Development of a Values-based Approach to Managing Recreation on Canadian Crown Lands

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Abstract: A key issue in sustainability is understanding the values of a particular place that are to be conserved. While many of the natural resource values of protected areas are mandated, values associated with public use and recreation are frequently less clearly defined and often hotly contested. Public involvement processes are often used to elicit these values and a number of mostly survey-based approaches have been developed to achieve this. However, theoretical considerations concerning the nature of values and the processes of value formation have brought into question whether survey approaches on their own are the most appropriate way of understanding values.

Consideration of public use and recreation values brings into play many of the issues surrounding place attachment and place identification. People value places because they symbolize something, because they have histories and memories associated with them, because they are interwoven in the stories we tell our self and others about who we are, and because they are rhetorical methods of making arguments for managing a place in one way or another. These ideas center on 'meaning-based" rather than "information processing" models of value formation. In this context, values are seen as discursive constructions, which are continuously being contested and reconstructed through political dialogue.

It is argued that a 'meaning-based' approach to value formation is better suited to the developing models of collaborative planning than are the expert-driven, rational decision-making models that have dominated natural area planning. This paper describes a planning approach, which seeks to combine both interpretive approaches to data collection (narratives and value mapping) and survey methods in the elicitation of values attached to a working forest. A process will be detailed that links the characteristics of an area with the spatial distribution of values ascribed to the same area utilizing GIS and photo-mosaic representations. The case study area discussed in this paper is the Dog River/Matawin area of North Western Ontario. Application of this approach to forest planning will be discussed.

Introduction

Forests covering almost 50 per cent of the land surface of Canada have played an important role in the development of Canada as a nation, and in the development of its traditions, culture, and history (Myre 1998). Although almost all of the forests in Canada are publicly owned, the majority of harvesting is done under lease agreements with private forestry companies. These agreements allow companies to cut timber but provide no rights to other forest resources (e.g. wildlife, land and water). Moreover, these companies are increasingly required to adhere to conditions relating to protection of the forest environment, wildlife, and Aboriginal heritage.

Prior to the 1970's, timber harvesting was focussed on mature stands without much attention being paid to regeneration or silviculture. However, in the 1980's and 90's a change in policy and legislation evolved culminating in the 1992 National Forest Strategy, which recognized the need to manage forests on the principles of sustainable forest management. This Strategy was endorsed by provincial and territory governments and paved the way for forest companies to develop codes of forest practices based on these principles (Myre 1998). During this same period, in response to increasing public use of forests and demands for involvement in forest planning, there was an increasing realization that forests provided a broader range of values than the purely economic. For example, the Crown Forest Sustainability Act 1994 for Ontario states that Crown Forests are to be managed "to meet social, economic and environmental needs of present and future generations." Consequently, a major challenge in Canada and elsewhere in the world is how to take into account a broad range of social values in the management and planning of 'working' forests (Tindall 2003, Tarrant et al. 2003, Rantala & Primer 2003).

Public Involvement in Resource Planning

In many parts of the world, collaboration with local communities is a requirement of the planning process in natural resource areas and more broadly within a region. Positive advantages of such involvement include the opportunity to capitalize on local knowledge, encourage support for management decisions and improve the quality of decision-making (Shindler & Neburka 1997). Despite the obvious advantages and indeed, the necessity in this modern world, to involve stakeholders in planning situations, such involvement is a complex and often contentious process.

Professional planners trained to rely on science and technical expertise as a basis for decision-making (Lachapelle et al. 2003), are frustrated by the decreased acceptance in the public arena of the resultant management decisions and distrustful of the outcomes of the collaborative process. One major outcome of public involvement has been that it has demonstrated that professionals and lay persons, more often than not, express quite different views as to the values of those places, which are important to the public's work and leisure lives (e.g. Wagner et al. 1998). Hence the challenge for the professionals is to develop more effective and theoretically sound methods for incorporating public value positions into the planning process.

Values

In an environmental context, values have been defined as 'direct and indirect qualities of natural systems that are important to the evaluator' (Satterfield 2001, p. 332). The importance of values lies in the realisation that, many natural resource conflicts are more about values than they are about facts (Yankelovich 1991). For this reason, the call to include a broad range of social values in environmental and natural resource planning has intensified over recent years (e.g. Borrie et al. 2002, McFarlane & Boxall 1999, Brown & Reed 1999, Satterfield 2001).

