas for all commercial activity as well as non-commercial horse use but were neutral towards quotas for non-commercial hiking.

A proposal to develop the lower section of the Moose River Route region (first identified during the semistandardized interview process) could not be resolved by advisory group members. However, members strongly supported the associated proposal to maintain upper sections of the region in a wilderness state - reiterating the opinion that conservation concerns take precedence over recreation interests.

Another issue first identified during the semistandardized interview process was the implementation of user fees. Unfortunately, the management objective proposing implementation of user fees could not be resolved. However, partial resolution was obtained when members showed support for user fees based on the type of activity. Members supported user fees for commercial activity but remained unresolved on user fees for non-commercial activity.

With respect to appropriate activities, advisory group members showed support for unserviced overnight camping, limited winter recreation, as well as non-commercial day and overnight use by hikers and horse riders. These results embody the opinion expressed by both semistandardized interviewees and opinion questionnaire respondents. Advisory group members also mimicked the split opinion expressed by interviewees and respondents on the appropriateness of helicopter activity within the Moose River Route region. Although strong

support was shown for limiting the extent of helicopter activity, members could not agree on the methods to achieve this objective. The appropriateness of helicopter activity was the single most contentious issue tackled by Delphi advisory group members.

4.2.2.2 COMMERCIAL ACTIVITY ISSUES

Delphi advisory group members created 5 management objectives and 16 associated action statements to address commercial activity issues. Four of the 5 management objectives (80%) and 6 of the 16 associated action statements (38%) were resolved.

In general, advisory group opinion on commercial activity within the Moose River Route region resembled the opinion expressed by semistandardized interviewees more than it resembled the opinion expressed by questionnaire respondents. Advisory group members gave strong support to commercial activity. However, results were mixed when members were queried on the types of appropriate activity. Strong support was given to commercial horse activity but commercial hiking was unresolved.

The issue of commercial user fees/cost recovery was brought up in both the general management and commercial activity sections of the Delphi questionnaires. Advisory group members supported user fees for commercial activity in the general management section but were unresolved on cost recovery for commercial activity in the commercial activity section. Although this opinion appears contradictory, it is probable that members consider user fees to be a separate issue from cost recovery. Cost recovery implies implementation of user fees to

permit self-sustaining management, whereas implementation of user fees does not necessarily eliminate the need for government subsidization.

4.2.2.3 HORSE USE ISSUES

Delphi advisory group members created 8 management objectives and 16 associated action statements to address horse use issues. Six of the 8 management objectives (75%) and 11 of the 16 associated action statements (69%) were resolved.

The appropriateness of horse activity, damage from over-grazing and concern with the maximum number of horses in a party were three issues identified during the semistandardized interview and opinion questionnaire processes. Advisory group members addressed all three of these issues during the Delphi process. Strong support was given to continued horse activity within the Moose River Route region - advisory group members felt that this activity was entirely appropriate for the area. Members also supported an objective to prevent over-grazing within the Moose River Route region although they could not resolve the associated action statement that proposed carrying of horse feed. Finally, advisory group members were unanimous in their support for an objective proposing a maximum limit to the number of horses per party.

4.2.2.4 WILDLIFE ISSUES

Delphi advisory group members created 4 management objectives and 33 associated action statements to address wildlife issues. Three of the 4 management objectives (75%) and 30 of the 33 associated action statements (91%) were resolved.

The need for a comprehensive wildlife assessment, concern over travel corridors and concern over wildlife displacement were three issues raised during the semistandardized interview and opinion questionnaire processes. Advisory group members identified management objectives and associated action statements to address these concerns.

Members showed strong support for an objective proposing minimization of wildlife impacts from recreational activity. Associated action statements that also received support included (a) development of a wildlife inventory plan, (b) completion of both habitat and movement corridor assessments, and (c) development of a wildlife management plan. Concern over displacement of grizzly bears from the upper Moose River drainage was addressed through the support of action statements proposing a no-camping area for the Moose Pass region, closure of the Slide Lake campsite and improvement of the trail re-route around the Slide Lake campsite.

4.2.2.5 RESOURCE ISSUES

Delphi advisory group members created 3 management objectives and 9 associated action statements to address resource issues. Two of the 3 management objectives (67%) and 6 of the 9 associated action statements (67%) were resolved.

The appropriateness of campfires within the Moose River Route region was a contentious issue for advisory group members. A management objective proposing implementation of a campstove only policy within the region could not be resolved. Several members felt that

campfires were entirely appropriate given the wilderness nature of the route while others felt that negative impacts from firewood collection were a significant concern.

Advisory group members, like many interviewees and questionnaire respondents, felt that special features such as *Arctomys* cave should be protected. Action statements aimed at keeping these features off of maps and information sheets were strongly supported by members.

4.2.2.6 FACILITY ISSUES

Delphi advisory group members created 8 management objectives and 42 associated action statements to address facility issues. Four of the 8 management objectives (50%) and 26 of the 42 associated action statements (62%) were resolved.

Similar to opinion expressed by semistandardized interviewees, advisory group members strongly support the development of backcountry toilets and free-standing bear poles in campsites. Development of other facilities including benches and tent pads could not be resolved while development of picnic tables was strongly rejected. Members also felt that campsites should be of small capacity and that horse and hiker campsites should not be combined.

Advisory group members could not resolve their opinion on trail improvements for the Moose River Route region. This indecisiveness could be an indication that members believe the trail should be left as it currently exists. A proposal for development of simple log

bridges could not be resolved while proposals to improve the trail to a standard level (high, medium or low standard) were either rejected or unresolved. Improved signage to reduce the chance of getting lost was not resolved (even though trail markers had strong questionnaire support) while development of separate trails for horse and hikers was scored neutral.

4.2.2.7 OTHER ISSUES

Two additional issues identified by both semistandardized interviewees and questionnaire respondents were (a) the need for a systems approach to planning and management of the Moose River Route region, and (b) the potential for a loop trip between the Moose River Route region and the Berg Lake Trail. Although advisory group members did not directly address these two issues during the Delphi process, several management objectives and associated action statements did provide some degree of resolution.

Advisory group members partially addressed the systems approach issue by supporting an objective proposing systematic management of the Moose River Route region and an objective proposing coordination of management with adjacent jurisdictions. Advisory group members addressed the loop trip issue through support of several conservation-oriented objectives that precluded any type of development or promotion of the Moose River Route region.

4.3 RESULTS FROM REVIEW OF STUDY COSTS AND CURSORY EVALUATION

Stage six, the last stage of the Moose River Route study to generate results, involved a review of study costs and a cursory evaluation of the Delphi advisory group process.

4.3.1 REVIEW OF STUDY COSTS

One of the principal benefits associated with the Delphi technique is its cost-effectiveness (Needham & de Loë, 1990). In order to make comparisons between the Delphi technique and other public involvement processes, a record was kept of all expenditures associated with facilitation of the Delphi advisory group process (as well as the other stages of the study). Labour costs were not calculated because there was no accurate data on the number of hours spent on the project. The length of the study, combined with the large number of individuals involved, made it impracticable to keep track of this information.

The first stage of the study involved identification of public involvement techniques and incorporation of these techniques into a guiding management framework. Completion of this stage required the collection and synthesis of relevant literature as well as the creation of a proposal document. This stage was completed at a cost of \$163.60.

The second stage involved the identification of issues, concerns and biophysical/social characteristics of the Moose River Route region. Two principal data-gathering techniques were used to collect this information: semistandardized interviews and opinion questionnaires. The semistandardized interview process involved five trips to the Mount Robson region to interview 41 individuals. This component was completed at a cost of \$1144.60. The opinion questionnaire process involved printing and distributing 500 questionnaire packages to both national and international respondents. This component was completed at a cost of \$1784.23. The final cost component from the second stage was the

printing and distribution of over 100 results packages to interested members of the public.

This component was completed at a cost of \$244.45.

The third stage of the study involved development of a document detailing the information generated by the semistandardized interview and opinion questionnaire processes. The total cost of creating and printing fourteen copies of this document was \$447.36.

The fourth stage involved creation of a Delphi advisory group assigned the task of identifying and prioritizing management objectives for the Moose River Route region. The costs from this stage (\$79.93) were incurred principally from phone calls to prospective members and from distribution of the issues, concerns and characteristics document to confirmed advisory group members.

The fifth stage of the study involved the identification of management objectives and associated action statements for the Moose River Route region. Unlike previous BC Parks planning initiatives, advisory group members did not meet face-to-face to discuss management of the Moose River Route region. Instead, members generated statements and scored their agreement with these statements using three consecutive Delphi questionnaires. The total cost of printing and distributing the Delphi questionnaires was \$213.23.

The final stage involved a cursory evaluation of the Delphi advisory group process. The costs from this stage (\$145.58) were incurred from (a) printing and distribution of the evaluation

questionnaire, and (b) printing and distribution of the finalized list of management objectives and associated action statements.

The total cost of generating management objectives and associated action statements for the Moose River Route region was \$4222.98. See section 5.1 for a discussion of the cost-effectiveness of the public involvement techniques used for the Moose River Route study.

4.3.2 CURSORY EVALUATION OF THE DELPHI ADVISORY GROUP PROCESS

The cursory evaluation of the Delphi advisory group process was based on two criteria, fairness and opportunity for social learning.

4.3.2.1 FAIRNESS

The fairness of the Delphi advisory group process was evaluated through a questionnaire (Appendix J) that was distributed to advisory group members upon completion of the Delphi process. The questionnaire contained three questions related to fairness:

1. Did you feel that the planning process used for this study was open and fair?
2. Were you able to incorporate your values and knowledge into the planning process?
3. Were you given enough time to complete the questionnaires?

Of the eight respondents to the evaluation questionnaire, seven considered the process to be open and fair (question one). The eighth respondent considered the process to be unfair because lack of face-to-face interaction led to acceptance of statements that this individual considered vague and potentially open to misinterpretation. In addition, one respondent made

the comment that the process was unfair in that the management objectives and associated action statements generated through the study did not represent the views of stakeholders.

All eight respondents to the evaluation questionnaire felt that they were able to incorporate their values and knowledge into the planning process (question two). However, one respondent felt that the incorporation of values would have been significantly enhanced if face-to-face interaction between members had occurred. Regarding the incorporation of knowledge, three respondents expressed appreciation at having the opportunity to create management objectives and associated actions statements through the first Delphi questionnaire.

None of the eight respondents had any concerns over the time given to complete the three Delphi questionnaires (question three). Two respondents commented that there had been more than enough time between questionnaires.

4.3.2.2 OPPORTUNITY FOR SOCIAL LEARNING

Opportunity for social learning was evaluated through a questionnaire (Appendix J) distributed to advisory group members upon completion of the Delphi process. The questionnaire contained three questions related to the cognitive enhancement component of social learning:

1. Did participation increase your knowledge of the Moose River Route region and the issues that will affect planning and management of this region?

2. Did participation increase your knowledge and awareness of BC Parks' planning and management responsibilities?
3. Did participation give you a feeling of contributing?

All eight respondents to the evaluation questionnaire felt that they had increased their knowledge of the Moose River Route region and the region's planning issues through participation in the process (question one). Two respondents expressed an interest in using the combination of interviews, questionnaires and Delphi advisory group for similar initiatives because of the quality of information generated through the process.

Five of the eight respondents felt that participation in the Delphi advisory group had increased their awareness of BC Parks' planning and management responsibilities (question two). The remaining three respondents did not gain an increased awareness because they were already highly cognizant of BC Parks' responsibilities.

Seven of the eight respondents to the evaluation questionnaire obtained a sense of contribution through participation in the Delphi advisory group process (question three). The one respondent who did not obtain a sense of contribution felt this way because work responsibilities required participation - if participation had been voluntary then this individual would have responded differently.

The last two questions in the evaluation questionnaire did not touch on fairness or opportunities for social learning. These questions are discussed in section 5.4.

5. DISCUSSION AND CONCLUSION

The four purposes of this study were to:

1. identify public involvement techniques that could reduce demands on BC Parks' resources while still obtaining meaningful input;
2. apply these techniques towards development of a management plan for the Moose River Route region of Mount Robson Provincial Park;
3. review the costs of the study; and
4. complete a cursory evaluation of the Delphi advisory group process.

From a procedural perspective all four purposes were successfully completed. A series of cost-effective public involvement techniques were identified, these techniques applied towards development of a management plan for the Moose River Route region, the study costs reviewed and a cursory evaluation completed on the Delphi advisory group process.

Procedural success aside, several substantive questions require discussion. Specifically:

1. Were the public involvement techniques cost-effective?
2. Was the Delphi process fair to participants?
3. Did the Delphi process provide opportunity for social learning?

5.1 COST-EFFECTIVENESS OF THE PUBLIC INVOLVEMENT TECHNIQUES

The original intent of this section was to compare the cost of the public involvement techniques used in the Moose River Route study with previous BC Parks planning initiatives. Unfortunately, synthesizing the financial information from previous initiatives into a

comparable format was prohibitively time consuming. Consequently, this section focuses on the applied benefits and drawbacks of each technique.

Three public involvement techniques were selected for use in this study:

1. semistandardized interviews;
2. opinion questionnaires; and
3. a Delphi advisory group.

5.1.1 SEMISTANDARDIZED INTERVIEWS

The semistandardized interviews completed in the second stage of the study identified a wide range of planning issues and potential management solutions for the Moose River Route region. However, semistandardized interviews completed with BC Parks personnel indicate that these individuals were already well aware of most (if not all) of the issues identified by other interviewees. From an information generation perspective the semistandardized interview process was not the most efficient use of BC Parks' resources.

However, the interview process proved beneficial from two other perspectives. First, completion of interviews showed a willingness on the part of BC Parks to consult local individuals on planning and management of the Moose River Route region. Second, the interview process generated a list of potential advisory group members that proved invaluable during creation of the Delphi advisory group. Consequently, although the semistandardized interview process was not an efficient information generating technique it was still a valuable component of the study.

5.1.2 OPINION QUESTIONNAIRES

The opinion questionnaires distributed in the second stage of the study were assigned significant financial resources in an effort to fill the information gap on the Moose River Route region. Three mailouts (refer to section 3.2.2 for a review of the mailout process) were used to obtain a 64% response rate on the short version opinion questionnaire and a 69% response rate on the long version questionnaire. Although this process was the most expensive component of the study, the information generated through the opinion questionnaires was critical for the effective identification of management objectives and associated action statements for the Moose River Route region.

5.1.3 DELPHI ADVISORY GROUP

The use of a Delphi advisory group differentiated the Moose River Route study from previous BC Parks planning initiatives. Rather than meeting face-to-face, Delphi advisory group members used a series of three mailout questionnaires to create, prioritize and reach consensus on management objectives and associated action statements for the Moose River Route region. Although cost comparisons with previous BC Parks planning initiatives are not possible, the use of mailout questionnaires (rather than face-to-face meetings) undoubtedly resulted in significant financial savings for both BC Parks and advisory group members.

However, there were three principal drawbacks associated with this technique:

1. the process did not provide as much opportunity for participant social learning as a traditional, face-to-face, advisory group;

2. advisory group members commented that some of the management objectives and associated action statements were vague and potentially open to misinterpretation; and
3. particularly contentious management issues were unresolved - Delphi advisory group members could not reach consensus on 28% of the management objectives and 28% of the associated action statements.

Recommendations to resolve these weaknesses are discussed in section 5.5.

5.2 FAIRNESS OF THE DELPHI ADVISORY GROUP PROCESS

The overriding strength of the Delphi advisory group process was the fairness of this technique. Advisory group members were complete equals in that:

- each member had equal opportunity to create management objectives and associated action statements;
- the opinion of each member had equal weight during the scoring of the statements;
- each member had an equal amount of time to review the information in the issues, concerns and characteristics document; and
- each member had an equal amount of time to complete the Delphi questionnaires.

Regardless of the technical fairness of the Delphi advisory group process, 3 members brought up fairness-related issues in the evaluation questionnaire. One member considered the management objectives and associated action statements to be unfair because they did not represent the opinion of stakeholders. However, as discussed in section 4.2.2, Delphi

advisory group members provided scorings that closely matched the opinion expressed by stakeholders during the semistandardized interview and opinion questionnaire processes.

The other fairness concern was raised by 2 Delphi advisory group members who felt that the management objectives and associated action statements created through the process were vague and had the potential to be misinterpreted. Recommendations to resolve this potential weakness in the Delphi advisory group process are discussed in section 5.5.

5.3 OPPORTUNITY FOR SOCIAL LEARNING

Webler et al. (1995) identify two components to social learning, cognitive enhancement and moral development. Cognitive enhancement refers to the acquisition of knowledge on (a) the planning problem, (b) the potential solutions, (c) other individuals' values and (d) the methods to resolve the problem. Moral development refers to (a) development of a sense of self-respect and responsibility, (b) development of skills in moral reasoning and problem solving, (c) development of a sense of group solidarity, (d) development of skills in cooperation, and (e) an ability to take on the perspective of others.

As discussed in section 3.6.3, moral development was not evaluated because of the absence of face-to-face interaction between Delphi advisory group members.

In general, members obtained cognitive enhancement from their participation in the Delphi advisory group process. All members agreed that they had acquired knowledge of the study area's planning issues and concerns, as well as potential solutions to these problems. Three

members also commented that they had gained a greater appreciation for other members' values and opinions from participation in the Delphi advisory group process. Furthermore, upon completion of the study all 12 members were intimately familiar with the Delphi technique and how it was used to identify, prioritize and reach consensus on management objectives and associated action statements for the Moose River Route region.

Comments from the evaluation questionnaire appear to substantiate Webler et al.'s (1995) observation that moral development occurs through intimate and frequent contact between participants. Two respondents to the evaluation questionnaire commented that they could not understand or appreciate other advisory group members' perspectives because of the absence of face-to-face interaction. These individuals felt that interaction would have allowed for clarification and justification of opinion which in turn would have lead to an understanding of others' perspectives. In contrast, one respondent to the evaluation questionnaire commented on an increased ability to take on the perspective of others, even through the limited interaction of the Delphi advisory group process.

5.4 MEMBER COMMENT ON THE DELPHI ADVISORY GROUP PROCESS

The evaluation questionnaire (Appendix J) distributed to Delphi advisory group members upon completion of the process contained two general questions:

1. What are your positive and negative views on the planning process used for the Moose River Route region?
2. Would you participate in another public involvement process (park related or otherwise)?

Regarding the first question, five of the eight respondents commented that the major benefit of the Delphi advisory group process was the absence of face-to-face interaction which eliminated the need for lengthy meetings, lengthy travel times and the paralysis of heated discussion. One respondent commented that the combination of semistandardized interviews, opinion questionnaires and the Delphi advisory group process made for an appropriate level of public involvement. This individual felt that additional involvement would have identified unrealistic perspectives which in turn would have made it more difficult for Delphi advisory group members to reach consensus.

Two respondents commented that the series of public involvement techniques (semistandardized interviews, opinion questionnaires and Delphi advisory group process) followed a logical structure and generated a solid information base. Furthermore, these respondents felt that the Delphi advisory group process was clearly presented to participants and provided adequate feedback.

On the negative side, three respondents commented that the lack of face-to-face interaction made it difficult to understand other members perspectives clearly. One respondent felt that the absence of personal interaction lead to acceptance of financially unrealistic recommendations and acceptance of statements created more out of emotion than out of thoughtful consideration.

One respondent pointed out a procedural flaw in the Delphi technique. Advisory group members were asked in the third Delphi questionnaire to either revise their score from the

second questionnaire or leave it unchanged - so long as a written justification was provided. This individual felt that some members may have revised their score simply because it was easier than writing out a justification for maintaining their score unchanged.

Regarding the second question, seven of the eight respondents to the evaluation questionnaire were willing to participate in future public involvement processes. This was encouraging given the fact that participation in the process required brief but very intense periods of activity over a 2 year period. Four respondents commented that it was important to get a wide range of views and these views could not be obtained without public involvement. The one respondent who was hesitant to participate in future processes cited time requirements as a significant drawback.

5.5 FUTURE USE CONSIDERATIONS

The public involvement techniques used in this study generated valuable and in-depth information on (a) stakeholder opinion, (b) visitor use data, and (c) management objectives and associated action statements for the Moose River Route region. However, future BC Parks planning initiatives should take several issues into consideration.

- The semistandardized interview process was used to identify the Moose River Route region's planning issues and concerns. This process may not be necessary for future initiatives where BC Parks has confidence in their grasp of background planning information. However, the interview process also confirmed BC Parks commitment to local involvement. If semistandardized interviews are not used in future planning

initiatives it is recommended that some other process (a public meeting or an open house) be conducted to ensure local participation.

- The opinion questionnaires generated in-depth opinion on management of the Moose River Route region as well as significant visitor use data. Future planning initiatives would benefit from a similar information base. However, the distribution of up to three mailout packages to each potential respondent resulted in significant costs. The tradeoff to a reduction in the number of mailout packages is a reduction in response rate and a subsequent decrease in the level and quality of information. It is recommended that future planning initiatives carefully balance the need for in-depth, quality information with available resources.
- Use of the Delphi advisory group process to generate management objectives and associated action statements distinguished the Moose River Route study from previous BC Parks planning initiatives. The process had two main benefits - it was extremely fair to participants and was cost-effective. However, significant drawbacks also existed - opportunity for participant social learning was limited, the process left several contentious management issues unresolved and the process generated statements that were vague and potentially open to misinterpretation. It is recommended that future initiatives seek to combine the Delphi advisory group process with limited face-to-face interaction in order to resolve some of the drawbacks associated with the technique. For example, advisory group members could use the first Delphi questionnaire to identify tentative management objectives and associated action statements. Members could then meet to discuss and clarify these statements. Once the tentative management objectives and associated action statements had advisory group approval, a second Delphi

questionnaire could be distributed to generate scorings. Advisory group members could then meet to discuss the unresolved management objectives and associated action statements. The benefits of a combined process would be increased opportunity for participant social learning, potential resolution of contentious issues and generation of clearly worded statements. The drawbacks of a combined process would be increased costs and an increased time commitment from both participants and agency personnel.

5.6 CONCLUSION

Completion of the study on the Moose River Route region has generated three items of particular interest to BC Parks. First, a basic management framework has been created that BC Parks can use to guide future planning initiatives. Second, a number of recommendations have been made on the future use of semistandardized interviews, opinion questionnaires and Delphi advisory groups. If BC Parks chooses to use any of these techniques for future planning initiatives they have access to functional methodology as well as recommendations for improvement. Finally, this study has generated a comprehensive list of 46 management objectives and 179 associated action statements that can be used in the creation of a management plan for the Moose River Route region of Mount Robson Provincial Park.

6. REFERENCES

- Adams, R.A., Piercy, F.P., Jurich, J.A., & Lewis, R.A. (1992). Components of a model adolescent AIDS/drug abuse prevention program: A Delphi study. Family Relations, 41, 312-317.
- Allen, T.H., (1978). New methods in social science research. New York, NY: Praegot.
- Arduino, S. (1996, Fall). CPAWS joins public focus group. Parks and Wilderness Quarterly, 3, 7.
- Arnstein, S.R. (1969). A ladder of citizen participation. Journal of American Institute of Planners, 35, 216-224.
- British Columbia. (1996). Park master plans policy manual (2nd draft, July 8, 1996). Victoria, BC: Author.
- British Columbia. (1997). BC's park legacy project. Victoria, BC: Author
- Berg, B.L. (1989). Qualitative research methods for the social sciences. Boston, MA: Allyn and Bacon.
- Blahna, D.J., & Yonts-Shepard, S. (1989). Public involvement in resource planning: Towards bridging the gap between policy and implementation. Society and Natural Resources, 2, 209-227.
- Brenneis, K., & M'Gonigle, M. (1992). Public participation: Components of the process. Environments, 21, 5-11.
- Canada. (1981). Canadian climate normals (1951-1980): temperature and precipitation. Ottawa, ON: Author.

Cole, D.N. (1990). Wilderness management: Has it come of age? Journal of Soil and Water Conservation, 45, 360-364.

Cole, D.N., & Stankey, G.H. (1997). Historical development of limits of acceptable change: Conceptual clarifications and possible extensions. In S.F. McCool & D.N. Cole (comps.), Proceedings – Limits of Acceptable Change and related planning processes: Progress and future directions (pp. 5-9). Ogden, UT: Intermountain Research Station.

Cole, D.N., & McCool, S.F. (1997). The limits of acceptable change process: Modifications and clarifications. In S.F. McCool & D.N. Cole (comps.), Proceedings – Limits of Acceptable Change and related planning processes: Progress and future directions (pp. 61-68). Ogden, UT: Intermountain Research Station.

Commission on Resources and Environment. (1995). The provincial land use strategy: Public participation (volume 3). Victoria, BC: Author.

Cuthbertson, I.D. (1983). Evaluating public participation: An approach for government practitioners. In G.A. Daneke, M.W. Garcia & J.D. Priscoli (Eds.). Public involvement and social impact assessment. Boulder, CO: Westview.

Dalziel, B.R. (1973). Zoological habitat assessment of Mount Robson Provincial Park. Victoria, BC: BC Parks.

Fish, L.S., & Osborn, J.L. (1992). Therapists' views of family life: A Delphi study. Family Relations, 41, 409-416.

Freudenburg, W.R. (1983). The promise and peril of public participation in social impact assessment. In G.A. Daneke, M.W. Garcia & J.D. Priscoli (Eds.). Public involvement and social impact assessment. Boulder, CO: Westview.

- Graefe, A.R., Kuss, F.R., & Vaske, J.J. (1986). Visitor impact management: the planning framework. Washington, DC: National Parks and Conservation Association.
- Hale, E.O. (1993). Successful public involvement. Journal of Environmental Health, 56, 17-19.
- Harten, D. (1990). The public participation requirement in environmental and public land decision-making: Politics or practice. Public Land Law Review, 11, 153-179.
- Helmer, O. (1994). Adversary Delphi. Futures, 26, 79-87.
- Hendee, J.C., Stankey, G.H., & Lucas, R.C. (1990). Wilderness management. Golden, CO: North American Press.
- Henry, W.A. (1994). In defense of elitism. New York, NY: Doubleday.
- Hof, M., & Lime, D.W. (1997). Visitor experience and resource protection framework in the national park system: Rational, current status and future direction. In S.F. McCool & D.N. Cole (comps.), Proceedings – Limits of Acceptable Change and related planning processes: Progress and future directions (pp. 29-33). Ogden, UT: Intermountain Research Station.
- Krumpe, E., & McCool, S.F. (1997). Role of public involvement in the limits of acceptable change wilderness planning system. In S.F. McCool & D.N. Cole (comps.), Proceedings – Limits of Acceptable Change and related planning processes: Progress and future directions (pp. 16-20). Ogden, UT: Intermountain Research Station.
- Landre, B.K., & Knuth, B.A. (1993). The role of agency goals and local context in great lakes water resources public involvement programs. Environment Management, 17, 153-165.

Martin, S.R., McCool, S.F., & Lucas, R.C. (1989). Wilderness campsite impacts: Do managers and visitors see them the same? Environmental Management, 13, 623-629.

Marshall, C., & Rossman, G.B. (1989). Designing qualitative research. Newbury Park, CA: Sage Publications.

McCool, S.F., & Cole, D.N. (1997). Experiencing limits of acceptable change: Some thoughts after a decade of implementation. In S.F. McCool & D.N. Cole (comps.), Proceedings – Limits of Acceptable Change and related planning processes: Progress and future directions (pp. 72-78). Ogden, UT: Intermountain Research Station.

McCool, S.F., & Lucas, R.C. (1989). Managing resources and people in wilderness: Accomplishments and challenges. In D.W. Lime (Ed.), Managing America's enduring wilderness resource (pp. 64-75). St. Paul, MN: University of Minnesota.

McCrary, W., & Mallam, E. (1989). Bear hazard evaluation in Mount Robson Provincial Park. Unpublished manuscript.

McMullin, S.L., & Neilson, L.A. (1991). Resolution of natural resource allocation conflicts through effective public involvement. Policy Studies Journal, 19, 553-559.

Merigiano, L.L. (1989). Indicators to monitor the wilderness recreation experience. In D.W. Lime (Ed.), Managing America's Enduring Wilderness Resource (pp. 156-162). St. Paul, MN: University of Minnesota Press.

Milbrath, L. (1983). Citizen surveys as citizen participation mechanisms. In G.A. Daneke, M.W. Garcia & J.D. Priscoli (Eds.). Public involvement and social impact assessment. Boulder, CO: Westview.

Mitchell, B. (1991). Resource management and development: Addressing conflict and uncertainty. Toronto, ON: Oxford University Press.

- Morrow, J. (1998). Mount Robson Provincial Park (J. Morrow, Director). In M. Azaria (Producer), Great Canadian Parks. Toronto, ON: Discovery Channel.
- Nagel, J.H. (1987). Participation. Englewood Cliffs, NJ: Prentice-Hall.
- Needham, R.D. & de Loë, R.C. (1990). The policy Delphi: Purpose, structure and application. The Canadian Geographer, 34, 133-142.
- Nilsen, P., & Tayler, G. (1997). A comparative analysis of protected area planning and management frameworks. In S.F. McCool & D.N. Cole (comps.), Proceedings – Limits of Acceptable Change and related planning processes: Progress and future directions (pp. 49-57). Ogden, UT: Intermountain Research Station.
- Olson, M. (1965). The logic of collective action: Public goods and the theory of groups. Cambridge, MA: Harvard University Press.
- Patton, B., & Robinson, B. (1992). The Canadian Rockies trail guide. Banff, AB: Summerthought.
- Peepre, J.S. (1990). Mount Robson Provincial Park: Master plan background report. Victoria, BC: BC Parks.
- Praxis. (1988). Public involvement: Planning and implementing public involvement programs. Calgary, AB: Author.
- Rossi, P.H., & Freeman, H.E. (1993). Evaluation: A systematic approach. Newbury Park, CA: Sage Publications.
- Rotondi, A., & Gustafson, D. (1996). Theoretical, methodological and practical issues arising out of the Delphi method. In M. Adler & E. Ziglio (Eds.), Gazing into the oracle: The Delphi method and its application to social policy and public health (pp. 35-55). London: Jessica Kingsley.

Salant, P., & Dillman, D.A. (1994). How to conduct your own survey. New York, NY: John Wiley & sons.

Shelby, B., Stankey, G.H., & Shindler, B. (1992). Workshop on defining wilderness quality: The role of standards in wilderness management. In B. Shelby, G.H. Stankey, & B. Shindler (Eds.), Defining wilderness quality: The role of standards in wilderness management – a workshop proceedings (pp. 1-4). Portland, OR: US Department of Agriculture.

Shelby, B., & Heberlein, T.A. (1986). Carrying capacity in recreation settings. Corvallis, OR: Oregon State University.

Sinclair, J., & Diduck, A. (1995). Public education: An undervalued component of the environmental assessment public involvement process. Environmental Impact Assessment Review, 15, 219-240.

Stankey, G.H. (1997). Institutional barriers and opportunities in application of the Limits of Acceptable Change. In S.F. McCool & D.N. Cole (comps.), Proceedings – Limits of Acceptable Change and related planning processes: Progress and future directions (pp. 10-15). Ogden, UT: Intermountain Research Station.

Stankey, G.H., & McCool, S.F. (1984). Carrying capacity in recreational settings: Evolution, appraisal and application. Leisure Sciences, 6, 453-473.

Stankey, G.H., Cole, D.N., Lucas, R.C., Petersen, M.P., & Frissell, S.S. (1985). The limits of acceptable change (LAC) system for wilderness planning. Ogden, UT: Intermountain Research Station.

Syme, G.J., & Sadler, B.S. (1994). Evaluation of public involvement in water resources planning. Evaluation Review, 18, 523-542.

Thurston, T.S. (1992). Striking a balance: Managing backcountry visitor impacts on the Berg Lake Trail, Mount Robson Provincial Park. Unpublished masters thesis, Simon Fraser University, Burnaby, BC.

Tipple, T.J., & Wellman, J.D. (1989, March). Life in the fishbowl: Public participation rewrites public forester's job descriptions. Journal of Forestry, 24-30.

Wareham, B., & Careless, R. (1995). British Columbia. In M. Hummel (Ed.), Protecting Canada's endangered spaces (pp. 54-63). Toronto, ON: Key Porter Books.

Webler, T., Kastenholz, H., & Renn, O. (1995). Public participation in impact assessment: A social learning perspective. Environmental Impact Assessment Review, 15, 443-463.

Whittaker, D., & Shelby, B. (1992). Developing good standards: Criteria, characteristics and sources. In B. Shelby, G.H. Stankey, & B. Shindler (Eds.), Defining wilderness quality: The role of standards in wilderness management – a workshop proceedings (pp. 6-12). Portland, OR: US Department of Agriculture.

Yin, R.K. (1994). Case study research: Design and methods. Thousand Oaks, CA: Sage Publications.

Ziglio, E. (1996). The Delphi method and its contribution to decision-making. In M. Adler & E. Ziglio (Eds.), Gazing into the oracle: The Delphi method and its application to social policy and public health (pp. 3-33). London: Jessica Kingsley.

APPENDIX A - ISSUES, CONCERNS AND CHARACTERISTICS DOCUMENT

ISSUES, CONCERNS AND CHARACTERISTICS
RELATED TO PLANNING AND MANAGEMENT
OF THE MOOSE RIVER ROUTE REGION,
MOUNT ROBSON PROVINCIAL PARK

May, 1996

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TABLE OF CONTENTS

1. Introduction.....	138
1.1. Context of the Planning Process	138
1.2. Purpose.....	138
1.3. How to Use this Document	139
1.4. Sources of Information.....	139
1.4.1. Semistandardized interviews.....	139
1.4.2. Opinion Questionnaires.....	139
1.4.3. Existing Documentation.....	139
1.5. Limitations	140
1.6. Acknowledgements.....	141
1.7. What's Next?	142
1.8. BC Parks' Obligations	142
2. The Moose River Route region.....	143
2.1. Social Characteristics.....	143
2.1.1. General Orientation	143
2.1.2. Trail Description	146
2.1.3. Level and Location of Use	147
2.2. Biophysical Characteristics.....	147
2.2.1. Special Features.....	147
2.2.2. Wildlife Activity and Habitat.....	148
2.3. Mount Robson Provincial Park Master Plan.....	148
2.3.1. Zoning	148
2.3.2. Park Objectives.....	150
2.3.3. Moose River Management Unit Objectives	155
2.4. Management Principles.....	156
2.4.1. BC Parks' Mandate	156
2.4.2. Conservation Principles.....	156
2.4.3. Recreation Principles.....	156
3. Results from the Semistandardized interviews	157
3.1. Appropriate Activities.....	157
3.2. Appropriate Facilities.....	158
3.3. Overall Management Direction.....	159
3.4. Wildlife Issues and Concerns.....	159
3.5. Management Strategies	161
3.6. Historical Information.....	161
3.7. Other Issues and Concerns	162
4. Results from the Opinion Questionnaires.....	165
4.1 Results from the Short Version Questionnaire.....	166
4.1.1. Respondent Home Town/Home Region.....	166
4.1.2. Trail Popularity	166

TABLE OF CONTENTS (continued)

4.1.3. Activity Popularity	167
4.2. Results from the Long Version Questionnaire.....	168
4.2.1. Average Party Size	168
4.2.2. Preferred Travelling Group	169
4.2.3. Form of Travel.....	170
4.2.4. Primary Form of Travel.....	170
4.2.5. Length of Stay	171
4.2.6. Trip Itinerary	172
4.2.7. Campsite Use.....	174
4.2.8. Purpose of Trip.....	175
4.2.9. Participation in Other Activities.....	176
4.2.10. Number of Encounters.....	178
4.2.11. Respondent Opinion on the Number of Encounters.....	178
4.2.12. Respondent Home Province/Home Country	179
4.2.13. Previous Number of Trips into the Moose River Route region	179
4.2.14. Source of Pre-Trip Information.....	179
4.2.15. Age and Gender of Respondents	180
4.3. Results from the Four Common Questions.....	180
4.3.1. Appropriate Activities	181
4.3.2. Appropriate Facilities	183
4.3.3. Appropriateness of Commercial Guiding.....	186
4.3.4. Overall Management Direction	189
5. Existing Documentation on the Moose River Route region	192
5.1. Level of Use	192
5.2. Timing of Use	193
5.3. Weather	194
5.4. Bear Hazard Evaluation	195
5.4.1. Bear Activity in the Moose River Route region.....	195
5.4.2. Recommendations	196
5.5. Zoological Habitat Assessment.....	196
5.6. Wildlife Habitat Maps.....	197
5.6.1. Grizzly Bear Habitat.....	198
5.6.2. Caribou Habitat	198
5.6.3. Habitat for Other Species	204
5.7. Radio-Collar Caribou Study.....	208
5.8. Mount Robson Provincial Park Master Plan Background Report	208
5.9. History.....	210
6. References.....	213

LIST OF TABLES

Table 1. Home town/home region of respondents to short version questionnaire.....	166
Table 2. Participation in select activities within Mount Robson Provincial Park	168
Table 3. Respondent preference for traveling group	169
Table 4. Forms of travel.....	170
Table 5. Primary form of travel	171
Table 6. Trip purpose.....	176
Table 7. Number of encounters.....	178
Table 8. Respondent opinion on number of encounters	178
Table 9. Home province/home country of respondents to long version questionnaire ..	179
Table 10. Sources of pre-trip information.....	180
Table 11. Overall opinion on appropriate activities.....	181
Table 12. Overall opinion on appropriate facilities	184
Table 13. Overall acceptance of commercial guiding	186
Table 14. Preferred commercial activities	186
Table 15. Acceptance of commercial guiding by respondent group	187
Table 16. Overall management direction by respondent group	190
Table 17. Level of use on the Moose River Route from 1989 to 1995.....	192

LIST OF FIGURES

Figure 1. Use of select trails in Mount Robson Provincial Park.....	167
Figure 2. Campsite use in the Moose River Route region	174
Figure 3. Respondent participation in other activities while on trip.....	177
Figure 4. Appropriate activities for short version questionnaire respondents	182
Figure 5. Appropriate activities for long version questionnaire respondents	183
Figure 6. Appropriate facilities for short version questionnaire respondents.....	185
Figure 7. Appropriate facilities for long version questionnaire respondents.....	185
Figure 8. Influence of home town/ region on acceptance of commercial guiding	188
Figure 9. Influence of home province/ country on acceptance of commercial guiding	189
Figure 10. Influence of home town/region on overall management direction.....	190
Figure 11. Influence of home province/country on overall management direction.....	191
Figure 12. User nights on North Boundary and Miette River Pack Trails	193
Figure 13. Timing of use in the Moose River Route region	194
Figure 14. Climate normals for Mount Robson Ranch.....	195

LIST OF MAPS

Map 1. The Moose River Route region	144
Map 2. Campsites in the Moose River Route region	145
Map 3. Zoning of the Moose River Route region	149
Map 4. Grizzly Bear Habitat Capability for Mount Robson Provincial Park.....	199
Map 5. Grizzly Bear Spring Habitat Suitability for Jasper National Park.....	200
Map 6. Grizzly Bear Summer Habitat Suitability for Jasper National Park.....	201
Map 7. Grizzly Bear Fall Habitat Suitability for Jasper National Park	202
Map 8. Caribou Habitat Capability for Mount Robson Provincial Park.....	203
Map 9. Caribou Summer Habitat Suitability for Jasper National Park.....	205
Map 10. Caribou Early Winter Habitat Suitability for Jasper National Park	206
Map 11. Caribou Late Winter Habitat Suitability for Jasper National Park.....	207
Map 12. Caribou Telemetry Locations	209

1. INTRODUCTION

1.1 CONTEXT OF THE PLANNING PROCESS

The planning process for the Moose River Route region is a continuation of the 1992 master planning process for Mount Robson Provincial Park. The goal of this planning process is to generate specific management objectives that can be used in the creation of a management plan for the Moose River Route region. The management objectives identified through this planning process are meant to clarify the statements contained in the park master plan without compromising the decisions and agreements reached during the master planning process.

1.2 PURPOSE

The purpose of this document is to facilitate identification of management objectives for the Moose River Route region by gathering as much information as possible on this unique corner of Mount Robson Provincial Park. Although the information contained in this document has been separated into four sections (sections 2 to 5), effective management objectives can only be generated by connecting information and data found throughout the document. Many of the connections are explicit but subtle linkages must also be identified to ensure proper management of the region.

Although this document contains a substantial amount of information, many features and characteristics of the study area remain uncertain. For example, we don't know the exact number of people who use the Moose River Route region each year, whether they go in on foot or on horseback, how many nights they stay or where they camp. Similarly, we know very little about wildlife activity; what species use the region, when they use it or which specific areas of the region are critical for habitat. Identifying management objectives under these circumstances is difficult. However, the goal is to identify the most appropriate management objectives with the information at hand. As new data becomes available changes can (and should) be made to the objectives identified through this planning process.

The following quote, taken from Mitchell (1991) summarizes the planning and management challenge ahead.

Uncertainty also is a basic feature of resource management and development. Whether dealing with biophysical or social phenomena, we often do not have adequate knowledge or understanding. Yet pressures build and action must be taken, even when analysts and managers are not at all sure about future conditions. The twin focus upon conflict and uncertainty is a reminder that there rarely are perfect solutions to complex problems, but rather a mix of imperfect responses from which we must choose.

1.3 HOW TO USE THIS DOCUMENT

Although the bulk of information gathered through this study is contained in sections 3 to 5, section 2 contains critical information that the reader should be familiar with before moving into subsequent sections. Aside from a brief overview of the region's social and biophysical characteristics, section 2 contains management objectives from the Mount Robson Provincial Park master plan and management principles from BC Parks' policy document. These objectives and principles define the playing field for the current planning process - any management objectives created through this process must be consistent with the park master plan and the policy document. Consequently, the reader should be familiar with section 2 because it defines (in broad terms) what is acceptable for the Moose River Route region.

1.4 SOURCES OF INFORMATION

The information contained in this document has been collected from three sources:

- semistandardized interviews;
- opinion questionnaires; and
- existing documentation.

1.4.1 SEMISTANDARDIZED INTERVIEWS

Semistandardized interviews were conducted with twenty-seven people (and one group of fourteen individuals) who were selected on the basis of their work responsibilities (in the case of government interviewees) and on their familiarity/interest in the Moose River Route region (in the case of local interviewees). Interviewees included personnel from BC Parks, BC Lands, Fish and Wildlife, Parks Canada and the Ministry of Forests, as well as local participants from Mt. Robson and Valemout. The interview process was used to determine participant's thoughts on how the Moose River Route region should be managed. Interviewees were asked questions about facilities, activities, special features and overall management direction for the region (see Appendix C for a list of interview questions).

1.4.2 OPINION QUESTIONNAIRES

Two questionnaires were mailed out during the fall of 1995. A short version questionnaire (Appendix D) was sent to 305 individuals on BC Parks' mailing list for Mount Robson Provincial Park while a long version questionnaire (Appendix E) was mailed out to 98 people that registered to use the Moose River Route region during the 1995 season. Response rate for the short version questionnaire was 64% while response rate for the long version questionnaire was 69%. The primary purpose of the short version questionnaire was to obtain information on management preferences for the Moose River Route region. The long version questionnaire collected similar information but included additional questions obtaining trip-specific data such as length of stay, party size and form of travel.

1.4.3 EXISTING DOCUMENTATION

The third source of information came from existing documentation on the Moose River Route region. For example, habitat information was obtained from existing habitat maps, weather data was obtained from Environment Canada records while user statistics were obtained from BC Parks and Parks Canada records.

1.5 LIMITATIONS

Several limitations must be kept in mind when making conclusions about the study area's characteristics, as well as the opinion expressed through the semistandardized interviews and opinion questionnaires.

First, most of the information was collected over a single field season. Consequently, this document will provide a reasonably accurate picture of the Moose River Route region in 1995 but cannot tell us what the area was like ten years ago (or what it might be like ten years from now). Some of the information (weather data, visitor use statistics) spans several years, but this is the exception rather than the rule.

Second, there are limitations to the two opinion questionnaires. The short version questionnaire was sent to individuals on a mailing list for Mount Robson Provincial Park. This list contained names and addresses of individuals that were involved/interested in the previous master planning process for the park. Because these individuals are not representative of *the public*, the results from this questionnaire should not be considered *public opinion*.

The long version questionnaire was distributed to individuals who registered to use the Moose River Route and to individuals who were guided through the region on horseback in 1995. Because many visitors did not register (or provide complete mailing addresses), the results from this questionnaire do not represent the opinion of everyone who visited the Moose River Route region in 1995.

Other minor difficulties associated with the opinion questionnaires included:

- misinterpretation of questions;
- incomplete questionnaires; and
- language barriers (the long version questionnaire had many foreign respondents).

Response rate (often cited as another problem with questionnaires) was reasonably high for this study. Sixty-four percent of respondents returned the short version questionnaire, whereas 69% of respondents returned the long version questionnaire. The combined response rate was 65%.

Finally, much like the information generated from the opinion questionnaires, the information generated from the semistandardized interview process is not representative of any particular group (such as *the public*). Potential interviewees were free to refuse a request for an interview while any group or individual could request an interview so long as they had an interest in the Moose River Route region. Again, the purpose of the semistandardized interview process was not to generate representative opinion but to identify a broad range of management ideas for the Moose River Route region.

1.6 ACKNOWLEDGMENTS

There are many people who have been involved in this study. However, without funding from BC Parks none of this work could have been completed. Rick Heathman (district manager for the Prince George District) is thanked for providing funding and for making this study a priority at a time when BC Parks is faced with many other demands.

Although numerous BC Parks personnel have been helpful in gathering information, answering questions and providing opinion on management of the Moose River Route region, three individuals in particular have been invaluable. Robin Draper, who is coordinating the study out of the district office in Prince George, must be thanked for his energy and insight. Wayne Van Velzen, who initially identified the need for a study on the Moose River Route, must also be thanked for answering an endless stream of questions and for providing contacts for the interview process. Lastly, Brian Dyck, out of BC Parks headquarters in Victoria, was extremely helpful in providing tips on questionnaire format, layout and mailing procedures. Without his advice and suggestions, the questionnaire process would have been close to unbearable. Other BC Parks personnel that have helped with the Moose River Route study include Dan Adamson, Kris Kennett, Hugo Mulyk, Mike Murtha, Gail Ross, Tim Thurston and Chris Zimmermann. Thanks to all!

Gratitude is also extended to the many individuals from Jasper National Park who have helped with the Moose River Route study. Glynnis Hood, who is the primary contact with Parks Canada, has been very helpful in digging up relevant information and for coming up with a list of contacts for the interview process. Wes Bradford, wildlife specialist for the park, has provided valuable information on wildlife activity in the Moose River Route region as well as habitat information for Jasper National Park. Other Parks Canada personnel that must be thanked include Dave Carnell, Mike Dillon, Louise Jarry, Sherryl Meropoulis, Dale Portman, Rick Ralf, Brian Wallace, Vicki Wallace and Mike Wesbrook.

Other government personnel who have contributed to the Moose River Route study include Grant Henry and Elaine Gillette from the Ministry of Forests in McBride, Dave King from Fish and Wildlife in Prince George, Dennis Butchart from BC Lands in Prince George and Janet Edmonds from Alberta Fish and Wildlife in Edson. Their input is very much appreciated.

Aside from government personnel, there have also been several people from the Mt. Robson and Valemount area that have contributed to this study. Thanks are extended to Keith Burchnall, Murray and Ishbel Cochrane, Wendy Dyson, Gary Forman, Brian McKirdy and Bruce Wilkinson. Special thanks to Toni Parisi for supplying all sorts of information on the Moose River Route region and for the room and board. Thanks also to Liz Everard, Darlene McKirdy, Dan Powell, Val Thom and the many other members of the Valemount Saddle and Wagon Club.

My final thanks is extended to committee members Doug Baker and Alex Hawley and to my supervisor Dave Robinson for providing sound advice and counseling services - and for going to bat on many, many occasions in my defense.

1.7 WHAT'S NEXT?

This document represents the completion of the third stage in a six stage study. The fourth stage will involve creation of an advisory group (of approximately twelve members) that will sit down with the document and identify management objectives for the Moose River Route region (the fifth stage). This advisory group will consist of personnel from BC Parks and Parks Canada, as well as individuals representing local horse, hiker and commercial perspectives. The sixth and final stage will involve an analysis of the process used to generate the management objectives.

1.8 BC PARKS' OBLIGATIONS

BC Parks is under no obligation to implement any of the management objectives identified through the Moose River Route study. However, it is hoped that this agency will respect the results of the planning process so long as the process is fair and brings all interested parties together to decide the future of the Moose River Route region. Rick Heathman, district manager for the Prince George District will not be involved in the planning process. He has chosen to maintain this distance to ensure that the process is unencumbered by the individual (the district manager) who will ultimately be responsible for making management decisions on the Moose River Route region.

2. THE MOOSE RIVER ROUTE REGION

2.1 SOCIAL CHARACTERISTICS

2.1.1 GENERAL ORIENTATION

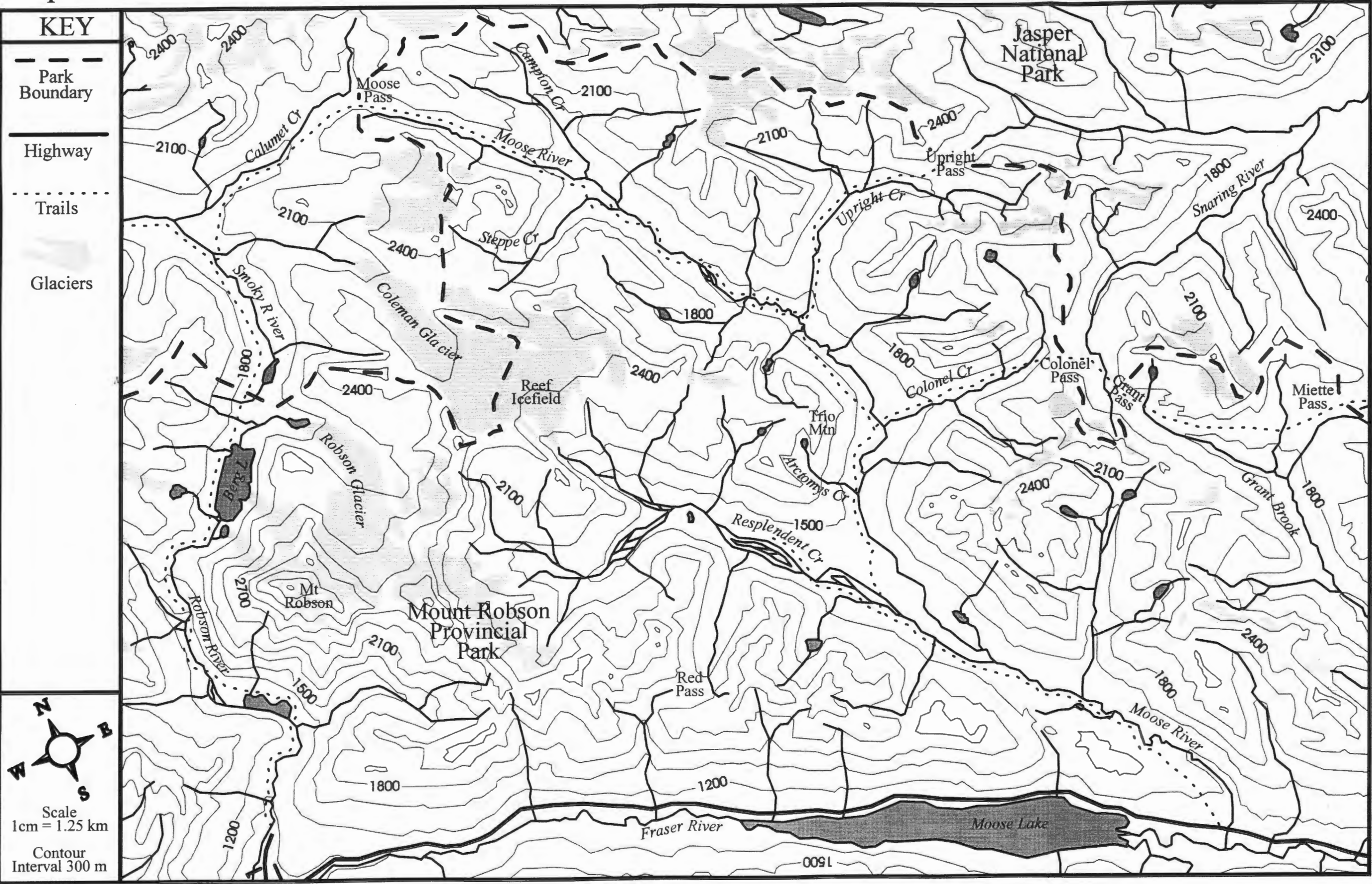
The Moose River Route is a backcountry trail that extends from the trailhead on Highway 16 to a junction with the North Boundary Trail in Jasper National Park (Map 1). There are three side trails that connect with the Moose River Route; one leading up Resplendent Creek, the second following Colonel Creek and Grant Brook to connect with Jasper National Park's Miette River Pack Trail and the third leading up Upright Creek.

There are very few facilities in the Moose River Route region. Campsites have been established through years of regular use but in almost all cases these sites have no more than a bear pole and a fire pit. The only sites with more than the basic facilities are the three horse campsites which have log bolts for seating and a primitive privy (Map 2). Although there are numerous river crossings along the Moose River Route, the only bridges found in the region are in Jasper National Park across the Smoky River and the Coleman Glacier outflow stream.

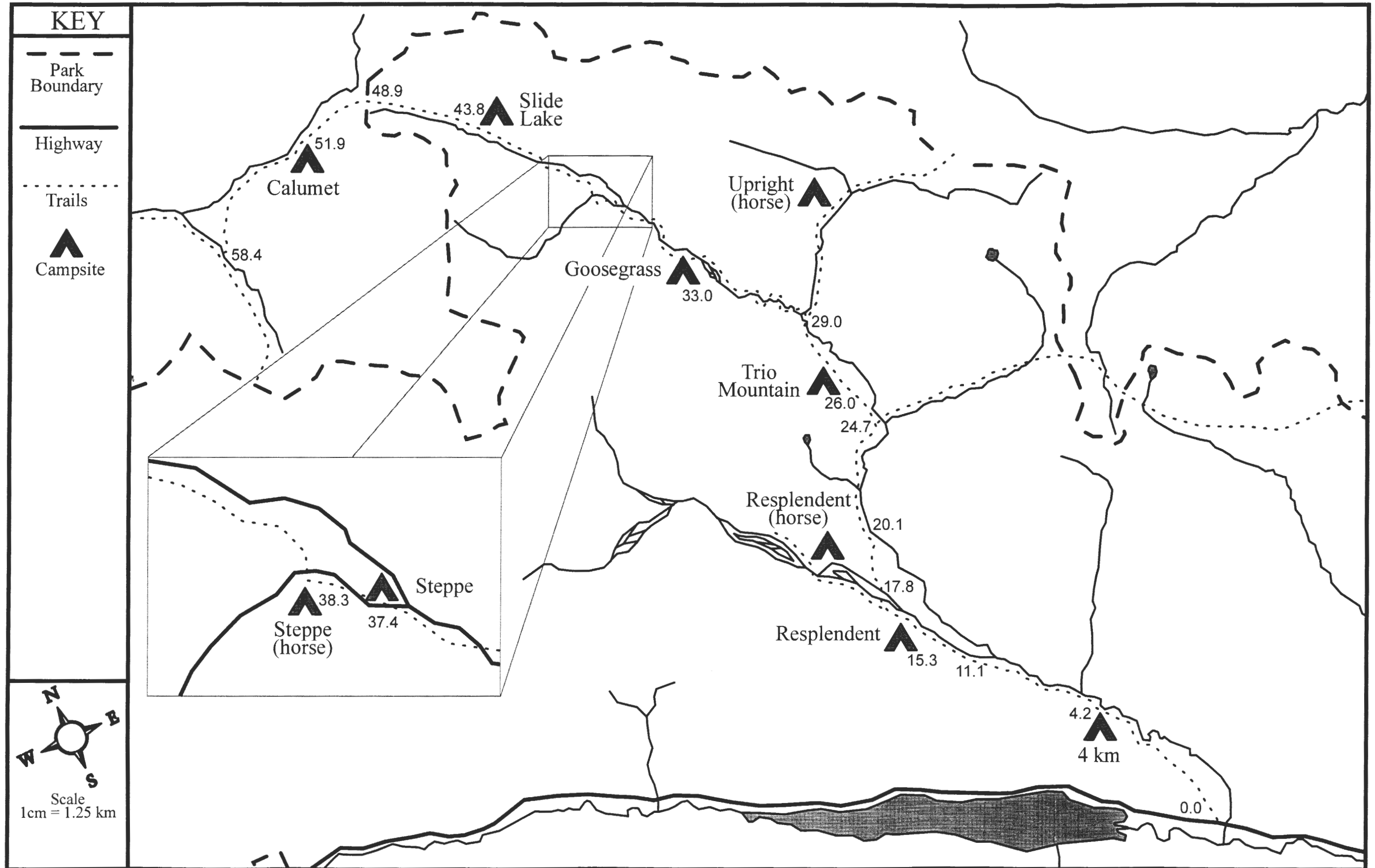
The trails within the Moose River Route region follow creeks and rivers for much of their length and can therefore be very muddy at any time of the year. The difficult trail conditions, combined with minimal marking, multiple trails, minimal facilities and numerous river crossings make travel in the Moose River Route region challenging for hikers. However, the trail is well suited for horse use for the above reasons. Regardless of the challenges, the area is particularly beautiful and contains a wide variety of landscape features, wildlife and vegetation.

Although the Moose River Route may have been used as a travel corridor by the Shuswap and fur traders living in the Yellowhead Pass area, the first documented use of the Moose River Route was in 1908 by a climbing party that wanted access to the Berg Lake area but could not take horses up the cliffs in the Robson River valley. In 1911, another expedition (organized by the Alpine Club of Canada) had to take horses up the Moose River Route for the same reason. Since 1911, the Moose River Route has seen limited but regular use, principally by parties traveling on horseback. In recent years the number of hikers using the trail has increased.

Map 1. The Moose River Route region



Map 2. Campsites in the Moose River Route region



2.1.2 TRAIL DESCRIPTION

An accurate trail description for the Moose River Route region was completed by BC Parks a few years ago. Please use Map 2 (previous page) to follow this description.

