Towards a Reconceptualization of Landscape Assessment for Resource and Environmental Management

by

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Abstract

Reviews of the landscape assessment literature have distinguished among at least three different approaches -- expert, experimental and experiential -- based on their conceptual and methodological orientations. The fundamental purpose of this research is to explore the 'experiential' approach which has received the least attention. Procedures for collecting visual (self-directed photography), textual (written comments) and oral (interviews) data were integrated into the 'participant-directed landscape imaging' procedure which was then used to explore the experiential landscape knowledge of 18 inhabitants of the Cariboo region of British Columbia.

Qualitative analysis of the resulting landscape images to determine their focus and significance revealed overlapping domains of landscape experience. Participants focussed on landscape elements (environmental features, ephemeral features and dynamic conditions and human activity features), locales and experiences, expressed in both general and location-specific terms. Significance was attributed to landscape elements, locales and experiences based on characteristicness, specialness, contributing to quality of life, emotional feelings, and attachment. These were revealed through participants' instrumental evaluations, affective appraisals and sense of place descriptions.

To facilitate discussion of the experiential approach and the participant-directed method within the context of landscape assessment, a second study was undertaken. The procedures and outcomes of landscape assessment in British Columbia's Ministry of Forests, categorized as an expert approach, were examined. Based on discussions with staff and consultants, and reviews of policy and standards and practices documents, how landscape assessment is carried out, both in policy and in practice, was outlined and discussed. The well-defined, systematic procedures for landscape assessment make it a straight forward technical task for those trained in doing it (experts), but in practice, it involves participation and negotiation by the various actors.

The results from the analysis of the two approaches to landscape assessment reveal strengths and weaknesses for each. For example, the British Columbia method is more participatory in practice than is portrayed in the literature by the expert categorization or in the policy documents. The experiential approach reveals a richness of landscape, a landscape in which people live and to which people are attached in various ways. In this context, the participant-directed method is a 'hybrid' approach, a prototype method in the spirit of the experiential approach, but which is open to other approaches. It does not preclude the identification of 'expert' features, for example, and provides place-specific landscape images essential to an experiential approach.

It is concluded that consideration of the potential offered by an experiential approach requires attention beyond landscape assessment methods, to the broader context of environment and resource management. Such attention is supported by current trends in that realm. In particular, an experiential approach contributes to and takes advantage of calls for increased attention to place and sense of place, to the need for local empowerment rather than reliance on hierarchical power structures, and to the idea of praxis, the integration of theory and research with practical application.

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Foreword

The warm breeze blew gently through the leaves of nearby trees, and I could see, no, I could feel, why they were called "trembling" aspen. I looked over to the left, where I could hear the tinkling and bubbling, and imagine the clear crispness of a small stream of water over the chunks of limestone there. Until I had closed my eyes and leaned back against the picnic table, I didn't even know a creek was there. I stood up and walked toward the information sign, emblazoned with the provincial agency's logo, to read again about the nineteenth-century cattle drive that began here, and ended some two thousand kilometres north, still far from its destination of Yukon. Behind the sign was the small bush beside which I had helped my toddling daughter when the nearby outhouse was locked that cool November day several months earlier, when we had last been here. Then, I cast my gaze tot he side of the mountain, or hill, rather, to see where the newly planned cut-block would be placed. There was concern of ver its placement and appearance because of the proximity of the block to this rest stop. I held up the camera and framed that hill, to take a picture. Click. Then, I took out the other camera with a wider lens and , click, another picture, but with much more sky and adjacent mountains in it. So there, now to design a "view" to ensure that the "aesthetics" of the landscape are "maintained" in a "suitable" way.

What would that mean? Surely aesthetics would have to do with the aspens at this site and with the babbling brook, as much as with what could be seen across the valley on that hillside? What about the reaction of the family down the road who would see that hillside, day in and day out until the trees grew back, and remember how it used to be. What did it matter what I saw anyway, since I was only here for a few minutes, to read the sign and go to the bathroom, as was the case with most people who would view that hillside?

This quote is one person's landscape experience, a response to and contemplation of the landscape at a roadside rest stop. These words are mine, recorded in journal I kept as I explored the Cariboo, studying landscapes and people there. What concerned me, still, was that if landscape was all of the things I could see, sense, think and feel, and included "not only what lies before our eyes, but what lies within our heads", as Meinig (1979) suggests, then why do we use methods to assess, and then design, landscapes that attend little to the meanings, associations and attachments our minds make? In fact these meanings and attachments are frequently the very "subjectivity" deemed to be a problem in using alternative approaches to landscape assessment. Yet, this was, for me, the importance of experiential approaches. The works I was exposed to in exploring the experiential approach -- phenomenology, social constructionism, hermeneutics – came to underpin my own approach to the research. This dissertation then, is partly discussion piece and partly report; it is the story about my ongoing explorations to make sense of the field of landscape assessment, and to make sense of landscape. And, it is a story that, even with the completion of this document, is just beginning.

With some ideas about research directions (the desire to develop an experiential method to assess landscape) , but with no firm proposal, I found myself leaving Waterloo due to family circumstances, and living in the interior of British Columbia, in the Cariboo region. Not long after the birth of my son, and thinking about my PhD research, I was shown a pamphlet advertising the Forest Renewal British Columbia (FRBC) grant program. FRBC was a fund established from stumpage fees and royalties paid by forest companies, and was used to fund forest-related research and community development. Building on my research objective of developing an experiential method, I prepared a proposal to 'Capture the Cariboo': to give inhabitants cameras to photograph, document and discuss what they, not me, believed was aesthetically pleasing and otherwise important about Cariboo landscapes. In the beginning, I had wanted my research to broaden the process of landscape assessment, primarily by showing what an experientially-based approach could offer. Later it became necessary to add the examination of the expert approach – the most practical of the approaches – in order to have a context for discussion of the experiential results. Despite my own dissatisfaction with expert approaches to landscape assessment, the "checklist-of-important-visual-features" kind of approaches, I had become somewhat disheartened, as I examined the literature, by the lack of practicality apparent in 'experiential' approaches, many of which did seem to be too individualistic to be of use to landscape assessment. How, I wondered, could experiential approaches enrich, inform and broaden landscape assessment, as I intuitively believed they could, if they couldn't be replicated or used by very many people?

So, part of me remained practical. Some professionals and practitioners with whom I discussed my project thought broadening landscape assessment was a good idea – they too recognized the need to expand and improve landscape assessment. Armed with grant money from FRBC, I began to explore the Cariboo and meet with people who lived there, people who, I soon found out, believed the Cariboo was a great place to live, for a number of reasons. This attachment to landscape and place, and the nature of the significance of landscape and place, became the focus of my work for the better part of two years. Landing in a region or place as rich and interesting as the Cariboo, and being able to study where I lived were fortuitous circumstances; receiving the FRCB grant was a bonus. I learned so much about the place and its people in the short time I was there, that I too, became attached to the landscapes of the Cariboo. And, I have found it difficult to speak about the Cariboo, and the research I did there, in any way but a subjective one. I hope that this bias enhances the work, rather than detracts from it.

Chapter 1

Introduction

1.0   Research problem and objectives

Consideration of aesthetic values in resource and environmental management in North America is generally cited as emerging in the 1960s (Priestly 1983, Dearden and Sadler 1989). At that time, legislative changes related to planning and environmental protection, in response to concerns over environmental quality, stimulated the development of what has come to be called 'landscape assessment'[1]. As resource management and land use planning agencies began to manage and plan for the aesthetic in the environment, methods and techniques for landscape assessment proliferated rapidly. Practitioners measured and managed the 'visual resource', researchers studied people's perceptions of and preferences for landscape and its components, and theorists sought explanations for how and why we appreciate the landscapes we do.

By the 1980s, landscape assessment researchers had examined both research and application in this field of study[2] (for example, Zube et al. 1982, Porteous 1982) and identified at least three different approaches to landscape assessment, based on conceptual and methodological orientations. Discussed in greater detail in the next chapter, these three approaches are labelled expert, experimental and experiential. These approaches range along a continuum of

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[1] Landscape assessment is 'determining or evaluating the (aesthetic) quality of landscape', where quality encompasses both the ideas of 'degree of excellence' and 'character or nature of'.

[2] The field has been called: assessment of landscape quality (Daniel and Vining 1983); "environmental aesthetics" (Porteous 1982, 1996) and landscape perception research (Zube et al. 1982). These various names capture the major dimensions of the field.

conceptualizations of landscape, the role of people and the values being assessed.

At one end, 'expert' approaches rely on judgments or evaluations by trained professionals (that is, experts) for assessment of landscape, and these dominate the practice of landscape assessment. Usually undertaken by government or others for public land management, this approach reflects a bureaucratic emphasis on efficiency. Methods based in this approach are considered to be practical and straight-forward, but somewhat insensitive to landscape differences and factors other than visual, formal qualities. 'Experimental' approaches dominate research. Methods seek to obtain observer responses to landscape and relate these responses to measurements of landscape features. These methods are seen to be systematic, reliable and inclusive of 'public' perspectives, but overly quantitative and reductionist.

At the other end is the approach categorized as 'experiential' or 'humanistic'. It is based on assessments by individual participant-observers and focuses on understanding the meanings of landscape to people and the context of appreciation. This approach has received the least attention in resource and environmental management, as it has been considered to be idiosyncratic, individualistic and subjective. Because of the attention given to context and meaning, however, and because the experiential approach seeks to examine landscape holistically, this approach, it is suggested, offers greater validity[3] than other approaches (Daniel and Vining 1983). Since an experiential approach might be more valid in the endeavour of assessing landscapes, and offers broader ways of thinking about landscape aesthetics, I see an experiential approach as

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[3] In measurement theory, a method is valid if it measures what it is purported to measure. I use it here to mean theoretical validity as well. Validity, however, is a criterion for ascertaining the quality of quantitative research, and experiential approaches are generally qualitative.

potentially informative for landscape assessment. This potential is the starting point for this research.

The main objective of this research is to explore conceptually and methodologically an experiential approach to landscape assessment and to develop a method which encompasses the major dimensions of an 'experiential' approach and has some practical merit. The method that evolved in this research is 'participant-directed landscape imaging', an activity for gathering experiential landscape knowledge through the integration of visual (self-directed photography), textual (written commentaries) and oral (interview) data collection procedures. This is a 'hybrid' method for landscape assessment, one that emphasizes an experiential approach to the practice of landscape assessment which is dominated by approaches other than the experiential.

My primary intent is to examine participant-directed imaging as an experiential approach and ascertain how the process and its outcomes might inform resource and environmental management. Generally speaking, I use the terms 'resource management' and 'environmental management' similarly[4]. As a foil to the experiential approach and to contextualize my discussion of it for resource management, I include an examination of a practical expression of the 'expert' approach: the visual landscape inventory procedure of the British Columbia Ministry of Forests' Visual Landscape Management program. As detailed in Chapters 4 and 5, my research found the experiential approach to

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[4] I use these terms to refer to the broad field which encompasses conventional 'natural resource management' with its emphasis on analysis, allocation and development of resources on a sectoral basis, and the regulation and management of activities, 'environmental management', with its emphasis on the setting and achieving of goals to protect environmental quality and preserve or conserve natural resources. I also use the terms planning and management similarly, because both are future-oriented, but recognize that planning more typically refers to the policies, regulations and activities of local government and management to the activities of federal and provincial governments (Richardson 1989).

reveal richly informative and place-related domains of landscape experience, and the expert approach to provide an efficient method for addressing the visual aspect of landscape aesthetics.

The second objective for this research is to revisit how each of the two approaches to landscape assessment, the experiential and the expert, each representing different ends of the landscape assessment continuum, informs landscape assessment, in terms of conceptual and methodological strengths and weaknesses of each. Strengths and weaknesses of both were found to be, at one level, complementary, offering the potential for a synthesis of approaches. At the paradigmatic level, however, the two approaches represent potentially incompatible ways of thinking about the world.

The final objective is to explore other interesting and important outcomes from an experiential approach to landscape assessment as revealed through this empirical study. There are examples of these findings and outcomes in Chapters 4, 5 and 6. One example is the finding that ephemeral conditions such as rainbows are an important part of landscape, and are meaningful beyond their visual beauty. Since the experiential approach encompasses broader conceptualizations and values for study (as discussed in Chapter 2), it might be expected that empirical outcomes of an experiential approach would reflect or highlight these broader conceptualizations and values.

1.1   Research orientation and methodology

As I began to explore the nature of the experiential approach, it became clear that incorporating experiential methods into landscape assessment required more than making recommendations for techniques or procedures to supercede or supplement currently employed methods. Seeing the incorporation of experiential methods as a practical exercise arises if these approaches are considered to be primarily alternate *methods* (that is, techniques or procedures)

for assessing landscapes. But, approaches to landscape discussed as 'experiential' (for example, phenomenology) encompass philosophical and epistemological traditions -- ways of thinking -- quite different from the traditions underlying dominant modes of landscape assessment. Different assumptions lead to different (if not disparate) conceptualizations of the 'objects' for 'assessment'. Considered at this level, the concept of landscape assessment itself becomes problematic. I distinguish, therefore, between 'approach' and 'method', where approach includes the philosophical, theoretical, and methodological basis of thinking about and 'assessing' landscape, and method is the data collection procedure.

In this research, I took a perspective rooted in the traditions associated with an experiential approach. In particular, I adopted a reflective stance. This perspective informed not only my analysis and interpretations of the experiential data, but also my examination of the expert approach, and my comparison of the experiential approach with the institutionalized expert-based approach.

In this dissertation, I present a case study consisting of two smaller studies. In the first study, I examined the experiential approach and developed 'participant-directed landscape imaging' as an experiential method, which I then used in the Cariboo region of British Columbia. Qualitative analysis of the landscape images to determine the focus and significance of landscapes from the perspective of the participants revealed a number of overlapping domains of landscape experience. Participants (inhabitants of the Cariboo) captured many aspects of landscape, a richness of experience in which landscape is both lived and viewed, and emphasized sense of place and place attachment through their images.

In the second study, I examined the visual landscape inventory procedure of British Columbia's visual landscape management program which is

conceptualized as expert-based landscape assessment. Discussions with government staff and consultants who do (expert) visual assessment, and reviews of standards and procedures and other related documents to determine the process for and outcomes of landscape assessment revealed a specific 'script' for landscape assessment 'on paper'. Its outcome was a prescribed set of landscape ratings when applied in the Cariboo region. Notable, however, was a rather different emphasis 'in practice' than on paper. People other than the expert assessors participated in the process, and assessment involved negotiation.

It is this emphasis in carrying out landscape assessment that provides the linkage to an experiential approach. This linkage is the basis of my discussions about how an experiential approach, through participant-directed landscape imaging, could inform the practice of landscape assessment. In this regard, I assert that the participant-directed landscape imaging procedure serves as a hybrid method which builds on the strengths of the experiential approach to overcome some of the weaknesses of other approaches. This position is not unlike one Ley (1987, 43) adopted in understanding and managing the urban environment. He noted a:

> philosophical reorientation ... in the social sciences, in planning and architecture and in urban politics ... concerned with the reconstitution of meaning, with a respect for human subjectivity.

An experiential approach supports such a reorientation for landscape assessment, a reorientation emerging in resource and environmental management more generally (Knight and Bates 1995), as is evidenced by greater attention to the "human dimension" (Ewert 1996). The experiential approach is best seen, I conclude, as part of a philosophical reorientation, a contextual turn for landscape assessment, rather than just as a set of alternate methods. In particular, through a method such as participant-directed landscape imaging,

attention is redirected to place as the context for landscape assessment, to praxis for grounding the assessment, and to participation and empowerment of the (local) people who inhabit and create meaningful landscapes.

1.2   Organization of the dissertation

Chapter 2 provides the background to this research through a literature review of the field of landscape assessment. It is presented using a three-part framework for categorizing and characterizing methodological approaches to landscape assessment. I compare and contrast the categories along several dimensions, and examine theoretical, conceptual and methodological issues relevant to landscape assessment. In general, the three approaches have been presented as methodological options, and less as philosophical options, which, as I go on to point out, is a more appropriate way to see them.

Chapter 3 presents the two-part case study methodology and describes briefly the setting of the studies. One section outlines the development and use of the participant-directed landscape imaging procedure in the Cariboo, and the strategy for the analysis of the data. A subsequent section outlines the examination of the procedures and outcomes for visual landscape inventory, part of British Columbia's visual management program, conceptualized as expert-based landscape assessment.

Chapter 4 presents the findings and discussion of the experientially-based research. Results from the landscape imaging exercise are presented in tabular and narrative form, using the photo images of and quotes from the comments and interviews of 18 inhabitants of the Cariboo who were participants in the study. The final section of the chapter discusses and interprets the empirical results in terms of the literature, and other conceptual and methodological issues.

Chapter 5 presents the findings and discussion of investigating the · expert-based procedures used by the British Columbia Ministry of Forests, the government body with a mandate for landscape assessment in the province. The process of visual landscape inventory is outlined, and outcomes are presented from the Cariboo region using specific examples from the 100 Mile House Forest District. The final section of the chapter interprets and discusses the results in terms of the literature and other issues.

Chapter 6 presents a synthesis of the analyses of the experiential approach and the expert approach to landscape assessment. Participant-directed landscape imaging is discussed as a method for building on the strengths of the experiential approach, and for overcoming conceptual and methodological shortcomings of the expert approach. The last section considers the conclusions and implications of the research for landscape assessment, for environmental and resource management and for landscape aesthetic theory. These are discussed in terms of areas for further research as well.

Chapter 2

Background

2.0 Landscape assessment in environmental management

During the 1960s, environmental issues became a major item on the social and political agenda of North America (Wilson 1991). With the publishing of Rachel Carson's *Silent Spring*, the consciousness of North Americans embraced the quality, or more correctly, the deteriorating quality of the environment as a place for humans to live. Indeed, concern with environmental quality had been growing in the post-war era, when, with increasing leisure time, disposable income and auto travel, North Americans were travelling further and experiencing more of their surroundings (Wilson 1991). "Recognition of the existence of [scenic] areas, at all scales, from the national to the municipal and the desire to incorporate these kinds of intangible resources in the planning process, spawned the field of landscape evaluation" (Dearden 1981, 96).

The idea of one's surroundings as a source of aesthetic pleasure and beauty has been the subject of works of art, writing and thought for centuries[5]. By the 15th century, the environment was treated as worthy of attention itself, and became, not a backdrop, but the focus of works of art. By the 18th century these depictions had become 'landscapes', and had physical expression in the work of landscape gardeners, such a 'Capability' Brown and Humphrey Repton. Throughout the 19th century, gardening and architecture, influenced greatly by Romanticism, were the dominant ways of manipulating the physical

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[5] Ancient Greek thinkers, such as Plato and Aristotle, discussed 'artistry' and 'beauty', rather than 'aesthetics' per se; the term 'aesthetics' was not coined until the 16th century (Eaton 1989).

environment for aesthetic purposes. This tradition continued into the 20th
century, with scenic parkway routing and urban park design, influenced mainly
by Frederick Law Olmsted[6]. Despite this longstanding attention to aesthetics,
concern for beauty as an environmental concern is more recent (Dearden 1980).
The management of landscape as a scenic resource in the Western world began
to gain ground in the post-World War II era (Porteous 1996)[7].

In 1968, several seminal works were published: in the United States,
Litton's *Forest Landscape Description and Inventory*; and in Britain, Linton's
"The Assessment of Scenery as a Natural Resource" and Fines' "Landscape
Evaluation: a Research Project in East Sussex".   Shafer et al. (1969) and
Leopold (1969) further added to the field. Before this time, very little had been
published on systematic landscape evaluation as part of environmental
management, despite some attention to landscape "tastes" and landscape
beauty, especially in the geography literature (Colvin 1947, Lowenthal and
Prince 1964, Newton 1971).

Legislative changes related to planning for environmental protection
resulted from the voicing of environmental concerns (including 'intangible' ones).
These changes stimulated the development of landscape assessment programs
and policies. In the United States, the landmark National Environment Policy
Act (NEPA) of 1969 called for "presently unquantified environmental amenities
and values [to] be given appropriate consideration in decision-making along with
economic and technical considerations", to assure "safe, healthful, productive,
and aesthetically and culturally pleasing surroundings" (Cutler 1979, 13).   In

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[6] The literature on landscape, aesthetics, and natural beauty in art, architecture, writing
and philosophy has a long history, and detailed discussion is beyond the scope and
objectives of this work. Newton 1971, Barnes and Duncan 1989, Kemal and Gaskell
1993, and Bunce 1994 provide superlative background in this field.
[7] I use the terms scenic or visual resource interchangeably in this section, but
recognize how problematic these terms are.

Canada, the procedures of the Environmental Assessment and Review Process (EARP) required the consideration of the aesthetic effects of proposed development, as a criterion for project screening. More recently, the Canadian Environmental Protection Act of 1988 maintains this mandate. Other federal and provincial environmental management legislation has continued to require attention to the aesthetic quality of the landscape. In Britain, the attractiveness of the countryside as an amenity resource had been recognized since the Town and Country Planning Act of 1947 and the National Parks and Access to the Countryside Act of 1949. The requirements of the Countryside Act of 1968 and 1974 Planning Act revisions made it a statutory duty to evaluate the aesthetic quality of different landscapes for the purposes of planning and protection (Green 1985).

By the 1970s, environmental policy provided the impetus for the development of practical techniques and methods for identifying, analyzing and evaluating landscape aesthetics, 'visual resources', and landscape perceptions and preferences. Throughout that decade, resource management agencies, such as the United States Department of Agriculture (USDA) Forest Service, advanced the task of managing and planning the visual resource, and landscape assessment became an expected service offered by public land management agencies (USDA Forest Service 1974). Various Canadian provincial government departments have formally adopted programs based on the USDA Forest Service visual resource management program, such as the Alberta Forestry, Land and Wildlife (1988) *Forest Landscape Management Guidelines* and the British Columbia Ministry of Environment *Visual Resource Assessment* (Yeomans 1983).

Since then, landscape assessment has been undertaken in many

settings, in different countries, and for various purposes: for land use planning[8],

landscape management[9], rural and countryside management[10], and forestry

management[11]; for riverscape aesthetics[12]; for recreation management[13]; for

scenic road designation[14]; for urban planning[15]; for impact assessment[16]; and for

cross-cultural comparisons of landscape perception[17].

2.1   A conceptual framework for landscape assessment

In this section, I develop a conceptual framework for organizing

approaches to landscape assessment. I use the term 'approach' to refer to a

broad way of thinking about, which includes the philosophical, theoretical and

methodological basis for thought. I use 'method' to refer more specifically to a

data collection procedure. The framework developed forms the basis for

comparing approaches to landscape assessment.

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[8] Menghi and Intile 1992, and Hamilton 1985, provide examples from Argentina and Canada, respectively

[9] Barrios et al. 1985, and Cooper and Murray 1992, provide examples from Spain and Northern Ireland, respectively

[10] Blankson and Green 1991, and Schauman 1988, provide examples in England and USA, respectively

[11] Kellomaki and Sarolainen 1984, and Haider 1992, provide examples in Finland and Canada, respectively

[12] Williams 1985, Gregory and Davis 1993 and Pomeroy et al. 1983, provide examples from England, USA and Canada, respectively

[13] Cocklin et al. 1990, Steinitz 1990, and Dearden 1988 provide examples from New Zealand, USA and Canada, respectively

[14] Kent 1993 and Schroeder and Daniel 1980 provide examples in USA

[15] Chenoweth and Gobster 1990 and Schroeder 1988 provide examples in USA; Chokor and Mene 1992 provide an example in Nigeria

[16] Jackson et al. 1978, Alberta Tourism 1992 provide examples of impacts of high-voltage towers in USA and development impacts in Canada, respectively

[17] See Tips and Savasdisara 1986 for differences among five Asian groups; Hull and Revell 1989 for differences between Balinese and non-Balinese tourists; Buyhoff et al. 1983 for differences among three northern European countries.

Categorizing and characterizing approaches

The development of landscape assessment has involved a variety of disciplines and professions, including geography, landscape architecture, art history, forestry, and psychology. Each of these professions and disciplines brought different methods, theory and philosophical orientations "generating a seemingly diffuse collection of studies and findings" (Zube et al. 1982, 2).

Design principles from landscape architecture and resource inventory and analysis tools from natural resource management have been the major influences on the development of practical methods for carrying out landscape assessment. The aim has been to measure and inventory landscape features and elements, and classify them, as part of programs which ultimately strive for the management and planning goals of efficiency and objectivity[18] in producing technically useful knowledge (USDA Forest Service 1974; Yeomans 1983).

In the social sciences, the impact of the 'quantitative revolution' influenced the contribution of the field. Landscape evaluation came to reflect the quantification of mainstream social science during the 1960s which had adopted many of the tenets of logical positivism (Unwin 1992). Assuming a stimulus-response model of experimental psychology, researchers measured observer response, and correlated the responses to measurable landscape features in trying to predict landscape preferences and scenic beauty (Shafer et al. 1969).

At the same time, however, other geographers were pointing out the limitations of the dominant methods. Their investigations highlighted understanding the experiences and attachments of people to places without the

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[18] I use the term 'objectivity' to refer to the conventional idea of an impersonal (value-free) and unbiased perspective, even though I consider an objective stance ultimately untenable.

analytical separation of human subjects and landscape objects (Unwin 1992, Johnston et al. 1994).

By the 1980s, comprehensive reviews of the literature in research and application in the field of landscape aesthetics, perception and assessment, by scholars in psychology, geography and resource management, were undertaken to make sense of the research, methods and findings (Zube et al. 1982, Porteous 1982, Daniel and Vining 1983). In general, the reviews noted the various disciplines involved and their differing and often divergent methods, theory and philosophical orientations, and culminated with a categorization of the different approaches to landscape assessment. Several of these are discussed below to highlight their categorizations and the bases for them.

Daniel and Vining (1983) provided an overview of contemporary landscape quality assessment methods. They identified five underlying conceptual models to organize and evaluate specific methods and techniques: ecological, formal aesthetic, psychophysical, psychological and phenomenological. These models differ in definitions of landscape values, determinations of relevant attributes of the landscape, and the involvement of the observer.

Punter (1983) described three interdisciplinary perspectives or paradigms. "Landscape perception" concentrates on the mechanics of how landscape is perceived in relation to environmental characteristics. The second paradigm, "landscape appreciation", focuses on landscape as an expression of cultures, lifestyles and values, dealing with the meaning of the landscape for the observer. The third paradigm, the "visual (or landscape) quality approach", deals with the formal sensory qualities of the environment.

Porteous (1982, 1996) introduced a schema that involves four distinct, but interconnected approaches to consider environmental aesthetics. His

"humanist" approach involves contemplation of landscape, humans and their interactions, and is concerned, therefore, with the life of the mind rather than the manipulation of environments or human behaviour. "Experimentalists", in the second approach, rely on quantitative methodology associated with the science model of hypothesis testing, data generation and statistical analysis to set up experimentation in considering both environmental variables (for example, mystery) and human characteristics (for example, personality). The "planner" approach, the most "applied of the paradigms, involves evaluation of landscapes by appraisers, who consider various landscape features believed to be of significance to landscape aesthetics" (Porteous 1996, 193). The fourth paradigm - activists – involves those who act on or do something about their aesthetic values.

Zube and his colleagues (1982) analyzed over 160 articles published in 20 different journals and identified four general approaches, which they called paradigms, that have been used in landscape assessment. Each paradigm is different in its emphasis on the human component, the landscape component or the interaction component in a general "human-landscape interaction" model. The analysis found that "expert" and "psychophysical" approaches were most prevalent in problem-related research in forestry and outdoor recreation resource management, while "cognitive" and "experiential" paradigms addressed applied and theoretical issues in behavioural psychology and human geography.

A subsequent study (Zube 1986) compared the contents of five such reviews of the field, including several of those just discussed. Zube (1986, 7) noted that each of the reviews "identified a set of paradigms or models for categorizing the multiple approaches" to landscape analysis and found there to be considerable agreement in the conceptualizations of these models or

paradigms. The fairly consistent categorizations of from three to five distinctive conceptual models or 'paradigms' are arranged along a continuum in Table 2.1.

Table 2.1 Categorizations of approaches to landscape assessment

	"EXPERT"	"EXPERIMENTAL"	"EXPERIENTIAL"
	- quality inherent in landscape - assessed by expert	⟵————————⟶	- quality in meaning to observer - assessed by involved observer

Daniel and Vining (1983)	Ecological	Formal Aesthetic	Psychophysical	Psychological	Phenomenological
Porteous[19] (1982)		Planner		Experimentalist	Humanist
Punter (1982)		Landscape quality		Landscape perception	Landscape interpretation
Zube et al. (1982)		Expert	Psychological	Cognitive	Experiential

adapted from Zube (1986)

The categorizations (schema, paradigms) used by different reviewers (column one) are grouped under the name of the category corresponding to the shared conceptual basis. In general, the conceptual basis can be seen to fall along a continuum, as depicted in the middle section of Table 2.1.

Several conclusions can be drawn from the discussion of these reviews:

(1) Research in the field, variously called "environmental aesthetics" (Porteous 1982), assessment of "landscape quality" (Daniel and Vining 1983),

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[19] The activist category of Porteous (1996) has no equivalent in other categorization frameworks.

and "landscape perception research" (Zube et al. 1982), is diverse and multi-disciplinary, but can be seen as a single field [20].

(2) The very short time span in which the independent reviews were carried out suggests something of a 'watershed' for the field, both an acknowledgment of what has happened, and a call for future direction.

Despite the recognition in the foregoing discussion of the similarities in the categorizations of different approaches across different reviews, landscape assessment approaches have been classified in other ways: according to their scope—from site-specific models to regional scale assessments, for example. Gifford (1987) distinguished among six types of "environmental appraisals": descriptions, evaluations, judgements of beauty, emotional reactions, meanings and attitudes of concerns, and further distinguished these from "environmental assessments". Mitchell (1989) has distinguished landscape evaluation methods on the basis of their focus on "consensus", "preference" or "description".

To structure my discussion of the various approaches to landscape assessment, I use an organizational framework similar to that suggested by Zube (1986). These are the three category headings used in Table 2.1: expert, experimental and experiential. I adopt the names identified and discussed by other reviewers of the field that seem to best describe the conceptual focus of each approach, the nature of the methods that fall within it, and the essence of research and practice.

The major drawback of this framework (or any other) is that it stresses the similarities within categories and differences across them, and conversely, downplays differences within categories and minimizes similarities across them.

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[20] Indeed, as Mitchell (1989, 125) points out: "While investigators are all digging in the same hole whether they refer to it as environmental aesthetics or valued environments, they are using many different kinds of shovels".

As with any classification scheme, not all approaches to landscape assessment

can be neatly categorized and no approach completely fits in any one category.

These categorizations encapsulate the major assessment traditions and as

Porteous (1996, 15) noted:

> far from being seen as antagonistic, competing, hermetic compartments,
> [the paradigms] should be regarded as complementary, [with] a continual
> flow and flux of information and concepts between the paradigms.

Using this three-part framework, I briefly describe each approach, noting

the focus of assessment, especially in terms of the major concepts of interest,

and generally how assessment is carried out.

The expert approach

Expert or professional judgements or analysis of the relationships among

landscape elements form the basis of this approach. Visual attributes in the

landscape determine its aesthetic quality, and these attributes can be identified

by trained individuals or professionals (that is, 'experts'). The goals of

assessment include identification of aesthetic features or relationships, ranking

of landscapes in terms of visual aesthetic integrity or quality based on the

features, and translation of constituent elements into design and management

practices. This approach characterizes the methods and programs of land and

resource management agencies such as the British Columbia Ministry of Forests

(1981, 1994a) and the United States Scenic Management System (1997).

Expert approaches differ primarily in terms of the "types" of attributes

considered to be relevant to an assessment of aesthetic quality. Two general

groups of attributes are considered, physical-ecological features and formal-

artistic features discussed in design terms.

Physical features such as the type of vegetation, presence of water, and

topography, for example, are contents of the landscape that contribute to

aesthetic quality. Ecological properties such as 'diversity' or 'rarity', and other

properties, such as 'extent of view' and 'evidence of humans', are also considered,

and their presence and extent judged or measured by professionals or trained

individuals, such as resource managers. Some methods are systematic in

evaluating the physical elements of landscape. Leopold's method for determining

the "scenics of a river valley"[21] and Linton's "scenic assessment matrix"[22] are

two of the earliest. These involve numerical rating scales for 46 geomorphologic,

ecological and human use and interest factors, and 13 land use and land form

factors, respectively. Other procedures determine aesthetic quality more

arbitrarily, for instance, by calculating "the mean of all team members'

evaluations" of the landscape's "aesthetic value" on a five-point scale (Legakis et

al. 1993, 147).

While the Leopold and Linton methods remain in use (Williams 1985,

Blankson and Green 1991), aesthetic quality assessment of this type is

increasingly incorporated into broader inventories for "ecological assessments"

(Legakis et al. 1993) or "resource assessments" (Cocklin et al. 1990). These

approaches focus on non-urban landscapes, since urbanized or developed

landscapes contain elements, such as evidence of human use, assumed to lower

aesthetic quality (Taylor et al. 1987, Mitchell 1989).

Additionally, aesthetic value is inherent in the formal abstract features of

the landscape, expressed in artistic or design terms such as forms, lines or

textures. Judgement of the "variety" or "contrast" among the basic properties

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[21] Using river landscapes, Leopold (1969) developed a comparative uniqueness index of landscape quality based on physical and ecological factors such as river width, diversity of nearby land, and presence of urbanization.

[22] Linton (1968) developed an evaluation procedure involving numerical ratings of land form and land use categories in a matrix (7x6) which could be added together to get scenic quality ratings.

determines visual aesthetic quality[23]. Landscapes are described using the formal abstract properties, and then classified according to relationships among properties. The landscape is managed by manipulating the important properties.

Landscape assessment outcomes of this type are generally presented as statements or maps of visual or aesthetic quality, along a single dimension such as "scenic quality" (Cocklin et al. 1992), "visual variety" (Yeomans 1983) or "visual sensitivity" (British Columbia Ministry of Forests 1994a)[24]. Management and planning and activities are focussed on conserving highly scenic areas or improving those of low value through mitigation measures that increase the presence of positive features. Approaches in which physical features or design properties are assessed form the basis of visual resource management in the United States Forest Service and Bureau of Land Management (Smardon 1986), in England's Forest Commission (Lucas 1991), in Alberta's Forest Service (Alberta Forestry, Lands and Wildlife 1988), and in British Columbia's Visual Landscape Management program (British Columbia Ministry of Forests 1994a). To the extent that planning and management agencies have a mandate for vast land areas, these approaches are the most influential in terms of environmental modifications.

In summary, the expert approach is characterized by the identification of landscape features that are assumed to contribute to aesthetic quality by the

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[23] "The more visual variety, the more aesthetically pleasing the landscape, except that variety without harmony represents intrusion and detracts from aesthetic pleasure" (Bureau of Land Management, 1980, *Visual Resource Management Program, 13*).

[24] Direct visual inspection is not required, and highlights a major assumption that aesthetic value is visual and exists inherently in a landscape. Photographs, topographic maps, and GISs are commonly used to determine the presence of features important to visual landscape aesthetics. The computer has revolutionized large-scale application of these methods (Bishop and Hull 1991, Berry et al. 1998).

evaluations of 'expert' or trained observers. Because of their training, it is assumed that professionals or trained observers are capable of objectively analyzing the landscape's important visual components, and subsequently translating these attributes into planning measures and management practices. The major assumption is, as Hamilton (1996, 2) notes, that "landscapes possess a unique and complex language" that forms the basis of assessment.

The experimental approach

In the experimental approach, the landscape is considered to be a visual stimulus or source of information to which humans respond. Variations in observer landscape perceptions or affective measures, expressed as ratings of 'scenic beauty', 'visual quality', or preference, for example, are correlated with variations in measured landscape dimensions (McGill 1990, 1992). Perceiver ratings serve as dependent variables, and measures of landscape elements—either physical (such as topography, vegetative cover and built structures) or cognitive (such as mystery or naturalness) -- serve as independent variables (Shafer et al. 1969, Gregory and Davis 1993). Policies and management practices then focus on maintaining or creating landscapes with features that are positively related to or predicted by perceptions of scenic quality or preference.

Typically, an observer is asked to rate a landscape[25] along some dimension such as "preference" (R. Kaplan 1985, Abello et al. 1986), "attractiveness" (Schroeder 1988) or "beauty" (Daniel and Boster 1976, Hull and Buyhoff 1986)[26]. These ratings are correlated to physical measures in the

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[25] Studies adopting this approach typically rely on the use of photographs to serve as surrogates for the "actual" landscape (Herzog 1984, Alberta Tourism 1992, Hamilton 1996).

[26] These terms are often used synonymously: that is, preference ratings are the way to capture visual quality.

landscape, involving actual field measures (such as tree density) or photo measurements (area of photograph covered by vegetation or structures). Using regression analysis, multidimensional scaling or other inferential statistical techniques, predictive models are created for particular landscape types or specific assessment situations. For example, the Scenic Beauty Estimation (SBE) Method (Daniel and Boster 1976) results in a quantitative model on the basis of a scaled rating of scenic beauty compared to measures of physical features through multiple regression analysis. It has been used widely, especially in resource management applications (Schroeder 1988, 1991, Ribe 1989, 1990, Haider 1992). These *psychophysical* methods receive widespread use in the United States (Daniel and Boster 1976, Ribe 1989) and in Canada (Pomeroy et al. 1989, Haider 1992), but have been less well received in Great Britain (Swanwick 1989).

When independent variables are constructs such as "naturalness" (Gobster and Chenoweth 1989), "mystery" or "coherence" (R. Kaplan and S. Kaplan 1978, 1982, 1989), rather than physical landscape features, these experimental methods have been categorized as *cognitive* approaches[27]. Methods have typically been adapted from psychometrics, and include semantic differentials (Penning-Rowsell 1982) and adjective checklists (Craik 1975), and survey questions (Haider 1992). Typically, observers are shown slides or photos and asked to rate the landscape scenes on an accompanying form, or required to complete a photo-questionnaire containing photographs and Likert-type rating scales or questions.

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[27] Other reviewers have considered these two approaches to be separate (Daniel and Vining 1983, Zube et al. 1982 - see table 2.1) but I consider them together because they both have roots in experimental psychology.

The basis of cognitive methods and the major factor differentiating them from psychophysical approaches is the assumption that humans, rather than responding passively and generally to landscape stimuli (as in psychophysical approaches), are actively selective in terms of the aspects of landscape chosen to provide information. In both cases, however, landscape quality is built on the basis of visual information.

Studies within the experimental approach seek answers to *why* certain landscapes or elements are aesthetically pleasing, in addition to what those elements are. This emphasis on explanation has led to a focus on theory development (Appleton 1975, R. Kaplan and S. Kaplan 1989). Theoretical orientations have emphasized the role of landscape perception in human adaptation and evolution, discussed in a later section.

The experimental approach tends to rely on the responses of randomly sampled subjects, rather than on the judgements of 'experts', in assessing landscape quality. The use of random or representative sampling in experimental methods is often advocated as a form of public participation in environmental management and planning (Smardon et al. 1986, S. Kaplan and R. Kaplan 1989), using the public's ratings of landscape scenes, rather than those of experts (Kaplan 1982, Berris and Bekker 1989). The potentially different responses of the two groups is the basis of one of the main debates (discussed later) in landscape assessment research: who can (and should) make aesthetic determinations?

The experiential approach

Methods and studies in the experiential approach downplay the identification of physical landscape features or the role of landscape as a stimulus. There is little consideration given to ordering or comparing landscapes along a continuum or hierarchy of aesthetic quality such as 'excellence' or

'preference'. Because of the different purpose for 'assessing' landscape—for

clarifying and understanding, rather than for predicting or manipulating the

physical environment—the approaches within this paradigm might arguably not

be landscape *assessment* methods at all, as Daniel and Vining (1983) have

suggested. I believe that the experiential approach has significant potential to

inform landscape assessment. I therefore discuss the experiential approach (or

approaches) within the landscape assessment framework introduced earlier, as

others have done (Zube et al. 1982, Swanwick 1989).

Geographer Donald Meinig (1979, 33) remarked that if we ask a number of

people overlooking the same landscape to describe what they see, we would

obtain a number of "versions" of landscape:

> It will soon be apparent that even though we gather together and look in
> the same direction at the same instant, we will not—we cannot—see the
> same landscape... [for] ... any landscape is composed not only of what lies
> before our eyes but what lies within our heads.

If this is the case, then why do practical methods used to address

aesthetic values in landscape assessment emphasize what we see, "as if the

human mind were a camera, without regard for the meanings and associations

the human mind might attach" (Miller 1988, 191)? To 'assess' landscapes, I

contend, we need to consider these meaningful attachments, and an experiential

approach offers a way to do so. Because an experiential approach focuses on

subjective and contextual dimensions, and therefore less on physical features,

however, it has been considered less useful, if not irrelevant in resource and

environmental management.

Variously named "experiential" (Zube et al. 1982), "humanist" (Porteous

1982, 1996), "phenomenological" (Daniel and Vining 1983) and "reflexive"

(Seamon 1984), this category comprises the greatest philosophical, theoretical

and methodological diversity of the three categories. The experiential

approaches discussed within the literature are indeed quite different from one

another. I consider them together not so much because they are unified in the conceptualizations of landscape or aesthetics offered, but rather for their focus on meaning, understanding and their potential for greater reflection on the entire enterprise of landscape assessment.

