CHARACTERISTICS, PREFERENCES, AND ATTITUDES OF CAMPERS IN OR NEAR THE SUNPINE FOREST PRODUCTS FOREST MANAGEMENT AGREEMENT AREA

B.L. McFarlane, M.K. Haener, and B.B. Shapansky

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ABSTRACT

This study examined campers at random campsites, provincial recreation areas, and Crimson Lake Provincial Park to determine use of the sites, user characteristics, attitudes toward random camping and off-highway vehicle use, and preferences for campground facilities and services. Data were collected by on-site interviews and a follow-up mail survey. Campers using random camping locations, provincial recreation areas, and provincial parks were seeking different camping experiences and participated in different activities. Random campers tended to prefer rustic facilities and services or no facilities and services at all, whereas provincial park campers were more in favor of facilities, services, and interpretive programs. All campers had a positive view of random camping and generally did not perceive it as having substantial negative environmental impacts. In contrast, most campers expressed concern over the environmental impacts of unrestricted use of off-highway vehicles. The results of this study were compared with those of a similar study conducted in 1994. Some changes were observed in the proportion of campers participating in recreational activities in the area. The implications of developing more facilities and services at managed campgrounds and random sites are discussed.

RÉSUMÉ

Cette étude porte sur les habitudes des campeurs qui pratiquent le camping sauvage, qui campent dans les aires provinciales de loisirs ou qui séjournent au parc provincial du Lac-Crimson; elle nous a permis d'obtenir de l'information sur l'utilisation des emplacements, les caractéristiques des utilisateurs, leur attitude à l'égard du camping sauvage et de l'utilisation de véhicules tous terrains et leurs préférences en matière d'installations et de services dans les campings. Nous avons recueilli ces données par le biais d'entrevues effectuées sur place et d'un sondage envoyé subséquemment par la poste. Nous avons constaté des différences dans les expériences recherchées et les activités entreprises par les campeurs qui pratiquent le camping sauvage, ceux qui campent dans des aires provinciales de loisirs et ceux qui séjournent dans des parcs provinciaux. En effet, les premiers ont tendance à privilégier les emplacements dont les installations et les services sont rustiques ou carrément inexistants, alors que les derniers préfèrent en plus grand nombre disposer d'installations, de services et de programmes d'interprétation. Tous les campeurs semblent voir d'un bon œil le camping sauvage et, en général, ne perçoivent pas cette activité comme ayant une incidence environnementale très négative. En revanche, la plupart des personnes interrogées se disent préoccupées par les effets sur l'environnement de l'utilisation non réglementée des véhicules tous terrains. Nous avons comparé les résultats de cette étude à ceux d'une étude semblable menée en 1994 et constaté des changements dans le pourcentage de campeurs qui participent à des activités de loisirs dans le secteur. Nous discutons présentement des conséquences qu'auraient la construction de nouvelles installations et la création de nouveaux services aux campings gérés et aux emplacements de camping sauvage.

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The exclusion of certain manufactured products does not necessarily imply disapproval nor does the mention of other products necessarily imply endorsement by Natural Resources Canada.

INTRODUCTION

Managing for multiple benefits for society is a cornerstone in the sustainable forest management paradigm. One means of ensuring multiple benefits is to incorporate a broad range of public uses and values into the management of public forested lands. In addition to its value as a source of wood, the forest hosts other commercial activities including trapping, outfitting, mining, and oil and gas activities. Forests are also the basis for a host of noncommercial activities, among which recreation is predominant. To incorporate recreational use in decision making, forest managers need to know who the users are, how management decisions will affect them, and their interests and concerns (Decker et al. 1996).

Camping is a prominent recreational activity on public lands in Alberta (McFarlane et al. 1996a; McFarlane and Boxall 1998) that generates substantial nontimber benefits. It has been used previously as an indicator of recreational use because of its sustained popularity among Albertans (Alberta Community Development 2001) and the fact that campers generally engage in multiple recreational activities while staying in the forest (McFarlane et al. 1996b). An understanding of campers' activities in the forest, their participation characteristics, and their preferences are required to determine how they may be affected by management decisions.

Recently, the increased popularity of camping at unmanaged sites on public land (referred to as random camping) is causing concern among land managers. Aerial surveys conducted during the May long weekend in 2000 estimated the number of random campers in the Sunpine Forest Management Agreement (FMA) area at 6 000 (T. Daniels, Sunpine Forest Products Ltd., May 2002, personal communication). The managers' concerns include increased risk of wildfire from unattended camp fires, environmental impacts from such things as human waste and garbage disposed of improperly, and potential conflicts between different recreational users (e.g., off-highway vehicle [OHV] users and horseback riders), as well as between recreational users and industry (e.g., OHV users and the forest industry). Privatization of the management of campgrounds once managed by the provincial government and subsequent increases in camping fees, implementation of fees for firewood, and, in some campgrounds, stricter enforcement of rules and regulations have changed the nature of many camping opportunities available to Albertans. The recognition of recreation management as an integral component of sustainable forest management and concern over the potential environmental problems and conflicts associated with increased random camping have prompted the forest industry to examine the management needs and concerns of this group of nontimber users.

In 2000, we undertook a study to examine recreational use in and adjacent to the Sunpine FMA area of Alberta. Specifically, the study examined the characteristics of campers and their recreational activities at three different types of campground (random camping sites, provincial recreation areas, and a provincial park), campers' attitudes toward random camping and OHV use, and campers' preferences for management of camping areas. To determine whether the three types of camping opportunities in the area, each offering different services and facilities, would attract different types of campers, we compared camper characteristics and preferences among respondents at the three types of campground. To determine whether camper characteristics have changed over time, we compared the results from this study with data collected in a study of campers in the same area in 1994.

BACKGROUND

Study Area

The information in this section is based largely on material previously presented in McFarlane et al. (1996a). The study area included selected campgrounds and random camping sites located in or near the Sunpine FMA area. Sunpine Forest Products Ltd., established in 1987, is a medium-sized integrated forest products company wholly owned by Weldwood of Canada Limited. Sunpine's main office is in Sundre, Alberta (about 113 km northwest of Calgary).

Sunpine Forest Products Ltd. has an FMA with the provincial government to harvest wood from the western part of the province. The Sunpine FMA area consists of 507 000 ha of public land along the eastern slopes of the Canadian Rocky Mountains. The FMA (Fig. 1) is approximately bordered to the north by the Nordegg River, to the west by the Bighorn Backcountry, to the south by the Red Deer River, and to the east by the towns of Rocky Mountain House, Strachan, Caroline, and Sundre. The Bighorn Backcountry is contiguous with the White Goat (44 457 ha) and Siffleur (41 215 ha) wilderness areas, which are open to backpacking, mountain biking, and camping but not hunting, fishing, motorized vehicles, or horses. The Kootenay Plains Ecological Reserve (3 439 ha) is found between the White Goat and Siffleur wilderness areas and also prohibits hunting, fishing, motorized vehicles, and horses. Jasper National Park is to the north of this area and Banff National Park to the west. The Sunpine FMA is in the provincial administrative area formerly known as the Rocky-Clearwater Forest. The area has a long history of natural resource use and many current demands for extractive and nonextractive uses.

The oil and gas industry is another prominent industrial user of the landbase. Widespread drilling began in 1955 after exploration and commercial discoveries (Rocky Mountain House Reunion Historical Society 1977). Other industrial activities involve agriculture, cattle grazing, and hydroelectric power generation.

The Sunpine FMA area is widely used for a multiplicity of recreational activities, including hunting and fishing, OHV use, horseback riding, water sports, hiking, biking, and camping. The area offers an alternate driving corridor from the central areas of the province into the foothills and Banff National Park. This alternate route through David Thompson Country (named for David Thompson, an early Canadian surveyor and mapmaker from Britian who charted much of the Canadian west and who settled for a time in Rocky Mountain House and the Nordegg area) is becoming increasingly popular because of its scenic beauty, lower traffic volumes, safe and well-maintained roads, many campgrounds and camping opportunities with lower fees than the national parks (Jasper and Banff), and plentiful wildlife.

The study area lies within the lower and upper foothills of the boreal and subalpine forest regions (Rowe 1972). Many ecosystem types (or ecoregions) are present within the forest, including alpine meadows, montane valleys, and boreal forest (Alberta Environmental Protection 1993). The forest is typically coniferous and dominated by lodgepole pine (*Pinus contorta* Dougl. ex Loud. var. *latifolia* Engelm.) and white spruce (*Picea glauca* [Moench] Voss); black spruce (*Picea mariana* [Mill.] BSP), alpine fir (*Abies lasiocarpa* [Hook.] Nutt.), trembling aspen (*Populus tremuloides* Michx.), and balsam poplar (*Populus balsamifera* L.) are also present. The topography varies greatly throughout the Sunpine FMA, from rolling hills in the more eastern regions to mountainous terrain with steep slopes and high elevations near the Rocky Mountains in the west. Timber is harvested largely in the upper and lower foothills regions and to a lesser extent in the subalpine forest.

The main driving route through the FMA is Highway 11, the David Thompson Highway, located in the north end of the FMA (Fig. 1). This highway is paved and runs mostly in an east–west direction from Rocky Mountain House to Saskatchewan River Crossing, where Highway 11 intersects with Highway 93 (the Icefields Parkway) in Banff National Park. Many travelers use this route to travel to British Columbia. Other remote locations and scenic recreational opportunities within the FMA can be accessed by predominantly gravel roads, including Highway 734, the Forestry Trunk Road, which runs along the foothills in a north–south direction, and Highways 752 (heading southwest from Rocky Mountain House), 591 (west of Caroline), and 584 (west of Sundre).

The major towns in the area are Rocky Mountain House and Sundre. Rocky Mountain House has a population of 6 062 (Alberta Municipal Affairs 2001) and lies just outside the eastern boundary of the FMA area. The residents of Rocky Mountain House have easy access to the forest via Highways 11 and 752. Sundre, with a population of 2 190 (Alberta Municipal Affairs 2001), is located near the southeast corner of the FMA area. Its residents have easy access to the forest via Highway 584. Smaller communities in the region include the town of Caroline, which has a population of 472 (Alberta Municipal Affairs 2001), and the settlement of Nordegg, which has a winter population of approximately 70 people (J. Baker, Nordegg Site Manager, 30 January 2002, personal communication by e-mail).

The two major urban centers in Alberta are Edmonton and Calgary, with populations of

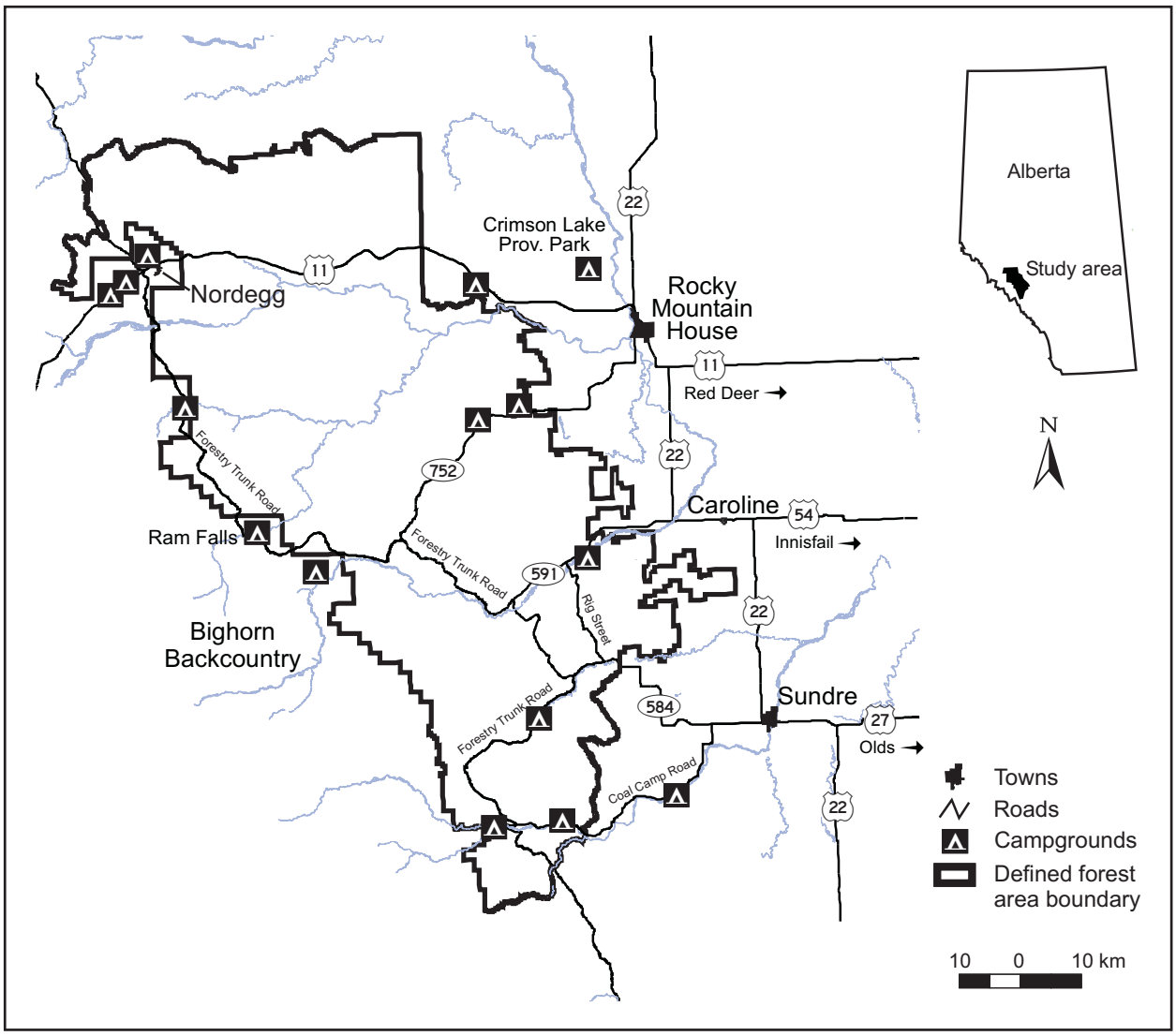

Figure 1. Location of the Sunpine Forest Management Agreement area and the study area (courtesy of Sunpine Forest Products Ltd.).

648 284 and 860 794, respectively (Alberta Municipal Affairs 2001). Each center is about a 2-h drive from the FMA area. Red Deer, with a population of 68 308 (Alberta Municipal Affairs 2001), is about 100 km from the study area. There are three Indian reserves close to the FMA area that access the forest for traditional uses: the Sunchild, O'Chiese, and Big Horn reserves.

Camping Opportunities

Random Camping Sites

Random camping can be described as camping at unmanaged sites on public land where no services or facilities are provided and no camping fee is charged. Certain locations become popular and are frequently visited by the same people. Some of these locations have become so popular that visitors have established rudimentary campground facilities such as fire pits, cooking grills, latrines, and posts and poles to attach tarps or hitch horses.

Provincial Recreation Areas

Provincial recreation areas were first established in the early 1960s by the Alberta Forest Service in response to concerns over wildfires resulting from careless use of campfires and the environmental impacts of people camping at random

in the forest (McFarlane et al. 1996b). At that time they were referred to as forest recreation areas. Forest recreation areas were established at the more-popular random camping locations and provided a semiprimitive camping experience. When the management of these areas was transferred to Alberta Parks and Recreation in 1996–1997, they were renamed provincial recreation areas (PRAs).

The campgrounds have drive-in sites with picnic tables, fire pits, and gravel tent pads. Other facilities common to the PRA campgrounds include pit or vault toilets, firewood, and water pumps. The level of development, quality of facilities, and variety of recreational opportunities are relatively homogeneous across the PRAs. However, some campgrounds have special attractions nearby. For example, some PRAs are situated next to lakes that are stocked, which makes them popular fishing destinations. Others are near special scenic attractions such as waterfalls.

In general, PRAs differ from the campgrounds in provincial and national parks in that they are less developed, provide fewer services and facilities, and charge lower fees. In fact, when the PRAs were first established, there was no fee at all. In 1992, the Alberta Forest Service began charging for campground use. The fee ranged from $5.50 to $7.50 a night, with firewood supplied free of charge. In 1994, the fee was increased to a range from $7 to $9. Over the next few years the care and maintenance of all the PRAs and other campgrounds were privatized, and contracted operators were allowed to charge for a variety of services including firewood. In the Sunpine FMA area, during 2000, camp fees ranged from $9 to $14 per night. Some campgrounds charged an additional fee for firewood.