Philosophical and theoretical differences about how the valuation process occurs are at the root of the problem of incorporating values into the public participation process. Three dominant and divergent perspectives have been recognized: social utility; social cohesiveness; and social discourse (Keuntzel et al. 1997).

The social utility perspective has been used extensively in natural resource management and is based on the view of valuation as rational, goal-directed behaviour. This perspective underlies widely used recreation planning frameworks such as the Recreation Opportunity Spectrum (ROS) that links motivations for participation in recreation experiences to the achievement of desired and valued benefits for the individual and society (Driver et al. 1991). Neoclassical economic approaches including 'cost-benefit analysis', 'contingent valuation', and 'willingness to pay' that attempt to reduce all values to single monetary unit are further examples of the social utility perspective. Despite widespread criticism (e.g. Milbrath 1984, Bengston 1993, Keuntzal 2000), the social utility perspective persists as a dominant force in decision-making in the development of forestry policy (O'Brien 2003).

Social cohesiveness, on the other hand, views values as objects that exist within society as shared entities and individuals ascribe to various values based on their membership of certain groups (Parsons 1951). In effect, values act as a constraining force in societies and serve to maintain order and cohesiveness in an increasingly complex and confusing world.

Both of these perspectives have emphasized the empirical identification of values either as benefits, recreation preferences, or monetary units as in the case of the social utility perspective or as normative systems (e.g. Rokeach 1973) as perceived through the lens of social cohesiveness.

The third and more recent view, following Giddens (1984), is the social discourse perspective, which is somewhat similar to that of social cohesiveness, in that, values are seen as an integral part of the structures and institutions of societies. However, the former argues that values are more contextual, and much less stable and universally accepted than envisaged in the social cohesiveness perspective. Instead, social discourse emphasizes that, while people embrace the values of society, they are also instrumental in constructing and reconstructing them through everyday social interactions (Keuntzal 2000). Hence, the values expressed by people may depend on who is asked, when and under what circumstances.

We would suggest that this perspective implies that in any discussion on the preferred management options for a particular forest, all three of these value perspectives are in operation (Figure 1).

The legislative imperatives (e.g. the Crown Forest Sustainability Act 1994) would form a socially agreed framework nonetheless open to multiple interpretations. It has also been suggested (Keuntzel 1996) that natural resource professionals are not neutral mediators in natural resource planning but are, instead, active participants who use their disciplinary frameworks and personal biases to influence

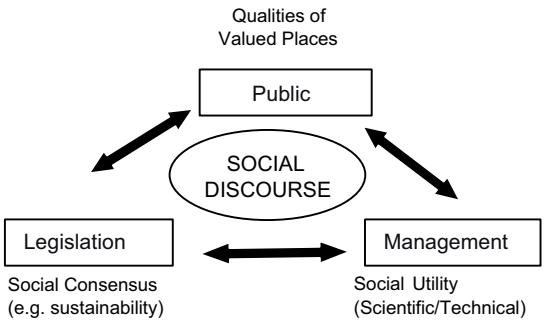

Figure 1. Social Discourse in Resource Management.

the agenda and direct the process of public debate. Hence, managers are viewed as perceiving the planning process through the lens of a scientific, technical value system (Cortner & Moote 1999) using supply-driven models such as the Recreation Opportunity Spectrum (ROS). Finally, the various publics would express preferences based on the direct or indirect qualities of valued places.

This suggests that natural resource planning is at its center "an intrinsically political process involving community deliberation and struggle" (Lachapelle et al. 2003, p. 475) over differing value positions about specific places.

Forest Values

Many studies both in North America and overseas have focused on exploring the values that the public attach to forests. Traditionally, these values have been studied by requesting participants to respond to survey items developed through literature reviews (e.g. Manning et al. 1999), expert panels (e.g. Bright et al. 2000) and focus groups (e.g. Shields et al. 2002). This research has resulted in the recognition of various value positions.

Xu and Bengston (1997) from a content analysis of news media reports on forest management, planning and policy identified four distinct forest value orientations related to the US National Forests (i.e. economic/utilitarian, life support, aesthetic and moral spiritual). Manning et al. (1998) applied a survey instrument based on 11 value positions comprising historical/cultural, aesthetic, ecological, recreation, education, moral/ethical, therapeutic, scientific, intellectual, spiritual, and economic. In Australia, the Social Assessment Report (Commonwealth of Australia, 1998 in Ananda & Herath 2003) recognised economic, social and cultural, historic, aesthetic, environmental, recreation and education values.