- 0.0** the trail leaves Highway 16 and climbs over a low ridge before dropping down to meet the Moose River
- 4.2** campsite immediately adjacent to the Moose River
- 11.1** the trail passes a series of small falls on Resplendent Creek
- 15.3** campsite on Resplendent Creek
- 17.8** crossing of Resplendent Creek - a side trail continues on the gravel flats to a horse campsite further up the valley
- 20.1** after climbing a low ridge the trail descends to the Moose River
- 24.7** a side trail branches off from the main route and crosses Moose River to follow Colonel Creek and Grant Brook and eventually connect with Jasper National Park's Miette River Pack Trail
- 26.0** Trio Mountain campsite - the trail stays on the west side of the valley crossing a series of avalanche scars just beyond the campsite
- 29.0** the trail crosses the Moose River - a side trail branches off from the main route to a horse campsite in the Upright Creek valley - the main trail continues on the east side of the valley crossing Upright Creek
- 33.0** after crossing the Moose River 5 times the trail reaches Goosegrass campsite located at the north end of gravel flats
- 37.4** the trail crosses the Moose River twice and Steppe Creek once before reaching Steppe Creek campsite
- 38.3** the trail crosses to the south side of Steppe Creek before reaching the horse campsite at Steppe Creek - just beyond this campsite the trail crosses Steppe Creek for the last time
- 43.8** the trail follows a small creek bed before crossing the Moose River and reaching the Slide Lake campsite
- 48.9** Moose Pass - the trail descends to the gravel flats along Calumet Creek
- 51.9** Calumet Creek campsite
- 58.4** the trail crosses a glacier outflow stream below Calumet Creek campsite and then crosses the Coleman Glacier outflow stream at Yates Torrent before crossing the Smoky River and ending at a junction with the North Boundary Trail

2.1.3 LEVEL AND LOCATION OF USE

The Moose River Route has never seen heavy use (such as that on the nearby Berg Lake Trail) although activity in recent years (1992 and onwards) has been much higher than previous seasons. Approximately 500 people have used the trail for the last four years with the majority of this use occurring in July and August. Even with the recent increase in use, visitors to the Moose River Route region can still expect to see very few people while traveling in the area. Many respondents to the long version questionnaire (both hikers and horse users) indicated their appreciation of the solitude that the Moose River Route region provided.

Even though the Moose River Route is a traditional horse trail and has been designated as a horse route in Mount Robson Provincial Park's master plan, the number of hikers using the trail has been increasing to the point that they may be outnumbering horse users on the trail. Judging from inquiries and trends in use, it is believed that activity on the Moose River Route will increase, particularly by hikers. Most of the current horse activity in the Moose River Route region is facilitated by the commercial guide that regularly operates in the area. During an average season the guide will make six trips into the area, generally with eight clients, three staff and fifteen horses. The guide offers a wide variety of trips ranging from a three day tour of Resplendent valley to an eight day expedition that travels to the further reaches of the region including Upright Pass, Moose Pass and the Champion Creek drainage. Private horse use of the Moose River Route region also occurs, particularly by members of the Valemount Saddle and Wagon Club.

Hiking activity in the Moose River Route region can be separated into four distinct trips. The majority of hikers make a 2-3 day trip into the lower section of the trail, never crossing Resplendent Creek. Comments provided on the opinion questionnaires (Appendix F) indicate that Resplendent Creek deters many hikers from accessing further sections of the trail. Day hiking along the lower Moose River was the next most popular hiking trip in the Moose River Route region. In most cases, visitors traveled on the trail for the first three or four kilometres before heading back to the trailhead. An 86 kilometre loop trip with the Berg Lake Trail was the third most popular hiking trip while the least popular trip involved travel into the side valleys such as Colonel and Upright.

2.2 BIOPHYSICAL CHARACTERISTICS

2.2.1 SPECIAL FEATURES

The Moose River Route contains a number of special features that make the region unique. Perhaps the most well-known special feature is *Arctomys* Cave; the deepest cave in Canada and the USA. Another unique feature is Resplendent Meadows, a particularly scenic region that is also home to a number of wildlife species including grizzly bear, caribou and mountain goat. Because of BC Parks' concern with recreational use in these areas, both *Arctomys* Cave and Resplendent Meadows have not been identified on any of the maps in this document. Other special features include the alpine meadows and grizzly bear habitat in the Moose Pass/Slide Lake area and the alpine meadows and caribou habitat in the Miette Pass area.

2.2.2 WILDLIFE ACTIVITY AND HABITAT

The Moose River Route region is home to a wide variety of species including grizzly bear, black bear, caribou, mountain goat, elk and moose. Many other smaller species typical of the Canadian Rocky Mountains (such as harlequin duck) may also be found in the area. In addition, the Moose River Route region also acts as a travel corridor between areas of critical habitat. For example, it is not known for certain if wolves inhabit the Moose River Route region although it is known that they use Moose Pass and many of the other passes in the region to travel between Mount Robson Provincial Park and Jasper National Park. Similarly, migrating shore birds use the numerous gravel flats within the region as rest stops during their migration.

There are many areas within the Moose River Route region that provide critical habitat for a number of species including grizzly bear, caribou and mountain goat. In particular, the alpine areas such as Moose Pass, Resplendent Meadows and Miette Pass provide important summer habitat while the lower valley bottoms especially along Calumet Creek and the Snaring River in Jasper National Park provide important winter habitat for caribou. In addition, the Trio Mountain/Arctomys Lake region of the study area provides important winter habitat for mountain goats.

2.3 MOUNT ROBSON PROVINCIAL PARK MASTER PLAN

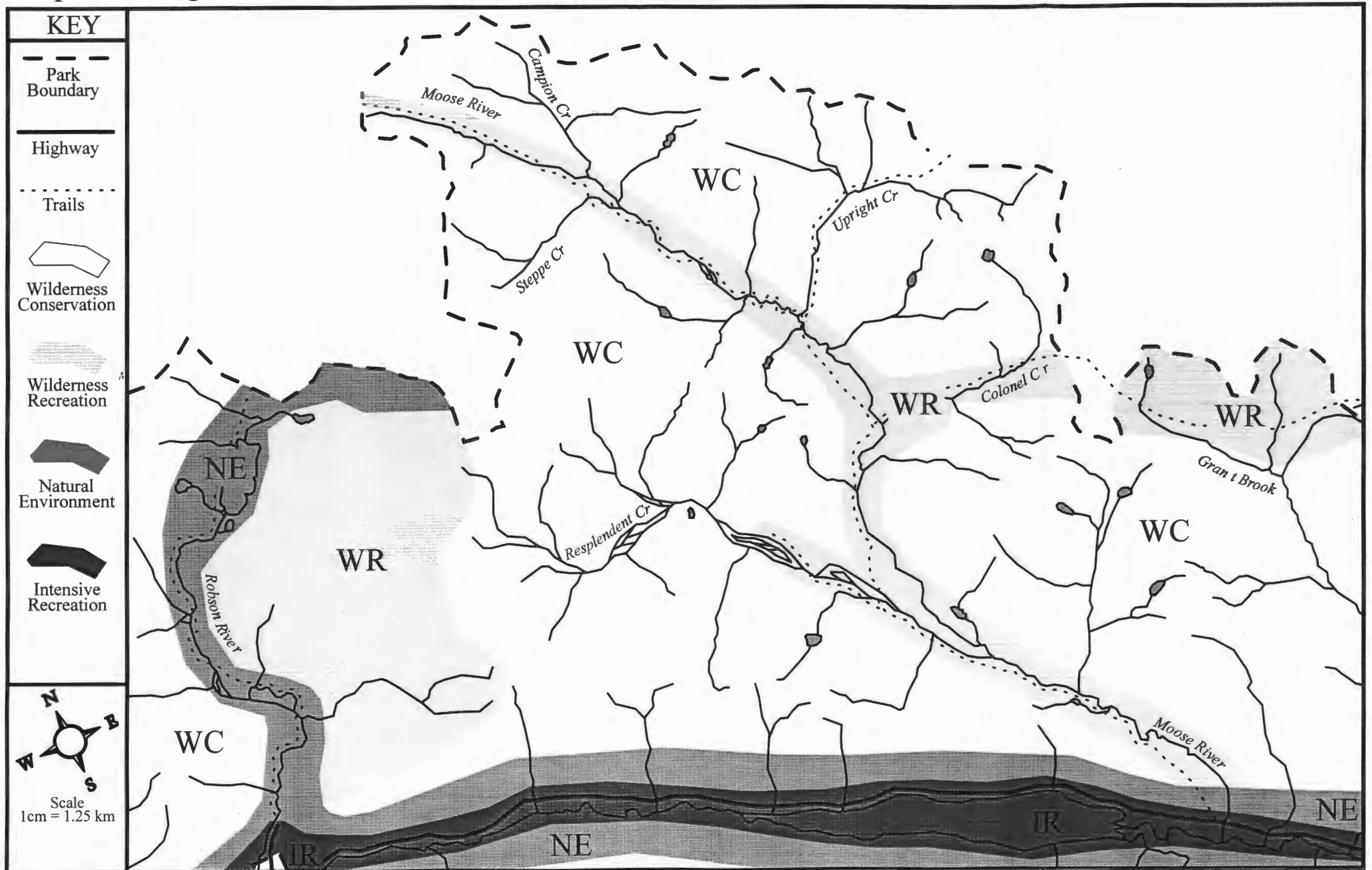
Please note that the majority of information contained in this section (particularly the management objective statements) is taken verbatim from the master plan for Mount Robson Provincial Park (British Columbia, 1992). This plan, completed in 1992, describes the general management direction for Mount Robson Provincial Park as well as the smaller management units within the park.

Mount Robson Provincial Park is somewhat unique within the BC Parks system because of its inclusion in the Canadian Rocky Mountain Parks World Heritage Site and its proximity to Jasper National Park. This proximity has created advantages for the park (such as increased tourism revenue and increased international recognition) but it has also created obligations. The master plan states that Mount Robson Provincial Park must work closely with Jasper National Park to coordinate service strategies, backcountry recreation policy and a host of wildlife issues such as wildlife-human interaction, habitat fragmentation and habitat loss.

2.3.1 ZONING

BC Parks uses five zones to facilitate management of the provincial park system - four of which are found within the Moose River Route region. The main trail corridor as well as the trail up Colonel Creek and the trail up Resplendent Creek have been zoned as Wilderness Recreation to allow limited recreational activity in a wilderness setting (Map 3). All other areas within the Moose River Route region (except for the highway corridor) have been zoned as Wilderness Conservation to ensure that conservation is the primary management focus of these areas. The portion of the study area closest to the highway corridor has been zoned as Natural Environment and Intensive Recreation. Section 2.3.3 provides a detailed description of the two main zones found in the Moose River Route region.

Map 3. Zoning of the Moose River Route region



Map adapted from Mount Robson Provincial Park Master Plan

2.3.2 PARK OBJECTIVES

The master plan describes numerous park objectives that touch on issues such as boundaries, water, wildlife management, resource conservation, recreation opportunities and visitor management. Included with these objectives are a list of management actions that should be followed to ensure that objectives are met. Objectives and management actions contained in the master plan that have the potential to influence planning of the Moose River Route region include:

Boundary objective:

- to protect areas adjacent to the park that have wildlife, recreation and aesthetic value through cooperative management with other agencies.

Inholdings and other tenures objectives:

- to manage non-conforming inholdings and tenures to meet the conservation role of the park;
- to reduce, where possible, the number of non-conforming uses; and
- to minimize environmental and visual impacts of non-conforming uses.

Inholdings and other tenures action:

- continue to require permit holders to remove unnatural objects, such as buildings and rehabilitate the site to a natural state when the permit has been terminated or canceled.

Water objective:

- to protect the headwaters of the Fraser River and maintain the pure, unpolluted quality of waters within the park for aesthetic, ecological and health considerations.

Water actions:

- discourage water impoundments, diversions and future domestic use projects within the park, except to protect transportation links from flooding or erosion; and
- ensure that sanitary facilities are properly designed and located.

Vegetation objectives:

- to maintain plant communities and species that create or contribute to the conservation, visual and recreational attractions of Mount Robson Provincial Park;
- to maintain, where compatible with other park objectives, the established pattern of varied aged forest stands and other communities, reflecting the natural processes that occur in unmanaged forests;
- to maintain the diversity of wildlife vegetation habitats in the park;
- to preserve special sensitive and rare native plant communities and species;
- to encourage low-impact scientific studies to improve knowledge of the park's vegetation;
- to discourage the establishment of non-native species; and
- to encourage public appreciation of forest and vegetation values.

Vegetation actions:

- develop a long-term vegetation management strategy for the park;
- prepare a fire management strategy to protect the park infrastructure and commercial forests outside of the park;
- develop a control program for disease and insect outbreaks which will balance the ecological role of endemic levels with the threat of outbreaks spreading to commercial forests and severe degradation of the highly valued corridor scenery;
- develop a travel corridor vegetation management plan for the Intensive Recreation and Natural Environment zones along the corridor;
- protect sensitive or unique vegetation communities from adverse impacts of recreational uses including the grazing of horses;
- retain trees and snags for wildlife habitat except those that present a hazard to people or facilities; and
- work with Parks Canada in developing a consistent vegetation management plan to address fires, disease and insect outbreaks in the World Heritage Site.

Wildlife objectives:

- to maintain and protect the natural diversity of wildlife species and populations;
- to protect critical habitats and enhance declining habitats where it is compatible with other park resource management and recreation use objectives;
- to provide public viewing and non-consumptive appreciation of wildlife; and
- to encourage scientific research in the park, particularly those with direct management benefits.

Wildlife actions:

- develop a long-term management plan for wildlife in the park;
- develop a travel corridor wildlife management plan based on critical feeding habitats, winter range and migration routes;
- continue to implement recommendations from the bear hazard assessment to reduce conflicts between bears and park visitors;
- prepare an environmental assessment of any future recreational development in the Intensive Recreation, Natural Environment and Wilderness Recreation zones;
- cooperate and establish common objectives with Jasper National Park and BC Environment to manage trans-boundary populations and identify habitat requirements;
- investigate opportunities to work with the Canadian Park Service, Alberta Parks and other BC parks to manage for carnivore populations (including grizzly bears) in response to the World Wildlife Funds' call for Carnivore Conservation Areas; and
- protect the park's limited wetlands to maintain the natural environment and the diverse bird populations.

Fish objective:

- to conserve viable natural fish populations while providing opportunities for viewing and limited recreational fishing.

Fish actions:

- encourage fishing in the Intensive Recreation zone only; and
- maintain all alpine lakes in natural state.

Cultural resources objectives:

- to preserve the cultural resource values which relate to the rich history of the park; and
- to provide information and education on the park's heritage.

Cultural resources actions:

- inventory and assess cultural resources for educational and recreational potential, for scientific needs and for protective status;
- develop appropriate management strategies for identified heritage sites;
- undertake a heritage impact assessment prior to any development, particularly along the travel corridor; and
- develop heritage education programs using the visitor centre, sites and trails.

Visual resources objective:

- to retain views in and out of the park so that the visual qualities and wilderness atmosphere of the park are protected.

Visual resources action:

- locate and design all park facilities in harmony with the visual setting.

Outdoor recreation features objective:

- to manage recreational use of resources and special features for minimal impact so that activities are sustainable and the resources are protected.

Outdoor recreation features actions:

- manage recreation use according to zoning - very low use of wilderness type in the Wilderness Conservation and Wilderness Recreation zones - controlled use in the Natural Environment and Intensive Recreation zones;
- limit use of sensitive features such as alpine meadows;
- locate and design all park facilities in harmony with the visual setting; and
- undertake environmental assessment for all future recreation development.

Access strategy objectives:

- to provide appropriate access to the backcountry without impacts to the environment, wildlife and users; and
- to control aircraft landings in the park.

Access strategy actions:

- control helicopter landings through permits; and
- continue to work with companies who fly over the park to control noise and disruption to wildlife and park users.

Awareness and pre-trip planning objective:

- to provide information about Mount Robson Provincial Park for visitor awareness and pre-trip planning.

Awareness and pre-trip planning actions:

- in the park awareness information, provide visitors with alternatives to the Berg Lake Trail such as Mt. Fitzwilliam and inform them about other camping opportunities;
- coordinate information programs with Jasper National Park to provide clear regional information;
- encourage visitor use during low user periods such as shoulder seasons and mid-week; and
- increase the profile of Mount Robson Provincial Park as a World Heritage Site through regional and provincial initiatives.

Orientation and information action:

- use information and safety signs sparingly in the Wilderness Recreation and Wilderness Conservation zones.

Natural and cultural heritage education objective:

- to inform visitors about the BC Parks system, conservation and the World Heritage Site program.

Natural and cultural heritage education actions:

- coordinate education and information programs with Jasper National Park; and
- use off-site signs and brochures to describe and interpret themes that are located in remote and sensitive areas and in the Wilderness Conservation and Wilderness Recreation zones.

Image objective:

- to portray the significance of Mount Robson Provincial Park as a conservation area.

Promotion objectives:

- to promote backcountry opportunities in such a way as to decrease weekend pressure on the Berg Lake Trail; and
- to provide awareness of backcountry opportunities at a level that is appropriate for the zoning and environmental sensitivity of the area.

Promotion action:

- continue to support international promotion of the park.

Angling objective:

- to provide angling opportunities for park visitors without detriment to native fish populations.

Angling actions:

- permit stocking, fish enhancement and angling facilities in the Intensive Recreation zone only; and
- leave all other waters in a natural state to preserve aquatic biological systems.

Backcountry hiking objective:

- to develop a range of hiking opportunities within the Intensive Recreation, Natural Environment and Wilderness Recreation zones which minimizes the impact on the environment and conflicts between users.

Backcountry hiking action:

- develop primitive backcountry support facilities on the Moose River Route as needed and as appropriate for the Moose River Wilderness Recreation zone.

Horse use objective:

- to provide opportunities for horse use that have minimal impact on the environment or conflict with other users.

Horse use actions:

- direct riders without permits (private parties and other commercial users) to the Moose River Route. Keep level of use low until route can be assessed for its ability to support horse use in a wilderness setting. Develop primitive facilities as necessary to protect environment and in cooperation with local outfitters and the BC Horse Council;
- regulate horse use as necessary to protect the environment and limit conflicts with other users, using criteria such as party size, camp facilities and timing. Trails may be closed during certain conditions (extended periods of rain, soft conditions after a late thaw) to prevent trail damage; and
- allow a low level of commercial and private horse use in other areas. The Resplendent valley Wilderness Conservation zone is closed to all horses and the Emerald Wilderness Recreation zone is closed to commercial use.

Mountaineering objective:

- to continue to provide opportunities for challenging mountaineering.

Mountaineering action:

- develop a strategy to permit private and commercial climbing while promoting safety.

Recreational guiding objective:

- to continue to allow recreational guiding where compatible with social and environmental carrying capacity.

Recreational guiding actions:

- consider the social and environmental carrying capacity of the Wilderness Conservation and Wilderness Recreation zones. Issue permits according to type, duration and frequency of activity, size of group and sensitivity of area;

- identify all commercial guiding opportunities, evaluate the current provision and if opportunities are available, issue permits for new activities through a competitive process; and
- require all commercial permit holders to develop a five year business plan that is compatible with this master plan to be updated and approved annually for their operations in the park.

Resource appreciation objectives:

- to encourage greater visitor appreciation of the park's natural and cultural heritage; and
- to expand the opportunities for day-use while minimizing environmental impact.

Resource appreciation actions:

- develop interpretive programs and information materials explaining the park's natural and cultural resources;
- complete an environmental review before undertaking any development; and
- develop historic interpretive opportunities in the park, specifically in the east end of the park including the Lucerne townsite and the roundhouse.

Winter recreation objective:

- to encourage safe, low-impact winter recreation activities.

Winter recreation actions:

- keep park closed to snowmobiling; and
- permit commercial guided winter use such as backcountry skiing in low hazard areas.

2.3.3 MOOSE RIVER MANAGEMENT UNIT OBJECTIVES

Mount Robson Provincial Park has been separated into five distinct management units, one of which is the Moose River unit. The master plan states that management of this unit will be compatible with Jasper National Park and will focus on conservation and wilderness protection.

Specifically, those sections of the Moose River management unit that are zoned as Wilderness Conservation will focus entirely on conservation. The master plan states that natural forces will predominate and that BC Parks will work with Parks Canada to develop a vegetation management strategy. The plan goes on to state that steps may be taken to restore natural ecological diversity after years of fire suppression but no management actions will be directed at enhancing wildlife and fish populations. With respect to recreational use of these areas, unassisted backcountry recreation opportunities such as wilderness hiking and climbing will be allowed but motorized vehicular access will not. Horse use can occur at very low levels with the exception of the Resplendent Meadows area which is closed to horse use because of the sensitive high-elevation communities. Low levels of recreational guiding will be allowed in Wilderness Conservation sections of the Moose River management unit to protect the environment and ensure the quality of the experience.

Those sections of the Moose River management unit zoned as Wilderness Recreation will focus on providing backcountry wilderness recreation opportunities. The master plan states that most natural processes will be allowed to occur uncontrolled; however, natural fires may be controlled where park visitors are at risk. Much like the Wilderness Conservation zone, no management actions will be directed at enhancing wildlife and fish populations. However, unlike the Wilderness Conservation zone, limited helicopter activity will be allowed. The master plan states that the route is a designated horse trail and that recreational guiding can take place with due consideration of impacts to the environment and to other users.

2.4 MANAGEMENT PRINCIPLES

BC Parks' policy document *Striking the Balance* was released in 1991 (British Columbia, 1991). Although this document is not specific to the Moose River Route region (or even Mount Robson Provincial Park), it provides a great deal of direction on how BC Parks should be managing the provincial parks system. Many of the broad directive statements contained in *Striking the Balance* have direct relevance to the Moose River Route region.

2.4.1 BC PARKS' MANDATE

Like many other park management agencies, BC Parks has to manage provincial parks for both conservation and recreation. However, according to BC Parks' policy document *Striking the Balance*, conservation concerns should take priority over the provision of recreational opportunities. The document clearly states that the long-term protection, management and enhancement of all park resources is BC Parks' primary concern.

2.4.2 CONSERVATION PRINCIPLES

The policy document lists a series of principles that BC Parks follows to ensure that the conservation mandate is adhered to. These principles include the:

- completion of extensive inventories to identify resources before management action is taken;
- protection of unique, rare or endangered species through habitat protection, restrictions on development and management of potential recreation conflicts; and
- management of resources in a provincial context by working closely with other agencies.

2.4.3 RECREATION PRINCIPLES

Similarly, the policy document lists a series of principles that BC Parks follows to ensure that the recreation mandate is adhered to. These principles include:

- providing outstanding recreation without diminishing the value of the natural resources;
- asking visitors what they need and enjoy in parks and providing those facilities and services in the appropriate park zone;
- ensuring that facilities and services in parks complement those already existing in the vicinity of the park and those through the park system as a whole;
- managing parks to complement and strengthen tourism in British Columbia by providing world-class recreation opportunities for the enjoyment of residents and their visitors; and
- encouraging involvement of the private sector.

3. RESULTS FROM THE SEMISTANDARDIZED INTERVIEWS

Twenty-seven people were interviewed to obtain their opinion on how the Moose River Route region should be managed. Nine of these individuals were from BC Parks, six from Parks Canada, two from the Ministry of Forests, one from Fish and Wildlife, one from BC Lands and eight from the Valemount/Mt. Robson area. Local interviewees included commercial guides as well as people familiar with and interested in the Moose River Route region. In addition to these twenty-seven individuals, fourteen members of the Valemount Saddle and Wagon Club were also interviewed.

A semistandardized format was used to obtain information and opinion from interviewees. A series of standard questions were asked, but additional non-standard questions were also included to touch on issues that had not been adequately explored with the standardized questions. At the end of each interview, interviewees were also encouraged to comment on any other issue or concern that had not been discussed. Although the semi-standardized format was used for most interviews, it was modified for telephone interviews and for the group meeting with the Saddle and Wagon Club. In all cases, each interviewee was asked the same key questions (appropriate activities, appropriate facilities, appropriateness of commercial guiding and overall management direction) on management of the Moose River Route region.

3.1 APPROPRIATE ACTIVITIES

A number of points were made by interviewees with respect to appropriate activities within the Moose River Route region:

- The majority felt that hiking, horseback riding and infrequent helicopter activity (in other words, existing activities) were appropriate for the area.
- The current level of use was also considered to be appropriate because it was felt that increased use would create the need for significant trail maintenance, re-routing and facility development.
- Several interviewees felt that helicopter activity was inappropriate because of the potential disturbance to caribou, mountain goat and grizzly bear. One interviewee pointed out that helicopter activity elicits a stress response from mountain goats even when the helicopter is over a kilometre away. Spring is particularly bad for these animals because the nannies have kids and any close range helicopter activity will force the goats to flee making them extremely vulnerable to accidents and predation.
- Other interviewees felt that helicopter activity was inappropriate because of the potential conflict with individuals that are in the area either on foot or on horseback. One interviewee felt that individuals taken in by helicopter would not be able to make the transition from a frontcountry perspective to a backcountry perspective and would therefore not be able to fully appreciate their visit to the Moose River Route region.
- Winter helicopter use was an activity that several interviewees felt would be very inappropriate for the area if it were ever allowed. However, winter use in general (ski touring, snowshoeing) was felt to be appropriate so long as it was not supported by helicopters or semi-permanent winter structures such as yurts.

- None of the interviewees had any objections to the exclusion of mountain bikes on the Moose River Route because many felt that this activity would conflict with existing horse and hiker use.
- Although almost all interviewees supported horse use in the Moose River Route region, several mentioned the need for trail maintenance to reduce damage created by horse use during wet periods. One interviewee felt that it would be beneficial to restrict horse use to periods when the trail was dry.

3.2 APPROPRIATE FACILITIES

Many interviewees had difficulty discussing what facilities would be appropriate for the Moose River Route region because they felt that facility development would very much depend on the level of use allowed within the region. To resolve this problem, interviewees were instructed to select a level of use that they thought was appropriate for the Moose River Route region and then identify what facilities should be developed to support this level of use. A number of points were made by interviewees:

- Most thought that the study area should remain as a low use wilderness region and therefore felt that facility development should be minimal. Of course, there were other interviewees who felt that the region should contain no facilities at all and interviewees who thought that the region should contain basic facilities to support recreational use. However, all interviewees agreed that the Moose River Route region should never become another Berg Lake Trail.
- The majority felt that bear poles were an appropriate facility for the region. However, some interviewees considered wilderness to be an area with absolutely no facilities and therefore felt that there should be nothing in the Moose River Route region to coddle visitors. Anyone who wanted to travel through the area would have to be completely self sufficient and well-educated about camping in bear country. Gear lockers, such as the ones used on the Bowron Lake chain, were suggested as an easy-to-use alternative to bear poles.
- Outhouses were the only other facility that the majority of interviewees considered appropriate for the region. Some people thought that use might not be high enough to require outhouses while others believed that specific well-used campsites (see section 4.2.7 for campsite use) might already have water quality problems. In any case, interviewees felt that the outhouses should be rustic backcountry facilities that blended into the surroundings and were easy to maintain.
- While most interviewees felt that bear poles and pit toilets were all the facilities that the Moose River Route required, there were other interviewees who felt that fire rings, tent pads and rustic shelters could also be placed in the region. These facilities would be good for concentrating use and reducing impacts, but would also be developed for safety considerations (particularly the shelters).
- The majority of interviewees felt that bridges were entirely inappropriate for the Moose River Route region because it would detract from the wilderness experience and would increase accessibility. A rope or cable strung across the more challenging crossings was suggested as an alternative to bridging; it would improve safety without significantly increasing access. Several interviewees who were concerned about the effects of sedimentation on fish habitat felt that bridges would be one way to eliminate this impact if a wildlife assessment determined it to be a problem.

- Other facilities that were mentioned in the interview process included (a) detailed information at the trailhead registry, (b) a corral and outhouse at the trailhead, and (c) tack poles for those campsites used by horse groups.

3.3 OVERALL MANAGEMENT DIRECTION

The large majority of interviewees felt that the Moose River Route region should be managed to emphasize conservation concerns over recreation values. Interviewees provided several justifications for this opinion:

- the park already contains high use areas that coddle visitors. There needs to be regions within the park that focus on conservation. The Moose River Route region is a good candidate area for a conservation focus because it contains critical habitat for large carnivores and caribou;
- the Moose River Route region is still relatively intact from a wilderness perspective. Because Mount Robson Provincial Park is under many external threats, intact areas such as the Moose River Route region should be left as they are;
- more and more regions within the provincial land base are being developed. Parks should focus on conservation because they will eventually be the only places in the province where natural systems prevail; and
- Mount Robson Provincial Park is a World Heritage Site.

There were also a few interviewees who felt that the area should be managed for both conservation and recreation (they considered themselves to be fence sitters) and a few interviewees who thought that the area could have a slight recreation focus. An interesting spin on this issue, brought up by two interviewees, was to give certain sections of the route different overall management directions. These interviewees believed that the lower section of the Moose River Route including some portions of the upper Resplendent valley would be more suited for recreational activity than sensitive areas beyond the crossing of Resplendent Creek. Consequently, the lower section of the route could have a recreation focus while the upper section of the route past the crossing of the Resplendent could have a conservation focus.

3.4 WILDLIFE ISSUES AND CONCERNS

Before getting into a discussion of species distribution, movement and habitat within the Moose River Route region, it is necessary to mention that many interviewees felt that this region required a thorough wildlife assessment. The assessment would collect basic information such as a species inventory, population estimates, movement patterns and habitat suitability on a seasonal basis, as well as more complex information detailing the effects of recreation on wildlife. Ultimately, interviewees felt that the assessment should determine what types of recreational use are appropriate (if any), when they are appropriate and where they are appropriate. It was felt that such an assessment must be completed before any decisions are made on the Moose River Route region.

With respect to habitat, the interview process identified areas of important habitat for species such as grizzly bear, caribou and mountain goat. The Slide Lakes/Moose Pass region was frequently mentioned as critical habitat for grizzly bear while Resplendent Meadows was

considered important habitat for grizzly bear, mountain goat and caribou (the meadows have not been located on any maps because of their sensitivity). The upper Resplendent valley near Reef Icefield was thought to be important for moose and mountain goat while Arctomys valley was believed to contain important habitat for grizzly bear and mountain goat.

Several interviewees were able to supply information on the seasonal movement of caribou and mountain goats within the Moose River Route region. Caribou spend the summer months in the Calumet/Coleman Glacier region but as fall approaches, they travel northwest along the Smoky River to winter near Grande Cache. Although this is the general pattern of movement, it is also believed that the odd caribou may spend winter in the old growth forests found along the lower Moose River valley. Caribou telemetry data from Alberta Fish and Wildlife appears to confirm these movement patterns (see section 5.7). Mountain goats can be found along the south and west slopes of Mount Robson in late spring/early summer, but move east to the Resplendent Meadows area at about the same time that use on the Berg Lake Trail increases. The interviewee who supplied this information was not sure if the mountain goats were being displaced by use on the Berg Lake Trail or were moving to follow the seasonal availability of food.

Other unique wildlife species that are known to use the Moose River Route region include harlequin ducks and timber wolves. During the winter months the wolves are found along the highway corridor between Moose Lake and Yellowhead Pass. However, in late winter the wolves are believed to den up in the Moose River Route region although exact locations are not known.

Aside from information on habitat and seasonal movement, the interview process identified four additional wildlife related issues:

1. Several interviewees believe that any pass along the continental divide that does not see significant human use is critical for the movement of wildlife between areas of important habitat. Specifically, Moose Pass, Upright Pass, Colonel Pass, Grant Pass and Miette Pass are thought to be important travel corridors. Grizzly bears are known to use Upright Pass to connect habitat in the Snaring River region of Jasper National Park with habitat in Mount Robson Provincial Park. Similarly, grizzly bears are known to use Moose Pass to connect habitat in Mount Robson Provincial Park with habitat in the Smoky River region of Jasper National Park.
2. Concern was expressed about wildlife displacement at mineral licks within the Moose River Route region. However, opinion on this issue was divided because some interviewees thought it to be a concern while others felt that use of the Moose River Route region is too low to create avoidance zones at these sites.
3. The displacement of grizzly bears by horse grazing was another wildlife/visitor conflict identified. Many of the campsites in the Moose River Route region are located near avalanche slopes which are used to graze horses. However, in July, cow parsnip growing along these slopes also attracts grizzly bears. Although it is not known if horse grazing during this season creates avoidance zones, the interviewee who brought up the issue felt that the potential is there.

4. Several interviewees mentioned that grizzly bears could be displaced by recreational activity particularly during spring and fall. Seasonal restrictions on existing recreational activity were considered by one interviewee to be a potential management solution to reduce impacts on wildlife.

3.5 MANAGEMENT STRATEGIES

Two of the management strategies most frequently mentioned by interviewees were education on trail etiquette and low-impact camping. It was felt that trail etiquette could help reduce conflict between hikers and horse users, while education on low-impact camping could eliminate the need for facility development. If visitors could be taught to camp with less impact there would be no need for facilities such as outhouses and bear poles to protect park resources and wildlife.

Another popular management strategy was the use of information to influence visitor expectations. Providing accurate information on trail conditions, facilities (or lack thereof), the chances of running into large horse parties and the chances of camping in solitude would give visitors a better feel for the region they were thinking of visiting. Changing visitor expectations to fit the experience was considered to be an effective way of reducing conflict, particularly between hikers and horse users.

Other interviewees tackled the issue of user group conflict by suggesting the development of separate horse and hiker trails in addition to separate horse and hiker campsites. Several individuals thought that it would be foolish to promote the Moose River Route region to both user groups without having some strategy in place to deal with the conflict that would result. One interviewee indicated that a section of the trail could be separated by building a bridge across Resplendent Creek, where it narrows to meet the Moose River at approximately kilometre 11 (see Map 2). A hiking trail could then be constructed on the east side of Resplendent Creek, meeting up with the horse trail at kilometre 17.8 (just after the trail crosses Resplendent Creek).

Many interviewees thought that user fees for the Moose River Route region would be a good way to generate funds for facility development and trail maintenance. Implementing user fees would also be a potential management strategy to reduce use if it became too high. However, one interviewee felt that a user fee would be inappropriate if there were no facilities or trail maintenance in the region.

3.6 HISTORICAL INFORMATION

With a few notable exceptions, most interviewees were unable to recall much historical information on the Moose River Route region. However, existing documentation on the area does provide some local history which is discussed in greater detail in section 5.9. A couple of interesting facts that came out of the interview process include:

1. the operation of a silver mine near the north fork of Resplendent Creek sometime before 1911; and
2. the presence of two cairns constructed by A.O Wheeler when he went through the Moose River Route region on a photo survey in 1911.

In addition, several interviewees mentioned that the amount of wildlife in the area has decreased over the years. For example, on a recent trip into the Moose River Route region, an interviewee noticed that a once popular mineral lick had not seen any use that season. The vegetation in the Moose River Route region has also changed over the years. An interviewee mentioned that the Slide Lake campsite used to be rich in alpine flowers. However, after a slide in the late 1970s, the area became dominated by coarser species such as indian hellebore.

3.7 OTHER ISSUES AND CONCERNS

Aside from the information on appropriate activities, appropriate facilities, overall management direction, wildlife concerns, management strategies and history, the interview process also identified many other issues and concerns related to planning and management of the Moose River Route region:

- Many interviewees felt that horse use on the Berg Lake Trail was an issue that should be addressed in the current planning process for the Moose River Route region. All horse use (aside from that by the two commercial guides that have park use permits for the Berg Lake Trail) is restricted between June 16th and September 15th. Around those periods, horse use is permitted to the Kinney Lake gravel flats but only with a letter of permission from BC Parks. Anyone wanting to ride to Berg Lake now has to use the Moose River Route which takes three days rather than the six hours it would have required on the Berg Lake Trail. These restrictions have also affected horse use on Jasper National Park's North Boundary Trail. Horse parties now have to exit the backcountry via the Moose River Route which has added several days travel onto an already lengthy trip. Horse use on the North Boundary Trail has decreased because of BC Parks' restrictions on the Berg Lake Trail.
- The number of horses allowed in a single party was an issue mentioned by many interviewees. All felt that Jasper National Park's policy of allowing up to 38 horses in a single party was too large and should be reduced. Figures ranging from 12 to 20 horses were thought to be entirely appropriate for the type of trips now operating in the area. One interviewee mentioned that hunting parties used to take 40 horses through the Moose River Route region at a time. The inconsistency between the number of horses allowed per party in Jasper National Park (38) and the number allowed per party in Mount Robson Provincial Park (20) was also felt to be a concern.
- Large commercial horse parties within the Moose River Route region were a concern to one interviewee who felt that encountering these parties would be detrimental to the wilderness experience that the region should provide. The interviewee thought that the commercial guide operating in the area could post a trip itinerary at the trailhead so that other visitors (particularly hikers) could either avoid contact with the horse party or at least be aware of the possibility of an encounter.
- Limitations on grazing were also mentioned by a number of interviewees who were worried about changes in species composition, competition with ungulates and reduced forage production due to soil damage. The introduction of non-native species by horse use was another concern mentioned by interviewees.
- The route running along Colonel Creek and Grant Brook was zoned as Wilderness Recreation during the master planning process (see Figure 9). This zoning was applied to the region to accommodate the existing horse trail and to accommodate nature study trips

operated by a commercial guide who has since suspended operations. It was suggested that the zoning of this region should be changed from Wilderness Recreation to Wilderness Conservation (see section 2.3.1 for a description of these zones). *Note that zoning changes would require an amendment of the park master plan which is outside of the scope of this study.*

- Several interviewees mentioned that local communities supported recreational development of Mount Robson Provincial Park over and above conservation of the park's resources. These interviewees noted that local communities considered the park to be a cash cow and believed that the park was there to generate revenue for them. The interviewees who brought up this concern felt that an effort should be made to get local communities to value the park for what it is and not for how it can be used.
- The issue of stewardship within BC Parks was brought up on numerous occasions. Several interviewees felt that BC Parks focused too much on the recreation aspect of parks and not enough on the conservation concerns. This was thought to be especially true of operations personnel.
- The use of a systems approach to planning and management of the Moose River Route region was mentioned by a number of interviewees. It was felt that there was no point in developing the Moose River Route if a similar recreational experience could be offered in other parks, even those as far away as Banff, Kootenay and Yoho. Similarly, many interviewees considered the experience offered by the Moose River Route to be particularly unique and consequently felt that the region should be left alone.
- The need to plan on a larger scale was mentioned by interviewees who felt that the current study should consider wildlife habitat and recreational use in regions far removed from the current study area boundaries. Although all the interviewees acknowledged that it would not be possible to expand this study to include these considerations, the interviewees felt that it was important to take as broad a perspective as possible during this planning process.
- The issue of closing the Slide Lake campsite was mentioned by a couple of interviewees who felt that visitors would still use the campsite regardless of the closure (for a detailed description of this issue see section 5.4). It was thought that the best way to deal with the problem would be to provide a permanent bear pole, warn visitors of the bear hazard and provide tips on camping in bear country.
- Interviewees identified two opportunities to create new trail systems linking the Moose River Route with old trails found to the west of the route. One option was to create a three or four day trip linking the Moose River Route with an abandoned trail leading into Red Pass, while the other option was to create a one to two day trip linking the lower section of the Moose River Route with an old trail that starts west of the existing trailhead and connects with the Moose River Route near kilometre 11.1.
- Many interviewees mentioned that linking the Berg Lake Trail with the Moose River Route would provide a nice loop trip around Mount Robson. One interviewee felt that this loop trip could offer a backcountry experience on par with the West Coast Trail. However, several interviewees were concerned about any proposal that could potentially increase use of the Berg Lake Trail.
- A shortage of well maintained trails for day-trips was identified by a number of interviewees as a weakness in Mount Robson Provincial Park's trail system. Because use of the Berg Lake Trail is so high, visitors to the park want to travel on other well-

maintained trails that don't have the crowds but still provide scenic rewards. The Moose River Route region was not considered to be an appropriate area to develop day hiking opportunities because the particularly scenic portions of the trail are beyond the range of a day hike.

- Arctomys Cave was felt to be a special feature within the Moose River Route region that BC Parks should never promote. Many interviewees acknowledged that the cave's relative inaccessibility (one to two days hiking from the trailhead) coupled with its lack of promotion has helped to protect this special resource.
- Access to firewood was an issue mentioned by interviewees who felt that fires were appropriate for a wilderness area like the Moose River Route. Locating campsites close to avalanche slopes so that timber brought down on a yearly basis could be used for firewood was thought to be a viable option for the region. Other interviewees felt that it would be appropriate to carefully select immature trees close to campsites rather than skidding logs in from avalanche slopes.
- The need for a wildlife assessment within the Moose River Route region came up time and time again throughout the interview process. One interviewee was concerned that this planning process will identify management objectives for the Moose River Route region before the assessment can be completed. If the information from the wildlife assessment indicates that certain management objectives are not feasible, then it was felt that these objectives should be abandoned.

4. RESULTS FROM THE OPINION QUESTIONNAIRES

Two opinion questionnaires were distributed throughout the fall of 1995. A short version questionnaire (six questions total) was mailed to 305 individuals on a BC Parks mailing list for Mount Robson Provincial Park. Of the 305 questionnaires, 44 were returned unopened and 166 were completed. The response rate for this questionnaire was 64%. A long version questionnaire (19 questions total) was mailed out to 98 individuals that registered to use the Moose River Route during the 1995 season. Of the 98 questionnaires, 3 were returned unopened and 66 were completed. The response rate for this questionnaire was 69%. Nine additional long version questionnaires were completed by members of the Valemount Saddle and Wagon Club who went into the study area in 1995 but were not mailed a questionnaire package.

Although the short and long version questionnaires were different, there were four questions common to both surveys. These questions obtained respondent opinion on:

1. appropriate activities;
2. appropriate facilities;
3. the appropriateness of commercial guiding; and
4. overall management direction.

In addition to these four questions, the short version questionnaire asked respondents to indicate which trails they had used in Mount Robson Provincial Park and to indicate which activities they had pursued while in the park.

The long version questionnaire contained the four common questions as well as ten trip-specific questions that obtained information on:

1. party size;
2. type of traveling group;
3. form of travel;
4. primary form of travel;
5. length of stay;
6. route taken;
7. purpose of trip;
8. activities pursued while in the area;
9. encounters with other parties; and
10. preferences for encounters.

The long version questionnaire also had five respondent-specific questions that obtained information on:

1. the respondent's home town;
2. the respondent's age;
3. the respondent's gender;
4. the number of previous trips into the Moose River Route region; and
5. sources of pre-trip information.

4.1 RESULTS FROM THE SHORT VERSION QUESTIONNAIRE

Although the short version questionnaire (Appendix D) contained six questions, only two of them are discussed in this section. The other four questions were common to the long version questionnaire and are discussed in section 4.3.

4.1.1 RESPONDENT HOME TOWN/HOME REGION

A quarter of respondents to the short version questionnaire were residents of Valemount (Table 1). The second largest group of respondents were from Prince George, followed by McBride. Many respondents were from Alberta (particularly Jasper), while four respondents were from the USA. The grouping other locations in British Columbia includes all BC responses that were not from Valemount, Prince George, McBride and Southwest BC (greater Vancouver and Vancouver Island). The grouping other locations in Alberta includes all Alberta respondents who were not from Jasper.

Town/Region	Percent of Respondents
Valemount	25
Prince George	22
McBride	15
other locations in British Columbia	13
Southwest British Columbia	10
Jasper	9
other locations in Alberta	4
USA	2

Table 1. Home town/region of respondents to short version questionnaire

4.1.2 TRAIL POPULARITY

The first question in the short version questionnaire asked respondents to identify which trails they had ever used in Mount Robson Provincial Park. Five choices were provided:

1. Kinney Lake/Berg Lake;
2. Mount Fitzwilliam;
3. Yellowhead Mountain;
4. Moose River; and
5. other (to be specified by the respondent).

Out of the 166 respondents to the short version questionnaire, only 18 (11%) had not used any of the trails within Mount Robson Provincial Park. The remaining 148 respondents had used at least one of the park's trails. Not surprisingly, the trail to Kinney and Berg Lakes (Figure 1) was the most popular route; eighty-seven percent of respondents indicated using the trail. The next most popular trail was the Moose River Route, where 35% of respondents indicated that they had traveled the trail. This result seemed a bit surprising given the area's low profile and park statistics indicating higher use on the Mt. Fitzwilliam Trail. However,

this result is entirely possible because the short version questionnaire did not representatively sample backcountry visitors to Mount Robson Provincial Park.

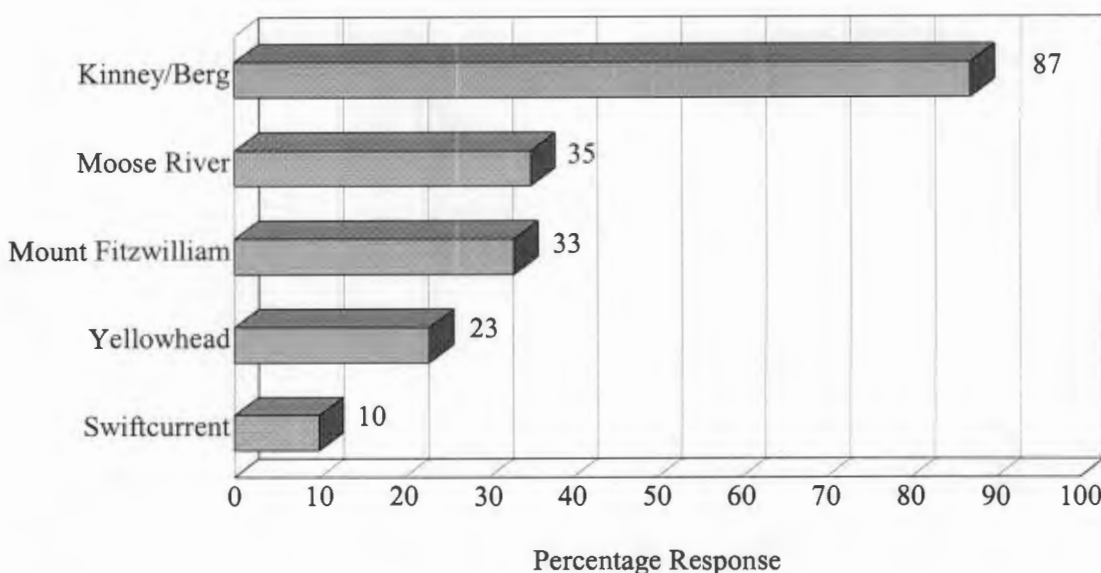


Figure 1. Use of select trails in Mount Robson Provincial Park

The Moose River Route is quite popular with residents of Valemount and Jasper. Individuals from these two towns accounted for 64% of all respondents that indicated use of the trail. Swiftcurrent Creek, near the park's extreme western border, was the most frequently mentioned trail in the other category. Much like the Moose River Route, this trail is popular among individuals from local communities, particularly Valemount.

4.1.3 ACTIVITY POPULARITY

The second question in the short version questionnaire asked respondents to identify which activities they had participated in while in Mount Robson Provincial Park. Ten choices were provided:

1. vehicle camping;
2. day hiking;
3. backpacking;
4. canoeing;
5. river rafting;
6. mountaineering;
7. caving;
8. cross-country skiing;
9. educational(defined as interpretive programs, plant identification); and
10. other (to be specified by the respondent).

Almost all respondents to the short version questionnaire had participated in multiple activities within Mount Robson Provincial Park. Only 10 respondents (6%) had not participated in any activities within the park. Although day hiking was the most popular activity among respondents (Table 2), the questionnaire did not provide a thorough definition of the term. Consequently, the respondent was free to consider day hiking to be anything from a ten minute walk on the Overlander Falls Trail to a ten hour day-trip to the Berg Lake area.

Backpacking was the second most popular activity (69%) while vehicle camping (47%), educational activities (34%) and cross-country skiing (34%) were also relatively popular. In the other category, respondents frequently mentioned horse use (11%) and work related activities (7%).

Activity	Percentage Response
day hiking	83
backpacking	69
vehicle camping	47
educational	34
cross-country skiing	34
mountaineering	27
canoeing	24
river rafting	13
horse use	11
work related activities	7
caving	5

Table 2. Participation in select activities within Mount Robson Provincial Park

Overall, the results from the first two questions of the short version questionnaire indicate that respondents are very familiar with Mount Robson Provincial Park. All of the park's trails have been used by one respondent or another and these individuals have participated in a wide variety of activities within the park's boundaries. Although the opinions expressed in the short version questionnaire may not represent public opinion, they do represent the opinions of individuals that have an interest in Mount Robson Provincial Park.

4.2 RESULTS FROM THE LONG VERSION QUESTIONNAIRE

Although the long version questionnaire (Appendix E) contained nineteen questions, fifteen of them are discussed in this section. The other four questions were common to the short version questionnaire and are discussed in section 4.3.

4.2.1 AVERAGE PARTY SIZE

The first question in the long version questionnaire asked respondents to indicate the size of the group they were traveling with while in the Moose River Route region. The average party

size using data obtained from this question was 5.5 people. However, this figure isn't accurate because it doesn't take into consideration groups who traveled the trail but did not respond to the questionnaire. A more accurate figure can be calculated by combining data taken from the trailhead registry with information obtained from the commercial guide operating in the area. Figures from these two sources indicate that 182 people in 47 parties used the trail in 1995. This works out to an average party size of 3.9 people - lower than the 5.5 figure obtained from the questionnaire but higher than the 3.0 figure that BC Parks uses to estimate number of visitors from number of party statistics. Please note that more than 182 people used the Moose River Route region in 1995 (see section 5.1 for data on level of use). This figure only represents the number of people that registered at the trailhead and the number of people that were taken into the region by the commercial guide.

4.2.2 PREFERRED TRAVELING GROUP

The second question in the long version questionnaire asked respondents to indicate what type of group they traveled with while in the Moose River Route region. Six choices were provided:

1. family;
2. friends;
3. family and friends;
4. club or organization sponsored;
5. alone; and
6. other (to be specified by the respondent).

The largest percentage of respondents traveled as part of a club or organization (Table 3), followed closely by travel with friends. Travel with family as well as family and friends was reasonably common while solo travel was quite rare (3%).

Group Type	Percent of Respondents
club or organization sponsored	33
friends	31
family	17
family and friends	16
alone	3

Table 3. Respondent preference for traveling group

There are two main clubs/organizations that make trips into the Moose River Route region each year. The commercial guide operating in the Moose River Route region takes several trips a year with an organization called America's Adventure. This organization, based out of Golden, Colorado, is an outdoor education group that teaches low-impact camping techniques to youths age 14 to 17. America's Adventure (in conjunction with the commercial guide) has been making trips into the Moose River Route region for three consecutive years. The other organization that takes trips into the Moose River Route region (generally twice a year) is the Valemount Saddle and Wagon Club.

4.2.3 FORM OF TRAVEL

Question 3 asked respondents to identify all forms of travel they used while in the Moose River Route region. Because many visitors used more than one form of travel they were able to select more than one answer for this question. Six choices were provided:

1. hiked, carrying own equipment;
2. hiked, leading privately owned horse;
3. hiked, leading horse provided by outfitter;
4. rode on privately owned horse;
5. rode on horse provided by outfitter; and
6. other (to be specified by respondent).

The majority (72%) of respondents hiked the Moose River Route with their own equipment. (Table 4). Riding a horse provided by the commercial guide that operates in the region was the second most popular form of travel (25%). Other forms selected by respondents included hiking while leading an outfitter-provided horse and riding on privately owned horses. None of the respondents indicated hiking while leading a privately owned horse nor were any different forms of travel identified in the other category.

Form of Travel	Percentage Response
hiked, carrying own equipment	72
rode on horse provided by outfitter	25
rode on privately owned horse	13
hiked, leading horse provided by outfitter	5

Table 4. Forms of travel

4.2.4 PRIMARY FORM OF TRAVEL

The fourth question in the long version questionnaire asked respondents to identify their primary form of travel while on the Moose River Route. The same six choices were provided:

1. hiked, carrying own equipment;
2. hiked, leading privately owned horse;
3. hiked, leading horse provided by outfitter;
4. rode on privately owned horse;
5. rode on horse provided by outfitter; and
6. other (to be specified by respondent).

Because most respondents used only one form of travel, there were very few differences between the numbers generated from Question 3 and those generated from Question 4 (Table 5). However, a notable exception was the number of hikers carrying their own equipment which dropped from 72% to 60%. This decrease was the result of visitors who went into the Moose River Route region as part of the organization America's Adventure (previously described in section 4.2.2).

America's Adventure takes two separate groups into the park at the same time; one group hikes up the Berg Lake Trail and onto the Moose River Route while the second group rides up the Moose River Route with the commercial guide. Both groups meet at Steppe Creek Campsite (see Map 2) for one evening and the next day switch forms of travel so that the group that hiked up the Berg Lake Trail now rides out on the Moose River Route and the group that rode up now hikes out via the Berg Lake Trail. Because these groups both hike and ride the Moose River Route (yet spend the majority of their time within the Moose River Route region on horseback), the percentage of hikers decreases when the primary form of travel is taken into consideration.

Form of Travel	Percent of Respondents
hiked, carrying own equipment	60
rode on horse provided by outfitter	24
rode on privately owned horse	13
hiked, leading horse provided by outfitter	3

Table 5. Primary form of travel

Overall, the data from Question 4 indicates that more people enter the Moose River Route region on foot (60%) than enter it on horseback (40%). Again, the data from this question only provides information on the form of travel used by respondents to the questionnaire; it does not provide information on the form of travel used by all visitors to the Moose River Route region in 1995.

4.2.5 LENGTH OF STAY

The fifth question in the long version questionnaire asked respondents to indicate how many nights they spent in the Moose River Route region. This region was defined as the main trail corridor up to Moose Pass and down to the junction with the North Boundary Trail as well as the side trails into upper Resplendent valley, Upright Creek and Colonel Creek/Grant Brook. Unfortunately, many respondents were not sure of the study area boundaries and subsequently included nights spent on the Berg Lake and North Boundary Trails in their figure. The number given by respondents was checked with the trip itinerary they provided in the sixth question to eliminate this error.

Out of the 75 respondents to the long version questionnaire, 17 of them (23%) used the Moose River Route region only for the day. The remaining 58 respondents (77%) spent an average of 3.5 nights within the Moose River Route region. If information from this question is combined with figures from the trailhead registry, a more accurate breakdown of day versus overnight use can be made. Out of the 182 people known to have used the trail in 1995, 38 (21%) were day visitors and the remaining 144 (79%) were overnight visitors.

4.2.6 TRIP ITINERARY

The sixth question asked respondents to provide their itinerary on a map that was included within the questionnaire. Respondents were asked to indicate the route taken, their direction of travel, the location of any campsites they stayed at and the number of nights spent at each campsite. One of the most interesting observations obtained from this question was that many people were not completely sure where they had traveled. Out of the 75 responses to the long version questionnaire, 14 respondents either left the question blank or only provided a partial itinerary (and an apology for not being able to recall the exact location of their visit!).

The commercial guide that operates in the Moose River Route region made five trips into the study area in 1995. Two of these five trips were operated in conjunction with the outdoor education organization America's Adventure. The same itinerary was used for both trips:

- Day 1** Eight clients and three commercial guides ride to the horse campsite on Resplendent Creek. Eight clients walk up the Berg Lake Trail to the Emperor Falls Campsite.
- Day 2** The horse group day-rides in the Resplendent valley while the hiking group walks to the Adolphus campsite in Jasper National Park.
- Day 3** The horse group travels to the horse campsite on Steppe Creek while the hiking group leaves Adolphus for the campsite at Calumet Creek.
- Day 4** The horse group day-rides in the valleys around Steppe Creek while the hiking group walks up to Moose Pass and down to the Steppe Creek campsite where they meet up with the horse group.
- Day 5** The two groups swap transportation and repeat the itinerary in reverse. The group that hiked up now day-rides around the Steppe Creek area while the group that rode up now hikes to the Calumet Creek campsite.
- Day 6** The horse group rides down to the Resplendent Creek campsite while the hiking group walks to Adolphus.
- Day 7** The horse group day-rides in the Resplendent valley while the hiking group walks down the Berg Lake Trail to the campsite at Emperor Falls.
- Day 8** Both groups travel out to the highway, completing their trip.

Two of the other three commercially guided trips had the same itinerary:

- Day 1** Ride from the Moose River Route trailhead to the horse campsite on Resplendent Creek.
- Day 2** Day-ride in the Resplendent valley.
- Day 3** Ride to the horse campsite at Steppe Creek.
- Day 4** Ride back down to the Resplendent Creek campsite.
- Day 5** Ride out to the trailhead.

The fifth trip made by the commercial guide involved a six day/five night trip into the Upright Creek area:

- Day 1** Ride from the Moose River Route trailhead to the horse campsite on Resplendent Creek.
- Day 2** Day-ride in the Resplendent valley.
- Day 3** Ride to the horse campsite on Upright Creek.
- Day 4** Day-ride in the Upright Pass area.
- Day 5** Ride down to the Resplendent Creek campsite.
- Day 6** Ride out to the trailhead.

Other horse trips made in the Moose River Route region in 1995 included a day-ride up to the Resplendent Creek campsite by five members of the Valemount Saddle and Wagon Club as well as a three day trip by a couple from Nevada. The couple rode up to the Trio Mountain campsite on the first day, took a day-ride up to Steppe Creek and back on the second day, then packed up camp on the third day and rode out to the highway. Aside from the five commercially guided trips, the Saddle and Wagon Club excursion and the trip by the couple from Nevada, no other horse use is known to have occurred on the Moose River Route in 1995.

Although a wide variety of hiking trips were made into the Moose River Route region in 1995, these trips could be placed into four different classes of hikes. The most popular hiking trip was an overnight stay at either the 4 km or Resplendent Creek campsites (see Figure 9). In most cases the trip involved a single night stay but there were also hikers who spent two nights in the area before heading back to the trailhead. Thirty-two percent of respondents who provided an itinerary on their questionnaire indicated making this trip. The second most popular trip (31% of respondents providing itineraries) involved a day hike along the lower section of the trail. Although many of these day hikes were within the first four kilometres of the trailhead, some respondents indicated hiking as far as the Resplendent Creek campsite (a 30 kilometre round trip!).

The third most popular hike (27% of respondents who provided itineraries) involved a loop trip linking the Moose River Route with the Berg Lake Trail. Interestingly, out of the twenty-four people known to have made this trip in 1995, nine of them (38%) indicated getting lost at the Steppe Creek horse campsite. Instead of heading up the Moose River valley these individuals would follow horse trails leading to graze in the upper Steppe Creek valley. Although most hikers recognized their mistake early enough to backtrack and continue along the main trail corridor, one group had to make an unscheduled evening stop at the Steppe Creek campsite before continuing on their trip.

The remaining ten percent of respondent who provided itineraries made trips that involved travel in areas off of the main trail corridor. For example, two groups hiked up the Moose River Route to the junction with the trail leading up Colonel Creek and took this trail to Colonel Pass, into the Grant Brook drainage and back to the highway via Jasper National Park's Miette River Pack Trail. Another adventurous group climbed Yellowhead Mountain

into the Rink Lakes region of Jasper National Park, followed the Miette River Pack Trail to Miette Pass and then traversed between the Colonel and Upright Creek drainages before hiking up to Moose Pass and then out to the highway via the Berg Lake Trail. None of the respondents indicated traveling in the upper Resplendent valley in 1995.

4.2.7 CAMPSITE USE

Question 6 of the long version questionnaire was also very useful in determining which campsites were used most often in the Moose River Route region. When information from this question was combined with trip itineraries provided by the commercial guide, a reasonably accurate picture of campsite use was created.

The campsite with the highest overall known use in 1995 was the horse campsite at Resplendent Creek (Figure 2). There were 163 user nights at this site, all by clients of the commercial guide that operates in the Moose River Route region. The campsite does not see much use by non-guided parties because it is approximately 2 km off of the main trail and is not referred to on the map or trail description provided at the trailhead registry.