Crimson Lake Provincial Park

Crimson Lake Provincial Park (CLPP), established in 1951, encompasses 3 209 ha located 16 km west of Rocky Mountain House. It is especially popular with families because of its many facilities, including a store, amphitheatre, educational center, visitor center, sanitation station, and security, as well as playgrounds, sandy beaches, and hiking and biking trails. Seven road loops throughout the well-treed area contain a total of 170 graveled campsites. In 2000, camp fees ranged from $16 to $22 a night depending on the level of services. Firewood was delivered to individual campsites for $5 per bag.

METHODS

Data were collected by on-site interviews and a mail survey. On-site interviews with campers were conducted in the spring and summer (June 6 through September 3) of 2000 at PRAs, CLPP, and random camping sites. Campers were asked about their past, present, and future camping activities, the size and makeup of their camping party, the types of activities in which they participated while camping, participation in fall and winter activities in the area, reasons for choosing either a random site or a campground, the type of amenities desired, the type and number of camping units they were using, likes and dislikes about the area, and their hometown and postal code. Out-of-province visitors were not surveyed, so the results represent the camping patterns of Alberta residents who visit the area. All respondents were asked if they would be willing to participate in a follow-up mail survey designed to collect more detailed information on camping, management preferences, and other issues.

A total of 1 445 on-site interviews were completed: 333 at random camping sites, 938 at PRAs, and 174 at CLPP (Table 1). Because previous studies (McFarlane and Boxall 1998**)** have shown that most camping occurs on weekends, all surveys were conducted on the weekends (Friday to Sunday), except for two midweek samplings in July.

Two driving routes were established to allow surveys of campers in a large portion of the study area (Appendix 1). Both routes allowed the interviewers to sample campgrounds and random camping sites. The northern route led west from Rocky Mountain House on Highway 11 and south on the Forestry Trunk Road (Highway 734) to the junction with Highway 752, finally returning to Rocky Mountain House on Highway 752. The southern route proceeded west from Sundre on Highway 584 to the Coal Camp Road, then joined the Forestry Trunk Road and made a northeast

Table 1. Summary of interview locations

Campground type	Interviews
Random camping sites	333
Provincial recreation areas	
Cartier Creek	23
Chambers Creek	90
Deer Creek[a]	1
Fish Lake	164
Goldeye Lake	93
James Wilson	34
North Ram River	28
Pepper's Lake	58
Prairie Creek	135
Ram Falls	64
Red Deer River	61
Strachan	85
Tay River	48
Upper Shunda Creek	53
No campground identified	1
Crimson Lake Provincial Park	174
Total	1 445

[a] Deer Creek was dropped from the sample schedule early in the study because of low occupancy.

progression along a road locally known as "Rig Street." The route then proceeded east on Highway 591 to the intersection with Highway 22, just west of Caroline. The two sample routes were driven at different times of the day and in both directions to randomize the sampling.

Only a fraction of the random camping sites in the study area were sampled. The random campers and their camping sites were found while driving either of the two designated loops. The random camping sites surveyed were restricted to sites visible from the roadway. Other random camping locations exist beyond the roadside but were not captured in this study. Individuals camping at the more remote sites may differ from those sampled at roadside sites.

Most interviews were conducted in the morning or evening when campers were most likely to be at their campsites. On any sampling day, all camping parties encountered in the sample area were asked to participate in the survey.

The mail survey was designed to collect more detailed information on camping experience and style, campers' preferences for specialized campgrounds and interpretive services, attitudes toward random camping, attitudes toward OHV use, environmental value orientation, attitudes toward forest management, knowledge of forests and forestry practices, information sources used and trusted, perceived threats to the forest in the Sunpine FMA, and socioeconomic characteristics. This report presents results from the survey pertaining to camping experience and style, campers' preferences for specialized campgrounds and interpretive services, attitudes toward random camping, attitudes toward OHV use, and socioeconomic characteristics. Results pertaining to forest management will be presented separately.

A total of 1 200 campers expressed an interest in receiving the mail survey. Surveys were mailed to all 1 200 campers on 27 June 2001. About 2 weeks later a reminder postcard was sent, and about 1 month after the initial mailing a second survey was sent to those who had not responded. Of the 1 200 surveys, 857 were returned. Adjusting for surveys that could not be delivered because of incorrect addresses, this represents a 76.6% response.

RESULTS

Place of Origin

Campers' places of origin were determined from the postal codes collected during the on-site interviews. For ease of presentation, places of origin were grouped as follows: central region, Edmonton area, Calgary area, other towns and cities, and other rural areas (all within Alberta). The central region included the city of Red Deer and other communities and rural areas within the vicinity of the Sunpine FMA (i.e., Sylvan Lake, Rocky Mountain House, Sundre, Olds, Innisfail, Caroline, and all rural areas and towns with a postal code beginning with "T0M"). The Edmonton area included the city of Edmonton and the communities of Beaumont, Fort Saskatchewan, Leduc, Sherwood Park, Spruce Grove, St. Albert, and Stony Plain. The Calgary area included Calgary

and the communities of Airdrie, Cochrane, and Strathmore. The other towns and cities group included Peace River, Fort McMurray, Medicine Hat, Lethbridge, and Grande Prairie. The other rural areas category captured all other areas with postal codes beginning with "T0". A complete list of places of origin is presented in Appendix 2.

There were some distinct differences among the campground types in the proportion of campers from each region (Fig. 2). About 47% of random campers but only 39.5% of PRA campers and 27.2% of CLPP campers came from the central region. Red Deer, which is in the central region, represented about 16% of all campers in the area, and the proportion of visitors from Red Deer was consistent across the campground types. A larger proportion of CLLP visitors were from the large urban centers of Edmonton and Calgary (50.3% for both cities combined). Forty percent of PRA visitors and only 30.8% of random campers were from the urban centers. Other cities and towns and other rural areas accounted for 9.0% to 12.7% of campers at all campground types.

Group Characteristics (Size, Type, and Age)

On average the random camping groups consisted of 7.4 individuals. The PRA and CLPP groups were significantly smaller, with an average of 4.5 and 4.8 individuals per group, respectively (average party size for each group type was significantly different from the other two groups at $p < 0.05$ according to Scheffé's multiple-comparison test). The same distinction was evident in comparisons of the distribution of group sizes (Fig. 3). Most (55.0%) random camping groups consisted of five or more individuals, whereas the majority of PRA (68.3%) and CLPP (59.0%) groups consisted of four or fewer individuals. This difference may indicate infrastructure limitation and regulations (such as campsite size, parking constraints, or noise and party-size restrictions) that are intended to minimize impacts at PRAs and provincial parks. These restrictions preclude hosting large groups at one site in a PRA or at CLPP. There were also significantly more groups of two individuals among the PRA campers.

There were also differences in the proportion of group types among random, PRA, and CLPP campers (Fig. 4). Family groups accounted for the majority of PRA (67.6%) and CLPP (74.1%) campers. Although many random camping groups also consisted of families (46.3%), there was a higher proportion of groups consisting of family and friends and friends only among random campers than among PRA and CLPP campers.

Campers were asked whether their groups consisted of individuals mostly under 25, between 25 and 50, or over 50; respondents could indicate more than one age category. Most groups from all locations included individuals between 25 and 50 years of age (Fig. 5). Overall, the CLPP groups were slightly younger, with more individuals in the under-25 category, than groups at the other locations. This finding is consistent with the finding of more family groups, and therefore more children, at this location (Fig. 4). All groups included relatively few (10.3% to 16.5%) individuals over 50 years of age.

Previous Visits

More than half of the campers at each campground type had camped at the site where they were interviewed at least once in the past 10 years and were therefore likely to have some familiarity with the area (Fig. 6). The random campers reported a significantly larger number of repeat visits (average of 16.2 previous visits in the past 10 years per camper with at least one repeat visit) than PRA (10.5) and CLPP (7.1) campers.

On average, PRA campers had been camping at the survey location for slightly (but not significantly) longer than random and CLPP campers (6.7 years versus 5.9 and 4.8 years, respectively). Random campers expected to camp in the same location an average of 2.4 times during the study year (Table 2), significantly more than for PRA (1.9) and CLPP (1.5) campers.

On average, those who had camped previously at the interview site had made their first visit only 5 to 7 years ago. Provincial recreation area campers had the longest history of use, with an average of 6.7 years since their first visit; CLPP campers had the shortest history at 4.8 years.

Length of Stay

Crimson Lake Provincial Park campers tended to stay slightly longer than PRA and random campers: 3.8 nights on average versus 3.0 and 3.6 nights on average, respectively (analysis of variance,

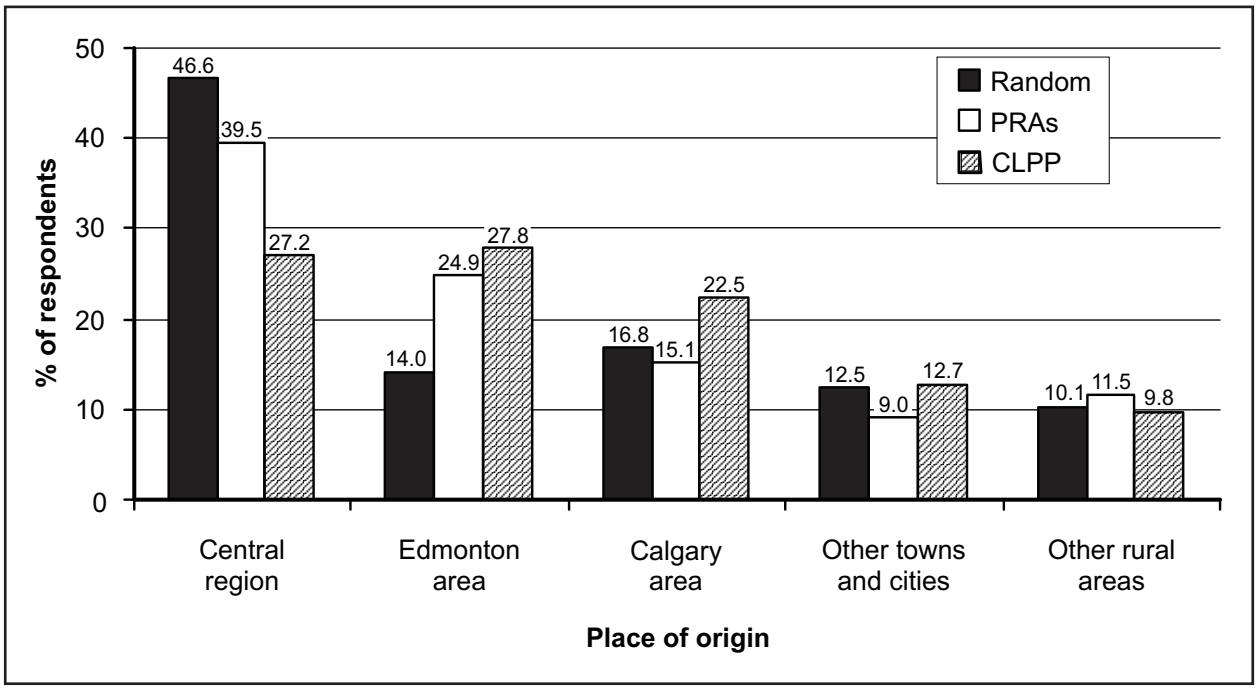

Figure 2. Place of origin by region. PRAs = provincial recreation areas, CLPP = Crimson Lake Provincial Park. Distributions were significantly different at $p < 0.0001$ according to a χ^2 test of independence.

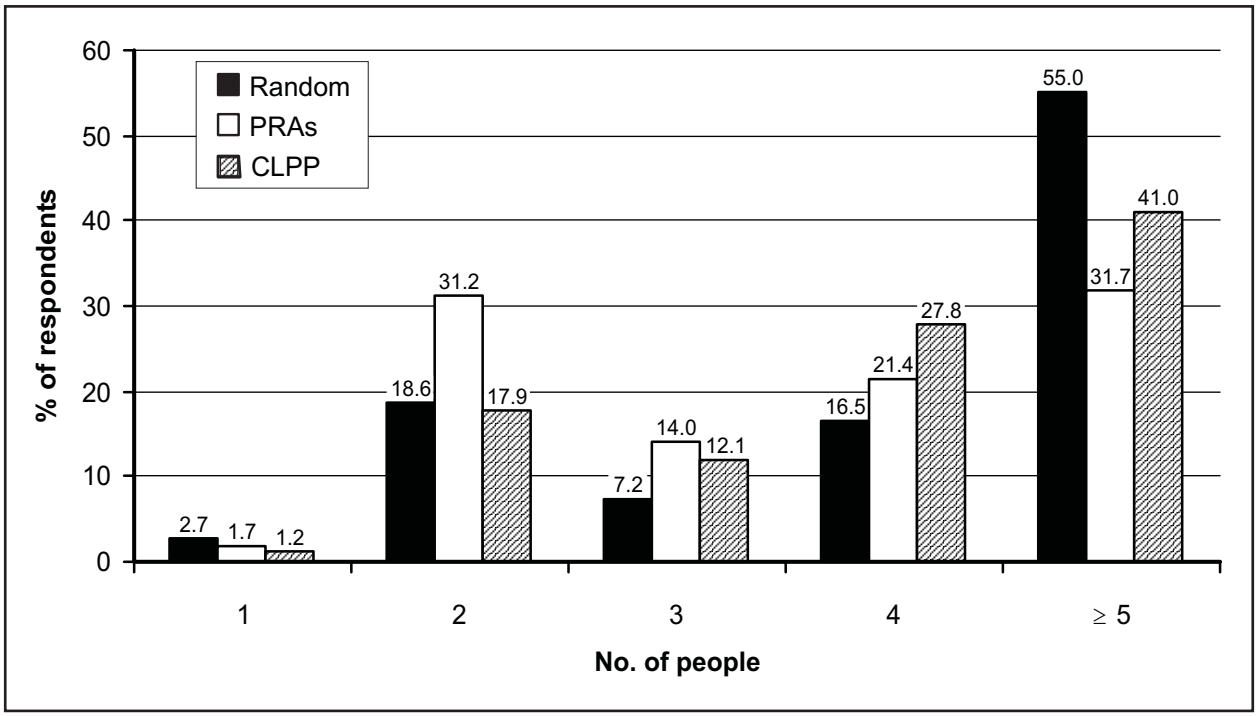

Figure 3. Camping party size. PRAs = provincial recreation areas, CLPP = Crimson Lake Provincial Park. Distributions were significantly different at $p < 0.0001$ according to a χ^2 test of independence.

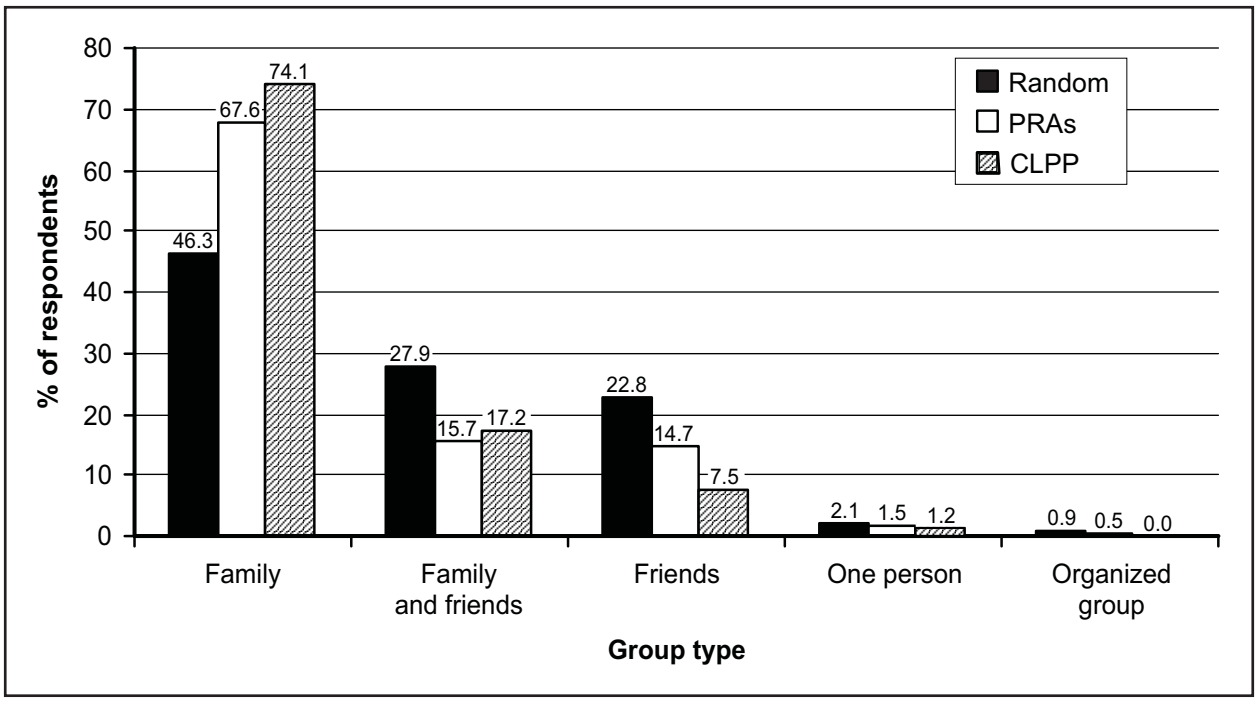

Figure 4. Type of camping party. PRAs = provincial recreation areas, CLPP = Crimson Lake Provincial Park. Distributions were significantly different at $p < 0.0001$ according to a χ^2 test of independence.