It has been demonstrated that forest value orientations are influenced by a variety of factors (Steel et al. 1994) including socio-demographics (e.g. age, gender, education and place of residence), self or group interest (e.g. membership of environmental organisations) and political affiliation. Significant differences in value orientations have also been noted between the public and government and industry foresters (Wagner et al. 1998) and gradual change in both public values and those of forest professionals with time have been proposed (Bengston et al. forthcoming).

In general, the research suggests that we know a lot about broadly defined forest values, and about the societal factors that influence them. We know that these values have shifted from a utilitarian to a more biocentric orientation over the last 10 years and that this change is evident both in forest professionals and the general public. There is evidence also to suggest that, at least in the USA, management is leading this trend (Steel et al. 1994). Although this research is useful in informing large-scale policy development in forest management, it is essentially too general and de-contextualised to be applicable in the specific place-based conflicts that characterise much of forest planning.

Place Meanings and Forest Values

Place-based approaches to natural resource planning are attracting increased attention in many parts of the world, especially in the context of ecosystem management (Galliano & Loeffler 1999, Williams & Stewart 1998, Williams & Patterson 1996, Mitchellet al. 1993) and in the adoption of community-based collaborative partnerships in forest management (Oglethorpe 2002). This renewed interest in place and increased emphasis on collaborative processes indicate a move away from 'one-suit-fit-all' planning models that have dominated natural resource planning in recent times. It recognizes the strong bonds that people develop with natural places and the need that they have to be involved in influencing the future direction of change in places they value.

Central to the understanding of a place-based approach to planning is the realisation that:

> natural resource politics is as much about contest over place meanings as it is competition over the allocation and distribution of scarce resources among interest groups (Cheng, Kruger & Daniels 2002, p. 98).

'Place meanings' encompass values attached to natural places (e.g. utilitarian, belonging, beauty, spirituality etc.). Forests or specific sites within them are seen as socially constructed 'landscapes that are multi-faceted, complex and saturated with meaning' (Cheng et al. 2002, p. 90). Planning therefore becomes a social process of negotiating consensus among the variety of place-meanings that are assigned by resource professionals, individuals and groups to particular places.

Place-meanings are bound up with individual and group identity. The values expressed by individuals with regard to specific places may represent strongly held individual attachments or reflect shifting group allegiances. Thus stereotypical labelling of people conventionally applied in resource planning situations (e.g. 'environmentalist' or 'logger') may not necessarily be reliable indicators of the value positions adopted by them. For example, Brandenburg and Carroll (1995, p. 391) found that in the public planning of a watershed 'it was the experience of place instead of common group values that appeared to shape their environmental values'.

The contingent, negotiated and shifting nature of place meanings makes elicitation of values difficult and suggests the need to employ interpretive, rather than, or as well as, survey approaches in data collection. For example, Satterfield (2002), in the context of environmental values, has suggested that personal, place-based narratives may be a particularly useful data source:

> values may be more commonly embedded, in… our everyday impassioned and storied talk about nature and meaning. Perhaps… it is only through such talk that we can elicit values that belong to this philosophic-spiritual-affective realm (p. 335).

Following Satterfield (2002) and Cheng et al. (2002) the study reported in this paper uses a number of interpretive approaches including, narratives, mapping, photography and diaries to uncover the values that are attached to specific places within a working forest in Canada. Value statements derived from the analyses of the interpretive data were included in a survey instrument that was used for a broader community-based assessment of value positions.

Study Area

The Dog River-Matawin is a working forest in North Western Ontario that forms an important outdoor recreation resource for the adjacent communities of Thunder Bay, Atikokan and Ignace. Refer to Yuan et al. (2004) for details of the study area. This paper discusses the values elicitation process used in the development of the Spatial Recreation Planning Model. The essence of this model is the integration of supply (roads, topography including water bodies and a Recreation Opportunity Spectrum plan), and demand (valued places derived from users) with the Forest Management Plan using GIS technology to develop a decision-making framework that embodies recreation as a key component in the overall forest planning process. A central feature of this approach is the production of a three-dimensional, interactive, system that can visually represent the forest at different times and under the influence of differing silvicultural regimes (Yuan et al. 1994). This particular paper provides some insights into the strategies for values elicitation and discusses preliminary results of this process and the values survey developed from it.