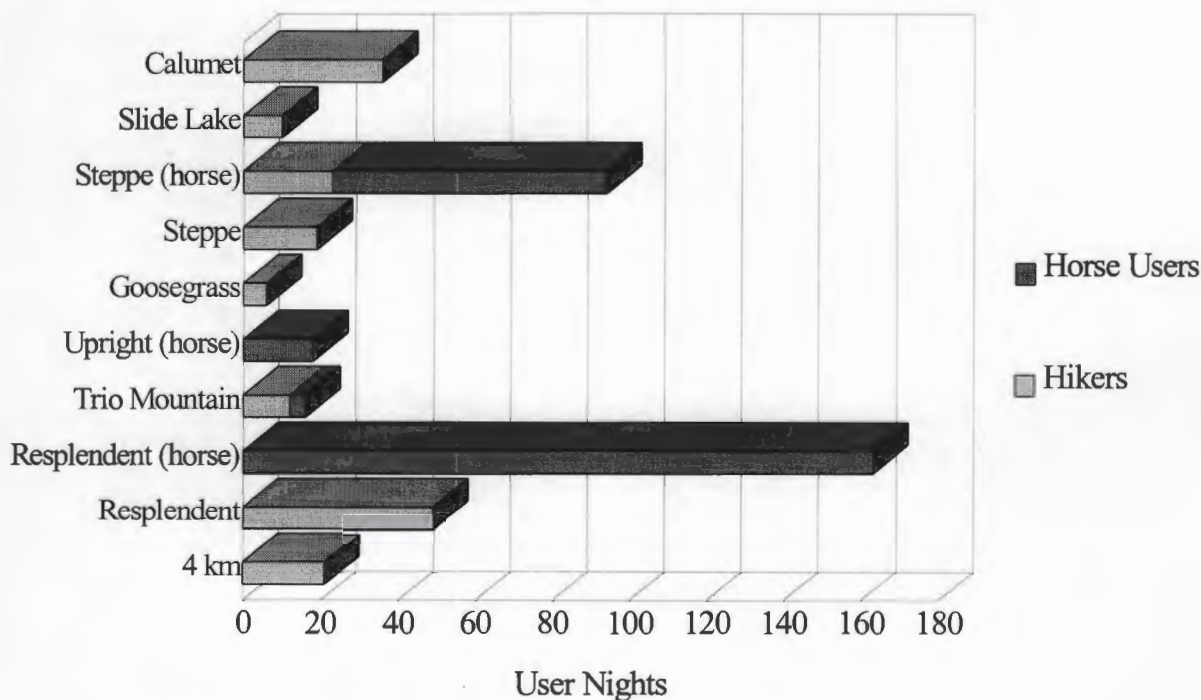


Figure 2. Campsite use in the Moose River Route region

The campsite with the second highest overall known use was the horse campsite at Steppe Creek. There were 71 horse nights and 23 hiker nights at this campsite in 1995. Like the horse campsite at Resplendent Creek, the commercial guide operating in the Moose River Route region was responsible for all of the horse user nights at this site. The only other

campsites to see overnight use by horse parties was the Trio Mountain campsite (used by a private horse party) and the horse campsite on Upright Creek (used for two nights by the commercial guide).

The most popular campsite for hikers was the Resplendent Creek campsite which saw 49 user nights in 1995. The majority of use at this site was by hiking parties that never crossed the creek to travel further up the Moose River valley. The Resplendent Creek crossing appears to act as a barrier to travel along upper sections of the Moose River Route. Although the creek is relatively easy to cross in the fall, it can be particularly dangerous during spring runoff or during periods of heavy rain.

The second most popular campsite for hikers was the Calumet Creek campsite (in Jasper National Park). Although there were 36 user nights at this site, 32 were from four hiking groups that went through the Moose River Route region as part of the outdoor education organization America's Adventure. The organization uses the Calumet Creek campsite as a third day stop for groups starting on the Berg Lake Trail and as a first day stop for groups hiking from the rendezvous at Steppe Creek (see section 4.2.6 for a complete description of the itinerary used by America's Adventure).

The campsite 4.2 kilometres in from the trailhead (called the 4 km campsite for the purposes of this document) was the third most popular hiker campsite in the Moose River Route region. There were 21 user nights at this site, the majority by groups that never crossed Resplendent Creek to travel further up the Moose River valley. The only other site to see relatively substantial hiker use was the campsite at Steppe Creek which had 19 user nights in 1995. The remaining two established campsites in the Moose River Route region (Goosegrass and Slide Lake) did not see much use.

Aside from user nights at established campsites, hikers spent 22 user nights at random locations within the Moose River Route region. Most of these campsites were in the Colonel Creek, Grant Brook, Upright Creek drainages although 6 of the 22 random user nights were spent at locations along the main trail corridor. Based on these results, it appears that the frequency of random camping is quite low along the main trail corridor but is quite high in the side valleys where there are few established campsites.

4.2.8 PURPOSE OF TRIP

The seventh question in the long version questionnaire asked respondents to score on a four point scale the purpose of their trip to the Moose River Route region in 1995. Thirteen statements describing purposes for taking a trip were provided:

1. view beautiful scenery;
2. observe wildlife;
3. be alone for awhile;
4. meet new people;
5. be with friends;
6. be with family;
7. hone outdoor skills;
8. experience adventure;

9. learn about nature;
10. explore new places;
11. get away from routine;
12. mental relaxation; and
13. other (to be specified by the respondent).

A score of 1 meant that the respondent thought the statement to be a very unimportant reason for taking their trip while a score of 2 meant that the respondent felt the statement was an unimportant reason for their trip. A score of 3 and 4 meant that respondents felt the statement was an important and very important reason for their trip, respectively.

Table 6 indicates that the most important reasons for taking a trip into the study area were to view beautiful scenery and to explore new places. Other relatively important reasons included getting away from routine, observing wildlife, experiencing adventure, relaxing mentally, learning about nature and being alone for awhile.

Purpose	Number of Responses to				Mean Rank
	1	2	3	4	
view beautiful scenery	4	0	15	54	3.63
explore new places	4	1	16	52	3.59
get away from routine	5	1	22	42	3.44
observe wildlife	3	4	27	40	3.41
experience adventure	4	8	19	40	3.34
mental relaxation	6	5	24	38	3.29
learn about nature	3	4	39	24	3.20
be alone for awhile	9	11	22	31	3.03
hone outdoor skills	9	12	26	19	2.83
be with friends	12	11	27	20	2.79
be with family	21	16	9	17	2.35
meet new people	24	35	5	4	1.84

Table 6. Trip purpose

Overall, almost all of the statements listed in Question 7 were considered important by respondents; the only statements to fall below the 2.50 midpoint were being with family and meeting new people. Not surprisingly, most respondents didn't take a trip into the Moose River Route region to be with people, regardless of whether they were friends, family or complete strangers. Respondents were there to explore new and beautiful places, experience adventure, view some wildlife and get a break from their routine.

4.2.9 PARTICIPATION IN OTHER ACTIVITIES

The eighth question in the long version questionnaire asked respondents to indicate which activities they had participated in while on their trip in the Moose River Route region. Seven choices were provided:

1. swimming;
2. fishing;
3. wildlife viewing;
4. photography;
5. nature study (defined as plant identification, rock study, etc.);
6. caving; and
7. other (to be specified by the respondent).

Wildlife viewing was the most popular activity participated in by respondents to the long version questionnaire (Figure 3). Although there is no way of knowing how many people were successful in this activity, some respondents commented that they did not see any wildlife or that there never is much to see in this region. One respondent mentioned observing a black wolf in Miette Pass, but that was the only comment about a specific wildlife encounter. Surprisingly, none of the respondents mentioned any encounters or sightings of black or grizzly bears, although several mentioned observing tracks and scat while on their trip.

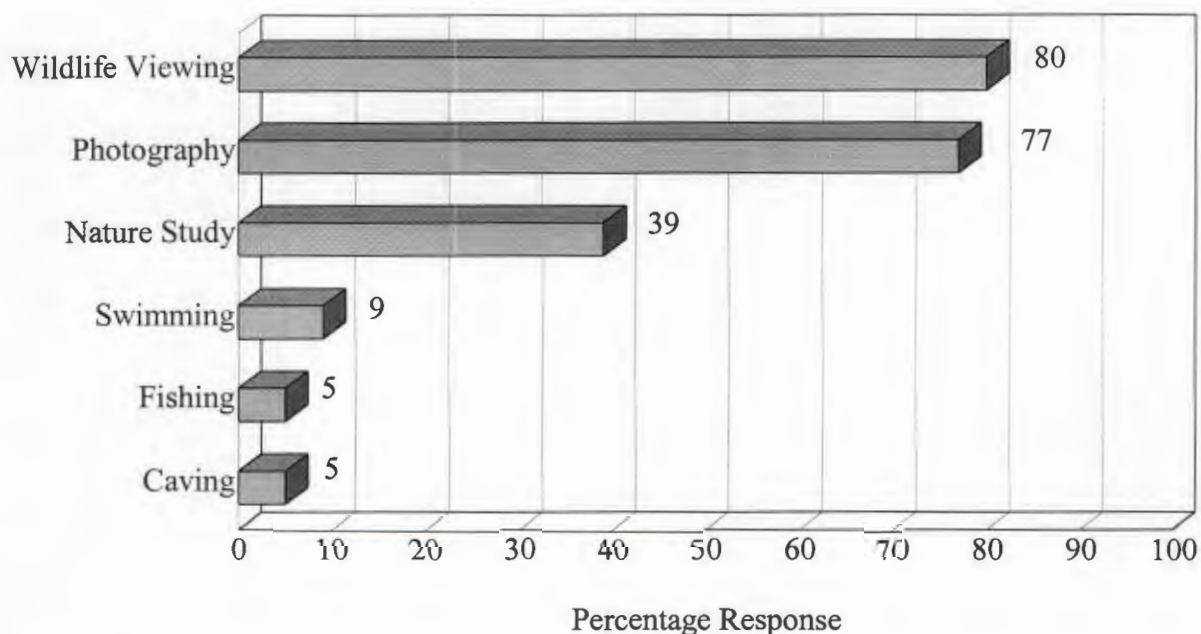


Figure 3. Respondent participation in other activities while on trip

Photography was almost as popular as wildlife viewing, with 77% of respondents indicating participation in this activity while in the Moose River Route region. Nature study was much less popular (but still selected by 39% of respondents) while swimming, fishing and caving had very low popularity. With respect to fishing, several respondents provided comments on their questionnaire indicating that fish did not exist in the Moose River Route region. Although it is not known for certain what species can be found in the region, wildlife specialists believe that the area does contain trout.

4.2.10 NUMBER OF ENCOUNTERS

Question 10 asked respondents to indicate how many horse and hiker parties they encountered on the trail and at campsites while in the Moose River Route region. Although the study area receives relatively light use, this question was important because use could have been concentrated at certain locations or at certain times. However, the results from Question 10 (Table 7) clearly indicate that this was not the case on the Moose River Route in 1995. Respondents to the long version questionnaire encountered, on average, only one hiking party their entire trip and on average, were unlikely to encounter a horse party on the trail. Encounters at campsites occurred less frequently than on the trail; to the point that most parties had a campsite to themselves each evening they spent within the Moose River Route region.

Type of Encounter	Number of Encounters					Mean Number of Encounters
	0	1	2	3	more than 3	
hiking parties on the trail	42	16	8	4	5	1.06
horse parties on the trail	70	5	0	0	0	0.07
hiking parties at campsites	64	5	4	0	2	0.32
horse parties at campsites	73	2	0	0	0	0.03

Table 7. Number of encounters

4.2.11 RESPONDENT OPINION ON THE NUMBER OF ENCOUNTERS

The eleventh question asked respondents to score on a three point scale their opinion on the number of encounters they had with horse and hiker parties on the trail and at campsites while in the Moose River Route region. A score of 1 meant that respondents felt the number of encounters to be too few, a score of 2 was about right while a score of 3 was too many. Given the low number of encounters, it was not surprising to find that most respondents felt the number of encounters to be about right (Table 8).

Type of Encounter	Number of Responses to			Mean Rank
	1	2	3	
hiking parties on the trail	5	65	2	1.96
horse parties on the trail	5	54	4	1.89
hiking parties at campsites	4	57	2	1.91
horse parties at campsites	7	44	3	1.68

Table 8. Respondent opinion on number of encounters

Comments on the questionnaire emphasized that many respondents appreciated the solitude that the Moose River Route provided. Furthermore, several respondents who made the loop trip with the Berg Lake Trail commented on the shock of going from solitude on the Moose River Route to large numbers of people on the Berg Lake Trail.

4.2.12 RESPONDENT HOME PROVINCE/HOME COUNTRY

Question 15 asked respondents to indicate where they were from. Residents of British Columbia comprised the largest single group of respondents to the long version questionnaire (Table 9). Thirty-five percent of respondents were from BC while the next highest group was from the USA (25%). Overall, there were slightly more foreign respondents than Canadian respondents to the long version questionnaire (38 versus 37). Given the large number of respondents from Germany, Switzerland, the Netherlands, France and the UK, the Moose River Route (and Mount Robson Provincial Park) appears to be quite popular with Europeans. Unfortunately, because many people did not provide their home address at the trailhead registry, it is impossible to know the home province/country of all individuals that used the Moose River Route region during the 1995 season.

Province/Country	Percent of Respondents
British Columbia	35
United States	25
Alberta	15
Germany	12
Switzerland	7
Netherlands	4
France	2
United Kingdom	2

Table 9. Home province/country of respondents to long version questionnaire

4.2.13 PREVIOUS NUMBER OF TRIPS INTO THE MOOSE RIVER ROUTE REGION

Question 16 of the long version questionnaire asked respondents to indicate the total number of trips the respondent had taken in the Moose River Route region. The average response to this question was 1.6 trips. However, the figures differed significantly depending on where the respondent was from. Visitors from British Columbia have been in the area an average of 2.2 times while those from Alberta have been in an average of 1.5 times. The average response from the USA and Europe was 1.3 and 1.2 respectively, indicating that for most of these visitors, the trip in 1995 was their first. Judging from the number of comments on the questionnaires, the majority of visitors to the Moose River Route region were very pleased with their trip and would like to have the opportunity to come back again and explore the area further.

4.2.14 SOURCE OF PRE-TRIP INFORMATION

Question 17 asked respondents to indicate where they got information on the Moose River Route region before they took their trip into the area. Six choices were provided:

1. did not get information prior to visit;
2. BC Parks information centre;
3. Parks Canada information centre;

4. friends/family;
5. guidebooks; and
6. other (to be specified by the respondent).

The most popular source of pre-trip information on the Moose River Route region came from friends and family (Table 10). However, many respondents also stopped in at the BC Parks information centre before starting out on their trip. Fortunately, very few (9%) respondents went into the area with no information at all. In the other category, respondents repeatedly mentioned getting pre-trip information from the commercial guide operating in the area as well as maps.

Source of Information	Percentage Response
friends/family	43
BC Parks information centre	39
guidebooks	25
Parks Canada information centre	12
commercial guide	12
no information prior to visit	9
maps	5

Table 10. Sources of pre-trip information

4.2.15 AGE AND GENDER OF RESPONDENTS

The last two questions of the long version questionnaire asked respondents to provide their age and gender. Sixty-one percent of respondents were male and thirty-nine female, with the average age being 34 years. No single age group dominated although there were many individuals between the ages of 25 and 30 and quite a few under 20. Again, this age and gender information only describes respondents to the long version questionnaire; it does not characterize all visitors to the Moose River Route region in 1995. If there had been a higher response rate from clients of America's Adventure, the average age would have dropped although the gender breakdown would have remained similar.

4.3 RESULTS FROM THE FOUR COMMON QUESTIONS

Four questions were common to both the long and short version questionnaires. These questions obtained respondent opinion on:

1. appropriate activities;
2. appropriate facilities;
3. the appropriateness of commercial guiding; and
4. the best mix of conservation concerns and recreation values.

These questions were pulled out of their respective sections and discussed together because it was interesting to compare responses between the two different respondent groups. The short version questionnaire was sent to individuals on BC Parks' mailing list for Mount Robson

Provincial Park. Individuals were on this list because they were either involved or interested in the master planning process. The long version questionnaire was mailed out to anyone that registered to use the Moose River Route in 1995 and to clients that were brought into the area by the commercial guide operating in the region.

4.3.1 APPROPRIATE ACTIVITIES

Respondents were asked to score using a 4 point scale what activities they would like and would not like to see within the Moose River Route region. Nine choices were provided:

1. backpacking;
2. horseback riding;
3. mountaineering;
4. rock climbing;
5. caving;
6. fishing;
7. helihiking;
8. cross-country skiing; and
9. other (to be specified by the respondent).

A score of 1 meant that the respondent definitely would not like to see the activity in the Moose River Route region while a score of 2 meant that the respondent probably would not like to see that activity in the area. A score of 3 and 4 meant that respondents probably would and definitely would like to see that activity in the Moose River Route region respectively.

Results from both questionnaires were combined to develop a mean score for each activity (Table 11). Respondents to both questionnaires felt that almost all eight activities listed in the question were appropriate (higher than a score of 2.50) for the Moose River Route region. The only activity that respondents felt was inappropriate was helihiking which had a mean score of 1.76 (well below the 2.50 midpoint of the four point scale system). Backpacking was considered to be the most appropriate activity for the region while the remaining six activities were grouped fairly close together; somewhat below backpacking but above helihiking.

Activity	Number of Responses to				Mean Rank
	1	2	3	4	
backpacking	8	4	35	187	3.71
mountaineering	6	10	85	114	3.43
cross-country skiing	16	12	78	125	3.35
rock climbing	12	19	90	100	3.26
caving	17	20	92	83	3.14
fishing	16	39	83	78	3.03
horseback riding	37	31	62	96	2.96
helihiking	128	40	26	25	1.76

Table 11. Overall opinion on appropriate activities

One problem observed with this question was that many respondents felt that their answers depended on the level of activity permitted. For example, many more people might have found helihiking acceptable if it were defined as no more than four return flights per day, limited to one day a week. Unfortunately, there was not enough room in the questionnaire to provide a level of use for each activity. Consequently many respondents found the question somewhat limiting.

Figures 4 and 5 show how respondents to the short and long version questionnaires differed in their response to this question. Although the pattern of results is very similar, there are some minor differences which should be pointed out. Overall, respondents to the short version questionnaire ranked most of the activities higher than respondents to the long version questionnaire. The only activities that had lower acceptance with short version questionnaire respondents were horseback riding, caving and fishing.

This difference in acceptance of horse use probably reflects the fact that many respondent to the long version questionnaire took horses into the Moose River Route region and consequently showed more support for this activity. However, this result also indicates that respondents to the short version questionnaire do not consider horse use to be a particularly appropriate activity for the Moose River Route region even though the Moose River Route is the park's designated horse trail.

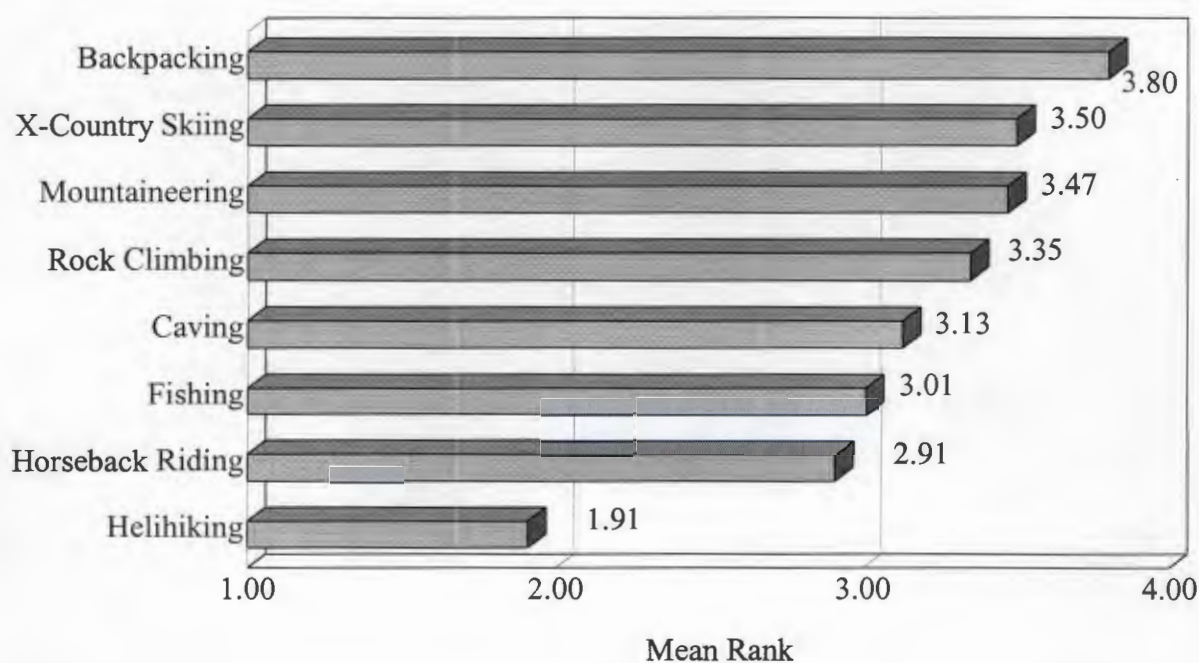


Figure 4. Appropriate activities for short version questionnaire respondents

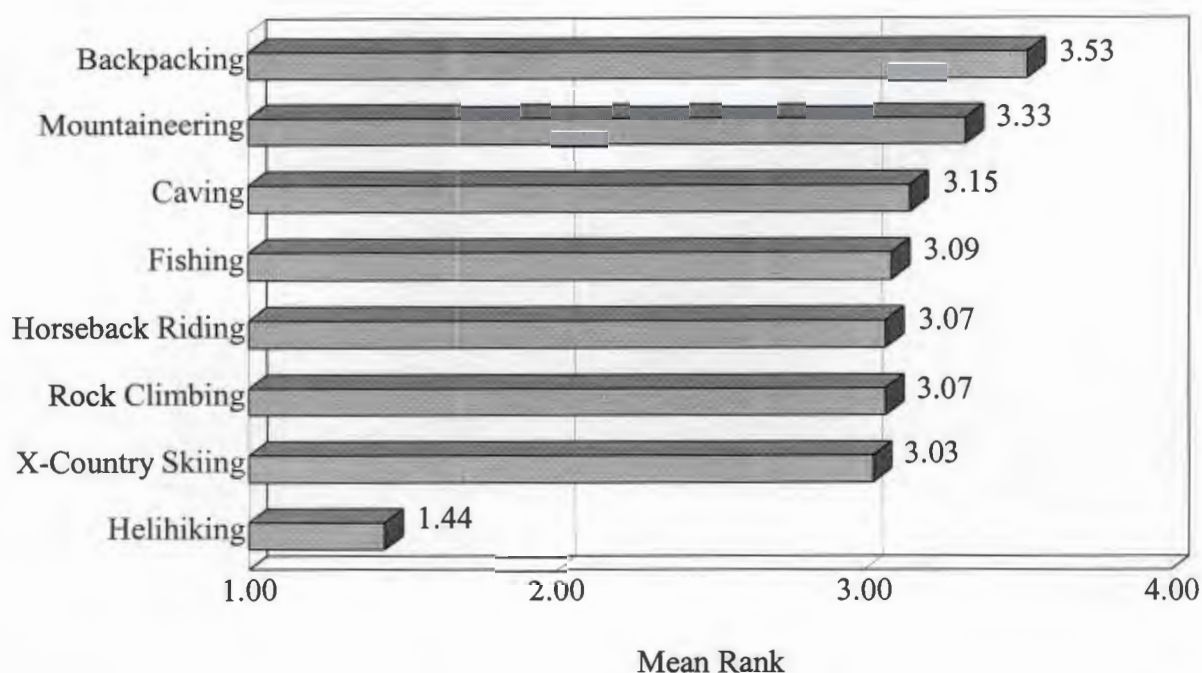


Figure 5. Appropriate activities for long version questionnaire respondents

The only other difference between the two respondent groups that should be emphasized is the scoring each group gave to helihiking. Although both groups considered it to be an inappropriate activity within the Moose River Route region, respondents to the long version questionnaire felt this activity to be particularly inappropriate, giving it a scoring of 1.44 as compared to the 1.91 scoring assigned by respondents to the short version questionnaire.

It was thought that this difference might be attributed to the fact that every respondent to the long version questionnaire had visited the study area and had experienced the region's wilderness characteristics first-hand. Respondents to the short version questionnaire were much less familiar with the area because only 35% of them had ever used the Moose River Route region. However, when a scoring was calculated for the 35% of respondents who had visited the Moose River Route region, the mean score for helicopter acceptance increased from 1.91 to 2.10. Apparently, some factor other than first-hand knowledge of the study area was responsible for the difference between the two respondent groups.

4.3.2 APPROPRIATE FACILITIES

Respondents were asked to score using a 4 point scale what facilities they would like and would not like to see within the Moose River Route region. Eight choices were provided:

1. fire rings;
2. tent pads;
3. outhouses;
4. bridges;

5. trail markers;
6. trail repairs;
7. bear poles; and
8. other (to be specified by the respondent).

A score of 1 meant that the respondent felt the facility was not acceptable in the Moose River Route region while a score of 2 meant that the respondent thought the facility was undesirable. A score of 3 and 4 meant that respondents felt the facility to be desirable and essential for the Moose River Route region respectively.

The overall respondent opinion was that all the facilities listed in this question with the exception of tent pads were considered desirable for the Moose River Route region (Table 12). However, because the scoring for both bridges and fire rings was very close to the midpoint of 2.50, it is inappropriate to say that these facilities were accepted outright.

Facility	Number of Responses to				Mean Rank
	1	2	3	4	
bear poles	14	21	97	80	3.15
trail markers	16	22	119	71	3.07
trail repairs	12	31	121	57	3.01
outhouses	31	45	82	67	2.82
bridges	39	46	104	31	2.58
fire rings	47	44	94	39	2.56
tent pads	47	63	92	17	2.36

Table 12. Overall opinion on appropriate facilities

Much like the question on appropriate activities, many respondents found this question hard to answer because their response depended on level of use. Many respondents felt that the area should contain very few facilities but if use increased, more facilities should be put in place to protect the resource.

Like the question on appropriate activities, the pattern between the two different respondent groups is somewhat similar for appropriate facilities (Figures 6 and 7). However, one significant difference is that respondents to the long version questionnaire, on the whole, do not want outhouses and bridges in the Moose River Route region while respondents to the short version questionnaire do. Another interesting difference is that respondents to the long version questionnaire consistently ranked each facility lower than short version questionnaire respondents.

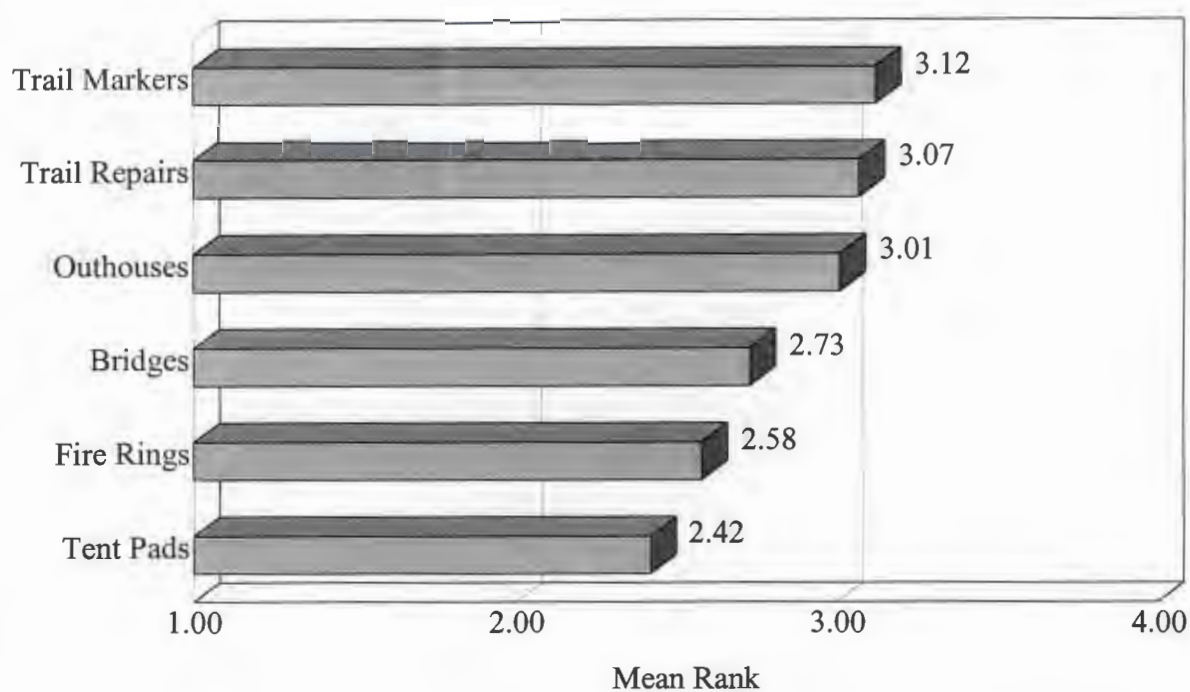


Figure 6. Appropriate facilities for short version questionnaire respondents

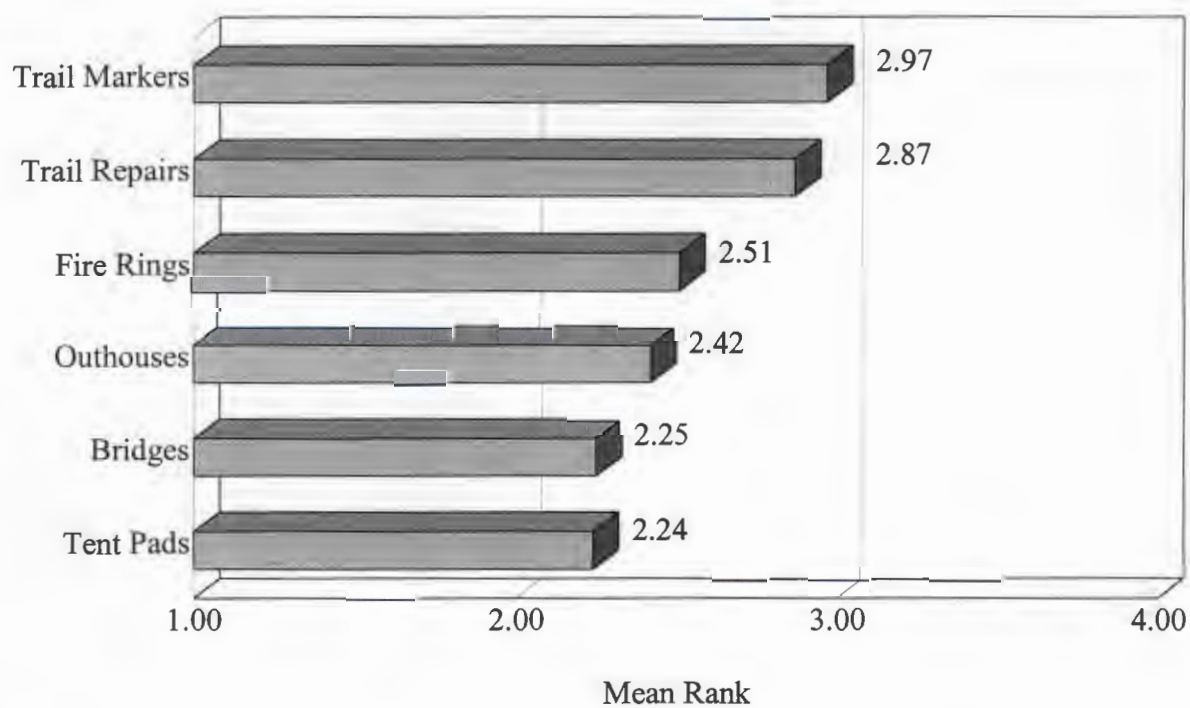


Figure 7. Appropriate facilities for long version questionnaire respondents

4.3.3 APPROPRIATENESS OF COMMERCIAL GUIDING

This questions asked respondents if commercial guiding was an appropriate activity within the Moose River Route region. Three choices were provided:

1. should not be permitted;
2. not sure; and
3. should be permitted (activity to be specified by respondent).

Table 13 indicates that there is a high degree of support for commercial guiding within the Moose River Route region. Sixty percent of all respondents felt that some form of commercial guiding was appropriate in the area while 29% felt that this activity was unacceptable. A relatively large number of respondents (11%) were not sure about the issue. Much like the problem with the questions on appropriate activities and facilities, these individuals were not sure of their response because it depended on the level of commercial activity allowed.

Statement	Percent Response
should be permitted	60
should not be permitted	29
not sure	11

Table 13. Overall acceptance of commercial guiding

Those respondents who felt that commercial guiding was appropriate within the Moose River Route region were invited to comment on what activities they felt were and were not acceptable. Although analysis of these comments was difficult, 6 distinct statements were made by respondents. In most cases, respondents listed an activity, or a combination of activities that they thought were appropriate. However, many respondents also mentioned activities that they thought were inappropriate and made comments on the level of acceptable activity. Table 14 lists the 6 statements and the overall percentage of respondents who made them. Please note, the percentages used in this table were calculated using the total number of respondents to both questionnaires, not the total number of respondents who indicated that commercial guiding activity was appropriate in the study area.

Comment	Percent of Respondents Making Comment
guided horseback and hiking only	15
no helicopter activity	15
guided horseback only	14
limited guiding activity	12
all guiding activities	10
guided hiking only	6

Table 14. Preferred commercial activities

Fifteen percent of all respondents felt that hiking and horseback use were the only two commercial guiding activities that should be permitted within the Moose River Route region. An equal percentage of respondents felt that commercial helicopter activity was inappropriate for this area. Many respondents (14%) felt that commercial horse use should be the only guiding activity while 12% of respondents mentioned that any commercial activity should be limited. Other comments that were frequently mentioned included the acceptance of all commercial guiding activities (10%) and the acceptance of guided hiking only (6%).

These results indicate that although there is majority support for commercial guiding activity in the Moose River Route region, there is no single activity that has significant support from those respondents in favour of guiding. The combination of guided hiking/horseback use has some support from respondents, but there are almost equal amounts of respondents who feel that horse use should be the only commercial activity. Similarly, many respondents feel that commercial helicopter activity is inappropriate within the Moose River Route region, but there are also many respondents who feel that any commercial guiding activity (including helicopter use) is appropriate for this area.

Response to this question was remarkably similar between the two different respondent groups (Table 15). Fifty-nine percent of respondents to the short version questionnaire felt that commercial activity should be allowed in the Moose River Route region compared to 61% of long version questionnaire respondents. Similarly, 29% of respondents to the short version questionnaire felt that commercial activity should not be allowed compared to 28% of respondents to the long version questionnaire.

Statement	Percent of Respondents	
	Short Version Questionnaire	Long Version Questionnaire
should be permitted	59	61
should not be permitted	29	28
not sure	12	11

Table 15. Acceptance of commercial guiding by respondent group

By comparing response to this question with the respondent's home town/province/country, additional information on the acceptance of commercial guiding in the Moose River Route region can be developed. For the short version questionnaire results, respondents from Valemount are very much in favour of commercial guiding in the study area (Figure 8). Eighty-five percent of Valemount respondents felt that commercial guiding should be permitted while only 13% thought that it should not (the remaining 2% were not sure). Jasper and McBride also showed majority support for commercial guiding in the Moose River Route region, but to a much lower extent than residents of Valemount. Respondents from Prince George and Southwest BC were not in favour of commercial guiding within the Moose River Route region.

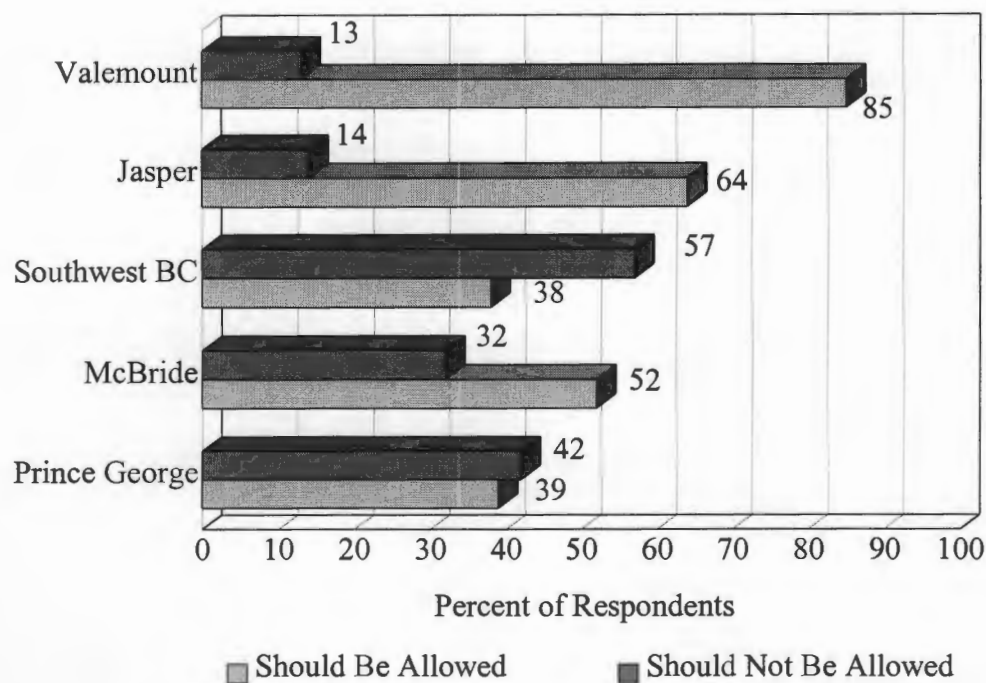


Figure 8. Influence of home town/region on acceptance of commercial guiding

A similar analysis of respondents to the long version questionnaire did not identify differences as pronounced as those for the short version questionnaire (Figure 9). Respondents from British Columbia showed the highest support for commercial guiding (69%) but were closely followed by respondents from Alberta (64%) and respondents from the USA (63%). Europeans were the only group that did not support commercial guiding among respondents to the long version questionnaire. However, their support (47%) was still higher than the support shown by the short version questionnaire respondents from Prince George (39%) and Southwest BC (38%).

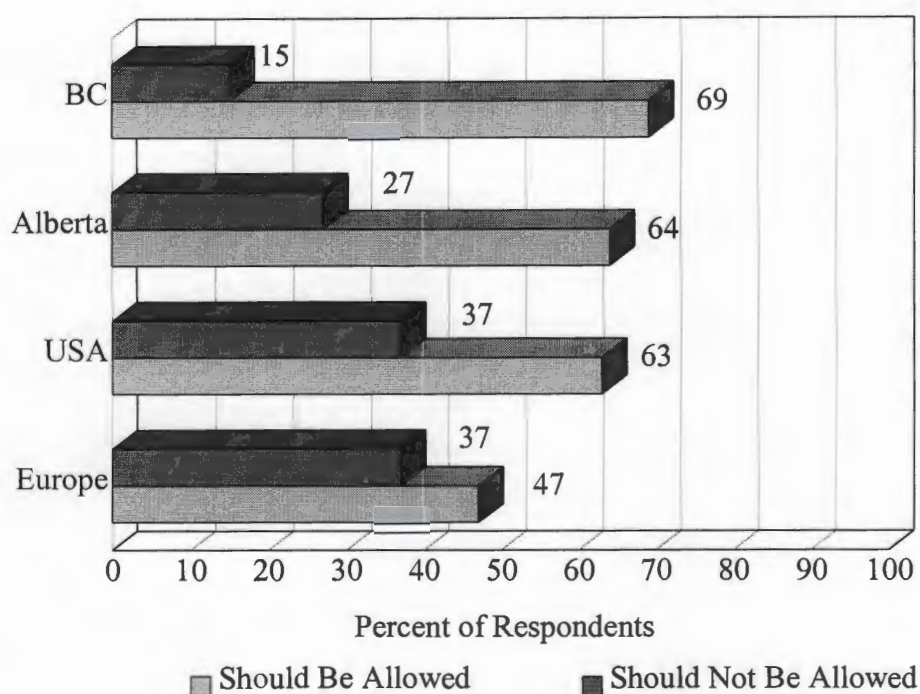


Figure 9. Influence of home province/country on acceptance of commercial guiding

4.3.4 OVERALL MANAGEMENT DIRECTION

The last question common to both questionnaires obtained respondent opinion on overall management direction for the Moose River Route region. The question gathered this information by presenting a 5 point continuum with conservation concerns at the low end of the continuum and recreation values at the high end. The terms conservation and recreation were clarified to help respondents answer the question. Selecting the conservation end of the spectrum meant that respondents wanted the Moose River Route region to be an area with no helicopter activity, no facilities and very low use. Selecting the recreation end of the spectrum meant that respondents wanted the Moose River Route region to be an area with limited helicopter activity, primitive campsites and generally low use.

This question was particularly difficult to draft because it required a significant amount of explanation and definition. Even with all this information, the question could be interpreted in many different ways. One respondent's concept of primitive campsites could be very different from another's. Similarly, what is the difference between very low use and generally low use? Although many respondents made comments asking for a clarification of terms, only 8 respondents to the short version questionnaire and 2 respondents to the long version questionnaire left the question blank.

The overall opinion on this question was that conservation concerns and recreation values should be equally balanced, perhaps with a slight emphasis towards conservation concerns (Table 16). The mean score was 2.75 on a 5 point scale with 3.00 being the midpoint.

Respondents to the long version questionnaire felt that the region should be managed more towards the conservation end of the continuum (2.26) while respondents to the short version questionnaire felt that conservation concerns and recreation values should be equally balanced (2.97).

Respondent Group	Mean Rank
short version questionnaire	2.97
long version questionnaire	2.26
overall	2.75

Table 16. Overall management direction by respondent group

By comparing responses to this question with the respondent's home town, additional information on an overall management direction for the Moose River Route region can be developed. Respondents from Valemount (and to a lesser extent Prince George) felt that the Moose River Route region should be managed to emphasize recreation values more than conservation concerns. These two towns had scorings of 3.46 and 3.24 respectively (Figure 10). At the other end of the spectrum, residents of Jasper and Southwest BC felt that the Moose River Route region should be managed with a conservation emphasis. The significant difference between Jasper (2.00) and Valemount (3.46) respondents is interesting given the relative proximity of these two towns.

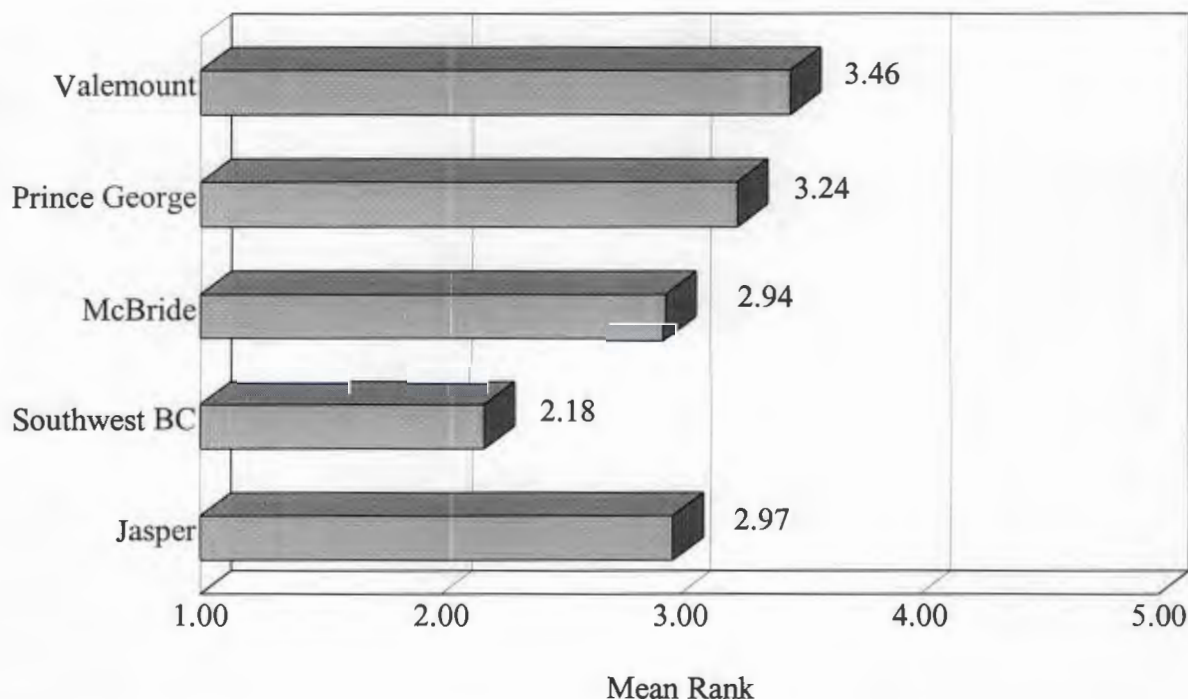


Figure 10. Influence of home town/region on overall management direction

A similar analysis of respondents to the long version questionnaire also shows some interesting trends (Figure 11). Although respondents from all four groups felt that the area should be managed more towards the conservation end of the spectrum, respondents from Alberta were much closer to the midpoint on the spectrum than were respondents from Europe.

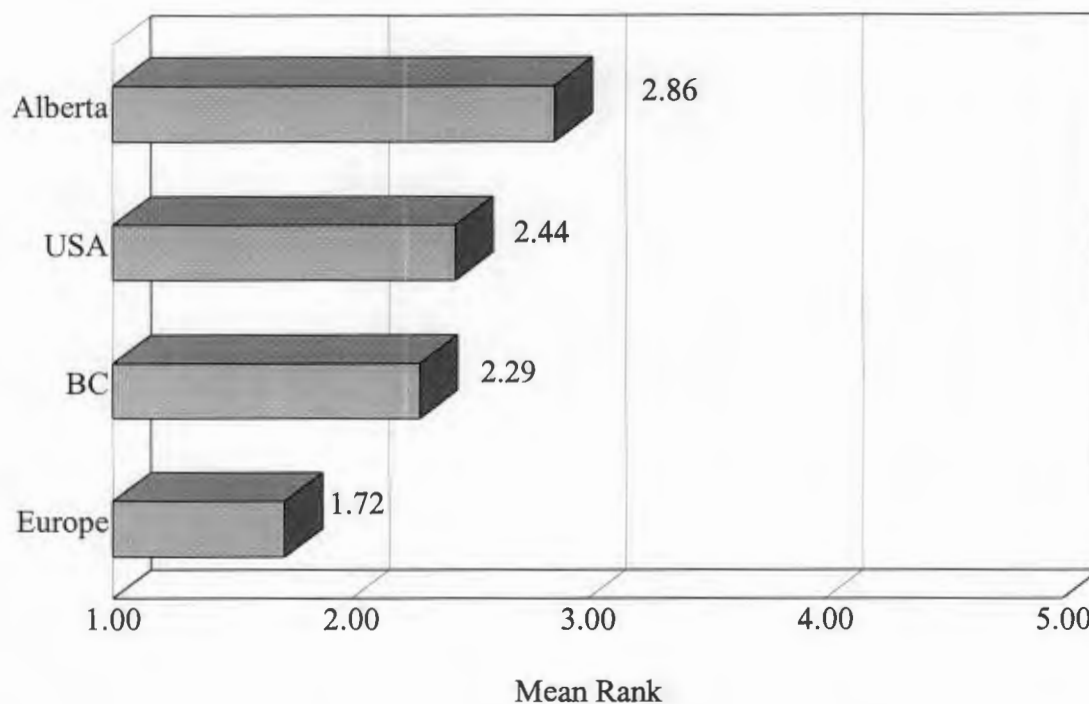


Figure 11. Influence of home province/country on overall management direction

5. EXISTING DOCUMENTATION ON THE MOOSE RIVER ROUTE REGION

The Moose River Route region has never been the exclusive focus of a resource assessment or a visitor use study. However, several projects (such as the habitat assessment and the bear hazard evaluation) have completed resource assessments on Mount Robson Provincial Park as a whole. These studies, in addition to other information such as level of use statistics and weather data provide important information that can help in the identification of management objectives for the study area.

5.1 LEVEL OF USE

Mount Robson Provincial Park has level of use statistics for the Moose River Route region dating back to 1989. However, this data has been recorded in number of parties which is a less accurate reflection of level of use than data recorded in number of visitors. BC Parks uses a figure of 3.0 people per party (B. Dyck, personal communication, February 13, 1996) to convert level of use statistics from number of parties to number of visitors. The level of use (in number of parties and number of visitors) for the Moose River Route region between 1989 and 1995 is found in Table 17.

Year	Number of Parties	Approximate Number of Visitors
1989	38	114
1990	107	321
1991	97	291
1992	174	522
1993	172	516
1994	172	516
1995	169	507

Table 17. Level of use on the Moose River Route from 1989 to 1995

The data in Table 17 indicates that use of the Moose River Route region increased significantly in the early 1990s, but has leveled off at around 500 people per year over the last four years. Increased use of the Moose River Route region was an observation mentioned by a number of interviewees and questionnaire respondents who either work or live in the Moose River Route region. For example, several backcountry rangers on the Berg Lake Trail have mentioned that they are fielding more and more questions from visitors who are interested in traveling the Moose River Route but want more information before making a trip.

Statistics were gathered for the two Jasper National Park trails that connect with the Moose River Route to determine if there were any trends in use for these trails. As Figure 12 indicates, use of Jasper National Park's North Boundary Trail has been dropping over the years from a high of 3852 user nights in 1984 (as far back as the park statistics go) to a low of 2074 user nights in 1995. Closure of horse traffic on the Berg Lake Trail in 1987 is partially responsible for decreased use of this popular trail.

The highest level of use on the Miette River Pack Trail was in the mid 1980s. Since then use has trailed off but has been fluctuating from year to year with no particular trend evident. Use of the Miette River Pack Trail is not anticipated to increase any time in the near future because the trail is not particularly scenic along its lower sections and is not well maintained along the upper sections (but reportedly to the same standard as the Moose River Route).

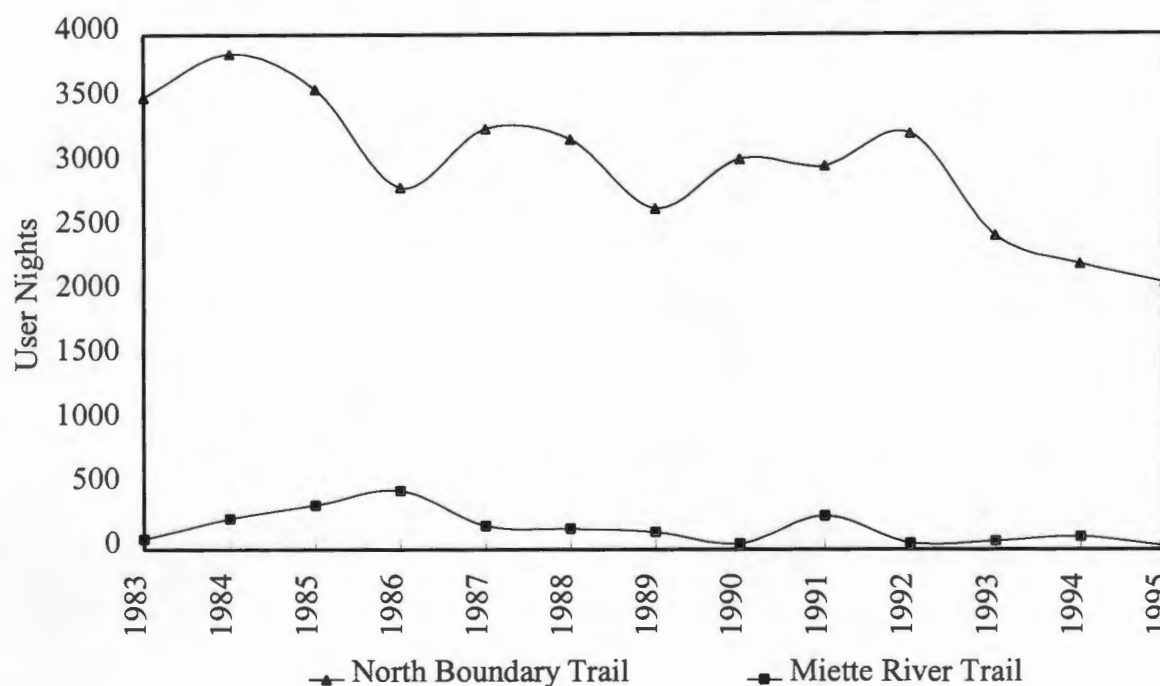


Figure 12. User nights on North Boundary and Miette River Pack Trails

5.2 TIMING OF USE

Information from the trailhead registry and the questionnaires can be used to determine when the Moose River Route region received the highest amount of use in 1995. Not surprisingly, July and August were the busiest months with limited activity in June and September (Figure 13). The highest amount of horse use was in August (entirely attributable to the commercial guide) while the highest level of hiker use was in August. Interestingly, the month of highest overall use (August) is also the month with the greatest amount of rain (see section 5.3 for weather statistics).

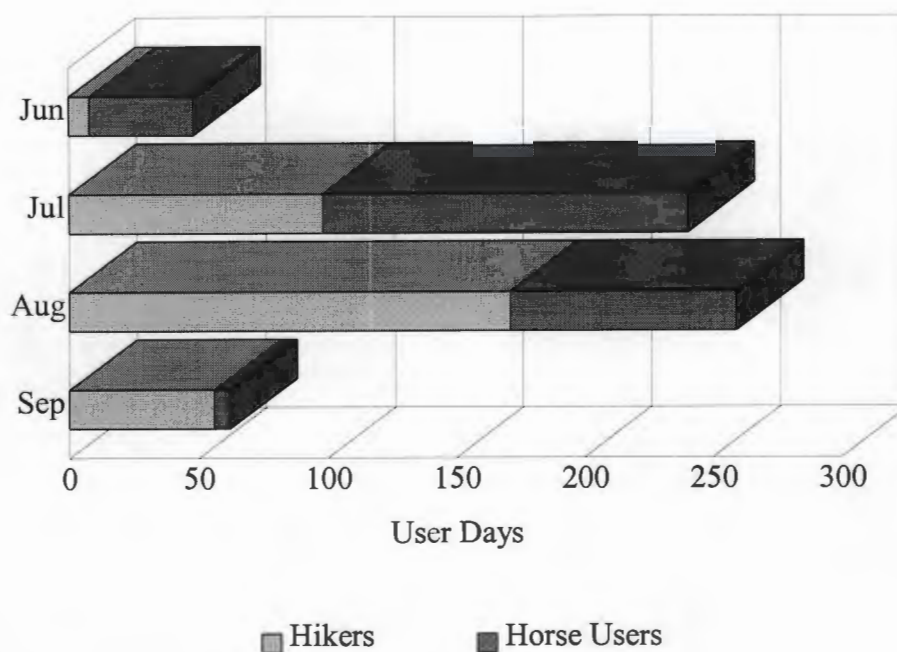


Figure 13. Timing of use in the Moose River Route region

5.3 WEATHER

Environment Canada publishes climate normals for many locations in British Columbia where weather records have been kept for a period of time; unfortunately, no weather data exists for the Moose River Route region. However, weather information has been collected at Mount Robson Ranch (near the BC Parks information centre) and from this data, Environment Canada has calculated climate normals. As Figure 14 indicates, the highest daily temperature for the Mount Robson Ranch area is in July (15.2 °C) while August gets the largest rainfall (69.6 mm) and December the highest snowfall 80.3 cm). The month with the lowest total precipitation (rain and snow combined) was May while the month with the highest total precipitation was December, followed closely by September.

Given the high amount of precipitation in late summer and early fall, it is possible that the Moose River Route region could be wet all year, in an average year. Although the region receives the lowest total precipitation in the spring, snow-melt during this period makes the region very wet.

Many interviewees mentioned the need to restrict horse use from the Moose River Route region when the trail was wet from snow melt or heavy rain. However, it is also acknowledge that most of the horse use in the Moose River Route region is facilitated by the commercial guide that operates in the area. Due to the nature of the guiding business, it would be extremely difficult to cancel client bookings on short notice due to poor trail conditions.

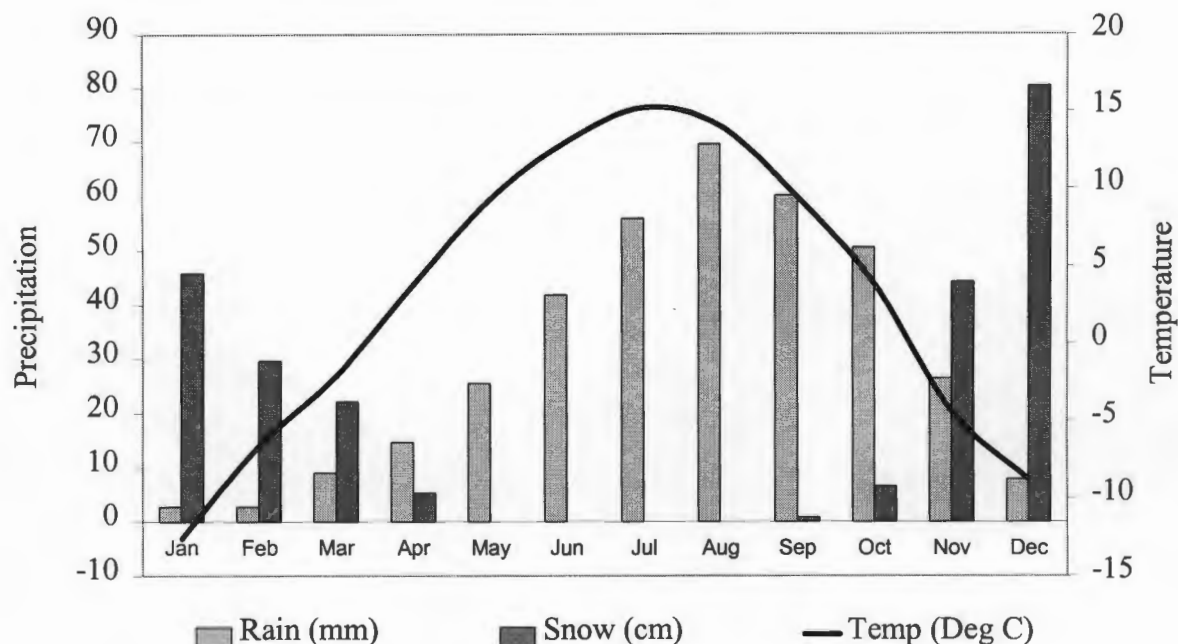


Figure 14. Climate normals for Mount Robson Ranch

5.4 BEAR HAZARD EVALUATION

A bear hazard assessment was completed on a number of trails in Mount Robson Provincial Park (including the Moose River Route) in 1989. The rationale for the study was that potential conflict between visitors and bears could be reduced by keeping backcountry facilities out of important bear habitat such as feeding sites, travel routes and denning areas (McCrory and Mallam, 1989).

5.4.1 BEAR ACTIVITY IN THE MOOSE RIVER ROUTE REGION

The bear hazard assessment made a number of observations about bear use in the Moose River Route region. A section of trail three kilometres below and three kilometres above the Steppe Creek horse campsite (see Map 2) was assessed and found to contain low bear habitat capability. This section was subsequently assigned a low hazard rating by the researchers who noted very little sweet-vetch (a prime grizzly bear food) along the river flats. Although the researchers did not assess the area, an old burn in the Campion Creek valley was thought to contain buffaloberry, another important bear food. The commercial guide operating in the Moose River Route region makes day trips into the Campion Creek valley although the exact location of these trips is not known.