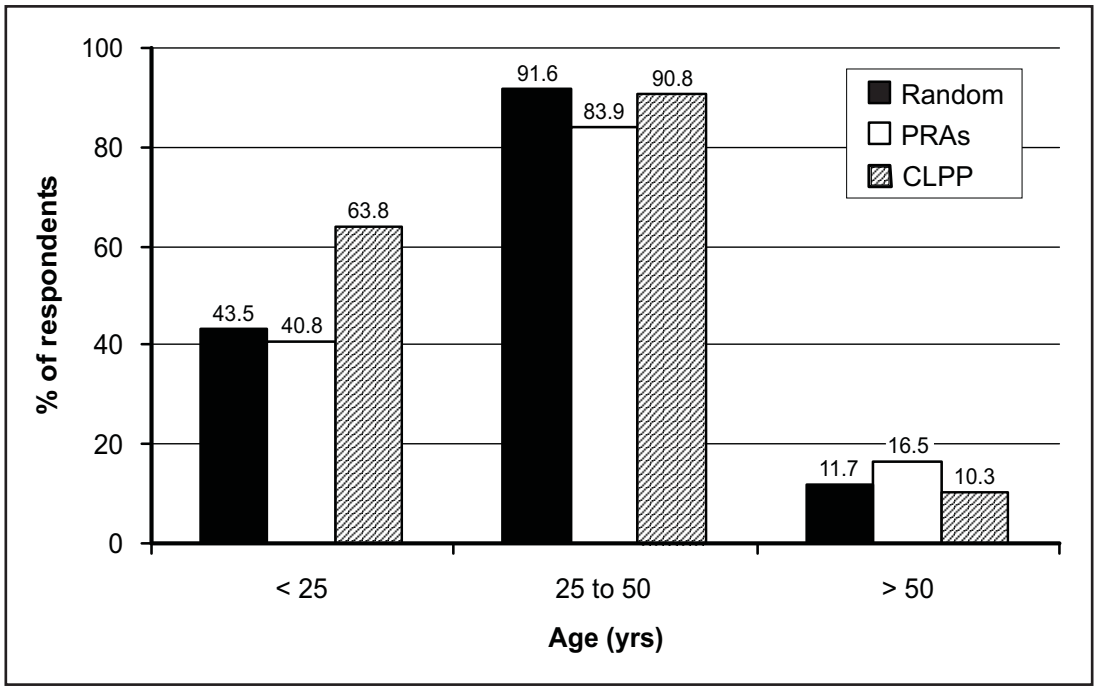

Figure 5. Age distribution. PRAs = provincial recreation areas, CLPP = Crimson Lake Provincial Park. Distributions were significantly different at $p < 0.05$ according to a χ^2 test of independence.

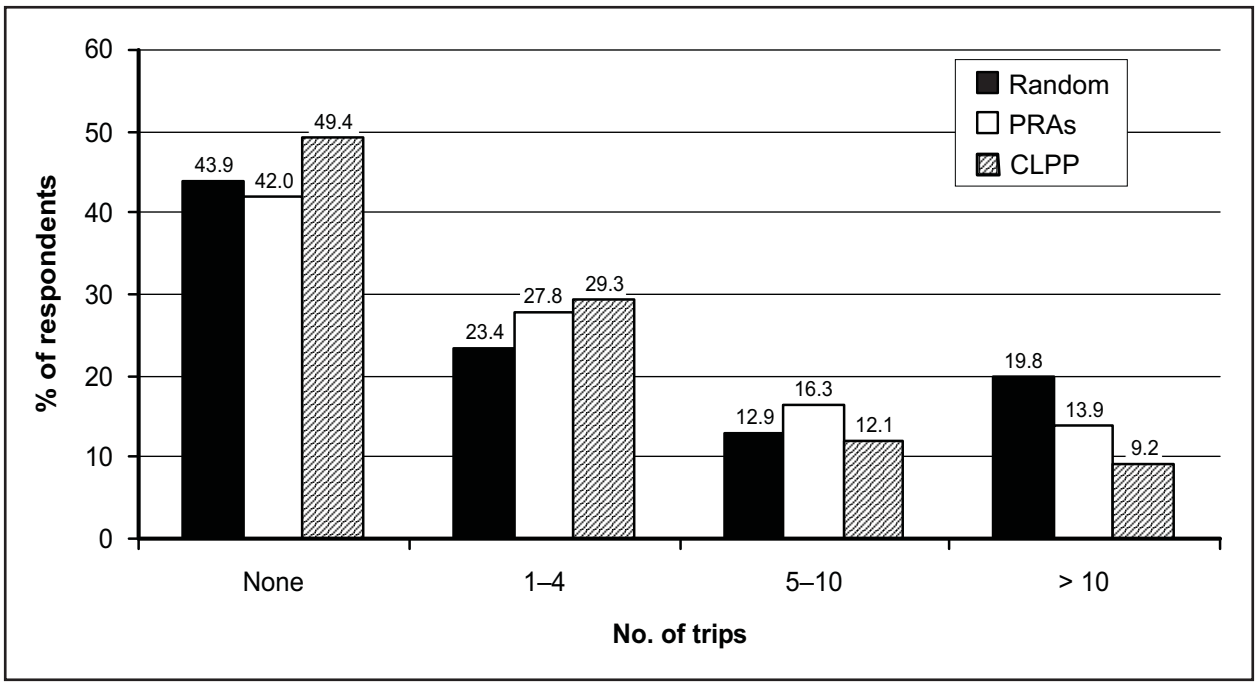

Figure 6. Number of trips to the same site in the past 10 years. PRAs = provincial recreation areas, CLPP = Crimson Lake Provincial Park. Distributions were significantly different at $p < 0.05$ according to a χ^2 test of independence.

Table 2. Previous visits to the same site

Variable	Campground type; mean[a] (and range)		
	Random	PRAs	CLPP
No. of trips in past 10 years			
All respondents	9.1a (0–200)	6.1a,b (0–200)	3.6b (0–50)
Those who had camped at least once previously	16.2a (1–200)	10.5a,b (1–200)	7.1b (1–50)
Years since first trip	5.9 (0–50)	6.7 (0–50)	4.8 (0–32)
Anticipated no. of trips this year	2.4a (0–20)	1.9a,b (0–25)	1.5b (0–12)

[a] Any two means in a row that do not share a letter are significantly different ($p < 0.05$) according to Scheffé's multiple comparison test.

Note: PRAs = provincial recreation areas, CLPP = Crimson Lake Provincial Park.

$p < 0.05$). For all groups most campers (between 57.4% and 68.9%) were staying for 2 to 3 days (i.e., over the weekend) (Fig. 7). The smallest proportions were planning to stay for only a single night (perhaps passing through the area). Crimson Lake Provincial Park had the largest proportion of groups staying beyond 3 nights.

To some degree these results reflect the sampling schedule. Surveys were conducted almost exclusively on the weekends and hence weekend campers were the predominant category. Midweek samples might capture a different type of camper, for example, overnight travelers and those seeking to avoid the busier weekends.

Camping Units

Most random campers used trailers, with smaller proportions using tents and recreational vehicles (Fig. 8). The most common PRA camping equipment was tents and trailers, with a much smaller proportion of motorized recreational vehicles. Crimson Lake Provincial Park groups also used primarily trailers and tents.

Activities

Respondents were asked what activities their camping party would participate in during their stay. Relaxing was the predominant activity for over 99% of campers at all types of sites (Table 3). Day hikes and watching wildlife were also popular.

Participation in many activities, specifically day hiking, fishing, partying, mountain biking, lake canoeing or kayaking, and use of OHVs, was significantly different across the groups. Many of these differences are probably due to the different recreational opportunities offered at the different types of sites. For example, CLPP is the only site with designated mountain-biking trails, and a greater proportion of CLPP groups participated in mountain biking than campers at other locations. Crimson Lake Provincial Park groups also did more day hiking but much less fishing than random campers and PRA respondents. Use of OHVs and partying were more frequent at random camping locations than at PRAs and CLPP. The low participation rates in these two activities at PRAs and CLPP probably result from prohibition of the use of OHVs at these locations and enforcement of quiet hours during which noise is not permitted. Less frequently mentioned activities are listed in Appendix 3.

Respondents were also asked to identify the activity in which they participated the most. Most respondents from CLPP and the PRAs listed relaxing, followed by fishing and hiking (Table 4). Fewer random campers listed relaxing as their dominant activity. Off-highway vehicle use, fishing, and whitewater canoeing or kayaking were the next most commonly cited activities for random campers.

Campers were also asked what activities they participated in away from the camping area where they were interviewed. Very few campers reported driving to locations beyond the camping area to participate in another activity. Fishing (around 15% for all groups) and day hiking (between 3% and 7%) were the most common activities that drew people away from the immediate camping area.

Fall and Winter Activities

More random campers reported visiting the Sunpine FMA area in the fall or winter than PRA and CLPP respondents (Table 5). Most of these campers used the area only in the fall. Camping remained the dominant activity in the fall and winter for all groups. Off-highway vehicle use, hunting, fishing, and snowmobiling were popular with the random campers (Table 6). Fishing was the second most popular activity among the PRA respondents and hunting the second most popular activity among the CLPP respondents. Participation in fishing, use of OHVs, and snowmobiling was significantly different among the groups. Less frequently mentioned activities are listed in Appendix 4.

Other Camping Trips in the Past Year

Respondents were asked to specify how many times they had camped in or near the Sunpine FMA area in the previous year (i.e., since May 1999) and how many of these trips had been taken to random sites, PRAs, private campgrounds, CLPP, and Banff and Jasper national parks. Most respondents at random sites had taken trips to other random camping locations, and they had taken more trips to random sites than to campgrounds (Table 7). About a third of random campers had visited PRAs and about a quarter had visited Jasper or Banff national park at least once since May 1999. Provincial recreation area campers tended to camp at PRAs, with fewer

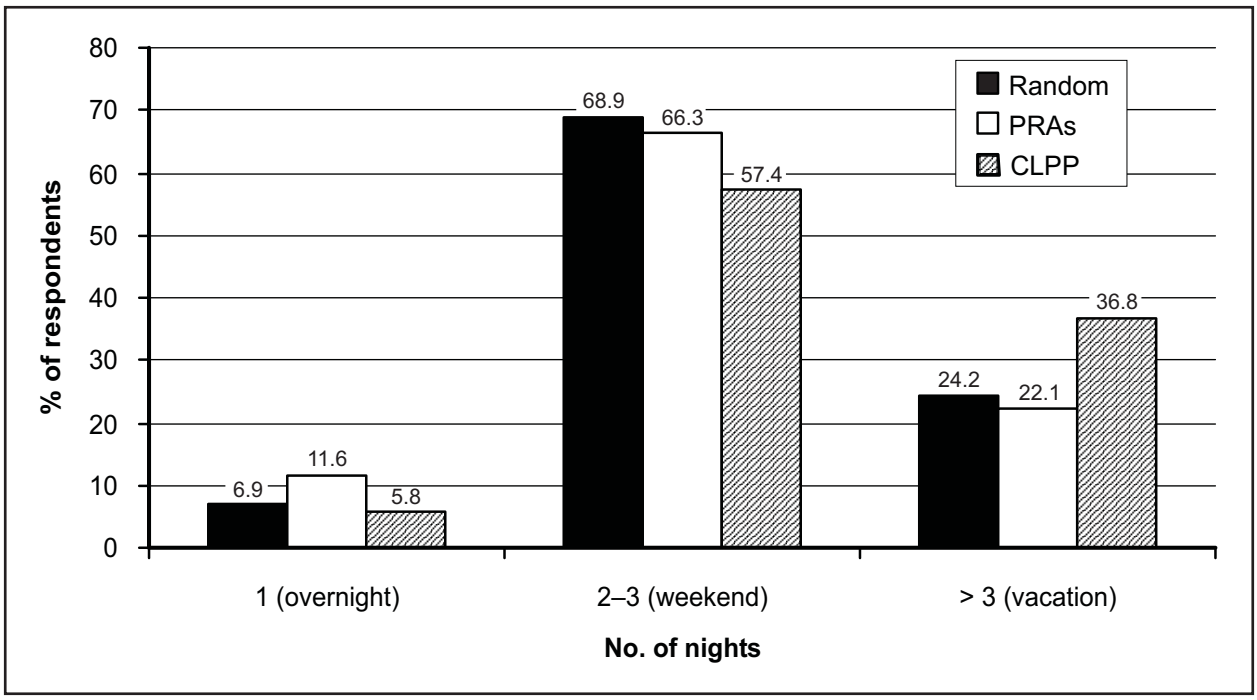

Figure 7. Length of stay. PRAs = provincial recreation areas, CLPP = Crimson Lake Provincial Park. Distributions were significantly different at $p < 0.0001$ according to a χ^2 test of independence.

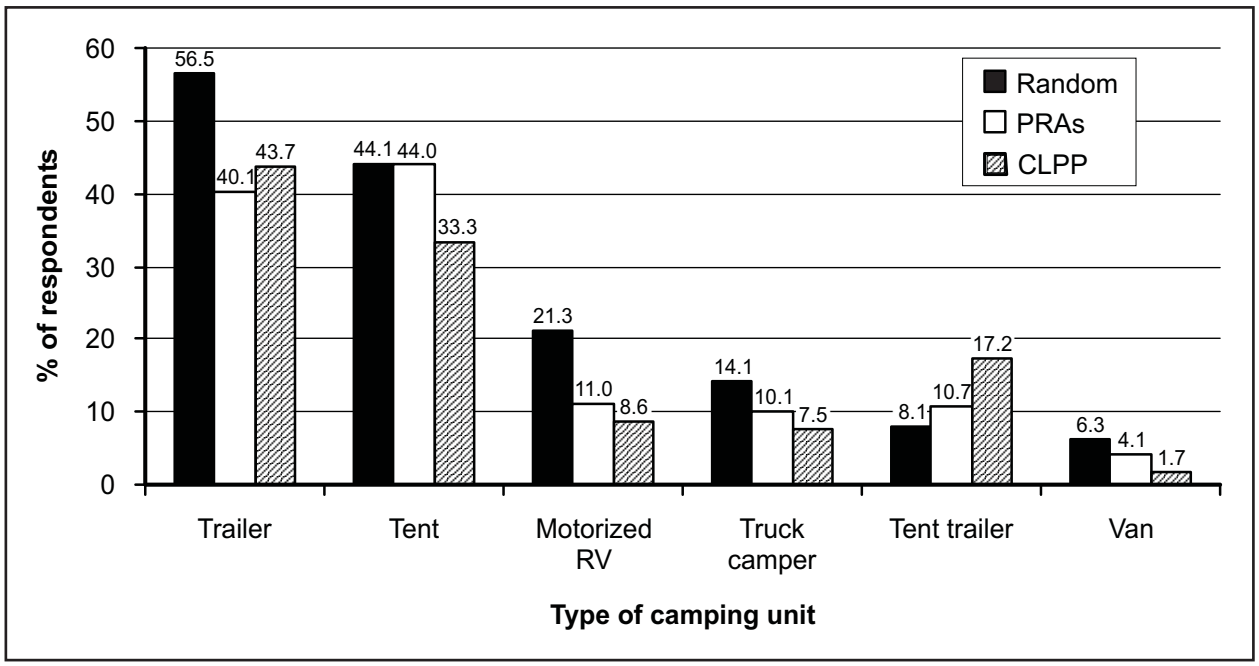

Figure 8. Type of camping unit. PRAs = provincial recreation areas, CLPP = Crimson Lake Provincial Park, RV = recreational vehicle. Distributions were significantly different at $p < 0.05$ according to a χ^2 test of independence.