Values Elicitation

Three phases of data collection were used to elicit values from users of the study area: Focus groups and mapping exercise; in-trip photography and photo-logs; and daily diaries.

Focus Groups

A series of 11 focus groups were used to elicit special places and the values (qualities) associated with these places within the Dog River-Matawin. Participants were encouraged to reminisce and recount stories about trips to the Dog River-Matawin and to identify and name the places associated with these memories. A group rather than an individual interview format was used because it was thought that the former arrangement would be more stimulating and individuals would 'feed off' the stories of others. All focus groups were recorded and videotaped with the permission of the participants. The recordings were transcribed and analysed for information on special places and the values attached to them. As part of the focus group sessions, participants were asked to mark 'special places' and associated values directly onto 1:50,000 maps of the study area.

Focus groups comprised both special interest groups (hunters, fishers, environmental and tourism NGO's, motorised and non-motorised recreationists, and cottagers) and groups made up of interested community members recruited through a telephone survey. Sessions were conducted in Thunder Bay and also in the communities of Atikokan and Ignace.

Photo-logs

A second phase of data collection involved the use of cameras and photo-logs (Taylor & Schuster 2002) in the Dog River-Matawin in the summer of 2003. Visitors to the area were asked to take photographs during their trips, to record the subject, location, importance and positive or negative effect on her/his experience. Photographs and photo-logs were analysed for expression of values.

Daily Diaries

Participants were asked to record the most memorable event of the day for each day of their trip, the location and the reason why the event was memorable. Statements were entered into a spread- sheet and analysed for value expressions.

All data points derived both from the focus group transcriptions and the mapping exercises, the photo-logs, and diaries were entered into a GIS data-base for subsequent spatial analysis.

Twenty-one value statements derived from analysis of the focus group transcripts were used to develop the questionnaire that was distributed to users of the Dog River-Matawin, residents of Thunder Bay and North Western Ontario, and USA and Canadian tourists passing through the region (Payne et al. 2004).

Focus Group Analysis and Results

The focus group transcripts were open-coded and axial coded (Neumann, 2003) for expression of 'qualities or values that made the Dog River-Matawin a good place to visit'. Seventeen value/quality themes were identified from the focus group transcripts:

- Access[1] (e.g. "go out for a quick fishing trip or quick and easy camping… easy to get to");
- Recreation Experiences (e.g. "I like the variety of (*recreational*) experiences you can get throughout this area");
- Solitude[1] (e.g. "you can have nobody else on a lake if you wanna go that far out to get there")
- Wildlife[1] (e.g. "we came across a group of... loons… like they were playing… that was very special");

- Aesthetics/beauty (e.g. "that's one of the things, the aesthetics that actually brings me back");
- Intergenerational (e.g. "I can take my kids out there and share the same experiences with them that I had with my father");
- Social: friends, family[1] (e.g. "we have our tradition with just, uh, family members that we always go out… we look forward to this every year")
- Exploration/adventure (e.g. "getting to those lakes and seeing those pictographs is so special because their hard to get to");
- History (e.g. "a spearhead... found one… dated back somewhere between 5,00 and 7,000 years… that's something interesting");
- Economic (e.g. "the outfitters opened up some of these areas… because there (*is*) great economic [*value*] to it as well");
- Belonging (e.g. "when we go *back* to places like that [*fishing and hunting spots*], that's like going home");
- Fishing and Hunting (e.g. "when you do hunt… the seriousness and the whole commitment is there then, that you just can't get with... sightseeing or something");
- Education/research (e.g. "Greenwood Lake (*conservation area*) has an educational as well as research value to it. Your first impression is these big trees… then as you study more, you see all kinds of subtle differences");
- Wilderness (e.g. "I think part of the uniqueness of this (*area*) is the pristine wilderness").
- Therapeutic (e.g. " I spend every day with 300 students… go home to my dinky little apartment… here I rejuvenate myself");
- Spiritual (e.g. "such a diverse experience and it (*nature*) changes every time… its familiar but it really isn't");
- Lakes and water (e.g. "drink the water in the lake. That really impresses people from... outside the area because they don't").

The catalogue of values derived in this study, allowing for variation in classification, essentially duplicate those in many other studies (e.g. Manning et al. 1998, Brown & Reed 1999). A key difference in this study, however, is that users have linked these values to specific places on the map of the study area. In this way, particular concentrations of values can delineate specific value clusters. Figure 2 shows a detail from the GIS values map of the Dog River-Matawin in which the density of value points has been mapped. It is evident from this example that, in general, valued places tend to cluster along the margins of the main roads and in and around easily accessible lakes attesting to the strong influence of access in influencing use of the area.

These value clusters can be related to landscape features (roads, lakes), forest treatment sites, ROS designations etc. all of which are inter-linked spatially in a GIS data-base. The value layer is an essential part of the development of the interactive three-dimensional Recreation Planning Model for the Dog River-Matawin (Yuan et al. 2004).

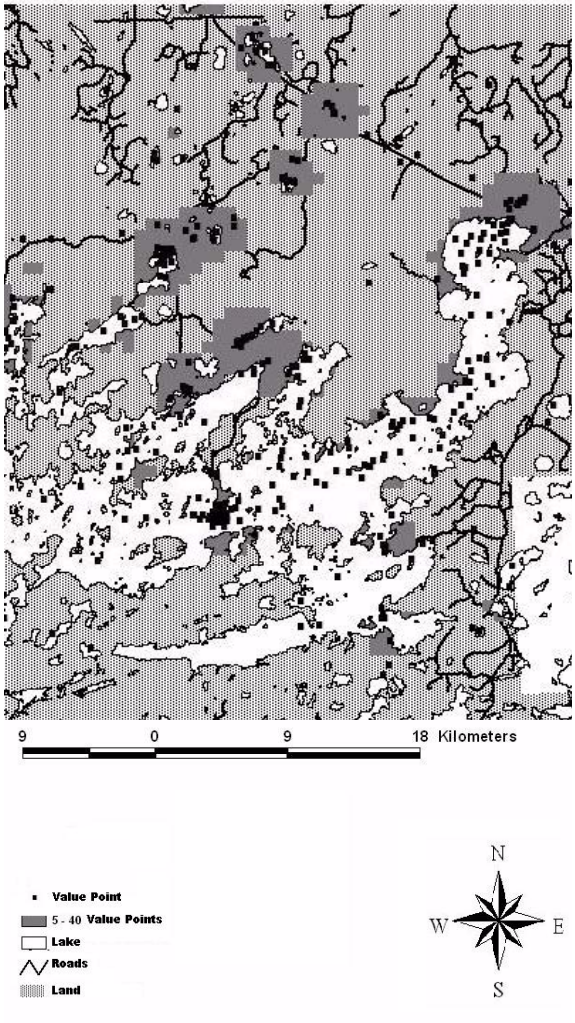

Figure 2. Distribution of Forest Values.

Data from the photo-logs and diaries essentially fitted the classification of values derived from the focus groups and were used mainly to increase the density of specific value sites identified by users.

Survey Analysis and Results

Two measures of value importance were used to assess community forest values of the Dog River-Matawin. The first was a General Forest Values scale that consisted of six general value statements derived from a study of forest values in Northern Ontario. (Hunt & McFarlane 2003). These statements were included in all surveys. Refer Payne et al. (2004) in for details of the survey administration.

A second Forest Values Scale was compiled from verbatim statements addressing the main themes derived from the analysis of the focus group transcripts that aimed at examining the importance of these value expressions to a broader constituency

(N= 487) including a more diverse local community sample, USA residents and visitors from elsewhere in Canada.

General Forest Values

On the General Forest Values Scale the mean scores of the various items (Table 1) on a five-point scale of importance indicate that the bequest value is highest with a mean score of 4.56 and has the lowest standard deviation (0.65) indicating a high level of agreement among respondents. Economic and Recreation values are rated as very important with mean scores of 4.05 and 4.03 respectively and standard deviations of approximately 0.9. The statement "forests have a right to exist for their own sake" was rated at 3.86 just below very important but there was a greater spread in opinion, as indicated by the standard deviation of 1.11. Meeting human needs and the spiritual values of forests were rated lowest but again demonstrated wider ranges of opinion among respondents. In general, it appears that the overall evaluation of the Dog River-Matawin is anthropocentric with intrinsic and spiritual values being rated as relatively less important.

Forest Values Scale

The Forest Values Scale comprised 21 verbatim quotes derived from the focus group transcripts and the six items from the Ontario wide survey of forest values (Hunt & McFarlane 2003). A five-point scale of importance was used varying from 1= Not Important to 5= Extremely Important.