In contrast to the Steppe Creek region, the area around the Slide Lake campsite contains high grizzly bear habitat capability from spring through fall. The area is half a kilometre wide and stretches from a kilometre below the Slide Lake campsite to a kilometre above. This area has

high habitat capability because it contains a number of important grizzly bear foods including glacier lily, western spring beauty, grasses, sedges, cow parsnip, columbian ground squirrels and hoary marmots.

The researchers noted the presence of extensive diggings for corms of the western spring beauty on the slopes to the east of Slide Lake campsite. These diggings, thought to occur most frequently in late July, disturbed a great deal of soil and were considered unique because they had never been documented in any bear studies that the researchers were familiar with. Two other corm digging sites were observed along the trail, approximately 1/2 to 3/4 of a kilometre above the Slide Lake Campsite. Other bear sign observed in the area included droppings, fresh tracks, cropping of cow parsnip, rub trees and trenches for ground squirrels. Because of the high habitat capability, the large amount of sign, the blind corners along the trail and the tall, dense vegetation, the researchers gave the section of trail a kilometre below and a kilometre above the Slide Lake campsite a bear hazard rating of very high.

An assessment of Moose Pass indicated that the drier, heather-dominated meadows support fewer bear foods than the region around Slide Lake campsite. Bear sign was still present in the form of corm digging sites and tracks. Although the researchers could not locate any den sites within the pass, they believed that denning would occur on the steeper vegetated slopes surrounding the pass. Because of lower habitat capability and better visibility, the researchers gave Moose Pass a low to moderate bear hazard rating.

5.4.2 RECOMMENDATIONS

In addition to describing bear use along the Moose River Route, the researchers made two recommendations to BC Parks:

1. close the Slide Lake campsite and relocate it - either to the north end of a small lake just south of Moose Pass or to a small meadow on the west side of the valley approximately 3/4 of a kilometre below the existing campsite; and
2. relocate approximately 3.5 kilometres of trail to the west side of the valley to avoid the high grizzly bear habitat and the associated hazard rating.

The trail relocation was completed shortly after the recommendation came out. However, this trail has become overgrown due to low use and construction on unstable colluvial deposits. Visitors are still using the original trail on the east side of the valley and are still using the Slide Lake campsite.

5.5 ZOOLOGICAL HABITAT ASSESSMENT

A zoological habitat assessment was completed for Mount Robson Provincial Park in 1973 (Dalziel, 1973). Although it is over two decades old, the assessment still provides a basic species inventory in addition to habitat use on a seasonal basis. Observations contained in the report include:

- four mineral licks in the Moose River Route region. Three were located on the main trail corridor at kilometres 20, 25 and 34 (see Map 2) and one along Upright Creek 2.5

kilometres above its confluence with the Moose River. The only mineral lick located directly on the main trail was at kilometre 20;

- winter use of the lower Moose River valley by caribou, principally from the confluence of Resplendent Creek and Moose River to several miles upstream along Resplendent Creek. Summer use was also noted in the Upright and Colonel Creek alpine areas as well as Moose Pass;
- improved caribou winter habitat in the Moose River Route region as succession of englemann spruce continues;
- use of Moose Pass as a corridor for caribou traveling between habitat in the Moose River drainage and habitat in Jasper National Park;
- extensive escape terrain and feeding habitat for mountain goats on slopes east of the lower Moose River Route. The researcher felt that good mountain goat viewing opportunities existed at these sites with little possibility of disturbance to the animals;
- extensive habitat for grizzly bears in the Moose Pass region;
- large numbers of northern wood frog, northwestern toad and western spotted toad in any of the marshy riverside flats found within the region;
- use of avalanche scars on the valley slopes by porcupines. The researcher felt that porcupines could be a hazard to dogs and could create extra maintenance and repair costs if traditional wood facilities were used in the Moose River Route region;
- use of the Moose River valley as a travel corridor for species such as caribou, moose, wolves and grizzly bear. These animals use the valley to migrate from low winter range to high summer range;
- use of the gravel bars located in the region as a rest stop for migratory shore birds;
- use of avalanche scars throughout the region by moose during summer and use of the low valley bottoms during winter. In addition, the researcher thought that moose might be using some wet meadows located at the mouth of a tributary stream to Grant Brook as well as a mineral lick on the lower Grant Brook valley bottom; and
- summer habitat for caribou and grizzly bears in Miette pass. Both species use Miette Pass and Grant Pass to link drainages in Jasper National Park with drainages in Mount Robson Provincial Park.

5.6 WILDLIFE HABITAT MAPS

The habitat maps contained in this report have been adapted from habitat maps for Mount Robson Provincial Park and Jasper National Park. Although both parks used a similar process to generate the maps, two distinctions must be made:

1. Jasper's habitat information is more comprehensive than Mount Robson's because Jasper used more data sets to generate the habitat data; and
2. Jasper used suitability while Mount Robson used capability to generate habitat data -. capability maps are generated based on the optimal vegetation succession stage for the species being mapped while suitability maps are generated based on the existing vegetation succession.

Both parks have habitat maps for a number of species including grizzly bear, black bear, caribou, elk, mountain goat and moose. However, the only habitat maps to be digitized for this document were those of grizzly bear and caribou. The habitat maps for Jasper National

Park were created by digitizing the park's biophysical polygons and then collapsing adjacent polygons if they had the same habitat rating. Because the biophysical polygons were taken from a 1:50,000 map and digitized onto a 1:125,000 map, there are change-of-scale errors in the placement and shape of these polygons.

The habitat maps for Mount Robson Provincial Park were created by tracing the polygons from existing 1:100,000 poster boards and digitizing these polygons onto the 1:125,000 scale maps found in this document. Although there are change-of-scale errors in the placement and shape of these polygons, the habitat maps created for Mount Robson Provincial Park are more accurate than those for Jasper National Park because the difference in scale is much smaller.

5.6.1 GRIZZLY BEAR HABITAT

As Map 4 indicates, most of the Moose River Route region in Mount Robson Provincial Park is of moderate habitat capability. The low-lying valley bottoms are generally low habitat while the higher slopes on either side of the valley are moderate habitat. There are also several regions of high habitat capability including (a) sections along the south fork of Resplendent Creek, (b) a large section in Red Pass, and (c) smaller sections in Colonel Pass, Upright Pass and the Campion Creek drainage. Interestingly, the critical habitat in the Slide Lake area (identified by the bear hazard evaluation) was only assigned a moderate rating by this habitat mapping project.

Maps 5, 6 and 7 provide habitat information for the Jasper National Park portion of the study area for spring (Apr-Jun), summer (Jul-Aug) and fall (Sep-Oct), respectively. In the spring, the valley bottoms generally provide medium habitat suitability which decreases as elevation increases. However, there are exceptions; large sections of the Snaring River drainage have low habitat suitability while a large portion of the upper Smoky River drainage provides high habitat.

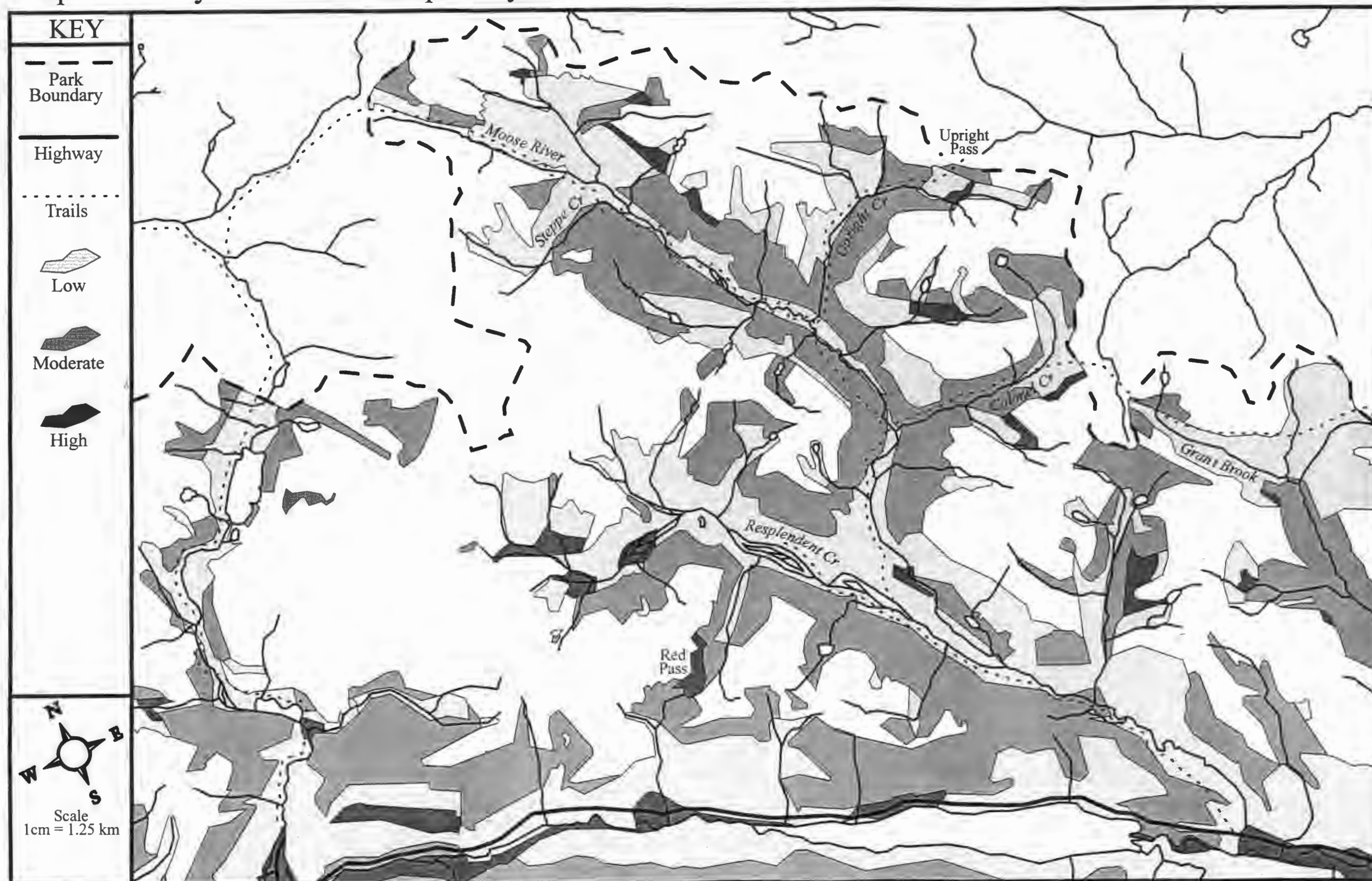
In the summer, overall habitat improves as the low valley bottoms provide medium to high habitat suitability while higher elevation areas increase from low to medium suitability. Very high habitat suitability can be found along sections of Calumet Creek and the Snaring River as well as a small patch adjacent to Robson Pass.

In the fall, some of the higher elevation areas have reduced habitat suitability, but in general habitat does not change significantly from summer. Some mid to low elevation sections provide high habitat suitability during this season, particularly along the Smoky River. Very high habitat can still be found along Calumet Creek and the Snaring River in addition to higher elevation areas near Robson Pass.

5.6.2 CARIBOU HABITAT

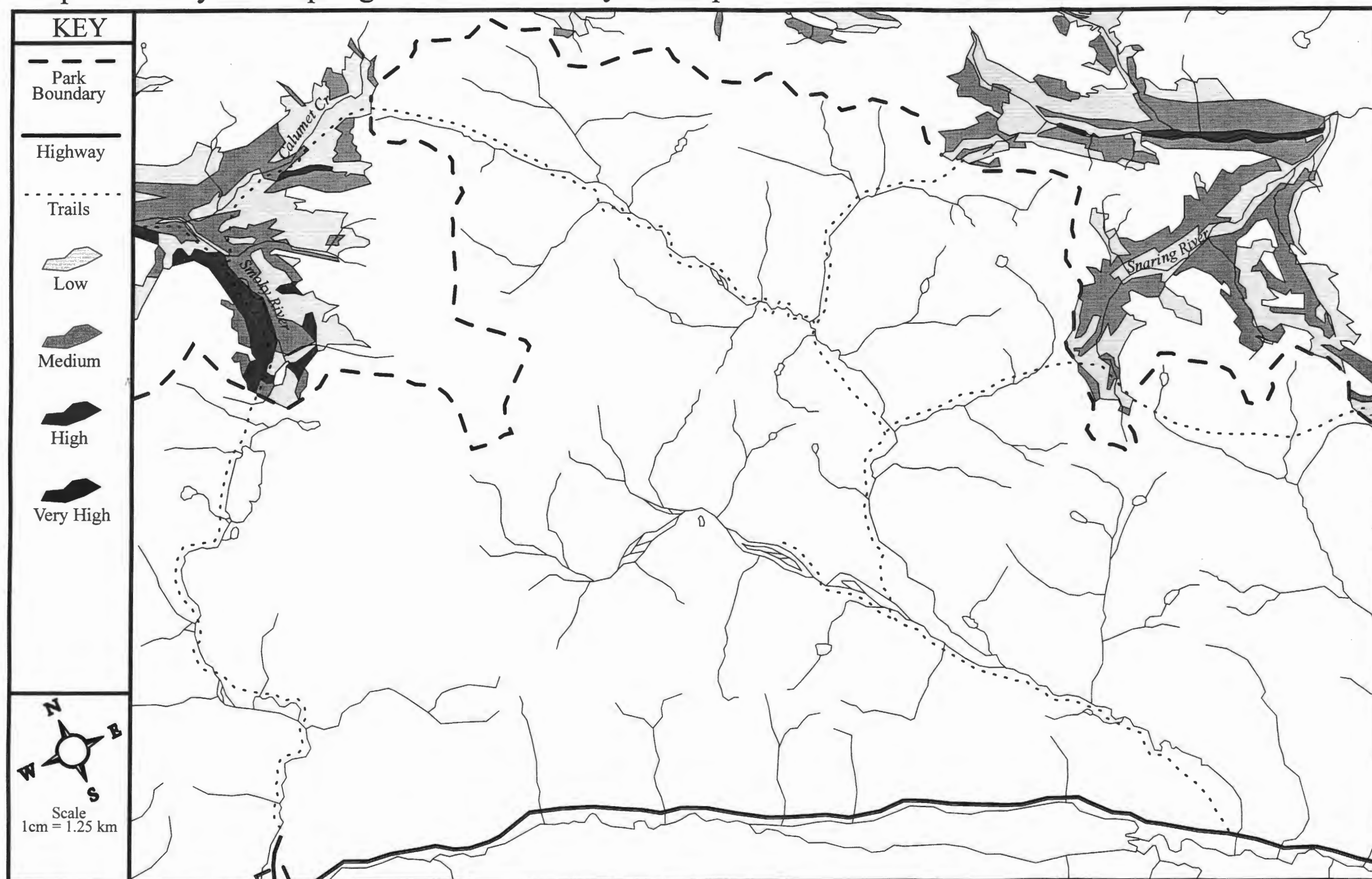
Most of the Moose River Route region of Mount Robson Provincial Park has moderate habitat capability for caribou during non-winter seasons (Map 8). However, certain sections of the area, particularly in the lower valley bottoms along Moose River and Resplendent Creek have low habitat capability, especially during winter. High habitat capability can be

Map 4. Grizzly Bear Habitat Capability for Mount Robson Provincial Park



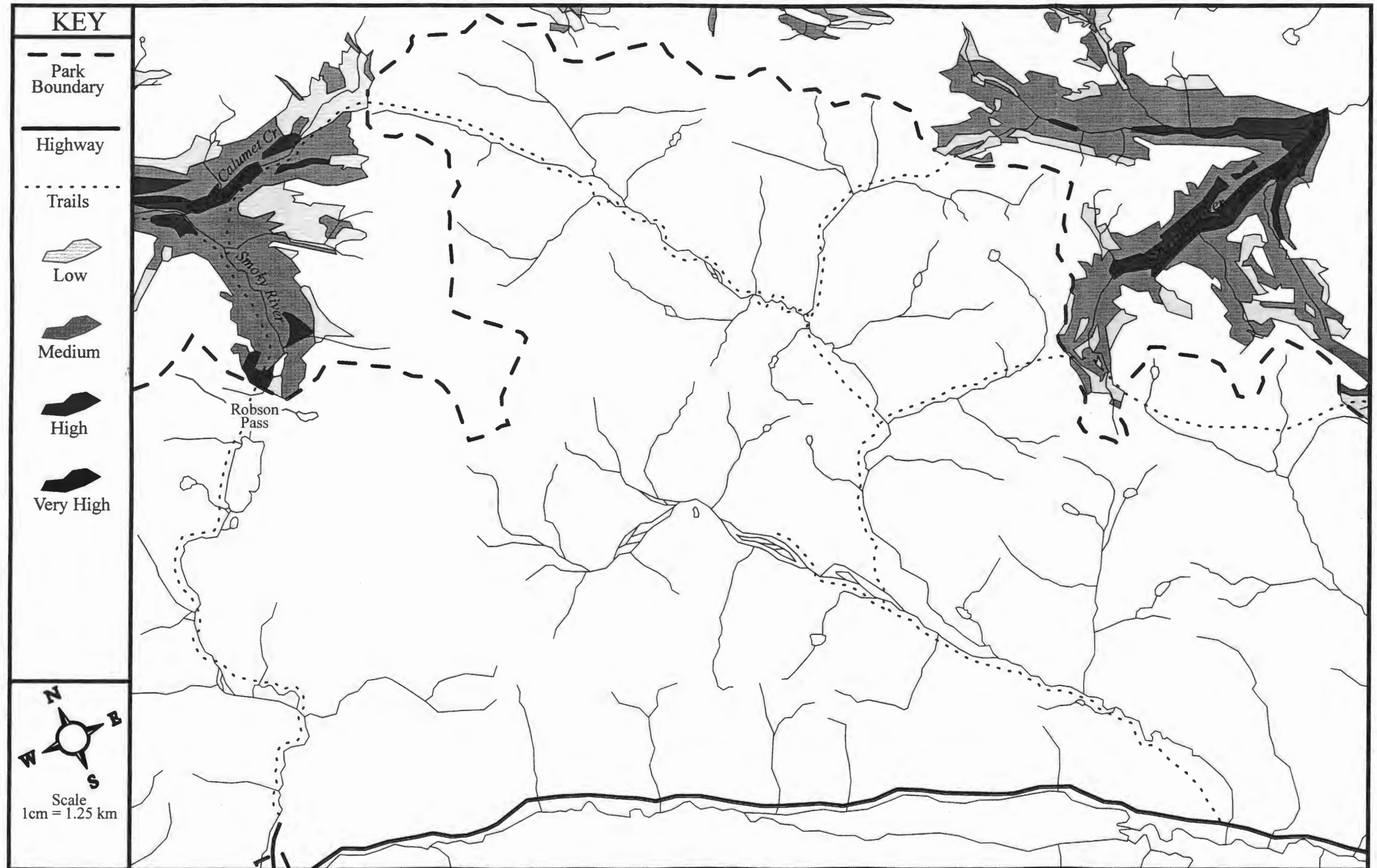
Map adapted from Mount Robson Provincial Park habitat maps

Map 5. Grizzly Bear Spring Habitat Suitability for Jasper National Park



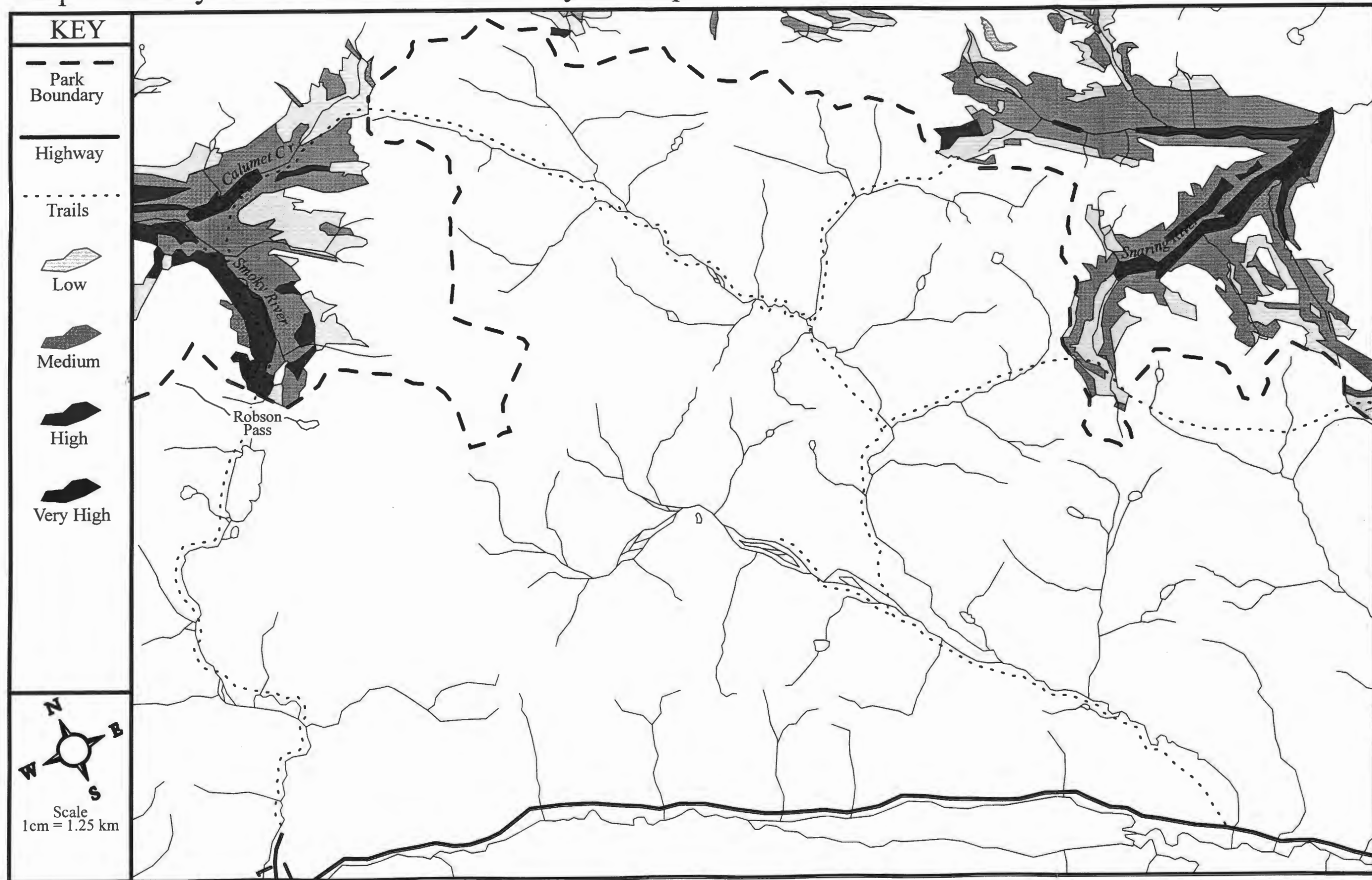
Map adapted from Jasper National Park habitat maps

Map 6. Grizzly Bear Summer Habitat Suitability for Jasper National Park

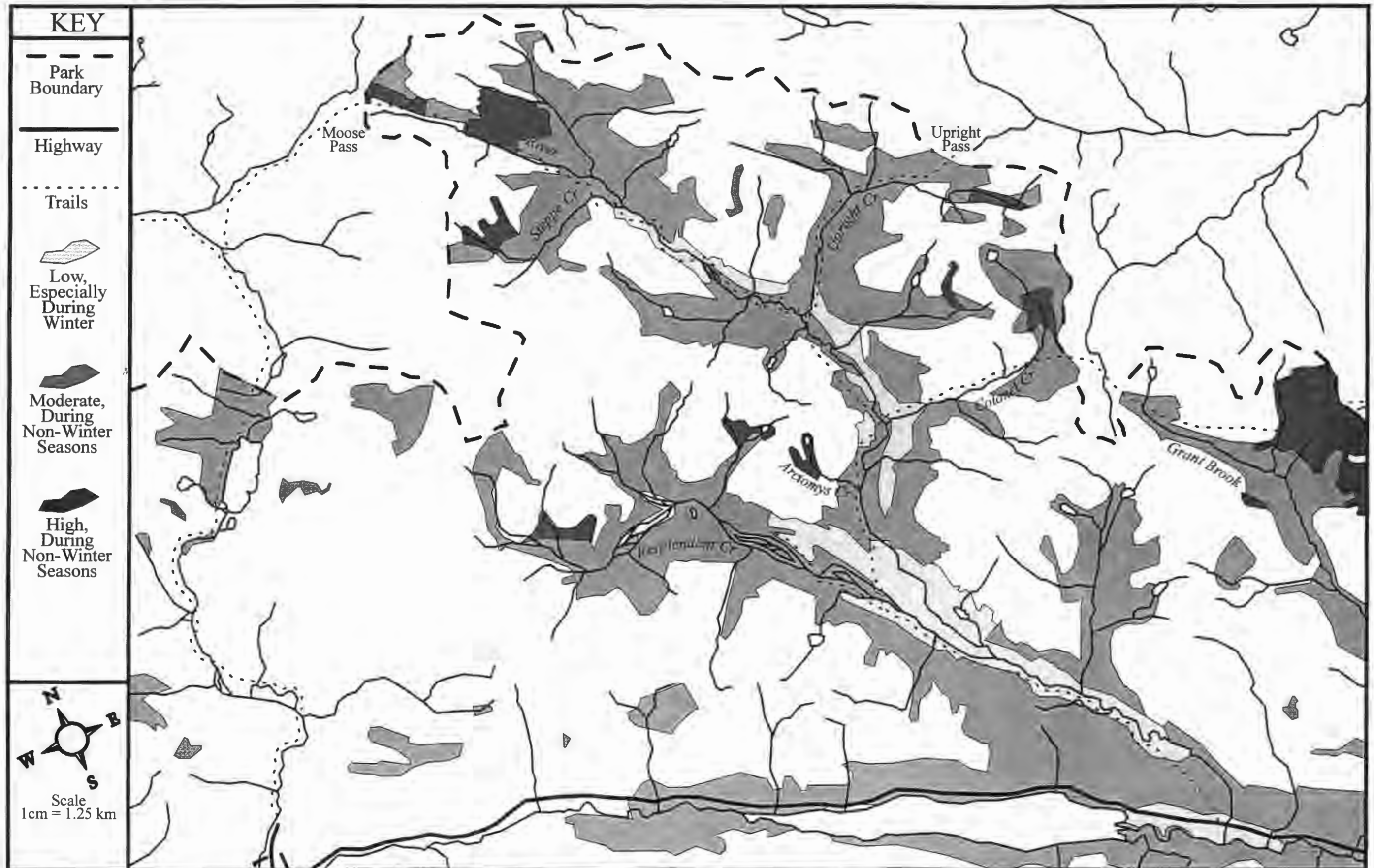


Map adapted from Jasper National Park habitat maps

Map 7. Grizzly Bear Fall Habitat Suitability for Jasper National Park



Map 8. Caribou Habitat Capability for Mount Robson Provincial Park



Map adapted from Mount Robson Provincial Park habitat maps

found near Moose Pass, Upright Pass, Colonel Pass and Miette Pass, in addition to high elevation areas along the upper Moose River, Steppe Creek, Arctomys valley and the south fork of Resplendent Creek.

With respect to summer caribou habitat within the Jasper National Park portion of the study area, very high habitat suitability can be found in Moose Pass, in sections near Steppe Creek and in high elevations sections of the Snaring River drainage (Map 9). Many of the valley bottoms provide little habitat for caribou in the summer. However, in early winter, the higher elevation communities have reduced habitat suitability while suitability increases in the valley bottoms (Map 10). Very high habitat can be found along sections of Calumet Creek and the Snaring River. In late winter, the Jasper National Park portion of the study area (in general) does not provide significant habitat for caribou (Map 11). The lower valley bottoms have medium habitat suitability with only two sections along Calumet Creek and the Snaring river providing very high habitat suitability for late winter.

5.6.3 HABITAT FOR OTHER SPECIES

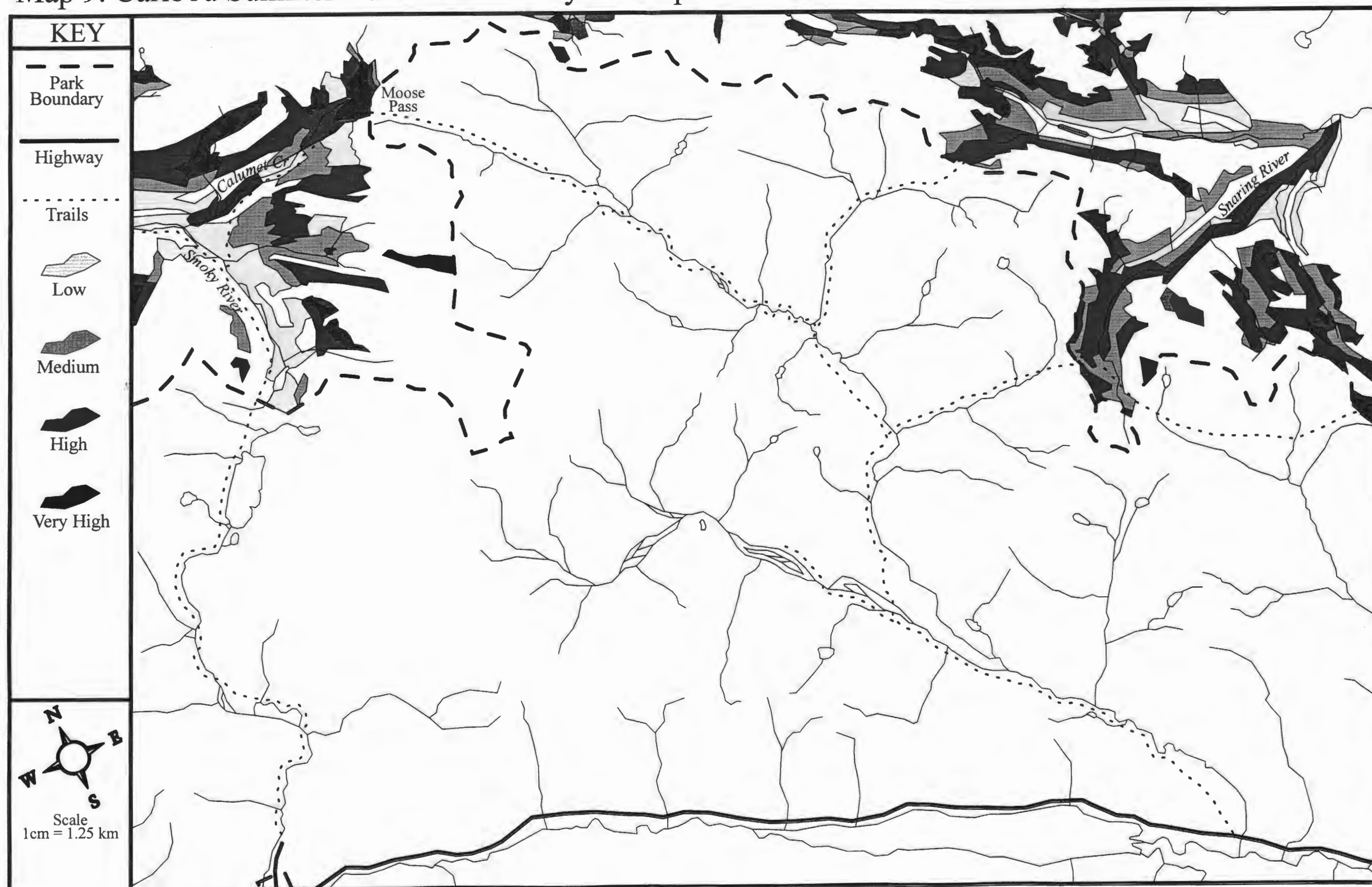
The Moose River Route region provides moderate non-winter habitat capability for mountain goats on most of the high elevation areas within Mount Robson Provincial Park. High to moderate habitat capability, especially during winter, can be found in the Arctomys Lake/Trio Mountain region as well as the ridge northeast of the confluence of the Moose River and Resplendent Creek. Low habitat capability, especially during winter, can be found in select high alpine areas such as the ridge east of Moose Pass and the peaks east of the trailhead.

Small pockets of high black bear habitat capability can be found along the south fork of Resplendent Creek and in a wet meadow region between kilometre 17.8 and 20.1 (see Map 2). The largest section of high black bear habitat capability can be found on the south facing slopes directly east of the trailhead. Aside from these areas of high habitat, the majority of the Moose River Route region has moderate to low capability, with habitat slightly improving at mid elevations.

Habitat for species such as moose, mule deer, white-tailed deer and elk is relatively similar in the Moose River Route region. The valley bottoms along Moose River, as well as Resplendent, Colonel, Upright, Steppe and Campion Creeks, have moderate habitat capability during non winter seasons. However, several species' habitat maps have unique features that should be identified:

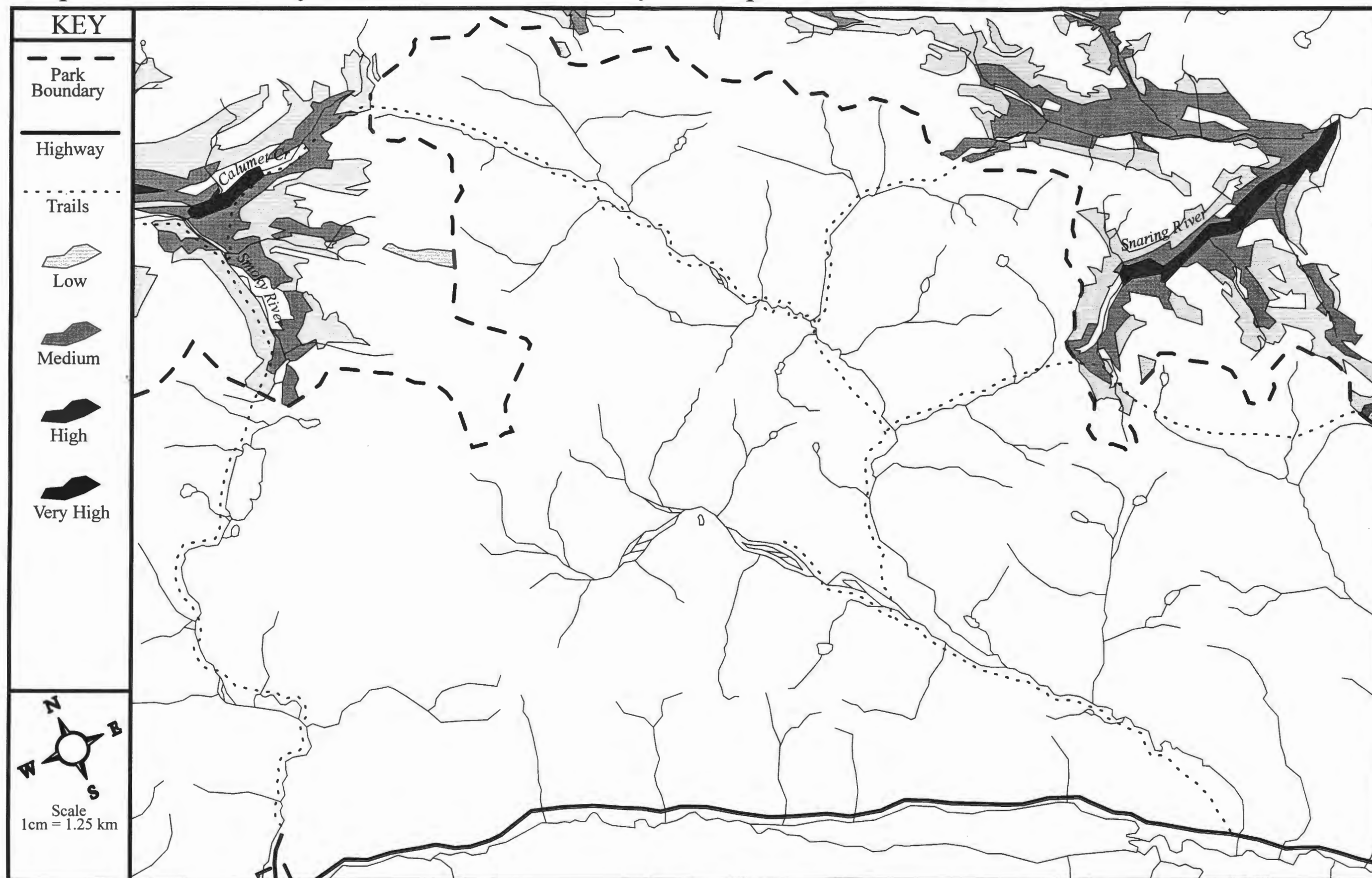
- moderate white-tailed deer habitat is restricted to the lower Moose River and Resplendent Creek valleys;
- high habitat capability for moose during non-winter seasons along sections of Steppe Creek, Upright Creek and along the Moose River above and below the confluence with Upright Creek;
- low habitat capability for moose especially during winter along lower sections of the Moose River and Resplendent Creek; and
- low habitat capability especially during winter for elk on the slopes above Moose Lake just west of the trailhead.

Map 9. Caribou Summer Habitat Suitability for Jasper National Park



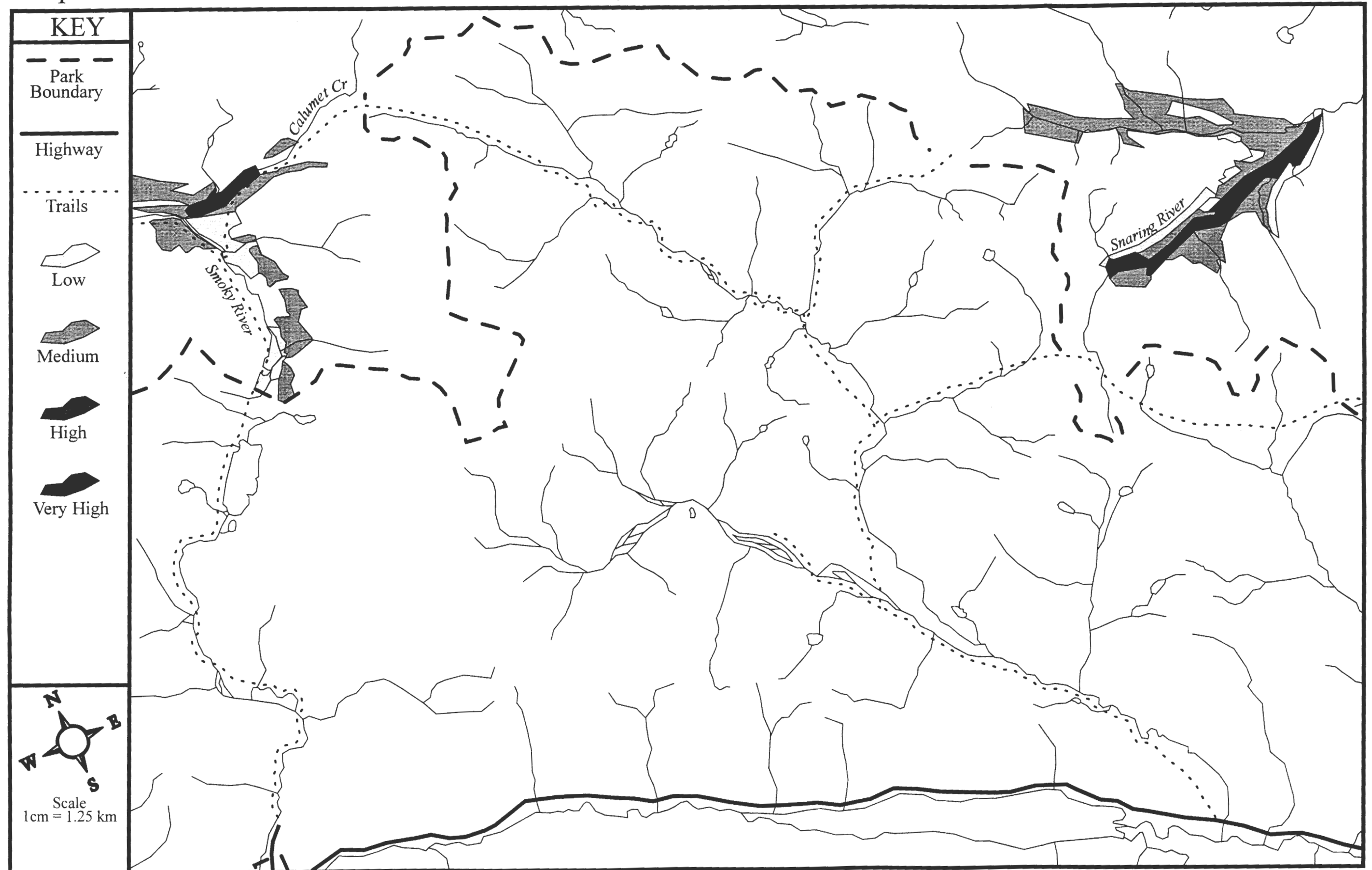
Map adapted from Jasper National Park habitat maps

Map 10. Caribou Early Winter Habitat Suitability for Jasper National Park



Map adapted from Jasper National Park habitat maps

Map 11. Caribou Late Winter Habitat Suitability for Jasper National Park



Map adapted from Jasper National Park habitat maps

5.7 RADIO-COLLAR CARIBOU STUDY

An ongoing radio-collar caribou study by Alberta Fish and Wildlife Services has tracked several caribou in the Moose River Route region. Map 12 provides telemetry locations for the three caribou, F5-87, F8-87 and F9-87, that used the study area. In general, the caribou can be found along the Smoky River in Jasper National Park or Willmore Wilderness Park in the spring. As summer approaches the caribou move up the Smoky to high elevation areas in Jasper National Park and Mount Robson Provincial Park then start moving back down the Smoky River during fall so they can winter near Grande Cache.

Although the radio-collar study has generated data to indicate that this is the general movement for caribou in this region, not all of the caribou will follow this pattern. For example, it's possible that one of the radio-collared caribou, F8-87, spent the winter of 88/89 in the Moose River Route region. Two of the telemetry locations taken along Upright Creek were in 1988 while the next two locations were along Colonel Creek in 1989. Although it's impossible to know where this caribou was between these dates, the locations tend to suggest that the animal stayed in the Moose River Route region during the winter.

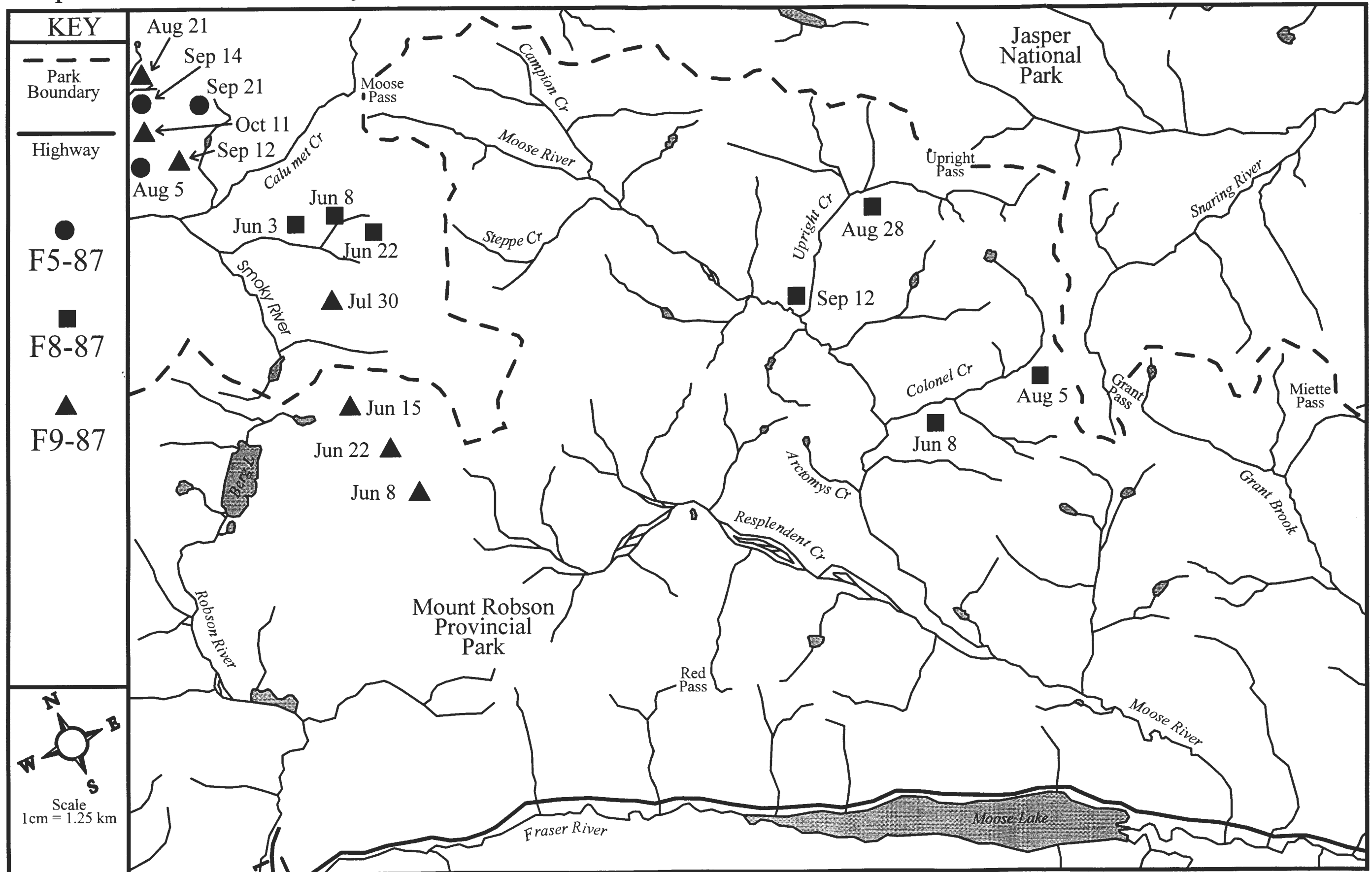
5.8 MOUNT ROBSON PROVINCIAL PARK MASTER PLAN BACKGROUND REPORT

As part of the master planning process for Mount Robson Provincial Park, a background document was drafted that described the park's social and biophysical characteristics and touched on some of the planning issues that would have to be addressed through the master planning process. This document mentioned the need to work with Jasper National Park on wildlife and recreation issues and mentioned the possibility that recreational activity in the Moose River Route region could affect grizzly bear populations.

The background document provided some useful information on recreational trends. Not surprisingly, backcountry use has declined or leveled off over the last few years as the average visitor looks for vacations that offer roofed accommodation at the end of the day. This demand for soft adventure is expected to translate into increased commercial guiding and facility development in backcountry areas. Provincial trends also indicate that helicopter assisted recreation is on the increase.

With respect to trends in Mount Robson Provincial Park, the background document indicated that horse use in the park has declined with designated horse routes not being used to capacity. No reason was offered for the trend although it is very possible that this decrease is related to the restrictions imposed on the Berg Lake Trail rather than reduced interest in horse travel within the park. The background document noted that demand for horse travel has not increased dramatically in British Columbia, but maintains a steady portion of the outdoor recreation market.

Map 12. Caribou Telemetry Locations



5.9 HISTORY

There is not a lot of historic information that deals specifically with the Moose River Route region. Most of the early expedition activity centered around Berg Lake and the Berg Lake Trail. However, general history of the Mount Robson/Yellowhead Pass region is quite interesting and well worth discussing.

Most of the information in this section came from the book *Yellowhead Pass and its People*, published by the Valemount Historic Society (1984). The book provides an excellent chronology of human use in the Yellowhead Pass region from the early exploration days to more recent activity such as the arrival of the railroad and the logging industry. Any gaps in this chronology have been filled with information taken from the Mount Robson Provincial Park Master Plan Background Report (Peepre, 1990).

The Shuswap were the original inhabitants of the Yellowhead Pass area, living between Jasper House and Tete Jaune Cache. However, the individual after whom Yellowhead Pass is named was an Iroquois of mixed decent who arrived in 1819 to trap and guide for the Hudson Bay Company. Travel through Yellowhead Pass in the early years was rather light. Records indicate that a party of five traveling from Ft. St. James in 1827 were the first individuals to use the pass from the west. Other travelers included the Overlanders from Ontario and Quebec in 1862 and the Milton and Cheadle party in 1863. Use of Yellowhead pass gradually increased as people traveled between British Columbia and Alberta for business or for the chance to start a new life.

The first climbing expedition to reach the Mount Robson area was organized by the Alpine Club of Canada in 1906. Lead by A.O Wheeler and Sir Sandford Fleming, the party took 41 days to reach the base of Mount Robson and by that time their food was almost gone and their horses sick and lame. The party turned around at Emperor Falls but made plans to return.

The next climbing party arrived in 1907 and was comprised of A.P. Coleman, his brother Lucius Coleman, Reverend George Kinney and a packer, Jack Boker. The party of four left Lake Louise on August 3rd and arrived at the confluence of the Robson and Fraser Rivers on September 6th. The climbing party traveled up the Robson River for five days before setting up camp and backpacking to Kinney Lake. An attempt was made on Mount Robson but bad weather kept the party from getting more than a third of the way to the top of the mountain. On their way back to Edmonton, the party members met up with a mailman named John Yates who agreed to pack for them on their next expedition.

In 1908, the Colemans, Reverend Kinney and John Yates made a second trip into the Mount Robson Region. East of Jasper, they retained the services of Adolphus Moberly to guide them up the Moose River to Moose Pass. Travel from Jasper to the Moose River region was slow because Moberly brought his family along the trip. However, the family members were eventually left along the lower Moose River while Moberly guided the climbing party up to Moose Pass. Once at the pass, Moberly left the expedition members and headed back down the Moose River, shooting a caribou and mountain goat along the way.

The climbing party had a difficult trip down Calumet Creek and up the Smoky River, but eventually set up camp near Robson Glacier in early September. Several attempts were made on Mount Robson over the next three weeks but due to poor weather and a lack of equipment the party members never got any higher than 11,600 feet up the mountain. Because the season was coming to a close, the expedition headed home with the hopes of returning in 1909. Adolphus Lake, Yates' Torrent and Lynx Mountain are known to have been named on this trip. Other peaks that may have also been named during this expedition include Extinguisher Tower, Resplendent Mountain, Rearguard Mountain and Whitehorn Mountain.

A year later, Reverend Kinney enlisted the help of Donald Phillips to make another attempt on Mount Robson. The party made a base camp near the Robson River at the foot of the northwest face and on August 12th headed up the mountain, spending a cold evening on a platform chopped into the snow. The next day, the two continued their climb but as they neared the summit dense cloud began to move in. The two climbers made a run for the summit ridge, congratulated each other and then made a speedy descent off of the mountain. However, Kinney and Phillips were never credited with the first ascent of Mount Robson. Four years after the 1909 expedition, Donald Phillips admitted that they had not reached the summit.

By 1911, the Grand Trunk Pacific Railroad had reached Red Pass, increasing the level of activity in the nearby town of Lucerne. Although the exact date is not known, much of the lower Moose River valley was logged to supply ties for the railroad. A camp was constructed near the confluence of Resplendent Creek and Moose River (kilometre 11.1) and finished ties were floated down the Moose River and retrieved once they reached the Fraser. Because of the falls and rapids along the lower Moose River many of the ties were smashed on the way down and the tie camp was eventually abandoned.

In 1911, A.O. Wheeler organized a second Alpine Club of Canada expedition to the Mount Robson region. There were many prominent scientists and climbers in the party including an Austrian guide by the name of Conrad Kain. While the climbing party waited at Berg Lake for the pack horses to make their way around Mount Robson via the Moose River Route, Conrad Kain made the first ascent of Whitehorn Mountain. No attempt was made on Mount Robson in 1911 because A.O. Wheeler felt that the next ascent should be made when the Alpine Club of Canada held their camp at Berg Lake in 1913. In addition to Whitehorn Mountain, several peaks in the Moose River Route region including The Colonel and Trio Mountain were also climbed during this trip.

After the 1911 expedition, A.O. Wheeler lobbied the provincial government to build a trail along the Robson River. The government eventually acquiesced and gave the contract for the trail's construction to Donald Phillips. The trail to Berg Lake was completed in time for the Alpine Club of Canada's camp in 1913 and it was during this camp that the first actual confirmed of Mount Robson occurred. Another important milestone in 1913 was the creation of Mount Robson Provincial Park - much like the Berg Lake Trail, the park came into existence because of the hard work and insistence of A.O. Wheeler.

Over the years, use of the Berg Lake Trail has increased and increased to its present levels. However, use on the Moose River Route has remained quite low; although in recent years there have been as many as 500 people on the trail in a single season. The Moose River Route has been used as an access corridor to Jasper National Park and the backcountry beyond; in most cases for parties traveling with a large number of horses. Although many of these trips were for guided hunting, the Moose River Route has also been used to access rangeland near Grande Cache. Today, large horse groups no longer use the Moose River Route region; you are more likely to see hikers in the area than visitors on horseback.

6. REFERENCES

British Columbia. (1991). Striking the balance. Victoria, BC: Author.

British Columbia. (1992). Mount Robson Provincial Park master plan. Prince George, BC: Author.

Dalziel, B.R. (1973). Zoological habitat assessment of Mt. Robson Provincial Park. Victoria, BC: BC Parks, Master Planning Section.

McCrary, W. & Mallam, E. (1989). Bear hazard evaluation in Mt. Robson Provincial Park. Unpublished manuscript.

Mitchell, B. (1991). Resource management and development: Addressing conflict and uncertainty. Toronto, ON: Oxford University Press.

Peepre, J.S. (1990). Mount Robson Provincial Park: Master plan background report. BC Parks, Victoria.

Valemount Historic Society. (1984). Yellowhead Pass and its people. Valemount, BC: Author.

APPENDIX B - MANAGEMENT OBJECTIVES DOCUMENT

MANAGEMENT OBJECTIVES AND
ASSOCIATED ACTION STATEMENTS
FOR THE MOOSE RIVER ROUTE REGION,
MOUNT ROBSON PROVINCIAL PARK

December, 1997

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TABLE OF CONTENTS

Executive Summary	216
1. The Planning Process	221
2. Reading and Interpreting the Results	222
2.1 The Statements	222
2.2 The Results Table	223
2.3 Review of the Results Table	223
2.4 Comments Provided by Advisory Group Members	224
3. A Review of the Appendices	225
4. Results	226
4.1 General Management Issues	226
4.2 Commercial Activity Issues	241
4.3 Horse Use Issues	247
4.4 Wildlife Issues	253
4.5 Resource Issues	257
4.6 Facility Issues	260
Appendix A - Maps of the Moose River Route region	272
Appendix B - Management Objectives and Associated Action Statements Arranged According to Average Score	273
Appendix C - Management Objectives and Associated Action Statements Arranged According to Interquartile Range	275

EXECUTIVE SUMMARY

This document is the end product of a two and a half year planning process designed to identify and reach consensus on management objectives for the Moose River Route region of Mount Robson Provincial Park. Public involvement was incorporated into the process at every stage - techniques used to facilitate involvement included interviews, questionnaires and a twelve member advisory group. This group created and prioritized the management objectives and associated action statements contained in this document.

Instead of meeting face-to-face, advisory group members participated in an iterative questionnaire process (comprised of three sequential questionnaires) to identify and prioritize the management objectives and associated action statements. The first questionnaire asked members to draft statements that touched on issues relevant to their organization or constituents. These statements were reviewed and incorporated into a second questionnaire that asked members to score their agreement or disagreement with each statement on a scale of one to seven.

The scorings were analyzed to determine which statements had reached consensus and which remained unresolved. The unresolved statements were incorporated into a third questionnaire that asked advisory group members to change their score to obtain consensus. This document presents and discusses the results from the iterative questionnaire process.

SECTION1 – GENERAL MANAGEMENT ISSUES

- In general, advisory group members do not support development of the Moose River Route region – they would like to see the area continue to provide wilderness recreation opportunities.

To achieve this objective, advisory group members would like to regulate use through registration, camping restrictions and quotas.

Support is given to statements proposing that all overnight visitors register their trip and to statements proposing that all overnight visitors practice no-trace camping at designated and random sites both above and below timberline.

Support for quotas is dependant on the type of use – advisory group members support quotas for commercial activity and non-commercial horse use but are neutral towards quotas for non-commercial hiking.

- Advisory group members strongly reject elimination of all human use from the Moose River Route region.

Conversely, strong support is shown for day use, overnight use, unserviced camping, winter use, non-commercial horse use and non-commercial hiking. Strong support is shown for both commercial horse activity and commercial hiking.

- Advisory group members support the completion of environmental assessments to identify cultural resources, special features and cumulative impacts.

In addition, advisory group members believe that environmental assessments should be completed before any development.

Members believe that any management plan developed for the Moose River Route region should acknowledge the natural ecosystem's priority over human use.

- Advisory group members are unable to resolve their level of support for a user pay system within the Moose River Route region.

However, they support two associated action statements that propose the use of backcountry fees for commercial activity. Support for user fees is not extended to non-commercial activity.

- In general, advisory group members support objectives that propose improved, systematic and cooperative management of the Moose River Route region.

Support is shown for the use of questionnaires to identify differences between visitor expectations and experiences obtained, as well as initiatives to identify user satisfaction, appropriate levels of crowding and appropriate levels of use.

Members also support the use of a systematic management approach based on backcountry standards and objectives.

Support is shown for annual meetings with commercial outfitters as well as coordination with Jasper National Park to develop similar standards for levels of use and party size.

SECTION 2 – COMMERCIAL ACTIVITY ISSUES

- Advisory group members strongly support commercial activity in the Moose River Route region. However, there are discrepancies in the level of support for the associated action statements.

Action statements proposing the acceptance of commercial activity are located in two sections of the iterative questionnaires – once in the General Management section and again in the Commercial Activity section. Members support commercial horse activity and commercial hiking in the General Management section but strongly support these two activities in the Commercial Activity section.

- Implementation of cost recovery/user fees for commercial activity is a second issue brought up in two different sections of the iterative questionnaires – once in the General Management section and again in the Commercial Activity section.

In the General Management section, advisory group members support backcountry user fees for both commercial horse activity and commercial hiking. However, in the Commercial Activity section members cannot resolve their level of support for commercial cost recovery.

Although the advisory group's stance on this issue appears contradictory, it is also possible that members consider cost recovery a different issue from backcountry user fees. Cost recovery implies setting user fees to generate resources to manage the region without government subsidization. Implementation of user fees does not necessarily eliminate the need for government subsidization.

- Advisory group members are neutral towards commercial operator maintenance of the Moose River Route region.

However, group members support an associated action statement requiring outfitters to file reports with BC Parks detailing trail conditions within the region.

- The appropriateness of helicopter activity within the Moose River Route region is one of the most contentious issues to arise from the iterative questionnaire process.

Advisory group members strongly support limits on helicopter activity but cannot agree on the best methods to achieve this objective.

Members either strongly reject or cannot resolve their level of support for restrictions on landings, flight paths and flight frequencies.

- Advisory group members support creation of a code of conduct/code of ethics for commercial activity within the Moose River Route region and within the entire Canadian Rocky Mountain Parks World Heritage Site.