Table 3. Activities while camping

Activity	Campground type; % of respondents			
	Random	PRAs	CLPP	*p* value[a]
Relaxing	99.4	99.3	99.4	0.9947
Day hiking	56.0	70.0	78.7	0.0024
Watching wildlife	45.4	53.7	54.0	0.3855
Fishing	42.0	53.9	17.2	< 0.0001
Photography	40.5	42.5	36.2	0.6487
Partying	40.2	25.8	24.1	0.0241
Bird-watching (with binoculars)	18.6	23.6	20.7	0.6836
Mountain biking	12.9	17.9	41.4	< 0.0001
Lake canoeing or kayaking	1.0	13.9	12.1	0.0026
Using OHVs	56.5	8.1	2.9	< 0.0001
Whitewater canoeing or kayaking	6.3	2.5	0.6	0.0623
Horseback riding	3.6	1.7	4.0	0.6049

[a] χ^2 test of independence.

Note: PRAs = provincial recreation areas, CLPP = Crimson Lake Provincial Park, OHVs = off-highway vehicles.

Table 4. Most frequent activity while camping

Activity	Campground type; % of respondents		
	Random	PRAs	CLPP
Relaxing	42.9	62.9	73.6
Using OHVs	28.8	4.1	2.3
Fishing	6.6	15.5	4.0
Whitewater canoeing or kayaking	5.1	1.4	0.0
Partying	3.6	2.5	2.9
Day hiking	2.4	6.2	4.0
Horseback riding	1.5	0.0	0.6
Mountain biking	0.3	2.0	3.4
Lake canoeing or kayaking	0.3	0.3	0.6
Bird-watching (with binoculars)	0.3	0.0	0.0
Watching wildlife	0.3	0.2	0.0

Note: PRAs = provincial recreation areas, CLPP = Crimson Lake Provincial Park, OHVs = off-highway vehicles.

Table 5. Visits to study area in fall and winter

Time of visit	Campground type; % of respondents		
	Random	PRAs	CLPP
Fall or winter[a]	63.0	46.1	30.8
Fall only[b]	51.0	58.6	61.7
Winter only[b]	10.6	8.6	19.1
Both fall and winter[b]	38.4	32.6	19.2

[a] Percent of all respondents.

[b] Percent of those visiting in fall or winter.

Note: PRAs = provincial recreation areas, CLPP = Crimson Lake Provincial Park.

Table 6. Fall and winter activities in the study area

Activity	Campground type; % of respondents			
	Random	PRAs	CLPP	*p* value[a]
Camping	60.8	68.5	58.5	0.3099
Fishing	33.5	48.2	24.5	0.0019
Hunting	38.8	31.3	30.2	0.3737
Day hiking	19.1	28.9	26.4	0.2490
Using OHVs	47.4	20.0	20.8	< 0.001
Watching wildlife	15.8	15.3	7.5	0.1448
Snowmobiling	24.9	14.4	5.7	0.0007
Cross-country skiing	3.4	9.2	5.7	0.2256
Photography	8.6	8.9	3.8	0.2889
Canoeing or kayaking	4.3	8.5	3.8	0.2795
Mountain biking	4.3	7.8	3.8	0.3881
Backpacking	3.8	5.6	1.9	0.3889
Bird-watching	2.9	5.4	1.9	0.3718
Horseback riding	5.7	2.8	3.8	0.5759

[a] χ^2 test of independence.

Note: PRAs = provincial recreation areas, CLPP = Crimson Lake Provincial Park, OHVs = off-highway vehicles.

Table 7. Camping trips in or near Sunpine Forest Management Agreement area since May 1999

	% taking at least one trip[a]			Mean no. of trips taken by respondents who took at least one trip			
Camping area	Random	PRAs	CLPP	Random	PRAs	CLPP	*p* value[b]
Random sites	71.6	26.2	11.5	6.6	4.3	4.6	0.014
PRAs	33.1	51.2	28.2	3.2	3.7	2.9	0.196
Jasper or Banff	22.8	31.9	31.6	2.2	2.0	2.6	0.151
Private[c]	10.8	15.8	22.4	1.4	2.7	2.4	0.790
CLPP	4.8	9.9	28.2	2.3	1.5	2.0	0.166

[a] Distributions were significantly different at $p < 0.001$ according to a χ^2 test of independence.

[b] Analysis of variance.

[c] River Valley or David Thompson Resort campgrounds.

Note: PRAs = provincial recreation areas, CLPP = Crimson Lake Provincial Park.

Table 8. Years of camping experience

	Campground type; % of respondents			
Years of experience	Random	PRAs	CLPP	All types
1–5	3.9	1.9	5.2	2.7
6–10	3.9	5.3	6.5	5.1
11–15	7.2	7.4	7.8	7.4
16–20	12.1	12.7	10.4	12.3
21–25	17.7	11.7	9.1	12.9
> 25	55.2	61.0	61.0	59.6

Note: PRAs = provincial recreation areas, CLPP = Crimson Lake Provincial Park.

camping at Jasper and Banff or at random camping sites. Very few CLPP respondents had camped at a random camping location since May 1999. They preferred managed campgrounds, with most of their trips about evenly divided among the national parks, PRAs, and CLPP. The only campground type for which the mean number of trips was significantly different among respondent groups was random camping locations; respondents at random camping sites had taken the most trips to these locations.

Camping Experience and Camping Style

With the mail survey, we collected information about respondents' camping experience and examined their style of camping through a series of statements about preferences and camping skills. The respondents in this study had many years of camping experience. Nearly 60% had more than 25 years of experience, and only about 8% had less than 10 years of experience (Table 8). No significant difference was observed among campers at random sites, PRAs, or CLPP.

In terms of the camping experiences sought by respondents, most campers (79.8%) preferred rustic campgrounds such as those provided at the PRAs, 55.8% preferred random or "bush" camping, and only 19.2% preferred "minimalist" or light camping (Table 9). Only 27.0% preferred campgrounds with a full range of services. While many campers reported enjoying the challenge and hardships of camping without the comforts of home,

Table 9. Distribution of ratings for statements about camping style

Camping style statement	Rating; % of respondents			
	Definitely does not describe me	Probably does not describe me	Probably describes me	Definitely describes me
I prefer campgrounds with a full range of services (showers, sani-dump, interpretive programs, etc.)	36.7	36.4	21.5	5.5
I own most of my own camping equipment	0.7	0.7	5.4	93.2
I enjoy camping but want the comforts of home	27.5	41.5	26.9	4.1
I prefer random or "bush" camping (i.e., without the facilities of a campground)	16.1	28.1	22.6	33.2
I am able to navigate in the bush with a map and compass	15.5	19.0	32.4	33.1
I prefer other campers nearby for security reasons	30.8	36.4	28.4	4.4
I prefer to ride motorized off-highway vehicles (e.g., quads and snowmobiles) while camping	47.8	16.3	13.4	22.5
I camp in all weather conditions	9.1	21.7	34.7	34.6
I prefer "minimalist" or light camping (e.g., backcountry overnight hikes)	41.2	39.6	14.3	4.9
I prefer rustic campgrounds with only the basics (i.e., fire pit, toilet, and a picnic table)	4.7	15.5	42.2	37.6
I winter camp in Alberta	53.4	20.9	15.6	9.9
I do not mind signs of industrial activity close by (e.g., clear-cut area or pipeline within sight)	39.2	26.4	26.0	8.4
I camp with a recreational vehicle (RV) such as a fifth-wheel trailer, trailer, or motor home	26.1	6.8	19.0	48.1
I prefer to avoid all signs of industrial activity (e.g., oil and gas or forestry) on the landscape	14.3	28.5	27.2	30.0
I enjoy the challenge and the hardships of camping	4.3	17.4	46.1	32.2
I prefer to camp in remote places that cannot be reached by two-wheel-drive vehicles	33.3	39.1	17.7	9.9
I only camp in the summer months	14.6	22.3	31.5	31.6
I prefer to camp where off-highway motorized vehicles are prohibited	29.9	25.4	18.7	26.1
I like to avoid all other campers while camping	18.4	48.2	24.4	8.9

67.1% camped with a recreational vehicle such as a trailer or motor home. In terms of potential conflict with other forest users, most campers preferred to avoid all signs of industrial activity (57.2%), most did not avoid other campers (68.6%), and most did not mind camping where OHVs are allowed (55.3%). Only 27.6% preferred to camp in remote places that cannot be reached by two-wheel-drive vehicles, and 35.9% used OHVs while camping. In terms of camping skills and ability, most campers (65.5%) indicated that they could navigate in the bush with a map and compass and 69.3% camped in all weather conditions, but only 25.5% camped during the winter in Alberta.

There were distinct differences among the campers interviewed at the different campground types. In general, random campers differed from campers at PRAs and CLPP (Table 10). Random campers tended to prefer more rustic camping conditions, had better outdoor skills, were more likely to camp under a variety of weather conditions and to drive OHVs while camping, were more tolerant of signs of industrial activity when camping, and were more likely to avoid other campers.

Preferences for Facilities and Services at Random Camping Sites

Providing basic camping facilities such as fire rings and toilets at random camping sites is one means of potentially alleviating some of the risks of forest fires and environmental impacts. Campers at the random camping sites were therefore asked, during the on-site interview, if they would like rudimentary facilities and services at the location where they were camping.

About 47% of random campers did not want any facilities and services at the sites where they were interviewed. Among campers who did want facilities and services, the most popular were similar to facilities found at the PRA campgrounds, such as pit toilets, garbage cans, picnic tables, campfire rings, firewood, and water (tap or pump) (Table 11). However, no individual facility received support from a majority of random campers.

Preferences for Facilities and Services at PRAs

Private operators of PRAs are interested in providing a satisfactory camping experience for their visitors. Thus, many operators want to know if campers desire additional facilities and services at the PRA campgrounds. To provide some insight into campers' preferences, PRA and CLPP campers were asked what additional facilities or services they would like at PRA campgrounds. During the on-site interviews, respondents were presented with a list of possible facilities and services for which responses were recorded as "yes" or "no." Respondents were also prompted for other items by means of an open-ended question.

Support for additional facilities and services at the PRA campgrounds was mixed. Availability of showers was the only item receiving support from a majority of PRA respondents (55.2%) (Table 12). Less than a third of PRA campers supported flush toilets, boat rentals, power hookups, a visitor center, water hookups, and bike rentals. Concessions were unpopular among PRA campers.

Crimson Lake Provincial Park campers were more supportive of development at PRAs than the PRA campers. Nearly 80% of CLPP campers supported showers at PRA campgrounds, and more than half supported interpretive programs, playgrounds, flush toilets, boat rentals, and power hookups. Fewer than half supported visitor centers, water hookups, bike rentals, and concessions. Less frequently mentioned amenities are listed in Appendix 5.

Among respondents desiring new amenities, most indicated a willingness to pay for them. For example, over 90% of respondents at both PRAs and CLPP were willing to pay for showers and power hookups. However, no prices were included in this question, so it is impossible to suggest the magnitude of additional charges that campers might be willing to incur.

Preferences for Specialized Campgrounds and Services

The mail survey further explored campers' preferences by examining the desirability of specialized campgrounds and services. The most popular was the provision of regional roadside pullouts offering free firewood and garbage containers (Table 13): 84.1% of respondents rated this type of service as desirable or very desirable. A slight majority also rated large group sites and family-oriented campgrounds as desirable or very desirable. Motorized OHV campgrounds, equestrian-friendly campgrounds, campgrounds with walk-in

Table 10. Mean ratings for statements about camping style[a]

Camping style statement	Campground type; mean rating[b]		
	Random	PRAs	CLPP
I prefer campgrounds with a full range of services (showers, sani-dump, interpretive programs, etc.)	1.6a	2.0b	2.6c
I own most of my own camping equipment	4.0a	3.9a	3.9a
I enjoy camping but want the comforts of home	2.1a,b	2.0a	2.3b
I prefer random or "bush" camping (i.e., without the facilities of a campground)	3.5a	2.5b	2.3b
I am able to navigate in the bush with a map and compass	3.2a	2.7b	2.7b
I prefer other campers nearby for security reasons	2.0a	2.1a	2.2a
I prefer to ride motorized off-highway vehicles (e.g., quads and snowmobiles) while camping	2.8a	1.9b	1.8b
I camp in all weather conditions	3.1a	2.9b	2.7b
I prefer "minimalist" or light camping (e.g., backcountry overnight hikes)	1.8a	1.8a	1.7a
I prefer rustic campgrounds with only the basics (i.e., fire pit, toilet, and a picnic table)	3.1a,b	3.2a	2.8b
I winter camp in Alberta	2.1a	1.7b	1.5b
I do not mind signs of industrial activity close by (e.g., clear-cut area or pipeline within sight)	2.4a	2.0b	1.8b
I camp with a recreational vehicle (RV) such as a fifth-wheel trailer, trailer, or motor home	3.1a	2.8a	2.9a
I prefer to avoid all signs of industrial activity (e.g., oil and gas or forestry) on the landscape	2.5a	2.8b	2.9b
I enjoy the challenge and the hardships of camping	3.2a	3.2a	3.0a
I prefer to camp in remote places that cannot be reached by two-wheel-drive vehicles	2.2a	2.0a	1.9a
I only camp in the summer months	2.6a	2.9b	3.1b
I prefer to camp where off-highway motorized vehicles are prohibited	2.0a	2.5b	2.8b
I like to avoid all other campers while camping	2.4a	2.2b	2.1b

[a] Rated on a scale from 1 to 4, where 1 = "definitely does not describe me" and 4 = "definitely describes me."

[b] Any two means in a row that do not share a letter are significantly different ($p < 0.05$) according to Scheffé's multiple-comparison test.

Note: PRAs = provincial recreation areas, CLPP = Crimson Lake Provincial Park.

Table 11. Facilities and services supported for random camping sites

Facility or service	% of random campers[a]
Pit toilet	37.8
Garbage cans	33.9
Picnic tables	27.3
Metal campfire ring	22.8
Firewood	22.5
Drinking water (tap or pump)	20.4
Off-highway vehicle ramp	5.7
Cook shelter	5.4
Fish-cleaning table	3.0
Other	7.5

[a] Percent of those who wanted some facilities.

Table 12. Facilities and services supported for provincial recreation areas (PRAs)

	PRA campers		CLPP campers	
Facility or service	% yes	% willing to pay[a]	% yes	% willing to pay[a]
Showers (coin-operated)	55.2	92.5	78.7	94.9
Interpretive programs	42.5	72.7	61.5	84.1
Playground	34.7	70.1	61.5	70.1
Flush toilets	29.3	85.1	51.7	87.8
Boat rentals (if lake present)	29.4	88.0	50.0	93.1
Power hookup	20.8	91.3	50.6	97.7
Visitor center	16.4	74.7	37.9	90.9
Water hookup	15.5	86.2	29.3	94.1
Bike rentals	14.6	83.2	31.0	92.6
Concessions	7.7	86.1	32.8	89.5

[a] Of those who responded "yes."