Generally, experiential approaches are concerned with a holistic account of human-environment interaction in seeking to understand and clarify the human-environment relationship. Landscape experience involves more than aesthetic experience, and aesthetic experience involves more than a response to visual features. People are generally considered to be participants in, rather than just viewers of, landscape and the way they participate is assumed to influence their values. Experiential studies often focus on broader 'intangible' aspects of human-environment interaction. As Pocock (1987, 135) points out:

> Writings, both by and about particular authors, may give rise to a class of "valuable" landscape - that is, one which is valued because of associational qualities and not in the first instance from intrinsic beauty of physical form.

Outcomes are descriptive narratives of "everyday experiences" (Seamon 1979), "sense of place" (Seamon 1993); "placelessness" (Relph 1976) or "topophilia" (Tuan 1974).

The methodological diversity within the experiential approach is extensive. It includes: personal interviews (Burgess et al. 1988), personal diaries (Chenoweth and Gobster 1990) and less procedural methods, such as phenomenological exploration (Seamon 1979, Nogue i Font 1993), group reflection (Rodaway 1988), in-depth small groups (Burgess et al. 1988), and "seeing with the soul of the eye" [28] (Relph 1989, 149).

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[28] Relph's (1984, 209) approach, for example, involves "clear seeing: seeing, thinking, describing".

Chenoweth and Gobster (1990, 3) explored their premise that while "most investigators have chosen the categories and attributes [for study] based on their *own* ideas or theories of what is important, little is known about whether individuals construe the aesthetic experience of landscapes in these terms". They explored people's aesthetic experiences by having them complete personal diaries in which they recorded the details of experiences in their daily lives that they considered to be aesthetic. The authors' qualitative analysis of the journals revealed that aesthetic experiences involved landscapes as surrounding wholes, rather than compositions of specific elements or features viewed; senses other than vision; and, ephemeral events in the landscape such as weather changes, "nature" sounds, movement, and unplanned, everyday occurrences.

Landscapes under study are not necessarily contemporary or even material. "A landscape park is more palpable but no more real, nor less imaginary, than a landscape painting or poem" (Cosgrove and Daniels 1988, 1). Landscapes of memory (Riley 1980), and smellscapes, childscapes and soundscapes (Porteous 1990) are also considered. Other threads in the fabric of research involve textual "reading" of landscape (Duncan and Duncan 1988), and other hermeneutic approaches, as well as feminist and other interpretations of both landscape and broader environment, and people's relations with them (Monk 1984, Norwood and Monk 1987, Rose 1993) [29]. Others have also included the investigations of the landscapes and places of literature, such as Drabble (1979) and Barrowman (1990).

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[29] It seems that the experiential paradigm might be amenable to further subdivision, such as into interpretive and critical streams. Because the experiential approaches considered here are difficult to proceduralize, and focus on the outcome rather than on the method, they are least amenable to categorization in this methodologically-oriented comparative framework.

Such diversity provides an important contribution to landscape assessment: understanding the broader context of landscape encounter. Landscape values, aesthetic or otherwise, are *experienced*, and involve associations and other contextual understanding that may change over time and place, even within the same individual. Geographers have been major contributors to the literature within this paradigm. There has been a resurgence in attention to meaning, context and subjectivity in geography more generally (Aitken and Rushton 1993). It is this contribution -- a focus on understanding and context -- that I build on in this dissertation.

2.2 Comparing and contrasting landscape assessment approaches

The three approaches offer a diversity of methods to 'do landscape assessment'. In this section, the approaches are compared and contrasted in terms of their methodological orientations, the conceptualizations of key terms, and their underlying assumptions.

The great debate: photographs as landscapes

Landscape assessment in expert and experimental approaches and their practical application rely on simulations, which are usually photographs or slides of landscape scenes, rather than 'real' environments. Several studies have assessed the validity of using slides and other simulations by comparing on-site ratings of real scenes with responses to simulations of the same settings. Researchers suggest that photographic portrayals provide the researcher with a "cost-effective means of bringing many landscapes to a large number of observers" (R. Kaplan and S. Kaplan 1989, 16).

Research has been devoted to assessing the adequacy of photographs as substitutes for in situ landscape experience, and some has found photo ratings to be reliable (Shuttleworth 1980, Hull and Stewart 1992); that is, on-site ratings

of static settings have been found to correlate highly with ratings of colour slides or photographic prints.

Other researchers point out that the validity issue has not been fully resolved (Taylor et al. 1987, Hull and Stewart 1992). An actual environmental experience (such as hiking along a trail) seems obviously qualitatively different from a photo-based one (such as viewing slides in a windowless room). An 'on-site' landscape view is embedded in the context of spatially and temporally proximal 'views', which blend into one another as a person moves through the environment (Hull and Stewart 1995). A person has a purpose and motivation for an on-site landscape encounter (to enjoy a place) that may be quite different from the purpose and motivation of a photo-based landscape experience (to rate the researcher's photos or slides). As well, the observer is likely experiencing other things, including emotions and physical states resulting not from the environment but from the social or other contextual factors associated with the experience, all of which would contribute to the person's aesthetic assessment of the environment. Intuitively, at least, the use of approaches that rely on rating photographs seems limited because contextual information is lost.

There is also empirical support for this view (Kroh and Gimblett 1992, Mugica and Delucio 1996). Hull and Stewart (1992) examined the effects of contextual factors such as mood, novelty and associated meanings that qualitatively differentiate on-site from photo-based landscape experience. They found statistically significant differences between on-site and photo-based assessments observed at the individual level (idiographic analysis) that did not appear when results were averaged (nomothetic analysis), highlighting the lower sensitivity associated with analysis at the group level. They concluded that while photo-based assessments can be reliable (based on averaged results), they

have doubtful validity because of the loss of contextual factors of landscape experience.

The use of photo-questionnaires to elicit ratings of attractiveness or preference for landscapes has been used for some time because they are easy to use (Kaplan 1979). Similarly, rating slide photographs for attractiveness and beauty is common because large numbers of people are able to view a landscape at one time (British Columbia Ministry of Forests 1994b, 1996, 1997b). Planners and managers use photography and computer retouched photos, sketches and renderings, to consider how landscapes might look in the future given some management activity. Increasingly, Digital Terrain Modelling (DTM) and computerized depictions are used, especially as part of GIS (Berry et al. 1998). From some perspectives, it seems unfortunate that an experience as potentially rich and significant as landscape aesthetics is increasingly being 'remotely sensed' and further removed from direct experience, a 'virtual' visual entity.

The concepts

The expert and the experimental approaches are similar in that the human is primarily an *observer* of landscape, like "someone in an outdoor art gallery" (Zube 1991, 323). The landscape is *scenery* - a landscape "of views and vistas" (Bender 1993, 1), an entity, or object 'out there' and at a distance from the observer (subject). Expert methods place individual human perception in a peripheral position; aesthetic quality is assumed to be inherent in landscape *features*. The assumption is that when we know which landscape elements or features are important, assessment involves identifying the visual features, an activity that can be carried out 'objectively' by professional or other individuals trained in their recognition. The British Columbia Ministry of Forests, therefore, offers training workshops for practitioners of landscape assessment. Once trained, these experts are deemed able to identify and manipulate the features

leading to aesthetic design of landscape. A related assumption is that the significance of the features is the same across landscapes, or across similar landscape types (Blankson and Green 1991).

Experimental methods place the viewer more centrally than the expert approach, as an information processor *responding to* features in the landscape. To the extent that viewers are similar in some way, they respond similarly to landscape scenes. The differing emphasis of expert and experimental approaches draws attention to an ongoing debate in landscape assessment about who should (or is able to) make aesthetic determinations: trained professionals or the general public. Some researchers suggest that preferences and ratings of beauty differ substantially between these groups (R. Kaplan and S. Kaplan 1989). Others note that there is general consensus about beautiful or high quality landscapes (Dearden 1989).

These differences form the basis of the 'subjective – objective' debate in the field: does beauty lie in the 'eye of the beholder'—in which case assessment is deemed to be subjective, or in the landscape—in which case assessment is deemed to be objective? (Jacques 1980). The basis of this debate, of course, is an acceptance of a subject-object dichotomy, a dichotomy not accepted by some other approaches (paradigms), such as phenomenology. In accepting a subjective-objective dichotomy, both expert and experimental approaches reflect and reproduce the dominant resource management paradigm, a microcosm of the scientific-industrial paradigm of Western society, with its values and assumptions of utilitarian and commodity-oriented activities (Knight and Bates 1995). That dominant social paradigms tend to remain unquestioned is one reason for the expert model having been considered "atheoretical" (Daniel and Vining 1983). In addition, questions of power have not been frequently addressed. One might ask *whose* values are being assessed? Critical social,

feminist and cultural theory could be useful in this regard because of the attention given to power relations in discussions of social activities and roles (Rose 1993, Jenks 1995).

Using conventional measurement system criteria

Reliability, sensitivity, utility and validity are traditional criteria for evaluating measurement systems. Varying degrees of each of these factors have been documented for landscape assessment methods. The use of these criteria, however, assumes that replicability of procedures, consistency of results and utility are necessary in evaluating landscape assessment approaches. Mitchell (1989) suggests that in a resource management context, this is likely the case. These criteria, however, have evolved within quantitative scientific research, and are applicable for measurement systems of that type. For methods and research which are qualitative, reconsideration of these criteria is required. In light of this, new 'ways of thinking' and new approaches to assessing research quality are evolving (Denzin and Lincoln 1994). As a starting point, the conventional criteria are used to consider landscape assessment methods.

Utility Expert and psychophysical approaches dominate resource and environmental planning and management (Smardon et al. 1983, Steiner 1991). A study on the Oak Ridges Moraine, part of large-scale and ongoing resource management and planning in southern Ontario, adopted methods from within the expert approach (JSW Associates 1993). A study by the Old Growth Policy Advisory Committee used the Scenic Beauty Estimation method to address scenic beauty values in their planning process for northern Ontario forest management (Haider 1992). A recent study by Hamilton (1996) adapted the photo-questionnaire method to rate landscapes along British Columbia's coast as part of tourism and resource planning. For environmental planning and resource management, these continue to be the methods of choice for addressing

aesthetics. They are seen as useful because the landscape features assessed can be manipulated, and the methods used to do so are procedural and well documented, and therefore replicable and economically feasible.

Experiential methods are less structured and less procedural than the methods of the other two approaches. Because of this characteristic and because their outcomes are not tied directly to physical features, they have been regarded as less useful in practical situations (Zube 1986). Values of interest are defined by the criteria of individual and shared experience, potentially with each application, rather than determined by the evaluator or researcher *a priori*. For this reason and because they are qualitative (and hence not providing the quantitative results usually used to make trade-offs for resource and environmental decision making), they are often considered too idiosyncratic, too time consuming and too subjective to be used in environmental planning and management (Taylor et al. 1987).

Reliability Despite their utility, expert methods have been found to be limited in their reliability (Miller 1984a). Reliability is low for single observers (Feimer et al. 1981), and typically in practice, these methods employ a single expert for assessment.

Other researchers have demonstrated the reliability of experimental approaches (R. Kaplan and S. Kaplan 1989). That is, in repeated use by subjects, the methods obtain consistent results. Experimental methods are procedural, and hence easy to replicate. Because they are used to gather quantitative or numerical data, which are amenable to statistical analysis, results across studies are comparable. For these reasons, and because they are seen as incorporating 'public input', experimental approaches have received increasing attention in environmental and resource management, such as

forestry management (Ribe 1990, Haider 1992) and recreation management (Noe and Hammitt 1988, Ribe 1994).

Because experiential methods are not procedural, it is difficult to determine reliability in a conventional way. Qualitative researchers such as Polkinghorne (1983, 46) suggest that to the extent that the results have been gained through "clear seeing" or "intuitive grasping" and communicated in a "rich, full, clearly written description", investigation is both replicable and self-validating (Denzin and Lincoln 1994).

Sensitivity   In expert approaches, the grouping of landscapes ordinally into broad categories (such as low - moderate - high scenic value), potentially masks finer distinctions among actual landscapes. Such distinctions are likely important in considering aesthetic value, and hence such broad groupings reduce the sensitivity of landscape assessment. In British Columbia, where landscapes are classified as "visually sensitive" or "not visually sensitive" based primarily on the presence or absence of certain physical features, large areas of land are removed from any aesthetic consideration (British Columbia Ministry of Forests 1997a).

Typically, experimental studies do not ask subjects *why* they appreciate, prefer or find pleasant the landscapes they respond to; nor do they differentiate among these perceptual experiences. They tend to focus on a single type of perceptual experience: overall preference for a scene. 'Preference' for landscape is used to imply many affective or emotional reactions to landscape: liking, attractiveness, interest and scenic beauty, or their opposites (Purcell et al. 1994). Experimental methods do not appear to be very sensitive to responses other than 'preference'. To the extent that experiential methods specify neither the features of importance in landscapes to be assessed nor the type of response expected, they might be the most sensitive.

Validity   In terms of measurement systems, two types of validity are generally considered: internal and external. Experimental approaches have generally been the most rigorous in terms of trying to attain reliability (consistency in use) and internal validity (accuracy of information) (Feimer et al. 1981), especially through the application of statistical regression and conventional sampling techniques to reduce selection bias (Neumann 1994). External validity (generalizability of findings) has been a focus less for the outcomes of particular data collection methods than for considering the use of photographs to represent the landscape, as discussed earlier.

A measure may produce the same results over and over (that is, be reliable) but *what* it measures may not be the concept or construct of interest (that is, not valid). Research design literature indicates that reliability is a necessary (but not sufficient) condition for validity (Neumann 1994). To the extent that reliability is necessary (but not sufficient) for validity, until reliability is achieved, validity will not be forthcoming. To the extent that abstract, not easily defined constructs (such as aesthetics) resist attempts to achieve reliability, it is not likely that methods for assessing aesthetics will be valid.

Table 2.2 summarizes the examination of approaches using the conventional criteria. Expert approaches do not fare well in terms of sensitivity, reliability or validity, but remain dominant in practice because of their utility. Experimental approaches while reliable, may not offer high validity or sensitivity. Experiential approaches, are sensitive and valid, but as of yet, low in perceived utility.

Table 2.2 Summary of examination of assessment approaches

	Expert	Experimental	Experiential
Utility	High	High	Low
Sensitivity	Low	Low - moderate	High
Reliability	Low	High	?
Validity	Low	Low-moderate	High

Theoretical dimensions

Appleton (1975), in a seminal exposition, stated that the question guiding theory development is "what do we like about landscape and why do we like it?". This question has formed the basis of attempts to explain aesthetic appreciation of landscape. The implication for practical landscape assessment is that if we know what is liked we can design or maintain attractive (aesthetic) landscapes.

But as Bourassa (1990, 1) asked: "What exactly is landscape? And is it adequate to assume that aesthetics is concerned with what we *like*?". Is an aesthetic experience of landscape coincident with 'visual quality' and creating 'scenic landscapes'? Should we assume that 'preferences' for landscapes and 'rating scenic attractiveness' are synonymous, as researchers often do (Schroeder 1988, Hamilton 1996)? Might preference be related to what one might be able *to do* or has done there? That either liking or preference or even attractiveness or beauty comprises 'the aesthetic' is unclear.

Here I introduce and briefly examine two major theoretical perspectives on people's attraction to and appreciation of landscapes: the biological-evolutionary perspective and the cultural perspective.

Biological-evolutionary theoretical perspectives

While various theories have been proposed[30], none have received as much attention as Stephen and Rachel Kaplan's "information processing model" (1982, 1989) and Appleton's "prospect - refuge" theory (1975, 1987). These theories are compatible with one another and with others in that they seek to explain human responses to the environment, such as aesthetic pleasure or preferences, in terms of the evolutionary adaptations of humans as biological creatures (Greenbie 1982). That is, human aesthetic responses have become part of our genetic make-up because such responses were adaptive during human evolution. Humans have a genetic predisposition to acquire and retain 'liking' or 'attraction' responses to natural elements and configurations which favoured survival because they were associated with primary necessities such as food, water and security (Ulrich 1993). To the extent that these theories focus on a biological basis of aesthetic response, however, they minimize social, cultural, personal and other aspects.

Using an information processing model of humans, the Kaplans (R. Kaplan and S. Kaplan 1982, 1989) posit that landscape preference is an expression of human evolutionary adaptation. Humans need to "make sense of" and "be involved with" their environment. Perceptions that favour the provision of information for making sense of and being involved will ensure survival. For example, "mystery" in the landscape is attractive to humans, it is

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[30] Some aesthetic perception theories draw from more general psychological theory, such as Wohlwill (1976).

postulated, because it offers a way to become more involved (Kaplan, Kaplan and Ryan 1997).

Appleton (1975) developed a "prospect-refuge" theory in which aesthetic quality is related to landscape elements symbolizing places from which to see (prospect) without being seen (refuge). Humans find aesthetic value in landscapes that provide either prospect or refuge. This theory has been subjected to some empirical testing (Clamp and Powell 1982). It has been applied in landscape design (Frey 1986). But, as Riley (1992, 15) noted, the tenets of evolutionary or biological theories are "plausible but unproved, perhaps unprovable".

The evolutionary basis of human attraction to landscape, and in particular to 'natural' landscapes, is encompassed more broadly by other theories, such as "biophilia", our attraction to the natural world in general (Kellert and Wilson 1993, Flores 1994)[31]. Building on the work of the Kaplan's and Appleton, Heerwagen and Orians (1993) examined the landscape paintings of Western European artists for the presence of environmental cues for "habitability" such as shelter from predators, ease of movement and presence of risk or hazards. The researchers conducted a content analysis of 46 paintings of sunsets and sunrises to test several hypotheses about people's responses to signals of time of day. Hypothesizing that "landscape paintings of sunsets will be high in refuge symbolism, and sunrise paintings well be much lower in refuge symbolism" (Heerwagen and Orians 1993, 148) the researchers found that sunsets were more commonly depicted in paintings, and had significantly more refuge symbolism than the sunrise paintings. They concluded support for a

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[31] Ulrich (1993) points out that the theory and research on what we like or prefer in the environment (biophilia) is less developed than that for what we respond negatively to (biophobic).

biological predisposition in humans who are highly motivated by cues that signal the coming of night and who find pleasure in these cues if refuge is readily available (although this latter part has not been extensively explored). This interpretation assumes that landscape paintings are attempts to 'represent' the world – that they *reflect* reality, rather than, as cultural theorists would suggest, that they *create* reality (Barnes and Duncan 1989).

Ulrich (1993, 87) noted that "scientific research on certain aspects of positive responding to natural environments, especially aesthetic preference, has expanded and improved". He added that "certain consistent cross-cultural patterns in aesthetic preferences (from the empirical research) provide circumstantial support for the hypothesis that biophilia has a partly genetic basis". Researchers note that certain natural elements and configurations, and certain settings of landscape types, tend to be preferred. Natural settings with water features, for example, are reported to elicit high levels of liking or preference (Shafer et al. 1969, Penning-Rowsell 1982, Dearden 1984, Chokor and Mene 1992). Natural over urban (built) landscapes, and natural features (vegetation, water) over built features (concrete), also are preferred.

Several studies have reported that European, North American, and Asian adult groups consistently respond with high liking to environments that are 'savanna-like' in appearance, and posit that this was the setting in which humans evolved (Ruiz and Bernaldez 1982, R. Kaplan and S. Kaplan 1989). Moderate to high depth or openness, relatively smooth or uniform-length grassy vegetation or ground surfaces, and scattered trees or small groupings or trees characterize these settings (Ulrich 1993). Studies have indicated that observers prefer forest with visual openness and uniform ground cover associated with large-diameter mature trees and relatively small amounts of slash and downed wood (Patey and Evans 1979, Kellomaki and Savolainen 1984).

By contrast, other properties consistently associated with low preference for natural settings include restricted depth of view, disordered high complexity and rough ground textures (closely spaced trees, large amounts of downed wood, dense understory) that, it is argued, appear to obstruct movement. Another characteristic that has been found to reduce liking is the presence of a judged threat or risk, except for certain people such as sensation-seekers (Ulrich 1983).

Although some studies have reported statistically significant variations as a function of variables such as age, ethnicity and the sensation-seeking personality trait, these differences usually are small compared to the percentage of variance associated with group similarities (Ulrich 1993). The general conclusion in this research is that similarities in responses to natural scenes tend to outweigh the differences across different individuals and groups (Daniel and Boster 1976, Wellman and Buhyoff 1980, Hull and Revell 1989). A second general research finding is the tendency for diverse cultural groups to prefer natural landscape scenes over urban or built views, especially when the latter lack natural content such as vegetation and water (Hull and Revell 1989).

The findings of attraction to similar features across studies are generally seen as support for the genetic basis of aesthetic response[32]. That is, during our shared evolutionary development, we came to prefer certain environmental elements (visual cues) because of their contribution to our continued existence. Less research, however, has looked at preferences for *living in*, rather than *looking at* the landscape (depicted in slides or photographs), but has found comparatively wide variations among different cultural groups in preferred environments for living (Sonnenfeld 1967). And, indeed one might expect an

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[32] They could, of course, be explained on a cultural basis, since much of the research has been conducted with Western (or Westernized) cultures, and certainly, "landscape gazing" is part of Western cultural history (Jakle 1987, Urry 1990, Crang 1997).

evolutionary basis of preference to be most strongly expressed in looking at the environment as a place to live. Purcell et al. (1994) found that even 'preference' is not a unitary concept; rather, people do distinguish between overall preference, preference as a place to live and work, and preference as a place to visit on vacation.

At this point, landscape preference and perception research offers at best indirect support for a partly genetic basis of landscape appreciation (Ulrich 1993). Some caution in interpreting the findings is necessary because of the limited data for non-Western cultures (Ulrich 1993). Creating aesthetically pleasing landscapes for Western cultures, at least, means making them look like savannas and parklands -- green lawns and a few trees or clumps of trees. One might ask the question: would Inuit or rainforest dwellers, or ocean traveling peoples 'prefer' such landscapes? Sonnenfeld (1967) indicated that this is not likely.

One could also argue that similar findings of aesthetic preference arise because similar methods are used. Evernden (1981, 153) noted that the techniques for landscape assessment used in planning and resource management "are a means to identify the stereotype of landscape". Such methods reinforce the cultural convention of what is beautiful -- the 'landscape idea': a visual, perspectival conceptualization of aesthetics and a picturesque notion of landscape.

Cultural theoretical perspectives

Most arguments for the cultural basis of landscape aesthetics look to the historical development of the preference for and admiration of landscape types or landscape elements in a culture over time. Some scholars note that people may come to appreciate and regard as beautiful parts of nature or environments that were at one time regarded as not beautiful (Saito 1998). Nicolson (1959) provides a treatise on the change of the perception of alpine environments from

"mountain gloom" to "mountain glory". Cosgrove (1984) suggests the development of landscape as a way of seeing based in perspective, arising in the Renaissance and associated with imperial power and politics. The term 'aesthetics' and the word 'landscape' entered the English language at about this time, and their meanings have evolved inextricably and with other aspects of Western culture (Cosgrove 1984, Andrews 1989, Crandell 1993, Arnold 1996).

A cultural perspective is one way to interpret the expert paradigm. Because expert approaches do not explicitly deal with explanations about why only certain features are assessed, they have been seen as atheoretical. Some methods employ formal artistic or design terms to describe the aesthetic *in* landscape. These methods, noted Swanwick (1989, 4) seem to be grounded on "ideology and tradition" -- on the assumptions which underpin contemporary Western thought. Evernden (1981, 149) noted that these methods "owe much to the romantic movement" and its "picturesque tradition". The approaches using artistic and design features embody and reinforce traditional assumptions of what is beautiful for art and can be seen to 'naturalize' the conventional assumptions. As Howett (1987, 3-4) noted:

> the methods of 'visual resource assessment' as it is employed in natural and recreation resource planning generally depend on criteria derived from this [Olmsted's picturesque park landscape] tradition, especially in the importance attached to abstract, formal qualities of such visual features as topographic relief, vegetation, water bodies.

The emphasis on physical and ecological features in expert approaches is underpinned by an implicit (unquestioned) assumption that unmodified or 'natural' landscapes have the greatest intrinsic aesthetic quality (Daniel and Vining 1983). Environmental management seeks to preserve or enhance 'naturalness', where naturalness is generally opposed to human-influenced. This assumption is manifest in, for example, rating scales where urbanized and industrialized landscapes score negatively (Linton 1968), and in resource

management applications such as impact assessment, where 'making the scene natural' leads to reduced visual impact (Alberta Power 1990).

If naturalness and aesthetics are related in this way, then why assess *aesthetic* quality at all? Landscape aesthetic assessment would be superfluous to or redundant with ecological assessments of 'naturalness'. Indeed, as management policies lead to increased emphasis on measuring ecological integrity, attention to the aesthetic dimension (at least in its full richness) may be even further diminished, especially if it is considered exclusively as naturalness. The concepts of nature and naturalness in relation to aesthetics need to be more fully explored in this regard[33].

Research has emphasized forested landscapes (Benson and Ullrich 1981, McGill 1990, 1992, Brunson and Shelby 1992, McGaughey 1998), and has underemphasized other ecosystem types. Prospect-refuge theory and information processing theory posit that we have developed preferences for forested landscapes because in them we can 'see without being seen'. From a cultural perspective, however, the interpretation of this emphasis on treed environments is different. Daniels (1988) utilized an iconographic reading of landscape and implicated trees and forested landscapes with the power and imperialism of English estate owners in earlier centuries. This influence and symbolism became part of the colonial empire, and hence of colonial cultures as well. The use of trees in 'landscaping' today reinforces the historical notion that trees and well-manicured parks are part of respectable (beautiful) neighbourhoods, symbolizing property and ownership.

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[33]Evernden (1992) and Von Maltzahn (1994) provide detailed and cogent discussions of the concepts of nature, landscape and human experience (including aesthetics). Arnold (1996) provides a useful historical discussion of 'nature'.

While the emphasis in practical landscape assessment has been on forested landscapes, some programs focus on 'rural' landscapes. The United States Bureau of Land Management for example, undertakes scenic analysis of the countryside (Litton and Tetlow 1978, Schauman 1988). Countryside is the major focus for landscape assessment in Britain (Berger 1988, Countryside Commission 1989). Scholars have also noted cultural embeddedness of the 'rural idyll', our preoccupation with pastoral-agrarian-rural ways of life and the aestheticization of the settings in which they occur (Bunce 1996, Swaffield and Fairweather 1996).

Unifying and integrative frameworks

Attention to general or integrative landscape aesthetic frameworks has occupied some scholars (Dearden 1987, Bourassa 1991). Bourassa (1990), for example, offered a synthesis of biological, cultural and individual determinants of aesthetic response to landscapes.

Reviewers of the field of landscape evaluation have suggested a synthesis of approaches in which the strengths and weaknesses of the various approaches could be complementary (Zube et al. 1982, Sell et al. 1984, Taylor et al. 1987, Dearden 1987, 1989). Dearden (1987, 1989) offered a comprehensive framework in which landscape assessment is seen to be an interaction of factors both external and internal to the individual, and, where external factors dominate over internal ones, levels of consensus should be higher. By identifying circumstances that intuitively and empirically can be linked to consensus, and assuming that assessment methods lie on a continuum of consensus, it is possible to suggest guidelines for the choice of appropriate methods. There has been little follow-up research involving this framework, especially regarding levels of consensus within different approaches to landscape assessment.

Zube and his colleagues (Zube, Taylor and Sell 1982; Sell, Taylor and Zube 1984; Taylor, Sell and Zube 1987) suggested an integrative framework that emphasizes the importance of various approaches at different stages in the assessment process: experiential approaches can provide directions for investigations; perceptual approaches can then isolate salient features; and finally, experts can go into the field and inventory landscape quality (Taylor et al. 1987).

In such a framework, experiential methods are exploratory, providing concepts or ideas that other methods can 'test'. I contend that experiential results are significant in their own right. Experiential methods, while not as easy to reduce to step-by-step procedures as some other methods, are no less valuable in landscape assessment. I assert that because of the potential for greater validity, for greater participant or 'observer' involvement, and for attention to broader aesthetic (and other) value dimensions, experiential approaches are potentially very informative.

In addition, the experiential approach offers not just alternate procedures, but alternative ways of thinking. Attempts at integrating methods without consideration of different ways of thinking upon which methods are based is difficult, and the search for integrative frameworks reported in the literature has receded since the early 1990s[34]. Unfortunately for the field of landscape assessment (and hence for the landscapes with which we interact), less attention to even methodological discussions has resulted in less critical attention to the practice and conceptualization of landscape assessment itself. Without critical thought, dominant landscape assessment approaches and

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[34] Indeed scholars in geography and related social sciences and humanities have for some time recognized the recession from high-level general theory development (Aitken and Rushton 1993).

methods in resource and environmental management remain unquestioned and

risk becoming ever further entrenched despite their inadequacies. The

experiential approach is thus the focus of this research.

Chapter 3

Methodology

3.0 Introduction

In this chapter, I present the case study in which I compared and contrasted two landscape assessment approaches employed in the Cariboo region of British Columbia: the experiential and the expert. The three-part framework discussed in the previous chapter (summarized in Table 2.1) served to frame the empirical studies which I carried out and outline in this chapter.

While I favour an experiential approach to landscape assessment and primarily investigated the contribution to landscape assessment from that perspective, I also examined another approach. Because the expert approach dominates the practice of landscape assessment for environmental and resource management, examination of the application of its methods serves to contextualize my discussion of how an experiential approach can inform landscape assessment. The expert approach thus serves as a foil to the experiential approach.

Ideally, I recognize, one would investigate all three approaches (the expert, the experimental and the experiential) empirically. In my study, I considered the application of experimental methods by the British Columbia Ministry of Forests[35] and the potential for the outcomes of my experiential study to inform

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35 Experimental methods have been used to obtain 'public perceptions' of visual quality, for forests across the province, but not specifically for the Cariboo. Applying experimental methods in the Cariboo, specifically, such as a photo-questionnaire, remains an area for further research.

those as well. In order to maintain consistency in presenting results in Chapters 4 and 5, I focus on the expert and experiential approaches in the main body of this dissertation.

Setting both examinations in the same place -- the Cariboo -- allowed for comparison of outcomes from *different* approaches to landscape assessment in the *same* place. Landscape assessment typically uses one method or approach to assess landscapes in different places, or more aptly, irrespective of place, with the goal of finding general or universal (aesthetic) landscape attributes, or applying what are generally considered to be such attributes. Little research has examined how the outcomes of landscape assessment differ (or not) in one place, depending on the methods or approach employed.

A qualitative research approach

Given the exploratory and comparative nature of the purposes of this research as introduced in Chapter 1, I adhere to a qualitative research approach. Two aspects of a qualitative paradigm seemed essential, and are briefly discussed here (Creswell 1994, Neumann 1994).

Role of the researcher   Rather than being independent from the landscape and landscape values I am studying, I see myself as part of landscape and construct my own reality about what is important. These constructions influence me as a participant in landscape encounters and as a researcher exploring and interpreting the landscape constructions of others. I acknowledge these various positions, and recognize that these influence my interpretations of the data.

Lack of conceptual clarity   Rather than assuming the concepts for assessment are clear and easily defined, I assume there is uncertainty and ambiguity about

the nature of what it is we are assessing in landscape assessment. That is, I

problematize the conceptualizations of landscape, aesthetics, and value. I do

not present definitive conceptualizations, but rather explore the multi-

dimensional nature of the concepts. I assumed that participants construct their

own definitions on an ongoing basis. For the expert approach, I took a critical

and reflective perspective: I assess the professionals' assessments of landscape

and the methods used to do so.

3.1 The research design: a case study

In this case study, I undertake two smaller studies (Figure 3.1),

within the broad context of environmental management in a particular

setting, the Cariboo region of British Columbia.

An experiential approach to landscape assessment in the Cariboo ⇓	The expert approach to landscape assessment in the Cariboo ⇓
• develop an experiential method based on characteristics from the literature	• review landscape assessment policy and procedures for B.C. Ministry of Forests
• use the method developed – participant directed landscape imaging – in the Cariboo	• analyze use of expert landscape inventory procedures in the Cariboo
• analyze and interpret landscape images	• examine the landscape assessment outcomes

↘   ↙

Synthesis

• Compare and contrast experiential and expert approaches
• Implications for landscape assessment in environmental management

Figure 3.1 Case study design

In one study, I develop and use an experiential method (participant-

directed landscape imaging) for landscape assessment. I present my analysis

and interpretation of the resulting landscape images in Chapter 4. In the

second study, I examine an expert procedure for landscape assessment, the visual landscape inventory of the Ministry of Forests and its application and outcomes in the Cariboo. I present the results of this examination in Chapter 5. I then bring the two studies together in a synthesis, in which I compare and contrast the methods and approaches for landscape assessment, and in a conclusion, in which I consider the implications for environmental management and planning and for landscape assessment (Chapter 6).

Considering landscape assessment from an experiential perspective required that I develop a procedure for this study. I wanted to develop a method that would capture the essence of what is generally described in the literature as an experiential approach, but that could, at the same time, be seen as practical within environmental management. I discuss the development and application of the method, and the strategy for analysis of the data collected, in Section 3.2.

Scholars in this field note that resource and environmental management is dominated by the expert approach to landscape assessment. I therefore use the British Columbia Visual Resource Management (VRM) Program, part of the Ministry of Forests integrated resource management, as the basis of my 'expert' study. The study is outlined in more detail in section 3.4.

The Cariboo: a setting for the studies

The "Cariboo" region of central-interior British Columbia is an administrative region for the Ministry of Forests (Figure 3.2), and several other government ministries and local levels of government. As an administrative region, the Cariboo-Chilcotin stretches from Clinton to Quesnel, with the Cariboo Mountains forming the eastern edge. West of the Fraser River lies the Chilcotin region, with the Coast Mountains forming the western edge. The region comprises almost 8.5 million hectares of land, over 90% of which is provincial crown land. Physiographically, the Cariboo is situated on the central portion of the interior plateau at elevations ranging from 900-1300m. Three dominant biogeoclimatic zones cover the area: montane spruce and bunchgrass in the western portion, interior Douglas fir centrally, and cedar hemlock forest for the eastern portion.

Total population of the region is approximately 63 000 (1996 data). Most people reside in communities outside of towns and cities, which act as service centres for surrounding areas. Main communities and 1996 population are: Clinton (729), 100 Mile House (1850), Williams Lake (11398), Wells (287) and Quesnel (8588).

The Cariboo is a vernacular region as well. It seems to have been a recognized territory by the middle of the 19th century, and historians have speculated on the origins of the name 'Cariboo' since that time (Skelton 1981, Patenaude 1996). From Cache Creek to Prince George, businesses, outfitters and communities consider themselves part of the Cariboo. A major event in the formative Euro-Canadian history of the region was the 'Gold Rush' of 1868. Until that time, the region was populated by Salish-speaking interior Shuswap people who had permanent settlements in several areas, where they reside today on reserves.

Figure 3.2 Study Area: the Cariboo Region
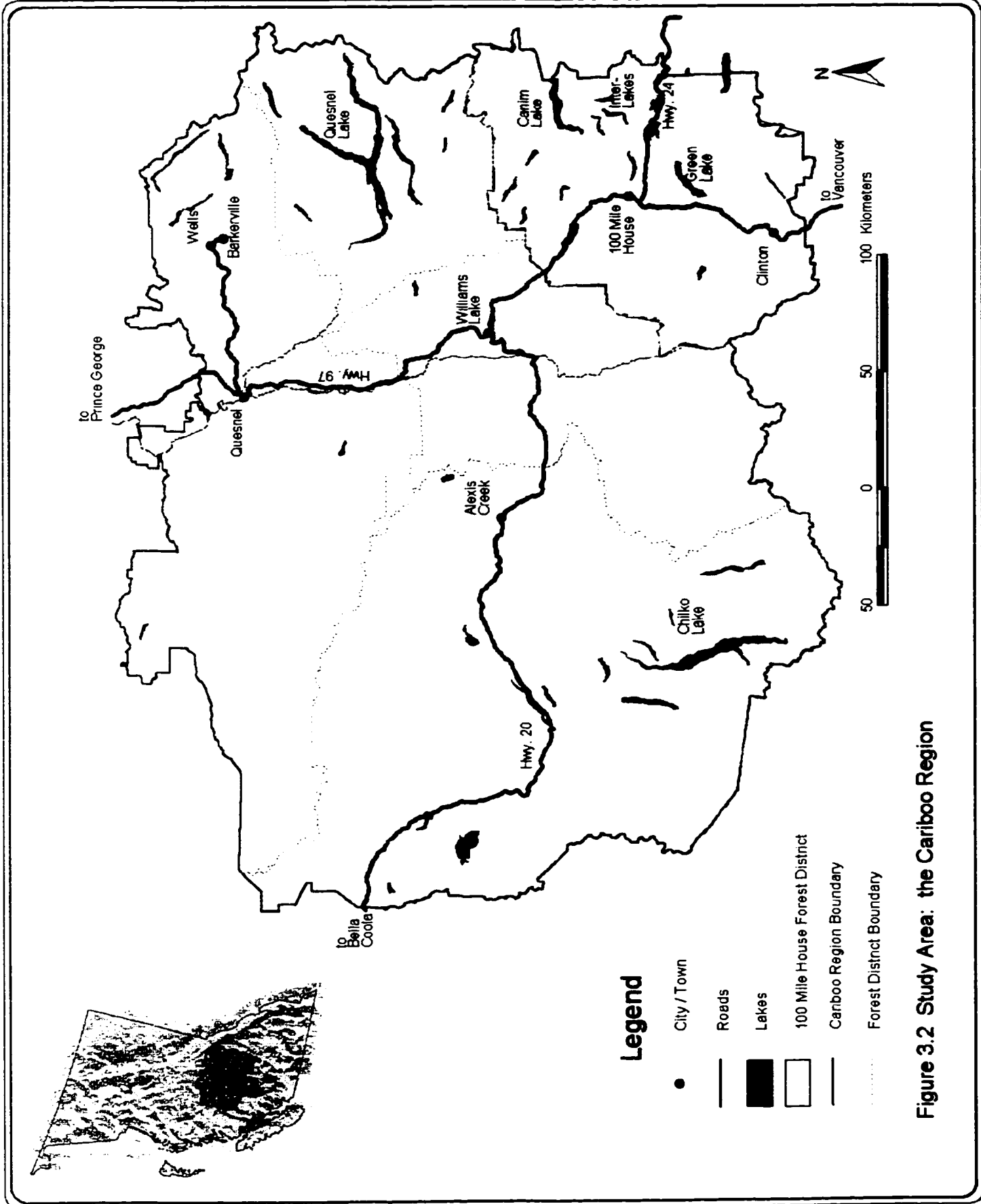
Legend

- City / Town
- Roads
- Lakes
- 100 Mile House Forest District
- Cariboo Region Boundary
- Forest District Boundary

Prior to the 1860s, European exploration and settlement in the area were very sparse. Following the California gold rush of 1849, prospectors travelled further afield and reports of gold in the Yale area of British Columbia attracted interest. From here, hundreds of would-be prospectors made their way north along the 'Cariboo Trail' along the Fraser River to a valley in the Cariboo Mountains, where they established towns, most of which have since disappeared. The gold rush town of Barkerville (which is now operated as a provincial historic site) is the only one remaining from that period.

The Cariboo has remained dominated by a resource-based economy, more recently by forestry and increasingly by a growing tourism sector. In the last decade, conflict over resource use and access to resources has increased. As in other areas of resource-based interior British Columbia, communities have faced the increasing demands on resources and the divergent values of various stakeholders. The Cariboo region was one of three regions targeted for regional strategic planning as part of the province-wide Commission on Resources and Environment (CORE), whose goal was to develop a plan to resolve the increasing resource conflicts. The regional planning process has provided a framework for resource management agencies (such as the Ministry of Forests) to continue to carry out their mandates.

3.2 An experiential approach to landscape assessment

Methods or procedures which might be considered 'experiential' are not usually part of landscape assessment for resource and environmental management agencies. To study an experiential approach, it was necessary to develop an experiential method that could be used in landscape assessment. In developing the procedure used here, I first considered the nature of what has been called an experiential approach, and then examined potential methods that

might reflect this broader approach. The result was 'participant-directed

landscape imaging'. The phases of the experiential study are outlined in Figure

3.3. In subsequent sections, I first present the evolution of participant-directed

landscape imaging, followed by its application in the Cariboo and the strategy

for data analysis.

Develop procedure	Data collection using imaging procedure	Strategy for analysis of images	Findings and discussion of analysis and method

↓

participant-
directed
landscape
imaging

(Chapter 4)
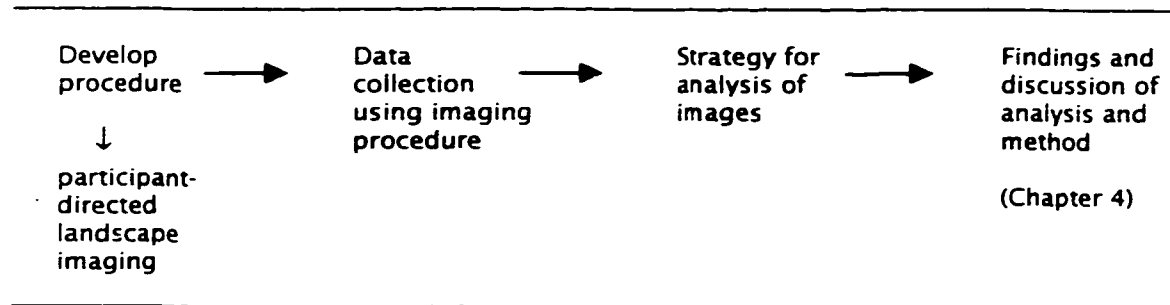
Figure 3.3   Phases of the experiential study in the Cariboo

Defining and designing an experiential approach and method

Despite the recognition that an experiential approach to landscape

aesthetics might offer the greatest validity (see Chapter 2), little attention has

been paid to examining or 'trying out' an experiential approach. Based on

the discussion of the experiential approach in Chapter 2, the following list

summarizes the characteristics which guided the development of the

procedure for data collection and the analysis strategies.

♦   broad range of values considered

The method would have to allow participants to focus on and discuss a
broad range of entities and allow participants to choose what to attend to
rather than have them respond to the pre-selected stimuli or features.
Analysis would have to reflect participants' perspectives on values.

♦   beyond the visual

The method should allow participants to include more than what can be
seen, to incorporate other sensory modes (Tuan 1974)

◆ **an insider perspective**

The method should encourage an insider perspective on landscape, that is through the eyes and thoughts of inhabitants of a place (Relph 1976)

◆ **part of the participant's everyday world**

The method should encourage participants to engage in and discuss ordinary or everyday landscapes, not just spectacular, extraordinary ones that are often the focus of landscape assessment (Seamon 1979)

◆ **reflective**

The method should provide the opportunity for participants to reflect upon landscape and landscape values, and me, the researcher, to reflect upon the exercise of "assessing" landscape

Despite the second point, I used the visual as a place to start because the idea of landscape as a visual entity (at least in part) is generally accepted. I also wanted the procedure to remain within the realm of practicality for environmental management. I therefore considered the use of photography.

Experience from the social sciences

The use of photographs in social science has a long history. In anthropology, photographs have long been used to document, authenticate and communicate observations (Ball and Smith 1992). For instance, Mead (1939, in Ball and Smith 1992) used photographs to record her observations of the daily lives of the people of Bali, and to document, study and communicate Balinese culture. Photography has continued to be a significant method in cultural anthropology (Collier and Collier 1986, Ziller 1990)[36] and in sociology. There are three general ways in which photography has been used by researchers. I consider each of them here.

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36 Indeed, within the discipline one methodological stream is visual anthropology (Collier and Collier 1986).

Researcher as photographer   Typically, the researcher photographs the entity of study. In resource management landscape assessment, the researcher (or landscape assessor) takes photographs of landscapes. For example, photographs of "visual sensitivity units" taken by resource technicians or consultants form part of the visual inventory for the Ministry of Forests (British Columbia Ministry of Forests 1994a). In landscape perception studies, photographs may be taken by researchers or selected from already existing photos of landscapes. For instance, Hamilton (1996) selected 40 from more than 2000 photos for his photo-questionnaire on the West Coast of British Columbia. He chose each for representativeness of landform and scenic quality and for similarity in elements (all photographs had to include water) and conditions (sunny days; no ephemeral features). This is the dominant approach used in landscape assessment (Sheppard 1986, 1989, Smardon et al. 1986).

The assumption that uniformity is important in the photographs used in assessment is not generally questioned. Similarly, the longstanding use of pictures in anthropology involves the anthropologist taking photos of what they think, or have learned to think is important in a culture, based on experience in their own culture. Only more recently have these assumptions come into question for anthropology (Ziller 1990).

Researcher as photographer with feedback   In this realm, researchers seek more information from 'actors' in the photographs or the subjects of study (participants). This is done to help clarify what is portrayed in the photograph. In sociology and anthropology, opportunities are provided for the people in the photos or others in the culture to comment on, describe or interpret what is captured by the researcher in the photographs (Ziller 1990, Collier and Collier 1986).

In some landscape perception studies, remarks or comments about photographs have been solicited. Hamilton (1996) asked people responding to his photo-questionnaire to indicate reasons for their ratings. Other researchers have included additional information, but it has focussed on the reasons for ratings of particular photographed scenes, rather than on meanings or interpretations. Responses remain based on pre-selected photographs for which researchers have made assumptions about which features or landscapes are important.

Participant as photographer Ziller (1990, 19) noted that "the most direct approach to insider observations is accomplished by providing the actors with cameras and asking them to record their own images associated with various feelings" and situations. This 'auto-photography' approach is used in sociological and anthropological studies, and in psychotherapy. Ziller (1990, 19) noted the earlier work of sociologist Goldberg, who in his study of the homeless "presented people with their photographs and recorded their remarks [and] he learned about their lives from their point of view".

In geography and landscape studies, 'visitor employed photography' (VEP) is a similar method. Its very name suggests its use - giving cameras to visitors and users of parks and natural or recreational areas (Cherem and Traweek 1977, Cherem and Driver 1983, Taylor et al. 1995). It has also been used in urban design and landscape architecture studies (Jenkins 1990).

Visitor employed photography is generally seen as a way to overcome the problems associated with rating *researcher-selected* photos in questionnaires or slide rating exercises (Jenkins 1990, 6). Results of VEP are generally aggregations of the visitor photos: the most photographed scenes (consensus

scenes), with emphasis on the representativeness of the sample for generalizability of results (Taylor et al. 1995). A study by Aitken and Wingate (1993) used participant-employed photography with mobile and wheelchair-bound children to examine their perceptions of their social environments.

The idea of 'participant-directed' photography fits my criteria for an experiential approach, although its use in this study varied from the more conventional use of photos in landscape assessment. Because I wanted information beyond just visual depictions of valued landscapes, I created an opportunity for participants to 'tell me more' about the landscapes which they were capturing in their photos. I wanted information about the landscapes, and not only about the photos of the landscapes[37]. I tried to make this clear in my instructions during the initial meeting with participants.

The concept of a journal, as a way to capture more information, also has been used by researchers in landscape aesthetics research. Gobster and Chenoweth (1990) asked people to write down the details of their aesthetic experiences related to the environment. Taylor et al. (1995) used visitor employed photography and included a log book for participants to record details of each photo taken. Since this was an exploratory study, I wanted as much data and feedback from participants as possible, so I modified visitor employed photography (by asking inhabitants, rather than visitors) and added journalling. I called this three-pronged method 'participant-directed landscape imaging'.

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37 I did not ask specifically for aesthetic value since this might have narrowed responses to only the visual (also see footnote 7). I wanted to ensure that participants could capture broader concepts related to sense of place, topophilia and everyday experiences, as suggested in the experiential literature discussed in Chapter 2.

3.3   Participant-directed landscape imaging in the Cariboo

Three aspects the application of participant-directed landscape imaging

are discussed in the following section: data collection, organization and

management of the data collected, and the initial and emergent analysis

strategies.

Data collection

Obtaining participants The process used to obtain the involvement of people for

this study is outlined in Figure 3.4, and discussed in the following text.
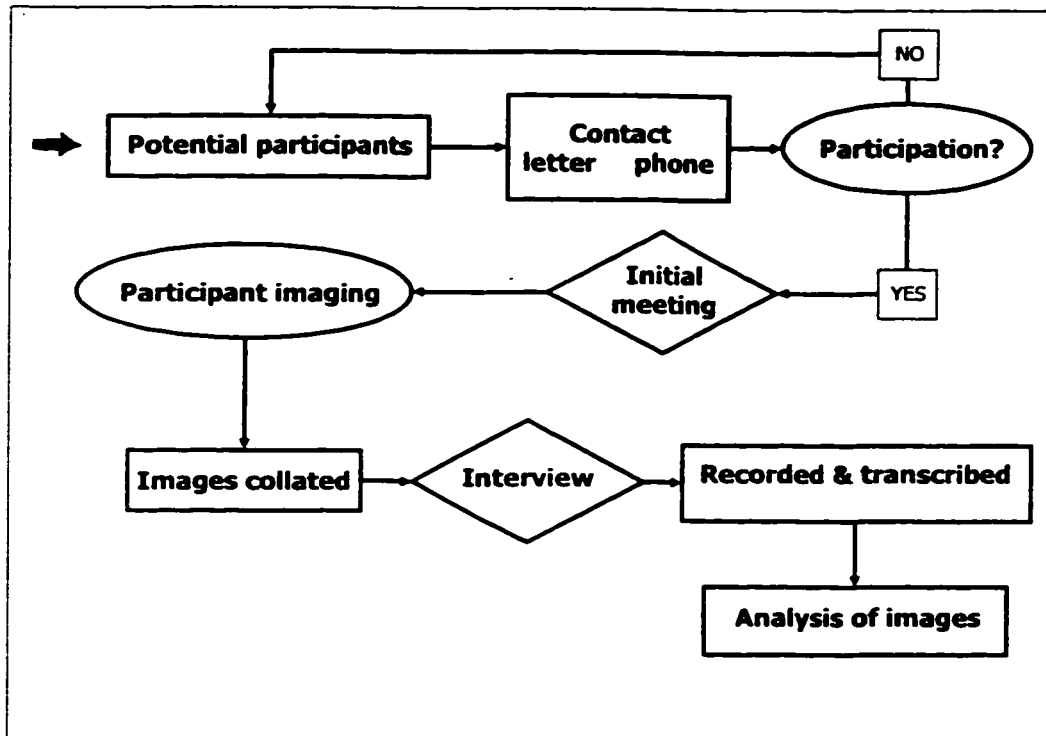
Figure 3.4   Process for recruiting participants

Initially, a stratified approach to recruiting participants was used. Various interests such as outdoor recreation, forest industry, and tourist facility operators were identified. Beginning in May 1996, local newspapers, Chambers of Commerce members' lists, public planning documents and other literature were reviewed to identify community groups and individuals having these interests. This approach is considered to be purposive, rather than random, sampling (Neumann 1994), and provided a "conceptual" rather than a "statistical" form of representation (Jenkins 1990, 10).

From May through August 1996, letters of introduction were sent to the community members identified, both individuals and organizations. The letter (Appendix A) introduced the study to potential participants and informed them that they would be phoned to further discuss the study.

If the person phoned agreed to be a participant, I met with him or her to further discuss the project, review the imaging procedure, and leave the research material (camera, notebook and information sheet). If the person could not participate, he or she was asked to participate at a later date[38], and to provide additional contacts who might be interested in this project (a "snowball" procedure). "Word of mouth" was used to identify new participants - several people contacted me, expressing their interest in the study.

A similar letter of introduction was sent to each of five Ministry of Forests District Managers (DM) in the Cariboo Region during June and July 1996, informing them of the project, and asking them to provide a district contact for ongoing communication about this project. These Ministry of Forests contacts

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[38] For instance, some of the tourist facility operators declined participation, as it was their busy-season, but offered to participate at a less busy time of year.

were accessed to discuss visual landscape projects and relevant concerns in their districts and to suggest potential participants in their local communities. Several of these district contacts became key informants in the expert study[39].

The identification of potential participants was an ongoing activity throughout the data collection period. A second set of letters of introduction was sent in December 1996 and January 1997 to obtain participants for the winter season, especially people who were likely to be more active in the winter, such as snowmobilers and skiers.

In total, 185 different community groups, businesses and individuals were contacted, either with a letter of introduction, followed by a telephone call, or only by phone. A number of potential participants were contacted only by phone, rather than by letter of introduction first. It was found that initial contact by phone was much more successful in securing participants than initial contact by letter of introduction, perhaps because a phone call is much more informal. The last participant agreed to take part in April 1997.

Table 3.1 presents biographical information about the 18 participants who completed all three components of the participant-directed landscape imaging in this study. This information was provided by the participants during the in-depth interview. Participants were asked about their length of residency in the Cariboo and where they lived before, their current home location, their age, and their educational background and current occupation. Residency information provides some indication of a person's familiarity with the region – and familiarity has been suggested as a factor in landscape appreciation and

Table 3.1   Participant Information

#	Age	Residence location	Gender	Residency profile	Occupation	Education
P1 Harvey	39	108 Mile	M	5 yrs in Cariboo; moved from Okanagan Valley	writer, editor	BA
P2 Lily	49	Canim Lake	F	Whole life in Cariboo; ancestral land	resident of the land	traditional knowledge
P3 Jenifer	30	Horsefly	F	2 yrs in Cariboo; moved from Ontario	biologist	BSc
P4 Joanne	29	Alexis Creek	F	6 yrs in Cariboo; moved from Sask	agronomist	BSc
P5 Bob	44	Wells	M	7 yrs in Cariboo; previously transient	curator	MA
P6 Larry	33	108 Mile	M	6 yrs in Cariboo; moved from L. Mainland	technician	College diploma
P7 Arlene	37	(Spruce Grove) *	F	18 yrs in Cariboo; from Wales	business person	high school
P8 Gary	39	(100 Mile)	M	Whole life	farmer/ rancher	high school
P9 Donna	43	(108 Mile)	F	6 yrs in Cariboo; from England	various	BSc
P10 Guy	43	(Mahood L)	M	5 yrs in Cariboo; from Vanc Island	gardener	high school
P11 Jon	37	(Canim)	M	4 yrs in Cariboo; from Canmore	outdoor guide	BA
P12 Mitch	46	(Horsefly)	M	12 yrs; from coast	manager	College
P13 Ralph	51	(Horsefly)	M	23 yrs	recreation officer	
P14 Troy	25	(Alexis Cr)	M	2 yrs in Cariboo;	conservation enforcement	College diploma
P15 Mary	64	Dragon Mountain	F	40 yrs in Cariboo	retiree / researcher	some high school
P16 Hatty	68	(100 Mile)	F	Whole life in Cariboo	farmer	some high school
P17 Albert	74	(Quesnel)	M	45 yrs in Cariboo	retiree	diploma
P18 Leslie	32	(Wells)	F	Local	adventurer	high school

* Participants identified the location of their residence by community. If they indicated they lived "outside of..." or "near...", this is shown in parenthesis ( ).

attachment (Barrios et al. 1985, R. Kaplan and S. Kaplan 1989, Bowerbank 1997). In addition, R. Kaplan and S. Kaplan (1989) refer to several studies that have examined age as a factor in landscape preference. They question, however, whether differences in preference are attributable to age, per se (as a developmental factor) or to other similarities related to age, such as shared experiences in a particular socioeconomic period. The final biographical characteristics described were education and occupation. Half of the participants in the experiential study had at least some post secondary education; this is somewhat higher than the British Columbia provincial average of 25%, but similar to landscape perception studies in British Columbia that have been deemed acceptable to the Ministry of Forests (British Columbia Ministry of Forests 1996).

There appears to be some self-selection of more highly educated persons through the sampling method used here. While this may result in a non-representative sample, the resulting images might reflect the values of more people. An additional step in the procedure, such as a focus group to discuss shared landscape dimensions, might prove fruitful in this regard. The stratified approach to participant recruitment is also biased against teens and children, and citizens who might not be identified with the interests used to initially contact potential participants. Additional sources of participants might include high schools and informal gathering places, such as libraries or coffee shops. Newspaper and poster advertisements could also provide a broader range of participants.

Pilot procedure A pilot project was carried out during June and July 1996 with three participants to determine:

- an appropriate duration of time for participants to have the camera

- the clarity of the procedures for self-directed photography given to the participants

- the length of meeting required by the researcher to explain the procedures and pass on the camera packages to the participants

Following this brief pilot, a more detailed information letter was developed, so that participants would have a written record of what was required of them to refer to in carrying out the self-directed photography. The one-page (revised) letter was attached to the information-consent letter which all participants were required to sign upon agreeing to participate (Appendix A).

Introducing participant-directed landscape imaging I met with each participant for approximately two hours to review the procedure and to gather other relevant information from the participant, especially additional contacts or others who might wish to be involved. Each participant was given a camera-notebook package which included a single-use 24 or 27 exposure camera (Fuji "Quicksnap" or AGFA "Minis") or film (Fujicolor 135 100) to take photographs, a notebook for recording commentaries (journalling), the participant information-consent letter and a research brief.

Participants were asked to "take photographs of landscapes or aspects of landscape that are significant or meaningful" to them[40] anywhere in the Cariboo, and to provide written comments about each photograph describing what was captured and why this was significant or meaningful. Participants were informed that they would be contacted again in four to eight weeks to

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[40] During the pilot of methods and early meetings with participants, it was determined that the notion of aesthetics in relation to landscape, especially in a forestry context seemed to limit and intimidate participants. They were reluctant to participate, noting that they could not provide any aesthetic information. When the request was broadened to include meaning or significance in general, they seemed much more willing to share their ideas and to participate, even though they included many of the same images, places, and content as previously.

collect the camera or film. Fifty cameras or rolls of film were allocated to 40

different participants at various times from July 1996 to April 1997 (Table 3.2).

Table 3.2   Data collected for participant imaging

Total cameras allocated	**50**
Completed camera-journals collected and processed	29 *
Number of participants interviewed	18 **

* 21 of 50 were returned unused at the end of the data collection period, went missing or were lost / damaged, or participants declined continued involvement and did not return the camera

** 11 of the 29 for which no interview was conducted: 3 were the second roll of film and 8 people could not be contacted, or could not arrange a time for interview, or declined further participation.

Many participants had not completed all exposures at the post-meeting

contact. Usually they agreed to continue with the study, or returned the camera

with most of the exposures complete. Each person who agreed to continue was

contacted regularly, according to an agreed upon contact schedule. Table 3.3

shows the time to complete each camera. These durations varied greatly.

Table 3.3   Duration of participant imaging

# Weeks	4-6	7-11	12-24	>24 (6months)
# cameras completed	9	5	10	5
other*	2	3	7	9

* cameras returned unused, reported lost or not returned by end of Aug 1997

The maximum duration for participants to complete the procedure

successfully was approximately six months. In this study 24 (83%) of the

completed cameras (29) were completed or were returned within this time frame.

Cameras retained for longer than six months (14), were less likely to be completed or returned.

Data organization and management

The camera and notebooks were collected when complete, and film processed. Photographs and related comments provided by each participant were collated, and provided a focus for in-depth interviews, a step added early in data collection based on preliminary review of several photo and comment sets, and on the ongoing review of background literature. The interview had two specific purposes:

> • where the data were not complete enough to be analyzed meaningfully, participants were asked to review their photos and initial comments, to add detail or information they deemed relevant, and to answer questions I required in order to analyze the data

> • to stimulate discussion regarding landscape, aesthetics, and this method

As noted by Ziller (1990), the interview is an increasingly significant part of the visual approach in anthropology; in human geography its significance has also been noted (Winchester 1996). In-depth interviews allow for considerable information-sharing between participant and researcher and for the explanation that supports greater understanding (Neuman 1994, Creswell 1994). In-depth interviews had been used in a previous study of protected area management and conservation planning and found to be useful and informative (Dakin 1996).

In order to keep the photography from being the main aspect of the data collection activity, I emphasized to participants that the quality of their photos was not significant – the purpose of the photos was to stimulate discussion about what is important to them where they live. The major role for the processed photographs was in the follow-up interview as a cue to memory for a

pleasant (or negative) experience of landscape, or of a significant place. I believe

this de-emphasized "picture taking" and emphasized photography as only one

part of the image-making exercise. Unfortunately, it limits participation to

people with sight, and those mobile enough to take pictures. In further

research, experiential methods that offer other ways of focussing on landscape

could be explored.

In this way, I used a familiar activity -- photography -- as a point of

departure for participants to share their feelings, perceptions and reactions.

The journal allowed participants to share their ideas, insights, and rationale.

Finally, the later addition of interviews provided a "reflexive approach wherein

the subject discussed the meaning of the photographs with the investigator

using a photo-assisted interview" (Ziller 1990, 140). Interviews took about two

hours with each participant (longest = 4 hours; shortest = 1.75 hours). Sessions

were recorded and transcribed (Appendix B for interview guide).

Initial analysis strategy

Initially, a three-part analysis, as outlined in Table 3.4, was developed.

Table 3.4   Initial analysis strategy

1. Visual	2. Textual	3. Verbal
Identify "leitmotifs" (Aitken 1993) · categorizing each photo according to content categories that photos appear to fall into, based on experience and exposure to themes in the literature	Identify themes using "Framework" (Ritchie and Spencer 1994) · an analytic process to review, organize and interpret the textual data in five interconnected and iterative stages	"Framework" - see 2

A leitmotif (content analysis) approach involves sorting and categorizing

photos which participants had taken according to what could be seen in the

photograph. For example, in a study by Aitken and Wingate (1993), the photographs obtained from an 'auto-photography" exercise were assessed to determine a hierarchical structure of categories representing each photograph's primary orientation. Their three leitmotif classes were environment, social relations and dynamic/action.

After attempting a similar coding exercise, I realized that the content of the photos considered separately from the perspective of the participant and in relation to his or her comments was not meaningful[41]. That is, a photograph showing a house would be grouped with all the other photographs of houses, perhaps under the category of 'built features'. While the content of the photo was obvious in this way, the significance for participants was not. It was the reasons for taking the photos, more so than the contents of them, that was important to an experiential approach.

For instance, one participant's photograph showed a house and driveway among trees, with no other buildings visible. For this person, the focus was that participant's home, not any 'house' or 'built feature'. The focus of another participant's image was 'homes' and the significance their 'fittingness into surroundings', yet no house, or building of any kind, could be seen in the photograph.

I decided, therefore, to abandon looking at photographs as units of analysis by themselves. Indeed, I retrospectively considered the questions which I had asked participants, and the emphasis I had placed on clarifying the role of photos for discussion when they had expressed concern that they were not very

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[41] While analyzing the results, I spoke to S. Aitken (personal communication Sept 1997). He noted that their discussions with participants were far more informative than the content analysis of photos. This formed part of my decision to reassess the analysis.

good at photography. Not necessary, I had insisted, since the purpose of the photographs *is to stimulate thoughts and feelings and perceptions about landscape.*

At the same time, I had begun to analyze the textual (written comments) and verbal (interview transcripts) data. I photocopied all the comment notes and sorted them into categories using open-coding procedures for qualitative data analysis (Marshall and Rossman 1989, Strauss and Corbin 1990). The results were various stacks of themes, or categories of significance, but with no accompanying visual image.

It became apparent that the photos and comments had to be considered together. This meant not only reorganizing my analysis but actually reorganizing the data – the photos and notes into single units.

A new analysis strategy

All photos and comments for each participant were reviewed and units of analysis were distinguished, mounted and numbered for each participant. A unit of analysis was a photo or series of photos and corresponding comment notes, and is referred to as a 'landscape image'. Whether a single photo or a series of photos (and the related comments) comprised an image depended on its definition as such from the participant's perspective. When a participant note or interview comment referred to or indicated more than one photo, the sequence became the landscape image.

Eighteen participants completed the photo-comment exercise and an interview, providing a total of 304 analysis units (Table 3.5) and 150 pages of transcribed interviews. The number of photographs that comprised each unit is presented in Table 3.5.

Table 3.5 Landscape image analysis units

Participant	# of units	# of photos	Avg # pics/unit (range)
P1	27	27	1.0 (1)
P2	23	50	2.2 (1-8)
P3	15	23	1.5 (1-3)
P4	12	12	1.0 (1)
P5	25	27	1.1 (1-2)
P6	16	20	1.3 (1-4)
P7	10	12	1.2 (1-2)
P8	21	26	1.2 (1-3)
P9	18	21	1.2 (1-4)
P10	10	19	1.9 (1-9)
P11	10	27	2.7 (1-8)
P12	11	17	1.4 (1-4)
P13	23	28	1.2 (1-2)
P14	22	27	1.2 (1-4)
P15	10	10	1.0 (1)
P16	11	22	2.0 (1-4)
P17	25	25	1.0 (1)
P18	15	21	1.4 (1-3)
TOTAL	304	414	1.36

Because I was more interested in the qualities that differentiate landscape experiences and especially in the similarity of these experiences, and less so in the qualities of people that would differentiate them into groups, I collected data until no significantly new patterns and themes emerged during analysis [42].

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42 I analyzed several more landscape image sets of participants who had not completed an in-depth interview to ensure I had saturated the themes, and found no new patterns.

The process for analysis is outlined in Table 3.6. It is an adaptation of

"Framework" (Ritchie and Spencer 1994) [43] and the grounded theory coding

procedures of Strauss and Corbin (1990).

Table 3.6   Analysis and coding process

A. Familiarization (with the data)
- Landscape images (analysis units) were reviewed several times to obtain a general sense of the data.

B. Development of a Thematic Framework
- Words, ideas and topics were written down to begin thematic framework identification
- Themes were based in the questions asked participants and/or to relevant themes previously identified in the literature
- Review of each participants landscape images added to the thematic framework

C. Indexing Data according to Thematic Framework
- As a framework evolved, the data were reviewed again, and coded according to the framework themes

D. Sorting Indexed Data
- The coded data were taken out of the context of the participant's images, and sorted according to the coded theme

E. Charting and interpretation
- Finally, the data were reviewed for associations, connections and relationships among the themes, incorporating information from the transcribed interview comments

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My analysis was also informed by a phenomenological perspective

(Marton 1981, 1986, Dukes 1985). I thought about the landscape images as

'experience captured', rather than just as scenes, and attended to the

meaning of that experience. I also thought about the experience as a whole,

an intentionality, rather than a 'subject's' response to an 'object' (Stewart

and Mickunas 1990). The intentionality included two domains: the focus

(*what* did participants focus on as important?) and the significance (what

were the attributions of significance, that is, *why* was the focus important?).

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[43] Ritchie and Spencer (1994) use this qualitative data analysis process for applied policy research.

These domains corresponded to the questions participants were asked in participant-directed landscape imaging. I applied the analysis process in ascertaining the focus and the significance, as outlined in Figure 3.5.

Identify **focus** of the image	Identify **significance**
↓	↓
Develop thematic framework	Develop thematic framework
↓	↓
Review data and code focus	Review data and code significance
↓	↓
Sort and chart coded data	Sort and chart coded data
↘	↙
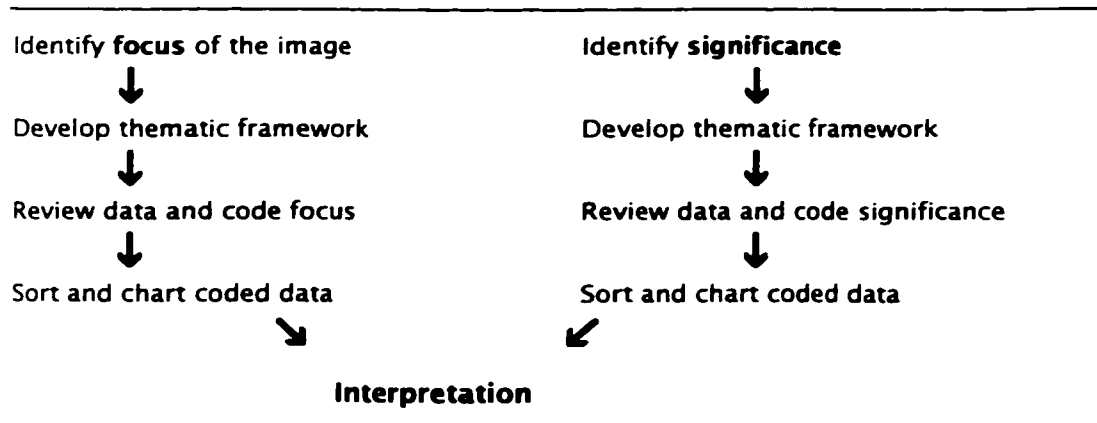
Interpretation

Figure 3.5   Analysis framework

Analysis and interpretation became interwoven in the research process, so that data collection and interpretation of images were carried out at the same time. The iterative process of simultaneous data collection and analysis, rather than separate and distinct activities, is a common characteristic of qualitative research (Creswell 1994, Denzin and Lincoln 1994). Categories, themes and ideas of landscape experience from the perspective of the participants were identified. The emerging themes within each of the domains (focus and significance) provide a framework for discussion of landscape grounded within the values and experience of people in the Cariboo, presented in Chapter 4.

3.4   An expert approach to landscape assessment

The Visual Resource Management (VRM) program of the Ministry of Forests in British Columbia has evolved over several decades and provides the basis for landscape assessment (analysis and design) throughout the province.

Specific procedures for carrying out the analysis and design are well-documented for this program. These methods are considered in this research to be an 'expert' approach to landscape assessment.

Rather than using these procedures to evaluate landscape myself, I examined the application of the methods and their outcomes as carried out by Ministry of Forests staff and consultants. The process of landscape assessment in British Columbia's Ministry of Forests involves six iterative phases. The first, the inventory phase of the visual landscape management process, provides the procedure used to assess the entire provincial land base for "visual sensitivity". This procedure was selected as the basis for examining the expert approach. I focus on the inventory component because:

- it is the basis for all subsequent steps in the management process and "feeds into" other aspects of forest management and planning
- it is carried out at both broad and detailed levels, and therefore provides more comparable outcomes for comparison with the experiential outcomes discussed in Chapter 4

Policy and procedures for landscape assessment (and other aspects of forest management) are set on a province-wide basis (by the Forest Practices Branch, Visual Landscape Division), but Forestry Districts and Regions are responsible for applying the policy and implementing the procedures at a local level.⁴⁴ 100 Mile House was the easiest to access of the Cariboo districts,

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44 The Ministry of Forests operates through a decentralized structure of six regions, subdivided into forty districts. Regional offices provide direction and monitor district activities; districts are the operational arm and provide services to the public and respond to local needs. The Ministry is divided into five divisions: Policy and Economics, Revenue and Corporate Services, Forestry Division, Operations Division and Forest Industry Projects. The Visual Landscape Management program in the Forest Practices Branch of the Forestry Division provides landscape assessment policy and procedures operationalized by the districts.

because I lived there. I examined the outcomes of the use of the procedures in

the Cariboo region generally, but provide most examples specifically from

experience with the 100 Mile House Forest District. Three elements provided the

major sources of data for analysis of the expert approach. Table 3.7 details

these data sources.

Table 3.7 Data sources for the expert study

(1) Review of documents	(2) Informant discussions and interivews	(3) Observation
Main policy guidebooks and manuals - Forest Landscape Handbook (1981) - Forest Service Recreation Manual (1992) - Visual Landscape Design Training Manual (1994) - Visual Impact Assessment Guidelines (1995) - Visual Landscape Inventory Procedures (1997) Inventory maps and forms for 100 Mile House District	• Provincial Landscape Management Forester (Branch) • Regional Landscape Forester • District Recreation Officer • Consultants (Region) • Planning technician (District)	• Visual Design Workshop (Mar 1997) • Public planning meetings (fall 1996, spring 1997)

(1) Review of policy and planning documents Ministry of Forests and other

policy and planning documents, manuals and guidebooks related to landscape

assessment were examined. Documents related to the process of visual

landscape assessment are applicable province-wide; outcomes of assessment

were documented at a local level, for this study, the 100 Mile House District.

The major documents are listed in Table 3.7.

(2) Discussions and interviews Formal and informal discussions were held

with Ministry of Forest staff, staff in other closely aligned ministries (such as

Ministry of Tourism, Culture and Small Business), consultants who do

landscape assessment on a contract basis, and other individuals involved in

planning processes in the district. Initial discussions with five individuals in the

positions listed in Table 3.7 were relatively formal interviews, to obtain details of

visual resource management process and procedures, the inventory process

specifically and the outcomes of assessment at a local level. Then, as I learned

more about the process, I contacted the key informants initially interviewed, and

others (the district contacts) to discuss major points on a more informal basis,

as needed. All informants were most forthcoming with information.

(3) Observations   In addition to discussions and document review, I attended,

as a participant-observer, the two-day 'Training Workshop for Visual Landscape

Design' held in March 1997. This provided an opportunity to observe the expert

approach (or more correctly the teaching of the expert approach) in an applied

context. I also used the opportunity to discuss the landscape assessment

process with the provincial landscape forester who was involved in setting policy

and developing procedures, and with two assistants who were involved in

implementing procedures at an operational level.

I also attended five public workshops and meetings (of 15-125 people)

which were part of the sub-regional land use planning process in the 100 Mile

House District, during Fall 1996 and Spring 1997. These meetings provided a

forum for the expression of 'visual' concerns, and therefore provided the

opportunity for me to observe how the outcomes of the visual inventory process

and other aspects of the landscape management process are used by the public

and by those who carry out the assessments.

My examination of the expert approach determined two aspects of landscape assessment:

(1) a perspective on landscape assessment as indicated 'on paper' – the province-wide normative prescription for landscape assessment (the inventory phase)

(2) a perspective on landscape assessment as enacted 'on the ground'

These perspectives form the basis of the discussion of the expert approach in Chapter 5, and contribute to the synthesis presented in Chapter 6.

Chapter 4

Capturing the Cariboo:

an Analysis

4.0 Introduction

One participant noted that there are "concentrated image clusters" in the Cariboo. This idea summarizes the major insight provided by the experiential approach: rich, varied and meaningful depictions of multi-sensory landscapes. This chapter describes and discusses participant landscape images based on qualitative analysis and interpretation of the two domains of analysis introduced in the previous chapter, the focus (*what* participants focussed on as important) and the significance (*why* the focus domains were important).

The focus and significance domains are detailed in two subsequent sections, accompanied by schematic thematic frameworks and detailed theme instances as figures and tables. The major dimensions are then detailed in a narrative which incorporates the outcomes of participant-directed landscape imaging: the photographs, written comments and verbal feedback of inhabitants of the Cariboo. The final discussion section considers the associations, connections and relationships among the domains. Participant-directed landscape imaging and its outcomes as an 'experiential approach' are examined and strengths and weaknesses identified to set the stage for the synthesis discussion in Chapter 6.

4.1   Charting Landscape Domains: the focus of landscape images

The first stage of the analysis determined the focus of the participants'

landscape images; the focus was the answer to "*what* is important or significant

in the participant's landscape image", from the participant's point of view. This

was an inductive process, without specific reference to any particular theoretical

perspective, but in relation to the instructions given to participants. Figure 4.1

presents a general schematic of the themes that emerged. This served as the

thematic framework for further analysis.
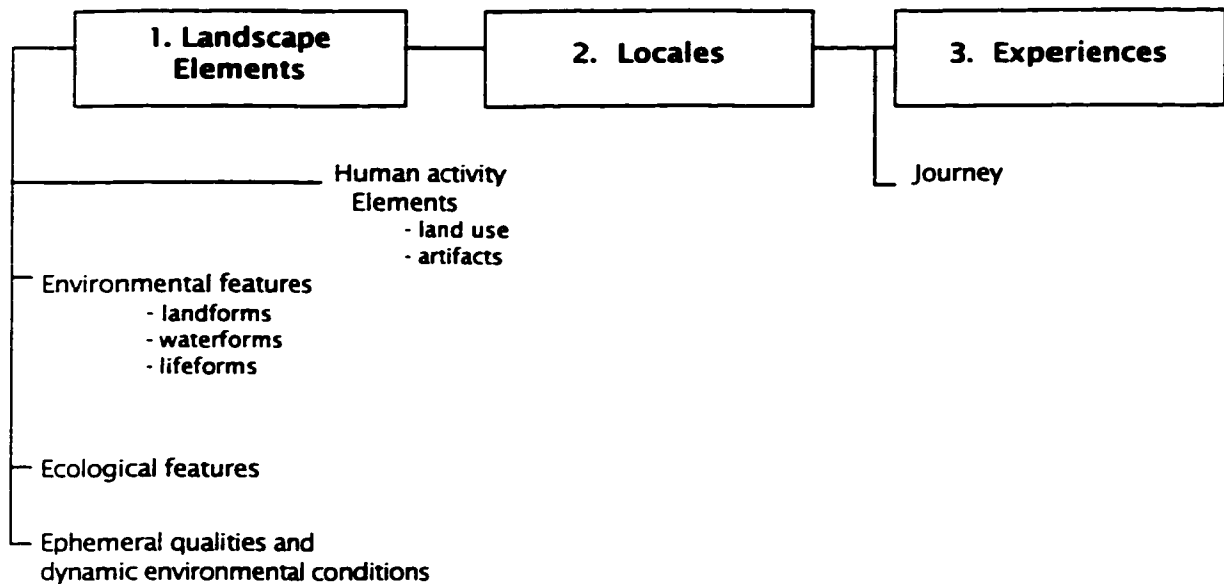
Figure 4.1   Thematic framework for focus domain

Three additional points of clarification need to be made here, two of

which become points of discussion later.

Multi-focal images   There was frequently more than one focus for each

landscape image – that is, there is no one-to-one correspondence between the

number of landscape image units (305) (Table 3.5) and the number of times

image units are identified in Table 4.1. In addition, the focus domains are not intended to be used on their own as landscape values of the participants . because the important 'why' component is missing.

Non-visual entities   The aspects which people focussed on were not necessarily visible in the photo. Indeed, the focus may not have been a visual phenomenon at all. For example, some participants identified the *sound* of birds as important. In another image, a participant noted that sunsets were beautiful *from this spot.* It was not the sunset that was significant, per se, but the place – a sunset place.

General-specific distinctions   Participants expressed the focus of their images in both specific and general terms. A *specific* element was named and located: "the rock outcrop above Sugar Cane". Another participant focused on an "aspen forest", and made it clear that not just *any* aspen forest was significant, but *this* particular one was the landscape of significance. A *general* element, such as "rock outcrops throughout the Cariboo", was not necessarily located specifically or named.

Table 4.1, which builds on Figure 4.1, presents the results of coding the landscape image data. Instances of features, elements, qualities or places are listed as 'specific' or 'general'. I highlight this distinction because I believe it has important implications for practical landscape assessment. For example, specific instances are mappable locations or places, significant to participants, or deemed significant to others. Such places would be necessary in terms of considering public input in the planning process.

Table 4.1 Domain of Focus

1. Landscape Elements

◆ Environmental features

Landforms

General:
- rock forms
- volcanic rock
- rock outcrops (2)
- rock cairn
- large rock
- bluffs

- glacier
- hill (2)

- rolling terrain (7)

- mountains (6)

- valley (3)

Specific:
- Sugar Cane outcrop
- Marguerite basalt
- "The Pinnacles"
- Canim Lk bluff
- the lava beds

- Treplecwcws
- Begble Summit
- Moncton Bowl

- Mtns above no name
- Dragon Mountain (4) [1]
- Mt Mahood
- Mt Agnes
- Eureka Mtn
- Buck Mtn
- Big Timothy (3)
- Mt Timothy (2)
- Prosser
- Two Sisters
- Mt Tatlow
- Coast Mountains

- Penfold valley (2)
- Walker valley (2)
- Moose Valley
- Hoods Hollow

Waterforms

General:
- lake(s) (16) [9]

- rivers (7)[5]

- spring

Specific:
- 108 Lk (5) [3]
- Mahood Lake (2)
- Soda Lake (2)
- Elbow Lake (2) [1]
- Jack o' Clubs Lake
- Roserim Lake
- Spanish Lake
- Moose Valley lakes
- Moffat Lake
- Succour Lake
- Watson Lake

- Fraser R. (4) [3]
- Cariboo R.
- Quesnel R.
- Horsefly R.
- Cottonwood R.
- Little Horsefly R.
- Niagara R.

- Hendrix Falls
- Moffat Falls

- Creek near home
- Spanish Creek
- Bridge Creek (2)
- Deception Cr
- Lightning Cr
- 111 Mile Cr
- Moffat Creek
- No name creek

- Lac la Hache (2)
- Canim Lake (2)
- Quesnel Lake (2)
- Taseko Lake
- Green Lake
- Horse Lake
- Mitchell Lake
- Jim Lowery Lake
- No-name Lake
- McIntosh Lake
- RuthLake

Lifeforms

General:
- trees (2)
  - cottonwoods (2)
  - junipers
  - birch
  - balsam

- forest (3)
  - young
  - mature
  - altered
  - aspen (2) [1]

- wildflowers (2)
- weeds (2)

- wildlife (2)
- birds
  - Stellar's Jays
  - eagle
  - waterfowl (2)
  - duck (2)
  - loons (2)
- fish (2)
- moose (2) deer (2)
- mountain goats

- cattle (3)
- horses (4) [3]

Specific:
- Matthew R. cedars

- "Daisy Hill"

◆ Ecological entities

- dead / rotting tree (5) [3]
- alpine (6) [4]
- willow colony
- sedge colony
- meadow (6) [5]
- wet meadow
- wetlands (3)
- marsh (3)

- riparian area

- 100 Mile marsh(2)

◆ Human activity features

Landuse

General:
- clearing (3)
- cutblock (6) [4]

- clearcut (6) [4]

- select cut (2)

Specific:
- at Beaver pass

- in 100 Mile (3)
- at Moose Valley

- near home
- woodlot by home

Artifacts

General:
- old bldgs (7) [5]

- people
  - farmer/rancher (3)
  - family (5) [3]

Specific:
- at 105 Mile
- at Barkerville
- at Landsdowne
- at Anders
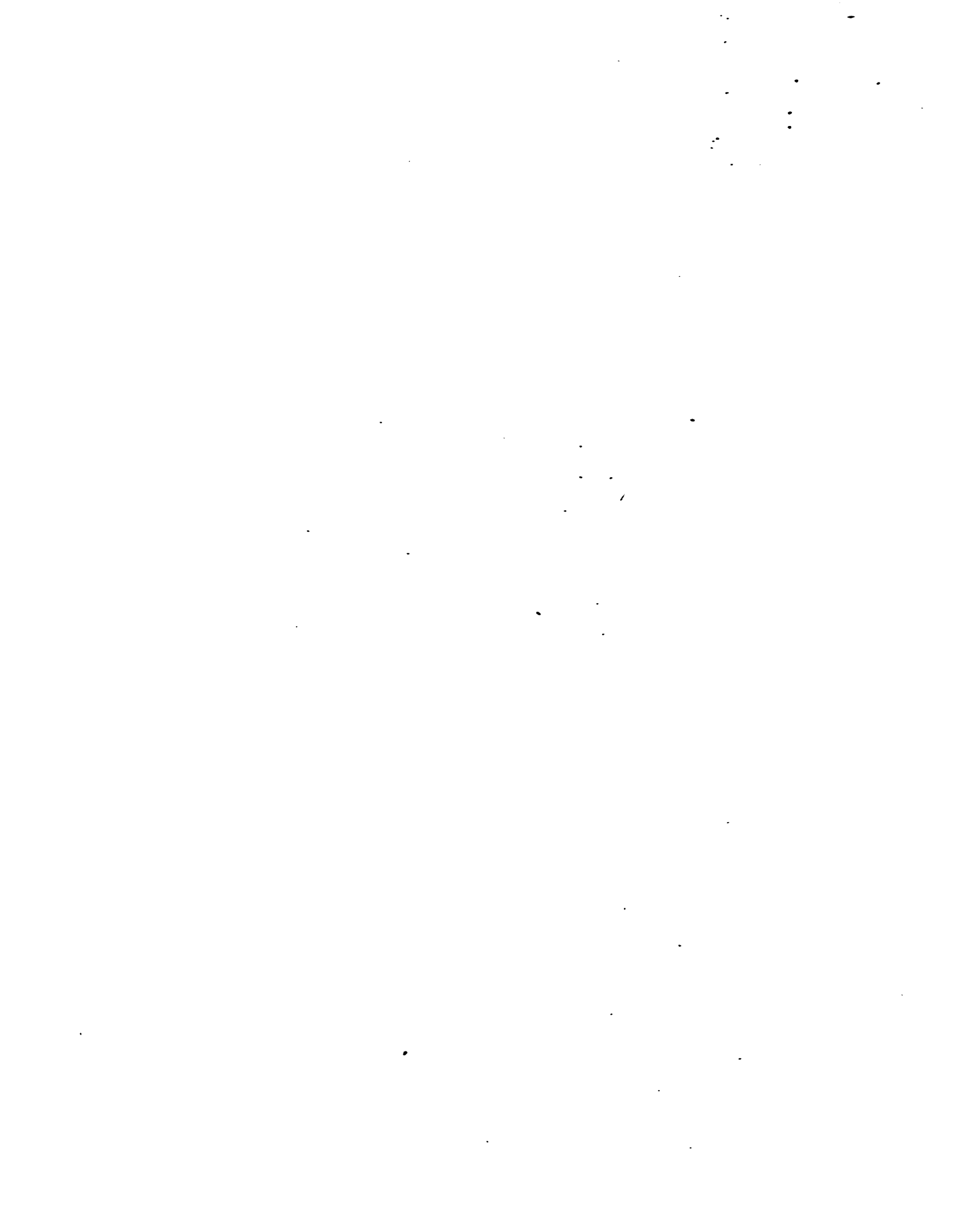
· 111 Mile Cr
· Moffat Creek
· No name creek

· horses (4) [3]

◆ Ecological entities
· dead / rotting tree (5) [3]
· alpine (6) [4]
· willow colony
· sedge colony
· meadow (6) [5]
· wet meadow
· wetlands (3)
· marsh (3)   · 100 Mile marsh(2)
· riparian area
· shores (3)
· edge (4) [2]
· habitat (4)
· light and dark (2)
· smoke (2)

◆ Ephemeral conditions
· colours (8) [7]
· sunset (3)
· sunrise (3)
· sky (3)
  · stars
  · moon
· weather (3)
  · snow (4)
  · rainbow (3)
  · clouds (2)
  · mist (2)
  · rain

◆ Human activity features

Landuse
General: Specific:
· clearing (3)
· cutblock (6) [4]   · at Beaver pass
· clearcut (6) [4]   · in 100 Mile (3)
                        · at Moose Valley
· select cut (2)   · near home
                        · woodlot by home
· tree plantation
· lumberyard
· broadcast burns
· (farm)field (7) [4]   · my field
· pasture / range (4)
  · with cattle (2)
· mining from past (3)
· mine
· current mining

Artifacts
General: Specific:
· old bldgs (7) [5]   · at 105 Mile
                          · at Barkerville
                          · at Landsdowne
                          · at Anders
· people
  · farmer/rancher (3)
  · family (5) [3]
· homesteads (4)
· cabins/hut (5) [4]
· trailer
· bridge (3)   · dogsled bridge
· road (3)
· fish ladder   · on Horsefly R.
                          · woodpile at home (2)
· logging equipment
· burner
· mining dredge
· fort site
· greenhouses
· cowboy silhouette
· hay bales
· fence
· railway
· OSB plant (3)
· eroded trail (2)
· hydro facilities   · sign at 100 Mile

3. Experiences:
General: Specific:
· view or scene (22) [11] · of Dragon Mtn
                            · of "Clearwater"
                            · of Willowdale
                            · of "Hoods Hollow"
                            · of Fraser R (2) [1]
· tastes (3) [2]
  · raspberries
· smells (3)
  · junipers
· temperature (2)
  · warm (2)
  · cold (2)
· sights
  · shape (2)
· sounds

2. Locales
General: Specific:
· home (10):[8]   · 10 Mile Lake
                          · Harper's Lake
                          · 108 Mile (2)
                          · Wolf Den (2) [1]
                          · Canim Lake
                          · Alexis Cr
· "town"   · Quesnel (3) [1]
                          · Horsefly
                          · 100 Mile House
                          · Wells (3) [1]
                          · Barkerville
· past towns (2)   · Marguerite ferry
· farm (2) [1]

- habitat (4)

- trailer
- bridge (3)
- road (3)
- fish ladder

- logging equipment
- burner
- mining dredge
- fort site
- greenhouses
- cowboy silhouette
- hay bales
- fence
- railway

- OSB plant (3)
- eroded trail (2)
- hydro facilities

- on Horsefly R.
- woodpile at home (2)

- sign at 100 Mile

- lumberyard
- broadcast burns

- (farm)field (7) [4]
- pasture / range (4)
  - with cattle (2)

- mining from past (3)
- mine
- current mining

- my field

◆ **Ephemeral conditions**

- colours (8) [7]
- sunset (3)
- sunrise (3)
- sky (3)
  - stars
  - moon
- weather (3)
  - snow (4)
  - rainbow (3)
  - clouds (2)
  - mist (2)
  - rain
- light and dark (2)
- smoke (2)

2. Locales

General:	Specific:
home (10) [8]	10 Mile Lake
	Harper's Lake
	108 Mile (2)
	Wolf Den (2) [1]
	Canim Lake
	Alexis Cr
"town"	Quesnel (3) [1]
	Horsefly
	100 Mile House
	Wells (3) [1]
	Barkerville
past towns (2)	Marguerite ferry
farm (2) [1]	
ranch (3)	
range	
outdoor rec (5) [3]	Prosser
dog sled (2) [1]	Waverly
horse ride (4) [3]	Yellowhawk
trail (3)	Jubilee
	to Pinnacles
	at Boscar Lk
sites (4)	Crooked Lk
	Spanish Lk
	Tindall Lk
private land	
work place (3)	

3. Experiences:

General:	Specific:
view or scene (22) [11]	of Dragon Mtn
	of "Clearwater"
	of Willowdale
	of "Hoods Hollow"
	of Fraser R (2) [1]
tastes (3) [2]	
raspberries	
smells (3)	
junipers	
temperature (2)	
warm (2)	
cold (2)	
sights	
shape (2)	
sounds	
loons	
boats	
journey (9) [6]	
to work	
path	
ferry	
seasons / seasonal change (13) [8]	
space / spaciousness (6) [5]	
edge / plateau (5) [3]	
nature (4) [2]	
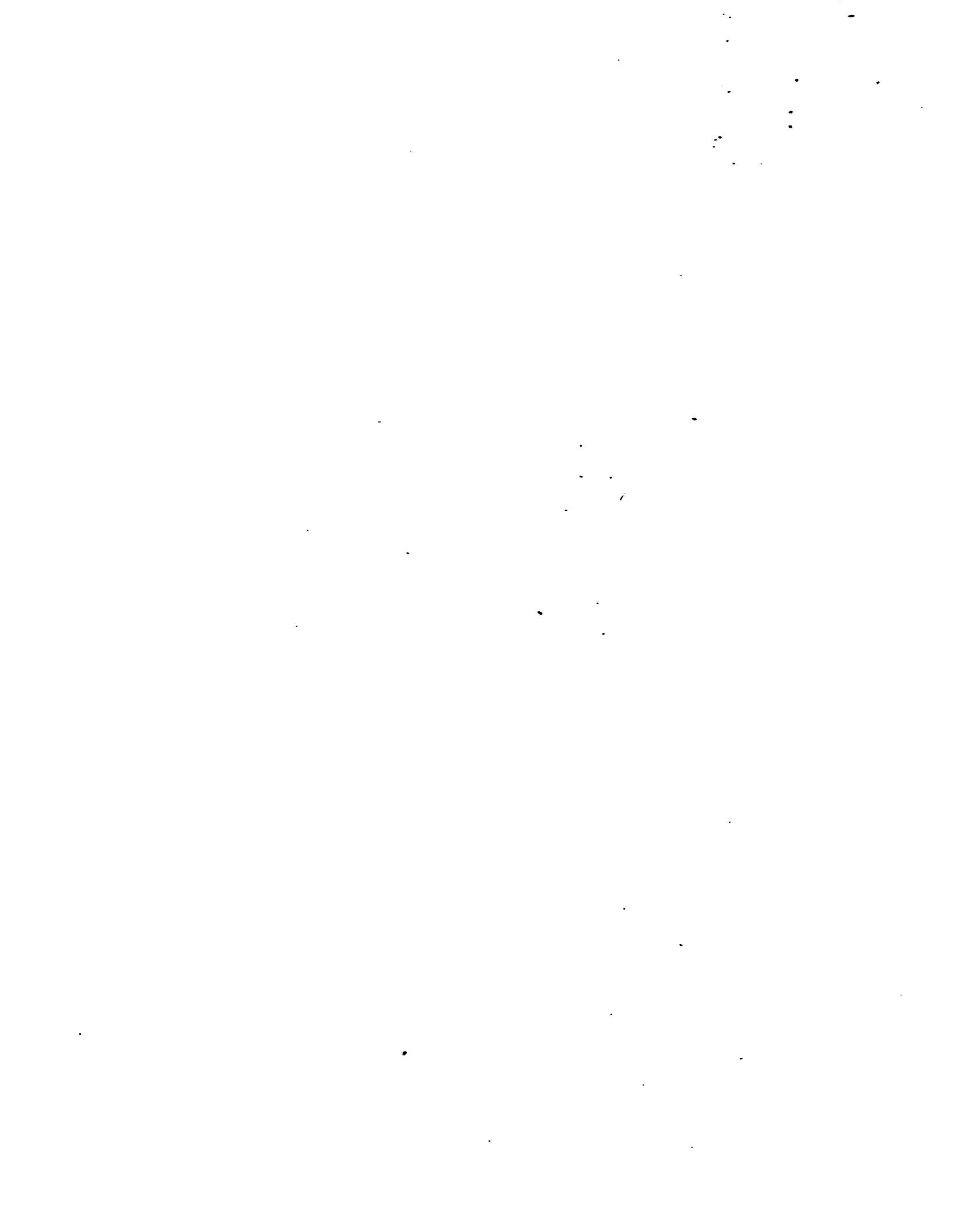
1. Landscape Elements

The landscape elements domain comprised four major themes:

♦ Environmental features (landforms, waterforms, lifeforms)
♦ Ecological features
♦ Ephemeral features and dynamic environmental conditions
♦ Human activity features (land use and artifacts)

♦ Environmental Features

- *Landforms*, in both general and specific terms, were the focus of many images. Topography and geomorphological features comprised this sub-theme.

- *Waterforms* Water in its many surface forms, such as lakes, creeks and waterfalls, was another sub-theme. Again, both general features ("the lakes of the Cariboo") and also specific features identified by name (Mahood Lake and Quesnel Lake) were considered important.

- *Lifeforms* Living organisms, such as vegetation (trees and flowering plants), included specifically identified species (aspen) or collective entities (forest). Wildlife was a significant feature of the landscape images, even when not visible in the photos. This sub-theme highlights the importance of asking people to provide further information about what they are 'imaging'. It is unlikely that the significance of wildlife would have been noted if sorting of photos had been based on visual contents alone, since in many of the photos animals were not visible, and animal sounds, a significant feature discussed, cannot be captured visually.

♦ Ecological qualities

Landscape elements or conditions were noted by participants using ecological terms. For example, participants noted the importance of the potential

presence of animals; the presence of a particular species' *habitat*, an indication
that it *could* be present was a frequent point of discussion for significance. This
focus on an ecological entity was considered as a separate sub-theme, as it is a
higher level of abstraction. Ecological qualities were expressed in general terms.

◆ Ephemeral features and dynamic environmental conditions

Ever-changing features and conditions comprised another domain of focus.
Whether the features or conditions were fleeting (rainbows or dusk) or more long-
lasting (seasons or seasonal change) participants acknowledged their
importance. The opportunity to experience these features or conditions was
generally the focus.

◆ Human activity features

- *Land use* With forestry and agriculture as major economic activities in
the region, it is not surprising that participants commonly mentioned land
use in these terms. Timber harvesting activities and farming or ranching
were the main uses identified. Domesticated animals were included here.
Some of the features (for example, a farm field) might be more appropriately
interpreted as an artifact or locale, highlighting the overlapping nature of the
domains of focus.

- *Artifacts* Built structures such as bridges, equipment and buildings
comprised this domain. Some artifacts were related to the economic activities of
forestry (logging equipment), mining (dredge, mining remnants) and ranching
(fences). The homestead and roadhouse theme was particularly evident, as were
roads and railway lines or rights of way.

2. Locales

Locales are defined here as settings for activities, social interactions or certain experiences.   Participants considered some activities as 'settings' or places, which they could then 'picture'. Locales are expressions of 'this place is a place where this occurs (or could occur)'. Recreational, residential and farming-ranching themes were most evident here.

Locales, like landscape elements, were described and ascribed significance either specifically or generally. A barn or pasture may have been the picture, but the focus was the setting -- "ranching country". For this domain of analysis, the contents of the photo were not always informative in determining the focus, since participants may have focussed on the locale by taking a picture either 'of it' or 'from it'. This difference meant that two participants might have focussed on a similar locale, but the resulting photo contents were quite different.

3. Experiences

What was significant in this domain was not something 'out there', but rather an experience 'in here'. People explained that they were capturing a sensory experience or a characteristic such as 'spaciousness' that was not specifically or necessarily tied to features or locales.

The sound of loons, the taste of berries, and the smell of junipers were non-visual landscape experiences. Several participants noted the sensation of temperature and temperature change and indicated this with a photo. Visually important experiences were shapes, distant views and the visual sense of height.

- *Journey*   The idea of 'moving through' or a journey was also 'pictured', frequently as a path, trail or trail activity. This theme highlights an important aspect of people's interactions with landscape: experiences are based on moving through landscapes, not only on standing at certain spots and viewing a

collection of features. This highlights a major shortcoming of the 'visual'

approach to landscape aesthetics. I discuss this finding further at the end of

this chapter and return to it again in Chapter 6.

Initial discussion of focus domain

The domain of focus can also exist along a continuum, with an 'internal'

locus at one end and an 'external' locus at the other, as depicted in Figure 4.2.

Phenomenon of landscape

Landscape   **Landscape**
elements   **Locales**   **experiences**

⇐_____⇒

External   *Internal*
locus   *locus*
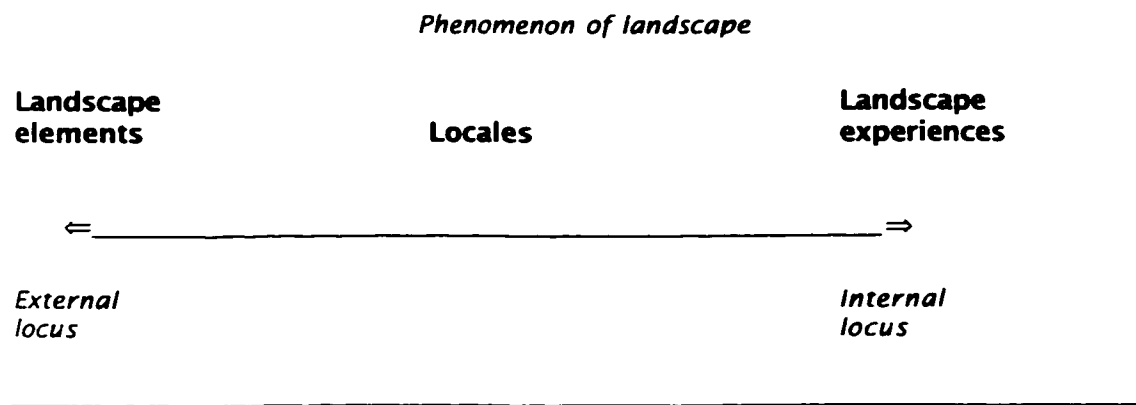
Figure 4.2 A continuum of the landscape phenomenon

The landscape idea in this figure is best thought of from a

phenomenological perspective in which we do not think of a separate 'subject'

and 'object' (person and landscape). Rather, the conscious mind (*cogito*) and

that of which it is conscious (*cogitatum*) are not separate, but form an

inseparable unity – an experience or 'phenomenon'. Sometimes the landscape

phenomenon is thought of as closer to the material world: that is, it has an

external locus. In this study such is the case with the landscape elements

domain. Moving along the continuum to locales, and eventually to experiences,

the phenomenon 'landscape' is thought of as more embodied: it has an internal

locus. The experience of 'landscape', that toward which our consciousness is

directed, is at either end or somewhere in between. In any case, we are conscious of 'landscape'.

4.2   Charting Landscape Domains: significance in landscape images

Analysis also determined the significance of the landscape elements, locales and experiences upon which participants focused; that is, the reasons for capturing the focus – *why* were they important and meaningful for participants? The themes that emerged during analysis were based on completing the following statement: "The landscape (focus) is significant because it is (they are)..."

These themes are presented in Figure 4.3, as a general schematic of the domains of significance. The themes are arranged so that conceptually-related themes appear 'near' one another in the schematic. Table 4.2 builds on the thematic framework in Figure 4.3, presenting the results of charting the domain of significance.

The next section presents a linear discussion of the ways in which the focus themes, presented in Table 4.1 and discussed in the previous section, are significant, important or meaningful to participants. The themes in the domain of significance provide a more complete understanding of the landscape values of participants. Even more so than for the focus, these themes overlap. Considered together, the focus and significance begin to reveal how the people who live in the Cariboo value landscape and the landscapes there. Associations, connections and relationships between the domain of focus and significance are discussed in the final section of this chapter.

Figure 4.3   Thematic framework for significance domain

... significant because ...
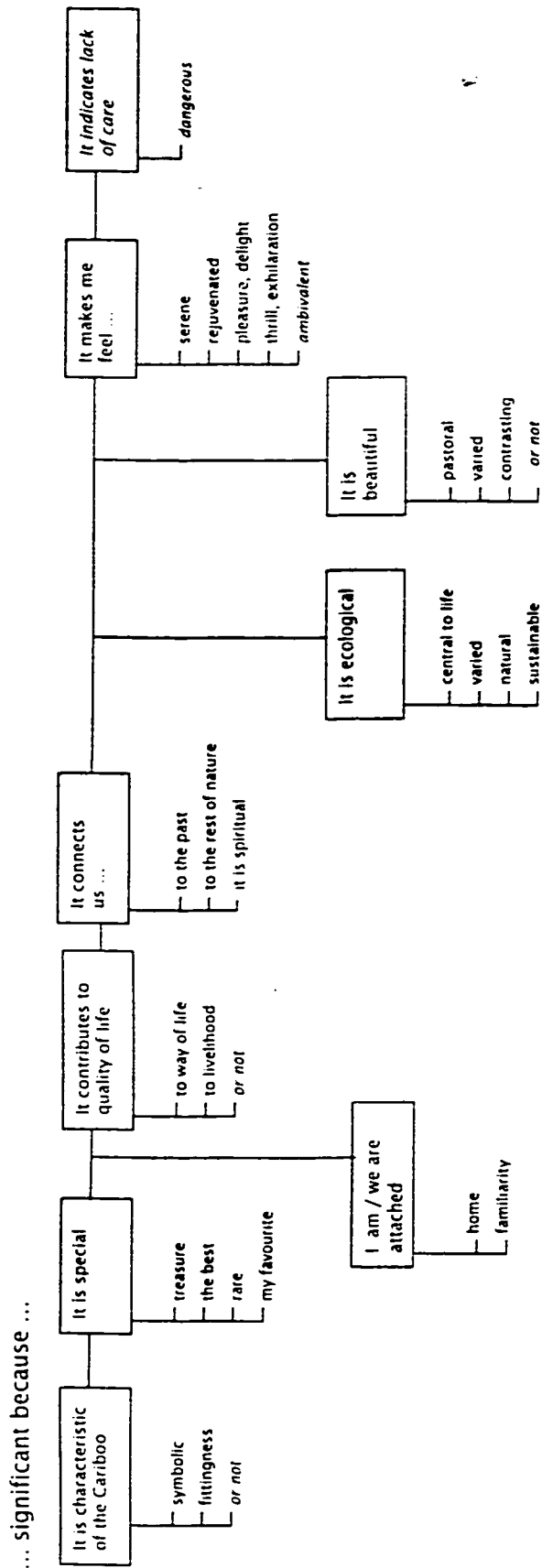
Table 4.2 Domain of Significance

It is characteristic of the Cariboo

- rugged mountains
- volcanic origins
- rock outcrops
- valley
- rolling terrain (2)
- Jim Lowery lake
- lakes (6) [3]
- trees
- wildlife sightings (2)
- habitat
- changing weather (2)
- colours (7) [3]
- sky (2)
- layered landscape
- pasture with horses
- farmfield
- cows on range
- ranching (2)
- cowboys (2)
- fences (2)
- homes in trees (3)
- cabins
- spaciousness (2)
- clearcuts / cutblocks (2)
- real estate for sale
- tearing down past (2)
- altered forests

...symbolic
- pasture with sky (3)
- of life - dead tree (2)
- of north - Mahood Lk
- of lifestyle - hayballs
- of greed - smoke
- of B.C. - mtns
- of nature

...fittingness
- homes (8)

... or not
- motor boats
- clearcuts
- hydro facility

I am attached
- town (2)
- hay bails (livelihood)
- rec place
- our fence
- a trail
- activities (2)
- seasons
- my creek
- dead trees

... it is home
- Roserim (3) [1]
- Chilcotin (2) [1]

It connects us

... to the past
- bldings (6)
- person (2)
- legend (2)
- geol process (2)
- Barkerville
- ecology
- book
- railway (5) [1]
- store
- ferry
- to past livelihoods

It contributes to quality of life
- community
- rural living
- living space
- wood burning home
- water quality (2)
- views (3)

... or not
- poor air quality
- OSB plant (2)
- clearcut
- view (3)
- remoteness (2)

... contributes to way of life
- Cottonwood R.
- valley
- snow (4) [1]
- outdoor setting (4)
- close to healthy activities (4)
- recreation (4)
- close to home (4) [2]
- to food and materials

... contributes to livelihood
- trees (3) [2]
- cutblocks (2) [1]
- ranching cattle
- pinnacles
- view
- lava beds

It is special

... a treasure
- Cottonwood R.
- accessible outdoors

... the best
- Hendrix Falls
- Mahood Lake
- Fraser R. (3) [2]

... rare
- foot bridge
- big trees
- aspen woods
- Green Lake
- alpine
- bent tree
- glaciers
- Mitchell Valley (2) [1]
- water source

... my favourite
- Crooked Lk
- trail in aspen
- 111 Mile Creek
- Walker Valley
- Mahood L. (2)

It is ecological

... central to life
- habitat (9) [5]
- water recharge (5) [4]
- marsh (3)
- edge, shore (2)
- sedge
- seasons

... varied / diverse
- old /young trees (2)
- migration route
- wetland
- restored creek

It is beautiful
- colours (2)
- natural features
- meadows (2)
- trees
- wetland
- land, light, mist
- stars
- view
- cabins
- sedge

... pastoral
- bridge

I am attached

- town (2)
- hay bails (livelihood)
- rec place
- our fence
- a trail
- activities (2)
- seasons
- my creek
- dead trees

... it is home
- Roserim (3) [1]
- Chilcotin (2) [1]
- woodpile (2)
- Canim Lk
- Wolf Den
- shore
- Bouchie Lk (2) [1]
- Dragon Mtn

... it is familiar
- view (10) [7]
- pines
- mountains
- Soda Lk
- the past

It makes me feel...

...serene, peaceful
- no people (2)
- sunrise (2)
- winter (md4)
- lakes, water (7) [4]
- falls

rejuvenation
- view (4)
- creek
- fishing
- falls

... pleasure, delight
- spaciousness (5)[3]
- views (3)
- season change
- outdoor activities (2)
- no homes to see
- sunrise
- in livelihood
- snow
- colours

It connects us

... to the past
- bldings (6)
- person (2)
- legend (2)
- geol process (2)
- Barkerville
- ecology
- book
- railway (5) [1]
- store
- ferry

... to past livelihoods
- waterway (2)
- views (4) [1]
- hunting (3) [1]
- gathering (3) [1]
- trapping
- dredge
- clearings

... to the rest of nature
- spaciousness (3)
- views (2)
- old mine
- clearing
- rec site

... it is spirtual
- rock shapes, animate (3)
- essence of water (2) [1]
- rain
- sunset
- view distance

... *ambivalent*
- farm and residence
- private and public land
- trees and cutblock
- marsh in town
- livelihood vs ecology
- danger on road
- bridge
- woodlot
- store
- hayfield
- view

It is ecological

... central to life
- habitat (9) [5]
- water recharge (5) [4]
- marsh (3)
- edge, shore (2)
- sedge
- seasons

... varied / diverse
- old /young trees (2)
- migration route
- wetland
- restored creek

... natural
- trees (4) [3]
- snow (2)
- woodpile
- Pinnacles
- humans
- mist

... sustainable
- livelihood (6)
- fields (4) [3]
- ranching (3)
- (not) hunting (2)
- wood (2)
- good logging

It indicates lack of care
- weeds
- leak
- fallen trees
- cutblocks (4)
- water (3)
- burner smoke (bq5)
- remains (3)
- sign

... *is dangerous*
- trail erosion (2) [1]
- landslides

It is beautiful
- colours (2)
- natural features
- meadows (2)
- trees
- wetland
- land, light, mist
- stars
- view
- cabins
- sedge

... **pastoral**
- bridge
- town

... **varied**
- views (2)
- trees
- wetland

... **contrast**
- view (3)

... *or not*
- hydro facility
- clearcut

... familiar

- Wolf Den
- shore
- Bouchie Lk (2) [1]
- Dragon Mtn

... it is familiar
- view (10) [7]
- pines
- mountains
- Soda Lk
- the past

- views (4) [1]
- hunting (3) [1]
- gathering (3) [1]
- trapping
- dredge
- clearings

... to the rest of nature
- spaciousness (3)
- views (2)
- old mine
- clearing
- rec site

... it is spiritual
- rock shapes, animate (3)
- essence of water (2) [1]
- rain
- sunset
- view distance

- snow (2)
- woodpile
- Pinnacles
- humans
- mist

... sustainable
- livelihood (6)
- fields (4) [3]
- ranching (3)
- (not) hunting (2)
- wood (2)
- good logging

- views (2)
- trees
- wetland

... contrast
- view (3)

... or not
- hydro facility
- clearcut

It indicates lack of care
- weeds
- leak
- fallen trees
- cutblocks (4)
- water (3)
- burner smoke (bq5)
- remains (3)
- sign

... is dangerous
- trail erosion (2) [1]
- landslides

ambivalent
- farm and residence
- private and public land
- trees and cutblock
- marsh in town
- livelihood vs ecology
- danger on road
- bridge
- woodlot
- store
- hayfield
- view

It makes me feel...

... serene, peaceful
- no people (2)
- sunrise (2)
- winter (md4)
- lakes, water (7) [4]
- falls

... rejuvenation
- view (4)
- creek
- fishing
- falls

... pleasure, delight
- spaciousness (5) [3]
- views (3)
- season change
- outdoor activities.(2)
- no homes to see
- sunrise
- in livelihood
- snow
- colours
- lakes (2)
- smell

... thrill, exhilaration
- wildlife
- smell
- living things (3)
- spring

... sense of mystery
- road /journey (2)
- habitat

... impressive
- mountains
- river
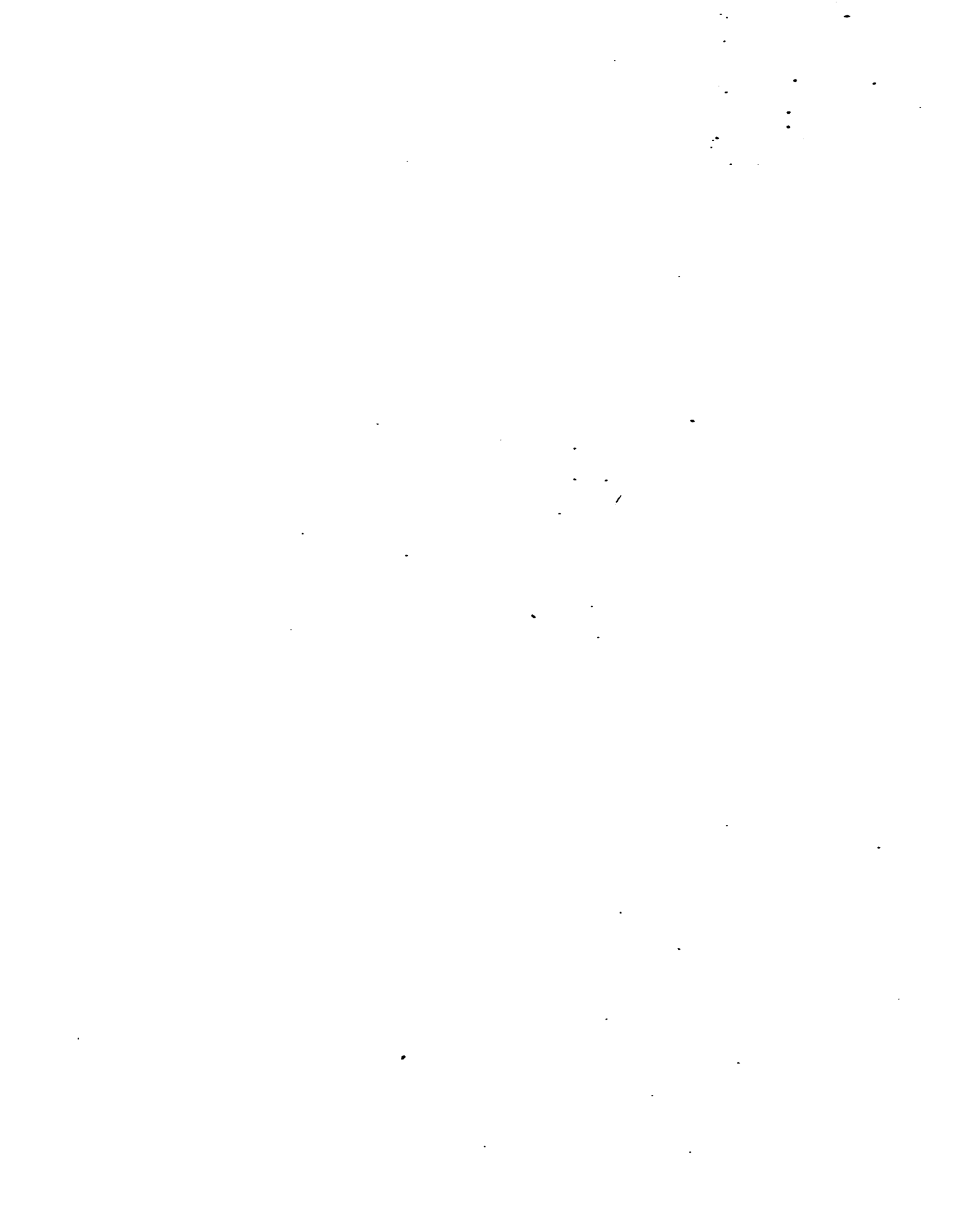
Participants attributed meaning or significance to their images in many ways. The main themes are discussed using quotes from comments and interviews and the photos; that is, the entire landscape image. Photos are presented in a set of Plates at the end of this section (page 104). Reference numbers in the text refer to the Plate number. The text is to be read in conjunction with viewing the photos. The names of people used in this discussion are not the names of participants; they have been changed to ensure confidentiality. Pseudonyms and participant numbers, both of which are used to refer to participants in the subsequent discussion, are in Table 3.1. The themes are presented in sections with titles that complete the statement: "the landscape image is significant because..."

It is characteristic of the Cariboo

Participants revealed a variety of environmental elements, locales and experiences that were important because they characterize the Cariboo. Participants imaged aspects of landscape which they saw as typical of or unique to the Cariboo; in short, they defined and described the Cariboo.

A number of physical elements were repeatedly referred to as typical or characteristic of the Cariboo. Lakes, rivers and other waterforms were seen to be typical of the Cariboo: "Lakes are everywhere in the Cariboo, and make up a large part of our landscape", one participant (P3) offered. Another suggested that part of the peace and solitude of the Cariboo is due to the many lakes. Larry referred to his photo of a lake:

> ...it gives an impression of the ... many wetlands throughout the area. Ducks can frequently be seen on this lake (1.1)

Several participants depicted "typical" lakes (1.2), while others noted that the variety of lakes, or the differing essence of them, was especially important in the Cariboo.

Harvey (1.3) reflected:

the really wondrous one (spherical lake) is located just outside of
Clinton, but this will do...[they are] nodes in the landscape, centres
which should not be touched because they are central components.

Noted one participant (P6) about his photo (1.4): "This picture is
south of 100 Mile. It shows one of the district's many lakes with the typical
fencing that can be seen throughout the region".

Rolling or "country" terrain and pastures or farm fields (especially with
horses or cattle), agricultural locales, and cowboys and ranching were seen as
typical. "Open rangeland with conifer and aspen forest are typical around here"
said one participant (P4). Another (P6) summed up the general idea that "grazing
cattle on golden grass, [and] rolling, open rangeland is typical in the Cariboo"
(2.1). Indeed, some of these elements were seen to be symbolic of the Cariboo.
Jon suggested that "rolling pasture and horses are a very romantic part of the
Cariboo landscape" (2.2).

In addition to contemporary ranching activities and their expression in
the landscape, past activities and remnants associated with the Gold Rush were
seen as part of the character of the Cariboo. Abandoned roadhouses, for
example, were frequently photographed as important in characterizing the
Cariboo and in keeping us connected to the past, as discussed in the later
section "it connects us".

Spaciousness or openness was another frequently cited experiential
quality of the Cariboo. This aspect was frequently captured through photos and
comments involving scenes of expanses of land, water or sky. Larry stated (2.3)
that "the Cariboo has wide open skies".

Another participant (P9) suggested the sense of spaciousness (2.4) as she discusses an experience: "I love a ride around the lake...with views across the water giving a feeling of space".

Several other participants discussed their images of open space, glimpsed through heavier vegetation, for instance (2.5), thus commenting on something that may not have been evident by looking at the photo apart from the context of its written comments. Many images suggested the idea of spaciousness or openness: while participants captured the idea of openness as composed of features they could see, the focus was on a totality that they could feel or otherwise sense. Spaciousness was identified as a valuable aspect of landscape, but was often not tied to a particular location or place, other than the Cariboo in general. Because the intended focus was on the typicality of the scene, the locations for many typical photos were non-specific, described by the participant as at the 'roadside' or 'nearby'.

Several participants focussed on the dynamic nature of the sky and weather in the Cariboo – clouds and sky are part of the landscape here. This challenges the need to 'control for' ephemeral or dynamic environmental conditions suggested in other landscape assessment studies (Hamilton 1996). Hatty depicted (3.1) the "stormy skies of the typical changing weather". Harvey metaphorically compared the sky to a river, indicating just how much the sky is part of the landscape in the Cariboo:

> clouds pour over this land and stream over this land...thunderheads build up or descend suddenly, turning the days black. Lids of cloud cover the whole plateau in winter, rimmed by a glowing band of coloured light just above the horizon (3.2)

Harvey's image added an additional aspect of what is important for participants in terms of characterizing the Cariboo: the experience of the physical setting of the Cariboo on or as a plateau, with mountains to the east

and west. This highlights the interactive nature of a physical setting and landscape experience.

The Cariboo is also a recognizable place, separate from adjacent 'places'. One participant (P1) explained how he experiences the differences between the Cariboo and adjacent 'Chilcotin':

> the Fraser [is] the boundary of the Chilcotin, across which we cannot go unless we are willing to throw off all our images and languages and learn a new mode of perception, a new cluster of images (3.3)

One participant (P12) noted that the Cariboo offers two kinds of experiences: mountain landscapes and rolling-hills kind of landscapes. Rugged remote mountains, valleys and fir tree cover were discussed as characteristic of the "eastern" Cariboo. The idea that mountainous landscapes are characteristic of the Cariboo was suggested most frequently by participants living in those more mountainous parts of the region, either the east (Cariboo Mountains) or the west (Coast Mountains). The remoteness and wilderness aspects of landscape were also most associated with mountainous terrain.

... **symbolic**   For some participants, landscapes were significant because they symbolized the Cariboo, as suggested in an earlier quote, or contemporary lifestyles more broadly. This might be seen as a heightened 'characteristicness'. Pasture and sky together, and hay bales, symbolized to some the importance of ranching not only as a livelihood but as a lifestyle in the Cariboo, and as is discussed in a later section, a "sustainable" one. Dead standing trees were seen in their death, as symbolic of life (3.4). The mining remnants and the smoke from a burner were to one participant (P18) symbolic of the greed that brought some people here in the past and in the present (3.5). Mahood Lake was seen as symbolic of a northern landscape and of the various ways we use landscape in the Cariboo.

... **fittingness**   Fittingness was an important characteristic of landscapes, especially homes and buildings deemed typical of the Cariboo. Building materials, style and size of the structures were important. Albert suggested that his house is typical (4.1): "a home, a garden set in the trees" and even that it "is symbolic of the Cariboo". Mitchell (4.2) stated in relation to his home: "Harper's Lake, my home; residences fit in well here". The "Cowboy" image was seen to be part of the Cariboo (4.3).

The idea of what fit was expressed at times through images of what *does not* fit, as suggested by Arlene's photo (4.4) of a watercraft on a "wilderness" lake. Others added clear-cuts (4.5) and hydro facilities. On this more negative note, clearcuts, and forest practices, "for sale" signs and removal of the past were "unfortunately" characteristic of the Cariboo.

Landscape images were discussed as representative of the Cariboo in two ways: they were expressed as either typical of the Cariboo (numerous lakes) or unique to the Cariboo (Gold Rush heritage), or sometimes both. Old fences and abandoned roadhouses, for example, were described as both typical elements of the Cariboo, and as unique features in Cariboo landscapes. The use of either term, I think, is significant. Generally, typicality was used by participants to note that the landscape element (or locale or experience) was common -- 'there is a lot of it; the loss of this instance of it is not a major concern'. Seeing wildlife (5.1 and 5.2) was noted in this way. Uniqueness, on the other hand, was used to allude to elements (or locales or experiences) as 'at risk of being lost'. The implication for planning and management is that attributions of uniqueness deserve more concern or attention than other less distinct (or more typical) things. A typical feature seems to be one that we do not have to worry about; a unique feature, something that we do. Given these connotations, the attribution of either typical or unique to landscape elements, locales or

experiences offers insight regarding the character of landscape and the

attribution of value that is useful for landscape management, but that is not

dealt with in conventional landscape assessment.

It is special

Besides highlighting characteristic or typical things in the Cariboo,

participants imaged things which they themselves consider special or which

they believe others consider special. Some places and features are "treasures" or

are the "best of" a certain thing. Mahood Lake, for example, is the "finest [lake] of

them all" (5.3) to one participant (P10). Some participants discussed the

presence of certain places, features or locales in terms of being treasures. The

Cottonwood River, because of its current recreational attractiveness, its life-

giving presence and its historic context was described by a participant ((P17) as

one such "treasure" (5.4). More generally, the "accessible outdoors" was

important to inhabitants.

The Fraser River is a special river, also seen to partly define the Cariboo,

or rather separate it from surrounding regions. As one participant (P1) explained

(6.1): "here we are at the edge, the mythic river that sets our country apart...The

river frames the plateau and gives it a context...a sense of unity, completeness,

and grandeur is part of our perception of the landscape [here]". Participants

identified unique geological features, such as the Pinnacles (6.2), a feature

officially recognized through its designation as part of a Provincial Park.

A number of locales, features and experiences were noted as especially

important for their rarity or uniqueness. Places such as Mitchell Lake were

considered rare because of their remoteness and "pristine wilderness" (6.3). Rarity

or uniqueness was cited as the importance for numerous features as well: an old

log foot bridge (6.4), a uniquely bent tree along a familiar trail, and Green Lake.

General ecological complexes such as aspen groves in fir forests, alpine meadows

and big (dead) trees, were also relatively rare and hence important. The idea of something being special, especially in terms of being rare, was expressed as a shared or generally recognized attribute, and likely to be special for many in the region.

... **my favourite**   Expressions were also more personal; special places were sometimes a "favourite" place or feature. Numerous specific sites or features were identified as favourites, as well as more general characteristics or "types" of places. Harvey discussed his favourite place:

> my favourite spot in the Cariboo. It is infused with a marvelous open light, gently filtered by the leaves The forest is open and exists only in this form here. Around it, the forest is dark with firs and messy undergrowth (7.1)

A public recreation site (7.2) and a section of a local creek (7.3) were also pictured as "favourite spots". Attachment to favourite spots was particularly potent. This theme overlaps with the attachment theme discussed later.

It contributes to quality of life

Quality of life was of great significance to participants. Participants discussed a variety of things that contributed to the Cariboo as 'a good place to live', or to a good quality of life in general: potential for economic development, a "rural" way of life, and access to the outdoors and to recreational opportunities.

Participants appreciated the amount of "living space" (7.4) and pleasant "backdrops" for life in the Cariboo (8.1). One participant (P10) discussed landscape as a backdrop:

> the background...is what brought me to the business here. What's behind the business is what clinched it for me (8.3)

... **accessibility**   One participant (P9) believed that not being able to see people's houses but knowing they live there enhanced her quality of life (8.2). Quality of

life in the Cariboo included accessibility to places that provide food and materials (8.4) and opportunities for healthy activities and for outdoor recreation, such as trail riding (9.1), snowmobiling (9.2) or hiking. Troy (9.3) noted for instance, that "Taseko Lake: headwaters for the Taseko River, a great river for rafting and kayaking".

Jon, who runs an outdoor adventure business, noted that "we (often) ride along the creek and find some secluded meadows, forests of aspen or huge old fir trees" (9.4). Joanne summed up what the Cariboo offers in this regard:

> summer means riding throughout the country on horse. Miles of crown land to explore is a real treat...limited fences, unlimited trails equals uninhibited pleasure (9.5)

One dimension of accessibility was how accessible places were in terms of distance from home; proximity of access was important. The idea of access to outdoor areas was seen to be important to people's quality of life (10.1). These outdoor areas themselves were meaningful for spiritual, emotional or other reasons. That these were "close to home" added another dimension of importance and an added sense of contributing to a better quality of life. One participant (P7) noted in discussing her photo (10.2): "What a feeling: having so much space to myself, yet not being far from home". Specific locales were significant, such as the Walker Valley for residents of the 108 community (10.3).

Sometimes these opportunities were seen to contribute to tourism in the area, which was deemed to contribute economically to their quality of life as a resident. That is, the access to the great outdoors was seen as a benefit to people who live in the Cariboo in two ways: their own and other residents' enjoyment, and through improved economic opportunity via the enjoyment of visitors, tourism.

One participant (P6) noted that a major aspect of his quality of life is the drive to work:

> Seeing lakes, barns and cows on the way to work is way less stressful than an hour in rush hour traffic in a big city. This is part of the reason I chose to live in the Cariboo (10.4)

The lack of access, especially the remoteness of some places, was seen as important (10.5). That some places remained fairly inaccessible, and knowing that such places existed, was significant for several participants (P3, P13, P14). This remoteness was also mentioned as a potential for tourism.

Participants also highlighted things that do or could detract from quality of life: the loss of a source of quality water through deforestation (11.1) and the contamination of air (11.2). "Weeds" (11.3) were noted several times by one farmer (P16). In addition to detracting from quality of life, however, seeing clear cuts or other signs of resource use signified to some inhabitants the importance of these activities in contributing to the livelihood of many Cariboo residents. The recognition that some activities both contributed to and detracted from the quality of life in the Cariboo, at the same time, was notable. Several participants noted that the oriented strand board (OSB) plant in 100 Mile House (11.4) detracted from the quality of life experientially, while at the same time adding to it economically (P8, P7). Ambivalent responses are discussed in a later section.

I am (we are) attached...

Participants identified landscape elements, and locales as significant because of their attachment to them. The idea of home was most notable here. Participants pictured their residences (4.1, 12.1) and their communities (12.2, 12.3), which were important aspects of the attachment one feels to "home".

Participants also reflected upon familiar journeys, such as the "drive to and from home" (10.4, 12.4), the trip to a favourite spot (12.5), or the "Soda Lake

ride" (13.1), familiar views (13.2), especially from or of "home" (13.3). Familiarity in what they experienced was meaningful. Other people were most of all attached to their "way of life" (13.4 and 13.5) or to all of the things that make up where they live (14.1), including access to recreational places (14.2), which were even more important when they were close to home (14.3). Several participants felt it amazing to have a number of things close to home and could not believe that they lived in such a place (14.4).

It connects us...

Participants expressed their feelings of connection, a continuity in their experiences, in both time and space.

... **to the past**   Participants shared landscape elements, most notably human activity artifacts, that made them feel connected to the past. Remnants of historic human settlement (roadhouses, stores, ferry, rail rights-of-way) and livelihoods were a major aspect of this. Several participants focussed on "homesteads" or roadhouses associated with the Cariboo Gold Rush era. Albert revealed that:

> this was built at the turn of the century. There were four houses on this parcel, but one is gone and two more are in poor repair. Roadhouses were farmhouses that doubled as lodging for travellers. Circumstances change, but the landscape is the same. Hopefully, this[one] will stay (15.1)

Gary said this about his photo (15.2) of "the Old Thompson place":

> It's sad to see old buildings rot. Past a certain point, they can't even be restored. Perhaps there should be encouragement to maintain old buildings even if their use changes? They're important to us all

Others pointed to waterways (15.3), important for not only contemporary recreational use, but also historic use (P2); another participant (P17) noted, in relation to his photo of the "Marguerite ferry":

> People fought hard here to keep this old system of crossing the Fraser. I think people ... want some connection with the past in a rapidly

changing world. Besides, its more convenient to use the ferry [rather than drive the long way around] and it makes a nice circle tour (15.4)

Knowledge of this past was meaningful, and participants creatively communicated this. Mary suggested in relation to her photo of a local history document, (16.1): "I took this picture because in order to know and value landscape now, one has to understand and appreciate the past". She took particular pride in her knowledge of the Dragon Mountain area where she had lived for many years.

Agricultural activities of the past were appreciated by several participants. Jennifer (16.2) noted the significance of "historic agriculture" and Larry the significance of the "Russel fence".

The past was meaningful in terms of past economic activities or livelihoods: mining features were often pointed to as reminders of "what brought people here". Several participants revealed a "forgotten" past, while others highlighted a "commemorated" past, such as the 108 Heritage site (16.3) and Barkerville (16.4).

One interesting aspect of "the past" which several participants noted was the appearance of "naturalness" in areas or places that historically had seen significant, and sometimes devastating, human use in the Cariboo. Atop a "wilderness" trail, Leslie noted (16.5): "...and then you come across an abandoned building and realize people used to live here!" Bob added in our interview that the hills around Barkerville, which we now consider pristine, have all regrown since the 1860s, similar to the "pristine" area shown in photo 17.1.

Traditional activities of First Nations and their hunting, gathering and trapping areas were important not only because they provided resources and a livelihood now, but had provided resources for ancestors, and this connection was meaningful. One participant (P2) noted the ongoing connection of her

people to the area (17.2, 17.3 and 17.4) in terms of the opportunity to remain connected to ancestors through traditional uses. In fact, this was the major theme she communicated in her landscape images.

Harvey discussed the importance of a geological formation as part of the human connection to the past:

> the bluff exists thousands of years ago, in terms of being humanly observed, and so forms a bridge across the wall of colonization (18.1)

Mining as an activity in the past was generally seen in a negative light: several participants noted the "mess" (18.2) and "devastation" associated with past activities. A pair of photos compared the unmined section of stream with the mined section (18.3, 18.4).

... to the rest of nature The connection to nature had both a spatial and temporal dimension, expressed in terms of geological features and ecological entities. Harvey felt that people are connected and continuous in the Cariboo, part of a region underlain by a common geologic past: "the fiery volcanic ground on which we live" (19.1). Another participant (P13) shared that the view into the distance reminds him of his (small) position in nature (19.2).

Participants captured elements of landscape and locales which exemplified a positive relationship between humans and the rest of nature. They valued the opportunities to see and maintain such examples. Viewing wildlife, especially "close to home" was important to "remind us of natural seasonal change" and "our place in nature". The idea that agriculture livelihoods (and ways of life) were part of this connection was a frequent theme. One participant (P17) noted:

> Here is fall plowing at Bouchie Lake (my place); The pastoral scene of green fields, farm fences and trees, and new plowing tells me the world will keep turning, the fields will keep producing and there is a stability in it all (19.3)

Several others noted the natural appearance of pastures (19.4) and enjoyment in finding "cattle in the woods" (19.5) showing "how people can live with nature". Others revealed that human-nature relationships are ongoing (20.1), that our actions don't have to be a problem – trees grow back (12.5) and nature is resilient (20.2); we can even "enhance" nature (20.3).

... **it is spiritual** Participants' sense of connection had a spiritual dimension as well. The "essence of water" was the significance given to Cariboo landscapes (20.4) by one participant (P5); the future that sunset symbolizes (20.5) and the dream-like aspect of snow-capped mountains viewed in the distance (21.1) were other elements and experiences noted. Some of these aspects were also captured as characteristics of the Cariboo, representative or part of the "experience" of the place.

The spiritual dimension of human connections and continuity was significant. The animate faces visible in rock formations (21.2), the "blood and bones of the earth" in red rock outcroppings (18.1) and the legends "told" by other features were significant to participants. These examples suggest a major area for further study. The experience of openness or height, associated with the physical situation of the Cariboo often led to spiritual experiences.

It is ecological

Participants frequently focused on landscape elements or qualities that were significant because they are seen as being central to life, part of the natural world, or contributing to an ecological function or process.

... **central to life / alive / organic** Marshes, wetlands and riparian areas, and rain, were particularly important in terms of being central to life. One participant noted (P1), for example, that "wetlands are the engines of life"

(21.3). Others pointed to features such as "mature timber" (21.4), wetlands (22.1) and tree cover (14.1) as significant due to their role as a water source or in water recharge. Seasonal change, as represented by people's images of changing foliage (22.2 and 22.3), and migrating wildlife (22.4), for example, was significant in being part of the "natural order".

"Old growth" forest (9.4) and "bird" trees (22.5) were some of the indicators for people of intact ecological processes, and beautiful because of this. Trees, marshes and other features and places were presented as significant because of their provision of habitat for a variety of wildlife (23.1).

... **varied / diverse** Variety in life forms was noted as significant too – that is the visual variety provided by young and old trees was significant in terms of the provision of habitat (23.2). A variety of wildlife (5.1) was seen as indicative of healthy ecosystems.

... **natural** Some features were important because they were natural; that is present naturally, as compared to created by humans. The Pinnacles (6.2), snow (23.2) and mist (23.3) were referred to in this way. Some participants pointed out settings or activities that were significant in indicating the balance or harmony that could exist between human activities and "nature". Some of these were highlighted in the earlier section on connections to nature.

... **sustainable** Closely related to ecologically-balanced human activities, were the images that highlighted the idea of sustainable livelihoods. Ranching activities and features (23.4) were more commonly noted than any other livelihood in this regard. Several participants (P12, P13) conveyed the importance of sustainability by "heating a house by wood", indicated through images of their own woodpiles (24.1).

While examples of "sustainable" timber harvesting were noted (24.2), unsustainable and "unecological" examples were far more common. (24.3). Troy felt that most current logging "eats the landscape" (24.4). Indeed, forest harvesting was more likely to be noted as an activity that detracted from the healthy ecological functioning of the place.

It is beautiful

Many ephemeral qualities, such as mist (25.1) and light - dark contrasts (25.2), were significant because of their beauty. Things were beautiful to look at but also to smell, taste or hear. Natural features such as meadows and wetlands were deemed beautiful. Variety of elements, mixed forest and different ecosystems, for example, were seen to add to the beauty.

Cabins (25.3) and rustic elements (25.4) made up part of the pastoral landscapes that were considered attractive. Rugged mountains (10.1) and wildflowers (26.1) were beautiful because of their "pristine" beauty at a small scale, while several lakes were noted as beautiful for the tranquility they provided (26.2). Participants captured a number of locales deemed "scenic". The view in photo (26.3) was attractive, one participant (P9) stated, not only because of the features of which it is composed, but also because of the spaciousness and "sense of height" felt there. For another participant (P18), the view along a path was "pretty" not because of the spaciousness, but because of the sense of enclosure in viewing the lake from among the trees (13.1). Shorelines (26.4), variety of colours (22.3), aromatic woods (26.5) and rolling terrain (1.2) were landscape features and experiences described as beautiful.

One participant (P12) photographed a hamlet "downtown" that he thought was beautiful because "beauty really is in the eye of the beholder" (12.2). Other participants expressed experiences related to beauty: scenes that

were beautiful "like music" (25.2) or sedges that were "breathtaking" in their ecological success.

People noted a number of places that were significant because they provided an opportunity to enjoy a distant or "awesome" view (27.1). One participant (P17) captured the contrast between the "long" view experienced where the photo (27.2) was taken and the previous short views experienced while travelling along the road. The contrast provided by the two experiences was the focus of significance. Another participant made similar comments about horseback riding along a trail (13.1).

In addition, participants provided images that were significant because they were not beautiful: clearcuts (11.2) and "bad logging" (27.3), and building types (27.4) or sounds (4.4) that were unattractive.

It makes me feel...

People captured many landscapes and places because of the feelings that being in that location evoked in them. They focused on landscape for the affective qualities and emotive dimensions of their experience there. There seemed to be three broadly affective themes: peace and serenity, pleasure and enjoyment, and delight and exhilaration. There were also several more cognitive dimensions like drama and mystery, similar to the cognitive dimensions suggested elsewhere in the literature (Herzog 1984, R. Kaplan and S. Kaplan 1989, Herzog and Bosley 1992).

... serene and peaceful Solitude and peacefulness were frequently attributed to various aspects of landscape experience. One participant (P15) felt this way after seeing a rainbow (28.1). Time of day was important: a ride in the morning (2.4) or a walk in the evening (10.3). Beaches and shorelines in the Cariboo were seen as serene or tranquil (28.2 and 28.3). Some landscapes were significant because experiencing them could relieve stress or leave one feeling rejuvenated.

... **pleasure and delight**   Other places and elements provided enjoyment or pleasure and delight, such as seasonal variation (28.4), recreation opportunities (29.1, 29.2).

...**thrill and exhilaration**   Seeing wildlife (or knowing they could be there) (5.2), the experience of edge or height (29.3) were significant in this way to participants. One participant (P10), in relation to his favourite forest spot, explained the excitement that he felt there:

> while it is very quiet, there is the possibility of seeing, or perhaps better the illusion or promise of sight for really, one cannot see far (7.1)

Impressive features like mountains and large rivers were also noted.

It implies lack of care

Participants made numerous attributions of lack of care to many elements, places and locales. This was one of the major ways that people expressed the unpleasant side of landscape. Participants went beyond description of the displeasing sight or place, and stated or alluded to the meaning of that experience for them. It was unpleasant because it seemed that no care was taken by humans in their past or present use of that landscape or environment. Hatty noted that clearcuts leave "bare hills" which close up appear "not so looked after" and weeds are indicative of our lack of care (11.3). Garbage at a secluded picnic spot along a trail (28.2) indicated to Donna that 'we don't care for nature' in general, and for this place in particular.

... **is dangerous**   Not only are eroded trails (29.4) "unpleasant to see on a hike" but are considered "dangerous" for people or animals. Some landscape changes and human activities were seen as problems, not because of how they appeared visually but because of damage that could arise, especially to water quality (29.2) or air quality.

PLATE 1

1.1

1.2

1.3

1.4

PLATE 3

3.1

3.3

PLATE 5

5.3

5.4

5.1

5.2
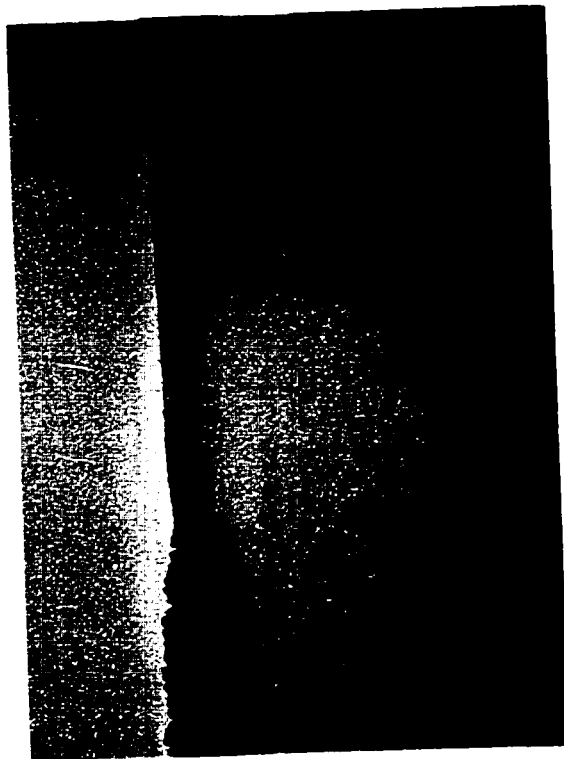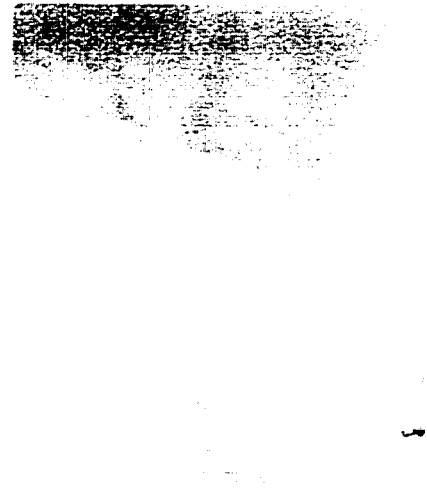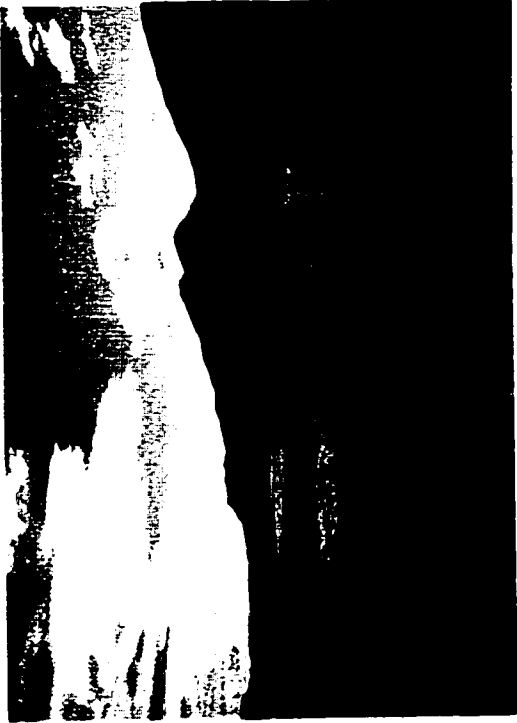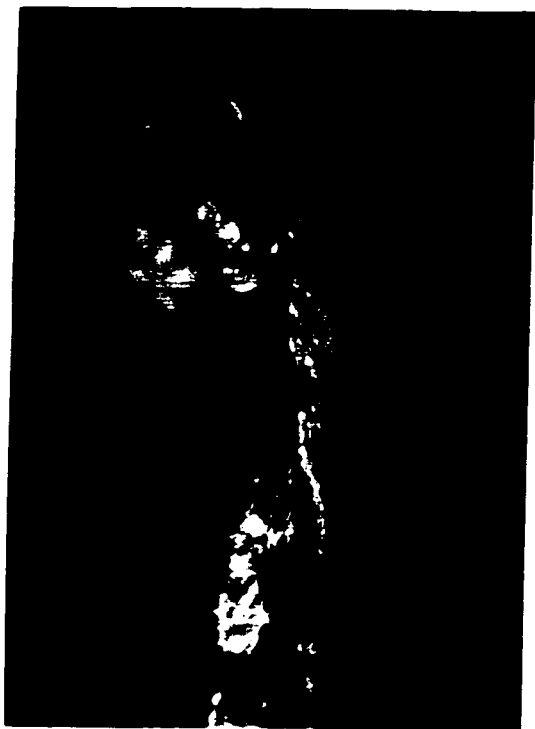
6.3

6.4

6.1

6.2

PLATE 7

7.3
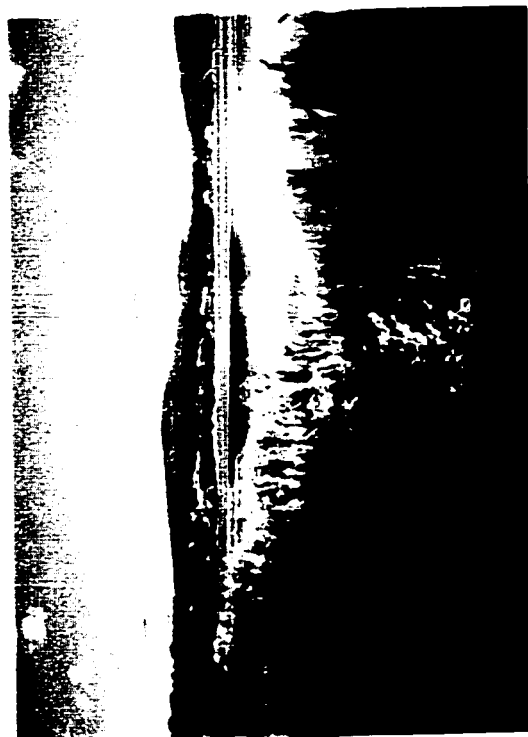
7.4

7.1

7.2
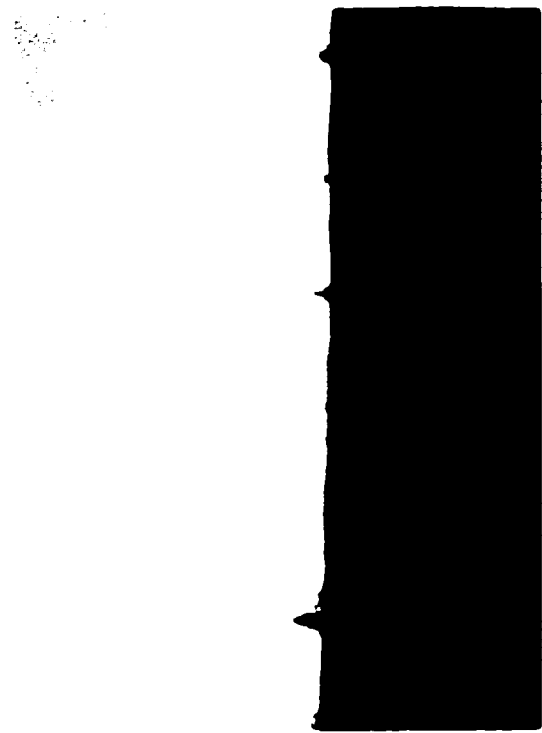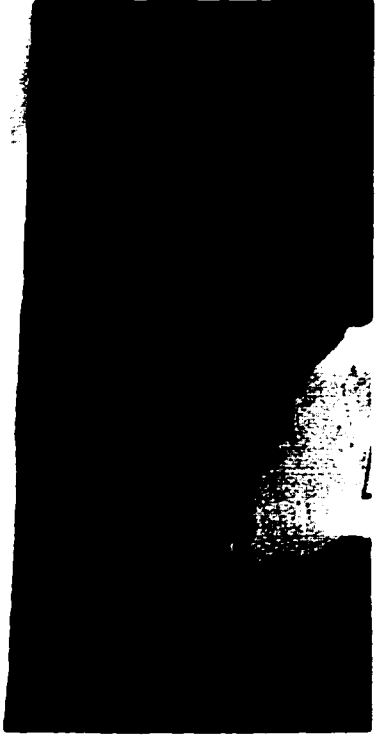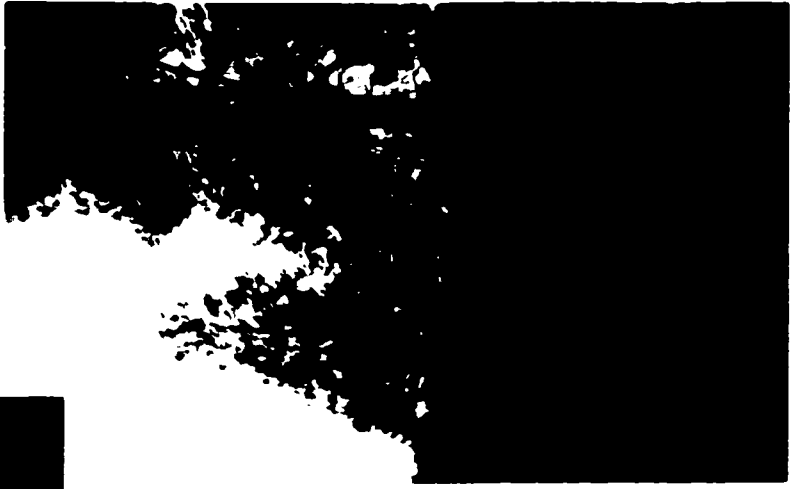
PLATE 8

8.3

8.4

8.1

8.2

PLATE 9

9.1

9.2

9.3

9.4

9.5

PLATE 11

11.1

11.2

11.3

11.4

PLATE 14

14.1

14.2

14.3

14.4

PLATE 15

15.3

15.4

15.1

15.2

120

PLATE 17

17.3

17.4

17.1

17.2

PLATE 18

18.3

18.4

18.1

18.2

PLATE 21

21.3

21.4

21.1

21.2

PLATE 23

23.1

23.2

23.3

23.4

PLATE 24

24.3

24.4

24.1

24.2
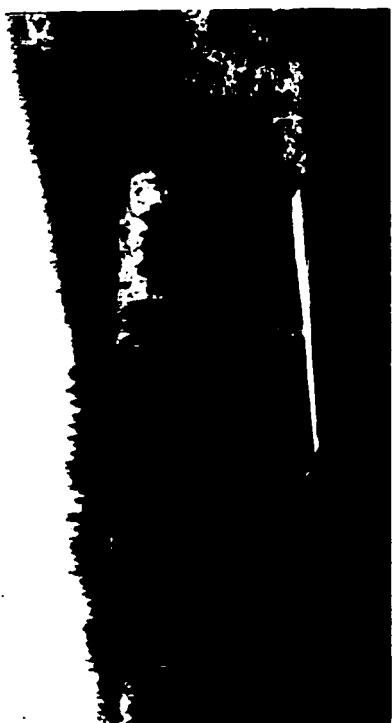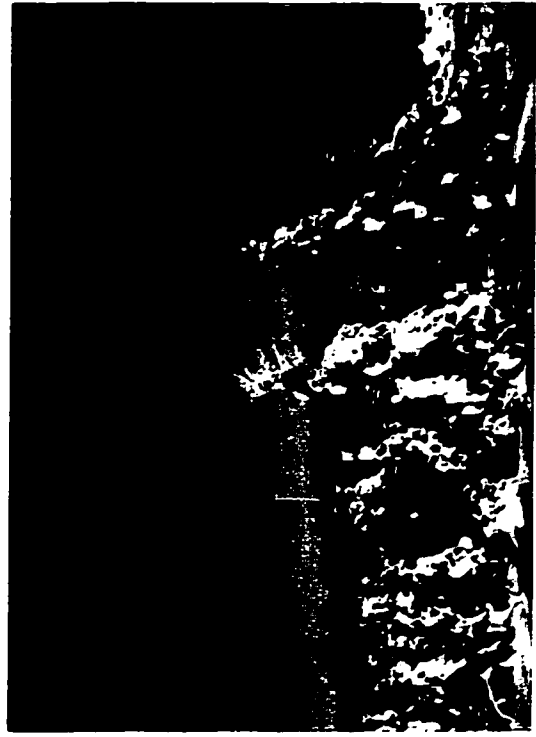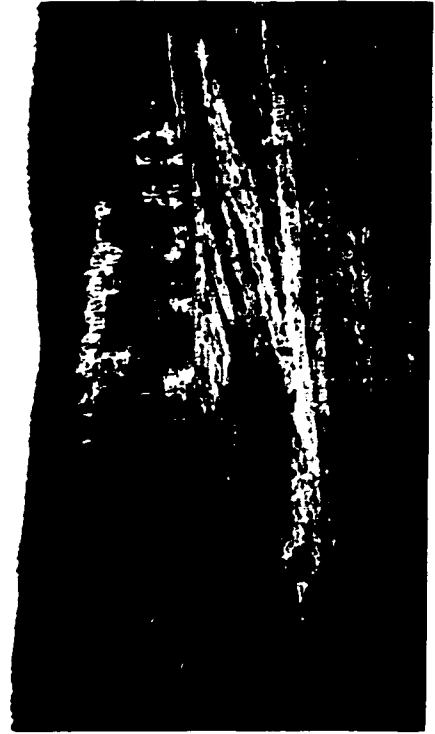
PLATE 25

25.3

25.4

25.1

25.2

PLATE 27

27.1

27.2

27.3

27.4

PLATE 28

28.3

28.4

28.1

28.2
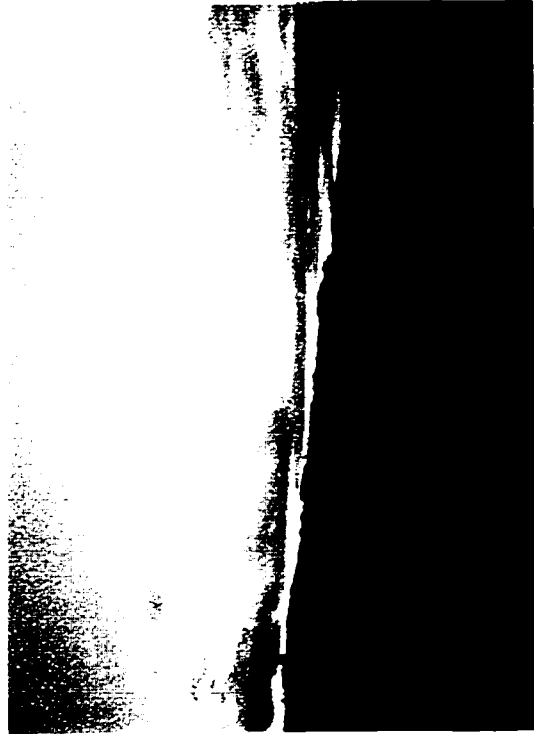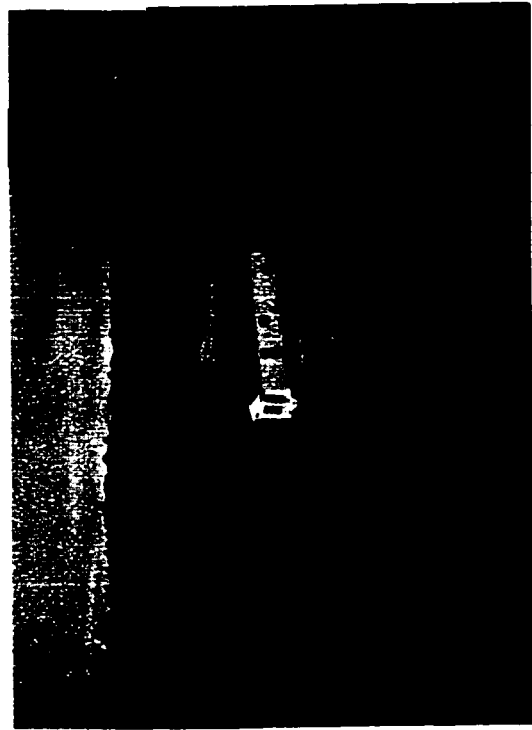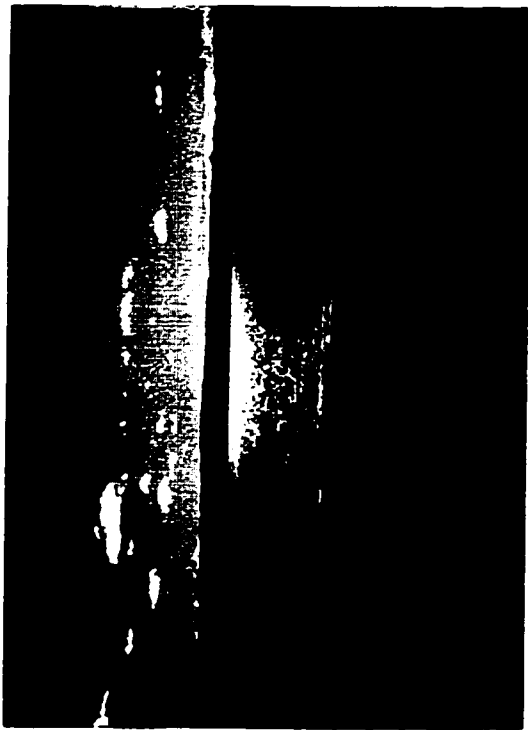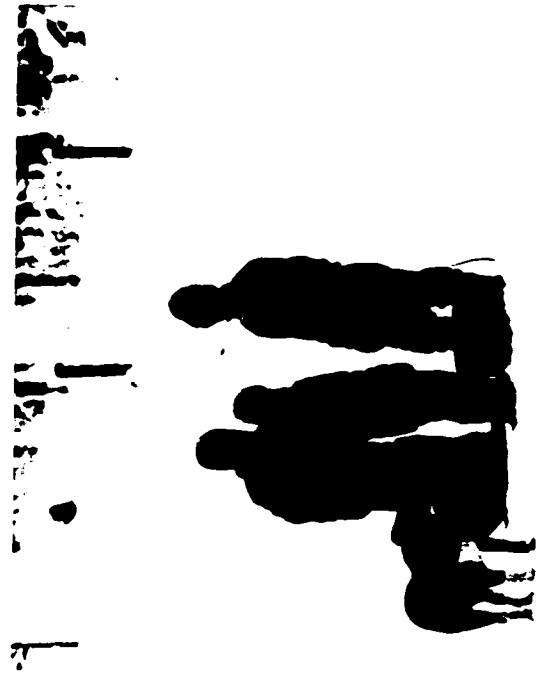
The ambivalent landscape

Through many of their images, participants expressed uncertainty or ambivalence. This ambivalence was expressed frequently in the images by including two or more landscape elements, locales or experiences in juxtaposition. These landscape images were expressions of feeling torn between two conflicting impressions. Sometimes these realms of ambivalence were specific to the Cariboo. I suspect, however, that the ambivalence of landscape has broader implications for landscape assessment, and landscape theory in general. I return to the broader implications in Chapter 6.

In this section, I present some of the ambivalent landscape images of participants revealed in this experiential study. Their presentation here serves to exemplify one of the serendipitous findings of this empirical study.

- **Farm settings and rural residences** One participant noted the potential incompatibility of maintaining productive agricultural activities and introducing residential development into these areas.

- **Road and lake** Another participant noted the ambivalence and incongruity in the peaceful serenity of the lake and the nearby road. Is it peaceful and pristine or isn't it?

- **Extractive activities near ecological site** One participant juxtaposed a harvested cut-block with a designated ecological site. He highlighted the importance of both resource extraction and in-situ resource protection, and the apparent "incompatibility" of these two activities, at least in such close proximity.

- **Forestry haul road into wilderness** The participant noted that a road appears to lead into the protected wilderness, but also that the road provided a possibility of danger if "a big logging truck came up from behind", a not uncommon occurrence.

- **Nature and culture** Are some locations important for natural reasons (the basalt outcrop) or for cultural reasons (the site of an HBC fort and a Native habitation site)?

- **Trees, forest and burner** The view from one participant's home offered a moment of solitude: a sleepy sky, winding road and lake; it also is the route to town – "the heart beat of humanity, belching thick globs of rotten egg smoke".

- **Economic activities and wilderness** The wilderness area in the photo is at risk from the plan to harvest the trees there; it is significant not so much because of what we see but because of what we don't know or understand.

- **Timber harvesting and park land** Through a series of photos, one participant noted that the "park" landscape is easily distinguished from the "non-park" one by the clear-cutting adjacent to the park. On the one hand, the clear cut makes the uncut park that much more impressive (as an initial view), and provides a way to discuss timber harvesting as an economic activity with his clients. On the other hand, it shows no signs of re-growth (in many years) and is likely not a healthy ecosystem.

- **Town and trees** (17.1) One participant noted his love for how his hometown looks: it fits into the mountain landscape, and offers all the services he as a citizen needs, but he does not like what it 'stands for'. "It is an ever present reminder of what has brought everyone here – greed, gold, escape".

A number of other images, although not so explicit as these examples, alluded to the ambivalence of landscape. If nothing else, these images highlight

that landscapes are both more and less than what we see (Meinig 1979). There is, indeed, more to assessing them than only considering the visual qualities that contribute to their positive aesthetics.

4.3 Discussion

In this section, I consider the outcomes of the experiential study in several ways. First, I discuss the landscape features and elements identified in this study -- what we like or appreciate (or not) in landscape -- and compare these to findings from other landscape research. Second, I discuss what this study revealed about what people do in 'assessing' landscapes. Three complex and interrelated dimensions of assessment can be seen in the participant-directed landscape imaging: instrumental evaluations, affective appraisals and sense of place descriptions. Third, I reflect upon the participant-directed imaging method, based on my own thoughts regarding the method and on feedback from participants in the study. Fourth, I identify the strengths and weaknesses of an experiential approach as exemplified by this study to set the stage for the synthesis discussion in Chapter 6.

Features and attributes of significance

Participants indicated a variety of important and meaningful phenomena. Some of these are similar to the characteristics and features discussed in the literature, such as the presence of water (Ramos and Aguilo 1988), the types and arrangement of vegetation (Schroeder 1991, Ulrich 1986), and landform (Killeen and Buyhoff 1983).

Participants also identified non-visual entities such as sounds and smells. Other researchers have stressed the importance of using senses other than sight when 'assessing' or studying landscape (Uzzell 1991). Carles and his

colleagues (1992), for example, explored people's preferences for landscapes. They presented landscape slides along with recorded sounds in various combinations and obtained ratings of landscape 'pleasantness'. They found that most of the environmental preference variation was dominated by the sound component, while the visual landscape played a subordinate role.

In addition to physical features or components, a number of qualities, such as 'naturalness' or 'mystery', and feelings such as 'tranquility', are reported in the literature as contributing to landscape preferences and appreciation (Purcell and Lamb 1984, R. Kaplan and S. Kaplan 1989, Herzog and Bosley 1992). The nature of the landscape features, elements and qualities of significance identified and shared by participants in this study seems to be broader than those typically identified, and other researchers have reported similar findings (Coeterier 1993, Hunziker 1995). Based on over twenty years of investigating how inhabitants of different regions in the Netherlands understand and perceive their landscapes, Coeterier (1993) has identified a set of salient landscape attributes. These landscape qualities noted by Coeterier (1993, 27) however, "are more narrowly defined in the literature than by inhabitants". For example, naturalness is not only or even primarily based on the presence of vegetation or the absence of human artifice (as much of the literature infers), but rather on the way a landscape has grown organically, as a living organism; in this respect old farms and sandy roads are seen as 'natural'.

In this study, participants distinguished a range of value attributions and meanings beyond conventional preference, or even visual enjoyment, noting other affective, instrumental and attachment responses. Purcell et al. (1994) found that even 'preference' is not a unitary concept; rather, people distinguish

between overall preference, preference as a place to live and work, and preference as a place to visit on vacation.

Dimensions of assessment

Participants attributed meaning and significance to landscapes of the Cariboo in a variety of ways; assessing landscape was not a unitary activity. Based on my interpretations of participant landscape images and on the interview discussions, three complex and interrelated dimensions of assessment emerge from the participant-directed landscape imaging: instrumental evaluations, affective appraisals, and sense of place descriptions. These dimensions are related to the various ideas of 'value' discussed by environmental philosophers (Ralston III 1995) and by environmental psychologists (Craik 1975, Wohlwill 1976).

Instrumental evaluations   Participants identified features, locales and experiences that were important for utilitarian or instrumental reasons. These phenomena were seen to contribute to economic progress or as a way for people to make a living (forest clearcuts and hayfields), or they were seen to carry out or be part of an ecological function important for life, including human (wetlands). That is, some landscape phenomena were evaluated based on their 'usefulness' to us or to others (even other organisms). This might be seen as an 'instrumental evaluation' on the part of the participants.

Affective appraisals   Participants identified features, locales, experiences that were significant because they were pleasurable or beautiful (colours), or made them feel excited (edge experiences) or serene (lakes); that is, important for the emotional response that being in the landscape (or place) engendered. This dimension can be seen as an 'affective appraisal' of the landscape or environment by participants.

Sense of place descriptions Participants identified features, locales and experiences that were significant because they contributed to or described the "sense of place" in the Cariboo. Sense of place was discussed in terms of the character of the place (what characterizes the Cariboo?) and also in terms of attachment to place (why or how are we or how am I attached to the Cariboo?) (Williams et al. 1992). In this study, three aspects of sense of place were revealed in participants landscape images.

- ◆ Inhabitants shared the significance of the past to the present in the Cariboo or **Landscape as Heritage**. They discussed how landscapes contain or comprise a legacy of human and natural activities and processes.

- ◆ Inhabitants shared the importance of the Cariboo as a place to live, work and play, or **Landscape as 'Way of Life'**. This category referred to the idea of home, one of the main realms of attachment, at several levels - the region as home, the community as home and the house as home; the idea of livelihood(s); and the idea of recreation opportunities.

- ◆ Inhabitants shared the importance of Cariboo landscapes as the result of natural and human processes, of **Landscape as Nature**. Geological processes and human endeavours underlie change in the Cariboo, and these contribute 'naturally' to its character.

People also characterized the Cariboo by making comparisons to adjacent regions, such as "The Clearwater" and "The Chilcotin" and to more distant regions or places, such as the Lower Mainland (of British Columbia), the Prairies and Ontario. Differentiating the Cariboo from other places was one way participants described the Cariboo. One participant noted that even though he and his family were situated 'closer' to another regional centre, they felt more a part of the Cariboo. No map was shown to participants, nor was the region defined in the instructions for the imaging procedure, but participants knew what (where) was meant by 'the Cariboo'.

There was also a temporal dimension to participant comparisons. Two of the three participants who made comparisons had been 'inhabitants' of the

region for about 2 years. It seems that developing what might be called an insider perspective not only takes time, but is a process of comparing and contrasting places, or sense of places. The development of sense of place appears to involve time and comparisons to other places. Whether this is the case in other places, or is part of the Cariboo, remains an area for further research. The notion of familiarity (which would include the duration of experience in a place) in sense of place and landscape perception has received some attention (Wellman and Buyhoff 1980, Williams 1985).

Two participants, one born and always residing in the region, and the other a resident for more than 45 years, made comparisons in a different way. They compared the Cariboo of the past to the Cariboo of the present, and conveyed the sense that they were talking about different 'places'. As Lowenthal (1985) would say: the past is a foreign country.

Some of the 'images' discussed by participants in their characterizations of the Cariboo have also been part of the marketing of the Cariboo by the media and in tourist advertisements. Most notable in this regard is the ranching – horseback riding images, which are used to convey a 'come to the Cariboo for a true Western experience' message. This leads me to the question whether inhabitants were sharing their own images of the Cariboo based on their lived experience (which might be considered 'authentic'), or images gleaned from the media. Does a personally-experienced sense of place differ from a media-created sense of place? How are the two related in place-making? These are two questions for further research.

The story about the Cariboo provided by the participant-directed landscape imaging is not about what people think is beautiful, meaningful or significant about landscapes in general, which they then 'apply' to or look for in a particular place (the Cariboo). Rather the attribution of significance arises

from place, with the Cariboo itself, and the beauty, meaning and significance that participants discuss are part of and inextricably tied to this particular place. Place and sense of place were dominant themes in this study.

Reflection on participant-directed landscape imaging

Based on my experiences with having directed 40 people through participant-directed landscape imaging in this study, I offer some reflections on the method.

(i) People wanted to express their attachments to and perceptions of landscape, and valued and enjoyed the opportunity to do so. Most of the people initially contacted in this study enjoyed finding out more about the self-directed photography, and looked forward to taking pictures, despite some initial reluctance because they believed they were not very good photographers. Participants, as community citizens, highlighted two valuable aspects of the method: personally, as a creative and emotional expression of their attachment to the Cariboo, and publicly, as a way to improve resource and environmental management and decision making based on local information. The research / assessment process itself was thus seen by participants as an outlet for personal creativity and reflection, and as an a useful source of local insight.

(ii) Without being specifically directed to do so, participants captured and commented on what they do not like in landscape - phenomena that are significant or important because of their negative associations and meanings. Sometimes the negative perspective included a suggestion for mitigation: one participant noted how we might 'improve' a 'damaged' landscape. Part of this may have been due to the role which some participants attributed to me: a researcher who would pass on recommendations to decision makers.

(iii) Attributions of significance were personal (how it makes me feel), interpersonal (how it might make other inhabitants or tourists feel), and shared (how it makes us all feel). Some of the expressed ambivalence may have been a result of sensing a mismatch between these attributions – that what is good for me personally, may not be so for other inhabitants or those who do not reside here.

(iv) Participants used various 'tones of expression' which were difficult to convey in presenting results, but which were particularly informative during analysis and interpretation of the landscape images. During discussions, participants were at times emotionally intense and at other times reflectively cognitive, for example. These different modes of behaviour were helpful to me in interpreting themes and meaning, and likely reflect a participant's personality, particular mood, or some other circumstance. To the extent that the context for the research implied was one of 'academic interest' more than 'information gathering for resource management', participants may have been more forthcoming and expressive. In a more formal 'planning' context, participants might not respond in this way.

Weaknesses and strengths of the experiential approach

Weaknesses   The participant-directed landscape imaging process was time consuming, in terms of the length of time that participants retained the cameras (data collection) (over 6 months) and in terms of the time required for analysis (many weeks). For practical purposes, the data collection procedure would need to be streamlined. One way of doing this might be to hold focus groups or some other group process rather than an individual in-depth interview. It is difficult to know, however, how much of the time was necessary to obtain sufficient and informative data, and how much was a result of 'treading new ground'.

Analysis was not only time consuming, but also demanding in terms of skills. The learning process required to comfortably analyze the data was long and challenging. Theme recognition and coding required numerous iterations, constituting a particularly rigorous phase of analysis. Yet, these characteristics are a recognized part of qualitative and experiential data analysis (Denzin and Lincoln 1994). Methodologically, at least, this approach might be considered 'expert', not because of the data collection procedures or whose landscapes are considered, but because of the analytical skills required.

In using a photography exercise, such as participant-directed landscape imaging, there remains the risk of 'perpetuating the visual', that is of maintaining a focus on the visual aspects of landscape. Less explicit attention to ensuring this did not happen (as discussed in Chapter 3) might not have revealed a multi-dimensional landscape.

Strengths   This study demonstrated one strength of an experiential approach as discussed in Chapter 2: sensitivity to landscape variation and differences. The approach revealed the richness of landscape through a variety of images and associative, emotional and other attributions of value, likely capturing what 'really' is important, and hence providing a more valid approach to the assessment of landscape. Taking an experiential approach requires an openness to, rather than the narrow definition of, values to be 'assessed' or landscapes deemed important.

Despite the time-consuming nature of the method employed in this study, there were indications that its use in practice is considered feasible. One manager noted that the cost of single-use cameras was not prohibitive, and indeed appeared to be a rather inexpensive way to get information. As mentioned earlier, however, qualitative experiential analysis is challenging,

and an emphasis on the visual could remain if analysis is approached in a more conventional way.

The experiential study offers theoretical contributions regarding landscape appreciation and perceptions. Appreciation as interpreted in this research appears to be constructed in an ongoing manner, based on the multi-sensory experience of dynamic landscapes. Evaluations or appraisals are not 'final' but reflect the state of our constructions at some point in time. Hodgson and Thayer (1980, 171) note in this regard, that landscape perceptions are not "passively registered" but are, rather, "actively constructed". This active construction involves complex and overlapping "fields of meaning" (Coeterier 1993, 42).

A landscape is significant not only because we prefer how it looks (which conventional assessments try to ascertain), but also for how it feels to be there or what it looked like before or whether something 'fits' the place, and most significantly, for all of these at the *same* time. This is the richness of landscape.

The richness and dynamism of landscape sometimes leaves people feeling ambivalent. This ambivalence suggests, perhaps, that landscapes and our constructions of them change on an ongoing basis due to contextual factors. People recognize the uncertainty, the 'good' and the 'bad', the pleasant and the not-so-pleasant because of the context: we cannot just make an appraisal of 'goodness' (or beauty). But, 'goodness' *for what*. It may be good to view, but bad for organisms to live in. Any action to change the landscape or environment would require a process of negotiation (both within the person and among people), and not just assessment, to recognize and deal with intent and context. The down-side of this is that it creates even more uncertainty for planners and managers who want to be able to identify and map valued landscapes with greater certainty.

The theoretical literature has tended to focus on the biological predisposition of human attraction to certain landscapes, and on the cultural conditioning of appreciating certain landscapes. Likely, our attraction to and appreciation of landscape have both a biological and cultural component, but more significant, I believe, is that our experience is mediated by context, most notably 'place'. We may be attracted to water, but how water exists in a place and how it is experienced defines that attraction. It is in this regard that phenomenological and other philosophical explorations of perceptions of place and our surroundings can be seen as compatible with the landscapes revealed here (Davis 1992, Abrams 1997).

Increasingly, traditional 'top-down' approaches are seen as a barrier to 'good' planning and management, emphasizing an impossible objective position, highlighting expert and scientific information, and reinforcing power hierarchies. An approach to identifying values that is 'bottom up' can be seen to legitimize or at least acknowledge the importance of local knowledge in addition to scientific and technical knowledge, and offers an avenue for broadly based participation in planning and management.

Using an experiential and reflective approach, such as participant-directed landscape imaging, changes the nature of landscape assessment from a procedure performed *on* landscape to an activity carried out *in* landscape. It allows for the research process to become important - not just as a means to gather information relevant to resource decision making, but as an end in itself, for creatively and reflectively encountering the place where one lives, works and plays.

An experiential approach, such as that offered by participant-directed landscape imaging, reveals a richness of landscape, a landscape in which people live and to which people are attached in a variety of ways. Despite the time-

consuming data collection procedure and the skill required for analysis, it offers

a reflective way to gain insight into how people respond to and experience

landscapes.

Chapter 5:
British Columbia Ministry of Forests'
Visual Resource Management as an Expert Approach:
an Analysis

5.0 Introduction

Resource management, and policy and statutes, have recognized aesthetic value since the 1960s and 1970s, as discussed in Chapter 2. Management programs and assessment procedures have evolved for considering the aesthetic aspect of the environment as a 'visual resource'. These procedures and programs are generally categorized as 'expert' approaches to landscape assessment. In this chapter, I examine one such program: visual landscape management in the British Columbia Ministry of Forests. In the experiential study, I developed and used an experiential method (the participant-directed landscape imaging). Here, I present a second study. In it, I review and analyze the use and outcomes of an existing method, resulting in a different perspective.

First, I examine the policy context in British Columbia and situate landscape assessment within forest resource management. Then, I outline the Ministry of Forests' Visual Landscape Management (VLM) program and examine its first phase, the Visual Landscape Inventory, in greater depth. I focus on the inventory process and its procedures and examine its application, using examples and outcomes from the 100 Mile House Forest District in the Cariboo Region. The inventory, as the initial phase in visual landscape management, is the foundation for subsequent visual analysis and design phases.

5.1 Policy context for landscape assessment in British Columbia

The need to consider the aesthetic dimension of the environment is recognized in several environmental management and related policy areas in British Columbia. The *Environmental Assessment Act* (EAA) (British Columbia 1994) stipulates that existing environmental, economic, social, cultural and heritage characteristics and conditions that may be affected by a proposed project be described; that potential direct and indirect adverse effects be assessed; and that the means to prevent or mitigate adverse impacts be evaluated. Scenery and aesthetics are included as 'characteristics and conditions' affected by proposed projects and for which 'adverse effects' need to be assessed and mitigated. How they are described, assessed or mitigated for impact assessment varies on a project-by-project basis, however.

As part of the Provincial Land Use Strategy, the Provincial Land Use Charter suggests that attention to aesthetic values is needed in land use planning. The Charter commits the province to "fostering opportunities to ...enjoy a quality environment", which the Land Use Goals define as including 'scenery' (British Columbia Commission on Resources and Environment 1994, iii). As a result, broader land use planning processes increasingly integrate visual aesthetic considerations.

Ministry of Forests statutes and policies require attention to the aesthetic dimension of landscape in forest management and planning. Ministry of Forest policy is more specific in referring to aesthetic landscape. The statutory authority for aesthetic landscape management derives from the

conceptualization of aesthetic values as a 'visual resource'[45]. This conceptual

perspective is reflected throughout the landscape management process.

Scenic landscapes are one of the integral resources of British Columbia's

forested lands (British Columbia Ministry of Forests 1981, 1994c, 1997a). The

Forest Act of British Columbia sets out the Ministry's responsibilities for

integrated management of forest, range and recreation resources on the public

lands of British Columbia, outside of settlements and protected areas (British

Columbia 1979). Since provincial public land includes over 85% of the provincial

land base (over 50 million hectares), the Ministry of Forests is responsible for

stewarding much of the province's land, and thus, has a significant influence on

aesthetics in the province.

In response to widespread concern and conflict over the use of land and

resources in the province, the provincial government introduced an integrated

strategy for land use planning and resource management in British Columbia in

the early 1990s. The *Forest Practices Code* Act of British Columbia revised

substantially existing forest regulations, policies and practices, with the goal of

ensuring good stewardship of provincial forests (British Columbia 1995). The

Code specifically situates landscape assessment within the forest management

mandate of the Ministry of Forests, defining forest resources to include

recreation resources, and recreation resources to in turn, include 'amenity'

resources such as scenic or visual resources[46]. Thus, aesthetic appreciation is

set within a recreation resource management context.

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[45] The idea of aesthetics as a resource has been critiqued by scholars (for example, Evernden (1981) and while I do believe that considering aesthetics as a 'visual resource' is problematic (see Chapter 6), I use the term uncritically in this discussion.

[46] Landscape features, scenic areas and visual resources each have 'official' definitions, and are not synonymous in visual resource management.

Evolution of visual resource management in British Columbia

This section describes the development of visual resource management in

British Columbia. In Table 5.1, I provide a brief chronology of the documents

and initiatives that are the basis of this discussion.

Table 5.1. Chronology of documents and initiatives

1981	*Forest Landscape Management (FLM) Handbook* (BC MoF 1981) published and FLM system initiated
1982	The Recreation (management) Manual developed (Chapter 11) dealing specifically with inventory
1991	Visual Landscape Management (VLM) program replaces FLM - more systematic, detailed approach Recreation Manual review (includes inventory)
1992	Commission on Resources and Environment (CORE) established to deal with province-wide resource planning issues Cariboo Chilcotin Land Use Plan (CCLUP) planning process begins
1994	*Visual Landscape Management Design Manual* (BC MoF 1994a) published
1995	*Forest Practices Code Act* (BC 1995) established Cariboo Chilcotin Land Use Plan (CCLUP) completed and adopted
1996	*Visual Landscape Inventory: Procedures and Standards Manual* (BC MoF 1997a) published Sub-regional planning process begins in the Cariboo (100 Mile House District)

Recognizing that "scenic quality is a major factor" (British Columbia

Ministry of Forests 1981, i) in the enjoyment of recreation resources, the

Ministry of Forests published the Forest Landscape Handbook in 1981. It

introduced the Forest Landscape Management (FLM) system, and set out basic

principles for visual landscape management to "address the visual impacts of

logging activity on the landscape and to incorporate measures to harmonize

such impacts" (British Columbia Ministry of Forests 1981, 3). The focus was on

insuring that "modifications are compatible with existing (scenic) landscapes"

(British Columbia Ministry of Forests 1981, 28).

The Handbook, and associated policy in the form of the Recreation Manual in 1982, were milestones that set out for the first time in British Columbia the goals and objectives of forest resource management to recognize visual values as part of the recreation resource, and to minimize adverse visual impacts. The Ministry of Environment developed procedures for assessing landscapes at this time as well (Yeomans 1983)[47]. The origin of both lies in the pioneering work of the United States Forest Service in the 1970s which has formed the basis of applied landscape assessment in North America since then (British Columbia Ministry of Forests 1994a).

The five-step process outlined in the Handbook involved the following steps:

- Landscape Inventory of visible areas, features and sensitivity
- Detailed Landscape Analysis of site and "visual quality objectives" (VQOs) for sensitive areas
- Landscape Design to meet the VQOs
- Logging and silviculture prescriptions to implement the design
- Follow-up of post-development alterations.

This process was directed towards "persons responsible for implementing landscape practices, such as forest officers, industry foresters and forest technicians" (British Columbia Ministry of Forests, 1981, 7). It was deemed discretionary, "to be applied in part or in whole, and in varying degrees...depending on the sensitivity of the situation" (British Columbia Ministry of Forests 1981, 28). Throughout the 1980s, inventories were prepared and visual quality objectives established, following the Handbook process. Since it was discretionary, implementation of the process varied in different regions, and was not systematically applied.

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[47] Despite the detailed procedure for assessment in Yeomans (1983), the Ministry of the Environment program has not evolved as has the Ministry of Forests' program.

Between 1991 and 1995, the FLM system was expanded and revised into

a six-phase Visual Landscape Management (VLM) process to guide visual

resource management across the province. The aim of the revision was to

clarify and systematize, and to "use more objective criteria" for landscape

assessment and management. Table 5.2 outlines the current phases of the

process and their purposes.

Table 5.2 Visual Landscape Management Process

1. Visual Landscape Inventory	- to delineate and classify provincial land into 'visually sensitive areas' (VSAs) or 'not visually sensitive areas' (NVSAs) - to delineate visually sensitive areas into visual sensitivity units (VSUs) and classify them in visual sensitivity classes (VSCs)
2. Visual Landscape Analysis	- to identify implications and options of development to recommend visual quality objectives (VQOs), which are "acceptable levels of landscape alteration" - model current management practices
3. Establish objectives, priorities and guidelines	- to consider visual values and recommended VQOs in planning decisions - to establish visual quality objectives, visual priorities and landscape guidelines to give direction to visual landscape design and forest practices
4. Visual Landscape Design	- to develop feasible visual landscape design solutions to meet approved VQOs - to carry out visual impact assessment
5. Implementation	- to carry out on-the-ground forest practices which implement visual landscape design solutions to achieve visual conditions to meet approved VQOs
6. Monitoring	- to inspect and evaluate forest practices to confirm what visual conditions have been achieved

(adapted from BCMoF 1994a)

This process and the procedures and standards developed within it currently guide visual management across the province. There are no local or regionally specific processes for undertaking landscape assessment, or locally established methods[48].

The *Forest Act* requires the Ministry of Forests to develop and maintain an inventory of lands and forests, and to assess and classify land for different uses, including recreation (which encompasses visual resources, as discussed earlier). Over the past several years, greater emphasis[49] has been placed on developing and monitoring procedures for ensuring complete and detailed inventories of forest resources; better inventory, it is believed, will provide better information about the resources, leading to more effective decision making for management. A resource inventory branch within the Ministry of Forests has been established, and a number of resource inventory committees are working on improving inventory procedures and standards. Recent efforts have resulted in changes to the inventory procedures for most forest resources, including visual resources. The *Visual Landscape Inventory Procedures and Standards Manual* (British Columbia Ministry of Forests 1997a) is the outcome of these efforts. The inventory procedure has evolved from the Handbook's three-page inventory guidelines into the Manual's current 80+ pages.

Regional and sub-regional planning processes have also paid increasing attention to aesthetic values. The value of scenic landscapes to communities,

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[48] No other ministry or sector has a systematic process for considering the visual (aesthetic). The Ministry of Forests' program sometimes serves as the basis for other processes and the inventory, for example, has been 'borrowed' by other sectors (for example, the Ministry of Small Business, Culture and Tourism).

[49] Ongoing conflict over the allocation and use of resources and increased demand for forest (timber), range and recreation resources across the province has provided the impetus for this emphasis.

recreationists and the tourism industry is generally the focus of and rationale for doing so (Hamilton 1996).

Within these processes, aesthetic values are generally included through zoning. Aesthetic (visual) values are seen as important in 'Special Management Zones', and are one of the values that may lead to a special zone designation. Nonetheless, timber values have remained a priority – not surprising in a Ministry of Forests. In the Cariboo-Chilcotin Land Use Plan (Government of British Columbia 1994, 1995), for example, the focus of the 'resource targets' established for all zones is expressed in terms of 'type of harvesting method' over various percentages of the land base.

Where regional and strategic land use plans[50] are designated (via parliamentary decision) as 'higher-level plans', they provide direction for (lower level) plans. In the case of forestry, these lower levels are resource development plans called Forest Development Plans, prepared by licensees for their license or tenure areas[51]. These Forest Development Plans must conform with direction (via objectives) established by the 'higher level' planning processes using information provided by the Ministry of Forests through various inventories. In this way, the visual landscape inventory feeds into the physical development of the resource.

Some planning efforts have explicitly dealt with 'visuals' and scenery. For example, the Sea-to-Sky Local Resource Use Plan (LRUP) was prepared to "ensure visual resources (forested landscapes) are fully recognized and

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[50] Examples are the Cariboo-Chilcotin Land Use Plan and the Kamloops Land and Resource Management Plan (LRMP).

[51] While the government (Ministry of Forests) has ultimate responsibility for ensuring provincial forest resources are managed appropriately, tenures and licenses are granted to individuals or companies for resource development on the provincial forest land base.

addressed in forest harvesting and management plans" along the Highway 99 corridor, between Vancouver and Whistler (British Columbia Ministry of Forests 1991, i).

In 1993, the Clayoquot Sound Land Use Decision, following several years of confrontation between various groups, was released and required that more than 17% of the area be 'specially managed' with most of the area so designated to be managed as 'scenic corridors' (Hamilton 1996). The Scenic Corridors Planning process ensued, resulting in a Scenic Corridor Management Plan for the area that established visual zones and direction for the acceptable level of visible alteration allowed in each zone (Hamilton 1996).

In summary, the Ministry of Forests has a major role in dealing with the aesthetic in the environment, within British Columbia. Since the early 1980s, this Ministry has considered aesthetic values specifically through 'visual resource management', using increasingly detailed and systematic procedures. As land use planning and resource management have become increasingly integrated in the province over the past several years, Ministry of Forests procedures and policy, such as visual resource management, inform land use planning and management more generally.

5.2 Visual Landscape Inventory (VLI) in the Cariboo

In this section, I present the detailed examination of the visual landscape inventory, which serves as an example method within an expert approach to landscape assessment. I did not use the method myself. Rather, I examined the method and outcomes from assessments in the Cariboo region, and specifically in the 100 Mile House District (Figure 3.2). My discussion is based on review of policy and procedure documents, primarily, but also on

discussions with key informants. I also attended a two-day Visual Design Workshop and sub-regional planning meetings as a participant-observer.

As the initial phase in the visual landscape management process, the inventory "identifies, classifies and records (maps) the visual conditions, characteristics and sensitivity to alteration of areas and travel corridors throughout the province" (British Columbia Ministry of Forests 1995c, 4). The inventory provides visual resource information for decision makers and forest licensees to use in forest development planning. The procedures and standards for the inventory are laid out in the *Visual Landscape Inventory Procedures and Standards Manual* (British Columbia Ministry of Forests 1997a).

A number of participants are involved, directly or indirectly, in the inventory process, and have varying roles, as outlined in Table 5.3. This table also indicates the number of individuals in the role listed who were key informants. They have been integral to my understanding of how 'landscape assessment' and especially the inventory are done in British Columbia and in the Cariboo Region.

Table 5.3   Participants in Visual Landscape Inventory

Who?	What?
Branch (1)	- establish policy, standards and procedures
Region (1)	- assist in policy matters and broad-scale assessment
District (5)	- carry out broad-scale assessment (map visually sensitive areas)
Consultant (2)	- carry out detailed assessment (map visual sensitivity classes)
Public *	- review maps; provide input for assessments

* no individual members of the public were interviewed, rather they were informally consulted throughout the research, and especially at the public meetings

Besides providing an informational base for forest development planning, the inventory is part of the Recreation Resources Inventory (RRI), as depicted in Figure 5.1. It is one of four essential themes of the RRI.

Recreation Opportunity Spectrum Inventory *	Visual Resources Inventory	Recreation Features Inventory *	Recreation Facilities Inventory *
	— Visual Landscape Inventory *	— Trails and Routes Inventory ⊢ Rivers Inventory — Caves Inventory	— Managed trails Inventory — Managed sites inventory ⊢ Interpretive Forest sites Inventory — Recreation Demand Information

Ministry of Forests Recreation Resources Inventory

* Twelve themes make up the inventory, but only four are deemed essential to maintain an up to date recreation resources inventory. These four are indicated with asterisks.

Figure 5.1   Visual Landscape Inventory in Recreation Inventory
(adapted from BCMoF 1997a)

There are two phases in the Visual Landscape Inventory, depicted in Figure 5.2. The first, the broad-scale assessment, involves an initial classification of the land base into 'visually sensitive areas' (VSAs) and 'not visually sensitive areas' (NVSAs) based on specified criteria. The broad-scale assessment phase and its outcomes are further discussed in the next section.

The second phase, the detailed assessment, is carried out only for areas classified as 'visually sensitive'. In these areas, detailed assessment involves delineating the landscape into smaller 'visually sensitive units', describing these units and assigning them a sensitivity classification rating based on the

evaluation of specific landscape parameters. This phase and its outcomes are

further discussed in a subsequent section.
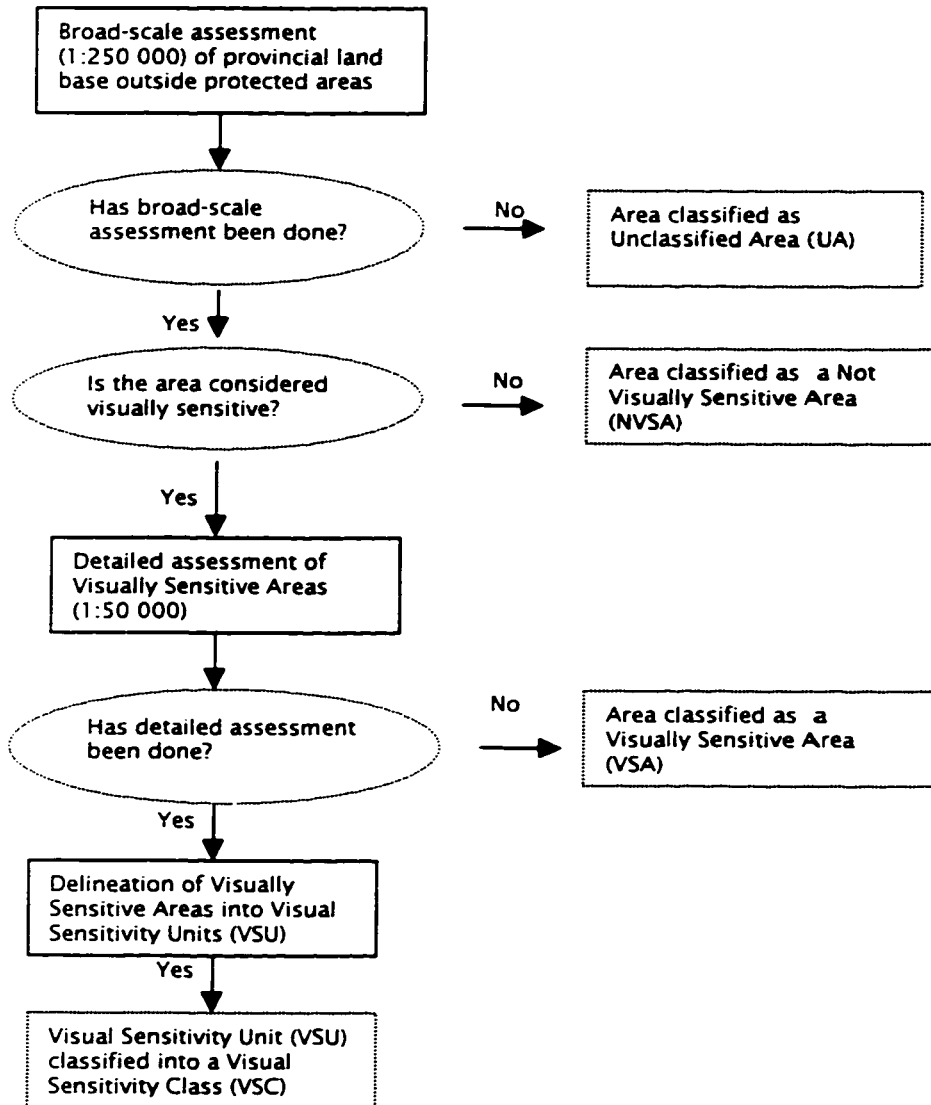
Figure 5.2 Broad-scale and detailed assessment process in Visual Landscape Inventory

(from BCMoF 1997a)

Broad-scale assessment

The broad-scale assessment is "largely an in-office mapping exercise" (British Columbia Ministry of Forests 1997a, 10), carried out by in-house Ministry staff, and expected to take about 2-3 days. The outcome is a map (at about 1:250 000 scale) of Visually Sensitive Areas, at a district level. The Visually Sensitive Areas for the 100 Mile District are depicted in Figure 5.3. Note that this map depicts the visually sensitive areas in terms of their visual sensitivity ratings, the outcome of the detailed assessment process.

Classification of an area of land as 'visually sensitive' or not involves assembling information and then mapping areas which conform to specified "biophysical and social attributes" (British Columbia Ministry of Forests 1997a, 11). Table 5.4 lists the criteria (attributes) used to assess the land base for areas that are visually sensitive. These criteria form the basis of the 'rationale statement' on the Visually Sensitive Area Classification Form (Figure 5.4).

Legend

—— Forest District Boundary

Visual Sensitivity

High

Medium

Low

LAKE

Not Visible / Private Land

10   0   10   20   30   40   50   Kilometers

Figure 5.3 Visually Sensitive Areas: 100 Mile House District
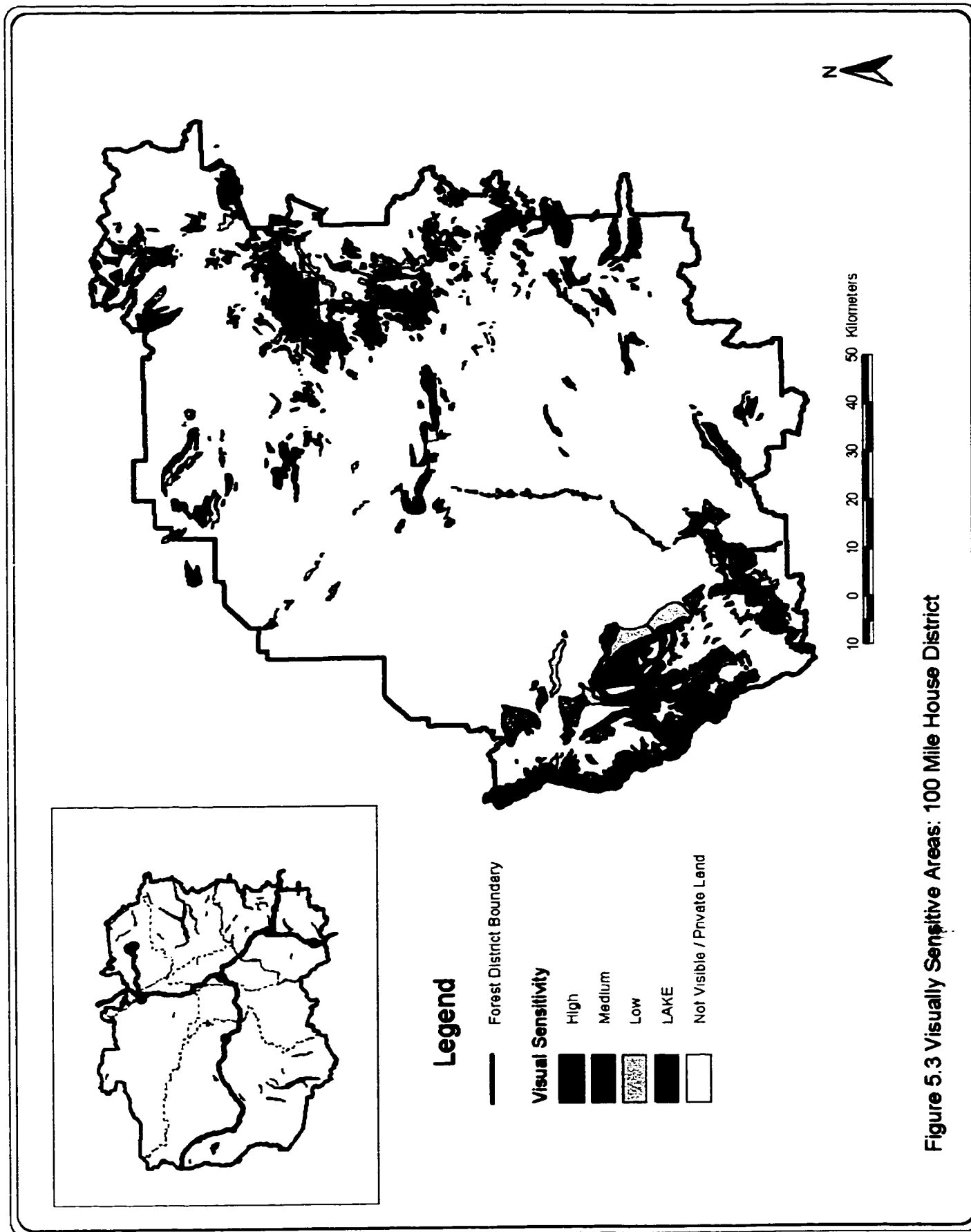
Table 5.4 Criteria for classifying land into visually sensitive areas

(from BCMoF 1997a)

Unclassified	Visually Sensitive Area (VSA)	Not Visually Sensitive Area (NVSA)
- Areas outside jurisdiction (for example, private land, federal crown land, parks and protected areas)	1 Areas visible from communities, public use areas, travel corridors 2 Areas seen by a large number of viewers 3 Areas where public expectation for scenic quality is well above average (for example, viewshed around backcountry lodge, tourism destination, highway rest stop) 4 Areas containing regional or local topographic features that are valued by the public 5 Areas with inherent visual or scenic value 6 Areas identified as visually sensitive or scenic through referral or planning processes such as, Commission of Resources and Environment direction, land and resource management plans) 7 Areas identified by previous Visual Inventories 8 Areas of proposed new highway routes or changes to alignment 9 Areas visible from important high elevation viewpoints 10 Areas identified by tourism operators or by Ministry of Small Business, Tourism and Culture as important for tourism 11 Areas adjacent to high-use Forest Service roads which lead to popular recreation areas 12 Areas around important recreation features that attract the public 13 Other	- Areas with no potential to be visually altered by human activities between inventory updates. For example, relatively inaccessible areas, with no commercial forest or mineral potential - Areas not possessing any characteristics identified under visually sensitive areas

Visually Sensitive Area Classification Form

1. Forest District Code:			3. Date:		5. NTS/BCGS Map Number:
2. Rated By:			4. Project Number:		6. NTS/BCGS Map Scale:

7. VSA #	8. Cross Mapsheet #	9. VSA Name	10. VSA Code	11. VSUs Classified (Y/N)	12. VSA Rationale Statement

Figure 5.4 Form for recording classification information and rationale

(from BCMoF 1997a)

There are no guidelines for determining how many people make up 'a large number of viewers' (#2), or what constitute 'well above-average' public expectations (#3). These are determined by staff as they carry out the inventory. In the 100 Mile House District, visually sensitive areas are primarily areas accessible from two major provincial highways (Hwy 97 and Hwy 24 – Figure 5.3), meeting criteria 1, 2, 3. Additionally, a large number of viewers (#2) was specified as "twenty plus" resident viewers to delineate areas along some roads off the main highways.

The broad-scale assessment is the foundation for visual landscape management: it identifies areas that require detailed assessment, landscape guidelines and visual quality objectives, and visual design and visual impact assessments.

Detailed assessment

Areas delineated as visually sensitive through the broad-scale assessment undergo a detailed assessment to provide more detailed information (and at a larger scale – 1:50 000) for development planning (for example, timber harvesting). While the broad-scale assessment can be carried out without actually visiting or viewing a landscape, the detailed assessment requires field visits. More time is required and generally, more expertise is considered necessary; hence, this part of the assessment is often contracted to independent consultants who understand the Ministry procedures. It is at this level that the landscape assessment can be seen to derive its categorization as 'expert'.

Detailed assessment (Figure 5.5) involves three elements: identifying the visible or 'viewed' portion of the visually sensitive area, delineating the large visually sensitive area into smaller visual sensitivity units, and assessing and

classifying the viewed units using specified landscape parameters from pre-

determined 'visual rating points'.

```
┌─────────────────────┐
│ Broad-scale         │
│ Assessment          │
└─────────────────────┘
       │             │
   Non-VSA      Visually Sensitive
                Area
                      │
            ┌─────────────────┐
            │ DETAILED        │────────  Delineate visually
            │ ASSESSMENT      │          sensitive units (VSU)
            └─────────────────┘
                                              ▲
                                         Establish unit
                                         'rating points'

                                         Describe and
                                         rate each VSU

                                         Classify into visual
                                         sensitivity class (VSC)
```
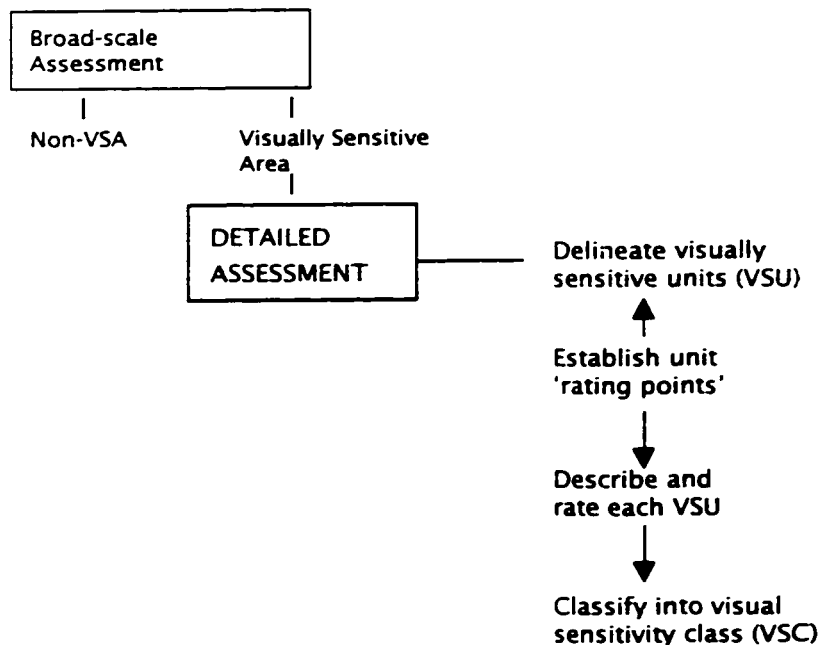
Figure 5.5   Elements of detailed assessment

Delineating visual sensitivity units begins with ascertaining the visible

portion of the landscape area, either through field observation or through

computer-generated visible area plotting using digital terrain models. Figure 5.6

provides an example of inventory information for a visually sensitive area in the

Interlakes area (Figure 3.2). For the visible portions of the landscape area,

smaller Visual Sensitivity Units are outlined (Figure 5.6a). These are

topographically distinct areas "based on the observed homogeneity of the

landform and the biophysical elements of the scene" (British Columbia Ministry

of Forests 1997a, 15). A 'complete' visual sensitivity unit as observed in

perspective view might appear as separate 'visible' areas when mapped in plan

view, since not all of the land is actually seen (Figure 5.6 b, c and d).

Figure 5.6   Visual sensitivity unit inventory data: a sample

(a) Map A: Visual sensitivity

The form and information in Table 5.5 is used to
determine the visual sensitivity of the VSA

VLI Sensitivity

- High
- Medium
- Low
- Non visual

(b) Photographic panorama
Photos are taken (from
viewpoint 18 - see Map B)
and a panorama created.

(c) Map B: Visible Areas

Based on what can be seen from the viewpoint, visible areas are mapped.
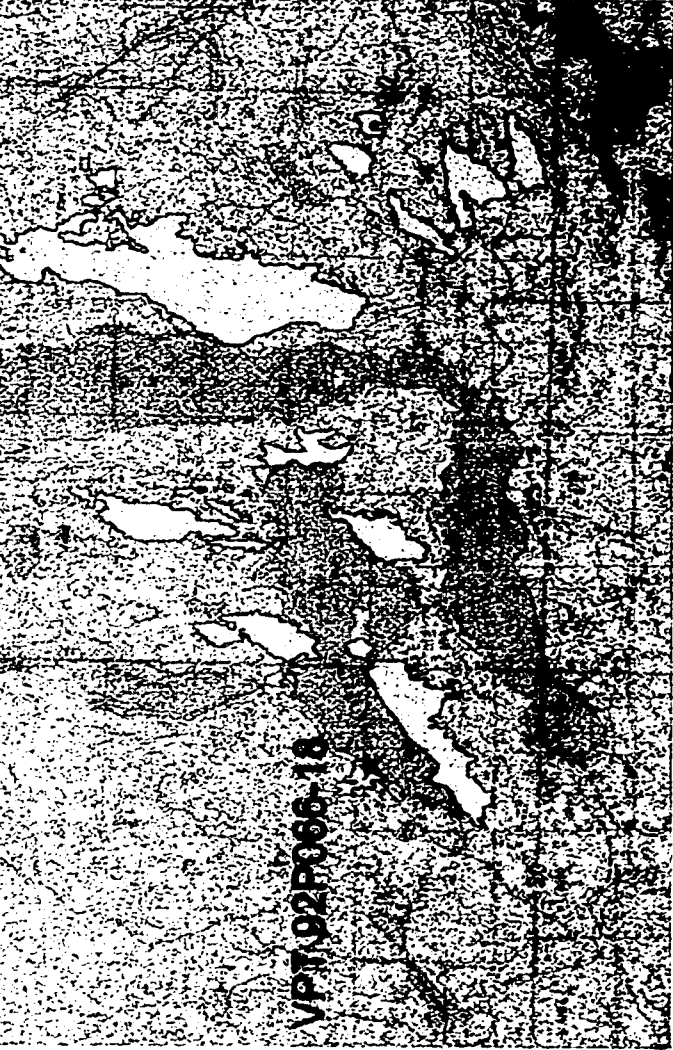
(d) Map C: Final sensitivity rating

Map A and Map B are overlain to determine the visual sensitivity units.
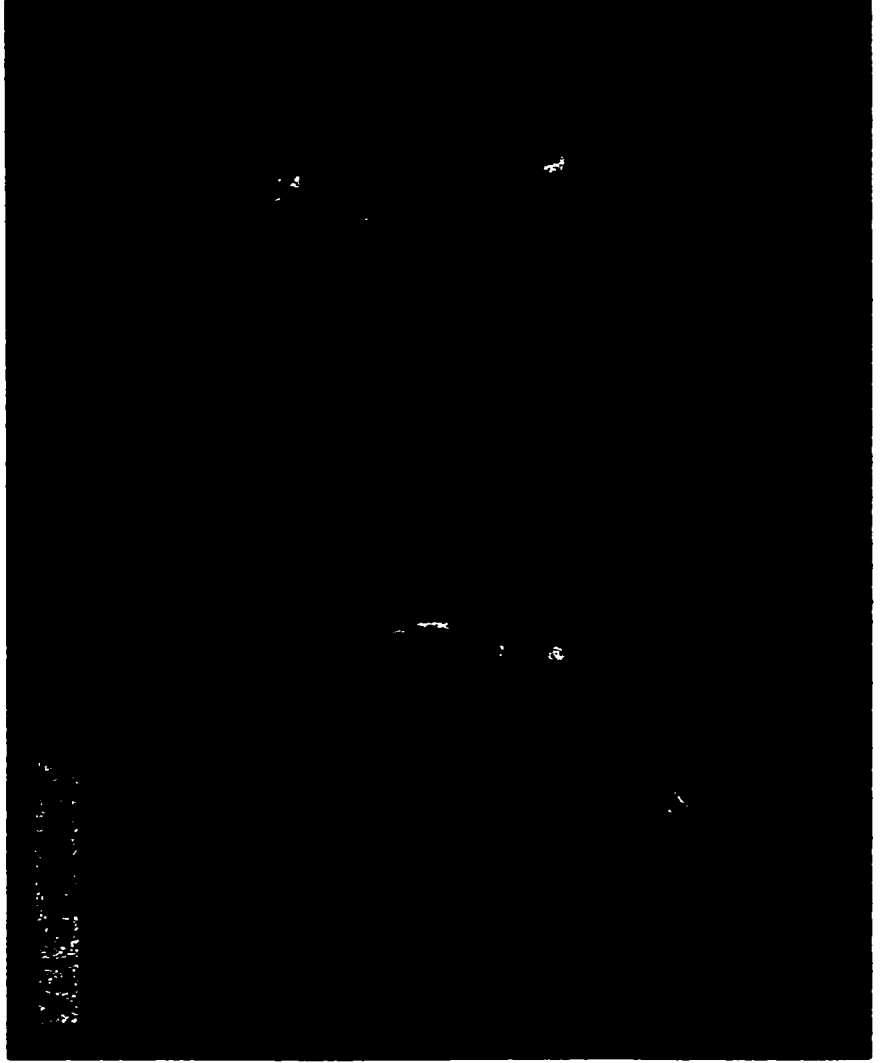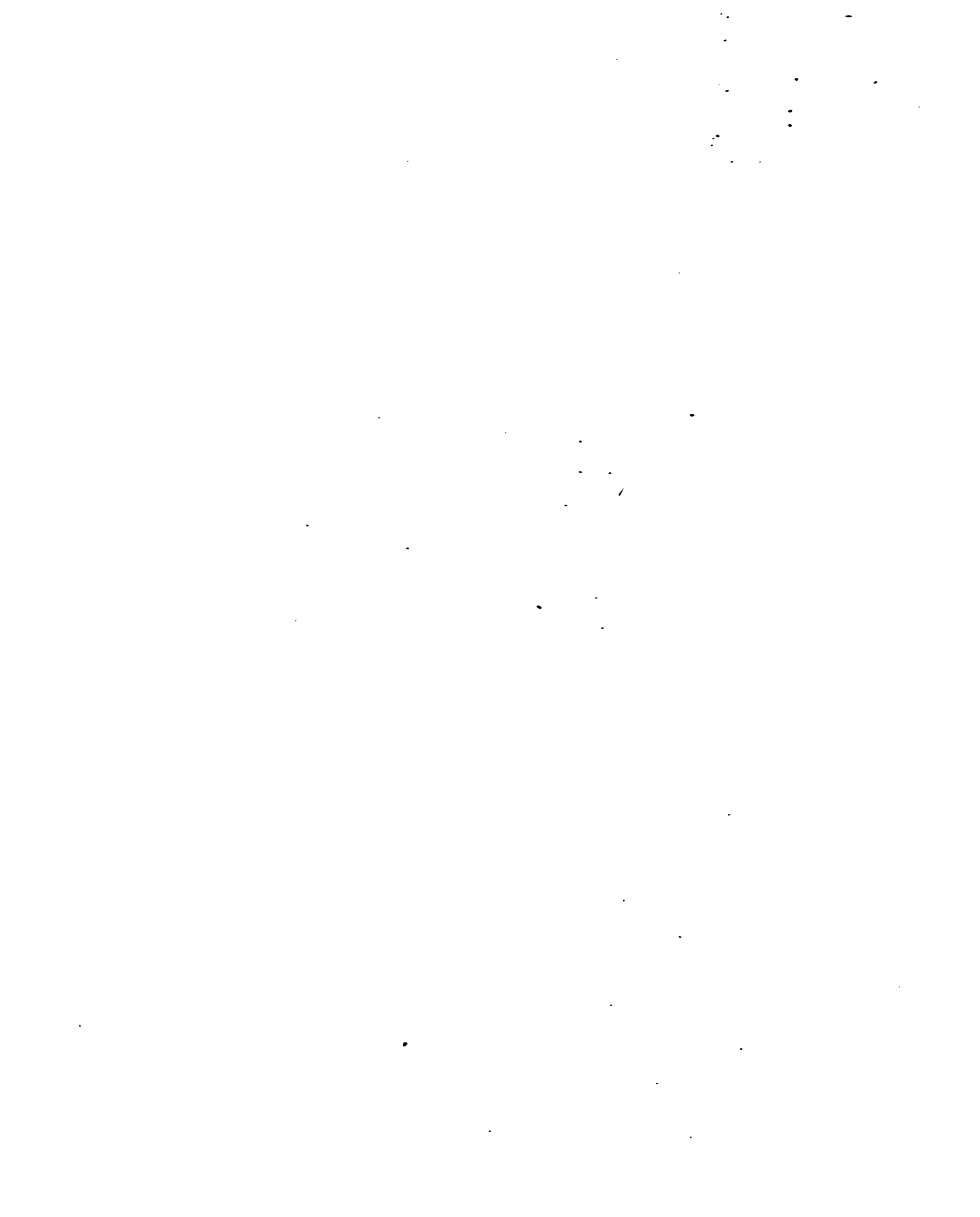
Observations for assessing and classifying the viewed units are carried out from 'visual rating points', key on-the-ground or on-the-water viewpoints determined by the assessor. Rating points are the locations that offer the 'best viewing opportunity' of the sensitivity unit and are determined based on the typical mode of travel used by people who view that landscape. For example, a public boat launch or a lodge (offering a relatively large number of viewers) may serve as a rating point, where the shores of the lake have been designated as visually sensitive. Alternatively, a point just off shore may be used if the boat launch itself is in a bay that does not afford an open view of the more distant shores.

From the rating points, the sensitivity units are assessed and classified and photographs are taken. These photographs are part of the inventory, and may be used in later phases of visual landscape management, for landscape analysis (recommending visual quality objectives) and for landscape design to ensure visual quality objectives are met.

Assessment and classification is based on a set of landscape parameters (Table 5.5), which are observed and assigned values. Summing the values for individual parameters (which themselves may be aggregated values) assigns to a unit an overall visual sensitivity rating of high, moderate or low, recorded as a 'visual sensitivity class'. In general, the method used for assessing parameters is: the landscape is observed, the observation is compared with the description and parameter values in tables provided in the Standards Manual, and the rating is recorded on a form (Table 5.5). The standards allow for this 'default' calculation to be overridden if deemed necessary by an individual assessor, on the basis of 'professional judgment' of factors (such as adjacent scenery) which

Visual Sensitivity Unit Classification Form

	EVC		
VAC	SR	VC	VR
	VSC		

1. Forest District Code: _____
2. Rated by: _____
3. Date: _____
4. Project: _____
5. VSA #: _____

6. VSU #: _____
7. VRU # _____
8. Cross Mapsheet VSU # (optional): _____
9. BCGS Map #: _____
10. VSU Rating Point #: _____

VSUCF May 1997

Existing Visual Condition (EVC)

EVC Rationale.

	0%	0-1.5	1.5-7	7-20	20-30	>30		
11 Scale of Existing Alteration								
EVC Initial Value	P	R	PR	M	MM	EM		
12 Influence of Visual Landscape Design	H		M		L		N/A	TA: 1 2 3 4 5 6 7 8 9 10
13 Influence of Site Disturbance	H		M		L		N/A	
14 Influence of Veg. Colour & Texture	H		M		L		N/A	A B C D
15 EVC Final Value	P	R	PR	M	MM	EM		

Visual Absorption Capability (VAC)

VAC Rationale

16 Slope	H	(3)	M	(2)	L	(1)
17 Aspect	H	(3)	M	(2)	L	(1)
18 Surface Variation	H	(3)	M	(2)	L	(1)
19 Rock/Soil/Vegetative Variety	H	(3)	M	(2)	L	(1)
VAC Initial Value	H	(10-12)	M	(7-9)	L	(4-6)
20 VAC Final Value	H		M		L	

A B C (for 18)
A B C D E (for 19)

Biophysical Rating (BR)

BR Rationale.

21 Slope	H	(3)	M	(2)	L	(1)
22 Aspect	H	(3)	M	(2)	L	(1)
23 Edge	H	(3)	M	(2)	L	(1)
24 Topographic Variety	H	(3)	M	(2)	L	(1)
25 Vertical Relief	H	(3)	M	(2)	L	(1)
26 Vegetative Variety	H	(3)	M	(2)	L	(1)
BR Initial Value	H	(15-18)	M	(10-14)	L	(6-9)
27 Influence of Rock/Soil	H		M		L		N/A
28 Influence of Water	H		M		L		N/A
29 Influence of Adjacent Scenery	H		M		L		N/A
30 BR Final Value	H		M		L	

TE: A B C D E F G H I J (for 23)
A B C (for 24)
A B (for 26)
A B (for 27)
A B C (for 28)

Viewing Condition (VC)

VC Rationale

31 Viewing Distance	H	(3)	M	(2)	L	(1)
32 Viewing Frequency	H	(3)	M	(2)	L	(1)
33 Viewing Duration	H	(3)	M	(2)	L	(1)
34 Viewing Angle	H	(3)	M	(2)	L	(1)
VC Initial Value	H	(10-12)	M	(7-9)	L	(4-6)
35 VC Final Value	H		M		L	

VPT #S __ __ __ __
A B (for 33)

Viewer Rating (VR)

VR Rationale

36 Number of Viewers	H	(3)	M	(2)	L	(1)
37 Viewer Expectations	H	(3)	M	(2)	L	(1)
VR Initial Value	H	(6)	M	(4-5)	L	(2-3)
38 VR Final Value	H		M		L	

A B C D E (for 36)
A B (for 37)

Visual Sensitivity Class (VSC)

VSC Rationale (reverse page)

	VSC 1	VSC 2	VSC 3	VSC 4	VSC 5
VSC Initial Value score:	(8)	(6-7)	(3-5)	(1-2)	(0)
39 VSC Final Value	VSC 1	VSC 2	VSC 3	VSC 4	VSC 5

BR / VC / VR / VAC final values. H = 3. M = 2. L = 1.
(BR____ + VC____ + VR____) - VAC____ = VSC____

Other (Optional)

Other Rationale

	< 5 years	5-10 years	> 10 years	N/A
40 Years to VEG				
41 Visual Recovery	H	M	L	A B
42 Rehabilitation/Enhancement	RH	EH	N/A	

See other side for VSU Rating Point Data & factor descriptions

10. VSU Rating Point Data:	Print:	Slide:	Digital Image	Videocassette
VSU Rating Point Number				
10.1 Viewpoint Type: rating point (V0), major (V1); minor (V2); potential (V3)				
10.2 Elevation of the VSU Rating Point (meters)				
10.3 Latitude and Longitude (UTM) Coordinates (optional)				
10.4 BCGS Map Number of VSU Rating Point				
10.5 Compass Bearing (0-360 degrees)				
10.6 Vertical Viewing Angle (0-90 degrees ±)				
10.7 Roll Number (start-end frame number)	/ /	/ /	/ /	/ /
10.8 Focal Length of Lens (mm)				

EVC

11 Scale of Existing Alteration			
12 Influence of Vis. Landscape Design	H (greater)	M (moderate)	L (lesser)
13 Influence of Site Disturbance	H (dominant)	M (moderate)	L(subordinate)
14 Influence of Veg. Colour & Texture	H (strong)	M (moderate)	L (weak)
15 Existing Visual Condition	P - R - PR - M - MM		

VAC

16 Slope	H (0 - 30%)	M (30 - 60%)	L (>60%)
17 Aspect	H (NW/N/NE)	M (E-W)	L (SW/S/SE)
18 Surface Variation	H (high)	M (moderate)	L (low)
19 Rock/Soil/Vegetative Variety	H (high)	M (moderate)	L (low)
20 Visual Absorption Capability	H (high)	M (moderate)	L (low)

BR

21 Slope	H (>60%)	M (30-60%ie)	L (0 - 30%)
22 Aspect	H (SW/S/SE)	M (E-W)	L (NW/N/NE)
23 Edge	H(high)	M(moderate)	L(low)
24 Topographic Variety	H(high)	M(moderate)	L(low)
25 Vertical Relief	H (800m-)	M (200-800m)	L (<200m)
26 Vegetative Variety	H(high)	M(moderate)	L(low)
27 Influence of Rock/Soil	H(high)	M(moderate)	L(low)
28 Influence of Water	H(high)	M(moderate)	L(low)
29 Influence of Adjacent Scenery	H(high)	M(moderate)	L(low)
30 Biophysical Rating	H(high)	M(moderate)	L(low)

VC

31 Viewing Distance	H (0-1km)	M (1-8km)	L (8km +)
32 Viewing Frequency	H (> 5 vpts)	M (3-4 vpts)	L (<2 vpts)
33 Viewing Duration	H (long)	M (moderate)	L (short)
34 Viewing Angle	H (focal)	M (tangent)	L (peripheral)
35 Viewing Condition	H (high)	M (moderate)	L (low)

VR

36 Number of Viewers	H (high)	M (moderate)	L (low)
37 Viewer Expectations	H (high)	M (moderate)	L (low)
38 Viewer Rating	H (high)	M (moderate)	L (low)

VSC

VSC Initial Rating	VAC, BR, VC, VR: H=3 M=2 L=1
39 Visual Sensitivity	1 2 3 4 5

Other (Optional)

40 Years to VEG	< 5 yrs	5-10 yrs	> 10 yrs
41 Visual Recovery	H (high site)	M (med. site)	L (Low site)
42 RH/EH/NA	Rehabilitation	Enhancement	N/A

Parameters and their definitions

EVC – Existing Visual Condition: a measure of the present level of landscape alteration caused by human activities

VAC – Visual Absorption Capability: a measure of a landscape's ability to absorb alteration and maintain its visual integrity

BR – Biophysical Rating: a measure of the degree to which the biophysical characteristics of a VSU creates visual interest and draws people's attention

VC – Viewing Condition: a measure of the condition under which the visual sensitivity unit is most commonly viewed

VR – Viewer Rating: a measure of the number of people likely to view the visual sensitivity unit and the expectations / concerns they have about how they would like the VSU to look

VSC – Visual Sensitivity Class: an overall measure of the sensitivity of the visual sensitivity unit to visual alteration

Table 5.5 Visual Sensitivity Classification Form and Parameter Description
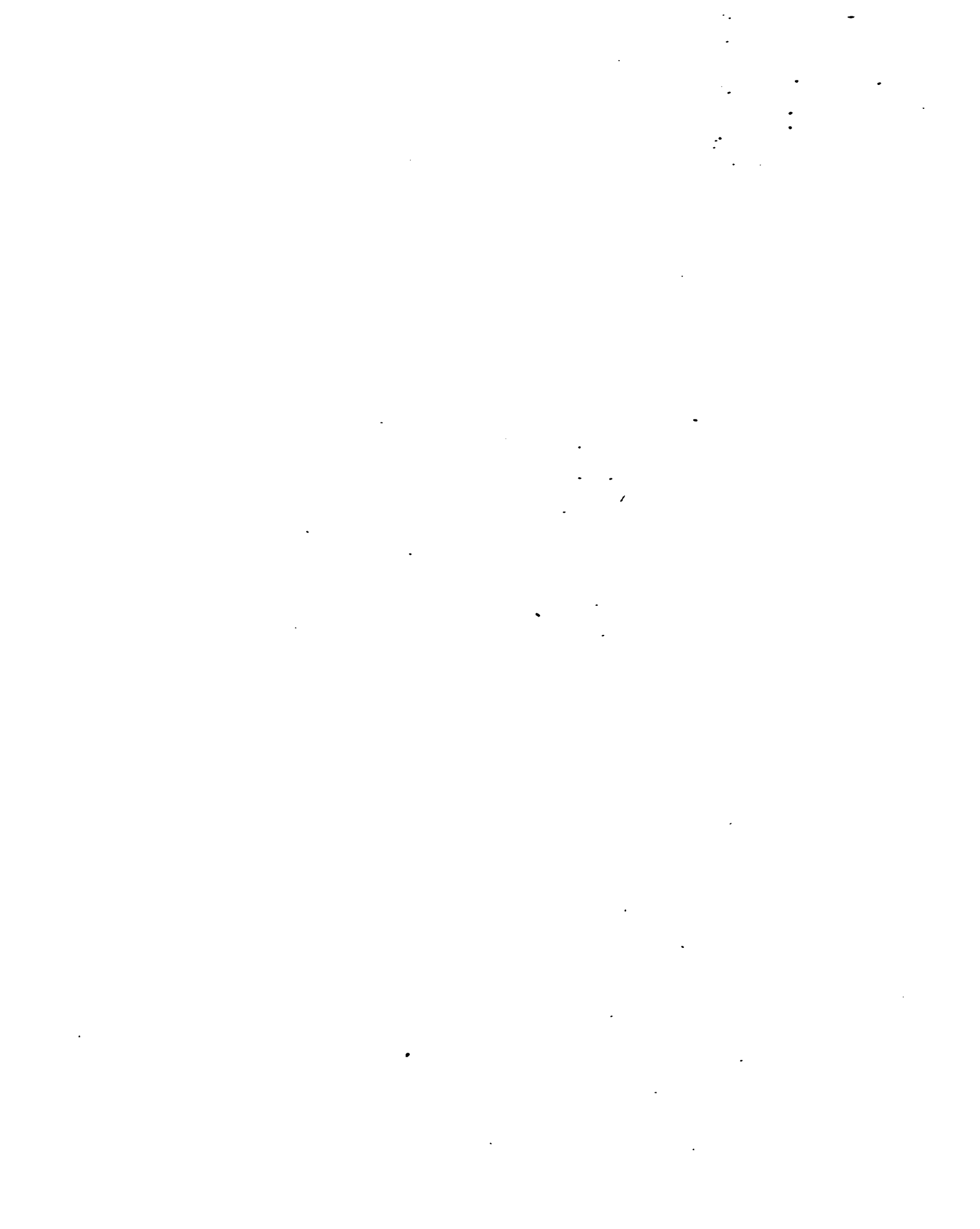
might modify the parameter value. This flexibility is discussed as a positive

element of the expert approach in the final discussion section of this chapter.

The first parameter assessed is the landscape's existing visual condition

(EVC), a description of the present level of "human-caused alteration" to the

landscape (British Columbia Ministry of Forests 1997a). The categories

established for describing the existing visual condition have been part of

landscape assessment since the early days of visual management, where they

began as categories for describing the visual quality objectives for landscapes

(Table 5.6). These categories continue to serve as the basis for the description of

visual quality objectives determined in subsequent analysis and design

phases[52]. The existing visual condition parameter thus serves as an important

link between the inventory and subsequent visual management phases.

**Table 5.6   Visual quality classes to describe existing visual condition and
visual quality objectives**   *(from BCMoF 1997a)*

Preserved	**P**	No visible human-caused alterations
Retained	**R**	Human-caused alterations are visible but not evident
Partially retained	**PR**	Human-caused alterations are evident but subordinate and therefore not dominant
Modified	**M**	Human-caused alterations are dominant but have natural appearing characteristics
Maximally modified	**MM**	Human-caused alterations are dominant and out of scale
Excessively modified	**EM**	Human-caused alterations are excessive and greatly out of scale

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[52] Recent revisions to the Inventory process, culminating in the 1997 *Procedures and Standards Manual*, distinguish between the inventory function and subsequent analysis, decision-making and management functions. Since the setting of visual quality objectives is seen as an outcome of analysis or a decision-making function, it has now been excluded from the Inventory.

The result of the detailed assessment is the inventory – a set of maps, description and classification forms, and a photographic record. It is considered very much a 'work in progress', and is updated and verified by District staff annually. As part of the public domain, the information is accessible to the public. It remains, in both digital and conventional paper form, with the Ministry of Forests District office, for use in other forestry and land use planning activities, for Forest Practices Code decisions by the District Manager, and by other staff and government departments.

An initial discussion

The preceding description of the Inventory process was presented as an ideal, this is, as 'what *should* happen'. In reality, this is not quite what *does* happen. Before I discuss further what does happen, I discuss several aspects of landscape assessment in the Inventory phase. I do this to make the point that normatively, at least, landscape assessment is 'expert'-based.

The jargon   In order to carry out the inventory, assessors require specific training. In recognition of this, training workshops are held for Ministry staff who do the inventory and other phases of visual resource management. Consultants, who typically carry out detailed assessments, are either professionally trained (as landscape architects, for example) or undergo Ministry training. That is, people who carry out the assessments are, or need to become, specialists.

The vocabulary and jargon used in the visual inventory is specific and likely unfamiliar to those not trained in the field, such as terms used to describe the landscape -- existing visual condition, visual absorption capability, and non-visually effective green-up. The use of jargon requires others -- other staff and

the public, for example – to become specialists, too. An understanding of the various terms, acronyms and jargon is required for information sharing about 'aesthetics'. Portrayed in this overly technical way, aesthetic values become inaccessible; those values that cannot be expressed in these terms are marginalized, and potentially excluded from planning and management.

The method As discussed in Chapter 2, 'expert' methods, as measurement tools, are low in reliability and sensitivity. Methods used by one person have been found to be unreliable (Miller 1984), and since the inventory method used in British Columbia is carried out by a single assessor, one might question the reliability of these methods. No Ministry studies deal specifically with the reliability of these methods.

Sensitivity might be questioned at two levels. First, the entire land base is classified initially into only two categories: 'visually sensitive' or 'not visually sensitive'. Second, within 'visually sensitive' areas, there are only three gradations of sensitivity: high, moderate and low. These limited categorizations are insensitive to finer, yet potentially important sensitivity distinctions, offer little in the way of distinguishing different landscapes, and are inattentive to other significant visual and aesthetic dimensions. The lack of sensitivity to a holistic, multi-dimensional aesthetic is a discussion point in Chapter 6.

The measures and concepts The rating process is based on the assumptions that the indicators and parameters are the most important ones, that they can be quantified, and that, when summed together, their ratings provide a rating of 'total' quality. The literature does indeed suggest some features as possible parameters (variety of textures, for example), as discussed in Chapter 2. The relative importance of these features or characteristics, both

for a total quality rating (if such is possible) and for the type of landscape (or

place) is not supported, however. The override methodology allows some

flexibility in this regard, but has not been a focus of Ministry research

specifically, in terms of how and how often it is used. There is little in the

literature to support quantification of values vis-a-vis quality, especially in terms

of the summing of individual parameters, although this has been an aspect of

some debate for years (Carlson 1977, 1984, Ribe 1982, 1986).

The conceptual place for visual quality is ambiguous. At times, the

inventory emphasizes the visual resource as a biophysical resource: only

biophysical factors such as vegetation, slope and topography are included in

ratings used by a consulting firm (Viewscapes 3-D 1997), and some features are

double counted in the Ministry inventory procedures (British Columbia Ministry

of Forests 1997a). At other times, its place is less clear. The Ministry's Design

Manual notes there are three aspects of landscape: physical, human and

aesthetic (British Columbia Ministry of Forests 1994a). The visual quality

classes (Table 5.6) are based on the assumption that human modifications

reduce the quality of the landscape: the more modification visible, the lower the

quality of the landscape. While the literature suggests a tendency for humans to

prefer 'natural' landscapes, the influence of modifications is less clear (R. Kaplan

and S. Kaplan 1989). This ambiguous conceptual basis needs to be revisited so

that aesthetics remain part of management; I begin to do this in Chapter 6.

5.3 Landscape assessment on the ground

In this section, I analyse British Columbia's landscape assessment

approach in terms of application of procedures and policy, that is, as it is

enacted 'on-the-ground'. I base my discussion more on the information and

examples provided by key informants and my observations at public activities
(planning meetings and a visual design workshop), and less on the review of
policy documents and written information, as in the previous section.

Landscape assessment in practice is sometimes different (significantly
so, in some instances) than what written policy and procedures direct. I believe
this is so because even though the inventory is conceptualized as the 'first'
phase in visual management, it is an ongoing activity. Rarely is the information
provided by a complete inventory available for decision making and design for
operational activities, that is for subsequent phases of visual management.
Therefore, decisions are always made on the basis of incomplete information,
and on other information that becomes available closer to the time of a decision.
In some instances, this latter information is more relevant to the decision than
'basic' inventory information. Much of this information results from the input of
'the public' during ongoing forest development and other planning processes. I
therefore begin there.

Public Input   At several points in the inventory, 'public input' is a required part
of the process, as indicated in the Procedures and Standards manual. In terms
of how the inventory and subsequent analysis and design are carried out, the
significance of public input is greater than the Manual indicates. I briefly
outline what the Manual requires, and then use examples from the Cariboo to
discuss what 'actually' happens.

The major role of public input is two-fold: to identify areas they consider
to be visually sensitive, and to provide input on viewer numbers and
expectations or concerns (British Columbia Ministry of Forests 1997a, 9). This
input is part of both the broad-scale and detailed assessments.   As the final

step in the broad-scale assessment, people are asked to identify areas of concern

or areas which they consider to be visually sensitive during review of the visually

sensitive areas map. Typically, this occurs in conjunction with the viewing of

other types of maps (Forest Development Plans) or as part of other planning

processes (Resource and Land Use Plans). In the Cariboo, the identification of

potential scenic and visually sensitive areas was part of the public input to the

regional land use planning process, and the sub-regional planning process

resulting from it. Several locations, such as the Interlakes area (Figure 3.2),

have been included in the inventory specifically because they were identified

during this land use planning process.

For detailed assessment, people and groups who may have an "interest in

the visual values" of the area are (more formally) invited to participate[53], to

provide information about (British Columbia Ministry of Forests 1997a, 14):

- locations of view points and viewscapes valued by the public
- indications of the amount of use
- types of user activities
- expectations for viewing

This information assists the assessor to determine the Viewing Condition

and Viewer Rating parameters for the visual sensitivity unit. The assessor is

specifically directed to consider "local knowledge" as part of these assessments,

but how to do so and to what extent is not identified, beyond referring to the

public consultation guidebook.

Based on discussions with both citizens and Ministry staff during the

period of this study, I contend that the input of the public is significant in the

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[53] The Ministry of Forests has developed a guidebook to direct how public input is invited.
It includes primarily newspaper notices and mailing lists.

Cariboo region, at least more significant than what might be expected based on review of stipulated procedures. I discuss several of the most illustrative examples, beginning with the regional planning process for the Cariboo, as citizen activity has been particularly strong in this regard.

The Commission on Resources and Environment (CORE) established three regional planning processes in the early 1990s in response to resource allocation and use conflicts (Government of BC-CORE 1994). The processes involved consensus-based negotiation among various stakeholder groups through a Round Table. The process in the Cariboo-Chilcotin ultimately did not result in a consensus planning document, but provided information which the government used to develop the Cariboo-Chilcotin Land Use Plan (CCLUP), released in October 1994)[54]. The implementation strategy was released in February 1995, and provides the 'direction' for all resource management activities through zoning and zone objectives, and subsequent sub-regional planning. An Interagency Management Team coordinates the sub-regional processes.

The 100 Mile House District Sub-regional planning process began in 1997. As part of this process, various organizations, citizen groups and individuals have provided input. This has included input about visual view points, scenic areas and other visual information. As part of this process, the Green Lake Ratepayers Association (GRLA), for example, submitted a report, highlighting their predominantly visual concerns, based on a questionnaire sent to all ratepayers (members). Because of this submission, Ministry of Forest staff

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[54] The CORE process has and continues to be discussed in the literature on consensus-based planning (Williams et al. 1998, Owen 1998). The process in the Cariboo was somewhat acrimonious, and during the period of this study, the CORE process, the players and the results were viewed suspiciously.

included the Green Lake area as a 'Scenic Area' in the inventory. This inclusion

involved ongoing interactions among the GLRA members who desired their

landscapes to "remain generally unchanged", the Ministry, mandated to

'maintain the flow of timber' in the area, and the visual landscape specialists

with the license holder, a major forestry company, concerned with mitigating the

visual impacts of harvesting operations. Rather than being *assessed*, the visual

sensitivity of the area was *negotiated* among the three stakeholders, and

objectives were established which each group could live with. These were not

expressed officially in terms of Visual Quality Objectives, which are considered

by Forestry staff to be too inflexible to even begin to meet the varying goals.

Rather, the forestry district emphasized the use of guidelines and the timber

company the use of simulations for visual management, relying on review and

feed-back from the citizens in the area as planning and development progressed.

Another area of visual concern arose during the regional land use

planning process. The Big Bar area was designated as a Special Resource

Management Zone, primarily because of the numerous tourist facility operators

and outfitters in the area. That is, the major resource value for the area was

tourism, and not timber, as is the case in most other zones of the District. It

was this zoning designation that 'kick-started' the visual inventory and visual

management process for the area. The designation provided an opportunity to

monitor visual resource management in the Cariboo (100 Mile House district)

and to "check an old inventory" in two ways: determine how the area had

changed visually since an earlier inventory, and "check" the consistency of the

assessment methods. The visual landscape officer from the region noted that

two different consultant assessments resulted in similar ratings of landscapes.

This finding affirmed for him the reliability of the methods used. While not a

systematic research design, this reported comparison might be seen as support for the reliability of the expert methods, but might also reflect the rather limited sensitivity of the resulting classifications. Certainly, more research is needed in this regard, especially since the literature reviewed in Chapter 2 has generally indicated that expert approaches are low in reliability.

Generally, input for visual management is solicited in response to the review of the maps of visually sensitive areas and visual sensitivity classifications. For the regional planning process, the public was invited to provide visual (and other resource) information on base maps kept at the local library. The result in some instances was delineation of huge areas (about a quarter of the district in one case) by the public. The district planner for recreation perceived this 'problem' to be based on people's misinformation and desire to prevent forest development. He therefore used these occasions as opportunities to educate people about visual resource management. It was his position that if the public were more informed about how the Ministry deals with 'visuals', that is how visually sensitive areas are identified and how design principles are used, they would be more accepting of resulting plans. In most cases, the delineations of publicly identified areas of significance on the maps were modified (reduced).

One final example highlights the perceived role of landscape assessment. During a planning meeting, some citizens were reluctant to provide input specifically about visuals, claiming that "ecological and conservation concerns are more significant". By focussing on or even concerning themselves with 'visuals', the other (more important) values, they feared, would be ignored in planning. Despite this claim, they wanted to make planners aware of places that *were* important aesthetically. In a later conversation, for instance, one of

these citizens stated: "we need to let them know that we enjoy and appreciate just being in certain places", and proceeded to identify these as areas of "visual" concern.

Paradoxically, the aesthetic dimension appeared to be both important and unimportant. While "visuals" were, on one hand, not important, especially in relation to certain other values, aesthetics *is* important, as alluded to at other times. In addition, citizens in the planning process used "visuals" as a vehicle for conveying other aesthetic values. Statements of "I don't like how it looks" was the only way, they believed, for other intangible values to enter into the planning process.

Final discussion

This final discussion focusses on the shortcomings and strengths of the landscape assessment approach in British Columbia as examined in this chapter.

Shortcomings   The procedures attend to a narrowly prescribed attribution of aesthetic landscape value, emphasizing several biophysical features and formal design elements. By specifying these and offering little opportunity to work outside these, conventional ways of thinking about landscapes are reinforced.

Because of these prescribed attributes, the methods are not sensitive to other aesthetic values. Nor are they sensitive to qualitative differences in landscapes, given the reliance on quantifying, or at least 'numerifying', landscape features or characteristics. The richness and variability of actual landscapes cannot be captured using such methods.

The procedure for assessing visual sensitivity units and assigning a visual sensitivity class is detailed and complex (Table 5.5): unneccesarily complicated given the narrow visual-only focus of the assessment, and especially since the outcome, at least in practical terms, is negotiated. Perhaps it would be most appropriate to use the 'expert' method as part of the beginning stages of negotiation for planning.

There is also the potential for aesthetic devastation, since visually sensitive areas cover such a small part of the land base. In the Cariboo, 11% of the 100 Mile House District as a whole was categorized as visually sensitive. The assumption is that only certain landscapes –'scenic' or 'visually sensitive' have the potential for people to respond to or experience aesthetically. Everywhere else, one might conclude, is unimportant in this regard.

The final shortcoming is that conceptual questions are not (or cannot) be dealt with using these expert methods for landscape assessment. With no reflection possible, the assignment of numbers to visual quality and the equal weighting of parameters in different landscapes remain unquestioned, and their acceptance reinforced. This point and the first are discussed with other conceptual and theoretical issues in the next chapter.

Strengths   Given the sheer magnitude of the task of managing various dimensions of the environment, in terms of the area of land in British Columbia, and the number of people and financial resources to do so, the ability to do anything is, at one level, impressive. The methods for inventory of the visual resource are systematically presented in the Visual Landscape Inventory Manual, which provides sufficient procedural detail that methods are likely to be applied with reasonable consistency. Consistency in application is fostered

through the provision of training in the use of the procedures and the jargon. I suggest that these methods might be high in reliability, despite the literature findings which indicate that they are not. Since the anecdotal evidence suggests high reliability as well (as discussed in an earlier section), more studies are needed in this regard.

The process remains somewhat discretionary on the part of decision makers. On the whole in the Cariboo study, this flexibility is a positive characteristic. If the Cariboo case is typical, then the acceptance of a flexible, holistic approach to landscape assessment is favourable. This flexibility occurs at different scales for landscape assessment. In assessing individual landscape units, the override methodology in rating visual landscape parameters, as discussed earlier, can be used to 'fine tune' a rating value, if the assessor deems it necessary. The assignment of aesthetic value over larger landscape areas can be at the discretion of the district manager who is able to formally designate landscapes as 'Scenic Areas', which are then required to be managed for aesthetics (or at least 'visuals'). Of course, the flexibility provided by discretionary decisions might also be deemed a shortcoming of this process.

Because in planning situations the outcomes of landscape assessment – the ratings or sensitivity classes – are sometimes negotiated, the process of landscape assessment (if not the specific methods) is open to the possibility of change. This aspect, rather than being downplayed, should be built upon, providing the basis for landscape management.

This analysis supports the literature's depiction of the 'expert' approach as reinforcing a rather narrow conceptual aesthetic based in the dominant (Western) cultural tradition. This narrow conceptualization risks marginalizing

other value attributions. The specific and detailed procedures and standards of British Columbia's approach are straight forward and allow for consistent application, however, even if the concepts are somewhat narrowly defined. In practical planning situations, the outcomes -- visually important areas -- are sometimes negotiated rather than assessed. This feature is potentially beneficial, if attention is directed to the power relations of those involved in negotiating.

Increasingly scholars are questioning the idea of a ubiquitous 'public', especially in planning, recognizing that 'locals' can offer a different perspective than non-locals, and that the public varies in terms of the power it wields (or not) in planning and management. That the Recreation Officer in this study saw his interactions with the public as 'education' to enable them to 'understand what we actually do in visual planning' (rather than seeking 'their opinions'), supports the contention that power still remains with the 'experts'. Indeed, the inventory manual (British Columbia Ministry of Forests 1997a, 14) specifically informs the assessor: "where public input is solicited, it should be made clear to participants that their role is to provide input, not take part in consultation, negotiation or decision making". This implications of this finding are further discussed in Chapter 6.

Chapter 6

Synthesis and Conclusion

6.0 Introduction

This chapter synthesizes the results of the analyses of the expert and experiential approaches from the empirical studies. In the first section of the chapter, I identify where, in current landscape assessment, the outcomes of the experiential study in the Cariboo could be used, and where for landscape assessment generally, the participant-directed landscape imaging procedure might find application. I try to answer the question: 'how might an experiential approach and participant-directed landscape imaging supplement expert-based landscape assessment?' I discuss how outcomes, such as those detailed in Chapter 4, provide additional information about the visual landscape and how the participant-directed imaging procedure can be seen as a way to obtain public input.

In the second part of the chapter, I move to theoretical issues and consider how an experiential approach and participant-directed landscape imaging challenges the *status quo* of landscape assessment -- the dominant expert-based landscape assessment -- and supports an emerging reorientation in resource and environmental management. I consider the implications for landscape assessment and landscape aesthetic theory. In the concluding section, I summarize what I believe to be the highlights of this research, and the main points of departure that come between my study and the larger body of work that precedes it.

A note needs to be added here, too, about the restricted focus adopted for this concluding chapter that only deals with two, the expert and experiential, of the three main approaches outlined in Chapter 2. The narrow focus taken in this final chapter reflects the fact that the empirical portions of this thesis are directly related only to the expert and the experiential approaches to landscape assessment, which can be seen as opposite ends of the continuum of landscape assessment identified in Chapter 2 (Table 2.1). This focus does not imply that this work has no implications for the experimental, rather that the experimental approach is beyond the scope of this dissertation.

6.1 Informing landscape assessment

As the previous two chapters have shown, an experiential approach reveals rich, multi-dimensional landscapes, but must be recognized as not entirely practical due to the researcher expertise required in interpreting results. On the other hand, an expert approach is practical – it can be carried out relatively quickly by trained individuals, but provides a rather constrained view of what landscape means. These findings suggest that complementarity exists between the two approaches. But, some thinking in geography and the social sciences generally has fostered a great deal of exclusivity in different paradigmatic approaches used in understanding human behaviour, as seen in the three largely exclusive approaches discussed in Chapter 2. Indeed, the orthodox position is that a phenomenological or experiential approach cannot be combined with a perceptual approach or an applied form of inventory. In this research I began with a similar position, that the expert and experiential approaches are not compatible. However, the complementarity between the strengths and weaknesses of the two approaches, which I pointed out in the previous two chapters, has led me to reassess my original position, and to advocate that there is a practical need for combining the approaches at one

level, suggesting integration as others have done (Taylor et al. 1987, Dearden 1987).

At the simplest level, assuming an unchanged paradigm for addressing aesthetics in resource management, I see participant-directed landscape imaging as a supplement to existing tools, processes and procedures, and the information arising from them. I begin with this practical strategy. Four areas related to the landscape assessment process of the British Columbia Ministry of Forests are presented and discussed in the following sections as opportunities for using participant-directed landscape imaging methods and outcomes: in the Visual Landscape Inventory, in the design phase, in the Recreation Resources Inventory, and in general planning processes.

(1) In the Visual Landscape Inventory

Chapter 5 outlined the documented visual landscape inventory which included two main components, a broad-scale assessment to delineate visually sensitive areas and a detailed assessment to describe and classify smaller landscape units within visually sensitive areas. Participant-directed landscape imaging provides more information from the general public and a novel approach to public input for both assessment phases.

Broad-scale assessment   Results of the experiential study could be used to update the visually sensitive area inventory for the 100 Mile District and the Cariboo region, by identifying new areas considered to be visually sensitive, and by providing more information for assessing the criteria used to classify visually sensitive areas. In this sense, the imaging method represents an additional means of obtaining public input, a recognized component in the assessment process. Some specific examples relating to the criteria for visually sensitive classification (Table 5.4) are listed by criterion:

Criterion 6 "... areas identified as scenic through other planning processes"
While participant-directed landscape imaging was not used specifically as a planning process in this research, it can be seen as an informative process in its own right. Included are not only scenic areas, but also places and landscapes seen to characterize the area. The outcomes might also be seen to incorporate the identification of 'areas with inherent scenic quality' (criterion 5), such as lake shorelines which were referred to specifically as 'good view places' by participants in the experiential study.

Criterion 4 "... regional or local topographic features valued by the public..."
A major domain of focus was various topographic or other physical or ecological features (for example, the "red rock" rock outcrops suggested by one participant. These areas could be mapped. The procedure manual does not specify the nature of the 'value' in this criterion, and thereby provides an avenue for the inclusion of other domains of significance besides the visual.

Criterion 9 "... visible from ... viewpoints"
Participants noted 'awesome views from' various locations (such as Mahood Lake) in their images. These could serve as viewpoints for detailed assessment.

Criterion 10 "... identified by tourism operators"
The participant-directed imaging exercise could be carried out by tourism operators. Indeed, one participant operated a business that provided tours by dogsled and on horseback (Table 3.1), and his images could be seen to provide the identification of places meeting this criterion. While the outcomes of the experiential study were not discussed in relation to the interests of the participants, the procedure could be adapted for that purpose. Alternatively, focus groups in addition to (or instead of) in-depth interviews, could be established on the basis of this type of shared interest. This is further discussed in a later section.

Criterion 12 "... important recreation features that attract the public"
Numerous features attracted the attention of participants in the experiential study, for recreational reasons (such as heritage and attachment). The potential of features, locales and experiences for tourism and for citizen enjoyment were identified.

Detailed assessment   There are three main ways in which an experiential

method can make contributions to the detailed assessment: (i) the establishment

of rating points for visual assessment; (ii) photo documentation of visually

important areas; and (iii) information for assessing the specified parameters from

the rating points. As noted in Chapter 5, detailed assessment is only carried out

for areas classified as visually sensitive.

(i) The first step of the detailed assessment involves establishing

viewpoints from which assessment occurs. Participant-directed imaging

outcomes revealed places (mappable locations) which could be considered

viewpoints in areas deemed visually significant. This public input supplements

the assessor's determinations about the 'most visible' or 'highly used' views.

(ii) Because the imaging exercise results in photographic records of the

landscape, the photos from, or of, these important areas could also become part

of the inventory. The use of participant photos, however, may not meet the

inventory procedure requirement to take photos in which ephemeral

environmental conditions are minimized (British Columbia Ministry of Forests

1997a, 17). Participants in the experiential study revealed that dynamic and

ephemeral conditions were important aspects of landscape experiences. The sky

was an important element of landscape for inhabitants of the Cariboo;

variations in sky, with time of day for instance, were part of the appeal and

character of the Cariboo. Other studies have found ephemeral conditions and

changes to be important to aesthetic landscape experiences (Trent et al. 1987,

Chenoweth and Gobster 1989). This brings into question the need to control for

these conditions as suggested in the policy manual.

(iii) The outcomes of participant-directed landscape imaging provide

information that could be used in assessing several of the assessment

parameters. Viewer condition (VC) and viewer rating (VR) parameters are also

elements of the inventory where results could be used. Viewer rating is a measure of the number of people and of the expectations, concerns and preferences they have about how the landscape (the visually sensitive area) should look. The viewer expectations and concerns are a measure of the importance the public places on the landscape and is determined in the inventory "using local knowledge" (British Columbia Ministry of Forests 1997a, 35). The participant-directed imaging outcomes provide just the sort of information required here.

Participant-directed imaging revealed values other than just the 'visual' or 'scenic', as detailed in Chapter 4. Rating points in the inventory procedure are determined based on distance of views and frequency of viewing. Important viewpoints from the experiential study included other factors in determining importance. Might a less distant view from a less frequented viewpoint or a 'characteristic' view be an appropriate place from which to carry out a detailed sensitivity classification or a cut-block design?

(2) In design

The design phase of the expert assessment procedure uses the existing visual condition (Table 5.6) of a visually sensitive or scenic area as the starting point for layout and design of a proposed development (cutting pattern, roads). Design begins with visual simulation of the proposed changes to determine their potential impacts. Problems remain when factors other than visual elements are the basis of appreciation. No approach currently exists, for example, to 'design' for auditory parameters. The Ministry of Forests procedures do not incorporate ways to deal with other intangible visual values, such as spaciousness, or with other sensory values.

(3) In the Recreation Resources Inventory

In Chapter 5, the Visual Landscape Inventory was outlined as part of the Recreation Resources Inventory, which also includes other components (Figure 5.1), placing visual landscape considerations within recreation management. Participant-directed landscape imaging could be used to provide additional information for recreation managers, specifically for the trails and routes and the recreation features inventories, and for the interpretation component.

For example, the inventories are required to identify places for which "biophysical and cultural features provide an opportunity for recreation experiences", and to include the "significance and sensitivity" of these features (Vukelich 1995, 30). Participants in the experiential study discussed many of the features that should be listed in the recreation features inventory, such as snow trails, wildlife diversity, and historic structures (Table 4.1), and identified features and locales important for their recreational potential (Table 4.2).

The heritage dimension of the Cariboo illuminated by participant images could provide the focus for programs to develop and interpret environments and places, currently part of recreation resource management. The images could also be used for heritage education and planning more broadly to develop programs about what is significant in an area, and how it is significant based on inhabitants' experiences there.

(4) Planning processes

My analysis of the current use of the British Columbia Ministry of Forests inventory indicated that landscape information is sometimes negotiated in planning contexts. I suggest that this aspect be made more explicit for landscape assessment. The final rating and analysis of the existing condition of the landscape needs to arise from discussion about what contributes to it and why

those factors are important, rather than from an expert-based procedure alone. In the case of areas designated as not visually sensitive (and therefore not requiring a detailed assessment), the negotiation process is especially important.

Participant-directed landscape imaging procedures and outcomes could provide a basis of and direction for discussions and negotiation, rather than just adding to the existing procedure. To a certain extent, this occurred for the Green Lake area, discussed in Chapter 5. The citizens' group presented what it thought to be important. This input, combined with the expert procedure, led to the rating. The actual objectives, and hence the eventual design for forestry activity, was a negotiated outcome, based on how people experience particular places, and was not based solely (or mainly) on visual analysis. I further discuss this additional role for participant-directed landscape imaging in a later section.

Participant-directed landscape imaging outcomes could be the basis of a local mapping exercise, changing the role of the public from one of mere reviewers of maps created by 'experts', to being local experts who create the maps. This role may provide the context or rationale for undertaking participant-directed landscape imaging, and be a suitable use of the method. The scale for mapping is local and the 'character' of the landscape is highlighted. This could provide the impetus for ongoing identification of significant places, and the significance of local places.

Participant-directed landscape imaging results call into question the 'visible only' aim of landscape assessment, since, as revealed in the experiential study, people in the Cariboo appreciate and find beauty even in things that are not or cannot be seen. Thus, assessment moves beyond the visible.

Enhancing the supplementary role

This section discusses three additional points to be made about the supplemental role of participant-directed landscape imaging. These are offered as

suggestions for enhancing the practical application of the procedure. As noted in Table 2.2 (summary of the examination of assessment approaches as measurement instruments), experiential methods are perceived to be low in utility. Even though participant-directed landscape imaging is most appropriately thought of as a hybrid method, rather than purely experiential, I believe it is necessary to revisit the low utility rating.

Cost   There were some indications in discussions with professionals and practitioners that the cost for supplies (cameras, notebooks) to carry out participant-directed landscape imaging is not prohibitive. Indeed, it is likely to be relatively inexpensive, even (or especially on) a 'per hectare' basis, which is often used for estimates of cost in forestry practice. The more time-consuming and intensive part would be management and analysis of the data, and this phase could be carried out on a contract basis by consultants. This would not be unusual, since most 'visuals' are contracted out anyway.

Scale   Discussion with a forestry technician since the research was carried out highlighted that the imaging procedure could be more informative for planning purposes if used at a sub-regional level, for instance, for the "Interlakes" area or the Green Lake area discussed in Chapter 5. The regional scale worked for this study because the Cariboo, as large as it is, was a familiar and identifiable entity for participants. This might not be the case in all places that do not have a vernacular identity. In addition, the exploratory nature of the study, and its academic rather than entirely practical purpose, provided a context somewhat free of the potential for confrontation that might accompany a conventional public input process for planning. On the other hand, such a method might be one way to overcome the confrontational context that so commonly arises in resource and environmental management when the public becomes involved. Participant-directed landscape imaging could allow people to

focus on common ground – their attachment to place – rather than on conflicting interests.

Sharing landscape values For practical application, a focus group component could be added to the participant-directed landscape imaging procedure. Participants and citizens could use images identified in the photo-comments-interview phase to discuss and develop a consensus evaluation or 'rating' of sorts for the landscape(s). This could serve to validate the data interpretation, at least for practical purposes, by providing the inter-subjective basis of landscape appreciation for a place.

These additional considerations would likely increase the number of participants involved in landscape assessment. This increased number of participants is seen to be important in practical applications. The small number of participants remains a shortcoming of the experiential study presented here.

6.2   Theoretical contributions: reorienting landscape assessment

In a methodological sense, from an empirical, atheoretical perspective, participant-directed landscape imaging can be seen as a hybrid method, useful as a starting point for a multi-method approach to identifying environmental values that are place-specific, 'grounded' in a particular place. It also serves as a way to cross-validate various methods, and to include broadened aesthetic and other values. Landscape concepts and values revealed through the experiential method indicate that 'assessment' involves more than what the expert approach captures. A more important role for participant-directed landscape imaging procedures and outcomes is, I believe, to support and direct a conceptual reorientation in environmental and resource management.

In this discussion, I assume that such a reorientation, a shift away from the historically dominant paradigm, is desirable. Other scholars suggest that

not only is it desirable, but necessary for sustainability, and for ensuring that we do not live beyond our ecological means (Taylor 1994, Knight and Bates 1995).

In Chapter 2, I compared landscape assessment approaches based on differing conceptualizations of what is assessed (the landscape and values of importance), of the context for assessment, and of the human-environment interaction implied. I do not see these different conceptualizations and assumptions as equal, however. I see those of the expert approach as narrow and impoverished, perhaps even misleading. My empirical evidence seems to support this. I found that, in practice, landscape aesthetics is sometimes a negotiated entity, despite its visual, objectified conceptualization in the documents and policy, leading me to conclude that we are unable to 'act out' such a narrowly prescribed version of landscape value. And, as the experiential study revealed, people hold broad conceptualizations of what is appreciated about landscape, and are able to communicate them fairly well.

Assumptions implicit in the documented methods and outcomes for landscape assessment in British Columbia's Ministry of Forests make the integration of participant-directed landscape imaging an exercise in method only, rendering it a supplemental procedure for public input to the landscape inventory. I offered suggestions in support of this methodological role earlier in this chapter. While this supplemental contribution improves the results of an expert landscape assessment, it is not in itself enough, due to the profound bias inherent in the simplifying assumptions underlying the expert approach. Specifically, the most problematic assumptions are:

♦ *The scenographic valuation of landscape*
    Landscape aesthetic value is inherent in the formal design or 'scenographic' composition of visual features in the landscape.

- *The consumer valuation of landscape*

    A 'visual resource' conceptualization of aesthetics is necessary to protect the aesthetic in landscape.

- *The "displaced" valuation of landscape*

    It doesn't matter 'where' you are; that is, place (location and sense of place) is not important for assessing landscape aesthetic quality.

An experiential approach challenges these assumptions in several ways, which I discuss in the next sections. While the expert landscape assessment process emphasizes that which is visual, participants in the experiential study revealed that there is value in landscape beyond just what we experience visually, and what we experience visually has meaning beyond 'good design'. Participants revealed the importance of place in their attributions of significance; appreciation was often place specific, while the expert approach offers procedures and standards which are inattentive to place. As a result, I am able to show how an experiential approach, by problematizing the taken-for-granted concepts and assumptions of the dominant landscape assessment paradigm, calls for a conceptual reorientation.

The scenographic value of landscape

The 'script' or 'frame' provided by British Columbia Ministry of Forests' procedures directs us to consider landscape value based on the visual composition of features, in terms of form, line and other formal design elements. These elements are presented and standardized in the Procedures and Standards Manual (British Columbia Ministry of Forests 1997a) and in the Design Manual (British Columbia Ministry of Forests 1994a).

The premise of this landscape management approach is that, if alterations are 'designed properly', the landscape will arouse or maintain an aesthetic response in all who view it (thus, the idea of aesthetic quality in the landscape and the idea of a visual aesthetic go hand in hand). Also, "a landscape must be understood in the most objective terms possible", achieved

through the use of a specific "vocabulary of design principles" to describe the

landscape and generate design options (British Columbia Ministry of Forests

1994a, 5). Appreciating landscape within this model, then, is appreciating its

composition visually, much as we might appreciate other designed entities.

Participants revealed through the participant-directed landscape imaging

exercise, however, that there is more to (aesthetic) value than our response to

the formal qualities of what we *see*. The rationale given by the Ministry of

Forests for an emphasis on (if not privileged position for) the visual in landscape

assessment is that "most of our perception of the world is visual" (British

Columbia Ministry of Forests 1994a, 5). Porteous (1990, 4) too, suggested that

"[vision] yields more than 80 percent of our knowledge of the external world", but

adds that this means "other senses are increasingly neglected"[55]. Multi-sensory

experience is elemental to our aesthetic experience, as discussed in Chapter 4[56].

We use other senses to take in the world. Smells and sounds also tell us

something is or is not beautiful. The sound of loons is as likely to lead to a

declaration of 'beautiful landscape' as is a well-composed cut-block on a forested

hillside. A *visual design* emphasis for aesthetic management leads us to attend

little to aspects of landscape that do not fit within this convention. Ensuring

habitat for loons is rarely considered as contributing to an aesthetic dimension

of landscape. In contrast, participants in the experiential study noted the

importance of habitat, presence of wildlife and other ecological qualities as

important aesthetically.

The formal, scenographic aesthetic is the basis of what Carlson (1993)

has called "design appreciation", the way that we aesthetically appreciate many

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[55] A rationale based on *quantification*, to the neglect of *qualification* in determining importance further positions the landscape assessment of British Columbia Ministry of Forests within the dominant, quantitatively-oriented paradigm of Western culture.

[56] Perception research is also noting the role of the various senses in our perceptions, and sounds (hearing) is increasing in terms of importance.

forms of art. The basis of this kind of appreciation, according to Carlson, involves the appreciation of something designed – something that has an intentional design, an object designed, and a designer. But is, or should, the aesthetic appreciation of landscapes and environment be the same as the aesthetic appreciation of art?

If we consider landscape to be art[57], then such an aesthetic might be acceptable. Usually we consider landscape (for example, the forest) to be natural, something without an ultimate (human) designer, which, according to Carlson, involves a different kind of appreciation: "order appreciation" [58]. Order appreciation arises not from appreciating what a designer has created, but rather, "from awareness and understanding of the order, the forces which produce it and the story which illuminates it" (Carlson 1993, 213). For some inhabitants of the Cariboo, the forces involved volcanic and erosive processes, and for others, the change of seasons. Human intentions, such as the search for gold, also produced landscapes and provided the stories which illuminate its understanding and meaning.

Inhabitants of the Cariboo revealed that ecological function or biodiversity, for example, can produce a useful, orderly, and healthy landscape, which is also attractive at the same time, and something to be appreciated, because of its order and health. Maintaining aesthetic value, given this premise, means maintaining ecological function and biodiversity. Callicott (1992) and Gobster (1995) discuss this idea of an 'ecological aesthetic', one also discussed by

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[57] Others (for example, Eaton 1989, 1998) suggest that even the traditional criteria for aesthetic assessment of art are expanding to include considerations of contextual factors like intent and knowledge.

[58] Philosophical discussion of environmental aesthetics, and especially the aesthetic appreciation of 'nature' has grown in the last decade. For other perspectives see Bearleant (1985, 1988, 1993, 1996), and the special issue of *The Journal of Aesthetics and Art Criticism*, 1998, 56(2) which deal specifically with environmental aesthetics.

Aldo Leopold in his 1949 Sand County Almanac (Gobster 1995) and part of other non-Western cultural worldviews (Callicott 1994).

A standardized formal visual design approach leads to an impoverished aesthetic: one that does not account for the various sensory experiences and 'illuminating stories' that are the basis of aesthetic experience, but which can be captured by an experiential approach, using procedures such as participant-directed landscape imaging. Further studies of aesthetic experience in other geographical locations using similar methods could provide a basis for comparing and contrasting the varying expressions of the illuminating stories and the multi-sensory basis for aesthetic appreciation.

Jenks (1995, 7) noted that "visual fixity is dominant and consistent with our modern, Western cultural cognitions, upheld largely through the agency of scientific practice". Landscape assessment, as part of a broader cultural milieu, reflects, reinforces and reproduces this dominant view. Because we tend to unquestioningly accept the assumptions of our dominant culture, we do come to believe and assume that "a landscape must be understood in the most objective terms possible" in order to be assessed and protected (British Columbia Ministry of Forests 1994a, 5). We therefore construct an aesthetic that allows us to scrutinize a landscape scientifically, and to reduce it to component parts for measurement and evaluation. Unfortunately, such an approach removes the wholistic essence of landscape.

The consumer landscape

The landscape's designation as a 'visual resource' initially seems to be a positive development in terms of protecting aesthetic quality. Dearden (1980) supported the acceptance of scenic quality as a non-renewable resource, requiring mapping, classification and evaluating so it can be protected along with other non-renewable resources.

Evernden (1981)[59], on the other hand, has challenged the commodification of landscape and aesthetics, asking why something we value has to become a resource in order to be cared for. Once "transformed into resources, landscapes are commodities to be consumed and manipulated" (Evernden 1981, 156). Williams et al. (1992) added that the landscape is not only a commodity, but specifically a recreational commodity, implying that we have come to assume aesthetic appreciation is most important in our leisure time, and not so important in other realms of life. Inhabitants of the Cariboo, however, revealed that aesthetic considerations, even narrowly conceived of as 'visual', have a role in non-recreational realms of our lives, significant to our quality of life, to our livelihoods and to our day-to-day enjoyment.

Tourists, the ultimate recreational consumers of landscapes and views, have been the implied observers in landscape assessment. As such, the responses of residents or inhabitants have received much less attention (Jakle 1987, Urry 1990), or have been assumed to be similar to the tourist perspective. Aesthetic appreciation is more than just part of the 'tourist gaze' (Urry 1990, Crang 1997), as revealed in the Cariboo experiential study.

Landscape assessment, part of the Recreation Resource Inventory, requires that we see landscape as a 'visual resource'. The result is a technical emphasis on the manipulation and control of the resource to meet recreational viewing needs. This valuation, like the visual, design aesthetic, fits comfortably within the well-established utilitarian philosophy of conventional resource management and our broader cultural worldview (Williams et al. 1992). The ideas of a visual aesthetic and a visual resource thus go hand in hand.

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[59] Evernden (1981) provides a singularly cogent and interesting discussion on this aspect and others in the Cartesian metaphysics underlying contemporary landscape assessment techniques, and the implications of the continued acceptance of Cartesian dualism.

The resource perspective on landscape as a 'way of seeing' has been traced to the post-Renaissance adoption of the Cartesian view of the world and has become a deeply ingrained part of this worldview (Evernden 1981, Cosgrove 1985). Based in the primacy of vision and the appropriation of land, the visual power given by the landscape way of seeing parallels the real power which humans exert over land as property. That landscape is a particular 'way of seeing' – pictorial, rooted in the Western social and cultural worldview, and implicated in power relations -- has been noted by researchers and scholars (Barrell 1972, Cosgrove 1984, Crandell 1993).

Rose (1993) has stated that this way of seeing is also a "male gaze", and its oppression of nature parallels the oppression of women[60]. An inclusive approach to landscape assessment is needed to enable different 'ways of seeing'. An experiential approach and methods such as participant-directed landscape imaging provide the opportunity to capture a variety of perspectives.

Sagoff (1988) concluded that individuals conceptualize and answer questions regarding environmental management options (such as protection) differently depending on the context in which the questions are posed: they answer as "citizens" or as "consumers". Conventional landscape assessment, as discussed, provides a context for people to respond as "consumers" of landscape. Landscape is a commodity we visually consume, and visual management is aimed at mitigating the negative impacts that extractive consumption has on the visual resource. But, participant-directed landscape imaging can offer the context for people to respond broadly as "citizen" or, for that matter, in any role to which living in or being in a particular environment might give rise.

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[60] Critical feminist and historical work in geography (Wilkinson 1979, Norwood and Monk 1987, Rose 1992) is beginning to explore the gendered landscape and can offer insight for a 'critical' landscape assessment. It suggests that women's perceptions of landscape differ markedly from men's: where men tend to emphasize the extraordinary and the heroic, women are fascinated by the richness of the ordinary.

Participants are able to freely explore and share non-use and non-consumption relationships with landscape and include other instrumental, affective and sense of place values, as discussed in Chapter 4. The use of participant-directed landscape imaging, as approach and method, affords a different aim for landscape assessment: to go beyond mitigating impacts to the visual resource, to using inhabitant knowledge to create and maintain 'quality' places for people to live, work and play. This aim is akin to the bioregional perspective of re-inhabiting place (Aberly 1993), and offers another avenue for broadening landscape assessment research.

Conceptualizing the landscape as commodity means that not all landscapes are equal in their potential for people to respond aesthetically (i.e. consume visually), that those possessing certain features are better in this regard than others (Howett 1993). By commodifying landscape, we limit aesthetic responses to certain areas or landscapes. Yet the outcomes of participant-directed landscape imaging indicated the possibility of appreciative and meaningful responses in places which, using the procedures of visual landscape assessment, would be considered 'not visually sensitive'.

The 'displaced' value of landscape

For the most part, knowing where one is and acknowledging the influence of the character of a place is not usually part of landscape assessment. In British Columbia, the Ministry of Forests' procedures for inventory and sensitivity classification are standardized, and landscape parameters are prescribed to allow application anywhere in the province. Inhabitants of the Cariboo, however, revealed that place *is* important: knowing a landscape is a 'Cariboo' landscape is important for describing, assessing and appreciating that landscape. Indeed, the idea of place and place-related ideas were the main

themes emerging from the landscape image analysis. Acknowledgement of this realm has profound implications for landscape assessment.

Two examples from the expert study offer glimmers of hope for the recognition of place as important in landscape assessment. First, the Design Manual, despite its visual design orientation, suggests that "landscape is after all the place where we live" (British Columbia Ministry of Forests 1994a, 3), and also recognizes *genius loci* as important. (It does not indicate how genius loci might be described and maintained during environmental management and development activities, however). Participant-directed landscape imaging and an experiential approach could be a way to explore genius loci, since participants in the empirical study here did share elements of spirit of place. The 'essence of water' was one such element. The exploration of genius loci beyond its potential application in environmental and resource management is a significant avenue for research. Second, in the inventory, 'assessors' have the flexibility to consider additional factors in landscape sensitivity ratings, by using the override methodology. Including the contextual factors relating to place in these ratings could redirect landscape assessment to be more responsive to place.

A role for the outcomes of participant-directed landscape imaging in place mapping was identified earlier in this chapter. The use of local knowledge for mapping places is gaining recognition in environmental and resource management and planning, most notably as part of a bioregional perspective (Aberly 1993). Aberly (1993, 5) suggested that such mapping is considered "a tool of everyday action ... to describe what you already know about where you live". Indeed, mapping the outcomes of participant-directed landscape imaging (or

combining the two exercises) could be considered to reflect a bioregional perspective[61] for "giving the land a voice" (Harrington 1998, i).

Recent environmental and resource management literature suggests additional opportunities for recognition of the importance of place and sense of place (Haynes et al. 1996, Williams and Stewart 1998). Haynes et al. (1996, 21) noted that one objective of ecosystem management should be to manage for the human sense of place, and recommended that ecosystem management become "oriented toward a wider variety of human needs and desires ... to spiritual, cultural and even human health". They identified four aspects or dimensions of importance in this regard: scenic/aesthetic, activity/goal, social/cultural and individual/expressive, and added that "procedures and processes for understanding the first two types are fairly well established" but that "little research has occurred on the latter two" (Haynes et al. 1996, 22). The participant-directed landscape imaging themes revealed in the experiential study provide understanding about all four aspects, and insight about Cariboo-specific aspects, aspects that may not be important in other places. The nature of these outcomes suggests that participant-directed landscape imaging would be useful in this reorientation towards more holistic resource and environmental management.

Because place and place attachment are not usually attended to in landscape assessment, people's expression of such attachment is seen as a NIMBY ("not-in-my-backyard") response, indicative of an overly-emotional, immediate and subjective reaction. As such, place attachment is seen to be a failure of rational thought (again positioning the process within the broader dominant cultural worldview which privileges rationality), becoming a 'problem',

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[61] A bioregional perspective is a philosophy or set of principles for social organization which emphasizes "sense of place and living within the resources of one's local ecosystem" (Sale 1997, 187).

a root of conflict, in planning. Indeed, the perception among Ministry of Forest staff in the Cariboo study was that the public did not want any forestry activities near them. One management solution was to educate people, providing them with information and enabling them to respond appropriately (rationally). The hope was that community members would finally 'come around' and recognize that the government was managing the forest appropriately (for visuals): resource extraction had to occur in someone's back yard, and, besides, 'we have the tools to make it look good'. This approach, however, left the public feeling that the government used 'visuals' to legitimize unsound actions. Nassauer (1997, 68) suggested that the scenic aesthetic may indeed "be used to camouflage or distract us from actions that undermine ecological quality". The relationships between aesthetic quality and ecological quality need to be more fully explored.

Norton and Hannon (1998, 229) have suggested that we should "accept expressions of place-centeredness not as failings of rationality, but as expressions of commitment to one's own home and community". As such, place attachment can be seen as a source of empowerment[62]. No matter how much insight about feelings, values and experience of landscape we ascertain from citizens, unless there is some empowerment for action, place will not matter. Increasing attention to the ideas of "shared decision making" (Williams et al. 1998) and the "democratization of decision making" (McAvoy 1998) provide some insight into empowerment for environmental and resource management and planning. Not only do citizens, as the creators of local knowledge need to be heard, they need to be included in the process of deciding what use is to be made of that knowledge. The addition of experiential methods only, however, cannot do much to reorient landscape assessment in this regard; as mentioned

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[62] Attention to local empowerment is also a key aspect of bioregionalism (Harrington 1999).

throughout this discussion, attention to the broader context, and indeed to the dominant social paradigm is required.

6.3 Conclusion

In this research, I set out to explore the experiential approach to landscape assessment, to develop an experiential method for landscape assessment, and to consider how the method and its outcomes, and the experiential approach more broadly, might inform landscape assessment. This section completes this dissertation by summarizing the major findings of my research, considering the implications of these findings, and presenting my conclusions for landscape assessment theory and practice.

I developed a method – participant-directed landscape imaging -- which is a 'hybrid' method; it recognizes the need for well-defined procedures important to the expert approach, offering a fairly straight forward data collection procedure (but a more time-consuming and complex analysis phase). At the same time it also attends to, indeed is rooted in, the context-dependent and broadly defined landscape values of the experiential approach. Not only were outcomes multi-dimensional, but so were assessments: the method revealed instrumental evaluations, affective appraisals, and sense of place description. The participant-directed landscape imaging revealed rich, overlapping domains of landscape experience, highlighting feelings, and attachments and emphasizing a sense of place, in short, illustrating that 'place matters'. I contend that this richer landscape provides a more valid basis for landscape assessment than the narrowly prescribed aesthetic of institutionalized landscape assessment, which in this research was exemplified by the British Columbia Ministry of Forests visual landscape management program.

Landscape assessment for resource and environmental management and planning has relied on an approach that privileges visual experience,

commodifies aesthetic value as a 'visual resource', and devalues place.

Contemporary resource and environmental management is embedded within a

broader cultural and social context. The dominant social paradigm for our

society has been characterized as a mechanistic, utilitarian worldview which

emphasizes the methods of science to understand the world's complexities[63].

Critics of this worldview contend that its methods tend to reduce and

(over)simplify entities and complexes which are not necessarily measurable

'things' (Taylor 1992). The aesthetic script presented by the Ministry of Forests

expert approach does over-simplify aesthetics and is ambiguous. On the one

hand, the aesthetic is trivialized - "mere aesthetics", the Design manual

suggests, and reduced to "visible visual features" (British Columbia Ministry of

Forests 1994a, 4). On the other hand, 'considering visuals' is currently the only

forum for introducing aesthetic and other intangible values into the

management regime, and thus serves somewhat as a catch-all. As such, these

'other' values become unified and potentially marginalized. Taken together as

'intangibles', feelings and emotions, heritage value, sense of place, and multi-

sensory experiences of the aesthetic are not given their full due, each as

significant in its own right (albeit also complex and interacting), as illuminated

by the experiential study.

I found that in practice, the dominant approach to landscape

assessment, categorized as 'expert', might potentially be open to acceptance of an

experiential approach (or at least to experiential methods), because parts of it

were participatory and involved negotiation. I recommend using this 'opening'

as the entry point for landscape assessment to recognize that 'place matters'.

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[63] The history of the evolution of the Western view of how we interact with the world has been examined extensively by environmental historians, feminist theorists and geographers (Glacken 1967, Merchant 1980, Worster 1989, Ponting 1993). The literature is rich and engrossing.

It is in this regard that participant-directed imaging, or an experiential approach more broadly, should not be seen as just another 'tool' in the landscape assessment 'toolbox'. As Relph (1989, 154) points out:

> Little of this [approach] fits with the currently prevailing paradigm of how the world works, which is a great machine made up of lesser intermeshing machines ... practical application means developing techniques to improve the efficiency of the systems... [Experiential] methods have little to offer in this regard.

An experiential approach has the potential to do more. Participant-directed landscape imaging as an experiential approach is part of a paradigm shift to a way of thinking that includes other sensory modes of experience, that accepts and engenders non-resourcist value perspectives and, most significantly, that 're-places' landscape assessment, thereby challenging dominant ways of thinking. This 'paradigm shift' generally, and in environmental and resource management specifically, is underway (Bryant and Wilson 1998), as is evidenced, for example, by discussion of 'ecosystem management' as a way to develop a more holistic perspective in environmental management (Booth and Kessler 1996). There has also been a shift in our conventional conceptions of management and planning process. In this regard, I suggest that the idea of 'praxis' provides a useful direction for reconsidering landscape assessment in environmental management more broadly. I offer, in conclusion, the idea of 'praxis' for reorienting landscape assessment.

Practitioners such as environmental managers or planners have traditionally looked to research to the extent that it can inform their interventions; in short, practitioners apply the knowledge generated by researchers. This concept is based on the understanding that knowledge is generated in one sphere and then used in the real world. Research and practice have thus become institutionally separated in space and time, and the researcher's role is distinct from the practitioner's (Aitken and Rushton 1993).

For landscape assessment, researchers have focussed on the identification of landscape features seen to be important for separating the high quality landscapes from the low quality ones; managers then develop action to manipulate the features to protect and maintain them, or enhance and restore them, in the case of low quality.

Rather than applying the results of prior research to subsequent action, praxis "merges academic and professional spheres and blurs the boundary between theory and practice, research and application" (Aitken and Rushton 1993, 379). Schneekloth (1987, 309) similarly discussed a reflective form of practice, and called for "reflexive practitioners" who do not depend only upon existing concepts, but "establish theory and method in each context in response to interactive interpretations of means and ends". Methods and outcomes are thus grounded in experience. And, as evidenced by the findings of the experiential study in this research, landscape experience is grounded in 'place'.

An experiential approach and method, such as participant-directed landscape imaging, offers insight about how people appreciate and assign meaning to landscape, "knowledge for unlocking the world" (Relph 1989, 154). It was remarkable how place specific was this appreciation and assignment of meaning, as revealed in Chapter 4. People, or rather inhabitants of places, appreciated or were attracted to landscapes because they are landscapes of a certain place, and felt connected in both time and space to these landscapes. Participants revealed that aesthetic experiences can happen anywhere and in many places, not just visually sensitive or scenic areas, and that there is more to creating and maintaining aesthetic responses than designing how a harvested area looks. Howett (1993, 71) suggested a more participatory conceptualization of landscape, noting that appealing landscapes "manifest active, open-ended process over time, rather than static completion".

The findings that support this conclusion contribute to knowledge about both sense of place and landscape, but especially to the relationships between them. Casey (1993, 24) indicated one aspect of the relationship when he notes the following:

> When I look at a group of mountains whose name I do not know, I witness a spectacle that, however indeterminate or overwhelming it may be at first, is nevertheless, just this mountainscape. It is also evident to me that I am standing in a particular place and standing before a particular spectacle: this one and no other.

The inextricable relationship is recognized by participant-directed landscape imaging as part of an experiential approach. As method, it incorporates and builds on, rather than abandons, the narrower aesthetic.

The concept of praxis alludes to two other important aspects of re-orienting landscape assessment. If management and research merge, then the role of people (subjects or participants and planners or managers) changes too. The distinction between researcher and subject, planner and planned-for, blurs. The process of praxis merges research and practical planning. Another trend suggests that we might consider this new arrangement as a (social) process of learning. Increasingly, this 'communicative turn' has been a focus of environmental management and planning, expressed variously as "transactive" planning (Friedman 1987) or "postmodern planning" (Sancar 1992, 1994).

This dissertation has set the stage for a renewed consideration of the aesthetic and other intangible qualities in landscape assessment. Almost 25 years ago Zube and Craik (1975, 8) stated the following regarding people's perceptions and evaluations of environmental quality:

> The hunt is on for attributes of land form and land use that will predict observer evaluations of landscape quality ... [However] there is potential hazard in employing physically-derived indices prematurely as surrogates for observer-based evaluations. There is a danger that these imperfect surrogates will become embedded

and enshrined in standards and guidelines that abstract only
part of ... environmental quality. Their widespread application in
the field may systematically and relentlessly eliminate essential
elements of environmental quality not captured.

In the late 1990s, physically-derived indices have indeed become

'enshrined', in the form of public agency visual management programs, such as

British Columbia's Visual Landscape Management, and the USDA Scenic

Management System.   Observer-based (user-dependent) methods, suggested

almost a quarter century ago, and exemplified in this dissertation by the

participant-directed landscape imaging procedure, offer a way to capture valued

experiential aspects of environment. As the inhabitants of the Cariboo revealed

in this study, attention to these values *is* important.   Besides providing

additional information for landscape assessment, the use of experiential

methods contributes to a broader conceptual reorientation which is already

emerging for resource and environmental management more broadly -- a

reorientation where emotional responses and personal attachments, and an

enriched idea of landscape generally, are not only recognized, but form an

integral part of a place-based approach to human activities.

Afterword

And, so ends the story. Or, at least, this chapter in a story that is really only beginning. Since the completion of writing up this dissertation, I have continued to deal with and expand upon the ideas it contains. I am continuing to use the participant-directed landscape imaging procedure in the Prairies of southern Alberta, asking inhabitants to share their landscape images with me. Images reveal both similarities and differences in response to landscapes, compared to Cariboo landscapes. While people think that "openness" and ephemeral qualities associated with the sky are significant, micro landscapes and water seem to be less important.

Further thinking has led me to reconceptualize the three-part linear continuum of landscape assessment approaches, introduced in Chapter Two. My new way of thinking envisions a triangular arrangement, with each of the approaches occupying a corner. The middle is an area of overlap and the 'site' of the practical dimension of landscape assessment. That is, in practice, the approaches overlap more than in conceptualization (the corners). This new vision has allowed me to better place the experimental approach as well. I have also come to realize even more, the cultural embeddedness of the practice of photography, even with additional words from participants. Further to the comments of the only Native person to complete the participant-directed landscape imaging, I am beginning to look for ways to enlarge the method to allow people in cultures not so familiar with "picturing", and who use other ways of capturing and communicating landscape experience, to share their images.

The Cariboo has become for me one of those 'places of the heart', despite having my short residency of only two years there. As I was preparing to move from 100 Mile House, to take a position at the University of Lethbridge, a woman, who operates the photocopy shop at which I had become a 'regular', remarked to me when I told her that I was moving: "Oh, you'll be back; don't worry, everyone comes back at some point..." I haven't returned to the Cariboo, though ... at least not yet.

Appendix A

**Initial Letter and
Participant Information Letter and Consent Form**

Mailing Address
Box 163, 108 Mile Ranch
B. C.   V0K 2Z0

Phone (604) 791-6528
e-mail sldakin@netshop.net

████████

     I am sure you, like me, appreciate and enjoy living in British Columbia. I am a researcher interested in how you feel about the landscapes of the Cariboo. As part of my research at the University of Waterloo, with financial assistance from Forest Renewal BC, I am asking members of Cariboo communities to share their values, insights and experiences with me in regard to local and regional landscapes. I would appreciate the opportunity to speak with you about this.

     Essentially, I am trying to find out what the landscapes of the Cariboo mean to the people who live, work and recreate here. The objectives of my research are to:
1. Apply a holistic landscape concept in collecting experiential information for landscape level analysis and management for resource management and planning;
2. Identify public values such as emotional associations, attitudes towards and cultural significance of forest landscapes;
3. Develop, apply and share methods for incorporating these values into landscape assessment along with visual / design, ecological and other elements;
4. Use the methods developed to help strengthen communities by:
     - involving communities in the landscape assessment process
     - providing information for decision-making
     - increasing involvement of all stakeholders; and,
5. Motivate stakeholders to incorporate new knowledge about landscape into decision-making.

     The focus of the research is methodological. Results will be qualitative interpretations of data, and will not involve recommendations about land use or activity restrictions in specific areas, for instance. The concern is with elucidating the meaningful associations that local and regional landscapes hold and to determine how to incorporate this information into forest resource decision-making. By demonstrating landscape analysis that uses methods attuned to local landscape values, community education and empowerment is enhanced. As well, the richness of Cariboo landscapes can be shared.

     I will be collecting data over several phases. In the first phase, participants will be provided with a camera and/or film to capture images of the Cariboo that are important or hold special meaning or significance for them. The next phase of research will involve in-depth interviews or focus groups with various members of the community. Since analysis of data will involve the extraction of themes and patterns in attempting to come to an understanding of landscape experience, participants will not be identified by name in any results, and all information provided would be considered confidential.

     I will be contacting you soon to discuss my project and to ask for your input. Perhaps at that time you could also suggest the names of others who might be helpful or would wish to be involved. If you have any questions or need more information, I would be happy to have you contact me. I look forward to speaking with you, and thank-you for taking some time from your busy day to read this letter.

Sincerely,

Susan Dakin

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Susan L. Dakin
PhD Candidate, Faculty of Environmental Studies, University of Waterloo
Box 163, 108 Mile Ranch, B.C. V0K 2Z0   (250) 791-6528   sldakin@netshop.net

Dear Participant:

Thank-you for your cooperation in this research. Your participation is very important and greatly appreciated. The participation of citizens like you is a key part of this research process. In fact, your input will provide the information for analysis in this project. The research activity in which you are participating is the first of two phases of data collection. It is also part of my PhD thesis research at the University of Waterloo. The project is partly funded by Forest Renewal B.C. through the Science Council of B.C. The main purpose of this research is to look at how people who live in the Cariboo region perceive landscapes, and then to consider ways of including this knowledge in resource management and decision-making.

You have been provided with a camera and /or film to take photographs of what is important or meaningful to you in "the Cariboo". You have also been given a notebook in which to write descriptions of the pictures you took and images you were trying to capture, and the reasons you felt these images are important, significant, meaningful or special. Frequently in landscape research, the researcher photographs landscape scenes for participants to evaluate. My research methods will allow you, who are most familiar and involved in this place we call the Cariboo, to take pictures of landscapes **you** value.

You don't need to be an expert photographer. It is not the quality of the photos that I will examine when I analyze the photographs I get from all participants. I will be looking for themes and patterns from your points of view so I can learn about the landscapes in this part of B.C. What do you - who live, work and recreate in this region - think about the landscapes here? Our landscapes are very diverse. I would like you to take pictures of landscapes or parts of landscapes that are historically, recreationally, economically, ecologically, culturally, symbolically, emotionally or personally significant **to you.** The notebook is for you to jot down a few notes about each photo you take: where it is, when you took it, why it is important to you, and anything else you think might be important for me to know. Please feel free to share with me details, stories or other expressions of Cariboo landscapes. It is important for you to think about these things, since I would like you to use only the one roll of film provided, per season. I will be in touch with you in about 8 weeks to collect the film for processing and the notebook, and to see if you will continue to participate in the same manner for the next season. If you finish sooner, you can contact me and I can pick up the equipment.

The main purpose of this research is to identify and describe the meaningful aspects of local and regional landscapes for people who live and work here. In the next phase, I will try to determine how to incorporate this information into forest resource decision-making. Landscape analysis that uses methods which can capture local landscape values, as this research will demonstrate, can enhance community education and empowerment for safeguarding the richness of Cariboo landscapes in resource management. I have also included in this package a research brief that provides some background and context to my research project. I hope you will take some time to read it.

My focus in this research is on methods. My aim is not to recommend, for example, land use changes or activity restrictions in specific locations. Also, participants will not be identified by name in any results, unless they wish. All information provided will be considered confidential, and you can withdraw from the study at any time. You will also have the opportunity to review my analysis of your information to ensure I have interpreted it satisfactorily. This research has received approval from the Office for Human Research at the University of Waterloo.

If you have any questions at all, or would like to discuss any aspect of this project, at any time, please feel free to contact me. My phone number and e-mail address are at the top of this page. Thank-you so much for your participation. It is important to my research at the University of Waterloo, and for protection of the Cariboo.

Susan Dakin

Participant Consent Form

I agree to participate in "participant-directed landscape imaging" which is part of the thesis research and FRBC-funded project conducted by Susan Dakin of the University of Waterloo. I have made this decision based on the information I have read in the information-consent letter and have had the opportunity to receive any additional details I wanted about the study. As a participant in this study, I realize that I will be asked to take photographs of aspects of landscapes of the Cariboo that are significant to me, and that I can withdraw from the research project at any time. All information which I provide will be held in confidence and I will not be identified by name in any documentation or reporting of results. I also understand that this project has been reviewed and received ethics approval through the Office of Human Research at the University of Waterloo and that I may contact that office if I have any questions or concerns about my involvement in this study.

Name of Participant: _____

Signature of Participant: _____

Name of Witness: _____

Signature of Witness: _____

Date: _____

Appendix B

Interview outline

INTERVIEW GUIDE

1. PURPOSES OF INTERVIEW:
2. COLLECT BIO

3. START WITH THEIR PICTURES:

TELL ME ABOUT THIS AS A LANDSCAPE THAT IS SIGNIFICANT TO YOU

WHY IS IT MEANINGFUL??

HOW DO IT MAKE YOU FEEL??

WHAT IS AESTHETIC ABOUT IT??

4. GENERAL LANDSCAPE:

TELL ME ABOUT THE LANDSCAPES OF THE CARIBOO THAT ARE SIGNIFICANT TO YOU.

IN WHAT WAYS ARE THEY SIGNIFICANT?

DO YOU THINK OTHERS SHARE THESE VALUES??

HOW DO THEY MAKE YOU FEEL/

ARE THESE FEELINGS IMPORTANT TO YOU

DO YOU THINK OTHERS SHARE THESE FEELINGS/

DO YOU THINK THE THINGS YOU VALUE ARE DEALT WITH BY PUBLIC PLANNING PROCESSES OR IN RESOURCE MANAGEMENT AGENCIES??

SHOULD THEY BE?

HOW MIGHT THEY BE?

DO YOU HAVE FAVOURITE PLACES / LANDSCAPES IN THE CARIBOO?

WHERE/

WHY/

DO YOU VISIT THEM?

DO YOU THINK OTHERS SHARE THESE VALUED LANDSCAPES?

SHOULD THEY BE PUBLICLY ACKNOWLEDGED?   HOW?

WHAT DOES THE TERM LANDSCAPE MEAN TO YOU??

CAN LANDSCAPES BE ASSESSED?

HOW ELSE DO YOU USE, OR ARE INVOLVED IN LANDSCAPES?

HOW WOULD YOU TELL OTHER PEOPLE ABOUT THE CARIBOO - VISITORS, FAMILY OUTSIDERS?

HOW DO YOU FEEL ABOUT WHERE YOU LIVE?

WHY?

DO OTHERS SHARE THESE FEELINGS?

ARE YOU AWARE OF WRITINGS ABOUT THE CARIBOO, ARTISTS ETC ??

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