SECTION 3 – HORSE USE ISSUES

- Advisory group members support non-commercial horse activity within the Moose River Route region.

Conversely, group members strongly reject elimination of horse activity based on arguments of habitat damage.

Prevention of over-grazing has strong support although advisory group members cannot resolve their level of support for proposed action statements – including the carrying of feed.

- Advisory group members cannot resolve their level of support for the maintenance of horse trails and facilities by non-commercial horse users.

However, there is support for two associated action statements calling for an inventory of trail conditions and an inventory of horse facilities.

Group members also supports limits to the number of horses in a horse party, limits to the number of individuals in a horse party and promotion of the importance of self-registration to non-commercial horse users.

SECTION 4 – WILDLIFE ISSUES

- Advisory group members strongly support minimization of wildlife impacts resulting from recreational activity.

Support is also shown for associated action statements proposing development of wildlife inventory and wildlife management plans.

Completion of comprehensive habitat and movement corridor assessments for goat, moose, caribou, wolf, grizzly bear and black bear also has support – with the exception of a movement corridor study on wolves which remains unresolved.

- Advisory group members strongly support the minimization of human impact on bears in the upper Moose River drainage.

Associated action statements proposing a no camping zone, closure of the Slide Lake campsite and improvements to the re-route around the Slide Lake campsite also have support.

- Advisory group members show strong support for an objective proposing the minimization of human-bear encounters within the Moose River Route region.

Associated action statements that have advisory group support include placement of information signs and handouts at the trailhead as well as visitor education on appropriate behaviour in bear country.

SECTION 5 – RESOURCE ISSUES

- Advisory group members show strong support for the maintenance of natural plant communities within the Moose River Route region.

Strong support is also shown for identification and protection of unique plant communities, assessment and monitoring of vegetation conditions and development of a vegetation management plan.

Group members cannot resolve their level of support for statements allowing natural fires and insect infestations to run unchecked.

- A management objective proposing the protection of special features has strong advisory group support.
- To meet this objective, members do not want special features identified on maps prepared by BC Parks and they do not want trails leading to these features indicated on maps or signed at junctions.

SECTION 6 – FACILITY ISSUES

- Advisory group members cannot resolve their level of support for a management objective proposing development of clean, safe and attractive campsites. However, response to the associated action statements helps define what advisory group members consider essential campsite facilities and characteristics.

Strong support is shown for the installation of backcountry toilets and free standing bear poles while picnic tables are strongly rejected.

Support is also given to developing small capacity campsites away from areas frequented by wildlife.

An associated action statement proposing combined horse and hiker campsites is strongly rejected.

Although advisory group members do not support development of the Moose River Route region in general, installation of backcountry toilets and free standing bear poles appears to be an exception.

- Advisory group members cannot resolve their level of support towards a management objective proposing closure of existing campsites and establishment of new ones.

However, an associated action statement proposing the removal of garbage from existing campsites has strong advisory group support.

- Implementation of a campstove only policy for the Moose River Route region is a contentious issue. Advisory group members cannot resolve their level of support for this management objective or the two associated action statements proposing the removal of fire rings and the posting of signs indicating no open fires.

- Advisory group members are neutral towards proposed trail improvements to ease travel for hikers.

Similarly, advisory group members are neutral towards proposed trail improvements for all users.

Members strongly reject the development of a wide (and potentially surfaced) trail, are neutral to the development of a narrow unsurfaced trail and neutral towards development of separate trails for horses and hikers.

- Advisory group members support the provision of comprehensive information to potential visitors. However, there is mixed opinion on how this should be done. Members strongly support informing visitors that the Moose River Route is a designated horse trail and that travel is not recommended during periods of high water.

Advisory group members also support the provision of a better trail description but cannot resolve their level of support towards the provision of accurate maps and signage.

- Advisory group members show strong support for backcountry ethics education.

Key associated actions statements that also have support include providing educational material on low impact camping, low impact wildlife viewing, trail etiquette and backcountry waste disposal.

1. THE PLANNING PROCESS

This document is the end product of a two and a half year planning process designed to identify and reach consensus on management objectives for the Moose River Route region of Mount Robson Provincial Park. The process was initiated in June, 1995 when thirty-eight individuals/groups were interviewed to obtain their opinion on issues and concerns that could affect planning and management of the Moose River Route region. Interviewees included commercial outfitters, government personnel, local historians and recreation groups.

Information obtained from the interview process was used to develop two questionnaires designed to gather additional information on issues, concerns and social (human use) characteristics of the Moose River Route region. The first questionnaire was distributed to approximately 100 individuals who visited the region in 1995 while the second was distributed to approximately 300 individuals on a BC Parks mailing list. The mailing, collection and analysis of these questionnaires occurred between October 1995 and January 1996.

Data gathered from the interviews and questionnaires was incorporated into a document that described the issues and concerns that could affect planning and management of the Moose River Route region. This document also described the social and resource characteristics of the region – information obtained from the visitor questionnaire and from a review of existing literature. The issues, concerns and characteristics document was drafted between February and May, 1996.

In June 1996, twelve individuals were asked to join an advisory group whose task was to review the document and develop management objectives for the Moose River Route region. These individuals included four representatives from BC Parks, two representatives from Parks Canada, two commercial outfitters operating in the Moose River Route region and one representative each from the Valemount Saddle and Wagon Club, the Ozalenka Alpine Club (McBride), the Yellowhead Outdoor Recreation Association (Valemount) and the Caledonia Ramblers (Prince George).

Instead of meeting face-to-face on a regular basis, the advisory group used an iterative process (comprised of three sequential questionnaires) to identify and reach consensus on management objectives for the Moose River Route region. This process, called the Delphi technique, was selected to test its effectiveness at generating consensus-based statements in a time and cost-effective manner.

The first Delphi questionnaire asked advisory group members to draft management objectives and associated action statements that touched on issues and concerns relevant to their organization or constituents. This questionnaire was distributed in July and the last response collected in November, 1996.

These statements were edited by the researcher to correct grammar/composition and eliminate redundancy (many members had similar thoughts on management of the study area). The draft statements were then reviewed by BC Parks to ensure consistency with both agency policy and the existing master plan for Mount Robson Provincial Park. Any statements that contradicted agency policy or the master plan were eliminated. This process occurred between December 1996 and January 1997.

The finalized list of management objectives and associated action statements (225 discrete statements in total) were grouped into six different sections based on the issues they addressed. The statements were incorporated into a second Delphi questionnaire and distributed to advisory group members who were asked to score their agreement/disagreement with each statement on a scale of one to seven. This questionnaire was distributed in February and the last response collected in April, 1997. The scorings were analyzed to determine which statements had achieved consensus and which had not. Results from this analysis were then incorporated into a third Delphi questionnaire individually tailored to advisory group members.

The third Delphi questionnaire displayed the twelve scores for each unresolved statement as well as the score provided by the member receiving the questionnaire. This way members could see how their personal score compared to other members without knowing ownership of the other eleven scores. Group members were asked to review each unresolved statement and either change their score or provide a written response justifying their position on that issue. This questionnaire was distributed in May and the last response collected in September, 1997.

This second round of scoring was analyzed to determine which unresolved statements had achieved consensus and which had not. The overall results from both rounds are incorporated and discussed in this document.

2. READING AND INTERPRETING THE RESULTS

The 225 discrete statements generated through the Delphi questionnaires are comprised of 46 management objectives and 179 associated action statements. Each management objective is discussed individually with each discussion consisting of three components:

1. the management objective and any associated action statements;
2. a results table; and
3. a short review of the results table.

2.1 THE STATEMENTS

The first component of the discussion is a presentation of the management objective and any action statements associated with that objective. Management objectives are numbered consecutively through section 4 and are given in single-spaced, bold font. Associated action statements are arranged alpha-numerically after the management objective and are given in single-spaced, regular font. Both the management objectives and associated action statements are taken unmodified from the third Delphi questionnaire.

2.2 THE RESULTS TABLE

The second component is a table containing the results of the scoring process. Each table indicates the:

- statement number;
- average score (on a scale of one to seven);
- level of support;
- interquartile range;
- level of consensus; and
- the number of responses to each score.

The five codes used in the level of support column are based on the average score. These codes are:

- SS strong support (an average score between 6.01 and 7.00);
- S support (an average score between 5.01 and 6.00);
- N neutral (an average score between 3.01 and 5.00);
- R rejection (an average score between 2.01 and 3.00); and
- SR strong rejection (an average score between 1.00 and 2.00).

This distinction in level of support has been adapted from similar studies employing the Delphi technique. One study used an average score of 6.00 and above as the cut-off between support and rejection (Adams et al., 1992), while a second study used an average score of 5.50 and above (Fish & Osborn, 1992). Neither study identified other levels of support – statements were either supported or rejected.

This study identifies five levels of support because it is felt that valuable information can be obtained from statements that advisory group members strongly reject, statements that members are neutral towards, as well as statement that members strongly support.

The level of consensus column identifies each statement as either resolved (an interquartile range between 0.00 and 1.50), or unresolved (an interquartile range of 1.51 or higher). This distinction between resolved and unresolved statements is taken from Adams et al. (1992) and Fish and Osborn (1992). The interquartile range is a statistical representation of the spread of scores. The higher the interquartile range, the higher the spread of scores and the lower the level of agreement on a particular statement.

2.3 REVIEW OF THE RESULTS TABLE

The third component is a short review of the scoring results as presented in the results table. This discussion does not provide specific recommendations to BC Parks on how to resolve unresolved issues. Instead, a judgement is made on the merit of pursuing the issue. If additional work is considered to be worthwhile then face-to-face discussion/negotiation with interested/affected parties is often mentioned as one potential technique. However, there are several issues where additional work may be pointless – positions are so polarized that movement towards common ground may be impossible.

2.4 COMMENTS PROVIDED BY ADVISORY GROUP MEMBERS

The fourth and final component of this document is comment provided by advisory group members. These comments were collected during the third Delphi questionnaire – group members were asked to provide written justification for their position if they chose not to revise a scoring in order to reach consensus. These comments are extremely informative and provide a good starting point for further discussion if BC Parks chooses to pursue resolution of unresolved statements.

3. A REVIEW OF THE APPENDICES

Appendix A contains two maps of the Moose River Route region. Statements 2A, 23B, 23D, 33A, 33C and 33D make reference to these maps.

Appendix B contains a table that arranges the management objectives and associated action statements according to decreasing average score. This table can be used to quickly identify the statements with the highest (and lowest) level of support.

Appendix C contains a table that arranges the management objectives and associated action statements according to increasing interquartile range. This table can be used to quickly identify the statements with the highest (and lowest) level of consensus.

4. RESULTS

4.1 GENERAL MANAGEMENT ISSUES

1. Regulate the amount of use in the Moose River Route region.

A) Adopt a policy where overnight...

- 1) non-commercial horse users register at the information centre before starting their trip.
- 2) commercial horse operators register at the information centre before starting their trip.
- 3) non-commercial hikers register at the information centre before starting their trip.
- 4) commercial hiking operators register at the information centre before starting their trip.

B) Implement a quota system for...

- 1) non-commercial horse users.
- 2) commercial horse operators.
- 3) non-commercial hikers.
- 4) commercial hiking operators.

C) Initiate a lottery system to allocate the quota.

	Average Score	Level of Support	Inter-Quartile Range	Level of Consensus	Number of Responses to...							
					Disagree				Agree		Not Sure	
					1	2	3	4	5	6	7	
1	6.09	SS	1.50	resolved	0	0	0	1	2	3	5	1
1A1	6.00	S	1.00	resolved	1	0	0	0	0	6	5	0
1A2	5.75	S	1.00	resolved	2	0	0	0	0	3	7	0
1A3	5.75	S	1.25	resolved	1	0	0	0	2	5	4	0
1A4	5.67	S	1.00	resolved	2	0	0	0	0	4	6	0
1B1	5.33	S	1.25	resolved	1	0	0	0	6	2	3	0
1B2	6.67	SS	0.25	resolved	0	0	0	0	1	2	9	0
1B3	4.83	N	1.50	resolved	1	0	2	0	5	2	2	0
1B4	6.58	SS	1.00	resolved	0	0	0	0	1	3	8	0
1C	2.00	SR	1.00	resolved	6	2	1	0	0	0	1	2

- There is strong support for regulating use in the Moose River Route region.
- Advisory group members support registration of all overnight users and strongly support quota restrictions for commercial activity (both horse and hiker).
- Members are neutral towards quota restrictions for non-commercial hiking yet support quota restrictions for non-commercial horse activity.
- The use of a lottery system to allocate quotas is strongly rejected by advisory group members.

2. Permit increased levels of use in select locations within the Moose River Route region.

- A) Develop the lower end of the route from the trailhead to Resplendent gravel flats (see map 1, Appendix A) for increased levels of use for...
- 1) non-commercial horse users.
 - 2) commercial horse operators.
 - 3) non-commercial hikers.
 - 4) commercial hiking operators.
- B) Maintain the mid to upper sections of the route as a wilderness travel region with minimal to no facilities.

	Average Score	Level of Support	Inter-Quartile Range	Level of Consensus	Number of Responses to...							
					Disagree			Agree			Not Sure	
					1	2	3	4	5	6		7
2	4.82	N	1.00	resolved	2	0	0	0	5	2	2	1
2A1	3.08	N	2.50	unresolved	3	2	1	3	3	0	0	0
2A2	2.67	R	3.00	unresolved	4	2	2	2	2	0	0	0
2A3	3.67	N	3.25	unresolved	3	1	0	3	3	2	0	0
2A4	3.42	N	3.25	unresolved	3	1	0	4	4	0	0	0
2B	6.36	SS	0.50	resolved	0	0	1	0	1	1	8	1

- Advisory group members are neutral towards increased use in select locations within the Moose River Route region.
- Members cannot resolve their level of support for development of the lower section of the route (statements 2A1 to 2A4).
- Keeping the upper section of the route in a wilderness condition is strongly supported by advisory group members.

Resolution of statements 2A1 to 2A4 may not be worthwhile given the large interquartile range and the relatively low average score. Even if consensus was reached it is likely that members would prefer the entire route be maintained in a wilderness condition. Please see below for a review of advisory group comments.

Advisory Group Comments on Statements 2A1 to 2A4

If we are going to permit increased levels of use in select areas we must be willing to respond to environmental impacts. Impacts within the region are limited now but through increased use (through promotion or other means) there will be a need for facilities.

I cannot support any development until a full environmental impact assessment is completed.

Non-commercial hikers travel in smaller groups so necessary development would be minimal.

The section of trail from the trailhead to Resplendent Creek is in better condition than the rest of the route and needs only minor fixing. Increasing traffic to Resplendent Creek will create two-way traffic, rather than the current through traffic. Increased activity to Resplendent Creek will create a need to upgrade the entire trail.

This part of the trail is already very easy to travel on and is in good shape. I firmly believe that any money spent on trail improvement in this area will never be enough to satisfy recreational users who are not used to wilderness conditions. As soon as money is spent and users directed to this area, far more complaints will be generated over the recent improvements (and further need for improvement), than the current, few complaints about horse use. Trail cutting along this section is all that is necessary. Let nature do what it does best and save the park a great deal of time, manpower and money.

During high water many sections of the Moose River Route become dangerous. Reroutes would be expensive and would bypass all of the scenic areas.

We feel that given the wet terrain of much of the route it would be very expensive to create a trail that could withstand heavy horse use. We also recognize that there is demand for more facilities for day hikers and overnight hikers. Upgrading the Moose River Route might be a way to accommodate some of this demand but we are unsure what other options exist in Mount Robson Provincial Park.

Any increase in use must first consider ecological limits. If there is room to increase use then we can support these statements. If this is the case then there would need to be some way to rationalize which user groups get the increase.

3. Minimize the potential for crowding in the Moose River Route region.

- A) Develop other backcountry opportunities in Mount Robson Provincial Park to absorb use from the Moose River Route during periods of...
- 1) high water (generally in June).
 - 2) heavy use (generally in July and August).

	Average Score	Level of Support	Inter-Quartile Range	Level of Consensus	Number of Responses to...							
					Disagree				Agree		Not Sure	
					1	2	3	4	5	6	7	
3	6.33	SS	1.25	resolved	0	0	0	1	2	1	8	0
3A1	4.30	N	3.75	unresolved	2	1	1	0	1	4	1	2
3A2	4.10	N	4.50	unresolved	3	0	1	0	2	3	1	2

- Advisory group members strongly support minimization of potential crowding in the Moose River Route region.
- Members cannot resolve their level of support for the two associated action statements.

Similar to the unresolved action statements from objective 2, the unresolved action statements for this objective propose new development. It is possible that these statements remain unresolved because advisory group members are either ambivalent or opposed to new development within Mount Robson Provincial Park.

Given the large interquartile range for these two statements (3A1 and 3A2), additional work on this issue may not result in resolution. Please see below for a review of advisory group comments.

Advisory Group Comments on Statements 3A1 and 3A2

Opportunities are available in Mount Robson Provincial Park to alleviate use in other areas, but new construction must occur on dry ridges and hillsides. What money BC Parks has is better spent on new (modern) construction of trails that provide a three day experience. The first day is used to access a well-maintained backcountry campsite, the second day is spent exploring undeveloped areas beyond that campsite and the third day is used to hike out of the area. A consolidated area of this nature could accommodate far more people and keep management/maintenance controlled and cost-effective. Short term costs may be more but long term costs will be far less compared to a commitment in the Moose River Route region. If people don't want to see other people then they can tackle the Moose and enjoy nature at its best, knowing they have a choice in experiences.

Current thoughts are to concentrate and harden use rather than disperse use to other areas. Undisturbed drainages are going to become more important for caribou and grizzly habitat.

There is no guaranteed timetable for high-water.

The Mt. Fitzwilliam Trail remains under-utilized and is an excellent backcountry trail.

June is not usually a busy month but it is also a touchy time in terms of conflict with bears. There are very few opportunities to divert use in Mount Robson Provincial Park. Mt. Fitzwilliam has a very limited ability to absorb people, the Berg Lake Trail can't take any more use and access to Alpland Ridge is limited because of the railroad tracks. This leaves Rink Lakes which is a very steep hike.

No matter how much improvement is thrown into the Moose River Route region the rivers will always rule! Bridges will wash out, trails will flood and erode and hikers and horsemen alike will get wet. Because of extreme glacial influence, high water does (and will continue to) exist in this area anytime from mid-May until the days shorten in September.

4. Develop the Moose River Route region to alleviate hiker over-use on the Berg Lake Trail.

	Average Score	Level of Support	Inter-Quartile Range	Level of Consensus	Number of Responses to...						
					Disagree			Agree			Not Sure
					1	2	3	4	5	6	
4	2.58	R	3.25	unresolved	5	3	0	1	2	1	0

- Advisory group members cannot resolve their level of support for this management objective.

Given the large interquartile range and relatively low average score, resolution of this objective will most likely result in rejection. Please see below for a review of advisory group comments.

Advisory Group Comments on Statement 4

Use of both the Berg Lake Trail and the Moose River Route region should be based on what the ecological conditions can support. Any strategy to move use should be based on what the Moose River Route region can support.

Until there is an environmental impact assessment, no development should occur in the Moose River Route region.

5. Develop a world-class hiking only opportunity in the Moose River Route region.

- A) Upgrade the Moose River Route to a high quality trail.
B) Prepare a promotional strategy to attract hikers.

	Average Score	Level of Support	Inter-Quartile Range	Level of Consensus	Number of Responses to...							Not Sure
					Disagree			Agree				
					1	2	3	4	5	6	7	
5	2.27	R	1.50	resolved	5	3	1	0	1	1	0	1
5A	2.25	R	1.25	resolved	5	4	1	0	1	1	0	0
5B	1.67	SR	1.00	resolved	7	4	0	0	1	0	0	0

- Advisory group members reject development of a world-class hiking only opportunity in the Moose River Route region.
- The two associated action statements are either rejected or strongly rejected.

6. Eliminate all human use in the Moose River Route region.

- A) Prepare an advertising package to inform the public of the closure.
- B) Establish a process to monitor the long-term effects of the closure.

	Average Score	Level of Support	Inter- Quartile Range	Level of Consensus	Number of Responses to...							
					Disagree					Agree		Not Sure
					1	2	3	4	5	6	7	
6	1.00	SR	0.00	resolved	11	0	0	0	0	0	0	1
6A	1.70	SR	0.00	resolved	8	1	0	0	0	0	1	2
6B	2.44	R	1.00	resolved	5	2	0	0	0	1	1	3

- Advisory group members strongly reject elimination of human use in the Moose River Route region.
- The associated action statements are either strongly rejected or rejected.

7. Make the Moose River Route region a user pay system for overnight visitors.

- A) Charge a backcountry fee for...
 - 1) non commercial horse users.
 - 2) commercial horse operators.
 - 3) non-commercial hikers.
 - 4) commercial hiking operators.

	Average Score	Level of Support	Inter-Quartile Range	Level of Consensus	Number of Responses to...							
					Disagree				Agree			Not Sure
					1	2	3	4	5	6	7	
7	4.92	N	3.00	unresolved	2	0	0	2	3	1	4	0
7A1	5.50	S	2.25	unresolved	0	2	0	1	1	3	5	0
7A2	6.00	S	1.25	resolved	1	0	0	1	1	1	8	0
7A3	5.42	S	2.25	unresolved	1	1	0	1	1	3	5	0
7A4	5.92	S	1.25	resolved	1	0	0	1	1	2	7	0

- Advisory group members are unable to resolve their level of support towards making the Moose River Route region a user pay system.
- Support is given to backcountry fees for commercial activity (statements 7A2 and 7A4) but advisory group members are unresolved on the issue of backcountry fees for non-commercial activity (statements 7A1 and 7A3).

Given the low interquartile range and relatively high average score of the two unresolved action statements, resolution may result in support for these proposals. Please see the next page for a review of advisory group comments.

Advisory Group Comments on Statement 7

Provided there is an environmental impact assessment, an overnight fee for use of the Moose River Route region would be consistent with the Berg Lake Trail.

Maintenance of any type requires funding. Those people who use the region should be willing to bear some of the costs.

Everyone agrees that commercial operators should pay. Do they not understand that commercial operators are simply guides working for backcountry users?

The Moose River Route was built and is maintained by commercial horse users.

User fees create a spiralling effect. Users demand more facilities if they are paying. If management provides these facilities it creates a cost to the park and user fees are increased to pay for increasing costs.

When fees are increased so are user's expectations. User fees have also been shown to be discriminatory against low-income visitors and detract from the feeling of freedom in wilderness.

8. Reduce the cost of search and rescue operations to the provincial government.

- A) Require all users to pay the costs of any search and rescue operation conducted on their behalf in Mount Robson Provincial Park, including the Moose River Route region.

	Average Score	Level of Support	Inter-Quartile Range	Level of Consensus	Number of Responses to...							
					Disagree				Agree		Not Sure	
					1	2	3	4	5	6	7	
8	5.58	S	1.25	resolved	0	0	0	3	1	6	2	0
8A	4.64	N	2.00	unresolved	1	1	0	3	3	0	3	1

- Advisory group members support reducing government cost for search and rescue operations.
- Members cannot resolve their level of support for the associated action statement.

Pursuing resolution of the action statement may be worthwhile given the low interquartile range and moderate average score. Please see the next page for a review of advisory group comments.

Advisory Group Comments on Statement 8A

This is basically another user fee. Rescues constitute a small portion of the overall budget yet would be extremely expensive for the unfortunate individual who gets into trouble. Most users aren't careless though some may not be well informed. Recreation is a public good and fees initiate the demise of that public good.

I have very strong feelings about search and rescue costs. If an individual takes actions that lead to a dangerous situation, I believe that individual must take personal responsibility for their actions and be prepared to pay for search and rescue operations. The general public should not have to bear the financial burden for individuals who are either unprepared for backcountry travel or have bad luck.

There are other options, such as requiring insurance.

While we support the idea of reducing rescue costs to the provincial government, it seems neither reasonable nor fair to expect every person to pay for all costs associated with their rescue. Many people would be unable to pay, or the social and financial costs to the province of collecting payment from families may be more than the actual cost of the rescue. Furthermore, not all people being rescued are in need of rescue and some are in trouble due to conditions beyond their control. It seems more reasonable to expect some people to pay a portion of their rescue costs if it can be shown that they violated an established safety regulation.

We agree with this action statement because it is consistent with the national parks approach.

9. Maintain a visible management presence in the Moose River Route region.

- A) Have park staff travel through the region during periods of heavy use (generally in July and August).
- B) Keep trailhead information updated.
- C) Have work crews maintain trails and facilities.

	Average Score	Level of Support	Inter-Quartile Range	Level of Consensus	Number of Responses to...							
					Disagree						Agree	
					1	2	3	4	5	6	7	
9	5.83	S	2.00	unresolved	1	0	0	1	2	1	7	0
9A	5.75	S	2.25	unresolved	1	0	0	2	1	1	7	0
9B	6.17	SS	1.00	resolved	1	0	0	0	1	2	8	0
9C	5.25	S	3.00	unresolved	1	0	1	2	2	1	5	0

- Advisory group members cannot resolve their level of support for keeping a visible management presence in the Moose River Route region.
- Although strong support is shown for keeping trailhead information updated, the remaining action statements are unresolved.

Resolution of the management objective and the first action statement (9A) may be worthwhile given their low interquartile range and high average score. Please see below for a review of advisory group comments.

Advisory Group Comments on Statement 9

In terms of keeping the Moose River Route primitive, a visible management presence doesn't need to be as obvious and intensive as it is on the Berg Lake Trail. However, it also doesn't need to be ignored by BC Parks either.

I'm not sure why people would disagree with this objective. If park staff are not on the ground the region becomes difficult to manage.

If the park is to have a viable management policy it has to have good information concerning park use – staff field notes are an excellent source of information. If the park wants to have a backcountry trail in the Moose River Route region then they should be expected to maintain that facility.

10. Inform visitors of the potential for accidents at river crossings.

- A) Have information centre personnel inform all users of the hazards posed by river crossings.
- B) Have all users complete a form that indemnifies the province from liability.

	Average Score	Level of Support	Inter-Quartile Range	Level of Consensus	Number of Responses to...							
					Disagree				Agree		Not Sure	
					1	2	3	4	5	6	7	
10	6.08	SS	1.00	resolved	1	0	0	1	0	2	8	0
10A	5.92	S	1.50	resolved	1	0	0	2	0	1	8	0
10B	4.70	N	1.75	unresolved	1	0	0	3	3	2	1	2

- Advisory group members strongly support informing visitors of the potential for accidents at river crossings.
- Members cannot resolve their level of support towards the use of indemnity forms.

Resolution of statement 10B may be worthwhile given the low interquartile range and moderate average score for this statement.

11. Use a systematic management approach to preserve the wilderness atmosphere of the Moose River Route region.

- A) Assess baseline...
- 1) social conditions (e.g. level of use, satisfaction, crowding, demand, conflict) for all user groups.
 - 2) resource conditions (e.g. trails, campsites, graze, water quality).
- B) Set standards for...
- 1) social conditions.
 - 2) resource conditions.
- C) Compare standards to existing conditions.
- D) Implement management strategies to improve conditions that do not meet standards.
- E) Monitor...
- 1) social conditions.
 - 2) resource conditions.

	Average Score	Level of Support	Inter-Quartile Range	Level of Consensus	Number of Responses to...							
					Disagree				Agree		Not Sure	
					1	2	3	4	5	6	7	
11	6.09	SS	1.00	resolved	1	0	0	0	1	2	7	1
11A1	5.50	S	1.25	resolved	1	0	0	1	2	5	3	0
11A2	6.09	SS	1.00	resolved	1	0	0	0	1	2	7	1
11B1	5.08	S	1.50	resolved	2	0	0	1	2	4	3	0
11B2	5.83	S	2.00	unresolved	1	0	0	1	2	1	7	0
11C	5.50	S	2.25	unresolved	1	0	0	2	1	4	4	0
11D	5.67	S	1.25	resolved	1	0	0	1	1	5	4	0
11E1	6.33	SS	1.25	resolved	0	0	0	1	2	1	8	0
11E2	6.17	SS	0.50	resolved	1	0	0	0	2	0	9	0

- Advisory group members strongly support the use of a systematic management approach for the Moose River Route region.
- Strong support is also shown towards assessing baseline resource conditions and monitoring social and resource conditions (statements 11A2, 11E1 and 11E2).
- Group members support assessing baseline social conditions, setting standards for social conditions and implementing management strategies (statements 11A1, 11B1 and 11D).
- Advisory group members cannot resolve their level of support towards setting standards for resource conditions and comparing standards to existing conditions (an essential step in any systematic management approach).

It may be worthwhile for BC Parks to resolve statements 11B2 and 11C given their low interquartile range and relatively high average score. Please see the next page for a review of advisory group comments.

Advisory Group Comments on Statement 11

What few problems there are in the Moose River Route region can be dealt with by park managers. We don't need more paper problems.

It's important to establish what impacts we are willing to accept before taking management action. Establishing standards, taking measurements and implementing management actions to address substandard conditions provides a systematic approach that is defensible. Monitoring is extremely important.

To implement a systematic management policy, the park must have goals to manage towards and information concerning present conditions.

This approach is a systematic, logical and necessary one if you are to establish any vision or intent for the region. The only outstanding issue is to what extent the monitoring program be established because it can be costly. Nevertheless, you must have something to shoot for.

12. Complement management of the Moose River Route with adjacent lands in Jasper National Park.

- A) Work with Jasper National Park to develop similar standards for...
- 1) facility development.
 - 2) levels of use.
 - 3) maximum party size.

	Average Score	Level of Support	Inter-Quartile Range	Level of Consensus	Number of Responses to...							
					Disagree				Agree		Not Sure	
					1	2	3	4	5	6	7	
12	5.75	S	1.00	resolved	1	0	0	1	0	6	4	0
12A1	5.00	N	1.50	resolved	2	0	0	1	3	3	3	0
12A2	6.00	S	1.25	resolved	1	0	0	0	2	2	7	0
12A3	6.00	S	1.25	resolved	1	0	0	0	2	2	7	0

- Support is shown for complementing management of the Moose River Route region with adjacent lands in Jasper National Park.
- Advisory group members are neutral towards similar standards for facility development yet supportive of similar standards for levels of use and maximum party size.

13. Define in clear, measurable terms the type of visitor experience the Moose River Route region provides visitors.

- A) Identify...
- 1) an appropriate level of user satisfaction.
 - 2) an appropriate level of crowding.
 - 3) an appropriate level of use.
- B) Use questionnaires that have a before and after component to measure differences between visitor expectations and the experience obtained.

	Average Score	Level of Support	Inter-Quartile Range	Level of Consensus	Number of Responses to...							
					Disagree				Agree		Not Sure	
					1	2	3	4	5	6	7	
13	5.42	S	2.25	unresolved	0	1	0	2	3	2	4	0
13A1	5.42	S	1.00	resolved	0	1	0	1	3	5	2	0
13A2	5.33	S	1.25	resolved	1	0	1	0	3	4	3	0
13A3	5.75	S	1.25	resolved	1	0	1	0	1	3	6	0
13B	5.50	S	1.25	resolved	1	0	0	1	2	5	3	0

- Members cannot resolve their level of support for this management objective.
- Support is shown for identification of an appropriate level of user satisfaction, an appropriate level of crowding and an appropriate level of use.
- Advisory group members also support the use of questionnaires to identify differences between visitor expectations and the experiences obtained.

Given the relatively high average score and low interquartile range, resolution may be both possible and worthwhile. Please see below for a review of advisory group comments.

Advisory Group Comments on Statement 13

This is a quote from a Moose River Route visitor. "We are told that the Moose River is best accessed during the month of September, due to water levels. However, the park neglected to inform us of the amount of rainfall, sub-zero temperatures and snow that occurs this time of year. Therefore our expectations are compromised and our experience sad. It may be helpful in the future to direct visitors to an area of the park with an enhanced chance of more pleasant conditions and a view worthy of our users fee!"

While this idea is fine in theory, I fear it will be very difficult to actually accomplish.

How can you quantify a personal experience?

This process is important in assessing whether or not management actions should take place. For example, if people don't have the expectation of a primitive experience then we need to address the information that we provide visitors.

14. Make management decisions on the Moose River Route region within the area's ecological and cultural heritage constraints.

- A) Complete a thorough environmental assessment that identifies...
 - 1) cultural resources.
 - 2) special features.
- B) Complete environmental assessments prior to any development.
- C) Pay particular attention to cumulative effects when completing environmental assessments.
- D) Acknowledge that the natural ecosystem has priority over human use when developing a long-term management plan.

	Average Score	Level of Support	Inter-Quartile Range	Level of Consensus	Number of Responses to...							
					Disagree				Agree		Not Sure	
					1	2	3	4	5	6	7	
14	5.92	S	1.25	resolved	1	0	0	1	1	2	7	0
14A1	5.92	S	1.00	resolved	1	0	0	1	0	4	6	0
14A2	6.00	S	1.00	resolved	1	0	0	1	0	3	7	0
14B	6.00	S	1.00	resolved	1	0	0	1	0	3	7	0
14C	6.09	SS	0.50	resolved	1	0	0	1	0	1	8	1
14D	6.17	SS	1.00	resolved	1	0	0	0	1	2	8	0

- Advisory group members support making management decisions within the region's ecological and cultural heritage constraints.
- Members also support the completion of environmental assessments for cultural resources and special features as well as the completion of environmental assessments prior to any development in the region.
- Advisory group members strongly support cumulative environmental impact assessments and a management plan that acknowledges that the natural ecosystem has priority over human use.

15. Manage visitor use to minimize user group conflict.

- A) Have park staff meet annually with commercial operators to advise them of the region's management objectives.
- B) Have the information centre provide a daily itinerary of commercial operators so visitors are aware of the possibility of meeting commercial parties.

	Average Score	Level of Support	Inter-Quartile Range	Level of Consensus	Number of Responses to...							
					Disagree				Agree		Not Sure	
					1	2	3	4	5	6	7	
15	5.75	S	1.25	resolved	1	0	0	1	1	4	5	0
15A	6.42	SS	1.00	resolved	0	0	0	1	0	4	7	0
15B	5.83	S	2.00	unresolved	0	0	0	1	4	3	4	0

- Advisory group members support the minimization of user group conflict.
- They show strong support for annual meetings between park staff and commercial operators but cannot resolve their level of support towards the provision of commercial itineraries.

Although statement 15B is statistically unresolved, a quick glance at the breakdown of scores indicates that respondents in general agree to the provision of commercial itineraries. BC Parks could consider this issue resolved although they may want to start additional discussions (particularly with the commercial operators) to identify potential solutions to the logistical difficulties of providing itineraries. Please see below for a review of advisory group comments.

Advisory Group Comments on Statement 15B

Generally a good idea, but if not an itinerary then some "sense" of the likelihood of running into a horse party.

I can't see how giving people information could possibly, in any way, shape or form, be a bad thing. I would like to know what people's reasons are for withholding information.

It seems an itinerary of commercial users is necessary to prevent user conflict as many dislike to follow closely behind a large horse party.

This is one way to reduce conflict but I think application will be far down the road.

16. Allow recreational activity in the Moose River Route region.

- A) Permit day use.
- B) Permit overnight use.
- C) Permit unserviced camping.
- D) Permit non-commercial horse use.
- E) Permit commercial horse use.
- F) Permit non-commercial hiking.
- G) Permit commercial hiking.

	Average Score	Level of Support	Inter-Quartile Range	Level of Consensus	Number of Responses to...							
					Disagree				Agree		Not Sure	
					1	2	3	4	5	6	7	
16	6.82	SS	0.00	resolved	0	0	0	0	1	0	10	1
16A	7.00	SS	0.00	resolved	0	0	0	0	0	0	11	1
16B	6.91	SS	0.00	resolved	0	0	0	0	0	1	10	1
16C	6.11	SS	1.00	resolved	0	0	1	0	1	2	5	3
16D	6.36	SS	1.00	resolved	0	0	0	1	1	2	7	1
16E	6.00	S	2.25	unresolved	0	0	0	3	1	1	7	0
16F	7.00	SS	0.00	resolved	0	0	0	0	0	0	11	1
16G	5.67	S	2.25	unresolved	0	0	0	3	3	1	5	0

- Advisory group members strongly support recreational activity in the Moose River Route region.
- Day use, overnight use, unserviced camping, non-commercial horse use and non-commercial hiking are all strongly supported.

- Advisory group members cannot resolve their level of support for commercial hiking and commercial horse activity.

Although statements 16E and 16G are statistically unresolved, a quick glance at the breakdown of scores indicates that respondents in general support commercial activity. Management objectives and associated action statements discussed in later sections of this document also indicate support for commercial activity. Consequently, BC Parks could consider this issue resolved.

Advisory Group Comments on Statement 16E

We agree with commercial use as long as it does not interfere with or hamper use by the general public. Heavy horse use (commercial or not) without the necessary resources available to repair and maintain the trail would definitely hamper use by the general public.

If non-commercial use can occur then so should commercial use unless conflict and crowding occur.

Commercial horse and hiker use perpetuates the notion of wilderness as a place to visit but not to remain. It's easy and safe for inexperienced people to pay money to be taken into the wilderness to say that they have "been there". I believe they come away with a "lesser" experience because of it. Those people who guide themselves attain a certain degree of self-reliance which is essential to the wilderness experience.

17. Encourage limited winter recreation.

	Average Score	Level of Support	Inter-Quartile Range	Level of Consensus	Number of Responses to...							
					Disagree				Agree			Not Sure
					1	2	3	4	5	6	7	
17	5.36	S	1.00	resolved	1	1	0	0	1	5	3	1

Advisory group members support limited winter recreation within the Moose River Route region.

18. Implement a camping policy for the Moose River Route region.

- A) Require all visitors to practice no-trace camping...
- 1) at random campsites located in alpine areas.
 - 2) at designated campsites located in alpine areas.
 - 3) at random campsites located below timberline.
 - 4) at designated campsites located below timberline.

	Average Score	Level of Support	Inter-Quartile Range	Level of Consensus	Number of Responses to...							
					Disagree				Agree		Not Sure	
					1	2	3	4	5	6	7	
18	6.17	SS	1.00	resolved	1	0	0	0	1	2	8	0
18A1	5.67	S	1.00	resolved	2	0	1	0	0	0	9	0
18A2	5.67	S	1.25	resolved	2	0	0	0	1	2	7	0
18A3	5.67	S	1.00	resolved	2	0	1	0	0	0	9	0
18A4	5.67	S	1.25	resolved	2	0	0	0	1	2	7	0

- Advisory group members show strong support for the implementation of a camping policy within the Moose River Route region.
- Support is also extended to the four associated action statements – statements requiring all visitors to practice no-trace camping at designated and random sites both above and below timberline.

4.2 COMMERCIAL ACTIVITY ISSUES**19. Allow commercial activity in the Moose River Route region.**

- A) Allow commercial horse operations.
- B) Allow commercial hiking operations.

	Average Score	Level of Support	Inter-Quartile Range	Level of Consensus	Number of Responses to...							
					Disagree				Agree		Not Sure	
					1	2	3	4	5	6	7	
19	6.17	SS	1.25	resolved	0	0	0	1	2	3	6	0
19A	6.17	SS	1.25	resolved	0	0	0	1	2	3	6	0
19B	6.08	SS	2.00	unresolved	0	0	0	1	3	2	6	0

- Advisory group members show strong support for commercial activity in the Moose River Route region.
- Group members extend this support to commercial horse activity but cannot resolve their level of support for commercial hiking.

Results from statement 19B mirror results from statement 16G. Although support for commercial hiking is statistically unresolved, a quick glance at the breakdown of scores indicates that respondents in general support this activity. BC Parks could consider this issue as resolved. Please see below for a review of advisory group comments.

Advisory Group Comments on Statement 19B

We strongly feel that commercial operators should have lower priority in the park. Commercial guides can obtain tenure in the rest of the province. We strongly feel that commercial operations should be allowed in the park only insofar as they don't cost the park any extra for maintenance and repair of facilities, nor interfere with use by the general public. Given current financial realities, this means commercial operators should only be given permits to operate in the park based on fees (or donated labor or materials) that allow the park to recover

the maintenance costs incurred from commercial use.

Horse users are often squeezed out of regions by hikers. Given the length and condition of the trail, horse use makes the most sense.

The standard should be ecological and social impacts, not commercial versus non-commercial.

As a commercial operator, I feel compelled to strongly support continued commercial activity in this region.

20. Permit commercial activity in the Moose River Route region on a cost recovery basis only.

- A) Use a proposal call process for all commercial activity.
- B) Implement a fee structure for park use permits based on the level of revenue generated from trips into the region.
- C) Adopt a fee structure for park use permits that gives a return to the crown sufficient to cover resource and facility management costs necessary to protect and maintain the resource.

	Average Score	Level of Support	Inter-Quartile Range	Level of Consensus	Number of Responses to...							
					Disagree				Agree		Not Sure	
					1	2	3	4	5	6	7	
20	4.83	N	3.00	unresolved	2	0	0	2	4	0	4	0
20A	5.45	S	3.00	unresolved	1	1	0	2	0	0	7	1
20B	3.92	N	2.75	unresolved	3	0	1	3	2	2	1	0
20C	4.92	N	3.25	unresolved	2	0	1	1	2	2	4	0

- Advisory group members cannot resolve their level of support for a cost recovery system in the Moose River Route region.
- Members cannot resolve their level of support for the three associated action statements.

Looking at the results from statements 7A2 and 7A4, advisory group members support a user pay system for commercial activity. However, it is unclear whether a user pay system can be equated with the cost-recovery system proposed in this objective.

Although the interquartile range is relatively large for this objective and the associated action statements, advisory group members support other statements with similar intent (7A2 and 7A4). Consequently, resolution may be both possible and worthwhile. Please see below for a review of advisory group comments.

Advisory Group Comments on Statement 20

This is consistent with the national parks approach. Should government subsidize businesses?

Cost recovery and user fees are a form of double taxation.

Advisory Group Comments on Statement 20A

Permits should favour local and historic operators who contribute locally. Permits should also consider continuity in relationships between BC Parks and the operator. A proposal call process could invite competitive, large-scale businesses that could disrupt the long-term benefits that local operators provide.

The Park Act defines the process.

This is a fair approach.

I might be able to agree with this if I had a clear understanding of the intent. Is this for new or existing operators?

Advisory Group Comments on Statement 20C

Basically, what this means is that there would be no operators in the Moose River Route region. Commercial operators could not and should not become responsible for managing resources anywhere within the park. Protecting resources is the responsibility of government. The public pays taxes to protect these resources so relying on an unstable source of income (from commercial operators) could damage park resources in the long-term. Parks would basically rely on these sources of income to operate. The current permit fee is used to guarantee the seriousness of the operator and to help offset general park costs. It should not become a resource that is depended upon.

This is fiscal reality so get used to it.

This depends on who is maintaining the resource. If the commercial operator maintains the resource then BC Parks should not be charging a fee for maintenance.

The revenue generated from park use permits in the Moose River Route region barely covers the cost of clearing the trail once a year. When I have taken contracts to clear the trail, my price is based on my cost only – it would cost BC Parks much more to do this job themselves. Private users fees are the only way to recover even this small cost.

21. Develop a code of conduct/code of ethics for commercial operators.

- A) Work with commercial operators and public user groups to develop a code of conduct/code of ethics for the Moose River Route region.
- B) Work with commercial operators and public user groups to develop a code of conduct/code of ethics for the entire Canadian Rocky Mountain Parks World Heritage Site.

	Average Score	Level of Support	Inter-Quartile Range	Level of Consensus	Number of Responses to...							
					Disagree				Agree		Not Sure	
					1	2	3	4	5	6	7	
21	6.00	S	1.00	resolved	1	0	0	1	0	3	7	0
21A	6.00	S	1.00	resolved	1	0	0	1	0	3	7	0
21B	6.00	S	1.00	resolved	1	0	0	1	0	3	7	0

- Advisory group members support creation of a code of conduct/code of ethics for commercial activity within the Moose River Route region and within the entire Canadian Rocky Mountain Parks World Heritage Site.

22. Require commercial operators to maintain the Moose River Route region.

- A) Adopt a policy where performance bonds are required before a park use permit is issued.
- B) Require horse outfitters to file a report after every trip that details...
 - 1) trail conditions.
 - 2) work performed to maintain trails and facilities.

	Average Score	Level of Support	Inter-Quartile Range	Level of Consensus	Number of Responses to...							
					Disagree				Agree		Not Sure	
					1	2	3	4	5	6	7	
22	3.83	N	1.50	resolved	2	1	0	5	2	2	0	0
22A	4.00	N	1.75	unresolved	3	0	0	3	4	1	1	0
22B1	5.75	S	1.25	resolved	1	0	0	0	2	5	4	0
22B2	5.67	S	2.00	unresolved	1	0	0	0	3	4	4	0

- Advisory group members are neutral towards commercial operator maintenance of the Moose River Route region.
- Members support the associated action statement requiring horse outfitters to file a report detailing trail conditions in the region.
- Advisory group members cannot resolve their level of support for the use of performance bonds and the statement requiring horse outfitters to file a report detailing maintenance work.

Much like management objective 20 (and its associated action statements), this issue revolves around the cost BC Parks incurs by allowing commercial activity in the Moose River Route region. Whereas management objective 20 proposes fees to recover these costs, management objective 22 proposes commercial operator maintenance to help defray costs.

Resolution of the cost recovery issue for commercial activity is entirely possible. If BC Parks is interested they should enter into discussions with the commercial outfitters operating in the region and other interested parties. Please see the next page for a review of comments by advisory group members.

Advisory Group Comments on Statement 22B2

In many ways, commercial operators already maintain the route just to get themselves through it. To file a report after every trip is asking too much. Personally, I keep in touch with BC Parks if there is a problem and I am willing to file a report at the end of every season.

I could go along with this if it is simple and flexible. Sometimes commercial operators would not have the time to complete this task.

23. Limit the extent of helicopter activity in the Moose River Route region.

- A) Eliminate helicopter landings.
- B) Limit helicopter landings by agreement with the park use permit holder to Steppe Creek and Resplendent Creek campsites (see map 1, Appendix A).
- C) Limit helicopter flights to one day per week.
- D) Limit helicopter flights to no further up the Moose River drainage than Steppe Creek (see map 1, Appendix A).
- E) Adopt flight paths by agreement with the park use permit holder that avoid all valley bottom areas.
- F) Enforce park regulations for non-compliance.

	Average Score	Level of Support	Inter-Quartile Range	Level of Consensus	Number of Responses to...							
					Disagree				Agree			Not Sure
					1	2	3	4	5	6	7	
23	6.17	SS	0.25	resolved	1	0	0	1	0	1	9	0
23A	5.08	S	3.25	unresolved	2	0	1	2	0	1	6	0
23B	1.92	SR	1.50	resolved	8	1	0	2	1	0	0	0
23C	2.00	SR	2.25	unresolved	7	1	1	3	0	0	0	0
23D	2.45	R	3.00	unresolved	7	0	0	2	0	2	0	1
23E	3.00	R	4.00	unresolved	6	0	0	2	0	2	1	1
23F	5.83	S	1.00	resolved	2	0	0	0	0	2	8	0

- Advisory group members strongly support limits to helicopter activity. However they cannot agree on how to meet this objective.
- Options such as the elimination of landings, restrictions on the location of landings, limits to the frequency of flights and restrictions on flight paths are either unresolved (in the case of 23A, 23C, 23D and 23E) or are strongly rejected (in the case of 23B).

Although the four unresolved action statements have high interquartile ranges, there is still strong support for limits to helicopter activity within the Moose River Route region (as indicated by the response to statement 23). The associated action statements are unresolved or rejected because they are unacceptable to advisory group members. This does not mean that other more acceptable options cannot be identified through additional discussion/negotiation.

However, acceptance of helicopter activity is a very polarized issue – additional discussion may not identify acceptable options. If so, BC Parks can use broader public opinion to guide policy development. Opinion on the appropriateness of helicopter activity within wilderness regions exists at local, provincial and national levels. Please see below for a review of comments by advisory group members.

Advisory Group Comments on Statement 23A

Helicopters should not be allowed to land in parks. It is contrary to the concept of wilderness. Just because an individual can afford to fly into a region does not give them the right or privilege to disturb the peace or the wildlife. Mechanized users do not have the right to antagonize horse users and hikers who move quietly amid the mountains, lakes and rivers. Non-motorized users are there to enjoy the solitude, stillness and peace.

We firmly believe that regular helicopter use has no place in the backcountry of provincial parks and that irregular helicopter use should only occur in dire emergencies.

Don't create restrictive rules until there is a need for them. Let's try to solve problems not create new ones.

I don't know if it's realistic to eliminate all helicopter landings. There may be good reason to allow a low number of landings to supply outfitters and reduce pressure on the Berg Lake Trail.

There are very few areas of the world untrammelled by humans. The Moose River Route region is at the heart of a vast wilderness. Helicopter activity destroys this value.

As a commercial operator, I use helicopters to reduce impacts in the region. Without the use of helicopters, I would need many more horses to accomplish the same job.

Advisory Group Comments on Statement 23C

One flight day per week may result in too many flights during that one day.

Prohibit helicopter activity unless for maintenance or search and rescue.

Advisory Group Comment on Statement 23D

Should be sufficient for a primitive route.

Advisory Group Comment on Statement 23E

The flight path should assist in maintaining the primitive experience of users and avoid those areas in the valley bottom.

4.3 HORSE USE ISSUES

24. Maintain horse use in the Moose River Route region.

	Average Score	Level of Support	Inter- Quartile Range	Level of Consensus	Number of Responses to...							Not Sure
					Disagree		3	4	5	Agree		
					1	2				6	7	
24	6.00	S	1.50	resolved	0	0	1	1	1	2	6	1

- Advisory group members support continued horse activity in the Moose River Route region.
- This result is substantiated by results from statement 25A, where advisory group members strongly reject a proposal to eliminate horse use.

25. Eliminate horse-induced habitat damage in the Moose River Route region.

- Eliminate all horse use.
- Prepare an awareness program for the horse restriction policy.
- Recommend other non-park areas for horse use.
- Enforce park regulations for non-compliance.

	Average Score	Level of Support	Inter-Quartile Range	Level of Consensus	Number of Responses to...							
					Disagree					Agree		Not Sure
					1	2	3	4	5	6	7	
25	5.55	S	1.00	resolved	2	0	0	0	0	4	5	0
25A	1.73	SR	1.00	resolved	7	2	1	0	1	0	0	1
25B	5.20	S	1.50	resolved	2	0	0	0	1	4	3	2
25C	5.42	S	0.50	resolved	1	0	0	2	0	7	2	0
25D	5.67	S	1.50	resolved	2	0	0	1	0	1	8	0

- Advisory group members support the elimination of horse-induced habitat damage in the Moose River Route region.
- Members strongly reject the associated action statement proposing elimination of all horse activity in the region. Oddly, support is shown for the remaining associated action statements (25B to 25D) which are based on statement 25A.

It is clear that advisory group members support efforts to eliminate horse-induced habitat damage within the Moose River Route region. However, they do not believe that this objective is best met through the elimination of horse use. If habitat damage becomes a concern to BC Parks, additional work should be completed to identify appropriate and acceptable actions to meet this objective.

26. Prevent over-grazing in the Moose River Route region.

- A) Require all horse users to carry adequate feed for their trip.
- B) Prepare an awareness program to emphasize the benefits of this requirement.
- C) Establish strict monitoring to ensure compliance.

	Average Score	Level of Support	Inter- Quartile Range	Level of Consensus	Number of Responses to...								Not Sure
					Disagree							Agree	
					1	2	3	4	5	6	7		
26	6.50	SS	0.00	resolved	1	0	0	0	0	0	11	0	
26A	4.33	N	3.00	unresolved	2	0	3	0	1	6	0	0	
26B	4.50	N	3.25	unresolved	2	1	0	0	1	6	0	2	
26C	5.42	S	1.25	resolved	2	0	0	0	1	5	4	0	

- Advisory group members show strong support towards the prevention of over-grazing within the Moose River Route region.
- Members cannot resolve their level of support towards the associated action statements.

If over-grazing becomes a concern to BC Parks, additional work should be completed to identify appropriate actions to meet this objective. Please see below for a review of comments by advisory group members.

Advisory Group Comments on Statement 26A

While we may be willing to consider some transport of feed, it must be recognized that this approach brings with it ecological problems associated with the introduction of non-native plants.

The Moose River Route region has no problem providing plenty of graze for the current level of use. Requiring horse users to carry adequate feed would mean more horses and create greater impacts to trails, campsites and graze.

This is stupid beyond belief – grazing problems are minimal in the Moose River Route region. Only a desk jockey could have come up with this one! Horses cannot live on oats or pellets and hay is generally not acceptable in the backcountry.

Suppose you have 12 horses on a 6 day trip. A horse needs 20 to 30 pounds of roughage per day to stay healthy. You would therefore need around 1440 pounds of feed for the trip (12 horses X 20 pounds feed X 6 days). You can only get around 100 pounds on one horse. You would therefore need fourteen horses to carry the feed and an additional four horses to support the packers leading the feed string. But who'll pack in feed for the eighteen horses supporting the original twelve horses? Only government can operate this way!

Depending on the level of available graze, the time of year and the number of horses, packing in feed may be a requirement.

Operators need to know why they have to bear that cost. Monitoring for compliance when needed is essential to limit damage to natural values.

27. Adopt a user maintain approach to the maintenance of horse trails and facilities in the Moose River Route region.

- A) Inventory trail conditions.
- B) Inventory horse facilities.
- C) Determine annual maintenance costs for horse use.
- D) Initiate a per horse per night charge that is sufficient to maintain all horse facilities and trails.
- E) Adopt a policy where horse users volunteer a percentage of their time on the trail towards maintenance of horse facilities and trails.

	Average Score	Level of Support	Inter-Quartile Range	Level of Consensus	Number of Responses to...							
					Disagree				Agree		Not Sure	
					1	2	3	4	5	6	7	
27	5.00	N	2.00	unresolved	0	0	1	3	4	3	1	0
27A	5.67	S	1.00	resolved	2	0	0	0	0	4	6	0
27B	5.67	S	1.00	resolved	2	0	0	0	0	4	6	0
27C	5.58	S	1.25	resolved	2	0	0	0	1	3	6	0
27D	4.83	N	2.00	unresolved	1	0	0	4	3	2	2	0
27E	4.75	N	1.25	resolved	1	0	0	4	4	1	2	0

- Advisory group members cannot resolve their level of support for maintenance of horse trails and facilities by non-commercial horse users.
- Support is shown for an inventory of trail conditions and horse facilities, as well as a determination of annual maintenance costs for horse use.

- Advisory group members are neutral towards having horse users volunteer time on the trail and are unresolved towards the implementation of a per night charge to maintain horse facilities and horse trails (this statement is very similar to the user pay system proposed in statement 7A1 – a proposal that is also unresolved).

This mix of results may be due to the fact that statements 27D and 27E appear to be at odds with each other. If BC Parks were to initiate a per night charge for horse use (statement 27D), then it would be unfair to also adopt a policy where horse users volunteer their time to maintain trails and facilities (statement 27E).

Given the low interquartile range for statements 27 and 27D, it may be worthwhile for BC Parks to pursue this issue. Advisory group members support a process that facilitates the determination of an appropriate per night charge (statements 27A to 27C), but are unresolved on the logical conclusion to this process – actual implementation of this charge (statement 27D). Please see the next page for a review of comments by advisory group members.

Advisory Group Comments on Statement 27

A user maintain policy may be a very effective way of ensuring a primitive experience, stewardship and low maintenance costs.

It is difficult to strongly agree to this objective. It should be considered among a suite of options. If users maintain the trails and facilities then they shouldn't also be required to pay. Discussion/negotiation

with users will determine the best balance between fees and user maintenance.

As a public good, recreational trails should be maintained through the tax base to ensure equity.

Given financial restraints of park budgets, the alternative to these policies would seem to be a trail that is essentially unusable or banning horse use entirely.

28. Establish a maximum limit to the number of horses per party.

	Average Score	Level of Support	Inter- Quartile Range	Level of Consensus	Number of Responses to...							
					Disagree				Agree			Not Sure
					1	2	3	4	5	6	7	
28	7.00	SS	0.00	resolved	0	0	0	0	0	0	12	0

- Advisory group members show strong support towards establishment of a maximum limit to the number of horses per party.

29. Establish a maximum limit to the number of people per horse party.

	Average Score	Level of Support	Inter- Quartile Range	Level of Consensus	Number of Responses to...							
					Disagree				Agree		Not Sure	
					1	2	3	4	5	6	7	
29	6.64	SS	0.50	resolved	0	0	0	0	1	2	8	1

- Advisory group members show strong support towards establishment of a maximum limit to the number of people travelling in a horse party.

30. Develop a world-class opportunity for horse use in the Moose River Route region.

- Determine the potential demand for this opportunity.
- Determine annual operating costs.
- Develop the world-class opportunity...
 - exclusively for horse travel.
 - without restrictions on other forms of travel.

	Average Score	Level of Support	Inter- Quartile Range	Level of Consensus	Number of Responses to...							
					Disagree				Agree		Not Sure	
					1	2	3	4	5	6	7	
30	3.56	N	3.00	unresolved	2	1	2	1	1	1	1	3
30A	5.27	S	3.00	unresolved	0	0	2	3	0	2	4	1
30B	5.82	S	1.50	resolved	1	0	0	1	1	2	6	1
30C1	1.50	SR	0.00	resolved	10	1	0	0	0	1	0	0
30C2	2.55	R	3.00	unresolved	6	0	1	2	1	1	0	1

- Advisory group members cannot resolve their level of support towards development of the Moose River Route region into a world-class horse use opportunity.
- Members are also unresolved on the associated action statement proposing determination of potential demand and the statement proposing no restrictions on other forms of travel.
- Members support determination of annual operating costs for the horse use opportunity but strongly reject development of the Moose River Route exclusively for horse users.

Although the management objective remains unresolved, the relatively high interquartile range and moderate average score may indicate that it is not worthwhile for BC Parks to pursue this issue. Please see below for a review of advisory group comments.

Advisory Group Comments on Statement 30

The Moose River Route region is already a world-class horse trail. I wouldn't want to see any additional development for the exclusive benefit of horse users. I would not want to see hikers excluded.

I'm not sure that this is a world-class opportunity or if it is appropriate for a primitive area. The Moose River Route region should not be promoted.

It already is world-class. Why screw it up?

It depends on what you want in terms of user groups. Once that is decided (if you do want use) then yes, go world-class.

The Moose River Route region is unsuitable terrain for heavy, intensive horse use. If there is demand for this activity, it should be located elsewhere, perhaps in another provincial park.

Advisory Group Comment on Statement 30A

Demand analysis is an important piece of information in determining what user groups you want.

Advisory Group Comment on Statement 30C2

Any form of travel in a world heritage site needs certain restrictions whether the form is lamas, helicopters or dirt bikes.

31. Promote the importance of self-registration to private horse users.

	Average Score	Level of Support	Inter-Quartile Range	Level of Consensus	Number of Responses to...							
					Disagree				Agree		Not Sure	
					1	2	3	4	5	6	7	
31	6.58	SS	0.25	resolved	0	0	0	1	0	2	9	0

- Advisory group members show strong support for the promotion of self-registration to private horse users.