Table 13. Distribution of ratings for specialized campgrounds and services

Specialized campground or service	Rating; % of respondents				
	Very undesirable	Undesirable	Neither desirable nor undesirable	Desirable	Very desirable
Motorized off-highway vehicle campgrounds featuring, for example, loading ramps, off-highway vehicle operation in the campground, and designated off-highway vehicle trail network nearby	32.3	18.8	15.4	19.4	14.2
Equestrian-friendly campgrounds featuring, for example, hitching posts, corrals, permission to keep horses overnight, and designated horse trails nearby	15.8	17.3	38.2	22.7	6.1
Large group sites, campgrounds with a few sites able to accommodate several camping units or vehicles (e.g., several RVs)	9.1	14.4	23.8	41.2	11.5
Walk-in sites, camping zones where campers park their vehicles and walk in to the sites, which are offered at a lower price	18.9	26.8	27.0	19.2	8.1
Family-oriented campgrounds featuring, for example, safe play areas for games, playgrounds, and strictly enforced quiet times	7.9	11.1	27.2	34.7	19.1
Campgrounds with later "quiet time" (more tolerant of music and loud noise)	25.2	27.2	18.9	19.6	9.1
Regional road-side pullouts on popular secondary highways or roads (e.g., Highway 752) where people might stop to read information boards, pick up free firewood for use elsewhere, or discard camping garbage in containers provided	2.9	2.4	10.7	48.3	35.8

Note: RVs = recreational vehicles.

sites, and campgrounds with later quiet times were rated as desirable or very desirable by a minority of respondents.

Random campers were more in favor of OHV campgrounds than PRA campers or the CLPP campers (Table 14). Random campers rated this type of campground as desirable (mean > 3.0), whereas PRA and CLPP campers rated it as undesirable (mean < 3.0). Provincial recreation area and CLPP campers were more in favor of family-oriented campgrounds.

Preferences for Interpretive Services

The desirability of several potential interpretive services was also explored in the mail survey. Self-guided interpretive services were preferred over other types of interpretive services (Table 15). Nature trails with educational signs was rated as desirable or very desirable by 71.3% of respondents, whereas guided nature walks were desired by only 32.8% of respondents. Similarly, roadside signs explaining forest management were rated as desirable or very desirable by 59.3%, whereas tours of mills and forestry woodlands operations were desired by only 34.0% of respondents. Nature activities for children were also popular, but evening programs such as educational films were less desirable. Many campers seemed indifferent to the interpretive services suggested: about a third of respondents rated most of the suggestions as neither desirable nor undesirable. This result suggests that they might not use the services but would not object to their presence.

Crimson Lake Provincial Park campers tended to be more in favor of interpretive services than random and PRA campers (Table 16). For example, they were more in favor of nature trails with educational signs, guided nature walks, nature activities for children, evening films, and other evening programs.

Reasons for Random Camping

To gain a better understanding of why people chose to camp at random sites, random campers were asked, during the on-site interview, to rate a variety of reasons for choosing this type of camping. Two of the most important reasons related to the natural setting and solitude (Table 17). Most respondents (> 90%) indicated that camping at random sites allows them to camp in their favorite areas and provides better access to activities. Reasons related to cost (specifically lack of camping fees and free firewood) were also considered important by a majority of random campers. Reasons related to escaping restrictions associated with campgrounds, in particular, the ability to camp in a large group and ride OHVs, and the lack of rules and regulations, were considered important to most respondents. The only reason considered unimportant by the majority of respondents was the size of their camping unit.

Reasons for Camping at a Campground

During the on-site interview, PRA and CLPP campers were asked an open-ended question why they chose to camp at a campground rather than a random camping site. Several respondents provided more than one reason. Similar comments were grouped together into themes. The categories that included comments by more than 5% of respondents from either the PRAs or CLPP are listed in Table 18. For both PRA and CLPP campers, the amenities and facilities constituted the most commonly cited reason for staying at a campground. However, amenities and facilities were cited by a greater proportion of CLPP campers than PRA campers. Many respondents indicated that campgrounds are a good place for children, although a greater proportion of CLPP campers than PRA campers cited this reason. There were several other notable differences between PRA and CLPP respondents. The beach was an attraction for many CLPP respondents but very few PRA respondents. Several PRA respondents cited accessibility, but no CLPP respondents provided this reason.

The proximity of the location to their residence and the convenience of getting there were cited as important reasons by both groups. Numerous respondents also cited the safety and security associated with a campground. Other reasons included familiarity with the campground, reputation of the campground, ability to make reservations, presence of a lake or fishing, and access to other specific activities such as kayaking and rafting.

Likes and Dislikes about the Study Area

By means of an open-ended question, respondents were asked what they liked and disliked

Table 14. Mean ratings for specialized campgrounds and services

Specialized campground or service	Campground type; mean rating[a,b]		
	Random	PRAs	CLPP
Motorized off-highway vehicle campgrounds featuring, for example, loading ramps, off-highway vehicle operation in campground, and designated off-highway vehicle trail network nearby	3.3a	2.4b	2.3b
Equestrian-friendly campgrounds featuring, for example, hitching posts, corrals, permission to keep horses overnight, and designated horse trails nearby	2.9a	2.8a	3.0a
Large group sites, campgrounds with a few sites able to accommodate several camping units or vehicles (e.g., several RVs)	3.4a	3.2a	3.3a
Walk-in sites, camping zones where campers park their vehicles and walk in to the sites, which are offered at a lower price	2.6a	2.7a	2.8a
Family-oriented campgrounds featuring, for example, safe play areas for games, playgrounds, and strictly enforced quiet times	3.1a	3.6b	3.8b
Campgrounds with later "quiet time" (more tolerant of music and loud noise)	2.7a	2.5a	2.6a
Regional road-side pullouts on popular secondary highways or roads (e.g., Highway 752) where people might stop to read information boards, pick up free firewood for use elsewhere, or discard camping garbage in containers provided	4.2a	4.1a	4.0a

[a] Rated on a scale from 1 to 5, where 1 = very undesirable and 5 = very desirable.

[b] Any two means in a row that do not share a letter are significantly different ($p < 0.05$) according to Scheffé's multiple-comparison test.

Note: PRAs = provincial recreation areas, CLPP = Crimson Lake Provincial Park, RVs = recreational vehicles.

Table 15. Distribution of ratings for interpretive services

Interpretive service	Rating; % of respondents				
	Very undesirable	Undesirable	Neither desirable nor undesirable	Desirable	Very desirable
Nature trail with educational signs	2.8	7.8	18.1	54.3	17.0
Guided nature walks	8.3	20.3	38.6	26.9	5.9
Tours of forest product mills and woodland operations	12.1	20.6	33.3	29.0	5.0
Nature activities specifically for children	4.1	8.0	32.0	41.5	14.4
Evening educational films	9.5	16.6	35.7	30.6	7.5
Signs at roadside pullouts explaining forest management	3.4	5.6	31.7	50.3	9.0
Assorted evening programs	6.6	13.7	34.8	36.6	8.3
Tours of other types of industrial facilities	15.5	23.0	35.9	22.4	3.2

Table 16. Mean ratings for interpretive services

Interpretive service	Campground type; mean rating[a,b]		
	Random	PRAs	CLPP
Nature trail with educational signs	3.6a	3.8b	3.9b
Guided nature walks	2.8a	3.0a	3.3b
Tours of forest product mills and woodland operations	3.0a	3.0a	2.9a
Nature activities specifically for children	3.4a	3.6a,b	3.8b
Evening educational films	2.9a	3.1a	3.5b
Signs at roadside pullouts explaining forest management	3.6a	3.6a	3.5a
Assorted evening programs	3.0a	3.3b	3.6b
Tours of other types of industrial facilities	2.8a	2.3a	2.8a

[a] Rated on a scale from 1 to 5, where 1 = very undesirable and 5 = very desirable.

[b] Any two means in a row that do not share a letter are significantly different ($p < 0.05$) according to Scheffé's multiple-comparison test.

Note: PRAs = provincial recreation areas, CLPP = Crimson Lake Provincial Park.

Table 17. Ratings of reasons for random camping

Reason	Rating; % of respondents					
	Not at all important	Not important	Neither important nor unimportant	Important	Very important	Mean rating[a]
More natural setting than a campground	1.2	1.2	3.3	16.0	78.3	4.7
Can camp in your favorite area	0.6	0.9	4.8	26.5	67.2	4.6
Solitude	1.5	1.8	7.2	20.2	69.3	4.5
Better access to activities	1.8	1.5	5.4	26.5	64.8	4.5
No fees	3.6	3.0	13.3	16.0	64.2	4.3
Ability to camp in a large group	7.5	6.9	9.6	22.0	53.9	4.1
Free wood	6.9	5.4	18.7	19.9	49.1	4.0
No rules or regulations	5.7	5.4	15.1	29.5	44.3	4.0
Ability to ride OHVs	27.7	4.5	2.7	15.1	50.0	3.6
Can make noise and party	21.7	11.8	22.6	15.4	28.6	3.2
Close to home	22.0	13.9	32.5	14.2	17.5	2.9
Camping unit too big for other locations	41.0	13.7	30.4	8.7	6.2	2.3

[a] Minimum rating = 1 (not at all important), maximum rating = 5 (very important).

Note: OHVs = off-highway vehicles.

Table 18. Reasons for camping at a campground

Reason	Campground type; % of respondents	
	PRAs	CLPP
Amenities or facilities	19.2	40.2
Do not random camp or did not know it was an option	11.0	6.3
Safety and security	8.7	5.7
Lake or fishing	8.3	7.5
Accessibility	6.6	0.0
Close or convenient	6.2	9.8
Familiarity	6.0	6.9
Meeting others	5.3	8.6
Good place for children	4.1	14.4
Reputation	2.1	6.9
Specific activities (kayaking, rafting, etc.)	1.8	5.2
Reservations possible	1.5	6.9
Beach	0.1	7.5

Note: PRAs = provincial recreation areas, CLPP = Crimson Lake Provincial Park.

about the area where they were camping. Similar responses were grouped into themes. Among the likes, only themes mentioned by more than 5% of respondents are listed in Table 19. The responses to the dislike question were less variable, so all themes related to dislikes are listed in Table 20.

There were definite differences between the respondent groups in terms of their likes. A substantial proportion of random campers said that there was nothing specific that they liked about the area, a response that was very uncommon among PRA and CLPP respondents. One of the most commonly listed likes was the natural features of the area, including the beautiful scenery and abundance of wildlife, which was listed by almost half of PRA campers, about one-third of random campers, and just under 30% of CLPP campers. For random and PRA campers, quietness and peacefulness constituted the second most common reason for liking the area. However, less than 20% of CLPP campers cited these attributes. For CLPP campers the abundance of trees and forested areas nearby was the most common reason for liking the area.

Access to a beach was cited by 14.4% of CLPP campers; this park is the only site in the study that has a beach. The presence of water and access to water recreation (e.g., fishing, rafting, kayaking, or canoeing) was commonly cited by PRA and CLPP campers but was rarely cited by random campers. Many of the random camping sites were not located near bodies of water suitable for recreational activities. Some aspects of the area cited by random campers were rarely mentioned by PRA and CLPP respondents, including proximity to OHV trails and the lack of fees. The closeness and convenience of the area was cited by more CLPP campers than PRA or random campers.

A large proportion of campers, particularly random campers, stated that there was nothing about the area that they disliked. Dislikes that were mentioned by at least some respondents from all camping locations included: OHV use and damage, industrial activity, lack of services and amenities, and the number of people using the area.

Lack of firewood or the cost of firewood were mentioned by approximately 20% of PRA and CLPP campers but very few random campers. Issues unique to PRA and CLPP campers were fees, the condition of toilets and outhouses, and lack of space between campsites. About 6% of PRA campers also expressed concern that other facilities were not well maintained.

Issues unique to random campers were road conditions (especially dust) and the presence of logging trucks, depreciative behavior of other random campers (e.g., littering and cutting down trees), and dislike of campground operations and regulations (such as those in PRAs and provincial parks) in general. Each of these issues was mentioned by less than 11% of random campers.

Attitudes toward Random Camping

Generally, campers had a positive view of random camping (Table 21). Most campers did not associate serious management problems, such as risk of forest fires, environmental degradation, leaving garbage in the forest, or noise, with random camping. Indeed, many agreed that random campers could contribute to conservation by helping to monitor gradual environmental changes. Random camping was perceived as providing a means to connect with nature, test outdoor skills, and experience freedom, and as providing a unique camping experience. Most respondents viewed random camping on public land as a basic right of Albertans and an important tradition. Support for charging a fee for random camping was weak (19.5%). Even fewer campers (5.0%) supported a ban on random camping. However, 45.4% supported more patrols and enforcement to monitor random camping.

Differences were observed among campers interviewed at the three types of campgrounds (Table 22). Although campers at all campground types had a favorable view of random camping, random campers tended to have a more favorable view. The PRA and CLPP campers had very similar attitudes (i.e., they did not differ from one another on any of the attitudinal statements).

Attitudes toward OHV Use

Campers expressed general concern over the unrestricted use of OHVs (Table 23), especially their potential environmental effects. Impacts on fish habitat or water quality and the development of new OHV trails were of concern to more than 70% of campers. Disturbance to wildlife and damage to existing trails were of concern for 67.3% and 64.7% of respondents, respectively. Social impacts (i.e., conflict with other recreation users) were not as much of a concern.

Table 19. What respondents liked about the area

Characteristic	Campground type; % of respondents		
	Random	PRAs	CLPP
Beauty, scenery, nature, wildlife	34.8	46.4	29.9
Quiet or peaceful	28.3	45.9	17.2
Trees or forest nearby	23.3	16.7	31.0
Nothing	16.5	0.2	0.0
Inexpensive or free	13.8	4.1	0.0
OHV trails nearby	13.8	3.2	0.0
Not congested	13.5	12.9	5.2
Remoteness or seclusion	8.5	9.8	7.5
Close or convenient	8.0	10.7	24.7
Activities (trails, etc.)	5.8	8.3	16.1
Foothills or mountains	4.8	10.3	6.9
Space or spacious campsites	4.3	11.7	0.0
Water or water recreation	2.5	24.4	26.4
Clean and well maintained	2.5	9.5	12.6
Beach	0.0	0.1	14.4
Campground (no specific aspect given)	0.0	3.8	8.0
Facilities and services	0.0	2.6	11.5
Family orientation	0.0	0.0	8.0

Note: PRAs = provincial recreation areas, CLPP = Crimson Lake Provincial Park, OHV = off-highway vehicle.

Table 20. What respondents disliked about the area

Characteristic	Campground type; % of respondents		
	Random	PRAs	CLPP
Nothing	55.9	39.1	39.1
Abuse (littering, cutting down trees, etc.)	10.5	0.0	0.0
OHV use or damage	7.8	3.7	1.1
Road conditions and traffic	6.6	0.0	0.0
Industrial activity (clear-cutting, logging, oil and gas)	5.0	3.5	1.1
Lack of services and amenities	3.8	8.3	6.3
Number of people	3.5	1.9	2.9
Campgrounds (operation and regulations)	2.8	0.0	0.0
Firewood (availability, cost)	1.0	22.5	18.4
Fees	0.0	8.3	9.2
Condition of toilets, outhouses	0.0	5.5	4.6
Sites too close together	0.0	2.7	4.0
Other facilities not well maintained	0.0	5.9	0.0

Note: PRAs = provincial recreation areas, CLPP = Crimson Lake Provincial Park, OHV = off-highway vehicle.