A Principal Components Factor Analysis (SPSS 10) with Varimax Rotation produced six factors with eigenvalues greater than 1.00 (Table 2) that explained almost 60 per cent of the variance. All items with factor loadings in excess of 0.5 were included in the solution. As a result of this, four items were dropped from the final solution (intrinsic, meeting human needs, social others, and valuable and uncommon wildlife). The 'access' item (good road access for quick camping and fishing) loaded almost equally on Factors 3 and 5.

Factor 1 attests to the wide range of values provided by the Dog River-Matawin including: spiritual, learning, historical and belonging as well as economic values. A sense of wilderness, low visitor density and solitude are the key characteristics of Factor 2. Motorised consumptive recreation notably hunting and fishing characterise the third factor along with a sense of camaraderie and access. Factor 4 focuses on the waters and lakes of the region and the importance of family recreation and the bequest value of the forest. The linkage between 'bequest' and 'family' is notable given the importance expressed in the focus groups about intergenerational sharing of recreational experiences. Factor 5 focuses on recreation diversity including motorised access and an appreciation of forestry activities. The final factor links tourism with adventure and the diversity of wildlife.

Table 1. Mean Scores of General Forest Values (N= 3,197).

General Forest Value Statements	Mean	Stdev
Forests are maintained for future generations to enjoy	4.56	0.65
Forests contribute to economic stability in local communities	4.05	0.91
Forests provide a diversity of recreation opportunities	4.03	0.90
Forests have a right to exist for their own sake	3.86	1.11
Forests meet human needs	3.79	1.00
Forests are sacred	3.47	1.27

Table 2. Factor Analysis of Value Items.

Item	1	2	3	4	5	6
sacred*	.73					
learning	.68					
history	.65					
economic*	.65					
belonging	.57					
variety values	.57					
wilderness		.78				
uncrowded		.75				
solitude		.68				
exploration		.62				
fishing/hunting			.77			
social friends			.65			
logging roads			.61			
clean water				.62		
beautiful lakes				.58		
bequest*				.55		
social family				.54		
forestry					.67	
recreation*					.64	
access			.53		.55	
adventure						.67
eco-tourism						.57
wildlife						.52
Eigenvalues	8.3	2.6	1.8	1.2	1.1	1.0
% Variance	30.9	9.6	6.5	4.6	4.1	3.8
Cumulative %	30.9	41	47	51	55	60

* (Hunt & McFarlane 2003)

Analysis of the relative importance of the various factors indicates that all the value groupings are important (Table 3). However, three main groups are

Table 3. Mean Forest Values (N= 558).

Forest Values	Mean	Stdev
Lakes/Family Recreation/Bequest	4.38	0.58
Wilderness/Solitude	4.02	0.74
Adventure/**Ecotourism**/Wildlife	3.69	0.82
Fishing/Hunting/Friends social/Access	3.59	0.88
Multiple Values (spirituality, learning, culture, belonging and management goals)	3.43	0.79
Recreation Diversity and access	3.36	0.85

evident. The most important values are those associated with lakes, family recreation and bequest with wilderness/solitude values being of slightly less importance. Ecotourism, and fishing and hunting form the second group in importance and multiple values and recreation diversity is the third group.

At the more specific level, lakes as a focus for family recreation and wilderness/solitude are the main values of the Dog River-Matawin combined with the desire that these assets be sustained for future generations to enjoy. Consumptive recreation and tourism opportunities are of relatively less importance. Diversity in both values and recreation opportunities while still important are the lowest rated of all.

Regional Variation in Forest Values

The Discriminant Analysis procedure (SPSS 10) with region (USA, North Western Ontario, Thunder Bay and the Rest of Canada) as the group and Forest Values (Table 3) as the discriminant variables respectively was used to explore the regional variation in importance of the Forest Values.

Three significant discriminant functions resulted from this analysis (Table 4). Function 1 rated 'Fishing/Hunting etc.' as important and 'Recreation Diversity' as relatively less important. 'Ecotourism etc.' and 'Multiple Values' were rated as important in Function 2. However, Function 3, which focused on 'Lakes etc.' barely reached significance attesting to the generally high rating of this particular Forest Value.

Residents of the USA rated consumptive recreation (fishing and hunting) higher than Canadians (Figure 3). Among Canadians, residents of North

Table 4. Discriminant Analysis Region by Forest Values.

Discriminant Functions	Chi-square	df	% Variance	Sig
Function 1	86.8	18	72.9	.001
Function 2	24.5	10	16.6	.006
Function 3	9.5	4	10.5	.049

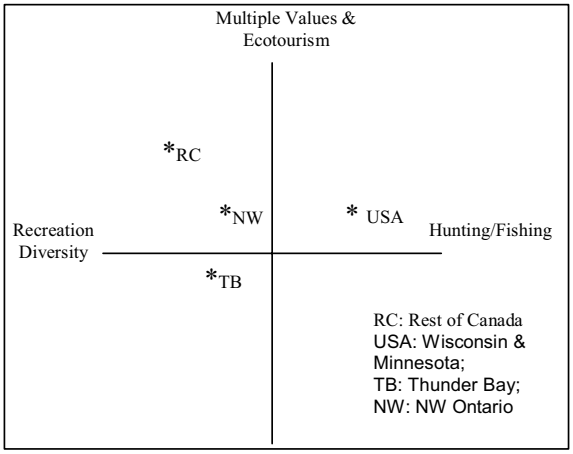

Figure 3. Schematic of Forest Values by Region.

Western Ontario and Thunder Bay place greater importance on this type of recreation than do residents of the "Rest of Canada" who rate 'Recreation Diversity' higher than any of the other regions. Overall, this pattern exemplifies differences in local versus more distant valuations evident in many forest value studies (e.g. Robson et al. 2000), with locals being more focused on consumptive recreational pursuits. It is also evident that, in this regard, at least, residents of the USA can be considered as 'locals'.

Significantly, the most immediate users (Thunder Bay residents) appear to rate 'Ecotourism etc.' and 'Multiple Values' as least important. Perhaps reflecting their emphasis, as local stakeholders resident in a forest industry dependent city, on consumptive uses of forests (Steel et al. 1993). North Western Ontario and USA residents occupy an intermediate position and the Rest of Canada view these particular values of Forests highest of all the regions.

Discussion and Conclusions

Research cited in this paper indicates that citizens believe increasingly that public lands, including working forests, should provide a broad range of benefits and that management of these forests needs to reflect this belief. Although this has been recognised for some considerable time, public land planning agencies are struggling to respond to this expectation. We have argued that there are a number of reasons for this

First, public land planning is fundamentally a discourse centring on differing value positions regarding the best use of public lands or specific sites within those lands. Second, current planning processes in working forests, which purport to be scientific, objective, and expert-driven, attempt reluctantly, if at all, to incorporate public values in decision-making. Third, such systems require significant expertise on the part of lay-persons if they are to be appropriately involved in influencing the effect of forest operations in places they value. The sum total of these effects is to disempower significant numbers of stakeholders

and to create alienation from and cynicism about the products of such plans.

Hence, if managers are to respond realistically to public expectations, they must:

– recognise that the nature of public planning is such that scientific, objective, expertise is only one of the data sources that inform the planning process
– explore methods that incorporate a broader range of data inputs including place, place meanings, and values
– experiment with technologies that make the outcomes of forest practices more transparent and accessible to affected publics.

Specifically, this paper has demonstrated that interpretive procedures including focus groups, narratives, user-generated maps, photography, and diaries can provide user-defined, site-specific values. These data, utilising GIS technology, can be rendered as a spatial representation of the meanings assigned to specific places in a working forest, which can then be integrated visually with resource characteristics and forest practices to identify those places where conflicts of values are most likely to occur.

Data from the focus groups were used to develop a survey instrument that was distributed to a broad range of visitors to North Western Ontario and throughout communities adjacent to the Dog River Matawin Forest. Analyses of these data revealed significant differences between various stakeholder groups including US citizens, North Western Ontario communities, and visitors from elsewhere in Canada.

This paper has detailed a process for eliciting the location and character of valued places within a working forest. In common with others in many parts of the world, we have demonstrated that working forests have the potential to provide a broad spectrum of recreational opportunities that are highly valued by both neighbouring and more distant communities. However, while these data are well documented in the literature, few studies have explored ways in which valued places can be located and incorporated realistically into the forest planning process. This paper and others in these proceedings (Yuan et al. 2004, Payne et al. 2004) provide a significant step towards this ultimate goal.

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[1] Two items in Values Scale to represent different facets of the theme.