4.4 WILDLIFE ISSUES

32. Minimize impacts to wildlife from recreational use.

- A) Develop a wildlife inventory plan to address inventory needs...
 - 1) for Mount Robson Provincial Park.
 - 2) for regions surrounding the park.
- B) Complete a comprehensive wildlife assessment to identify critical wildlife habitat on a seasonal basis for...
 - 1) goat.
 - 2) moose.
 - 3) caribou.
 - 4) wolf.
 - 5) grizzly bear.
 - 6) black bear.
- C) Complete a comprehensive wildlife assessment to identify movement corridors for...
 - 1) goat.
 - 2) moose.
 - 3) caribou.
 - 4) wolf.
 - 5) grizzly bear.
 - 6) black bear.
- D) Define thresholds of recreational use to minimize impacts to habitat and movement corridors.
- E) Develop a wildlife management plan.

	Average Score	Level of Support	Inter-Quartile Range	Level of Consensus	Number of Responses to...							
					Disagree					Agree		Not Sure
					1	2	3	4	5	6	7	
32	6.25	SS	0.25	resolved	1	0	0	0	1	1	9	0
32A1	6.08	SS	1.00	resolved	1	0	0	1	0	2	8	0
32A2	6.08	SS	1.00	resolved	1	0	0	1	0	2	8	0
32B1	6.00	S	1.00	resolved	1	0	0	1	0	3	7	0
32B2	6.00	S	1.00	resolved	1	0	0	1	0	3	7	0
32B3	5.92	S	0.25	resolved	2	0	0	0	0	1	9	0
32B4	5.75	S	1.25	resolved	2	0	0	0	1	1	8	0
32B5	6.00	S	0.00	resolved	2	0	0	0	0	0	10	0
32B6	5.67	S	1.00	resolved	2	0	0	0	0	4	6	0
32C1	6.00	S	1.00	resolved	1	0	0	1	0	3	7	0
32C2	6.00	S	1.00	resolved	1	0	0	1	0	3	7	0
32C3	6.00	S	0.00	resolved	2	0	0	0	0	0	10	0
32C4	5.58	S	1.75	unresolved	2	0	1	0	0	1	8	0
32C5	6.00	S	0.00	resolved	2	0	0	0	0	0	10	0
32C6	5.67	S	1.00	resolved	2	0	0	0	0	4	6	0
32D	5.73	S	1.00	resolved	2	0	0	0	0	2	7	0
32E	6.17	SS	0.25	resolved	1	0	0	1	0	1	9	0

- Advisory group members strongly support the minimization of recreational impacts to wildlife.
- Strong support is also shown towards development of wildlife inventory plans and a wildlife management plan.
- The completion of comprehensive habitat and movement corridor assessments for goat, moose, caribou, wolf, grizzly bear and black bear also has support – with the exception of a movement corridor study on wolves which remains unresolved.

Given the high average score and low interquartile range of the statement proposing a wolf corridor study, this issue should be easily resolved.

33. Minimize human impact on bears in the upper Moose River drainage.

- A) Designate the area from Moose Pass to Slide Lake campsite (see map 2, Appendix A) a no camping area for...
- 1) non-commercial horse users.
 - 2) commercial horse operators.
 - 3) non-commercial hikers.
 - 4) commercial hiking operators.
- B) Foster an understanding of the rationale behind the closure by educating visitors on the importance of Moose Pass to the region's bear populations.
- C) Improve the re-route around the Slide Lake campsite (see map 2, Appendix A).
- D) Close Slide Lake campsite (see map 2, Appendix A).

	Average Score	Level of Support	Inter-Quartile Range	Level of Consensus	Number of Responses to...							
					Disagree					Agree		Not Sure
					1	2	3	4	5	6	7	
33	6.09	SS	0.50	resolved	1	0	0	1	0	1	8	0
33A1	6.22	SS	0.00	resolved	1	0	0	0	0	1	7	3
33A2	6.22	SS	0.00	resolved	1	0	0	0	0	1	7	3
33A3	5.33	S	1.00	resolved	2	0	0	0	0	3	4	3
33A4	5.33	S	1.00	resolved	2	0	0	0	0	3	4	3
33B	5.91	S	0.00	resolved	2	0	0	0	0	0	9	1
33C	5.64	S	1.00	resolved	2	0	0	0	0	3	6	1
33D	5.70	S	0.75	resolved	2	0	0	0	0	1	7	2

- There is strong support for the minimization of impacts to bears within the upper Moose River drainage.
- Advisory group members also show strong support for camping restrictions on commercial and non-commercial horse activity and support for placement of these same restrictions on commercial and non-commercial hikers. It should be noted that a quarter of advisory group members are unsure of their response to the camping restriction statements.
- Support is also given to closure of the Slide Lake campsite, improvement of the re-route around Slide Lake campsite and visitor education.

34. Minimize negative human-wildlife interaction.

- A) Identify high bear hazard areas through...
 - 1) a review of Wayne McCrory's bear hazard evaluation.
 - 2) a reconnaissance by BC Parks.
- B) Inform visitors about high bear hazard areas through...
 - 1) signs at the trailhead.
 - 2) handout maps.
- C) Educate visitors on appropriate behaviour in bear country through...
 - 1) interaction at the visitors centre.
 - 2) signs at campsites.
 - 3) signs at the trailhead.
- D) Provide bear awareness information in German and Japanese, in addition to English.
- E) Limit hiking to the month of September to reduce the potential for negative interaction.
- F) Limit all travel to designated trails.

	Average Score	Level of Support	Inter-Quartile Range	Level of Consensus	Number of Responses to...							
					Disagree		Agree					Not Sure
					1	2	3	4	5	6	7	
34	6.33	SS	0.25	resolved	1	0	0	0	0	2	9	0
34A1	5.50	S	1.25	resolved	2	0	0	0	1	4	5	0
34A2	5.00	N	1.75	unresolved	1	0	0	2	1	6	0	2
34B1	6.67	SS	0.25	resolved	0	0	0	0	1	2	9	0
34B2	6.33	SS	0.25	resolved	1	0	0	0	0	2	9	0
34C1	6.67	SS	0.25	resolved	0	0	0	0	1	2	9	0
34C2	6.50	SS	0.25	resolved	0	0	1	0	0	2	9	0
34C3	6.42	SS	1.00	resolved	0	0	0	1	1	2	8	0
34D	6.17	SS	0.25	resolved	1	0	0	1	0	1	9	0
34E	3.55	N	1.50	resolved	1	2	2	4	1	0	1	1
34F	3.17	N	2.50	unresolved	3	2	3	1	1	1	1	0

- There is strong support for the minimization of negative human-wildlife interaction.
- Advisory group members support or strongly support seven of the associated action statements (34A1 and 34B1 to 34D), but are neutral towards restrictions on hiking (statement 34E).
- Advisory group members cannot resolve their level of support towards a statement proposing reconnaissance work by BC Parks or towards a statement proposing that all travel be restricted to designated trails.

Given the low average score and logistical difficulty of enforcing a policy that limits travel to designated trails, it is not worthwhile for BC Parks to pursue resolution of action statement 34F. However, given the high average score and low interquartile range for statement 34A2, it is reasonable to assume that this issue could be resolved with little discussion. Please see below for a review of comments by advisory group members.

Advisory Group Comments on Statement 34F

If the region is zoned as wilderness recreation then I think that part of the experience is to roam randomly. In addition, limiting travel to designated trails would be very difficult to enforce/monitor.

Some designated trails may be problematic.

This seems like an unnecessary restriction at this time.

35. Eliminate fishing from the Moose River Route region.

	Average Score	Level of Support	Inter- Quartile Range	Level of Consensus	Number of Responses to...							
					Disagree			Agree			Not Sure	
					1	2	3	4	5	6	7	
35	2.20	R	2.00	unresolved	4	2	2	2	0	0	0	2

- Advisory group members cannot resolve their level of support towards elimination of fishing from the Moose River Route region.

Given the very low average score for this objective, it may not be worthwhile for BC Parks to pursue resolution because it will most likely result in rejection. Please see below for a review of comments by advisory group members.

Advisory Group Comment on Statement 35

Fishing is an acceptable use in a wilderness recreation zone. However, it should be closed if the populations are at risk.

4.5 RESOURCE ISSUES

36. Maintain natural plant communities in the Moose River Route region.

- A) Allow natural fires to burn.
- B) Prepare public education packages to be distributed when fires occur.
- C) Allow insect infestations to take a natural, unchecked course.
- D) Identify and protect sensitive or unique plant communities from damage by recreational use.
- E) Assess and monitor vegetation conditions, particularly in wet areas, to ensure that damage is not occurring.
- F) Develop a vegetation management plan.

	Average Score	Level of Support	Inter-Quartile Range	Level of Consensus	Number of Responses to...							
					Disagree				Agree		Not Sure	
					1	2	3	4	5	6	7	
36	6.08	SS	1.50	resolved	0	0	0	3	0	2	7	0
36A	5.33	S	3.00	unresolved	1	0	0	3	1	3	4	0
36B	5.92	S	2.25	unresolved	0	0	1	2	1	1	7	0
36C	5.18	S	2.50	unresolved	1	0	0	3	1	3	3	1
36D	6.25	SS	0.00	resolved	1	0	0	1	0	0	10	0
36E	6.17	SS	0.25	resolved	1	0	0	1	0	1	9	0
36F	6.08	SS	1.50	resolved	0	0	0	3	0	2	7	0

- Advisory group members show strong support towards maintenance of natural plant communities in the Moose River Route region.
- Strong support is also shown for identification and protection of unique plant communities, assessment and monitoring of vegetation conditions and development of a vegetation management plan.
- Members are unable to resolve their level of support towards statements on natural fires, education packages and insect infestations (statements 36A to 36C).

Given the relatively low to moderate interquartile range and relatively high average score, BC Parks may want to pursue resolution of statements 36A to 36C. Please see below for a review of comments by advisory group members.

Advisory Group Comments on Statement 36A

Allowing natural fires to burn should be one approach to re-introducing fire into the ecosystem. However, we could not wholly support this statement in the absence of an assessment of values at risk.

The forests are in an unnatural condition and need to be restored. Natural fire is one way to restore them and the most politically tolerable.

Suppressing all fires limits ecological diversity. Natural fires create a range of habitats for various wildlife. We don't need another Yellowstone.

This objective is not consistent with the ecosystem management plan that BC Parks is currently implementing.

Advisory Group Comments on Statement 36B

What a waste of money. The public is far more knowledgeable than people think. They know that fire is a good thing, ecologically speaking. Interested or concerned people will ask and can be answered at that time.

The public has a negative image of forest fire due to Smokey the bear advertising. They need good information if they see a fire burning and are upset with the lack of action.

Advisory Group Comments on Statement 36C

Insect infestations are also natural and in this part of the park do not affect commercial forests. They should therefore be allowed to progress unchecked.

Insect infestations naturally occur and like fires should be allowed to run their course to achieve ecological diversity.

This objective is not consistent with the ecosystem management plan that BC Parks is currently implementing.

If this policy is implemented, it would be wise to coordinate management plans with the Robson Valley Forest District so that the park does not acquire the image of a bug and disease source. This could include a public education program on the natural history of infestations.

We could not wholly support this statement in the absence of an assessment of values at risk.

37. Maintain all existing (natural and introduced) plant communities in the Moose River Route region.

	Average Score	Level of Support	Inter-Quartile Range	Level of Consensus	Number of Responses to...							
					Disagree						Agree	
					1	2	3	4	5	6	7	
37	2.58	R	3.00	unresolved	5	2	1	2	1	1	0	0

- Advisory group members cannot resolve their level of support towards the maintenance of natural and introduced plant communities in the Moose River Route region.

Given the support shown for management objective 36, as well as the relatively high interquartile range for this objective (coupled with a relatively low average score), it may not be worthwhile to pursue resolution of this issue. Please see the next page for a review of comments by advisory group members.

Advisory Group Comments on Statement 37

We need to deal with aggressive introduced species, particularly those that are far removed from the highway corridor.

Introduced species can have negative effects on ecological integrity. Their eradication or control should be considered.

One of the primary functions of a provincial park is to allow natural functions to evolve without interference. We are not here to impose the status quo.

The natural world is constantly changing. Maintaining a static environment within a park is like maintaining a glass menagerie.

38. Protect sensitive special features such as Arctomys Cave and Resplendent Meadows.

- A) Do not indicate the location of special features on maps of the region.
- B) Do not indicate trails leading to special features on maps of the region.
- C) Do not place signs at trails leading to special features.

	Average Score	Level of Support	Inter-Quartile Range	Level of Consensus	Number of Responses to...							
					Disagree				Agree		Not Sure	
					1	2	3	4	5	6	7	
38	6.42	SS	0.00	resolved	1	0	0	0	0	1	10	0
38A	6.18	SS	1.50	resolved	0	0	0	2	1	1	7	1
38B	6.18	SS	1.50	resolved	0	0	0	2	1	1	7	1
38C	6.27	SS	1.00	resolved	0	0	0	2	0	2	7	1

- Advisory group members show strong support for the protection of sensitive special features within the Moose River Route region.
- Members also show strong support towards statements proposing that special features (and trails leading to special features) not be indicated on maps and that signs indicating trails to special features not be placed at trail junctions.

4.6 FACILITY ISSUES

39. Develop clean, safe and attractive campsites.**A) Develop campsites that...**

- 1) are approximately ten to fifteen kilometres apart to accommodate visitors of varying speeds.
- 2) are away from areas frequented by wildlife.
- 3) are small capacity to ensure maintenance of the wilderness experience.
- 4) contain backcountry toilets.
- 5) contain plank benches.
- 6) contain picnic tables.
- 7) contain tent pads.
- 8) contain a free standing bear pole.
- 9) contain a bear proof cache.

B) Only install outhouses where the level of use justifies the maintenance expense.**C) Combine horse and hiker campsites.**

	Average Score	Level of Support	Inter-Quartile Range	Level of Consensus	Number of Responses to...							
					Disagree		Agree					Not Sure
					1	2	3	4	5	6	7	
39	5.25	S	3.00	unresolved	2	0	0	2	0	3	5	0
39A1	4.75	N	1.50	resolved	2	0	1	0	3	5	1	0
39A2	5.83	S	1.00	resolved	2	0	0	0	0	2	8	0
39A3	5.83	S	1.00	resolved	1	0	0	1	0	5	5	0
39A4	6.27	SS	0.50	resolved	1	0	0	0	0	2	8	1
39A5	3.25	N	2.00	unresolved	2	2	1	5	2	0	0	0
39A6	1.92	SR	0.75	resolved	9	0	0	2	0	1	0	0
39A7	3.75	N	2.25	unresolved	2	1	2	1	5	1	0	0
39A8	6.42	SS	1.00	resolved	0	0	0	1	0	4	7	0
39A9	4.17	N	1.75	unresolved	2	1	0	4	2	1	2	0
39B	5.50	S	3.00	unresolved	0	2	0	2	0	2	6	0
39C	1.91	SR	1.00	resolved	7	2	1	0	0	0	1	1

- Advisory group members cannot resolve their level of support for this management objective. However, response to the associated action statements helps define what advisory group members considered essential campsite facilities and characteristics.
- Strong support is shown for the inclusion of backcountry toilets and free standing bear poles within campsites. However, advisory group members strongly reject picnic tables and cannot resolve their level of support towards benches and tent pads.
- Members cannot resolve their level of support towards the installation of outhouses at sites where the level of use justifies the maintenance expense. It is possible that other criteria (such as damage to resources) may be more important than financial criteria.
- Support is shown for developing campsites away from areas frequented by wildlife and developing small capacity campsites (statements 39A2 and 39A3).
- Advisory group members are neutral towards keeping a set distances between campsites (statement 39A1) and they strongly reject combining horse and hiker campsites.

It is apparent that advisory group members feel that campsites should contain outhouses and bear poles at a minimum. Additional potential facilities include plank benches and tent pads although consultation should occur to determine the need/appropriateness of these facilities. Please see below for a review of comments by advisory group members.

Advisory Group Comments on Statement 39

No development should occur without an environmental impact assessment.

If a campsite is to be developed, it should be clean, safe and should fit into the site and the character of the park.

If you are going to have campsites, they should be clean, safe and attractive.

Define "safe" and "attractive".

Campsites already exist along the route. Making them clean, safe and attractive will enhance visitor's experiences but I don't think they will attract more users. The river crossings are what limits use, not the quality of campsites.

Given that this is a wilderness region, scarce maintenance dollars would be better spent on the trail rather than on the campsites.

Advisory Group Comments on Statement 39A5

Benches are too much for a primitive area. Visitors can sit on the ground.

I don't think all the campsites should contain plank benches.

Advisory Group Comments on Statement 39A7

We don't need to standardize the campsites to fit someone's preconceived idea of what they think they want. This is starting to sound a lot like roadside camping!

Tent pads should only go in if there is evidence of site disturbance. Other wise, it is too developed for a primitive area.

Advisory Group Comments on Statement 39B

There is very little expense to the new plastics thrones proposed for the Moose River Route region. Just need to dig a new hole every ten years or so. Consequently, I think there should be outhouses in many places, even those with low use.

The justification should be environmental impact, not cost.

40. Return all existing campsites to a natural state and establish new campsites in acceptable locations.

- A) Remove all trash from existing campsites.
- B) Rehabilitate existing campsites to a natural state.
- C) Research locations for new hiker campsites using minimum impact to resources as the main criteria.
- D) Research locations for new horse campsites using criteria that include...
 - 1) graze availability.
 - 2) graze recovery.
 - 3) impacts to wildlife.
 - 4) competition with wildlife.
 - 5) effects on hikers.

	Average Score	Level of Support	Inter-Quartile Range	Level of Consensus	Number of Responses to...							
					Disagree					Agree		Not Sure
					1	2	3	4	5	6	7	
40	3.13	N	3.25	unresolved	3	0	1	2	1	1	0	4
40A	7.00	SS	0.00	resolved	0	0	0	0	0	0	12	0
40B	3.56	N	1.00	resolved	2	0	1	4	1	1	0	3
40C	5.58	S	2.25	unresolved	1	0	0	2	1	3	5	0
40D1	5.17	S	2.25	unresolved	2	0	0	1	2	3	4	0
40D2	5.50	S	1.25	resolved	2	0	0	0	1	4	5	0
40D3	5.67	S	1.25	resolved	2	0	0	0	1	2	7	0
40D4	5.58	S	1.25	resolved	2	0	0	0	1	3	6	0
40D5	5.17	S	2.25	unresolved	2	0	0	1	3	1	5	0

- Advisory group members cannot resolve their level of support for this management objective. Note that a third of the members are unsure of their response.
- Strong support is shown for the removal of trash from existing campsites and strong support is given to researching new locations for horse campsites based on criteria that include graze recovery, impacts to wildlife and competition with wildlife.
- Advisory group members are neutral towards rehabilitation of existing campsites (statement 40B), unresolved towards new locations for hiker campsites (statement 40C) and unresolved towards new locations for horse campsites (statements 40D1 and 40D5).

Given the high interquartile range and relatively low average score for this management objective, it may not be worthwhile for BC Parks to pursue resolution of this issue. Advisory group members would like to see the clean up of existing sites but are not willing to close existing sites and establish new ones. Please see below for a review of comments by advisory group members.

Advisory Group Comments on Statement 40

Horse and hiker campsites in the Moose River Route region have been established over many years. In most cases these campsites are separate (horse and hiker). With the exception of Slide Lake, existing horse campsites have been located in gravel flats to minimize impact, located near graze and located in areas where horses are easily managed. After so many years of use, if the campsites are changed, the horses would go to the old sites anyway.

If there is an environmental impact to the existing campsites (such as bear conflict) then I agree.

Not sure of this issue. Why must all of them be re-established?

There are good reasons why the campsites are where they are now. Anyone who thinks differently does not know the Moose River Route region.

Advisory Group Comment on Statement 40C

Yes. Campsites should not put park values at risk or visitors at risk.

Advisory Group Comments on Statement 40D1

Grazing may be an appropriate option. If so it needs to be an essential criterion for campsite location.

It is unfeasible to ask operators to bring in feed, so this is a primary consideration.

41. Implement a campstove only policy for all users of the Moose River Route region.

- A) Remove all existing fire rings and rehabilitate the sites.
- B) Post signs indicating no open fires.

	Average Score	Level of Support	Inter-Quartile Range	Level of Consensus	Number of Responses to...							
					Disagree				Agree			Not Sure
					1	2	3	4	5	6	7	
41	4.58	N	5.25	unresolved	3	1	0	1	0	3	4	0
41A	4.92	N	3.75	unresolved	3	0	0	1	0	4	4	0
41B	4.67	N	3.00	unresolved	3	0	0	1	2	3	3	0

- Implementation of a campstove only policy is a contentious issue. Advisory group members cannot resolve their level of support for the management objective or the two associated action statements.

Given the high interquartile range, resolution of this issue may not be possible with additional discussion. Much like the helicopter issue, BC Parks can justifiably use broader public opinion to guide policy development. Please see below for a review of comments by advisory group members.

Advisory Group Comments on Statement 41

This is a policy that should only be implemented if firewood use is not sustainable over the long-term. Open fires for emergency warmth should remain allowable.

Having an open fire is an essential characteristic of wilderness. It brings us closer to the natural world and therefore creates a stronger connection to it. Fuel for campstoves is obtained from oil deposits and there are negative environmental impacts associated with the oil and gas industry. Restricting fire from the Moose River Route will increase use on the Berg Lake Trail because the Moose River Route region will lose its attractiveness to wilderness visitors.

This objective is consistent with minimum impact camping.

Campfires create a lot of impact, utilize resources and can create unsafe conditions.

Anyone who doesn't want fires on the Moose River Route has not hiked it in the rain (and it usually rains).

There is no lack of firewood in the Moose River Route region! Due to the wet conditions, a campstove only policy would make the journey difficult and would be impossible to enforce.

Advisory Group Comment on Statement 41A

No need for fire rings if we are trying to encourage them to use stoves.

Advisory Group Comment on Statement 41B

Signs should only be posted at the trailhead.

42. Do not develop any facilities in the Moose River Route region other than what currently exists.

	Average Score	Level of Support	Inter- Quartile Range	Level of Consensus	Number of Responses to...							
					Disagree				Agree		Not Sure	
					1	2	3	4	5	6	7	
42	3.09	N	2.00	unresolved	2	3	2	2	1	0	1	1

- Advisory group members cannot resolve their level of support for this management objective.

Lack of resolution may stem from the belief that certain facilities will be necessary within the region (particularly for resource protection). Please see the next page for a review of comments by advisory group members.

Advisory Group Comments on Statement 42

I feel this is the most important question of the study and to me it has the most paradoxical and disappointing group response. We are willing to start a process and spend money to make the region more accessible for those of a less hardy nature. Given the history of development in the mountain parks and the well documented public attitude towards vanishing wilderness, both the public and park managers alike seem forever compelled and driven to tame the wilderness. To place one's ass over a wet stick and do what comes naturally is not something we wish for our children. It's something that's even more difficult to sell! Not too long ago (around 1910), alpinists and surveyors first found their way into the Moose and discovered some extremely spectacular and difficult terrain. The forest and rivers are so insistent and dangerous that these individuals wisely chose an alternative approach to access the alpine opportunities of the Mount Robson area. With the help of the provincial government, they constructed a trestle that made the approach to Mt. Robson much shorter, safer and less expensive to maintain than the approach through the Moose River. A most formidable expanse of jungle and rock had now become the Berg Lake Trail. When I first found myself in the Moose River region, it was just about as bad access as it had been in 1910. Twenty years later it's still the same place – as wild and tame-less as ever. This is our opportunity to keep it that way. Myself as well as many others are very strongly in favour of leaving the Moose River Route region as it is.

No facilities should be developed without an environmental impact assessment.

It would depend on if there is any environmental impact.

This objective implies the status quo to us. If that is the case, then why are we going through this planning exercise?

We have ambivalent feelings about developing any backcountry area since we recognize that facility development encourages more use and therefore negative impacts to the area. However, given that the demand for trails exists and that the Moose River Route region is a designated backcountry recreation area, we support development of the Moose River Route into a trail that can handle heavier use.

43. Improve ease of travel for hikers in the Moose River Route region.

- A) Install simple log bridges over major streams and rivers.
- B) Improve trail signage to reduce the chances of getting lost or following the wrong side of rivers and creeks.

	Average Score	Level of Support	Inter-Quartile Range	Level of Consensus	Number of Responses to...							
					Disagree				Agree		Not Sure	
					1	2	3	4	5	6	7	
43	4.17	N	1.00	resolved	1	0	1	6	2	2	0	0
43A	3.33	N	2.25	unresolved	3	1	1	5	0	2	0	0
43B	4.83	N	1.25	resolved	1	1	0	1	5	2	2	0

- Advisory group members are neutral towards improvements to ease travel for hikers.
- Members are also neutral towards the use of directional signs (statement 43B) and cannot resolve their level of support towards the installation of bridges.

Facility development within the Moose River Route region is a contentious issue. However, development of bridges is particularly critical because their absence limits access to the region which in turn limits the need for additional facilities to protect resources. Please see below for a review of comments by advisory group members.

Advisory Group Comments on Statement 43A

The Moose River Route region is a primitive area. Therefore it is not important to improve ease of travel for hikers.

It depends on what you want. These approaches can have a significant influence on the number of visitors which in turn influences the visitor experience and resource impacts.

We are unanimous in feeling that if any improvements are made to the Moose River Route region, they should begin with the installation of bridges and improved signage.

It's not that simple!

Simple bridges over major streams and rivers will simply be blown away!

44. Improve trail conditions for all users.

- A) Build a trail designed to...
 - 1) type 2 standard (1.25 metres wide, potentially surfaced).
 - 2) type 3 standard (0.75 metres wide, unsurfaced).
 - 3) type 4 standard (0.50 metres wide, unsurfaced).
- B) Develop separate trails for horse users and hikers.
- C) Restrict horse use of the Moose River Route during wet periods.

	Average Score	Level of Support	Inter-Quartile Range	Level of Consensus	Number of Responses to...							
					Disagree				Agree		Not Sure	
					1	2	3	4	5	6	7	
44	3.83	N	1.50	resolved	1	2	0	5	3	1	0	0
44A1	1.58	SR	0.50	resolved	9	0	2	1	0	0	0	0
44A2	4.25	N	2.00	unresolved	1	0	3	3	3	0	2	0
44A3	4.25	N	1.00	resolved	1	0	0	6	4	1	0	0
44B	4.42	N	1.25	resolved	1	0	2	1	6	2	0	0
44C	5.08	S	3.00	unresolved	2	0	0	2	1	3	4	0

- Much like the previous management objective, advisory group members are neutral towards trail improvements.
- Members strongly reject development of a wide (and potentially surfaced) trail in the Moose River Route region (statement 44A1). However, they are neutral to the development of a narrow trail (statement 44A3) and cannot resolve their level of support towards development of a mid-sized trail (statement 44A2).
- Advisory group members are neutral towards development of separate horse and hiker trails and cannot resolve their level of support for restrictions on horse use during wet periods.

Although some of the associated action statements remain unresolved, further work on this issue may not be worthwhile. Advisory group members do not support improvements to trail conditions (as indicated by the response to statement 44). However, support is stronger (but still neutral) for separation of horse and hikers trails – this issue may have to be re-visited if trail conditions degrade. Please see below for a review of comments by advisory group members.

Advisory Group Comments on Statement 44A2

We are concerned that resources may not be available to upgrade the trail for horse use. Otherwise we are in agreement with this objective.

The simpler the trail standard the better. It should be appropriate for a primitive area.

Advisory Group Comments on Statement 44C

If you can tell me when the wet periods will be, I'll gladly agree not to book trips during those periods.

While we strongly agree with the intent of this action, it seems to be wrought with operational/logistical impracticalities.

Given the policy of improving the trail, the actions taken to accomplish that would probably be best chosen on the basis of least cost in the short and long-term. We would prefer separate trails for horses and hikers (at least through wet areas) but unless the horse trail was built to a Type 2 standard horses would end up using the hiking trail once mud on the horse trail got too deep. If there is not enough money to build a separate Type 2 trail for horse use through wet areas, then a single Type 4 trail with horse use restrictions during wet periods is the preferred option.

Yes, if there is going to be damage to the environment.

Restricting horse use during wet periods would need much clarification due to unpredictable and changing conditions. It would also be commercially non-viable.

45. Provide comprehensive information on the Moose River Route region to potential visitors.

- A) Provide a complete and accurate map of the Moose River Route region.
- B) Provide signage marking points of interest.
- C) Provide a better trail description.
- D) Provide trailhead information explaining that...
 - 1) the Moose River Route region is a designated horse trail.
 - 2) hikers may have to deviate from the trail.
 - 3) the trail is poorly marked.
 - 4) the trail is obscured by vegetation.
 - 5) travel is not recommended for hikers during high water.

	Average Score	Level of Support	Inter- Quartile Range	Level of Consensus	Number of Responses to...							
					Disagree							Agree
					1	2	3	4	5	6	7	
45	5.75	S	0.25	resolved	1	0	0	0	1	7	3	0
45A	5.58	S	2.00	unresolved	1	0	0	1	2	4	4	0
45B	4.33	N	2.25	unresolved	1	1	1	3	2	4	0	0
45C	5.50	S	1.25	resolved	1	0	0	1	2	5	3	0
45D1	6.08	SS	1.25	resolved	0	1	0	1	1	1	8	0
45D2	5.36	S	2.50	unresolved	1	1	0	1	1	2	5	1
45D3	5.50	S	1.50	resolved	1	1	0	1	0	4	5	0
45D4	5.45	S	2.00	unresolved	1	1	0	1	0	3	5	1
45D5	6.00	S	1.00	resolved	1	0	0	0	1	4	6	0

- Advisory group members support the provision of comprehensive information to potential visitors of the Moose River Route region.
- Members strongly support informing visitors that the Moose River Route is a designated horse trail.

- Members also support the provision of a better trail description as well as the provision of information explaining that the trail is poorly marked and travel is not recommended during high water.
- Advisory group members cannot resolve their level of support towards the provision of a complete and accurate map, provision of signage and provision of information explaining that hikers may have to deviate from the trail and that the trail is obscured by vegetation.

Given the low interquartile range for the unresolved statements, as well as the relatively high average score, it would be worthwhile to resolve these issues. Please see below for a review of comments by advisory group members.

Advisory Group Comment on Statement 45A

Good maps are important where the trail is vague.

Advisory Group Comments on Statement 45B

Bad idea. Points of interest are those that are also most sensitive to human use. Resplendent Meadows and Arctomys Cave should not be advertised. Other attractions, such as historic cabins may be okay.

Signs are not appropriate in the backcountry.

Advisory Group Comment on Statement 45D2

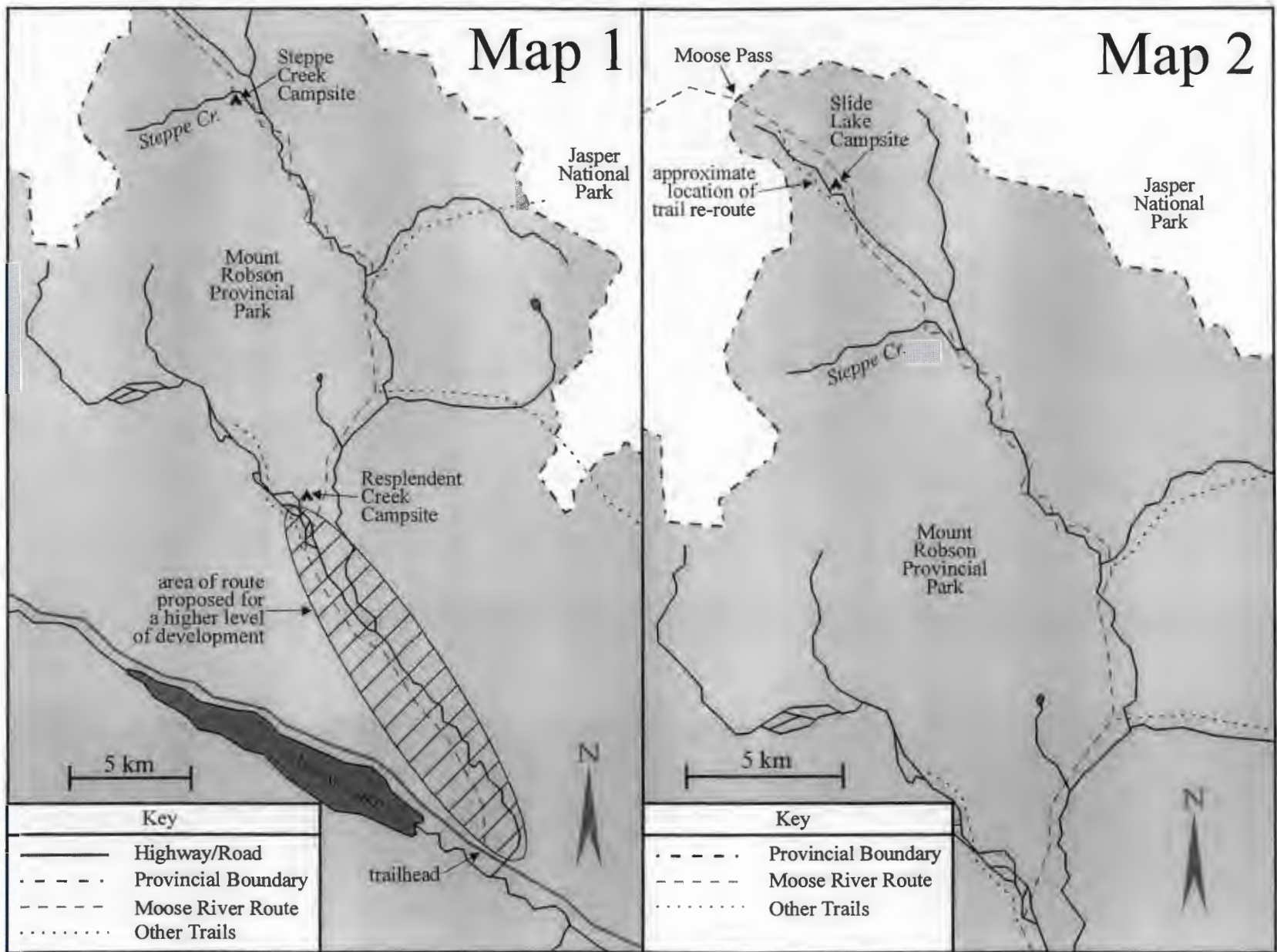
Why would hikers have to deviate from the trail?

46. Educate users of the Moose River Route region on backcountry ethics.

- A) Provide educational material on...
- 1) pack it in, pack it out.
 - 2) low impact camping.
 - 3) low impact wildlife viewing.
 - 4) trail etiquette (when meeting other user groups).
 - 5) campsite etiquette.
 - 6) proper backcountry waste disposal.

	Average Score	Level of Support	Inter- Quartile Range	Level of Consensus	Number of Responses to...							
					Disagree					Agree		Not Sure
					1	2	3	4	5	6	7	
46	6.33	SS	0.25	resolved	1	0	0	0	0	2	9	0
46A1	6.33	SS	0.25	resolved	1	0	0	0	0	2	9	0
46A2	6.33	SS	0.25	resolved	1	0	0	0	0	2	9	0
46A3	6.33	SS	0.25	resolved	1	0	0	0	0	2	9	0
46A4	6.33	SS	0.25	resolved	1	0	0	0	0	2	9	0
46A5	6.33	SS	0.25	resolved	1	0	0	0	0	2	9	0
46A6	6.42	SS	0.00	resolved	1	0	0	0	0	1	10	0

- Advisory group members show strong support for backcountry ethics education.
- Members also strongly support the six associated action statements that propose provision of educational material on a variety of backcountry visitor issues.



APPENDIX B - MANAGEMENT OBJECTIVES AND ASSOCIATED ACTION
STATEMENTS ARRANGED ACCORDING TO AVERAGE SCORE

Statement	Average Score
16A	7.00
16F	7.00
28	7.00
40A	7.00
16B	6.91
16	6.82
1B2	6.67
34B1	6.67
34C1	6.67
29	6.64
1B4	6.58
31	6.58
26	6.50
34C2	6.50
15A	6.42
34C3	6.42
38	6.42
39A8	6.42
46A6	6.42
2B	6.36
16D	6.36
3	6.33
11E1	6.33
34	6.33
34B2	6.33
46	6.33
46A1	6.33
46A2	6.33
46A3	6.33
46A4	6.33
46A5	6.33
38C	6.27
39A4	6.27
32	6.25
36D	6.25
33A1	6.22
33A2	6.22
38A	6.18
38B	6.18
9B	6.17

Statement	Average Score
11E2	6.17
14D	6.17
18	6.17
19	6.17
19A	6.17
23	6.17
32E	6.17
34D	6.17
36E	6.17
16C	6.11
1	6.09
11	6.09
11A2	6.09
14C	6.09
33	6.09
10	6.08
19B	6.08
32A1	6.08
32A2	6.08
36	6.08
36F	6.08
45D1	6.08
1A1	6.00
7A2	6.00
12A2	6.00
12A3	6.00
14A2	6.00
14B	6.00
16E	6.00
21	6.00
21A	6.00
21B	6.00
24	6.00
32B1	6.00
32B2	6.00
32B5	6.00
32C1	6.00
32C2	6.00
32C3	6.00
32C5	6.00

Statement	Average Score
45D5	6.00
7A4	5.92
10A	5.92
14	5.92
14A1	5.92
32B3	5.92
36B	5.92
33B	5.91
9	5.83
11B2	5.83
15B	5.83
23F	5.83
39A2	5.83
39A3	5.83
30B	5.82
1A2	5.75
1A3	5.75
9A	5.75
12	5.75
13A3	5.75
15	5.75
22B1	5.75
32B4	5.75
45	5.75
32D	5.73
33D	5.70
1A4	5.67
11D	5.67
16G	5.67
18A1	5.67
18A2	5.67
18A3	5.67
18A4	5.67
22B2	5.67
25D	5.67
27A	5.67
27B	5.67
32B6	5.67
32C6	5.67
40D3	5.67

Statement	Average Score
33C	5.64
8	5.58
27C	5.58
32C4	5.58
40C	5.58
40D4	5.58
45A	5.58
25	5.55
7A1	5.50
11A1	5.50
11C	5.50
13B	5.50
34A1	5.50
39B	5.50
40D2	5.50
45C	5.50
45D3	5.50
20A	5.45
45D4	5.45
7A3	5.42
13	5.42
13A1	5.42
25C	5.42
26C	5.42
17	5.36
45D2	5.36
1B1	5.33
13A2	5.33
33A3	5.33
33A4	5.33
36A	5.33
30a	5.27
9C	5.25
39	5.25
25B	5.20
36C	5.18
40D1	5.17
40D5	5.17
11B1	5.08
23A	5.08

Statement	Average Score
44C	5.08
12A1	5.00
27	5.00
34A2	5.00
7	4.92
20C	4.92
41A	4.92
1B3	4.83
20	4.83
27D	4.83
43B	4.83
2	4.82
27E	4.75
39A1	4.75
10B	4.70
41B	4.67
8A	4.64
41	4.58
26B	4.50
44B	4.42
26A	4.33
45B	4.33
3A1	4.30
44A2	4.25
44A3	4.25
39A9	4.17
43	4.17
3A2	4.10
22A	4.00
20B	3.92
22	3.83
44	3.83
39A7	3.75
2A3	3.67
30	3.56
40B	3.56
34E	3.55
2A4	3.42
43A	3.33
39A5	3.25

Statement	Average Score
34F	3.17
40	3.13
42	3.09
2A1	3.08
23E	3.00
2A2	2.67
4	2.58
37	2.58
30C2	2.55
23D	2.45
6B	2.44
5	2.27
5A	2.25
35	2.20
1C	2.00
23C	2.00
23B	1.92
39A6	1.92
39C	1.91
25A	1.73
6A	1.70
5B	1.67
44A1	1.58
30C1	1.50
6	1.00

**APPENDIX C - MANAGEMENT OBJECTIVES AND ASSOCIATED ACTION
STATEMENTS ARRANGED ACCORDING TO INTERQUARTILE RANGE**

Statement	Interquartile Range
6	0.00
6A	0.00
16	0.00
16A	0.00
16B	0.00
16F	0.00
26	0.00
28	0.00
30C1	0.00
32B5	0.00
32C3	0.00
32C5	0.00
33A1	0.00
33A2	0.00
33B	0.00
36D	0.00
38	0.00
40A	0.00
46A6	0.00
1B2	0.25
23	0.25
31	0.25
32	0.25
32B3	0.25
32E	0.25
34	0.25
34B1	0.25
34B2	0.25
34C1	0.25
34C2	0.25
34D	0.25
36E	0.25
45	0.25
46	0.25
46A1	0.25
46A2	0.25
46A3	0.25
46A4	0.25
46A5	0.25
2B	0.50

Statement	Interquartile Range
11E2	0.50
14C	0.50
25C	0.50
29	0.50
33	0.50
39A4	0.50
44A1	0.50
33D	0.75
39A6	0.75
1A1	1.00
1A2	1.00
1A4	1.00
1B4	1.00
1C	1.00
2	1.00
5B	1.00
6B	1.00
9B	1.00
10	1.00
11	1.00
11A2	1.00
12	1.00
13A1	1.00
14A1	1.00
14A2	1.00
14B	1.00
14D	1.00
15A	1.00
16C	1.00
16D	1.00
17	1.00
18	1.00
18A1	1.00
18A3	1.00
21	1.00
21A	1.00
21B	1.00
23F	1.00
25	1.00
25A	1.00

Statement	Interquartile Range
27A	1.00
27B	1.00
32A1	1.00
32A2	1.00
32B1	1.00
32B2	1.00
32B6	1.00
32C1	1.00
32C2	1.00
32C6	1.00
32D	1.00
33A3	1.00
33A4	1.00
33C	1.00
34C3	1.00
38C	1.00
39A2	1.00
39A3	1.00
39A8	1.00
39C	1.00
40B	1.00
43	1.00
44A3	1.00
45D5	1.00
1A3	1.25
1B1	1.25
3	1.25
5A	1.25
7A2	1.25
7A4	1.25
8	1.25
11A1	1.25
11D	1.25
11E1	1.25
12A2	1.25
12A3	1.25
13A2	1.25
13A3	1.25
13B	1.25
14	1.25

Statement	Interquartile Range
15	1.25
18A2	1.25
18A4	1.25
19	1.25
19A	1.25
22B1	1.25
26C	1.25
27C	1.25
27E	1.25
32B4	1.25
34A1	1.25
40D2	1.25
40D3	1.25
40D4	1.25
43B	1.25
44B	1.25
45C	1.25
45D1	1.25
1	1.50
1B3	1.50
5	1.50
10A	1.50
11B1	1.50
12A1	1.50
22	1.50
23B	1.50
24	1.50
25B	1.50
25D	1.50
30B	1.50
34E	1.50
36	1.50
36F	1.50
38A	1.50
38B	1.50
39A1	1.50
44	1.50
45D3	1.50
10B	1.75
22A	1.75

Statement	Interquartile Range
32C4	1.75
34A2	1.75
39A9	1.75
8A	2.00
9	2.00
11B2	2.00
15B	2.00
19B	2.00
22B2	2.00
27	2.00
27D	2.00
35	2.00
39A5	2.00
42	2.00
44A2	2.00
45A	2.00
45D4	2.00
7A1	2.25
7A3	2.25
9A	2.25
11C	2.25
13	2.25
16E	2.25
16G	2.25
23C	2.25
36B	2.25
39A7	2.25
40C	2.25
40D1	2.25
40D5	2.25
43A	2.25
45B	2.25
2A1	2.50
34F	2.50
36C	2.50
45D2	2.50
20B	2.75
2A2	3.00
7	3.00
9C	3.00

Statement	Interquartile Range
20	3.00
20A	3.00
23D	3.00
26A	3.00
30	3.00
30A	3.00
30C2	3.00
36A	3.00
37	3.00
39	3.00
39B	3.00
41B	3.00
44C	3.00
2A3	3.25
2A4	3.25
4	3.25
20C	3.25
23A	3.25
26B	3.25
40	3.25
3A1	3.75
41A	3.75
23E	4.00
3A2	4.50
41	5.25

APPENDIX C - SEMISTANDARDIZED INTERVIEW QUESTIONS

1. Do you know of any areas within the Moose River Route region that may require special management attention? This could include areas that provide outstanding opportunities for wildlife viewing, areas that contain interesting or unique plant life, areas that are particularly scenic or areas of great recreational potential. If so, could you please describe the features and locate them on the map.
2. Do you know of any campsites within the Moose River Route region? These campsites could include anything ranging from large, devegetated sites with several fire rings and other facilities to the smallest sites that are barely noticeable. If so, could you please locate them on the map and indicate what facilities, if any, exist at these sites.
3. Do you know of any historic features within the Moose River Route region? This could include old trapper cabins or evidence of logging/mining. If so, could you please locate them on the map.
4. Do you know of any sections of trail that are particularly difficult to travel due to muck, vegetation encroachment, poor trail marking or erosion? If so, could you please locate them on the map and indicate the nature of the problem.
5. Are you aware of any conservation issues that may affect recreational use of the study area? This could include important wildlife habitat, rare animal/plant species or unique geological features. Do you have any suggestions as to how these issues can be dealt with in a management plan for the Moose River Route region?
6. What recreational activities should be allowed within the Moose River Route region? Why?
7. Are you aware of any conflict between different user groups within the Moose River Route region? Could you please describe this conflict. Can you think of any solutions to the problem?
8. What support facilities should be built within the Moose River Route region? Where should these facilities be located? Why?
9. Both conservation and recreation are of concern within the Moose River Route region. Although management for one will place certain restrictions on the other, there is still some degree of management flexibility regarding development of facilities and level of use. Given BC Parks dual mandate of conservation and recreation, should the Moose River Route region be managed to emphasize conservation values, managed to emphasize recreational opportunities or managed to maintain a balance between these two directions?
10. Are there any other issues that you would like to see addressed by the management plan developed for the Moose River Route region?

APPENDIX D - SHORT VERSION OPINION QUESTIONNAIRE

**DEVELOPING A MANAGEMENT PLAN
FOR THE MOOSE RIVER ROUTE REGION**

A Survey of Master Plan Participants

Your help is very much appreciated



Rick Heathman, District Manager
Prince George District
Box 2045, 4051 - 18th Avenue
Prince George, BC
V2N 2J6

- Q1.** First, just a few questions about your use of Mount Robson Provincial Park. Which of the following park trails have you ever used? (Please circle **ALL** that apply; if none please leave the question blank)

- 1 KINNEY LAKE/BERG LAKE
- 2 MOUNT FITZWILLIAM
- 3 YELLOWHEAD MOUNTAIN
- 4 MOOSE RIVER
- 5 OTHER (Please specify)_____

- Q2.** While in Mount Robson Provincial Park which of the following activities have you ever participated in? (Please circle **ALL** that apply; if none please leave the question blank)

- 1 VEHICLE CAMPING
- 2 DAY HIKING (does not require backcountry camping)
- 3 BACKPACKING (requires backcountry camping)
- 4 CANOEING
- 5 RIVER RAFTING
- 6 MOUNTAINEERING
- 7 CAVING
- 8 CROSS-COUNTRY SKIING
- 9 EDUCATIONAL (interpretive programs, plant identification)
- 10 OTHER (please specify)_____

- Q3.** Now, we'd like to ask you about management of the Moose River Route region. The Moose River Route region was zoned as WILDERNESS RECREATION during the master planning process for Mount Robson Provincial Park. Although this zone places certain restrictions on use of the area, it still permits a range of activities, facilities and level of use. Using the line below, please indicate if the Moose River Route region should be managed more towards the conservation end of this range, more towards the recreation end or somewhere in between.

1	2	3	4	5
CONSERVATION				RECREATION
no motorized activity				limited helicopter activity
no facilities				primitive campsites
very low use				generally low use

- Q4.** Listed below are several activities which some people would and others would not like to see in the Moose River Route region. For each activity, please tell us if you would or would not like to see the activity in the Moose River Route region over the next few years. (Please circle the number of your answer)

	Definitely Would Not ▼	Probably Would Not ▼	Probably Would ▼	Definitely Would ▼	Not Sure ▼
Backpacking	1	2	3	4	5
Horseback riding.....	1	2	3	4	5
Mountaineering.....	1	2	3	4	5
Rock climbing	1	2	3	4	5
Caving	1	2	3	4	5
Fishing	1	2	3	4	5
Helihiking	1	2	3	4	5
Cross-country skiing	1	2	3	4	5
Other	1	2	3	4	5

- Q5.** Do you think commercial guiding (guided hiking, guided horseback riding, helihiking etc.) should or should not be permitted in the Moose River Route region? (Please circle the number of your answer)

- 1 SHOULD NOT BE PERMITTED
 2 NOT SURE
 3 SHOULD BE PERMITTED (Please specify guiding activities)
-

- Q5.** Listed below are a few facilities which some people would and others would not like to see in the Moose River Route region. If you were to visit this region within the next few years, would you consider each of these facilities to be NOT ACCEPTABLE, UNDESIRABLE, DESIRABLE or ESSENTIAL? (Please circle the number of your answer)

	Not Acceptable ▼	Undesirable ▼	Desirable ▼	Essential ▼	Not Sure ▼
Fire Rings	1	2	3	4	5
Tent Pads	1	2	3	4	5
Outhouses	1	2	3	4	5
Bridges	1	2	3	4	5
Trail Markers	1	2	3	4	5
Trail Repairs	1	2	3	4	5
Bear Poles	1	2	3	4	5
Other	1	2	3	4	5

Thank you for taking the time to complete this questionnaire. Your assistance in providing information is very much appreciated and will contribute to the development of an effective management plan for the Moose River Route region. If there is anything else that you would like to tell us about management of the Moose River Route region please feel free to use the space below.

Please return your completed questionnaire in the postage-paid self addressed envelope to:

Ed Stafford
Grad Student, FNRES
UNBC
3333 University Way
Prince George, BC
V2N 4Z9

If you would like a summary of the results, please print your name and address on the back of the return envelope (NOT on this questionnaire) and we will see that you get a copy.

APPENDIX E - LONG VERSION OPINION QUESTIONNAIRE

**DEVELOPING A MANAGEMENT PLAN
FOR THE MOOSE RIVER ROUTE REGION**

A Survey of Visitors to the Moose River Route

Your help is very much appreciated



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YOUR TRIP

- Q1.** First, we'd like to ask you a few questions about the trip that you recently took in the Moose River Route region (see map next page). How many people, including yourself, were in your group? (Please put number in the blank below)

_____ NUMBER OF PEOPLE

- Q2.** On your trip, what type of group did you travel with? (Please circle the number of your answer)

- 1 FAMILY
- 2 FRIENDS
- 3 FAMILY AND FRIENDS
- 4 CLUB OR ORGANIZATION SPONSORED
- 5 ALONE
- 6 OTHER (Please specify) _____

- Q3.** How did you travel along the Moose River Route? (Please circle **ALL** that apply)

- 1 HIKED, CARRYING OWN EQUIPMENT
- 2 HIKED, LEADING PRIVATELY OWNED HORSE
- 3 HIKED, LEADING HORSE PROVIDED BY OUTFITTER
- 4 RODE ON PRIVATELY OWNED HORSE
- 5 RODE ON HORSE PROVIDED BY OUTFITTER
- 6 OTHER (Please specify) _____

- Q4.** Which of the above (in Q.3) would you say was your primary means of travel during your trip (Please put number from Q.3 in the box below)

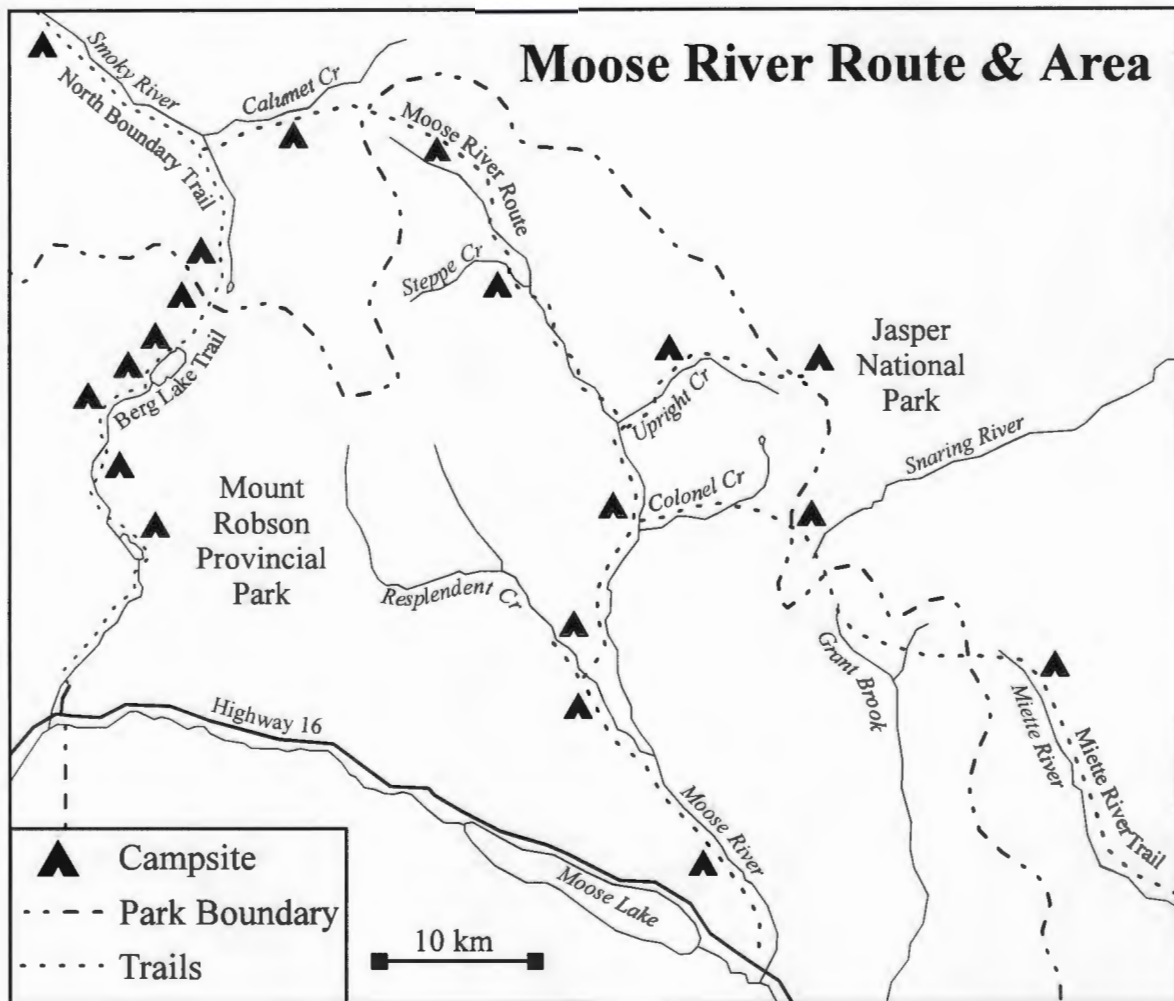
PRIMARY MEANS OF TRAVEL

- Q5.** About how many nights, in total, did you spend on the Moose River Route (If none, please put "0" in the blank below)

_____ NUMBER OF NIGHTS

- Q6.** Next, we'd like to get an idea of the route you took and the sites you visited. Using the map on the next page please:

- a. draw a line with arrows → to indicate your route and direction;
- b. put an "X" at the sites you camped at during your trip;
- c. beside each "X" indicate the number of nights you camped at that site.



PURPOSE OF TRIP

- Q7.** Here are a few reasons some people have mentioned for taking a trip in the Moose River Route region. Please tell us how important each of these reasons were to you personally for taking your trip. (Please circle the number of your answer)

	Very Unimportant ▼	Unimportant ▼	Important ▼	Very Important ▼	Not Sure ▼
View beautiful scenery.....	1	2	3	4	5
Observe wildlife	1	2	3	4	5
Be alone for awhile	1	2	3	4	5
Meet new people	1	2	3	4	5
Be with friends	1	2	3	4	5
Be with family	1	2	3	4	5
Have outdoor skills	1	2	3	4	5
Experience adventure.....	1	2	3	4	5
Learn about nature	1	2	3	4	5
Explore new places	1	2	3	4	5
Get away from routine	1	2	3	4	5
Mental relaxation	1	2	3	4	5
Other.....	1	2	3	4	5
Other.....	1	2	3	4	5

- Q8.** Which of the following activities did you participate in during your trip on the Moose River Route? (Please circle **ALL** that apply)

- 1 SWIMMING
- 2 FISHING
- 3 WILDLIFE VIEWING
- 4 PHOTOGRAPHY
- 5 NATURE STUDY (plant identification, rock study, etc.)
- 6 CAVING
- 7 OTHER (Please specify) _____

MANAGEMENT ISSUES

- Q9.** The Moose River Route region was zoned as WILDERNESS RECREATION during the master planning process for Mount Robson Provincial Park. Although this zone places certain restrictions on use of the area, it still permits a range of activities, facilities and level of use. Using the line below, please indicate if the Moose River Route region should be managed more towards the conservation end of this range, more towards the recreation end or somewhere in between.

1	2	3	4	5
CONSERVATION			RECREATION	
no motorized activity			limited helicopter activity	
no facilities			primitive campsites	
very low use			generally low use	

- Q10.** Now, we'd like to ask you a few questions about the amount of use that occurred along the Moose River Route. About how many other groups in total did you see during your recent trip into the Moose River Route region? (Please put a number in each blank; just your best estimate is fine)

Along the trail...

_____ NUMBER OF OTHER HIKING GROUPS
 _____ NUMBER OF OTHER HORSE GROUPS

At campsites...

_____ NUMBER OF OTHER HIKING GROUPS
 _____ NUMBER OF OTHER HORSE GROUPS

- Q11.** Thinking back over your trip, do you feel you saw TOO FEW, ABOUT RIGHT, or TOO MANY other parties during your trip? (Please circle the number of your answer)

	Too Few	About Right	Too Many	Not Sure
	▼	▼	▼	▼
Number of other hiking groups along trail	1	2	3	4
Number of other horse groups along trail	1	2	3	4
Number of other hiking groups at campsites	1	2	3	4
Number of other horse groups at campsites.....	1	2	3	4

- Q12.** Do you think commercial guiding (guided hiking, guided horseback riding, helihiking etc.) should or should not be permitted in the Moose River Route region? (Please circle the number of your answer)

- 1 SHOULD NOT BE PERMITTED
 2 NOT SURE
 3 SHOULD BE PERMITTED (Please specify guiding activities)
-

- Q13.** Listed below are several activities which some people would and others would not like to see in the Moose River Route region. For each activity, please tell us if you would or would not like to see the activity in the Moose River Route region over the next few years.

	Definitely Would Not ▼	Probably Would Not ▼	Probably Would ▼	Definitely Would ▼	Not Sure ▼
Backpacking	1	2	3	4	5
Horseback riding.....	1	2	3	4	5
Mountaineering.....	1	2	3	4	5
Rock climbing	1	2	3	4	5
Caving	1	2	3	4	5
Fishing	1	2	3	4	5
Helihiking	1	2	3	4	5
Cross-country skiing	1	2	3	4	5
Other	1	2	3	4	5

- Q14.** Listed below are a few facilities which some people would and others would not like to see in the Moose River Route region. If you were to visit this region again within the next few years, would you consider each of these facilities to be NOT ACCEPTABLE, UNDESIRABLE, DESIRABLE or ESSENTIAL?