Table 21. Distribution of ratings for statements about random camping

Attitudinal statement	Rating; % of respondents				
	Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree
Random camping is a good way to test outdoor skills	1.7	6.1	12.6	57.2	22.5
Random camping pollutes rivers and streams	23.1	42.3	18.9	13.2	2.5
Random camping provides a unique camping experience not available at regular campgrounds	1.8	4.7	7.4	54.9	31.3
Many random campers make excessive noise and cause trouble	16.4	40.2	26.3	13.8	3.3
A fee should be charged for random camping	40.2	27.2	13.1	15.4	4.1
Random camping allows people more freedom than traditional campgrounds	1.3	5.1	9.0	55.9	28.7
In most cases, camp fires are safely attended to at random camp sites	2.4	10.8	17.6	49.6	19.6
Random camping on crown land is a basic right of Albertans	3.4	11.7	18.4	32.5	34.0
Random campers leave garbage behind in the forest	11.6	32.1	24.6	26.4	5.3
Random camping allows people to be more in touch with nature	1.3	8.0	13.1	54.3	23.3
Generally, I do not have much in common with people who random camp	27.2	37.0	21.7	11.4	2.6
Random camping is an important tradition for many Albertans	1.1	5.3	22.6	47.3	23.7
Random camping should be banned	59.6	25.2	10.2	3.1	1.9
Random camping helps maintain a connection with nature	1.8	6.4	20.2	52.7	18.9
More patrols and enforcement are needed to monitor and control random camping	11.9	19.9	22.7	34.6	10.8
Random camping increases the risk of forest fire	12.0	28.7	22.6	29.6	7.1
Random camping degrades the environment	19.5	38.2	23.0	16.0	3.3
Random campers can help monitor gradual environmental changes	1.9	11.9	29.8	47.2	9.2
In order to feel like I am really camping, I have to be random camping	14.1	34.0	22.5	16.6	12.8

Table 22. Mean ratings for statements about random camping

Attitudinal statement	Campground type; mean rating[a,b]		
	Random	PRAs	CLPP
Random camping is a good way to test outdoor skills	4.1a	3.9b	4.0a,b
Random camping pollutes rivers and streams	1.9a	2.4b	2.5b
Random camping provides a unique camping experience not available at regular campgrounds	4.3a	4.0b	4.1a,b
Many random campers make excessive noise and cause trouble	2.3a	2.3b	2.3a,b
A fee should be charged for random camping	1.8a	2.3b	2.3b
Random camping allows people more freedom than traditional campgrounds	4.3a	4.0b	4.0b
In most cases, camp fires are safely attended to at random camp sites	4.1a	3.6b	3.5b
Random camping on crown land is a basic right of Albertans	4.3a	3.7b	3.7b
Random campers leave garbage behind in the forest	2.6a	2.9b	2.9b
Random camping allows people to be more in touch with nature	4.2a	3.8b	3.9a,b
Generally, I do not have much in common with people who random camp	1.9a	2.4b	2.5b
Random camping is an important tradition for many Albertans	4.2a	3.8b	3.7b
Random camping should be banned	1.3a	1.7b	1.8b
Random camping helps maintain a connection with nature	4.1a	3.7b	3.8a,b
More patrols and enforcement are needed to monitor and control random camping	2.8a	3.3b	3.1a,b
Random camping increases the risk of forest fire	2.5a	3.1b	3.1b
Random camping degrades the environment	2.1a	2.6b	2.6b
Random campers can help monitor gradual environmental changes	3.8a	3.4b	3.5a,b
In order to feel like I am really camping, I have to be random camping	3.5a	2.5b	2.6b

[a] Rated on a scale from 1 to 5, where 1 = strongly disagree and 5 = strongly agree.

[b] Any two means in a row that do not share a letter are significantly different ($p < 0.05$) according to Scheffé's multiple-comparison test.

Note: PRAs = provincial recreation areas, CLPP = Crimson Lake Provincial Park.

Table 23. Distribution of concerns about off-highway vehicle use

Area of concern	Rating; % of respondents				
	Not concerned at all	Somewhat unconcerned	Neither concerned nor unconcerned	Somewhat concerned	Very concerned
Disturbance to wildlife (e.g., noise and possible harassment)	7.5	10.4	14.9	35.3	32.0
Conflict with other user groups (e.g., hikers or horseback riders)	12.7	14.6	22.6	29.9	20.2
Damage to existing trails	7.0	10.7	17.6	33.3	31.4
Fish habitat or water quality impacts (e.g., erosion, siltation of waterways, pollution)	4.0	8.2	14.6	34.8	38.5
Short-cutting (i.e., development of new trails)	4.5	8.1	17.0	35.5	34.8

Campers from the different types of campgrounds differed in their concerns over OHV use. Random campers expressed less concern over environmental impacts than campers at PRAs or CLPP (Table 24), but they did have concerns about such impacts, specifically impacts on fish habitat and water quality, short-cutting, damage to existing trails, and disturbance to wildlife (mean rating > 3.0).

Socioeconomic Characteristics

The mail survey collected information on each respondent's age, sex, education, household income, economic dependence on natural resources, and membership in various types of conservation organizations. On average, respondents were about 43 years old, most were men, 25.3% had some university education, and 44.3% had a total household income of $70 000 or more in 2000 (Table 25). These campers had a relatively high level of economic dependence on natural resource extractive industries: 38.4% had a household member dependent on the oil and gas sector and 9.0% had a household member dependent on the forest sector. Respondents were also quite involved in conservation-related organizations: 17.9% belonged to a hunting or fishing organization, 1.6% belonged to a natural history or bird-watching club, and 8.5% belonged to other environmental or conservation organizations.

Few differences in socioeconomic characteristics were observed among campers at the three types of campgrounds. Campers at CLPP had the highest levels of education, whereas random campers had the lowest levels of education; a greater proportion of CLPP campers had a household member dependent on the mining sector.

Comparison with Camper Surveys Conducted in 1994

In 1994, an on-site survey similar to the one used in this study was conducted at PRA campgrounds in what was then the Rocky-Clearwater Forest area (*see* McFarlane et al. 1996b for details). Five of the campgrounds in the 1994 study were also included in the current study (Table 26). The content of the 1994 and 2000 surveys differed, but some of the questions were comparable. To determine whether camping patterns and preferences in the area changed between 1994 and 2000, the survey responses were compared for all respondents and then for the individual campgrounds.

Some changes occurred in the campgrounds and their management between 1994 and 2000. In 1994, the campgrounds were under the jurisdiction of the Alberta Lands and Forest Service and were managed by the department. The camping fee was $7 per night for rustic campgrounds and $9 per night for basic campgrounds; firewood was free. By

Table 24. Mean ratings of concerns about off-highway vehicle use

Area of concern	Campground type; mean rating[a,b]		
	Random	PRAs	CLPP
Disturbance to wildlife (e.g., noise and possible harassment)	3.3a	3.9b	4.1b
Conflict with other user groups (e.g., hikers or horseback riders)	2.9a	3.4b	3.5b
Damage to existing trails	3.4a	3.8b	3.9b
Fish habitat or water quality impacts (e.g., erosion, siltation of waterways, pollution)	3.7a	4.0b	4.1b
Short-cutting (i.e., development of new trails)	3.5a	4.0b	4.0b

[a] Rated on a scale from 1 to 5, where 1 = not concerned at all and 5 = very concerned.

[b] Any two means in a row that do not share a letter are significantly different ($p < 0.05$) according to Scheffé's multiple-comparison test.

Note: PRAs = provincial recreation areas, CLPP = Crimson Lake Provincial Park.

Table 25. Socioeconomic characteristics of campers

Characteristic	Campground type; % of respondents[a]			
	Random	PRAs	CLPP	All
Mean age (years)	41.9	43.5	41.0	42.8
Men	72.6	67.7	63.3	68.4
Some university[b]	15.9	26.6	38.5	25.3
Household income in 2000 ≥ $70 000	41.9	43.5	54.4	44.3
Household dependence on natural resources				
Forest sector	10.9	7.4	14.5	9.0
Mining sector[b]	2.9	3.3	10.5	4.0
Oil and gas sector	41.4	36.2	44.7	38.4
Natural resource agency	2.3	3.5	1.3	3.0
Membership in conservation organizations				
Natural history or bird-watching club	1.8	1.8	0.0	1.6
Hunting or fishing organization	21.5	17.3	13.0	17.9
Other environmental or conservation organizations	5.4	10.0	5.6	8.5

[a] Except where indicated otherwise.

[b] Statistically significant differences among campground types at $p < 0.05$ according to χ^2 test of independence.

Note: PRAs = provincial recreation areas, CLPP = Crimson Lake Provincial Park.

Table 26. Number of surveys conducted at provincial recreation areas (PRAs) in 1994 and 2000

PRA	Year; no. (and %) of surveys			
	1994		2000	
Chambers Creek	57	(9.3)	90	(16.5)
Fish Lake	233	(38.1)	164	(30.0)
Goldeye Lake	140	(22.9)	93	(17.0)
Prairie Creek	80	(13.1)	135	(24.7)
Ram Falls	102	(16.7)	64	(11.7)
Total	612	(100.0)	546	(100.0)

2000, the campgrounds were under the jurisdiction of Alberta Parks and Recreation, and the operation of the PRAs had been privatized. In 2000, the fees varied by PRA and ranged from $9 to $14 per night. In some campgrounds firewood was no longer free. Although the method of firewood dispersal varied, the most common method was the sale of bundles of wood for about $5 each. Some of the individual campgrounds experienced additional management changes. For example, in 1994, Goldeye Lake was stocked with trout, but this practice had been discontinued by 2000. In 2000, horses were not permitted at Prairie Creek, although they had been permitted in 1994. We hypothesized that these changes in management would affect the camping opportunities offered at the PRAs and the type of campers visiting the campgrounds. Thus, we expected to observe differences in use and user characteristics between the 1994 and 2000 studies. We compared the 1994 and 2000 campers in terms of their previous visits to the camping areas, party size, place of origin, and activities.

Comparison of all PRAs

Campers did not differ in terms of the number of visits to the campgrounds in the past 10 years or party size. The average number of previous visits to the survey location was 6.1 in 1994 and 6.8 in 2000 ($p < 0.05$). The average party size was 4.2 in both years.

The place of origin of visitors to the five campgrounds was similar in 1994 and 2000 (Fig. 9). Most campers (about 36%) originated from the central region, almost 30% from the Edmonton area, and only about 9% from the Calgary area. Less than 20% were from other rural areas in Alberta and even fewer were from other towns and cities in the province.

In both years respondents were asked to identify the activities in which they participated while staying at the campground. The lists were not identical, but nine of the activities were the same (Table 27). The 1994 survey also included overnight backpacking and swimming; the 2000 survey did not include these activities but did include photography, whitewater canoeing or kayaking, and partying.

Relaxing was the dominant activity in both years. Levels of participation in most activities were not significantly different between 1994 and 2000. However, participation in day hiking, fishing, lake canoeing or kayaking, and horseback riding declined significantly from 1994 levels.

Comparisons of Individual Campgrounds

Campers at the individual campgrounds did not differ significantly in terms of the number of previous visits to the campgrounds, total party size (Table 28), or place of origin (Figures 10 to 14).

Activities

Participation in most activities was similar at most of the campgrounds in 1994 and 2000 (Table 29). However, there were significant declines in participation in day hiking at all five PRAs.

A decline in fishing occurred at two PRAs, from 63.2% to 38.9% at Chambers Creek and from 66.3% to 31.1% at Prairie Creek.

Two PRAs experienced declines in the proportion of people watching wildlife, from 65.7% to 49.5% at Goldeye Lake and from 72.6% to 50.0% at Ram Falls. Participation in lake canoeing or

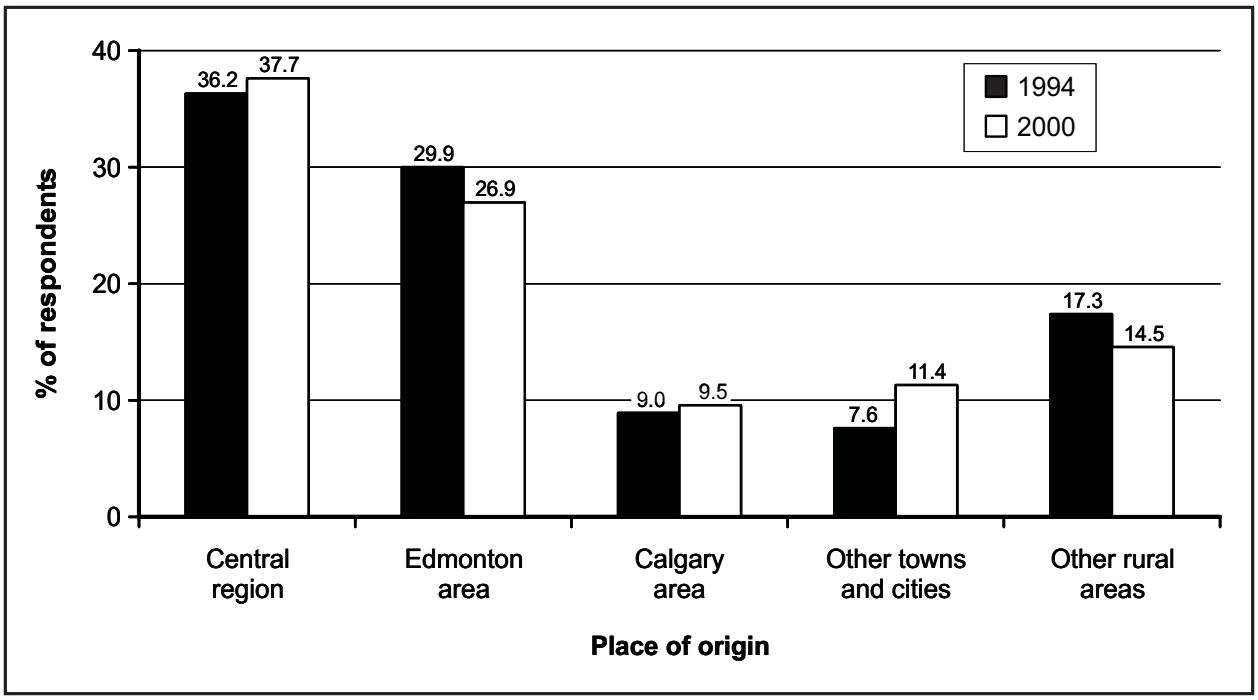

Figure 9. Place of origin by region for 1994 and 2000. Distributions were not significantly different at $p < 0.05$ according to a χ^2 test of independence.

Table 27. Activities while camping in 1994 and 2000

Activity	Year; % of respondents		
	1994	2000	*p* value[a]
Relaxing	99.0	99.1	0.9099
Day hiking	95.4	71.8	< 0.0001
Watching wildlife	58.5	53.3	0.0751
Fishing	66.3	53.1	< 0.0001
Bird-watching (with binoculars)	25.0	24.9	0.9713
Mountain biking	17.3	20.9	0.1233
Lake canoeing or kayaking	29.6	19.6	< 0.0001
Using OHVs	6.5	8.2	0.2665
Horseback riding	5.7	2.4	0.0044
Other	2.1	1.9	0.7863

[a] For χ^2 test of independence.

Note: OHVs = off-highway vehicles.

Table 28. Previous visits to and party size at individual provincial recreation areas (PRAs)

PRA	No. of visits in past 10 years		Mean party size	
	1994	2000	1994	2000
Chambers Creek	5.4	4.5	4.1	4.7
Fish Lake	6.8	5.7	4.0	4.0
Goldeye Lake	2.7	4.8	4.6	4.0
Prairie Creek	15.0	12.8	4.2	4.5
Ram Falls	2.6	3.3	4.1	3.7

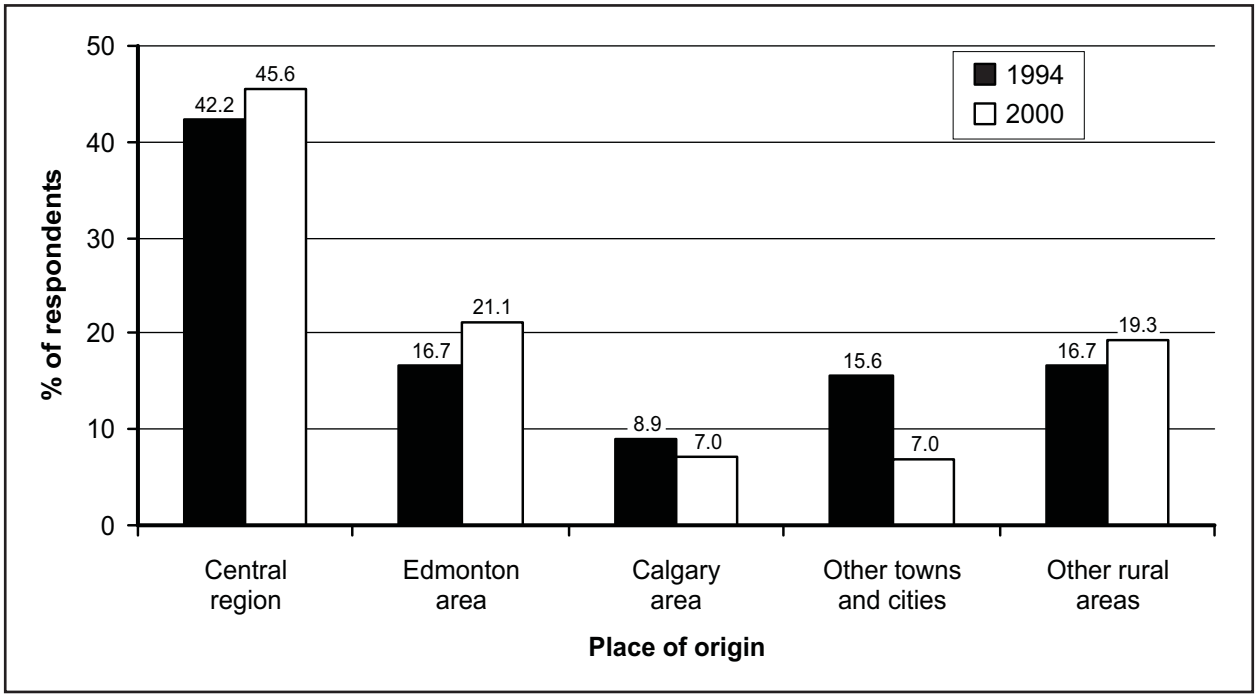

Figure 10. Place of origin by region for Chambers Creek campers.

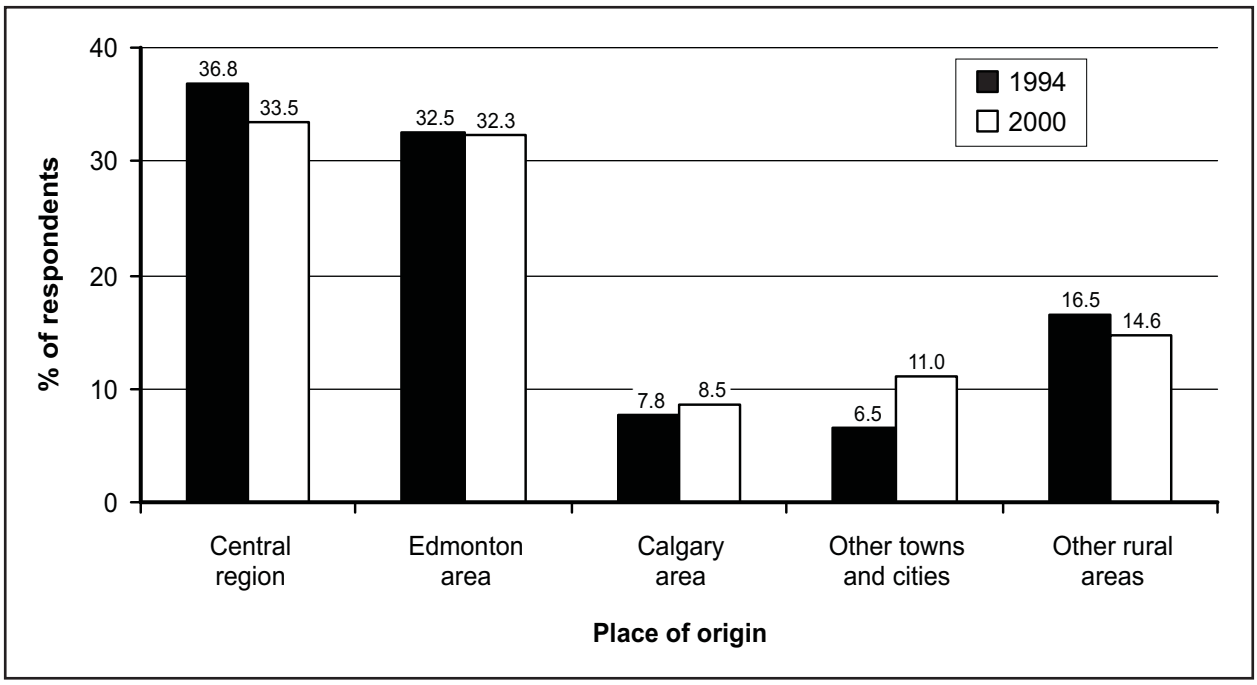

Figure 11. Place of origin by region for Fish Lake campers.

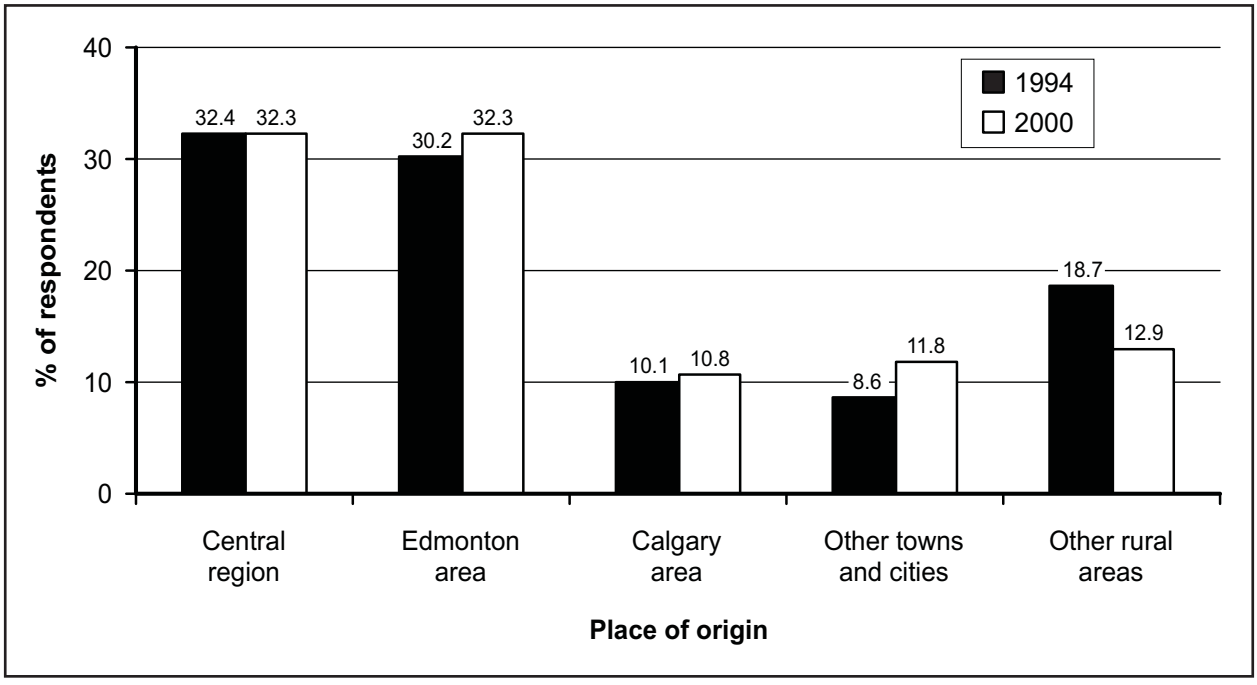

Figure 12. Place of origin by region for Goldeye Lake campers.

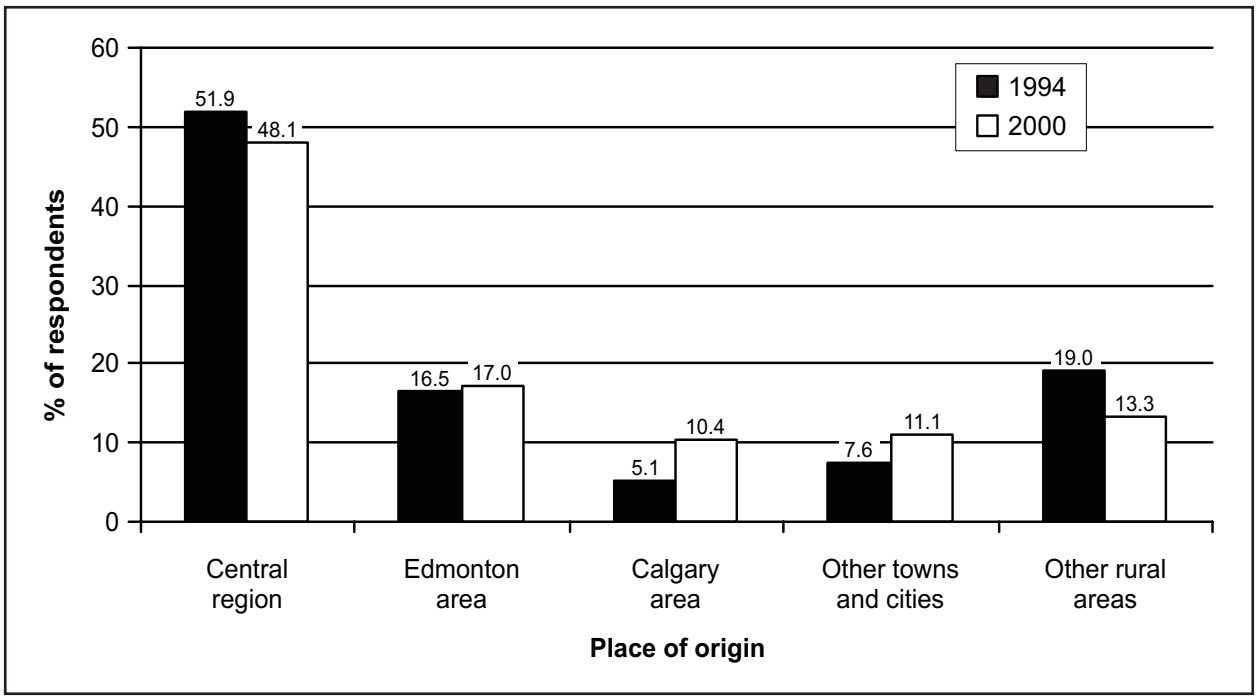

Figure 13. Place of origin by region for Prairie Creek campers.

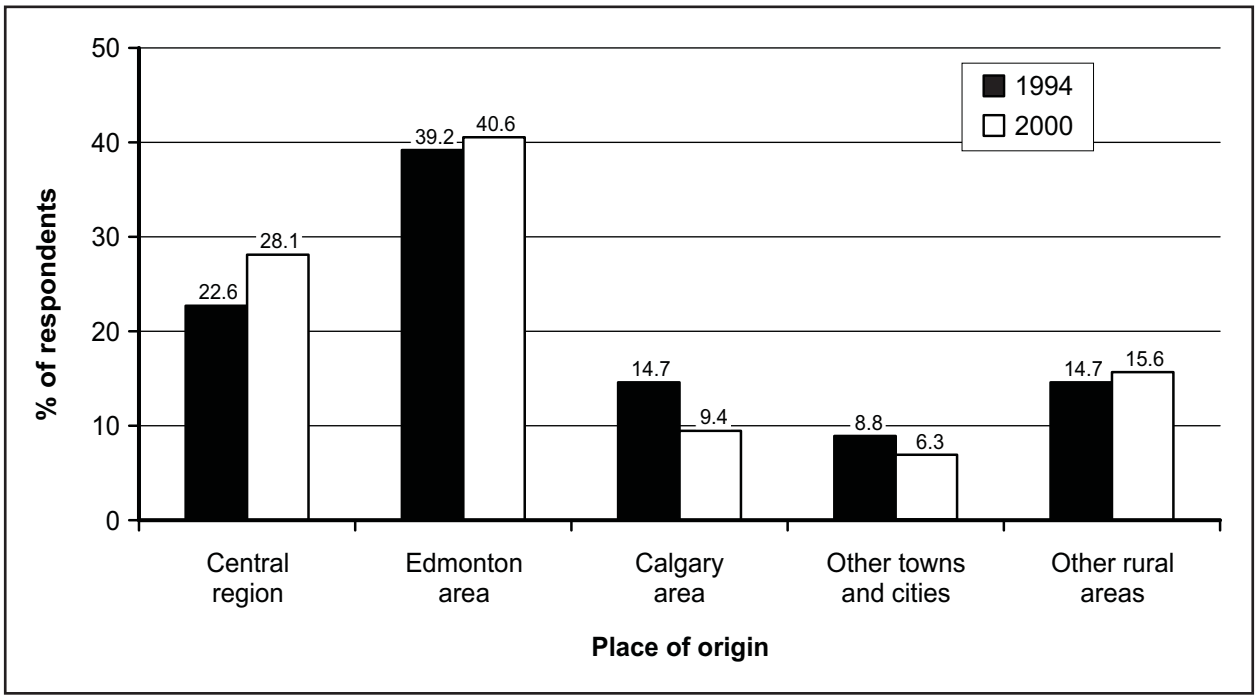

Figure 14. Place of origin by region for Ram Falls campers.

Table 29. Percent of respondents participating in activities while camping, 1994 and 2000

Activity	Chambers Creek			Fish Lake			Goldeye Lake			Prairie Creek			Ram Falls		
	1994	2000	*p* value[a]	1994	2000	*p* value[a]	1994	2000	*p* value[a]	1994	2000	*p* value[a]	1994	2000	*p* value[a]
Relaxing	100.0	100.0	NA	98.3	99.4	0.3301	100.0	100.0	NA	97.5	97.8	0.8961	100.0	98.4	0.2054
Day hiking	86.0	55.6	0.0001	96.1	70.7	<0.0001	97.1	82.8	0.0001	95.0	68.2	<0.0001	100.0	89.1	0.0351
Watching wildlife	54.4	51.1	0.6984	54.9	57.3	0.6379	65.7	49.5	0.0134	41.3	54.1	0.0691	72.6	50.0	0.0032
Fishing	63.2	38.9	0.0041	67.8	74.4	0.1568	72.9	66.7	0.3108	66.3	31.1	<0.0001	55.9	45.3	0.1847
Bird-watching	14.0	25.6	0.0953	31.8	26.2	0.2332	26.4	28.0	0.7970	16.3	19.3	0.5799	20.6	28.1	0.2649
Mountain biking	8.8	17.8	0.1284	18.9	23.2	0.2989	19.3	21.5	0.6792	13.8	17.0	0.5232	18.6	26.6	0.2273
Lake canoeing or kayaking	1.8	4.4	0.3807	42.1	37.2	0.3300	47.9	32.3	0.0180	11.3	5.2	0.1015	5.9	7.8	0.6265
Using OHVs	17.5	18.9	0.8374	5.2	3.1	0.3085	3.6	2.2	0.5338	5.0	12.6	0.0699	8.8	6.3	0.5480
Horseback riding	1.8	2.2	0.8450	4.7	3.1	0.4042	7.1	2.2	0.0913	0.0	0.0	NA	12.8	6.3	0.1791
Other	8.8	1.1	0.0231	1.3	3.0	0.2606	0.7	3.3	0.1381	0.0	2.4	0.1661	0.0	1.6	0.2019

[a] χ^2 test of independence.

Note: OHVs = off-highway vehicles, NA = not applicable.

kayaking also declined significantly at Goldeye Lake (from 47.9% to 32.3%).

Although, not significant at the 95% level of confidence, some other differences are also noteworthy. At all five PRAs, participation in mountain biking increased from 1994 to 2000, and participation in bird-watching increased at all PRAs except Fish Lake. Horseback riding declined among campers at Fish Lake, Goldeye Lake, and Ram Falls and increased slightly at Chambers Creek.

DISCUSSION

This study of campers in and near the Sunpine FMA area shows that campers continue to be important users of the forest, taking advantage of managed and unmanaged camping opportunities and participating in a variety of recreational activities during all seasons. Many of these activities occur in close proximity to industrial activities such as forestry and oil and gas development. Decisions related to natural resource management in this area will undoubtedly affect these nontimber users, and their needs should be an integral part of natural resource management. Periodic surveys such as those conducted in 1994 and 2000 represent a means to gather input from and monitor changes in this stakeholder group.

Providing a range of camping opportunities is an important element in addressing campers' desires. This study confirms that managed and unmanaged (random) camping opportunities provide unique experiences. Campers surveyed at both types of sites indicated that they use both campgrounds and random sites. Although campers seek a variety of camping opportunities, campground users tend to take most of their trips to campgrounds, and random campers take most of their trips to random camping locations.

This study was the first to examine random campers in the Sunpine FMA area. In general, random campers in this FMA area can be characterized as being primarily from the central region of Alberta, and they camped in large groups comprising primarily friends or groups of family and friends. For most random campers, OHVs were part of the camping experience in the Sunpine FMA area, and most had been to the sites where they were interviewed before participating in this study. Random campers tended to be more tolerant of industrial activity and were more likely to avoid other campers than campers at managed campgrounds. Partying at their campsite and participating in motorized activities in the fall and winter were far more predominant among random campers than among campers using campgrounds. Random campers also tended to camp more often than visitors to campgrounds. This characterization of random campers is very similar to that in a study of random campers in the Foothills Model Forest (McFarlane et al. 1999) and confirms the uniqueness of the random camping experience for Albertans. The current study and the Foothills Model Forest study, however, sampled only random campers staying near roads. They did not include random campers in more remote areas accessible only with OHVs, horses, mountain bikes, or on foot.

Although the campers surveyed at random camping sites, PRAs, and CLPP were similar in many respects, there were some distinct differences in their preferences. Random campers preferred rustic camping opportunities with few or no facilities and services and did not support camping fees at random sites. Campers at CLPP had fewer previous visits to the area, preferred campgrounds with many services and facilities, and were more supportive of interpretive programs.

Land managers are seeking ways to manage random camping to reduce its impacts while providing an enjoyable experience for the camping constituency. As McFarlane et al. (1999) noted in their study of campers in the Foothills Model Forest, the provision of basic facilities and services such as pit toilets and fire rings at popular random camping sites could reduce environmental impacts and risk of wildfire and might be acceptable to some campers. Providing campgrounds that accommodate large groups and sites that are separated from other camping parties and permitting the use of OHVs in the campgrounds would provide a camping opportunity that might meet many random users' needs. These types of campgrounds could potentially attract some campers away from random camping sites. However, changes to any of the current camping opportunities should be implemented with caution, as several potential

problems could result. First, some people camp exclusively at random camping sites and might not use a managed campground or an area with even rudimentary facilities. These campers might be displaced to more remote areas with no facilities, i.e., further into the wilderness or into closer proximity to industrial operators. Second, if random camping areas are developed with some basic facilities and continue to be available free, they might attract campers who currently use managed campgrounds. A camping decision-support system developed for the Foothills Model Forest predicted that introducing pit toilets, fire pits, and picnic tables at sites that are free and not serviced would attract campers from both undeveloped random camping areas and campgrounds (B.L. McFarlane, P.C. Boxall, C. Hiltz, and M. Williams. 2000. Decision support system for camping site choice in the Foothills Model Forest. Unpublished report for the Foothills Model Forest, Hinton, AB.). Such an influx of campers might exacerbate management problems at these sites and could cause private operators of campgrounds to lose revenue. Finally, instituting a fee to cover the costs associated with any new developments at random sites could have negative impacts. About 80% of random campers cited lack of fees as an important reason for random camping, and 67.4% of all campers were opposed to charging a fee for random camping. Imposing fees for random camping could cause many campers to drop out of camping or to be displaced to new random camping sites, or they might simply refuse to pay the fee.

An important consideration in the management of random camping is that campers may not perceive a need to manage the activity. Campers in this study did not share the perception among land managers that random camping, if left unmanaged, could have a substantial negative impact on the environment and could result in conflicts among recreational users. Most campers did not perceive random camping as posing any serious environmental impacts. Indeed, random camping was perceived as a right and an important tradition for Albertans and as providing a unique camping opportunity. Thus, any efforts to change the random camping opportunity might be perceived as unwarranted and might meet with opposition from campers. In contrast, campers expressed concern over the environmental impacts of unrestricted OHV use. Although random camping is often associated with OHV use, land managers should be cognizant that campers perceive these two activities as having different environmental impacts. Managers should be very precise in their management objectives and in their communications about proposed changes to recreation in the area by making a distinction between impacts from random camping and impacts from OHV use. Campers may not support management changes in random camping as a means to reduce the impact of OHVs.

This study suggests that changes at PRA campgrounds may also affect campers and could potentially change their choice of camping area. Campers at PRA campgrounds showed little support for increasing facilities and services at those sites. For example, 20% or less supported hookups and bike rentals and only 7.7% were in favor of concessions. Only showers received support from a majority of PRA campers. Crimson Lake Provincial Park campers, on the other hand, might be attracted to PRAs with increased facilities. Substantially more of them supported an increase in facilities and services at PRAs, with support ranging from about 80% for showers to about 33% for concessions. Thus, it appears that development at PRAs might displace current users (perhaps to random camping sites) and attract other campers who currently use provincial parks, probably because the addition of more facilities and services would essentially result in PRAs having very similar camping opportunities as provincial parks. If many PRAs installed more facilities, the current PRA camping opportunity would essentially be lost, leaving a large gap in camping opportunities in the area. If a goal of forest management is to maximize and sustain benefits to a range of stakeholders, then it will be necessary to maintain a range of camping opportunities and perhaps to expand this range to include a new class of campground such as rustic OHV-based areas.

The natural setting of the study area was the major attraction for campers. Campers visited the area primarily because of its beauty, scenery, nature, and wildlife, as well as the quiet and peaceful setting. Access to OHV trails and the lack of fees were also important features that attracted random campers, whereas access to water and water recreation were important attributes for PRA and CLPP campers. Although most campers, particularly random campers, said that there was nothing about the area they disliked, some concerns emerged as potentially important issues. The availability and cost of firewood and campground fees were issues raised by PRA and CLPP campers. The issue of fees is often raised by campers and is not unique to this study area. For example, campers in the Foothills

Model Forest raised concerns about camping and firewood fees in a 1996 study. Although a few random campers expressed concerns regarding dusty roads, the presence of logging trucks, and the behavior of other campers (specifically littering and cutting down trees), the results from the mail survey suggest that these concerns are not widely supported within the camping community.

An examination of campers across years can provide an indication of changes in use and users. Such knowledge can help in assessing the sustainability of forest management. For example, substantial changes in who is camping in the area, when and where they are camping, and what they are doing while camping might indicate that management changes are affecting campers. A 1994 study in the Rocky-Clearwater Forest (McFarlane et al. 1996b) provided a basis for comparisons with the PRA campers in the current study. The only observed changes on the variables common to both studies were in activities. Specifically, participation in hiking, fishing, lake canoeing, and horseback riding declined significantly between 1994 and 2000. Changes in activities could reflect changes in resource management (for example, some activities may no longer be offered), policy changes (such as introduction of catch-and-release fishing), changes in camper demographics (such as an aging population and urbanization), or changes in camper attitudes (such as an increase in environmental concern). From the current data, it is not possible to establish the precise reasons for these changes. However, some of the changes observed at the PRAs may reflect recreation trends among the general population of Alberta. For example, surveys conducted every 5 years on recreation participation among Albertans have shown that participation in consumptive activities such as fishing and hunting have been declining in Alberta since the 1980s (Alberta Community Development 2001). More research is needed to determine if the changes observed among PRA campers are the result of management changes (e.g., increased camping fees) and policy changes (e.g., introduction of catch-and-release fishing) or are a reflection of general recreation trends. Similar studies should be conducted in the future to monitor recreation use of the study area.

This report has presented descriptive information from on-site interviews and part of a mail survey. The study has yielded a rich database that we will continue to analyze. For example, future analysis will include a segmentation of campers on the basis of camping specialization, and the resulting segments will be compared with campers in the 1994 study. Campers' environmental value orientation, attitudes toward forest management, use of information sources, and other results from the mail survey will be compared with the results of a survey of the general public residing near the study area and will be presented in a separate report.

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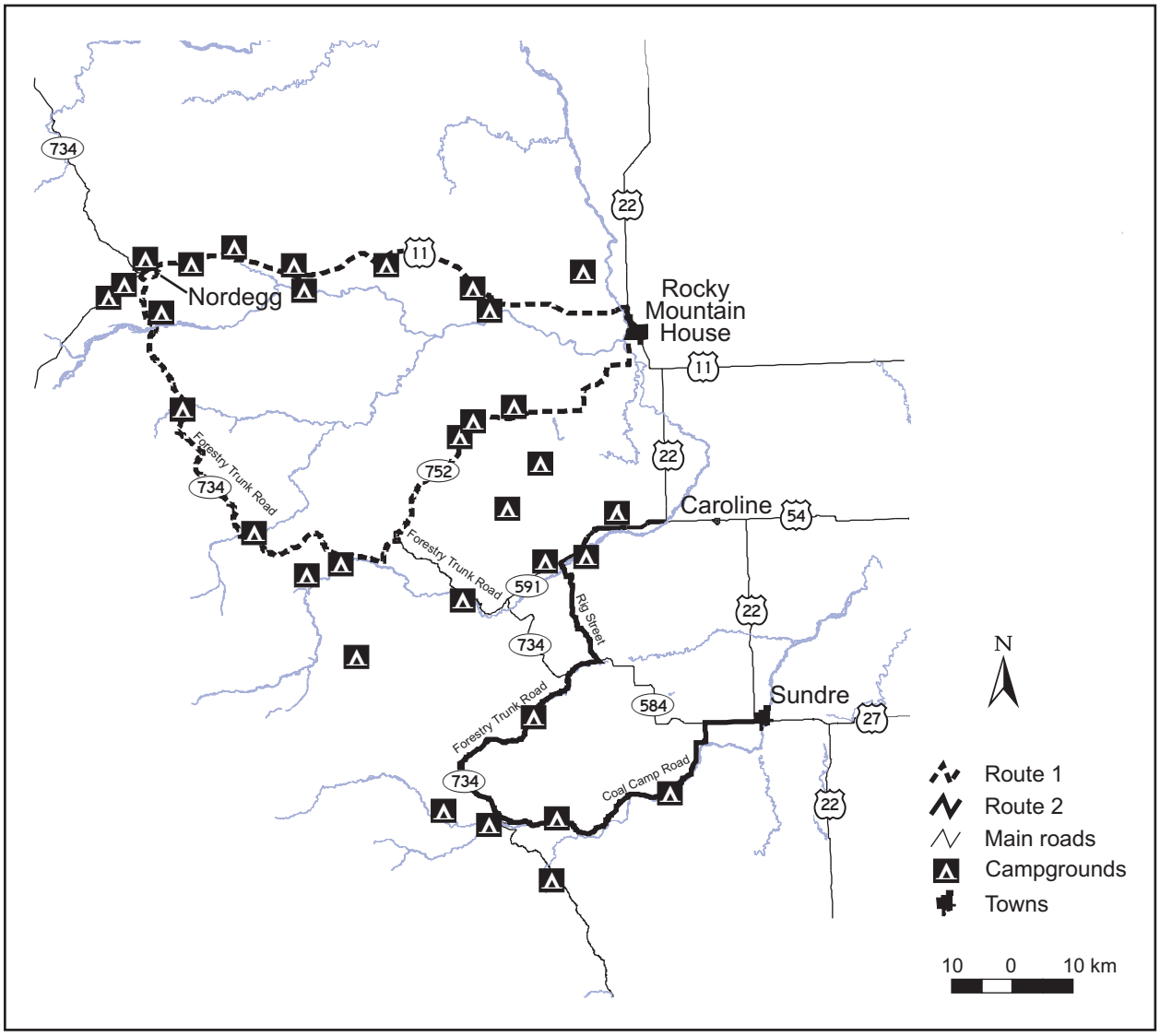
APPENDIX 1
Map of Routes Driven to Sample Campgrounds and Random Camping Sites for On-site Interviews

(Courtesy of Sunpine Forest Products Ltd.)



APPENDIX 2
Place of Origin for Survey Respondents

Place	Campground type; no. (and %) of respondents[a]					
	Random (n = 333)		PRAs (n = 937)		CLPP (n = 174)	
Red Deer	53	(15.9)	170	(18.1)	25	(14.4)
Calgary	54	(16.2)	129	(13.8)	35	(20.1)
Edmonton	41	(12.3)	184	(19.6)	32	(18.4)
Rocky Mountain House	31	(9.3)	60	(6.4)	15	(8.6)
Innisfail	14	(4.2)	21	(2.2)	2	(1.1)
Lacombe	10	(3.0)	26	(2.8)		
Sylvan Lake	10	(3.0)	26	(2.8)		
Sundre	9	(2.7)	12	(1.3)		
Drayton Valley	8	(2.4)	9	(1.0)	3	(1.7)
Wetaskiwin	8	(2.4)	8	(0.9)	2	(1.1)
Olds	7	(2.1)	11	(1.2)		
Ponoka	7	(2.1)	11	(1.2)	5	(2.9)
Blackfalds	6	(1.8)			2	(1.1)
Caroline	4	(1.2)	10	(1.1)		
Cochrane	4	(1.2)	6	(0.6)	2	(1.1)
Rimbey	4	(1.2)				
Stettler	4	(1.2)	18	(1.9)	3	(1.7)
Condor	3	(0.9)	7	(0.7)		
Eckville	3	(0.9)	12	(1.3)		
High River	3	(0.9)				
Benalto	2	(0.6)				
Didsbury	2	(0.6)				
Leduc	2	(0.6)	10	(1.1)	3	(1.7)
Morinville	2	(0.6)				
Penhold	2	(0.6)				
Sherwood Park	2	(0.6)	21	(2.2)	2	(1.1)
St. Albert	2	(0.6)	9	(1.0)	6	(3.4)
Airdrie			14	(1.5)	3	(1.7)
Camrose			9	(1.0)	2	(1.1)
Spruce Grove			9	(1.0)	3	(1.7)
Three Hills			6	(0.6)		
Millet					3	(1.7)
Fort Saskatchewan					2	(1.1)
Other	36	(10.8)	139	(14.8)	24	(13.8)

[a] For each type of campground, the "Other" category may include respondents from towns listed for which cells are blank (for random sites and CLPP, data for towns with just one respondent are not listed individually; for PRAs, data for towns with fewer than five respondents are not listed individually).

Note: PRAs = provincial recreation areas, CLPP = Crimson Lake Provincial Park.

APPENDIX 3
Other Activities Undertaken while Camping

Activity[a]	No. of times listed
Random campers	
Rafting	16
River boating	5
Hunting	3
Bow hunting	3
Playing horseshoes	3
Inner tubing	2
Reading	2
Playing cards	2
PRA campers	
Beach, swimming	16
Rafting	23
Local tourism, sites, mine tours and history	8
Golfing	8
Games (e.g., archery, badminton, horseshoes, lawn darts, Frisbee, cards)	10
River boating, boating	6
Jeep jamboree	4
Running	4
Working	3
Socializing	3
Suntanning	3
Eating	3
Mountain bike race or festival	2
CLPP campers	
Beach, swimming	27
Boating	4
Local tours and site-seeing	6
Waterskiing	4
Golfing	4
Playground	2
Running	2
Rafting, dinghy	3
Whittling wood	1

[a] The following activities were listed once each by two of the groups: random campers: scouting wildlife, playing baseball, sweat lodge or sauna, campfire, family reunion, dirt biking, pontoon boating, spiritual retreat, identifying plants, rappeling, painting, chopping wood, golfing, volleyball, swimming, enjoying scenery; PRA campers: berry picking, identifying plants, day use at CLPP, campfire, writing, mushroom picking, painting, search and rescue conference, walking, cooking, ham radio operation, hunting, waterskiing.

Note: PRAs = provincial recreation areas, CLPP = Crimson Lake Provincial Park.

APPENDIX 4
Other Activities Undertaken while Camping in Fall or Winter by PRA Campers

Activity[a]	No. of times listed
Local tourism, sites	6
Picnicking	4
River boating, boating	3
Snowshoeing	2
Relaxing	2
Tubing	2
Socializing	2
Climbing, ice climbing	2
Working	2

[a] The following activities were listed once each by group: random campers: climbing, setting up camp for holidays, snowmobiling, relaxing, sport shooting, dirt biking, downhill skiing, picnicking and day use, golfing, Christmas tree collection; PRA campers: Scouts, scuba diving, snowboarding, touring, trapping, identifying plants, Jeep jamboree, golfing, partying, rafting, Christmas tree collection, skating; CLPP campers: Christmas tree collection, skating, picnicking, river boating, search and rescue training, snowshoeing, trail riding, waterskiing.

Note: PRA = provincial recreation area, CLPP = Crimson Lake Provincial Park.

APPENDIX 5
Other Amenities Listed for PRA Campgrounds

Amenity	Campground type; no. of times listed	
	PRA	CLPP
Firewood (low price or free, quality, dispensing method or access to it, sheltered firewood)	53	11
Water (better for drinking, water tap or pump, more pumps or easier access, wells)	28	4
Information available (better hiking trail maps with length and difficulty, bulletin boards, better signage, information booklets, bear information)	21	
Sanitation station	18	
Trails for hiking and biking (more, better)	12	
Recreation and leisure (game hall, horseshoes, volleyball nets, tennis courts, basketball pad, swim areas [either pool or wading pool], mini-golf)	9	
Telephone in area	9	
Campground host (manage site, security, ranger)	7	
Wash house (or facilities with sinks, showers, mirrors)	7	
Ethical use and education (rules for travel, etc.)	7	
Rentals (canoe, kayak, paddleboat, horses)	5	2

Note: PRA = provincial recreation area, CLPP = Crimson Lake Provincial Park.