	Not Acceptable ▼	Undesirable ▼	Desirable ▼	Essential ▼	Not Sure ▼
Fire Rings	1	2	3	4	5
Tent Pads	1	2	3	4	5
Outhouses	1	2	3	4	5
Bridges	1	2	3	4	5
Trail Markers	1	2	3	4	5
Trail Repairs	1	2	3	4	5
Bear Poles	1	2	3	4	5
Other	1	2	3	4	5

BACKGROUND

- Q15.** Finally, just a few questions about yourself to help us interpret your comments.
In or near what town or city is your home located?

_____ NAME OF TOWN OR CITY

- Q16.** Including your recent trip, what is the total number of trips you have taken in the
Moose River Route region? (Please circle the number of your answer)

- 1 1 TRIP
- 2 2 TRIPS
- 3 3 TRIPS
- 4 4 TRIPS
- 5 OTHER (please specify) _____

- Q17.** Prior to your trip, how did you get information on the Moose River Route region?
(Please circle **ALL** that apply)

- 1 DID NOT GET INFORMATION PRIOR TO VISIT
- 2 BC PARKS INFORMATION CENTRE
- 3 PARKS CANADA INFORMATION CENTRE
- 4 FRIENDS/FAMILY
- 5 GUIDEBOOKS
- 6 OTHER (please specify) _____

- Q18.** May we ask your age?

_____ YEARS

- Q19.** Are you?

- 1 FEMALE
- 2 MALE

Thank you for taking the time to complete this questionnaire. Your assistance in providing information is very much appreciated and will contribute to the development of an effective management plan for the Moose River Route region. If there is anything else that you would like to tell us about management of the Moose River Route region please feel free to use the space below.

Please return your completed questionnaire in the postage-paid self addressed envelope to:

Ed Stafford
Grad Student, FNRES
UNBC
3333 University Way
Prince George, BC
V2N 4Z9

If you would like a summary of the results, please print your name and address on the back of the return envelope (NOT on this questionnaire) and we will see that you get a copy.

APPENDIX F - COMMENTS FROM OPINION QUESTIONNAIRE RESPONDENTS

A lovely area but we feel that 160 people plus per year is too many. A quota/permit system limiting visitors to - let's say 60-75 per summer - would be more desirable.

A properly developed trail up the Moose may take some pressure off the Berg Lake Trail. On the other hand, it could prove to be a popular loop trail causing increased numbers all around. Is this desirable?

After reading that commercial outfitters have been using the area, and probably for years, they should have some compensation if they are required to change their operations. Separate trails would probably be needed as horses can chew up hiking trails. I have no problem with sharing the area with them. My wilderness backpacking days are limited as I now have a young family but a new area to hike is always welcome.

Allow access as a primitive wilderness area. Commercial guided activities should be under strict control and only done with a park guide involved. Facilities should be constructed only to control pollution and prevent abuse of environments.

Although I have never hiked the Moose River Trail I have flown over it in a beaver bush plane and it is truly gorgeous country that should be both preserved and enjoyed by park visitors. Because of its remoteness I feel the area should only be entered by experienced people. Also, it is a perfect area for helihiking/skiing (as well as Alpland and Emerald Ridges, both located on the other side of Moose Lake). Helicopters have a very low environmental impact and these areas don't see a lot of use, so very few, if any, would be affected by the noise. Also, I have no interest in horses whatsoever, but if managed correctly so as to minimize garbage and trail deterioration, it would be a positive tourism service. I am all for mountaineering, but not for rock climbing where people go and bolt routes all over the place.

Although I have not hiked the Moose River Route, the description fits a wilderness designation zone, i.e.: wildlife reserve, low human presence, no engines, low impact, dispersed visitation, no commercial parties, no hunting, careful management, no helicopters or overflights etc. It seems as though in the scheme of management there is a headlong rush to move into the user pay/make a profit scene. This results in a commercial zone with lots of facilities most of which degrade wilderness. There must be a land use ethic applied which states wildlands are a higher and better land use than tamed lands.

Any improvements provided in campsites and on the trail in the Moose River valley should be completed to a standard of permanence or not completed at all. Pressure treated wood should be used to avoid doing the job over and over. Natural fireplaces such as those developed by campers over the years are much more desirable, fuel efficient and useful than metal rings. The metal rings are useless for cooking and warming up with - a bonfire is needed to do either. Any signs or trail markers installed should be metaltech. An example of campsite and trail improvements done in a topnotch manner is the Floe Lake and Tumbling

Creek campsites in Kootenay National Park. If Mt. Robson Provincial Park does not expect an increase in users then no improvements are necessary. However, a yearly trip through the area by park staff would be advisable to check conditions.

As the Robson Valley continues to attract more tourists it will be important to increase the number and types of activities that are available for them in the park. Putting parks aside is desirable but not letting people use them or restricting use severely is not why I support parks. Parks are for people to use and they should be developed for use. How else except by using wilderness trails can we see the wilderness and enjoy the wilderness.

Because of the significant nature of the habitat, I believe that entry should be controlled from the outset. Surveys should be conducted to establish some baseline numbers. A voluntary sign-in at the trailhead could be used to gather such information. From this we could determine numbers of people and the numbers of nights stayed. A reasonable trail quota could then be established from this information; which would aid in the planning of campgrounds and other backcountry facilities. Confining impacts to certain small areas is more beneficial than allowing overnight impacts to be strewn along the route. Properly designed designated campgrounds will do much to prevent impacts that will have to be mitigated later as recreational demand for the area increases. I believe campgrounds following the design of those in the Rockwall area of Kootenay National Park are a good example; with separate tenting and food preparation areas and well marked trails to discourage short-cutting within the camping area. Designated gravel tent pads are also welcome, to discourage pitching a tent anywhere.

Conservation should be the number one priority. Let's allow visitor use, keep the trails open and have basic outhouses for proper waste disposal but not develop too many facilities. Leave the area in a natural state. Too many facilities make these areas too accessible which results in too many people which results in a compromised natural state and other problems. Please keep facility development to a minimum.

Do not develop facilities otherwise the Moose River system will soon be so over used it will be like the Berg Lake Trail. The parks (government) should not be totally responsible for rescue operations.

Do not phase out horse use. Remember the history and the need for this use.

Don't let the wacko fanatics who live in Vancouver take over. I've lived down the road from the park for 25 years and use it as access to Jasper. Keep as many options open as possible, there's lots of wilderness here, all I have to do is walk out my front door.

Due to increasing pressures on the land base for commercial backcountry recreation, and the facilities in the remainder of Mount Robson Provincial Park, it is desirable to have the Moose River area managed as wilderness or semi-primitive wilderness with limited facilities. I have not been up the Moose River (have intended to for years), but am familiar with the route as discussed with others who have traveled there. Commercial operations using helicopters (helihiking/skiing) should not be considered. Facilities should be limited to minimize

environmental impact (i.e. trail repairs, outhouses). In our experience fire rings encourage waste of firewood. Limited use of trail markers and bridges are acceptable given the level of use.

Fishing as far as I can tell is not available in the Moose River, except for introduced rainbow trout at a small lake about 5 miles in. Is it the park's plan to introduce fish into the Moose River? In the late 1970s a hiking trail was constructed from the Red Pass camp to near alpine in Red Pass - the ultimate objective at the time was to make a connecting loop trail - Red Pass, Resplendent Creek, Moose River. What has become of this plan, and does the park still maintain this trail?

Given the amount of use the Berg Lake Trail gets I suppose trails like the Moose River Route would need to be developed. Hopefully this development will be of a minimal impact upon the area.

Guides for commercial activities should write an exam to make sure that they are familiar with the rules and objectives of the parks.

Helicopter use for park personnel and upkeep, no commercial helicopter use.

Helicopters for emergency use only! Maintain level of use at current levels.

Helihiking and hiking do not require professional guides.

Hiking a trail such as the Moose River Route is a tricky experience. On the one hand you feel wonderful about your spectacular trip but on the other hand you feel bad about the nature and wildlife that you have affected (there is no such thing as soft tourism). There is also the people who will follow in your steps after you tell them about your own experience. The same feelings fill my mind if I think about advising you what to do about management of the area. I would love to see the area unchanged in the future (I have seen the horrible west coast commercialized trails), but I would also like to see a lot of people enjoy the nature and become a part of it. Good Luck to you.

Historically, the trails were made for horseback guided trips and they are excellent for this purpose. Often, they are too wet and muddy for hikers. The Moose River to Berg Lake trail should be preserved for horseback riding. If hikers don't appreciate meeting horses on the trails - too bad! We don't interfere with them.

Horse outfitting should end. No overnight shelters or backcountry lodges/tent-cabins. Don't bridge the river in a way that permits easier access to Arctomys Cave. One main concern that we have for this area is its importance to vulnerable wildlife species such as grizzly bear and woodland caribou as well as to mountain goats. All five of the passes that you list under conservation concerns connect Mount Robson Provincial Park with Jasper National Park and are used by these animals and other predators. Any disturbance in these areas could therefore affect national park animals. We have concerns too about the necessity of building bridges over the Moose River and other tributaries if this trail is opened to increased use. This could

have a detrimental effect on bull trout inhabiting those rivers. It could also open the area to Arctomys Cave. The fragility of these cave ecosystems could be adversely affected by increased unregulated traffic. It is time for Mount Robson Provincial Park and Jasper National Park together to establish what the limits should be to acceptable change in the backcountry; the parks share much of the same ecosystems and are too close together to plan in isolation. When the decision is made - based on this public process - on what people want for this area, an upper limit should be set and an efficient monitoring program should be put in place. If the impact proves to be unacceptable then the limit should be lowered, not raised to accommodate the public.

Horse use has made a real mess of the trail in spots (i.e. knee deep mud). Forded Resplendent Creek at wrong place and bush-whacked several kilometres because we followed fresh flagging across the Resplendent. Trail along the Resplendent to the horse crossing should be better marked. Permit systems encountered in this loop are too complex - especially since the route will vary depending on whether the fords are possible. Conditions on the Miette River Pack Trail are dangerous and unacceptable.

I've not been there - so not proper to respond to this survey. Commercial guiding operations should not be permitted within parklands period. Outside of parklands yes, but not within. Leads to commercial policy driving park plans and over time to something like the Yellowstone/Yosemite Company power play on the US National Park Service.

I am not sure if there is written material on cleanliness in the bush other than what you pack in you pack out. However, it seems to me that most city folk can't do their toilet duties in a discreet way, with or without an outhouse. Unkempt outhouses are gross and some people won't use them - but I think to address everyone's personal duties is important before going into the bush. Dig a hole, cover up, burn your paper if there is a campfire going. For women they should pack out their personal items or burn it - these should not be buried. Toilet poles are fine for areas but once again it is no place for plastic/pads/tampons. Horse use is ideal in areas with big gravel flats and areas where there is high potential for animal confrontation. Our horses live and breath the flanks of Mount Robson - wildlife is part of their life - they graze with the grizzly and black bears in their own back yard as well as moose and deer etc. They all have their comfort zone and speak the same language. It is people that contort their own values on what animals can or cannot handle because they may be afraid. It has been my experience that guests traveling on horseback very much enjoy the security of their steeds; the confidence and ability on mountain terrain. I have always heard a guest say they want to come back and do it again. The horse does play a very important role in our Canadian heritage and Mount Robson planning should ensure horseback travel in our Moose River Route.

I can only answer questions 4, 5, and 6 with "it depends". It depends on whether use increases to a damaging level or not. I would like to see the area remain undeveloped wilderness with perhaps nothing other than occasional user maintenance (removal of fallen logs from trails, etc.). I do not wish to see these trails and routes developed to a degree which would bring in so many people that restrictions would be needed. I like wilderness, not facilities.

I don't have anything else to say about the region except that I extremely loved my trip in this area and I hope that by filling out this questionnaire I can help keep the park in shape so that I can visit again soon.

I feel that BC Parks should leave this route open to Berg Lake since the Kinney Lake route was closed to horses. I don't think Berg Lake should be exclusive to those who are able to walk there. There are a lot of older, less-able people who would like to see this part of Canada. If the Moose River Route was improved, I am sure there would be an increase in this type of visitation to the Berg Lake area.

I feel that most respondents will envision commercial use as large uncontrollable groups and this survey will negatively impact on outfitters.

I feel that the area should be much more primitive than the Berg Lake Trail to offer more of a challenge and provide an opportunity to use low impact camping techniques for all user types (including horse groups). Another Berg Lake Trail would not be desirable to me; however, some trail maintenance would be desirable to concentrate use on one trail. Trail braiding and multiple trails to get around deadfall can sometimes decrease the enjoyment of the trip. Thanks for asking.

I feel that the Moose River Route can achieve recreational opportunities while not compromising conservation values. Limits of Acceptable Change should be targeted and managed accordingly.

I have good historical information regarding use of the Moose River by Harlequin Ducks. A number of sightings are centered around the junction with Resplendent Creek, including a brood of four on September 7, 1995. Precautions should be taken in management planning to ensure long-term viability of this breeding habitat. Guidelines for managing recreational use are currently being developed for the US Rocky Mountains.

I have made three trips into the area; two into Resplendent Valley and one over Moose Pass. I feel it is essential to preserve this part of the park in as close to complete wilderness as possible while allowing some low impact access. It would be a mistake to do anything to make access easier, i.e. bridges, trail markers, trail upgrading or promotion of commercial operators. I believe all horse access should be permanently stopped. The relatively light use the Moose Trail receives doesn't correspond with the amount of damage along the way. At Calumet Creek campsite we saw a large amount of garbage in the form of tin cans, many trees around the camp are ringed either from tethered horses or for future firewood. The trail from Steppe Creek to Moose Pass is in deplorable condition from horse use to the point of serious erosion and negative impact of trail-side flora. Please consider terminating all commercial use of this part of Robson Park, in particular horse and helicopter access. Also avoid making access easier which would lead to increased use of and pressure on a fragile area. Thank you for the opportunity to participate.

I have not been in this area although I have been hiking in many others - South Tweedsmuir is my personal favourite because of its true wilderness character. I like the "wilderness campsites" on the Turner Lake Chain in that they appear to have reduced impact in the area - the sites were always clean - no fire rings every ten feet or bush cutting to fit a tent wherever the heart desired! Trail repairs are important to reduce off trail traffic. I found the constant air traffic a little distracting although that is how I accessed the park the first time - perhaps more of a scheduled number of flights allowed would be better. In terms of the conservation aspects - ideally zoning areas to keep hikers out of the wildlife corridors. It appears that this area should be considered first for its conservation, then wilderness experience, as Jasper accommodates more of the "tourist" commercial guiding.

I like the tent-camp outfitter operation (e.g. Duncan operations on the Berg Lake Trail approximately 5 years ago). Keep it simple and move around one year to the next - but make a large semi-permanent tent to eat and dry out. Also, facilitate walking with day pack so there is less horse damage to trails and meadows than horseback travel.

I loved the area because we finally got away from the crowds and the numerous tour buses at Mt. Robson Park. It was very quiet, beautiful, serene and without too many hikers. It is getting too easy for those who do not appreciate, respect and value our parks to gain access to beautiful hiking areas. Keep it for the true outdoor enthusiasts who respect it! It is definitely an area I would return to.

I prefer to see British Columbia's parks used. If proper controls are in place there is ample protection of park values. To enable BC to retain parks in the future the user must pay to use.

I realize that the desire for fire rings requires that a supply of firewood also be available. I have mixed emotions about this. I don't like the peace and quiet of an area being shattered by the noise of a helicopter slinging firewood, plus I consider it a waste of money and fuel. I do however enjoy a campfire and I believe that a fire is part of the outdoor experience. I think it should be stressed to hikers to be more frugal with the wood. In many cases the wood cutting area is within a couple of kilometres of the campsite. I believe the hikers could backpack it themselves or it could be moved via horseback. That's the way we moved wood when we were kids.

I spent the summer with a friend in Canada and for two months we participated in a lot of outdoor activities mostly in BC and a little in Alberta and the Yukon Territory. Compared to Switzerland, you still have a lot of wilderness and wildlife, but as a consequence of that, a lot to protect. Take care of your nature, of your bears and other wildlife, of plants and so on. Try to keep day use activities in parks as infrequent as possible (by increasing day use prices) and advance longer activities (backcountry hiking over several days for example). We don't need (like) people who go into the parks just for one day, or who go there by helicopter and who assert after their trip that they have seen wilderness and that they have obtained backcountry experience.

I support guided horseback riding with a restricted permit to avoid trail damage and habitat interference. The reason for permitting horseback use as the only recreational use is that if

this area is a wildlife corridor then there would be less chance of confrontation with wildlife as well as less disturbance. This is of course based on the assumption that the permit holders would respect the area and ensure that those they took with them learned to do so. Groups of people on horseback have used trails in the region for over a century but impacts on wildlife are recent because of increased use of many kinds. Wildlife movement must be a priority in parts of the park.

I suppose the big issue in mountain parks is the use of motorized vehicles. Helicopters, snowmobiles and motorbikes give access to the backcountry for persons unable or unwilling to make the journey by their own power or effort. However, the decision to allow motorized vehicles in provincial parks does become a very touchy issue when considering everyone's right to the outdoors. There are two factors which definitely sway the issue toward non-use of motorized vehicles. First is the conservation and protection of wildlife (from the major large animals to the whole spectrum of small animals, birds, fish, insects, as well as the disturbance or destruction of a great variety of plant life). Second is the pristine wilderness and quietness that is destroyed for human users by the noise and chemical pollution of motors. I plead with you, in your study and analysis of a management plan for the Moose River Route, that you make strong recommendations against motorized activity in this wilderness of Mount Robson Provincial Park. We have to accept that there are some things people are not able to do because they can't afford it and that there are some things some people can't do because they lack the physical ability. *C'est la vie!*

I think a complete wildlife and ecological survey should be completed before any development of trails or hiking aids are put in place. Please, let's not commercialize our parks. Commercial ventures should be restricted to outside of park areas only.

I think if the Moose River Trail to Robson is developed it would be a wonderful backcountry area for hikers. Probably the two most critical things would be trail markers and river crossings. The valley often settles in with a low lying cloud (fog) making hiking visibility difficult. Also, the river crossings need to be well marked and some crossing assistance (bridges, cables, etc.).

I think it would be good to explore the Moose River Route but not the Berg Lake Trail. Keep the Moose River Route more original. One ranger cabin on the whole trail and a bridge here and there over the widest crossings would be okay. But the real hiking should stay. Some arrangements for very bad weather conditions would also be great. Of course I would be willing to come back. The trail was dirty with horse crap all over, it was muddy and slippery in parts. For me as a guide, I did not mind it that much. It is more or less the way it should be, only the number of horses is too large. Good luck!

I think that the development of the Moose River Trail is a good idea. An increase in use of this trail should ease some of the pressure off of the Berg Lake Trail. I am, however, very opposed to recreational helicopter use. Helicopter use should be restricted to emergency situations.

I think you have great potential to make one of the best loop trails in western Canada with the Moose and the Berg Lake Trails. I've been to Robson four times and you have great potential to satisfy backcountry lovers.

I thought this region should remain undeveloped as next to this valley there are many trails where a lot of people are hiking. I was very happy to find the Moose River Route.

I use the Moose River primarily for horse use which it is best suited. It would be nice to go up the Moose and down the Berg Lake Trail as a round trip. Any trails in the park that have a history of horse use in the past should remain available for horse use at present and in the future as a part of our Canadian heritage. If this means tourists (backpackers, etc., non residents of BC) must be limited to horse travel on traditional horse trails so be it. If tourists don't like horses then tell them to stay off the trails. That way it may help to keep high use areas regulated to some extent.

I want this area to remain wild. Let all those commercial interests go outside of the park to make their money. If people are not willing to "sweat" a little to see this area let them stay out.

I was very much impressed with my guided horse packing trip of the Moose River area. I truly believe that entrance into this area should be facilitated by guide. This will ensure that responsible parties keep this area in its truest form on both sanitary and safety matters. This was a trip I will truly never forget. Great people and great country!

I would be cautious about saying I would like to see access by horses because they can damage the environment. I would like to see protection of wildlife travel corridors at all costs because wildlife does not adapt well to man's presence. I look to the national parks where there is significant wildlife death each year - they did not adapt to man.

I would like to mention that my answers to your questionnaire are based on the fact that I am a senior and therefore am aware that some areas of the backcountry can only be accessed under certain conditions such as guided horse and helicopter trips. Time is also an issue for tourists, but their economic impact should not be ignored - no management plan can be effective without the necessary dollars to implement it! I recognize that the Moose River Route is unique and feel that perhaps a permit system would be one of the best ways to help preserve both habitat and wildlife from overuse.

I would like to see it have a very low profile, with limited advertising. I'd like to see it essentially remain a very rugged hiking trail, not at all up to Berg Lake Trail standards. I feel that helicopters should not be used in Mount Robson Provincial Park except for rescue, firewood drop-offs and one stop ski-touring trips. Thanks for sending this to me, Mount Robson staff are doing an excellent job.

I would like to see the route well marked with bridges and other trail improvements to facilitate pedestrian and horse traffic. No picnic tables, fire rings, outhouses, etc.

I would not like to see any tenured commercial guiding or other type of special use permit. Tenure will eventually lead to exclusion of private individuals. The trailhead staging area should have a truck and horse trailer turnaround and parking space. Trailhead toilets and camping picnic facilities would also be acceptable if they receive heavy day use from the general public and could be maintained.

I would not like to see helihiking take place in these areas as I feel this would or may affect wildlife. However, limited helicopter activity to re-supply guided horseback camps is fine.

If people are going to use the area, create an environment to minimize impact.

If people want to camp in Moose Pass they should have to rough it and not have conveniences like outhouses, tent pads and fire rings. These things disrupt everything that makes Moose Pass such a wonderful place to hike and experience nature. If people hike there they should have to tread lightly and clean up everything they do. It is the animal's home that we are hiking through and we should respect it. I know it should be pretty easy for me to figure out, but an exact north indicator would be nice on the Moose River Route map. There should be a couple of trail markers (maybe six more) for the whole trail.

Increased facilities within the Moose River Route would lead to increased use and consequently increased confrontation with grizzlies and greater stress on animals such as caribou. In grizzly confrontations the bear is usually shot. Four or five grizzlies have been killed due to human confrontation in the mountain parks this year. Consequently, I think BC Parks should not attempt to increase visitor use in this area by upgrading facilities.

It has been 20 years since I rode the Moose River Trail and there have been many changes in that time. I support the concept of multi-use with no single user group receiving priority treatment. I would think keeping the facilities and trails in a somewhat primitive state would effectively limit use and resulting impacts.

It is best to leave the Moose River Route as a route and not a highly developed trail as long as there are basic facilities to ensure environmental protection of wildlife (for example bear caches and outhouses). The trail at the moment cannot sustain large guided groups although these groups still go through. Damage occurs in the summer months.

It is important that a complete route be established for controlled travel to the North Boundary Junction, 10 km from Moose Pass. We realize that this is prime grizzly habitat so no camping could be practiced if possible. The other two routes (Upright and Colonel) could be closed if Parks Canada considers travel in this area to be too much impact. We feel that horses should be allowed by permit or limited to groups of 5 or 6 maximum, unless it is an outfitter.

It is my hope that the Moose River area will be kept as clean and pure as possible. However, I hate the thought of denying this beautiful land to the locals who genuinely care and depend on it. I am more concerned about the thought of tourists coming in and using and abusing the land without the supervision of local, experienced guides.

Keep as a wilderness recreation area. Limited use of horseback riding, maximum 16 horses and 12 people to a group. Limited helicopter access/activity (very low use). Lower Resplendent is hard to cross by foot (water volume).

Keep helicopters out of this area except when needed for park administration, surveys and rescues. Conduct wildlife studies/inventory prior to increasing use of this area for recreation. If it's critical habitat, keep people out. Assess potential impact of horseback riding on this area before renewing guiding tenures. Do not increase the amount of horseback riding. Limit amount of guided hiking, if allowed at all. I am concerned that guided groups will have high impact on the area as compared to individuals. Thanks for the opportunity to comment.

Leave this valley the way it is - a backcountry wilderness with minimal facilities. The lack of bridges and facilities helps to limit use. Self-registration at the trailhead for over-night and day hikers probably would help get a count on numbers.

Maintain the area's wilderness character and install only the very basic facilities. Don't make this another Berg Lake Highway.

My friend and I felt that more directional signs are needed (or more detailed maps at the trailhead). We ended up walking for two hours in the wrong direction (along Steppe Creek) and had to backtrack. It was a beautiful trip and I enjoyed it a lot. We did the trip in three days from the Moose River Route trailhead and out via the Berg Lake Trail. I definitely recommend that those making this trip take at least four days otherwise it is a real rush.

My friend and I took this trip in the second week of September 1995. From trail start to the Berg Lake campsite was three days (including one evening of walking on the first day). We appreciated the pristine nature, the basic camping sites and the bear poles, but could have used a few more trail markers at times. It was great wilderness, please keep it that way - don't allow more commercialization and modernization. We walked three days and did not see a human being (sort of nice), didn't spot any animal either (lots of tracks though). Thanks a lot for your efforts. It is great wilderness and country - let's keep it that way!

My prime concern for the Moose River area is conservation. Our latest trip was not very enjoyable due to the condition of the trail (muddy). I believe that a lot of the negative environmental impacts in the area, such as excessive erosion, is due to the use of horses and I am adamantly against this. Also, in order to decrease impact, it would help to have trail markers (so people don't walk on the vegetation), outhouses, fire rings and tent pads. Thanks, I appreciate an opportunity to express my opinion!

My suggestions for Moose River management: establish a quota system; establish a reservation system; mark the trails and routes; clear the trails once per year; "treat" hazardous sections of trail; user fees; increase park presence.

Need more trails in Mount Robson Provincial Park. More trails of an organized level might take a load off the Berg Lake Trail. Moose River would create a circle route. As more and

more "foreign" hikers take up the space on the "popular" routes it could free up space for "local" Canadian back-woods enthusiasts.

Nice to see the concern and planning over the Moose River area and to be asked to participate in the process.

No vehicle use, including phones and helicopters. Minimum development, no bridges, campsites etc. Leave it to the wild animals as much as possible with minimum disturbance.

Please do not allow helicopter activity except for rescue and park related work in areas that are used for hiking, horseback riding and ski touring!

Please keep it as wild as possible. The remoteness and rugged country deserves protection within our provincial park system. Also, opening up the Moose River Route would put pressure on some very special and remote areas of Jasper National Park. A few guided hikes (i.e. like the old Sierra Club trips - very well done, we met up with ones run by Buster Duncan in the 1970s) and guided horse trips would be plenty of activity and controlled in a positive manner. Good luck, happy trails.

Poor weather might have accounted for low usage. Horse travel should be strictly limited, especially during wet weather. Presently, trail damage by horses is extensive.

Priority of the area should be maintaining an undisturbed habitat for wildlife. Recreation opportunities should be low impact, with limits to numbers of parties allowed in the area. However, campsites should be designated with some facilities such as an outhouse, fire ring, bear pole to contain impacts to one small area and for visitor safety.

Provide an information package to the outfitters so they can inform their clients about proper wilderness activities (conservation, land use and abuse, etc.).

Save yourself a lot of future difficulty by leaving this area undeveloped. Few people will access the area. The wild card is the cave and its appeal. To develop a trail in this area and maintain it like the Berg Lake Trail would be next to impossible. So much of the trail is river bottom bog with numerous river crossings - an area suited not even to horses (but a more pleasant and better mode of travel). This area should be left as undeveloped as possible for the experienced backcountry traveler. Clear trails one year are a mess the following! If you develop this area conflicts will develop. The expense of maintaining a trail along a river bottom is very high and you'll never achieve Berg Lake Trail status. I foresee an increased interest in the cave, but I still believe visitors to this area should find it in an unchanged manner (not developed). If camping at the cave becomes a problem, a small campsite will need to be developed. With each stage of development, you leave yourself open to another phase. Do you want road access to the cave to pull out those who fall? Perhaps this area could be managed through educational resources where groups enter, research, and leave the site in its original shape. Generally, my opinion of the Berg Lake Trail is open access but the Moose River Trail is merely the first day of access to higher alpine areas in Alberta. How much more access do you want to manage? I had understood this trail to be an alternative

horse use trail - to lessen the travel on the Berg Lake Trail. The area is more suited to horse travel than to walking. It is not that scenic in the lower reaches and the general public will never be happy enough with what you do to make it passable. It is a tough, wet, river crossing trip. Inexperienced hikers should not be encouraged by making the experience pleasant with bridges that would forever need constant repair.

Take advantage of natural openings when locating main or spur trails to allow views of Moose River and the mountains. Long stretches in dense timber are monotonous so extra opportunities to see nice scenery improves one's experience and photo opportunities. It is amazing how far people will walk to return with great photos.

Tent pads, fire rings, outhouses and bearpoles (hardened sites) are useful in keeping our presence to limited areas. No bridges are necessary on this route. Trail maintenance should be limited to windfall and drainage; the trail should not be upgraded, just maintained. Keeping it a "wilderness route" will keep numbers from climbing too much i.e. high water during most of the summer will keep numbers down so long as there are no bridges. An additional point I have deals with horse use and the commercial outfitters using this area. I am unhappy with the amount of paraphernalia that is left at campgrounds. By this I mean items that are left here and there in barrels etc. for future trips. Either they should have to pack in/out like the rest of us or perhaps have a small storage locker closer by but somewhat removed from the campground so that it is not plainly visible by other users. This could be easily done.

Thank you for sending out information on this area of Mount Robson Provincial Park. We have always enjoyed the area and again this year spent some time there. I have been trying to hike the Moose River trail for a few years now and know I soon will. I have talked to a few people including park rangers about it and have it on the top of my list to do. I think what makes it a challenge is its wilderness concept. I understand the approach to the meadows in Moose Pass is well worth the challenge. Before I comment too much on it I feel I should hike the trail but knowing the area we have to be very cautious with progress. I would like to see some improvements on trail development, some easier recognition of river crossings and slight improvements on campsites. I have hiked and camped in the Rockies for years and appreciate our unspoiled wilderness but would like again to see marginal improvements to the area.

The challenge in making the trip (due to water and weather) is something we are losing in North America. Saving the remoteness and challenge should be the overriding goal of the Moose River Route. Generally, people who develop the skills to make the trip on foot are much more likely to know how to visit the area and don't degrade it for others. The easier to get to (horses, helicopters) the more likely to get people who are not sensitive to nature. We were not successful in our bid to traverse the route due to time and weather. I will be back with more time in the future. I hope everything looks the same when I return.

The general public should be allowed to use their personal horses without an outfitter/guide.

The history of horse use in Mount Robson Park is long and varied, and in the last 20 years volatile! Personally, I have a great respect for the men and women that opened up this area and provided a means for thousands of people to see those values that they would otherwise not have been able to. It may well be that horse use on the Berg Lake Trail is an un-resolvable issue, but if it is, I would like to see a good horse trail like the Moose designated as "horses have right of way and priority use" - if you don't like it then hike somewhere else.

The Moose River Route is some incredibly pristine wilderness that needs to be maintained for future generations. I think in the years to come as more people discover this area, there will be a need to limit the number of people, horses, outfits, etc. that are allowed in the area. Also, more education on low-impact camping ethics need to be taught. Canada has some spectacular scenery and wildlife that needs to be preserved for others. Good luck with your efforts!

The Moose River Route is some of the wildest, most beautiful country I have ever seen. Parks service personnel were extremely helpful. The trail is very poorly marked and excessive horse travel made sorting out the correct trail a challenge. Overall, one hell of a great hike.

The Moose River Route is true wilderness and passes through some of the park's most abundant habitat for grizzlies. Special consideration should be given to Moose Pass due to its high grizzly habitat. I was told I would see a grizzly in the pass and I did when I passed through. The other time I went to go up from the Berg Lake Trail side I ran into one near Yates Torrent. I definitely believe the trail should remain open but restrictions on numbers and campground sites should be installed. Slide Lakes campground should be eliminated due to bear habitat. It is a pristine area and some extensive wildlife inventories should be done before decisions are made. It is the financial and resource constraints of BC Parks that will be the determining factor. I would try to ensure the financial commitment is there before making the recommendations.

The Moose River Route should remain for horse back, back pack and helihiking. Not necessary to make a highway. Guided and private horse back use should always be permitted. Back packing should always be a permitted use.

The Moose River Trail should be developed to make it more accessible but not to the extent that it interferes with wildlife values. In conjunction with the Berg Lake Trail, it would make an interesting loop of 7 to 10 days duration. By making the trail passable but not too easy you should be able to keep use to a manageable level.

The primary mandate of any park should be conservation of natural ecosystems. Over-development of trails and campsites would likely lead to over-use of the area. As a consequence, this would lead to increased maintenance and modification, leading to further disruption of the landscape. However, designated trails and some limited camping development should be provided to protect sensitive sites and direct use to areas that are capable of supporting sustained use. Increased, easy access on the other hand, should not be

the driving force behind development. The resources offered through this park are only sustainable and renewable if they are managed conservatively.

The route is too long for most backpackers, but it would lend itself to horse parties but only if they don't have access to the Berg Lake Trail. That includes the Jasper horse people - they should access Jasper through Moose River only! Dogs should be allowed in this area.

The thing I enjoyed most was the fact that there was no one else on the trail. Sometimes it seems that beautiful places such as Moose River are harder and harder to find. I wanted to get away from the typical tourist route...it is an unbelievable place. Hope to return for a longer trip.

The trail going over Rainbow hump needs switchbacks added to the Moose River side. It is very steep and very torn up. Erosion may become a major problem. We originally hoped to go up the Moose River and come out on the Berg Lake Trail. Continual rain, high water and poor trail conditions prevented us from doing this. The trail along the Moose River the whole way to the Resplendent Creek campground was extremely torn up by horses. I suggest trail repair and/or ban on horses to prevent further degradation of the area. A few more, or better, trail markers along the gravel flats of Calumet Creek or the Coleman Glacier outflow near the route confluence with the North Boundary Trail would be good. We spent a considerable amount of time scouting around to find where the trail entered the trees on two occasions.

The trails were made by horses for horseback trips - this should never be discontinued! Anyone who can't appreciate the value and quality of horseback trips should hike elsewhere.

There's a lot less wildlife in the Moose River than there was in the 1960s and 1970s. One large moose lick was unused in 1991 where it used to be full of tracks. Too many wolves?

There are fewer and fewer places that are truly protected from major human intrusion. National and provincial parks are not fulfilling their mandate to "preserve and protect" - the evidence being that the ecology of these core areas is greatly disturbed. If we want to continually develop facilities and trails let us not pretend that this somehow preserves the area. It is exploitation and we should acknowledge the fact. Look to the problems with development around Banff and Mount Assiniboine. Banff National Park is now trying to curtail use in Spray Lakes and Cascade. Helicopter noise in Bryant Creek and Mount Assiniboine is degrading both user experience and many believe has impacts on goat populations. Keep helicopters well away from the parks. It is difficult if not impossible to return to the status quo.

There is a terrible shortage of good hiking trails, over good grades, from a good parking lot for families to hike to the alpine in half a day. There are none in the area outside the park either. Kinney Lake is nice but it is not up to alpine. Please make more alpine trails, easy to access and able to do so in one day, for families!

There was not enough conservation information regarding winter conservation concerns, therefore it was difficult to determine whether or not winter recreation is appropriate.

Minimizing grizzly/human interactions should be a management priority in order to meet grizzly bear conservation management objectives.

This is a fabulous route which should receive minimum development and management. However, horse travel has created considerable trail degradation by creating multiple routes and wide boggy messes in certain areas. The only development I would like to see is segregated trails for riders/foot hikers at points where the going is soft. Minimize signage, trail markers, bridges and campsites but emphasize minimum impact camping and travel in the area. If you keep it rough, remote and do not promote it, it will retain its character.

This is a most beautiful area and (by any means) should be kept that way. I first visited this area in October of 1948. We camped at the confluence of the Moose and Fraser Rivers. Our guide was Carl Mintz and our outfitter was Stan Carr. There's way too many animals killed by the trains in the winter. A special crew did nothing but wash the meat off the engines in Jasper. Elk and moose antlers littered the right-of-way. Provide a winter refuge like Jackson Hole for elk and moose where they could be fed and cared for. Stan Carr's daughter is one of your local artists and is quite good.

This should be a wilderness area. Please keep out the machines, helicopters and commercial activities.

Use of ski doos for wardens only. The question about campsites is how primitive? Toilets should be provided like the ones in Jasper high country. This will have everyone going in one direction so the campsite will be kept clean.

Using a trail for both hikers and horses is not advisable. Horses had caused considerable damage to the Moose River Route and the trail was extremely difficult to hike with a backpack due to the mud and erosion resulting from horse use. I enjoy horseback riding and appreciate the advantage it brings in time and maneuvering. However, I have also seen too much damage caused by horses on trails that are also used for foot hiking. Thanks for the opportunity to provide feedback.

Very nice trail. At some of the marshes we lost the trail but then found it again. At one point we veered off on a totally different trail at Steppe Creek delaying us. Our second day of hiking we did in our Teva sandals all day, 23 kilometres. I like the mud and river crossings. Makes the trail a challenge. I plan to go back for a week or two next summer to do some mountaineering.

We are a very experienced pair of hikers/mountaineers. We enjoyed the solitude of this exceptional area but don't mind sharing it with others who might like easier access (we can then explore the more remote areas even more easily). We've scrambled around mountains and wilderness all over the world and this route was exceptional. Horse access is a good way to explore the area but any trail upgrades should focus on alternative horse/hiker options.

We have often camped with a camper or tent in Mount Robson Provincial Park. Day hikes are our favourite and we mainly use the trail to Kirney Lake. We will look at other loops as a

result of this questionnaire. We have looked at the falls and have walked the flats along the river. I feel controlled access will become more important in the next decade. Although I don't like it, I accept it as a way of preserving the region while still allowing access. A lottery draw system such as the one used for the West Coast Trail is acceptable. Fees may be necessary in the future to ensure that we always have access to "wilderness", as well as safe, environmentally friendly use of the area.

We originally planned to stay for three days but it rained steady the whole time so we hiked out after the first night. One of the problems we experienced was a lot of mud due to the trail being shredded by horses. For this reason I do not approve of horse being on the trail. They destroy the trail and cause a lot of erosion. I would like to see the trail developed further but I cringe at the thought of it becoming like the Berg Lake Trail. It was nice to go hiking on a beautiful trail without seeing a million people. Although I have marked many facilities as desirable in the questionnaire, I think they should be kept to a minimum to preserve the trail's natural rugged appeal.

We probably did not encounter other traffic as it is quite a rough trail - thick trees and trails that have a lot of deep roots. I would not want to hike the entire trail. I was amazed the outfitter is permitted to tie his horses to trees overnight! Hard on the trees, ground...and the horses. I was also surprised that a regularly used camp is not required to provide an outhouse and move it annually. As with any area - controlled, monitored use is the key.

We would like to see the area remain pristine with conservation of wilderness and wildlife front and center. We would like to see this area remain a "route" and not be turned into a "trail". The use of helicopters in this park is already extreme and further use should not be permitted.

What does helihiking mean? 50 tourists inadequately dressed wandering around Moose Pass? An adventure group using the helicopter for access?

Where possible, it would be good to develop separate horse and hiker trails. This is a very wet route and horses really chew up paths in these conditions.

With ever increasing destruction of habitat I feel very strongly that it is not enough to simply label an area as "wilderness recreation". Sustainable, long-term protection will only be ensured when people respond with both heart and mind. Continued education and outreach efforts must accelerate to instill a "reverence for all life" that galvanizes true commitment, expanding beyond mere curiosity and enjoyment to active interest in protecting other areas. Therefore, it would be very desirable to establish minimal impact educational workshops which are site specific and convey the importance of ongoing protection. We should empower others to carry the torch! Thank you very much for this input opportunity.

You have a fine staff of park rangers who were both hospitable and extremely knowledgeable.

You will undoubtedly encounter pressure from commercial interests to allow more and more use. I maintain wilderness will be very scarce in years to come and that any commercial interest is far outweighed by the innate worth of a large wilderness area. The Moose is at the heart of the park and well out of harm's way of logging so it would be absurd to compromise it to any extent with tourism development. Let them seek other crown land. I think horse guiding should be limited and no helicopter licenses for regular use activities. Occasional use for logistical support might be OK, but to me the Moose is wilderness and helicopters flitting about do not fit that picture. If a park that size can't have wilderness when it exists now, what's the point of a park anyway? Please do not overemphasize what the public wants - remember the wilderness.

APPENDIX G - FIRST DELPHI QUESTIONNAIRE

The Planning Process

This is the first in a series of three questionnaires aimed at creating and reaching consensus on management objectives for the Moose River Route region of Mount Robson Provincial Park. The statements that you provide in this questionnaire will be compiled into a single list by BC Parks and UNBC and then reviewed by BC Parks to ensure that none of the statements contradict agency policy and the Mount Robson Provincial Park master plan. Once the statements have been reviewed, the composite list will be incorporated into a second questionnaire that will ask you to score the importance/appropriateness of each of the statements on a scale of 1 to 7. A mean score for each statement will be calculated.

The third questionnaire will include the mean score for each management objective statement as well as the score that you assigned to each of those statements. If the score that you assigned falls outside of a certain range (statistically defined consensus) you will be asked to reconsider your score for that particular statement. You can either revise your score and move it within the range needed to reach consensus or you can keep your original score and provide a brief description of your reason(s) for not changing your opinion.

This Questionnaire

Here are a few suggestions to help you fill out the questionnaire.

1. Try to create both management objectives and action statements to reach those objectives. For example, perhaps you feel that water quality could become a concern in the Moose River Route region. You could create a management objective such as *maintain water quality in a pure, unpolluted state*. However, rather than leaving the issue at that, try and think of some potential actions that could be used to reach the objective. For example, you could create an action statement such as *monitor water quality in the Moose River Route region*, or a statement such as *locate outhouses at campsites where water quality is a problem*.
2. Try to create management objectives that contain a single idea or concept. For example, the action statement *locate outhouses at campsites where water quality or visual impacts are a problem* contains two separate ideas. It would be easier to score the importance of this action statement if it were split into two separate statements: *locate outhouses at campsites where water quality is a problem* and *locate outhouses at campsites where the visual impacts of human waste are a problem*.
3. Try to create management objectives that touch on the many issues that will affect planning and management of the Moose River Route region. For example, try to write management objectives that deal with horse use, hiker use, helicopter use, wildlife concerns, facility development, commercial activity and trail/campsite concerns.

There is room in this questionnaire for 20 management objective statements and two action statements for each objective. If you need more room, please use the backside of each page to write additional objectives or action statements.

1) Management Objective:

Potential Actions:

a)

b)

2) Management Objective:

Potential Actions:

a)

b)

3) Management Objective:

Potential Actions:

a)

b)

4) Management Objective:

Potential Actions:

a)

b)

5) Management Objective:

Potential Actions:

a)

b)

6) Management Objective:

Potential Actions:

a)

b)

7) Management Objective:

Potential Actions:

a)

b)

8) Management Objective:

Potential Actions:

a)

b)

9) Management Objective:

Potential Actions:

a)

b)

10) Management Objective:

Potential Actions:

a)

b)

11) Management Objective:

Potential Actions:

a)

b)

12) Management Objective:

Potential Actions:

a)

b)

13) Management Objective:

Potential Actions:

a)

b)

14) Management Objective:

Potential Actions:

a)

b)

15) Management Objective:

Potential Actions:

a)

b)

16) Management Objective:

Potential Actions:

a)

b)

15) Management Objective:

Potential Actions:

a)

b)

16) Management Objective:

Potential Actions:

a)

b)

17) Management Objective:

Potential Actions:

a)

b)

18) Management Objective:

Potential Actions:

a)

b)

19) Management Objective:

Potential Actions:

a)

b)

20) Management Objective:

Potential Actions:

a)

b)

APPENDIX H - SECOND DELPHI QUESTIONNAIRE

The Planning Process

This is the second in a series of three questionnaires aimed at creating and reaching consensus on management objectives for the Moose River Route region of Mount Robson Provincial Park. This questionnaire was created by taking the management objectives and action statements identified in the first questionnaire and editing them for redundancy (many respondents had similar ideas) and readability. BC Parks also reviewed the statements to ensure consistency with park policy and the Mount Robson Provincial Park master plan.

This questionnaire lists the reviewed management objectives and associated action statements and asks you to score your agreement/disagreement with each statement on a scale of 1 to 7. The management objectives and action statements have been separated into six sections:

1. general management issues (18 management objectives);
2. commercial activity issues (5 management objectives);
3. horse use issues (8 management objectives);
4. wildlife issues (4 management objectives);
5. resource issues (3 management objectives); and
6. facility issues (8 management objectives).

The third questionnaire will contain the exact same statements found in this questionnaire but will include the average score for each statement based on the results that you provide in this questionnaire. If the score that you gave for a particular statement is significantly different than the average score, you will be asked to reconsider your opinion and move your score closer to the average so that consensus can be achieved. You can either revise your score and move it within the range needed for consensus or you can keep your original score and provide a brief description of your reason(s) for not changing your opinion.

This Questionnaire

Here are a few suggestions to help you fill out the questionnaire.

1. Please provide a score for each statement - this includes both management objectives and associated action statements. Do not leave anything blank. If you are unsure of your response then circle NS in the *not sure* column.
2. Please do not write any comments on this questionnaire. You will have opportunity to comment on the statements in the third and final questionnaire.

Again, thank you for your time and effort.

SECTION 1 - GENERAL MANAGEMENT ISSUES

Use of the Moose River Route region has increased in recent years and seems likely to increase as more backcountry recreationists become aware of the wilderness and solitude attractions of the region. BC Parks could actively attract more visitors to the Moose River Route region but increased use could lead to additional impacts on resources and the wilderness experience. Current use of the region can be separated into three different visitor groups: commercial horse, non-commercial horse and non-commercial hiking. Although commercial hiking does not occur in the Moose River Route region, park policy does not restrict this activity from the area.

☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Disagree		Neutral				Agree			Not Sure

Management Objective

1. Regulate the amount of use in the Moose River Route region --- 1 2 3 4 5 6 7 NS

Associated Action Statements

A) Adopt a policy where overnight...

- | | | | | | | | | |
|--|---|---|---|---|---|---|---|----|
| 1) <i>non-commercial</i> horse users register at the information centre before starting their trip----- | 1 | 2 | 3 | 4 | 5 | 6 | 7 | NS |
| 2) <i>commercial</i> horse operators register at the information centre before starting their trip----- | 1 | 2 | 3 | 4 | 5 | 6 | 7 | NS |
| 3) <i>non-commercial</i> hikers register at the information centre before starting their trip----- | 1 | 2 | 3 | 4 | 5 | 6 | 7 | NS |
| 4) <i>commercial</i> hiking operators register at the information centre before starting their trip----- | 1 | 2 | 3 | 4 | 5 | 6 | 7 | NS |

Disagree	Neutral		Agree	Not Sure
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B) Implement a quota system for...

1) <i>non-commercial</i> horse users-----	1	2	3	4	5	6	7	NS
2) <i>commercial</i> horse operators-----	1	2	3	4	5	6	7	NS
3) <i>non-commercial</i> hikers-----	1	2	3	4	5	6	7	NS
4) <i>commercial</i> hiking operators-----	1	2	3	4	5	6	7	NS

C) Initiate a lottery system to allocate the quota ----- 1 2 3 4 5 6 7 NS

Management Objective

2. Permit increased levels of use in select locations within the Moose River Route region-----	1	2	3	4	5	6	7	NS
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Associated Action Statements

**A) Develop the lower end of the route from the trailhead to
Resplendent gravel flats (see map 1) for increased levels of
overnight use for...**

1) <i>non-commercial</i> horse users-----	1	2	3	4	5	6	7	NS
2) <i>commercial</i> horse operators-----	1	2	3	4	5	6	7	NS
3) <i>non-commercial</i> hikers-----	1	2	3	4	5	6	7	NS
4) <i>commercial</i> hiking operators-----	1	2	3	4	5	6	7	NS

**B) Maintain the mid to upper sections of the route as a
wilderness travel region with minimal to no facilities----- 1 2 3 4 5 6 7 NS**

Disagree	Neutral	Agree	Not Sure
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Management Objective

3. Minimize the potential for crowding in the Moose River Route region ----- 1 2 3 4 5 6 7 NS

Associated Action Statement

- A) Develop other backcountry opportunities in Mount Robson Provincial Park to absorb use from the Moose River Route during periods of...
- 1) high water (generally in June) ----- 1 2 3 4 5 6 7 NS
- 2) heavy use (generally in July and August) ----- 1 2 3 4 5 6 7 NS

Management Objective

4. Develop the Moose River Route region to alleviate hiker over-use on the Berg Lake Trail ----- 1 2 3 4 5 6 7 NS

Management Objective

5. Develop a world-class *hiking only* opportunity in the Moose River Route region ----- 1 2 3 4 5 6 7 NS

Associated Action Statements

- A) Upgrade the Moose River Route to a high quality trail ----- 1 2 3 4 5 6 7 NS
- B) Prepare a promotional strategy to attract hikers ----- 1 2 3 4 5 6 7 NS

Disagree	Neutral	Agree	Not Sure
----------	---------	-------	-------------

Management Objective

6. Eliminate *all* human use in the Moose River Route region ----- 1 2 3 4 5 6 7 NS

Associated Action Statements

- A) Prepare an advertising package to inform the public of the closure ----- 1 2 3 4 5 6 7 NS
- B) Establish a process to monitor the long-term effects of the closure ----- 1 2 3 4 5 6 7 NS

Management Objective

7. Make the Moose River Route region a user pay system for overnight visitors ----- 1 2 3 4 5 6 7 NS

Associated Action Statement

- A) Charge a backcountry user fee for...
- 1) *non-commercial* horse users ----- 1 2 3 4 5 6 7 NS
- 2) *commercial* horse operators ----- 1 2 3 4 5 6 7 NS
- 3) *non-commercial* hikers ----- 1 2 3 4 5 6 7 NS
- 4) *commercial* hiking operators ----- 1 2 3 4 5 6 7 NS

Management Objective

8. Reduce the cost of search and rescue operations to the provincial government ----- 1 2 3 4 5 6 7 NS

Disagree	Neutral		Agree	Not Sure
----------	---------	--	-------	-------------

Associated Action Statement

- A) Require all users to pay the costs of any search and rescue operation conducted on their behalf in Mount Robson Provincial Park, including the Moose River Route region ----- 1 2 3 4 5 6 7 NS

Management Objective

9. Maintain a visible management presence in the Moose River Route region ----- 1 2 3 4 5 6 7 NS

Associated Action Statements

- A) Have park staff travel through the region during periods of heavy use (generally in July and August) ----- 1 2 3 4 5 6 7 NS
- B) Keep trailhead information updated ----- 1 2 3 4 5 6 7 NS
- C) Have work crews maintain trails and facilities ----- 1 2 3 4 5 6 7 NS

Management Objective

10. Inform visitors of the potential for accidents at river crossings -- 1 2 3 4 5 6 7 NS

Associated Action Statements

- A) Have information centre personnel inform all users of the hazards posed by river crossings ----- 1 2 3 4 5 6 7 NS
- B) Have all users complete a form that indemnifies the province from liability ----- 1 2 3 4 5 6 7 NS

Disagree	Neutral		Agree	Not Sure
----------	---------	--	-------	-------------

Management Objective

11. Use a systematic management approach to preserve the wilderness atmosphere of the Moose River Route region----- 1 2 3 4 5 6 7 NS

Associated Action Statements

A) Assess baseline...

- 1) social conditions (e.g. level of use, satisfaction, crowding, demand, conflict) for all user groups ----- 1 2 3 4 5 6 7 NS
- 2) resource conditions (e.g. trails, campsites, graze, water quality) ----- 1 2 3 4 5 6 7 NS

B) Set standards for...

- 1) social conditions ----- 1 2 3 4 5 6 7 NS
- 2) resource conditions ----- 1 2 3 4 5 6 7 NS

C) Compare standards to existing conditions ----- 1 2 3 4 5 6 7 NS

D) Implement management strategies to improve conditions that do not meet standards----- 1 2 3 4 5 6 7 NS

E) Monitor...

- 1) social conditions ----- 1 2 3 4 5 6 7 NS
- 2) resource conditions ----- 1 2 3 4 5 6 7 NS

Disagree	Neutral		Agree	Not Sure
----------	---------	--	-------	-------------

Management Objective

12. Complement management of the Moose River Route with adjacent lands in Jasper National Park ----- 1 2 3 4 5 6 7 NS

Associated Action Statement

- A) Work with Jasper National Park to develop similar standards for...
- 1) facility development----- 1 2 3 4 5 6 7 NS
- 2) levels of use ----- 1 2 3 4 5 6 7 NS
- 3) maximum party size----- 1 2 3 4 5 6 7 NS

Management Objective

- 13) Define in clear, measurable terms the type of visitor experience the Moose River Route region provides visitors----- 1 2 3 4 5 6 7 NS

Associated Action Statements

- A) Identify...
- 1) an appropriate level of user satisfaction ----- 1 2 3 4 5 6 7 NS
- 2) an appropriate level of crowding ----- 1 2 3 4 5 6 7 NS
- 3) an appropriate level of use----- 1 2 3 4 5 6 7 NS
- B) Use questionnaires that have a *before* and *after* component to measure differences between visitor expectations and the experience obtained----- 1 2 3 4 5 6 7 NS

Disagree	Neutral		Agree	Not Sure
----------	---------	--	-------	-------------

Management Objective

14. Make management decisions on the Moose River Route region within the area's ecological and cultural heritage constraints -----

1 2 3 4 5 6 7 NS

Associated Action Statements

- A) Complete a thorough environmental assessment that identifies...

1) cultural resources ----- 1 2 3 4 5 6 7 NS

2) special features ----- 1 2 3 4 5 6 7 NS

- B) Complete environmental assessments prior to any development -----

1 2 3 4 5 6 7 NS

- C) Pay particular attention to cumulative effects when completing environmental assessments -----

1 2 3 4 5 6 7 NS

- D) Acknowledge that the natural ecosystem has priority over human use when developing a long-term management plan -----

1 2 3 4 5 6 7 NS

Management Objective

15. Manage visitor use to minimize user group conflict -----

1 2 3 4 5 6 7 NS

Associated Action Statements

- A) Have park staff meet annually with commercial operators to advise them of the region's management objectives -----

1 2 3 4 5 6 7 NS

Disagree	Neutral	Agree	Not Sure
----------	---------	-------	-------------

- B) Have the information centre provide a daily itinerary of commercial operators so visitors are aware of the possibility of meeting commercial parties ----- 1 2 3 4 5 6 7 NS

Management Objective

16. Allow recreational activity in the Moose River Route region ---- 1 2 3 4 5 6 7 NS

Associated Action Statements

- A) Permit day use ----- 1 2 3 4 5 6 7 NS
 B) Permit overnight use----- 1 2 3 4 5 6 7 NS
 C) Permit unserviced camping ----- 1 2 3 4 5 6 7 NS
 D) Permit *non-commercial* horse use ----- 1 2 3 4 5 6 7 NS
 E) Permit *commercial* horse use----- 1 2 3 4 5 6 7 NS
 F) Permit *non-commercial* hiking----- 1 2 3 4 5 6 7 NS
 G) Permit *commercial* hiking ----- 1 2 3 4 5 6 7 NS

Management Objective

17. Encourage limited winter recreation ----- 1 2 3 4 5 6 7 NS

Disagree	Neutral		Agree	Not Sure
----------	---------	--	-------	-------------

Management Objective

18. Implement a camping policy for the Moose River Route
region ----- 1 2 3 4 5 6 7 NS

Associated Action Statement

A) Require *all* visitors to practice no-trace camping...

1) at random campsites located in alpine areas ----- 1 2 3 4 5 6 7 NS

2) at designated campsites located in alpine areas ----- 1 2 3 4 5 6 7 NS

3) at random campsites located below timberline ----- 1 2 3 4 5 6 7 NS

4) at designated campsites located below timberline ----- 1 2 3 4 5 6 7 NS

SECTION 2 - COMMERCIAL ACTIVITY ISSUES

There are currently two horse outfitters operating in the Moose River Route region. One of these outfitters makes an average of six trips per season into the region while the other uses the area on an infrequent basis. There are no guided hiking operators and very limited commercial helicopter activity in the region. The current level of commercial activity, combined with primitive trail conditions and non-commercial traffic has had a negative impact on chronically wet sections of trail. Given current budgetary constraints, it is difficult for BC Parks to maintain and repair trails and facilities in the Moose River Route region.

Disagree	Neutral	Agree	Not Sure
----------	---------	-------	-------------

Management Objective

19. Allow commercial activity in the Moose River Route region ---- 1 2 3 4 5 6 7 NS

Associated Action Statements

A) Allow commercial horse operations----- 1 2 3 4 5 6 7 NS

B) Allow commercial hiking operations----- 1 2 3 4 5 6 7 NS

Management Objective

20. Permit commercial activity in the Moose River Route region
on a cost recovery basis only ----- 1 2 3 4 5 6 7 NS

Associated Action Statements

A) Use a proposal call process for all commercial activity ----- 1 2 3 4 5 6 7 NS

B) Implement a fee structure for park use permits based on the
level of revenue generated from trips into the region ----- 1 2 3 4 5 6 7 NS

Disagree	Neutral	Agree	Not Sure
----------	---------	-------	-------------

- C) Adopt a fee structure for park use permits that gives a return to the crown sufficient to cover resource and facility management costs necessary to protect and maintain the resource----- 1 2 3 4 5 6 7 NS

Management Objective

21. Develop a code of conduct/code of ethics for commercial operators----- 1 2 3 4 5 6 7 NS

Associated Action Statements

- A) Work with commercial operators and public user groups to develop a code of conduct/code of ethics for the Moose River Route region ----- 1 2 3 4 5 6 7 NS
- B) Work with commercial operators and public user groups to develop a code of conduct/code of ethics for the entire Canadian Rocky Mountain Parks World Heritage Site----- 1 2 3 4 5 6 7 NS

Management Objective

22. Require commercial operators to maintain the Moose River Route region ----- 1 2 3 4 5 6 7 NS

Associated Action Statements

- A) Adopt a policy where performance bonds are required before a park use permit is issued ----- 1 2 3 4 5 6 7 NS

Disagree	Neutral		Agree	Not Sure
----------	---------	--	-------	-------------

B) Require horse outfitters to file a report after every trip that details...

1) trail conditions -----	1	2	3	4	5	6	7	NS
2) work performed to maintain trails and facilities -----	1	2	3	4	5	6	7	NS

Management Objective

23. Limit the extent of helicopter activity in the Moose River

Route region -----	1	2	3	4	5	6	7	NS
--------------------	---	---	---	---	---	---	---	----

Associated Action Statements

A) Eliminate helicopter landings -----	1	2	3	4	5	6	7	NS
B) Limit helicopter landings by agreement with the park use permit holder to Steppe Creek and Resplendent Creek campsites (see map 1) -----	1	2	3	4	5	6	7	NS
C) Limit helicopter flights to one day per week -----	1	2	3	4	5	6	7	NS
D) Limit helicopter flights to no further up the Moose River drainage than Steppe Creek (see map 1) -----	1	2	3	4	5	6	7	NS
E) Adopt flight paths by agreement with the park use permit holder that avoid all valley bottom areas -----	1	2	3	4	5	6	7	NS
F) Enforce park regulations for non-compliance -----	1	2	3	4	5	6	7	NS

SECTION 3 - HORSE USE ISSUES

The Moose River Route is the only designated horse trail in Mount Robson Provincial Park. Other horse riding opportunities exist within the park but are limited. BC Parks could promote horse use in the Moose River Route region but would have to address impacts that include damage to chronically wet sections of trail and competition with wildlife for available graze.

Disagree	Neutral	Agree	Not Sure
----------	---------	-------	-------------

Management Objective

24. Maintain horse use in the Moose River Route region ----- 1 2 3 4 5 6 7 NS

Management Objective

25. Eliminate horse-induced habitat damage in the Moose River
Route region ----- 1 2 3 4 5 6 7 NS

Associated Action Statements

A) Eliminate *all* horse use ----- 1 2 3 4 5 6 7 NS

B) Prepare an awareness program for the horse restriction policy--- 1 2 3 4 5 6 7 NS

C) Recommend other non-park areas for horse use----- 1 2 3 4 5 6 7 NS

D) Enforce park regulations for non-compliance----- 1 2 3 4 5 6 7 NS

Management Objective

26. Prevent over-grazing in the Moose River Route region ----- 1 2 3 4 5 6 7 NS

Disagree	Neutral		Agree	Not Sure
----------	---------	--	-------	-------------

Associated Action Statements

- | | | | | | | | | | |
|----|---|---|---|---|---|---|---|---|----|
| A) | Require all horse users to carry adequate feed for their trip ----- | 1 | 2 | 3 | 4 | 5 | 6 | 7 | NS |
| B) | Prepare an awareness program to emphasize the benefits of
this requirement ----- | 1 | 2 | 3 | 4 | 5 | 6 | 7 | NS |
| C) | Establish strict monitoring to ensure compliance ----- | 1 | 2 | 3 | 4 | 5 | 6 | 7 | NS |

Management Objective

- | | | | | | | | | | |
|-----|---|---|---|---|---|---|---|---|----|
| 27. | Adopt a user maintain approach to the maintenance of horse
trails and facilities in the Moose River Route region ----- | 1 | 2 | 3 | 4 | 5 | 6 | 7 | NS |
|-----|---|---|---|---|---|---|---|---|----|

Associated Action Statements

- | | | | | | | | | | |
|----|---|---|---|---|---|---|---|---|----|
| A) | Inventory trail conditions ----- | 1 | 2 | 3 | 4 | 5 | 6 | 7 | NS |
| B) | Inventory horse facilities ----- | 1 | 2 | 3 | 4 | 5 | 6 | 7 | NS |
| C) | Determine annual maintenance costs for horse use ----- | 1 | 2 | 3 | 4 | 5 | 6 | 7 | NS |
| D) | Initiate a per horse per night charge that is sufficient to
maintain all horse facilities and trails ----- | 1 | 2 | 3 | 4 | 5 | 6 | 7 | NS |
| E) | Adopt a policy where horse users volunteer a percentage of
their time on the trail towards maintenance of horse facilities
and trails ----- | 1 | 2 | 3 | 4 | 5 | 6 | 7 | NS |

Management Objective

- | | | | | | | | | | |
|-----|---|---|---|---|---|---|---|---|----|
| 28. | Establish a maximum limit to the number of horses per party --- | 1 | 2 | 3 | 4 | 5 | 6 | 7 | NS |
|-----|---|---|---|---|---|---|---|---|----|

Disagree	Neutral	Agree	Not Sure
----------	---------	-------	-------------

Management Objective

29. Establish a maximum limit to the number of people per horse party----- 1 2 3 4 5 6 7 NS

Management Objective

30. Develop a world-class opportunity for horse use in the Moose River Route region----- 1 2 3 4 5 6 7 NS

Associated Action Statements

- A) Determine the potential demand for this opportunity----- 1 2 3 4 5 6 7 NS
- B) Determine annual operating costs ----- 1 2 3 4 5 6 7 NS
- C) Develop the world-class opportunity...
- 1) exclusively for horse travel----- 1 2 3 4 5 6 7 NS
- 2) without restrictions on other forms of travel----- 1 2 3 4 5 6 7 NS

Management Objective

31. Promote the importance of self-registration to private horse users----- 1 2 3 4 5 6 7 NS

SECTION 4 - WILDLIFE ISSUES

Recreational activity is known to affect wildlife. In addition to direct habitat loss from trails and campsites, recreational activity can create avoidance zones and lead to habitat fragmentation. BC Parks could promote use of the Moose River Route region but detailed wildlife information is lacking for the area.

Disagree	Neutral			Agree	Not Sure
----------	---------	--	--	-------	-------------

Management Objective

32. Minimize impacts to wildlife from recreational use ----- 1 2 3 4 5 6 7 NS

Associated Action Statements

A) Develop a wildlife inventory plan to address inventory needs...

1) for Mount Robson Provincial Park----- 1 2 3 4 5 6 7 NS

2) for regions surrounding the park ----- 1 2 3 4 5 6 7 NS

B) Complete a comprehensive wildlife assessment to identify critical wildlife habitat on a seasonal basis for...

1) goat ----- 1 2 3 4 5 6 7 NS

2) moose----- 1 2 3 4 5 6 7 NS

3) caribou----- 1 2 3 4 5 6 7 NS

4) wolf----- 1 2 3 4 5 6 7 NS

5) grizzly bear ----- 1 2 3 4 5 6 7 NS

6) black bear ----- 1 2 3 4 5 6 7 NS

Disagree	Neutral		Agree	Not Sure
----------	---------	--	-------	-------------

C) Complete a comprehensive wildlife assessment to identify movement corridors for...

1) goat -----	1	2	3	4	5	6	7	NS
2) moose-----	1	2	3	4	5	6	7	NS
3) caribou-----	1	2	3	4	5	6	7	NS
4) wolf-----	1	2	3	4	5	6	7	NS
5) grizzly bear -----	1	2	3	4	5	6	7	NS
6) black bear -----	1	2	3	4	5	6	7	NS

D) Define thresholds of recreational use to minimize impacts to habitat and movement corridors -----

1 2 3 4 5 6 7 NS

E) Develop a wildlife management plan -----

1 2 3 4 5 6 7 NS

Management Objective

33. Minimize human impact on bears in the upper Moose River drainage-----

1 2 3 4 5 6 7 NS

Disagree	Neutral		Agree	Not Sure
----------	---------	--	-------	-------------

Associated Action Statements

A) Designate the area from Moose Pass to Slide Lake campsite (see map 2) a no camping area for...									
1) <i>non-commercial</i> horse users-----	1	2	3	4	5	6	7	NS	
2) <i>commercial</i> horse operators-----	1	2	3	4	5	6	7	NS	
3) <i>non-commercial</i> hikers-----	1	2	3	4	5	6	7	NS	
4) <i>commercial</i> hiking operators-----	1	2	3	4	5	6	7	NS	
B) Foster an understanding of the rationale behind the closure by educating visitors on the importance of Moose Pass to the region's bear populations -----									
	1	2	3	4	5	6	7	NS	
C) Improve the re-route around the Slide Lake campsite (see map 2)-----									
	1	2	3	4	5	6	7	NS	
D) Close Slide Lake campsite (see map 2)-----									
	1	2	3	4	5	6	7	NS	

Management Objective

34. Minimize negative human-wildlife interaction -----	1	2	3	4	5	6	7	NS	
---	---	---	---	---	---	---	---	----	--

Associated Action Statements

A) Identify high bear hazard areas through...									
1) a review of Wayne McCrory's bear hazard evaluation-----	1	2	3	4	5	6	7	NS	
2) a reconnaissance by BC Parks -----	1	2	3	4	5	6	7	NS	

Disagree	Neutral		Agree	Not Sure
----------	---------	--	-------	-------------

B) Inform visitors about high bear hazard areas through...									
1) signs at the trailhead-----	1	2	3	4	5	6	7	NS	
2) handout maps-----	1	2	3	4	5	6	7	NS	
C) Educate visitors on appropriate behaviour in bear country through...									
1) interaction at the visitors centre -----	1	2	3	4	5	6	7	NS	
2) signs at campsites-----	1	2	3	4	5	6	7	NS	
3) signs at the trailhead-----	1	2	3	4	5	6	7	NS	
D) Provide bear awareness information in German and Japanese, in addition to English-----									
1) interaction at the visitors centre -----	1	2	3	4	5	6	7	NS	
E) Limit hiking to the month of September to reduce the potential for negative interaction -----									
1) interaction at the visitors centre -----	1	2	3	4	5	6	7	NS	
F) Limit all travel to designated trails -----									
1) interaction at the visitors centre -----	1	2	3	4	5	6	7	NS	

Management Objective

35. Eliminate fishing from the Moose River Route region -----	1	2	3	4	5	6	7	NS	
---	---	---	---	---	---	---	---	----	--

SECTION 5 - RESOURCE ISSUES

Fire suppression can have a significant effect on vegetation communities in the Moose River Route region. Although prescribed burns are an important tool for park managers they have the potential to destroy locally unique plant communities. Special features such as Arctomys Cave and Resplendent Meadows are major draws to recreationists, but are particularly sensitive to damage from recreational activity.

		Disagree							Neutral	Agree							Not Sure
Management Objective																	
36.	Maintain natural plant communities in the Moose River Route region -----	1	2	3	4	5	6	7	NS								
Associated Action Statements																	
A)	Allow natural fires to burn-----	1	2	3	4	5	6	7	NS								
B)	Prepare public education packages to be distributed when fires occur -----	1	2	3	4	5	6	7	NS								
C)	Allow insect infestations to take a natural, unchecked course----	1	2	3	4	5	6	7	NS								
D)	Identify and protect sensitive or unique plant communities from damage by recreational use -----	1	2	3	4	5	6	7	NS								
E)	Assess and monitor vegetation conditions, particularly in wet areas, to ensure that damage is not occurring -----	1	2	3	4	5	6	7	NS								
F)	Develop a vegetation management plan -----	1	2	3	4	5	6	7	NS								

Disagree	Neutral		Agree	Not Sure
----------	---------	--	-------	-------------

Management Objective

37. Maintain all existing (natural and introduced) plant communities in the Moose River Route region----- 1 2 3 4 5 6 7 NS

Management Objective

38. Protect sensitive special features such as Arctomys Cave and Resplendent Meadows----- 1 2 3 4 5 6 7 NS

Associated Action Statements

- A) Do not indicate the location of special features on maps of the region ----- 1 2 3 4 5 6 7 NS
- B) Do not indicate trails leading to special features on maps of the region----- 1 2 3 4 5 6 7 NS
- C) Do not place signs at trails leading to special features----- 1 2 3 4 5 6 7 NS

SECTION 6 - FACILITY ISSUES

The Moose River Route region contains very few facilities. The trailhead has an information board and a horse ramp while the majority of campsites contain no more than a rustic fire pit and a bear pole. The development of additional facilities may help reduce resource impacts (for example, the placement of toilets may improve water quality) but facility development can also lead to increased use of the region and a reduced wilderness experience.

	Disagree		Neutral		Agree		Not Sure
Management Objective							
39. Develop clean, safe and attractive campsites-----	1	2	3	4	5	6	7 NS
Associated Action Statements							
A) Develop campsites that...							
1) are approximately ten to fifteen kilometres apart to accommodate visitors of varying speeds -----	1	2	3	4	5	6	7 NS
2) are away from areas frequented by wildlife-----	1	2	3	4	5	6	7 NS
3) are small capacity to ensure maintenance of the wilderness experience -----	1	2	3	4	5	6	7 NS
4) contain backcountry toilets -----	1	2	3	4	5	6	7 NS
5) contain plank benches -----	1	2	3	4	5	6	7 NS
6) contain picnic tables -----	1	2	3	4	5	6	7 NS
7) contain tent pads -----	1	2	3	4	5	6	7 NS
8) contain a free standing bear pole -----	1	2	3	4	5	6	7 NS
9) contain a bear proof cache -----	1	2	3	4	5	6	7 NS

Disagree	Neutral		Agree	Not Sure
----------	---------	--	-------	-------------

- | | | | | | | | | | |
|----|---|---|---|---|---|---|---|---|----|
| B) | Only install outhouses where the level of use justifies the maintenance expense ----- | 1 | 2 | 3 | 4 | 5 | 6 | 7 | NS |
| C) | Combine horse and hiker campsites ----- | 1 | 2 | 3 | 4 | 5 | 6 | 7 | NS |

Management Objective

- | | | | | | | | | | |
|-----|---|---|---|---|---|---|---|---|----|
| 40. | Return all <i>existing</i> campsites to a natural state and establish new campsites in acceptable locations ----- | 1 | 2 | 3 | 4 | 5 | 6 | 7 | NS |
|-----|---|---|---|---|---|---|---|---|----|

Associated Action Statements

- | | | | | | | | | | |
|----|---|---|---|---|---|---|---|---|----|
| A) | Remove all trash from existing campsites ----- | 1 | 2 | 3 | 4 | 5 | 6 | 7 | NS |
| B) | Rehabilitate existing campsites to a natural state ----- | 1 | 2 | 3 | 4 | 5 | 6 | 7 | NS |
| C) | Research locations for new hiker campsites using minimum impact to resources as the main criteria ----- | 1 | 2 | 3 | 4 | 5 | 6 | 7 | NS |
| D) | Research locations for new horse campsites using criteria that include... | | | | | | | | |
| 1) | graze availability ----- | 1 | 2 | 3 | 4 | 5 | 6 | 7 | NS |
| 2) | graze recovery ----- | 1 | 2 | 3 | 4 | 5 | 6 | 7 | NS |
| 3) | impacts to wildlife ----- | 1 | 2 | 3 | 4 | 5 | 6 | 7 | NS |
| 4) | competition with wildlife ----- | 1 | 2 | 3 | 4 | 5 | 6 | 7 | NS |
| 5) | effects on hikers ----- | 1 | 2 | 3 | 4 | 5 | 6 | 7 | NS |

Disagree	Neutral		Agree	Not Sure
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Associated Action Statements

A) Build a trail designed to...									
1) type 2 standard (1.25 metres wide, potentially surfaced) ----	1	2	3	4	5	6	7	NS	
2) type 3 standard (0.75 metres wide, unsurfaced)-----	1	2	3	4	5	6	7	NS	
3) type 4 standard (0.50 metres wide, unsurfaced)-----	1	2	3	4	5	6	7	NS	
B) Develop separate trails for horse users and hikers-----									
	1	2	3	4	5	6	7	NS	
C) Restrict horse use of the Moose River Route during wet periods -----									
	1	2	3	4	5	6	7	NS	

Management Objective

45. Provide comprehensive information on the Moose River Route region to potential visitors -----									
	1	2	3	4	5	6	7	NS	

Associated Action Statements

A) Provide a complete and accurate map of the Moose River Route region -----									
	1	2	3	4	5	6	7	NS	
B) Provide signage marking points of interest-----									
	1	2	3	4	5	6	7	NS	
C) Provide a better trail description -----									
	1	2	3	4	5	6	7	NS	

Disagree	Neutral		Agree	Not Sure
----------	---------	--	-------	-------------

D) Provide trailhead information explaining that...

1) the Moose River Route is a designated horse trail -----	1	2	3	4	5	6	7	NS
2) hikers may have to deviate from the trail -----	1	2	3	4	5	6	7	NS
3) the trail is poorly marked -----	1	2	3	4	5	6	7	NS
4) the trail is obscured by vegetation-----	1	2	3	4	5	6	7	NS
5) travel is not recommended for hikers during high water-----	1	2	3	4	5	6	7	NS

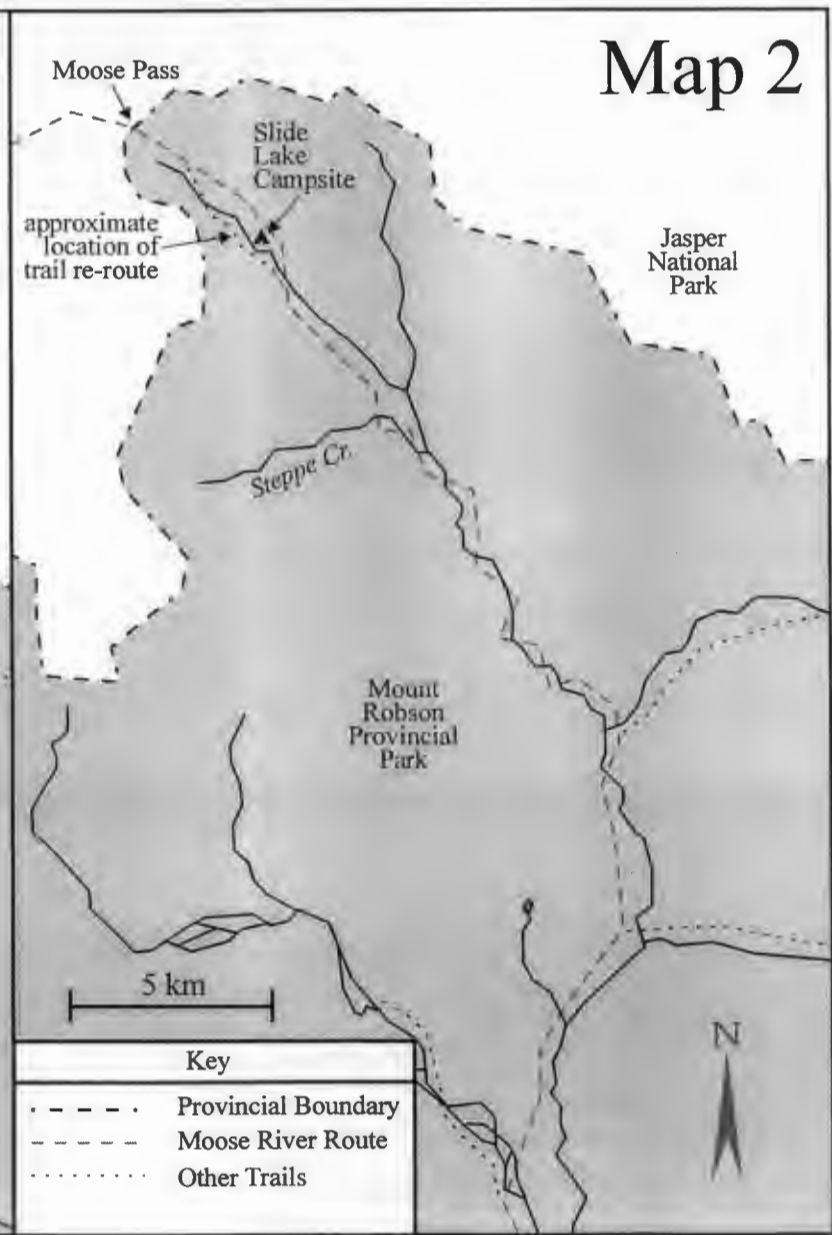
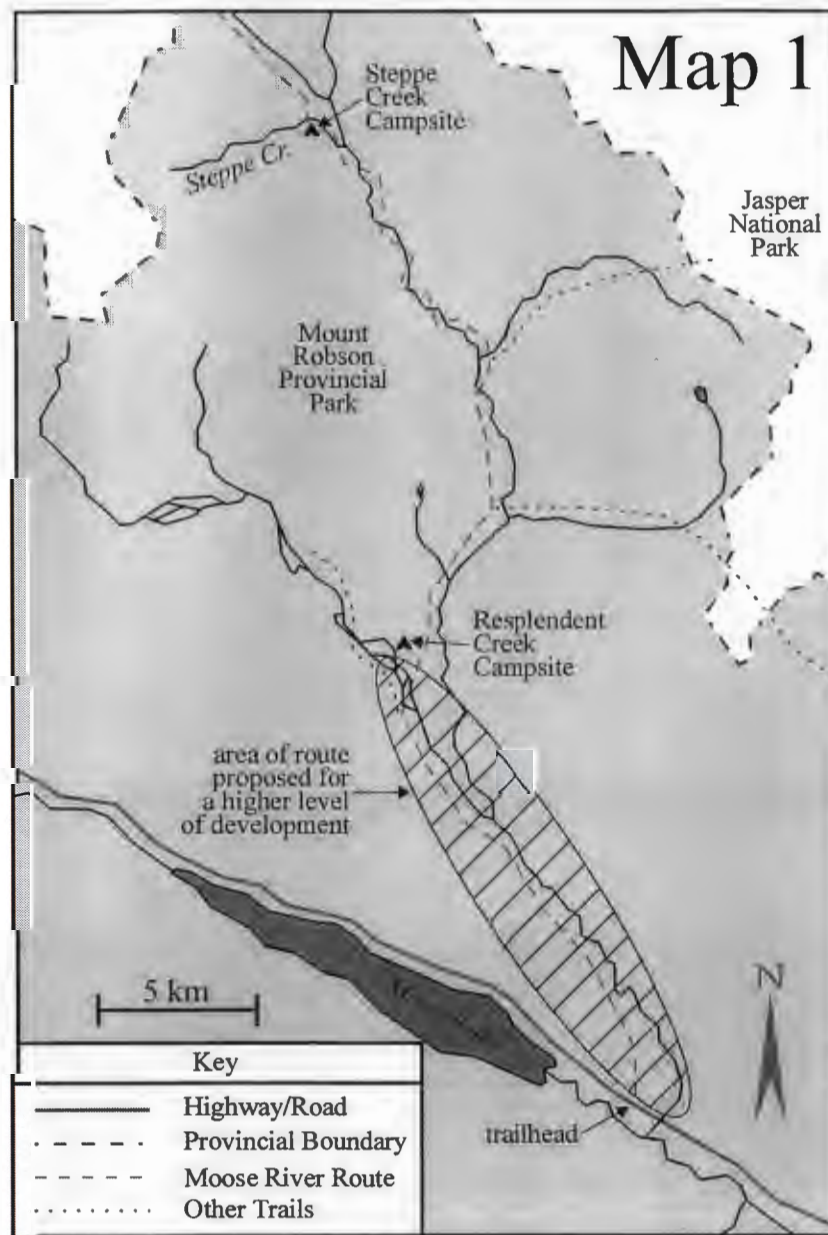
Management Objective

46. Educate users of the Moose River Route region on backcountry ethics -----	1	2	3	4	5	6	7	NS
--	---	---	---	---	---	---	---	----

Associated Action Statement

A) Provide educational material on...

1) pack it in, pack it out -----	1	2	3	4	5	6	7	NS
2) low impact camping -----	1	2	3	4	5	6	7	NS
3) low impact wildlife viewing -----	1	2	3	4	5	6	7	NS
4) trail etiquette (when meeting other user groups)-----	1	2	3	4	5	6	7	NS
5) campsite etiquette-----	1	2	3	4	5	6	7	NS
6) proper backcountry waste disposal-----	1	2	3	4	5	6	7	NS



APPENDIX I - THIRD DELPHI QUESTIONNAIRE

The Planning Process

This is the third and final questionnaire aimed at creating and reaching consensus on management objectives for the Moose River Route region of Mount Robson Provincial Park. This questionnaire contains the same statements as the previous questionnaire but includes additional information to help you (and the other group members) reach consensus.

In the previous questionnaire, you were asked to indicate your agreement/disagreement with 225 management objectives and associated action statements. These results were analyzed and consensus was reached on 115 of the 225 statements. For this questionnaire, you will be asked to review the 110 statements where consensus was not reached and asked to consider changing your score in order to achieve consensus.

Once all the questionnaires have been returned, the data will be analyzed to determine how many of the 110 unresolved statements have achieved consensus. BC Parks will be given a complete list of consensus-based statements and unresolved statements. BC Parks has the option to implement all or none of the management objectives and associated action statements generated from this process.

This Questionnaire

Here are a few suggestions to help you fill out the questionnaire.

1. The unresolved management objectives and associated action statements have been shaded. If you turn to page 2 of the questionnaire, you will see that statement 1B2 is the first unresolved statement in the questionnaire. The score that you provided for this statement has been given a darker shade - in your case you assigned statement 1B2 a score of 7.
2. The numbers on the right side of the questionnaire are the responses from all group members. For statement 1B2, one member assigned a score of 1, three members assigned a score of 5, two members assigned a score of 6 and six members assigned a score of 7. Normally there will be twelve numbers (one for each group member) in this space but there may be less depending on how many members selected *not sure*.
3. Please go through each unresolved statement and compare your score with the scores provided by the other group members. If you feel that you can change your score in order to achieve consensus, circle the number (on the scale of 1 to 7) that brings you closer to the other group members. If you do not change your score please use the blank space on the back of each page to fully define your position on that issue. Make sure to include the statement number (for example 1B2) next to your comment so I know which statement you are making reference to.

Again, thank you for your time and effort.

SECTION 1 - GENERAL MANAGEMENT ISSUES

Use of the Moose River Route region has increased in recent years and seems likely to increase as more backcountry recreationists become aware of the wilderness and solitude attractions of the region. BC Parks could actively attract more visitors to the Moose River Route region but increased use could lead to additional impacts on resources and the wilderness experience. Current use of the region can be separated into three different visitor groups: commercial horse, non-commercial horse and non-commercial hiking. Although commercial hiking does not occur in the Moose River Route region, park policy does not restrict this activity from the area.

									Group Responses

	Disagree		Neutral		Agree		Not Sure	Group Responses	
B) Implement a quota system for...									
1) <i>non-commercial</i> horse users-----	1	2	3	4	5	6	7	NS	
2) <i>commercial</i> horse operators-----	1	2	3	4	5	6	7	NS	1 5 5 5 6 6 7 7 7 7 7 7
3) <i>non-commercial</i> hikers-----	1	2	3	4	5	6	7	NS	
4) <i>commercial</i> hiking operators-----	1	2	3	4	5	6	7	NS	1 5 5 5 5 6 6 7 7 7 7 7
C) Initiate a lottery system to allocate the quota -----									
	1	2	3	4	5	6	7	NS	

Management Objective

2. Permit increased levels of use in select locations within the
Moose River Route region----- 1 2 3 4 5 6 7 NS

Associated Action Statements

- A)** Develop the lower end of the route from the trailhead to
Resplendent gravel flats (see map 1) for increased levels of
overnight use for...

1) <i>non-commercial</i> horse users-----	1	2	3	4	5	6	7	NS	1 1 1 2 3 4 4 5 5 5 6
2) <i>commercial</i> horse operators-----	1	2	3	4	5	6	7	NS	1 1 1 1 2 3 4 4 5 5 6
3) <i>non-commercial</i> hikers-----	1	2	3	4	5	6	7	NS	1 1 2 4 4 5 5 5 6 6 7
4) <i>commercial</i> hiking operators-----	1	2	3	4	5	6	7	NS	1 1 2 4 4 4 5 5 5 6 6

Disagree	Neutral	Agree	Not Sure
----------	---------	-------	-------------

Group
Responses

- B)** Maintain the mid to upper sections of the route as a wilderness travel region with minimal to no facilities ----- 1 2 3 4 5 6 7 NS

Management Objective

- 3.** Minimize the potential for crowding in the Moose River Route region ----- 1 2 3 4 5 6 7 NS

Associated Action Statement

- A)** Develop other backcountry opportunities in Mount Robson Provincial Park to absorb use from the Moose River Route during periods of...

1) high water (generally in June) -----	1	2	3	4	5	6	7	NS	1 1 1 3 4 6 7 7 7 7
2) heavy use (generally in July and August) -----	1	2	3	4	5	6	7	NS	1 1 2 4 4 5 6 7 7 7

Management Objective

- 4.** Develop the Moose River Route region to alleviate hiker over-use on the Berg Lake Trail ----- 1 2 3 4 5 6 7 NS 1 1 1 1 2 5 5
6 6 7

		Disagree							Neutral	Agree		Not Sure	Group Responses
Management Objective													
5.	Develop a world-class <i>hiking only</i> opportunity in the Moose River Route region -----	1	2	3	4	5	6	7				NS	
Associated Action Statements													
A)	Upgrade the Moose River Route to a high quality trail-----	1	2	3	4	5	6	7				NS	1 1 1 1 2 2 3 3 3 3 6 6
B)	Prepare a promotional strategy to attract hikers -----	1	2	3	4	5	6	7				NS	1 1 1 1 1 1 1 2 3 3 4 6
Management Objective													
6.	Eliminate <i>all</i> human use in the Moose River Route region -----	1	2	3	4	5	6	7				NS	
Associated Action Statements													
A)	Prepare an advertising package to inform the public of the closure -----	1	2	3	4	5	6	7				NS	
B)	Establish a process to monitor the long-term effects of the closure -----	1	2	3	4	5	6	7				NS	1 1 1 1 1 1 1 6 7 7
Management Objective													
7.	Make the Moose River Route region a user pay system for overnight visitors-----	1	2	3	4	5	6	7				NS	1 1 1 4 4 5 6 6 6 6 7 7

										Group Responses
Associated Action Statement										
A) Charge a backcountry user fee for...										
1) non-commercial horse users-----	1	2	3	4	5	6	7	NS	1 2 2 5 6 6 6 6 7 7 7 7	
2) commercial horse operators-----	1	2	3	4	5	6	7	NS		
3) non-commercial hikers-----	1	2	3	4	5	6	7	NS	1 1 2 4 5 6 6 7 7 7 7 7	
4) commercial hiking operators-----	1	2	3	4	5	6	7	NS		
Management Objective										
8. Reduce the cost of search and rescue operations to the provincial government-----	1	2	3	4	5	6	7	NS	1 1 4 4 5 5 5 6 7 7 7 7	
Associated Action Statement										
A) Require all users to pay the costs of any search and rescue operation conducted on their behalf in Mount Robson Provincial Park, including the Moose River Route region-----	1	2	3	4	5	6	7	NS	1 1 1 3 4 5 5 6 7 7 7	
Management Objective										
9. Maintain a visible management presence in the Moose River Route region-----	1	2	3	4	5	6	7	NS	1 4 4 5 6 7 7 7 7 7 7 7	

										Group Responses	

										Group Responses

Associated Action Statement

A) Work with Jasper National Park to develop similar standards for...

1) facility development-----	1	2	3	4	5	6	7	NS
2) levels of use -----	1	2	3	4	5	6	7	NS
3) maximum party size-----	1	2	3	4	5	6	7	NS

Management Objective

13) Define in clear, measurable terms the type of visitor experience the Moose River Route region provides visitors-----

Disagree	Neutral	Agree	Not Sure
----------	---------	-------	----------

Group Responses

1	2	3	4	5	6	7	NS
---	---	---	---	---	---	---	----

1 2 3 4 5 5 6
6 7 7 7 7

Associated Action Statements

A) Identify...

1) an appropriate level of user satisfaction-----	1	2	3	4	5	6	7	NS
2) an appropriate level of crowding -----	1	2	3	4	5	6	7	NS
3) an appropriate level of use-----	1	2	3	4	5	6	7	NS

1 2 3 5 5 6 6
6 7 7 7

B) Use questionnaires that have a *before* and *after* component to measure differences between visitor expectations and the experience obtained-----

1	2	3	4	5	6	7	NS
---	---	---	---	---	---	---	----

1 4 5 5 6 6 6
6 7 7 7 7

Disagree	Neutral	Agree	Not Sure
----------	---------	-------	-------------

Group
Responses

Management Objective

14. Make management decisions on the Moose River Route region within the area's ecological and cultural heritage constraints -----

1 2 3 4 5 6 7 NS

Associated Action Statements

- A) Complete a thorough environmental assessment that identifies...

1) cultural resources ----- 1 2 3 4 5 6 7 NS

2) special features ----- 1 2 3 4 5 6 7 NS

- B) Complete environmental assessments prior to any development -----

1 2 3 4 5 6 7 NS

- C) Pay particular attention to cumulative effects when completing environmental assessments -----

1 2 3 4 5 6 7 NS

- D) Acknowledge that the natural ecosystem has priority over human use when developing a long-term management plan -----

1 2 3 4 5 6 7 NS

Management Objective

15. Manage visitor use to minimize user group conflict -----

1 2 3 4 5 6 7 NS

Associated Action Statements

- A) Have park staff meet annually with commercial operators to advise them of the region's management objectives -----

1 2 3 4 5 6 7 NS

									Group Responses

Management Objective

18. Implement a camping policy for the Moose River Route region -----

Disagree	Neutral	Agree	Not Sure
----------	---------	-------	-------------

Group
Responses

1 2 3 4 5 6 7 NS

Associated Action Statement

A) Require *all* visitors to practice no-trace camping...

1) at random campsites located in alpine areas ----- 1 2 3 4 5 6 7 NS

2) at designated campsites located in alpine areas ----- 1 2 3 4 5 6 7 NS

1 1 1 1 1 6 7
7 7 7 7 7

3) at random campsites located below timberline ----- 1 2 3 4 5 6 7 NS

4) at designated campsites located below timberline ----- 1 2 3 4 5 6 7 NS

1 1 1 1 1 6 7
7 7 7 7 7

SECTION 2 - COMMERCIAL ACTIVITY ISSUES

There are currently two horse outfitters operating in the Moose River Route region. One of these outfitters makes an average of six trips per season into the region while the other uses the area on an infrequent basis. There are no guided hiking operators and very limited commercial helicopter activity in the region. The current level of commercial activity, combined with primitive trail conditions and non-commercial traffic has had a negative impact on chronically wet sections of trail. Given current budgetary constraints, it is difficult for BC Parks to maintain and repair trails and facilities in the Moose River Route region.

										Group Responses	

	Disagree			Neutral			Agree	Not Sure	Group Responses
B) Implement a fee structure for park use permits based on the level of revenue generated from trips into the region -----	1	2	3	4	5	6	7	NS	1 1 1 3 4 4 5 6 6 7 7
C) Adopt a fee structure for park use permits that gives a return to the crown sufficient to cover resource and facility management costs necessary to protect and maintain the resource-----	1	2	3	4	5	6	7	NS	1 1 3 4 5 6 6 6 6 7 7 7

Management Objective

- 21.** Develop a code of conduct/code of ethics for commercial operators----- 1 2 3 4 5 6 7 NS

Associated Action Statements

- A)** Work with commercial operators and public user groups to develop a code of conduct/code of ethics for the Moose River Route region ----- 1 2 3 4 5 6 7 NS
- B)** Work with commercial operators and public user groups to develop a code of conduct/code of ethics for the entire Canadian Rocky Mountain Parks World Heritage Site----- 1 2 3 4 5 6 7 NS

Management Objective

22. Require commercial operators to maintain the Moose River Route region -----	1	2	3	4	5	6	7	NS	1 1 1 1 2 4 5 6 6 7 7 7
--	---	---	---	---	---	---	---	----	----------------------------

		Disagree		Neutral			Agree		Not Sure	Group Responses	
Associated Action Statements											
A)	Adopt a policy where performance bonds are required before a park use permit is issued -----	1	2	3	4	5	6	7	NS	1 1 1 4 4 4 4 5 6 6 7 7	
B)	Require horse outfitters to file a report after every trip that details...										
1)	trail conditions -----	1	2	3	4	5	6	7	NS	1 4 5 5 6 6 6 6 7 7 7 7	
2)	work performed to maintain trails and facilities -----	1	2	3	4	5	6	7	NS	1 2 4 5 6 6 6 6 7 7 7 7	

Management Objective

23. Limit the extent of helicopter activity in the Moose River Route region ----- 1 2 3 4 5 6 7 NS

Associated Action Statements

A)	Eliminate helicopter landings -----	1	2	3	4	5	6	7	NS					1 1 2 3 3 4 6 7 7 7 7 7
B)	Limit helicopter landings by agreement with the park use permit holder to Steppe Creek and Resplendent Creek campsites (see map 1) -----	1	2	3	4	5	6	7	NS					1 1 1 1 1 1 1 3 4 5 6 6
C)	Limit helicopter flights to one day per week -----	1	2	3	4	5	6	7	NS					1 1 1 1 3 4 4 4 6 6

		<table><tr><th>Disagree</th><th colspan="3">Neutral</th><th colspan="2">Agree</th><th>Not Sure</th></tr></table>								Disagree	Neutral			Agree		Not Sure	Group Responses
Disagree	Neutral			Agree		Not Sure											
D)	Limit helicopter flights to no further up the Moose River drainage than Steppe Creek (see map 1)-----	1	2	3	4	5	6	7	NS	1 1 1 1 1 3 4 6 6 7							
E)	Adopt flight paths by agreement with the park use permit holder that avoid all valley bottom areas -----	1	2	3	4	5	6	7	NS	1 1 1 1 1 3 4 6 6 7 7							
F)	Enforce park regulations for non-compliance-----	1	2	3	4	5	6	7	NS								

SECTION 3 - HORSE USE ISSUES

The Moose River Route is the only designated horse trail in Mount Robson Provincial Park. Other horse riding opportunities exist within the park but are limited. BC Parks could promote horse use in the Moose River Route region but would have to address impacts that include damage to chronically wet sections of trail and competition with wildlife for available graze.

	Disagree							Agree	Not Sure	Group Responses
Management Objective										
24. Maintain horse use in the Moose River Route region -----	1	2	3	4	5	6	7	NS		
Management Objective										
25. Eliminate horse-induced habitat damage in the Moose River Route region -----	1	2	3	4	5	6	7	NS		1 1 4 4 6 7 7 7 7 7 7
Associated Action Statements										
A) Eliminate <i>all</i> horse use -----	1	2	3	4	5	6	7	NS		
B) Prepare an awareness program for the horse restriction policy---	1	2	3	4	5	6	7	NS		
C) Recommend other non-park areas for horse use-----	1	2	3	4	5	6	7	NS		1 1 4 4 5 6 6 6 6 6 7 7
D) Enforce park regulations for non-compliance-----	1	2	3	4	5	6	7	NS		
Management Objective										
26. Prevent over-grazing in the Moose River Route region -----	1	2	3	4	5	6	7	NS		

										Group Responses

		<table><tr><td>Disagree</td><td colspan="2">Neutral</td><td>Agree</td><td>Not Sure</td></tr></table>							Disagree	Neutral		Agree	Not Sure	Group Responses
Disagree	Neutral		Agree	Not Sure										
Management Objective														
28.	Establish a maximum limit to the number of horses per party ---	1	2	3	4	5	6	7	NS					
Management Objective														
29.	Establish a maximum limit to the number of people per horse party-----	1	2	3	4	5	6	7	NS					
Management Objective														
30.	Develop a world-class opportunity for horse use in the Moose River Route region-----	1	2	3	4	5	6	7	NS	1 1 1 3 3 6 7 7 7 7				
Associated Action Statements														
A)	Determine the potential demand for this opportunity-----	1	2	3	4	5	6	7	NS	1 2 3 4 4 4 7 7 7 7 7				
B)	Determine annual operating costs -----	1	2	3	4	5	6	7	NS					
C)	Develop the world-class opportunity...													
1)	exclusively for horse travel-----	1	2	3	4	5	6	7	NS					
2)	without restrictions on other forms of travel-----	1	2	3	4	5	6	7	NS	1 1 1 1 1 3 3 4 4 7 7 7				
Management Objective														
31.	Promote the importance of self-registration to private horse users-----	1	2	3	4	5	6	7	NS					

SECTION 4 - WILDLIFE ISSUES

Recreational activity is known to affect wildlife. In addition to direct habitat loss from trails and campsites, recreational activity can create avoidance zones and lead to habitat fragmentation. BC Parks could promote use of the Moose River Route region but detailed wildlife information is lacking for the area.

	Disagree		Neutral		Agree		Not Sure	Group Responses
Management Objective								
32. Minimize impacts to wildlife from recreational use -----	1	2	3	4	5	6	7	NS
Associated Action Statements								
A) Develop a wildlife inventory plan to address inventory needs...								
1) for Mount Robson Provincial Park-----	1	2	3	4	5	6	7	NS
2) for regions surrounding the park -----	1	2	3	4	5	6	7	NS
B) Complete a comprehensive wildlife assessment to identify critical wildlife habitat on a seasonal basis for...								
1) goat -----	1	2	3	4	5	6	7	NS 1 1 3 5 5 7 7 7 7 7
2) moose-----	1	2	3	4	5	6	7	NS 1 1 1 5 5 7 7 7 7 7 7 7
3) caribou-----	1	2	3	4	5	6	7	NS
4) wolf-----	1	2	3	4	5	6	7	NS
5) grizzly bear -----	1	2	3	4	5	6	7	NS
6) black bear -----	1	2	3	4	5	6	7	NS

										Group Responses

Disagree	Neutral	Agree	Not Sure
----------	---------	-------	-------------

Group
Responses

Associated Action Statements

A) Designate the area from Moose Pass to Slide Lake campsite (see map 2) a no camping area for...									
1) <i>non-commercial</i> horse users-----	1	2	3	4	5	6	7	NS	
2) <i>commercial</i> horse operators-----	1	2	3	4	5	6	7	NS	
3) <i>non-commercial</i> hikers-----	1	2	3	4	5	6	7	NS	
4) <i>commercial</i> hiking operators-----	1	2	3	4	5	6	7	NS	
B) Foster an understanding of the rationale behind the closure by educating visitors on the importance of Moose Pass to the region's bear populations -----									
	1	2	3	4	5	6	7	NS	
C) Improve the re-route around the Slide Lake campsite (see map 2)-----									
	1	2	3	4	5	6	7	NS	
D) Close Slide Lake campsite (see map 2)-----	1	2	3	4	5	6	7	NS	1 1 5 6 6 7 7 7 7

Management Objective

34. Minimize negative human-wildlife interaction ----- 1 2 3 4 5 6 7 NS

Associated Action Statements

A) Identify high bear hazard areas through...									
1) a review of Wayne McCrory's bear hazard evaluation-----	1	2	3	4	5	6	7	NS	
2) a reconnaissance by BC Parks-----	1	2	3	4	5	6	7	NS	1 1 4 4 4 5 6 6 6 6 7 7

		Disagree	Neutral		Agree		Not Sure	Group Responses	
B)	Inform visitors about high bear hazard areas through...								
	1) signs at the trailhead-----	1	2	3	4	5	6	7	NS
	2) handout maps-----	1	2	3	4	5	6	7	NS
C)	Educate visitors on appropriate behaviour in bear country through...								
	1) interaction at the visitors centre -----	1	2	3	4	5	6	7	NS
	2) signs at campsites-----	1	2	3	4	5	6	7	NS
	3) signs at the trailhead-----	1	2	3	4	5	6	7	NS
D)	Provide bear awareness information in German and Japanese, in addition to English-----	1	2	3	4	5	6	7	NS
E)	Limit hiking to the month of September to reduce the potential for negative interaction -----	1	2	3	4	5	6	7	NS
F)	Limit all travel to designated trails -----	1	2	3	4	5	6	7	NS
Management Objective									
35.	Eliminate fishing from the Moose River Route region -----	1	2	3	4	5	6	7	NS

1 1 2 2 3 4 4

4 4 5 6 7

1 1 1 1 2 2 2

2 3 6 7 7

1 1 1 1 1 3 4

4 7

1 1 2 2 3 4 4
4 4 5 6 7
1 1 1 1 2 2 2
2 3 6 7 7

1 1 1 1 1 3 4
4 7

SECTION 5 - RESOURCE ISSUES

Fire suppression can have a significant effect on vegetation communities in the Moose River Route region. Although prescribed burns are an important tool for park managers they have the potential to destroy locally unique plant communities. Special features such as Arctomys Cave and Resplendent Meadows are major draws to recreationists, but are particularly sensitive to damage from recreational activity.

		<table><tr><th>Disagree</th><th colspan="3">Neutral</th><th>Agree</th><th colspan="3">Not Sure</th></tr></table>								Disagree	Neutral			Agree	Not Sure			Group Responses
Disagree	Neutral			Agree	Not Sure													
Management Objective																		
36.	Maintain natural plant communities in the Moose River Route region -----	1	2	3	4	5	6	7	NS									
Associated Action Statements																		
A)	Allow natural fires to burn-----	1	2	3	4	5	6	7	NS	1 3 4 4 4 5 6 7 7 7 7 7								
B)	Prepare public education packages to be distributed when fires occur -----	1	2	3	4	5	6	7	NS	1 3 4 4 6 6 7 7 7 7 7 7								
C)	Allow insect infestations to take a natural, unchecked course---	1	2	3	4	5	6	7	NS	1 1 3 4 4 4 5 6 6 7 7								
D)	Identify and protect sensitive or unique plant communities from damage by recreational use -----	1	2	3	4	5	6	7	NS									
E)	Assess and monitor vegetation conditions, particularly in wet areas, to ensure that damage is not occurring -----	1	2	3	4	5	6	7	NS									
F)	Develop a vegetation management plan -----	1	2	3	4	5	6	7	NS	1 4 4 5 5 7 7 7 7 7 7 7								

		DisagreeNeutralAgreeNot Sure								Group Responses
Management Objective										
37.	Maintain all existing (natural and introduced) plant communities in the Moose River Route region-----	1	2	3	4	5	6	7	NS	1 1 1 1 2 2 3 3 4 5 6 7
Management Objective										
38.	Protect sensitive special features such as Arctomys Cave and Resplendent Meadows-----	1	2	3	4	5	6	7	NS	
Associated Action Statements										
A)	Do not indicate the location of special features on maps of the region -----	1	2	3	4	5	6	7	NS	
B)	Do not indicate trails leading to special features on maps of the region-----	1	2	3	4	5	6	7	NS	4 4 4 6 7 7 7 7 7 7 7
C)	Do not place signs at trails leading to special features-----	1	2	3	4	5	6	7	NS	

SECTION 6 - FACILITY ISSUES

The Moose River Route region contains very few facilities. The trailhead has an information board and a horse ramp while the majority of campsites contain no more than a rustic fire pit and a bear pole. The development of additional facilities may help reduce resource impacts (for example, the placement of toilets may improve water quality) but facility development can also lead to increased use of the region and a reduced wilderness experience.

Management Objective									Group Responses
	Disagree	Neutral		Agree		Not Sure			
39. Develop clean, safe and attractive campsites-----	1	2	3	4	5	6	7	NS	1 1 1 4 6 6 6 7 7 7 7
Associated Action Statements									
A) Develop campsites that...									
1) are approximately ten to fifteen kilometres apart to accommodate visitors of varying speeds -----	1	2	3	4	5	6	7	NS	
2) are away from areas frequented by wildlife-----	1	2	3	4	5	6	7	NS	
3) are small capacity to ensure maintenance of the wilderness experience-----	1	2	3	4	5	6	7	NS	1 1 5 5 6 6 6 7 7 7 7 7
4) contain backcountry toilets -----	1	2	3	4	5	6	7	NS	
5) contain plank benches-----	1	2	3	4	5	6	7	NS	1 1 1 2 3 4 4 4 4 4 6 7
6) contain picnic tables-----	1	2	3	4	5	6	7	NS	

	DisagreeNeutralAgreeNot Sure									Group Responses
7) contain tent pads -----	1	2	3	4	5	6	7	NS	1 1 1 2 2 3 3 4 5 5 6 7	
8) contain a free standing bear pole -----	1	2	3	4	5	6	7	NS		
9) contain a bear proof cache-----	1	2	3	4	5	6	7	NS	1 1 1 3 3 4 4 5 5 5 6 7	
B) Only install outhouses where the level of use justifies the maintenance expense -----	1	2	3	4	5	6	7	NS	1 1 2 2 2 3 4 7 7 7 7 7	
C) Combine horse and hiker campsites-----	1	2	3	4	5	6	7	NS		

Management Objective

40. Return all <i>existing</i> campsites to a natural state and establish <i>new</i> campsites in acceptable locations -----	1	2	3	4	5	6	7	NS	1 1 1 2 3 5 6 6 7
---	---	---	---	---	---	---	---	----	----------------------

Associated Action Statements

A) Remove all trash from existing campsites-----	1	2	3	4	5	6	7	NS	
B) Rehabilitate existing campsites to a natural state-----	1	2	3	4	5	6	7	NS	1 1 2 4 4 4 6 6 7 7
C) Research locations for new hiker campsites using minimum impact to resources as the main criteria-----	1	2	3	4	5	6	7	NS	1 1 1 3 4 6 6 6 7 7 7 7
D) Research locations for new horse campsites using criteria that include...									
1) graze availability-----	1	2	3	4	5	6	7	NS	1 1 1 5 5 5 6 7 7 7 7 7

	<table><tr><td>Disagree</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td></td><td>Neutral</td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td></td><td></td><td>Agree</td><td></td><td></td><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td><td>Not Sure</td><td></td><td></td><td></td><td></td></tr></table>								Disagree									Neutral									Agree									Not Sure					Group Responses
Disagree																																									
	Neutral																																								
		Agree																																							
			Not Sure																																						
2) graze recovery-----	1	2	3	4	5	6	7	NS	1 1 1 5 6 6 6 7 7 7 7 7																																
3) impacts to wildlife-----	1	2	3	4	5	6	7	NS																																	
4) competition with wildlife-----	1	2	3	4	5	6	7	NS	1 1 2 5 6 6 7 7 7 7 7 7																																
5) effects on hikers-----	1	2	3	4	5	6	7	NS	1 1 4 5 5 6 6 6 7 7 7 7																																

Management Objective

41. Implement a campstove only policy for all users of the Moose River Route region-----	1	2	3	4	5	6	7	NS	1 1 1 2 3 4 4 4 7 7 7 7
--	---	---	---	---	---	---	---	----	----------------------------

Associated Action Statements

A) Remove all existing fire rings and rehabilitate the sites-----	1	2	3	4	5	6	7	NS	1 1 1 2 4 4 4 6 7 7 7 7
B) Post signs indicating no open fires-----	1	2	3	4	5	6	7	NS	1 1 1 3 4 4 4 6 6 7 7 7

Management Objective

42. Do not develop any facilities in the Moose River Route region other than what currently exists-----	1	2	3	4	5	6	7	NS	1 1 1 2 2 2 3 4 5 7
---	---	---	---	---	---	---	---	----	------------------------

										Group Responses

		DisagreeNeutralAgreeNot Sure							Group Responses	
Management Objective										
45.	Provide comprehensive information on the Moose River Route region to potential visitors -----	1	2	3	4	5	6	7	NS	1 3 4 4 5 6 6 6 6 7 7 7
Associated Action Statements										
A)	Provide a complete and accurate map of the Moose River Route region -----	1	2	3	4	5	6	7	NS	1 4 5 5 6 6 6 6 7 7 7 7
B)	Provide signage marking points of interest-----	1	2	3	4	5	6	7	NS	1 2 3 3 4 4 5 6 6 6 7 7
C)	Provide a better trail description -----	1	2	3	4	5	6	7	NS	1 4 5 5 5 6 6 6 7 7 7 7
D)	Provide trailhead information explaining that...									
1)	the Moose River Route is a designated horse trail-----	1	2	3	4	5	6	7	NS	1 2 5 5 6 7 7 7 7 7 7 7
2)	hikers may have to deviate from the trail -----	1	2	3	4	5	6	7	NS	1 1 3 5 5 5 7 7 7 7 7
3)	the trail is poorly marked-----	1	2	3	4	5	6	7	NS	1 1 2 3 5 6 6 7 7 7 7 7
4)	the trial is obscured by vegetation-----	1	2	3	4	5	6	7	NS	1 1 3 3 5 6 7 7 7 7 7
5)	travel is not recommended for hikers during high water-----	1	2	3	4	5	6	7	NS	
Management Objective										
46.	Educate users of the Moose River Route region on backcountry ethics -----	1	2	3	4	5	6	7	NS	

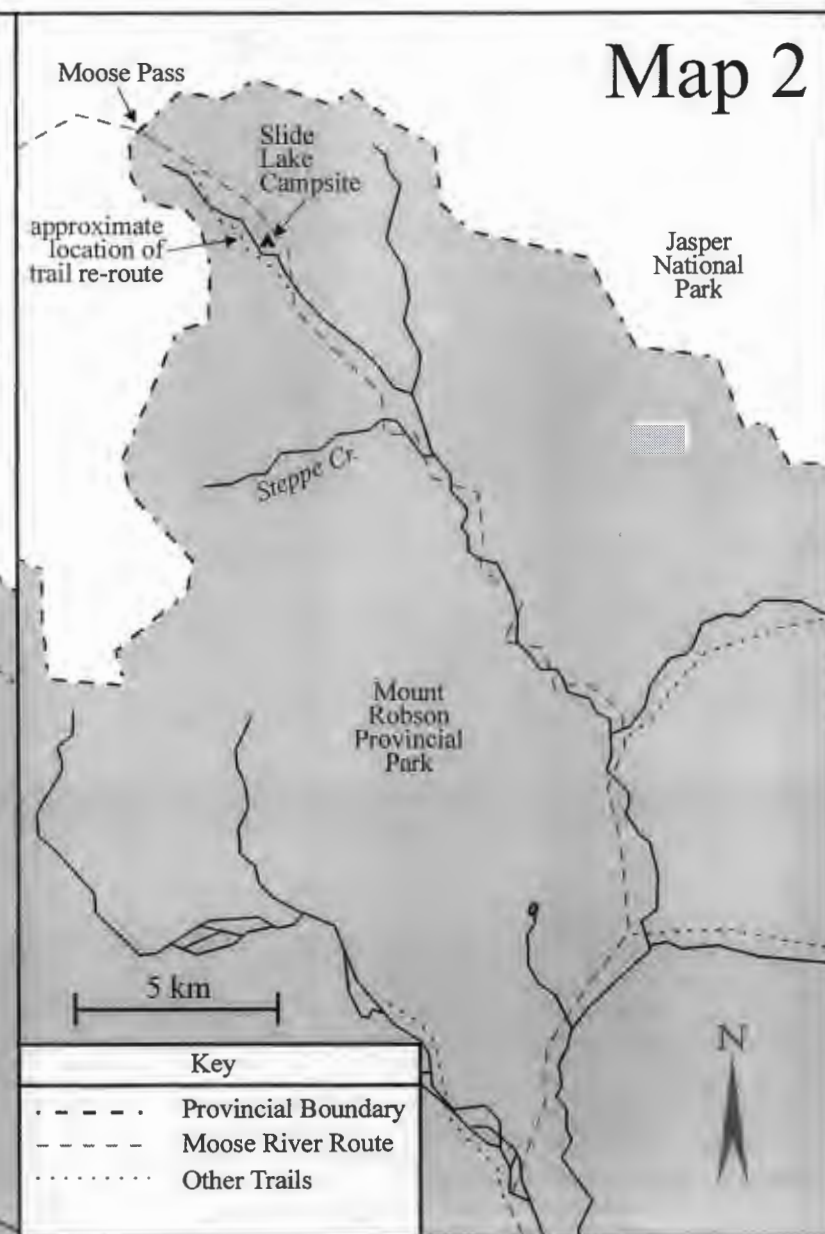
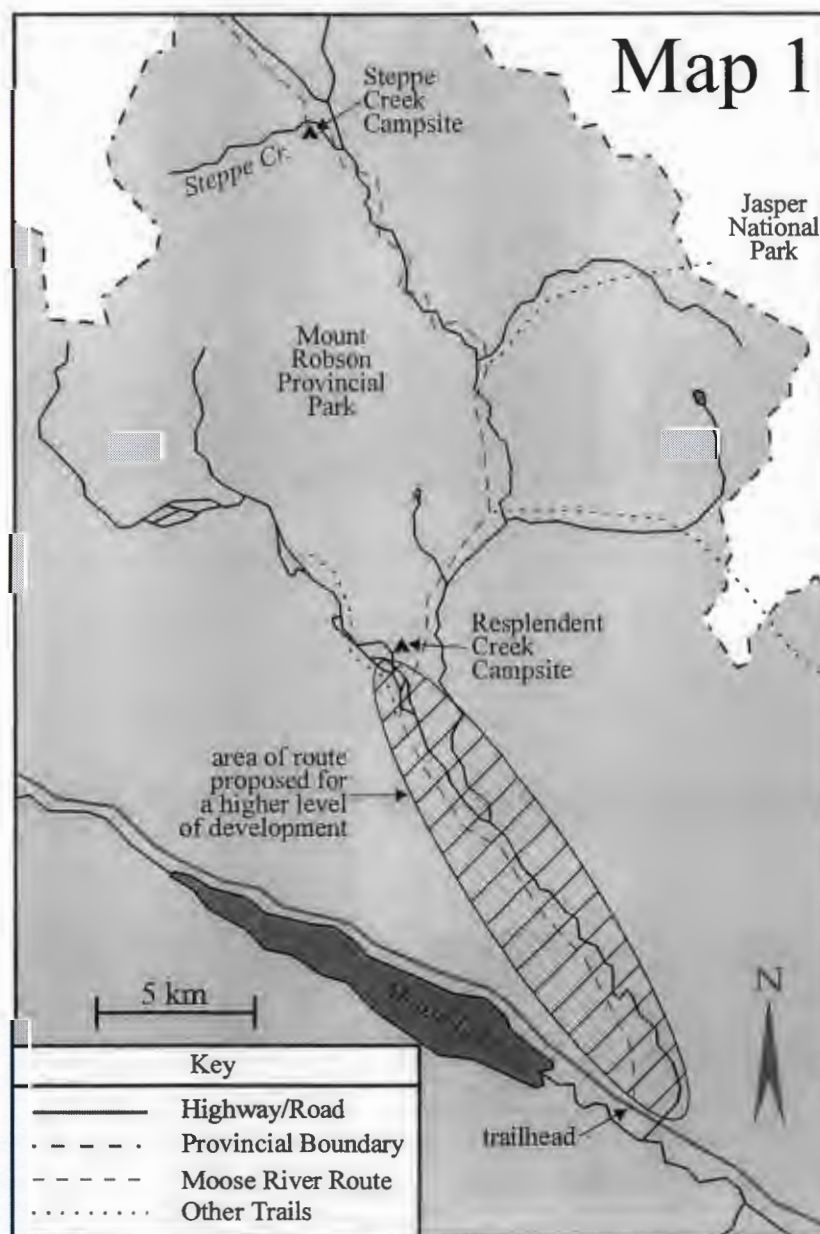
Associated Action Statement

A) Provide educational material on...

1) pack it in, pack it out -----	1	2	3	4	5	6	7	NS
2) low impact camping -----	1	2	3	4	5	6	7	NS
3) low impact wildlife viewing -----	1	2	3	4	5	6	7	NS
4) trail etiquette (when meeting other user groups) -----	1	2	3	4	5	6	7	NS
5) campsite etiquette -----	1	2	3	4	5	6	7	NS
6) proper backcountry waste disposal -----	1	2	3	4	5	6	7	NS

Disagree	Neutral	Agree	Not Sure
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Group
Responses



APPENDIX J - EVALUATION QUESTIONNAIRE

1. Do you feel that the planning process was open and fair?

Yes ☐

No ☐

Comments:

2. Were you able to incorporate your values and knowledge into the planning process?

Yes ☐

No ☐

Comments:

3. Were you given enough time to complete the questionnaires?

Yes ☐

No ☐

Comments:

4. Did participation increase your knowledge of the Moose River Route region and the issues that will affect planning and management of this region?

Yes ☐

No ☐

Comments:

5. Did participation increase your knowledge and awareness of BC Parks' planning and management responsibilities?

Yes ☐

No ☐

Comments:

6. Did participation give you a feeling of contributing?

Yes ☐

No ☐

Comments:

7. What are your positive and negative views on the planning process used for the Moose River Route region?

8. Would you participate in another public involvement process (park related or otherwise)?

Yes ☐

No ☐

Comments:
