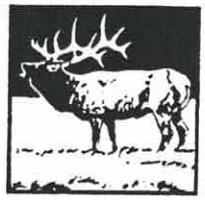


DUCK·MOUNTAIN PROVINCIAL • PARK

INTERIM MANAGEMENT GUIDELINES

Manitoba
Natural Resources
Parks

INTERIM MANAGEMENT GUIDELINES

FOR

DUCK MOUNTAIN PROVINCIAL PARK

OCTOBER 1988

TABLE OF CONTENTS

LIST OF FIGURES

LIST OF TABLES

1.0 INTRODUCTION

Duck Mountain Provincial Park is located northwest of Dauphin, adjacent to the Manitoba-Saskatchewan border. The 1,280 square kilometre park lies within the Duck Mountain Provincial Forest. This Natural Park is a scenic landscape which provides visitors with a range of outdoor recreational opportunities and accommodates a variety of resource harvest activities. Recreational facilities are concentrated at Blue, Childs, Wellman and Singush Lakes.

Duck Mountain was one of the four original parks designated in 1961. The mountain has been historically important for its timber, game and fish. While many of the traditional commercial and recreational resource harvest activities continue today, pressures on the park's forests, wildlife and fish populations have caused management concerns.

Increased year-round and peak-season use of recreational facilities indicate a review of facilities and services should be undertaken to priorize future upgrading and development plans.

In the interim period until a Management Plan is prepared for Duck Mountain Provincial Park, the Parks Branch has established the management guidelines contained herein, for resource conservation and protection, improvement and development of recreational facilities, and the ongoing commercial use of the park's resources.

These management guidelines have been developed on the basis of present information and existing land use priorities. They may be revised periodically as additional information becomes available or as needs not presently anticipated are identified. The Interim Management Guidelines determine the limits for park development and use prior to Management Plan completion.

2.0 ROLE/PURPOSE OF DUCK MOUNTAIN PROVINCIAL PARK

Duck Mountain Provincial Park is renowned for its scenic natural resources such as the mixed forest communities and many clear, deep lakes. The numerous lakes have allowed for the development of stocking programs to provide visitors with a diversity of fish species. Water-oriented recreational activities such as fishing, boating and swimming attract visitors from the local, regional and provincial markets. The park also provides significant sport hunting opportunities particularly for moose, elk and black bear. Lodges, campgrounds, picnic areas and trails, augment and facilitate the enjoyment of the park's natural features.

The Parks Branch and Travel Manitoba (1983) Tourism Development Strategy recognized Duck Mountain Provincial Park as a secondary park/tourism development region. The strategy states that upgrading of existing facilities and development of new service facilities is warranted.

The broad purpose and role of Duck Mountain Provincial Park and its "fit" in the park system is established by park classification and precepts presented in the 1985 document, A System Plan for Manitoba's Provincial Parks.

Duck Mountain is classified as a Provincial Natural Park. Natural Parks are areas that possess exceptional value or quality in illustrating or interpreting the natural landscape of Manitoba. They are capable of providing a wide range of outdoor recreational opportunities and are generally capable of accommodating commercial extraction/harvest activities.

The park's purpose/role is further defined by the park precept statements. Duck Mountain Provincial Park will:

* **provide a representative example of the Manitoba escarpment;**
* **enhance public appreciation of this formation, which includes Baldy Mountain, the highest point in Manitoba;**

* provide for the continuation and improvement/increase of a wide array of upland and water-contact activities; cottaging, camping, fishing and sport hunting; and
* accommodate established patterns of resource harvesting, most notably logging, without detriment to park experiences and visitors.

3.0 ISSUES AND CONCERNS

Issues requiring resolution in the short term are discussed under the following headings: Natural and Cultural Resources, Recreation, Operations and Maintenance and Resource Use. The characteristics of the resource base along with current levels of visitor use and resource extraction activities have created a need to establish objectives and guidelines to manage and develop Duck Mountain Provincial Park.

There are also a number of activities and practices which are not classified as issues but require clarification of the management practices and interim direction. These land uses are presented in Appendix I for future consideration.

3.1 Natural Resources

3.1.1 Fisheries and Water Quality

Park waters are subjected to heavy angling pressure, particularly those lakes stocked with preferred and sought after salmonid species (Figure 1). On some lakes, natural reproduction or stocking rates cannot keep pace with harvest and consequently angler success has declined. In at least one case, the re-invasion of predator species in a reclaimed stocked water has reduced a high-quality angling opportunity and resulted in a shift in angling pressure. Currently, there is a disproportionate use of fisheries-capable, road-accessible lakes.

Concern has been raised by the public and resource managers respecting the maintenance of both native and introduced sport fish populations. Although additional species have been stocked in an attempt to reduce pressure on some populations, these other angling opportunities have been poorly publicized.

Deep crystal clear lakes such as East Blue, Childs and Laurie offer aesthetically pleasing environments and are therefore susceptible to development pressures. The challenge is to achieve a balance between recreational developments and the capacity of these waters to sustain sport fishing pressure and artificial nutrient loads.

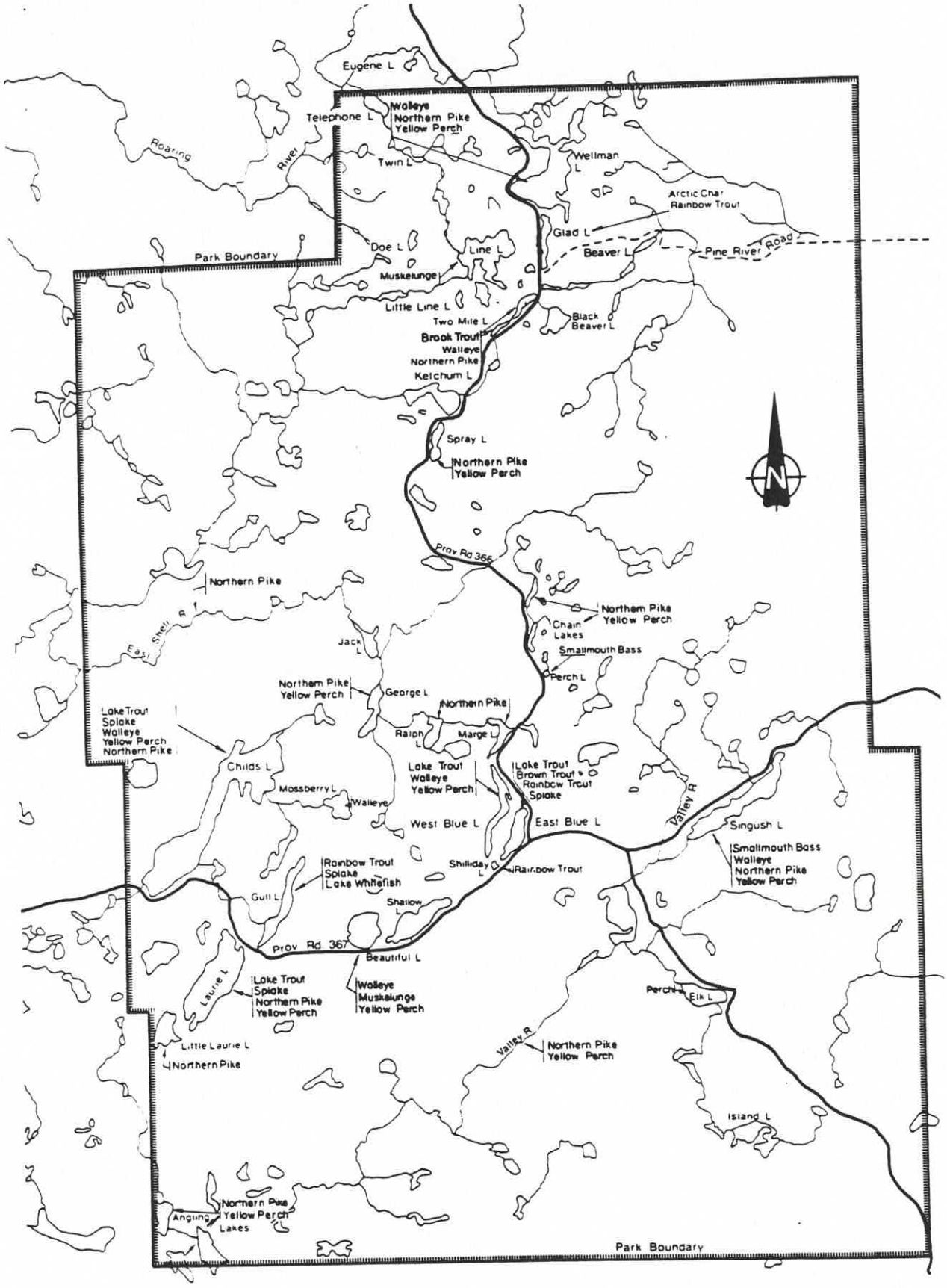


Figure 1
Sport Fishery Lakes

3.1.2 Wildlife

The upland forests, meadows, lakes and streams provide a diversity of habitats for ungulates, waterfowl, small mammals, raptors and songbirds. To date, however, there has been no effort to identify and catalogue special or sensitive species and habitats. The Duck Mountain Resource Inventory completed in 1980 is too broad to facilitate site management decisions.

The relative impact of a number of factors influencing big game populations requires further investigations: illegal and Treaty Indian harvest, perceived over-harvest of black bears by sport hunters and the deterioration of wildlife habitats. In addition, there are currently no public awareness or interpretive programs which focus on wildlife-related opportunities.

The mixed-grass meadows in the Shell and Roaring River valleys are critical elk winter range. Maturation of these habitats, however, has reduced range capability, herd viability and caused a distributional shift to surrounding farmlands which has resulted in an increase in depredation complaints.

3.1.3 Cultural Resources

It is important to establish a sound basis from which to make systematic and wise decisions concerning the cultural heritage of the park. This basis can only be established through research, inventory, evaluation, interpretation/education and management programs in the park that focus on the archaeological, architectural and historic resources.

3.2 Recreation

(See Figure 2. Existing Recreational Facilities)

3.2.1 Camping

Visitor surveys indicate a demand for improved campsite and modern facilities. The provision of shower buildings, modern washrooms and electrical sites are common requests from both transient and seasonal campers.

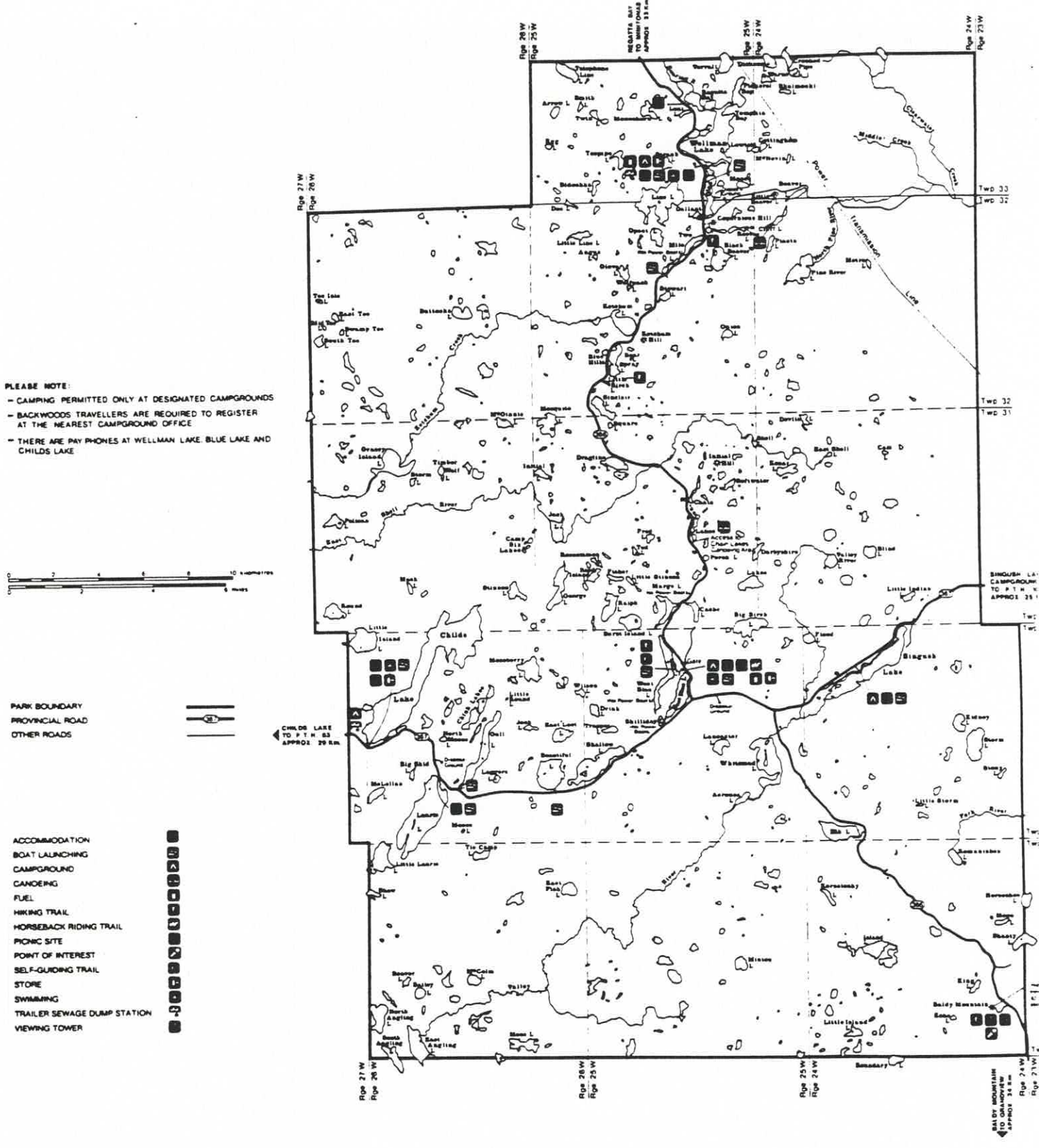


Figure 2
Existing Recreational Facilities

Other concerns relate to traffic flows between transient and seasonal sites, the deterioration of vegetative cover from sustained use, periodic overcrowding and the absence of training for seasonal Parks staff.

Duck Mountain also lacks backcountry camping facilities. A number of user groups including hikers, canoeists, sport hunters, horseback riders and ATC owners have requested remote camping opportunities.

3.2.2 Day Use

A number of day use areas exist throughout the park. These sites are used for picnicking, swimming and boat launching and contain playgrounds and related park infrastructure. However, design inadequacies including improper site layout causes congestion during peak use periods. Site redevelopment to reduce user conflicts and to improve/expand facilities is required.

3.2.3 Group Use

The church camps at Wellman Lake are meeting current demand for overnight fixed-roof group use in the park, however, the demand for group use areas is steadily increasing. Although the east side of Laurie Lake and Bay 2 of the new Childs Lake campground have been designated for short-term group use activities, site development has not been completed, thereby curtailing opportunity.

The newly developed Manitoba Forestry Association (M.F.A.) Site provides a focal point for outdoor conservation-education programming, for school and other organized groups but will accommodate groups on a day-use basis only.

3.2.4 Trails

The park's variety of terrain, vegetation, scenic overlooks and historic features present opportunities for trail system development. The potential to provide a diversified trail network has not been fully realized. Currently there are few long-distance hiking trails or interpretive trails associated with major campgrounds. In addition, interpretive trail potential exists along the Shell River and on the Copernicus, Baldy Mountain and Manitoba Forestry Association trails, as well as the big game habitat management sites.

Uncontrolled use of existing trails by hikers, A.T.C. and A.T.V. owners is occurring. A system to control and monitor use more effectively is required.

Currently, the demand for a system of designated snowmobile trails through the park is low. However, interest has been expressed by specific user groups for upgrading and expansion of cross-country ski trails near developed areas.

3.2.5 Visitor Information/Interpretation

The significance of Duck Mountain as a tourism/recreation destination offering a wide range of recreational opportunities and facilities, has been inadequately promoted. Improving the availability and quality of promotional materials respecting the park's excellent recreational waters, sport fishing, hunting and backcountry trails would satisfy visitor requests and help to increase visitation.

Although the M.F.A. site is expected to provide school groups with education and conservation programs there is no similar vehicle for disseminating more general information on the park's attributes to the public. Interpretive programs throughout the summer months would be well received by visitors. There are currently no seasonal visitor services staff to meet this need.

3.3 Operations and Maintenance

The current signage does not adequately describe park facilities or encourage efficient traffic flows and people movements.

Additional Operations & Maintenance issues include the maintenance compounds at Cache Lake and Glad Lake which require upgrading and/or relocation and the lack of dust control programs for park roads.

3.4 Enforcement

The combination of regulated and unregulated resource harvest practices have placed stress on the resource base. Adequate enforcement is necessary to ensure users comply with existing regulations. The present level of illegal resource harvest should be reduced to ensure that wildlife and fish populations are protected. Indiscriminate, unregulated/illegal harvest will reduce the quality of non-consumptive and consumptive opportunities available to park users. An integrated approach towards enforcement of natural resource regulations is necessary.

Winter ice fishing shacks are being left along the shores of lakes and litter associated with this activity is a concern. This is one example of an unregulated activity which has an impact on the natural environment.

3.5 Cottaging

Cottage subdivisions are located at Childs, East Blue, Singush and Wellman Lakes. The majority of the cottages are lakefront lots with the exception of some back tier lots at Wellman Lake which are currently on inventory. Since most of the existing inventory of lots has been exhausted, additional demands cannot be satisfied to meet anticipated public demand.

The issue of permanent occupancy in cottage subdivisions is beyond the scope of this document. Additional environmental and projected recreational impact data is required before provincial policy decisions can be developed.

3.6 Commercial Lodges

Three lodges offer fixed-roof accommodations for park visitors. These lodges cater primarily to sport fishermen and hunters. Upgrading of the present facilities and services and development of new opportunities should be encouraged to meet public expectations.

3.7 Park Boundary Changes

An Outdoor Recreation Master Plan developed for the park in 1973 recommended that the Roaring River and Shell River Valleys be incorporated as parkland. The 1985 Parks System Plan proposed that the Roaring River be established as a Heritage Park. Recent planning efforts have focussed on designating this area as a backcountry zone within Duck Mountain Provincial Park. This matter is clarified further in the guidelines section.

3.8 Forestry

Logging operations have taken place in Duck Mountain since the 1880's. Many changes have occurred during the last 100 years in the methods of harvest, transporting timber and forest renewal practices, but the importance of the forest industry to the local and regional economy has not diminished.

Today, large portions of the park are dedicated to forestry practices. Timber is harvested by quota holders within zones identified by Forestry and Parks Branches in the 1973 Master Plan. A "no-cutting" area includes buffer zones around each major development node and along the major transportation routes - PR 366 and 367. Recent requests from Forestry Branch for selective harvest permits adjacent to the Provincial Roads and the Parks' requirement for forest stand improvement projects indicate a need to review the zoning plan as it relates to forestry operations in these areas. A review of existing forestry practices and new proposals for increased hardwood utilization is required to ensure they are consistent with long-term park development objectives, park classification, and

boundary changes. Operationally, the permit review process between Forestry, Parks and Regional Services requires improvement. In addition, there is no formal procedure for reviewing annual or five-year forest harvesting and renewal plans.

4.0 OBJECTIVES

A series of objectives for resource protection, management and recreational use has been prepared. The objectives are derived from a consideration of park purpose, current use, and issues and concerns described in the previous section.

4.1 Natural Resources

4.1.1 Fisheries and Water Quality

1. To maintain and enhance native and introduced sport fish populations.
2. To increase the diversity of and accessibility to sport fishing opportunities.
3. To improve sport angling information available to the public.
4. To conduct inventory and monitoring programs to determine sport fish harvest.
5. To maintain the high standards of water quality.

4.1.2 Wildlife

1. To inventory and catalogue special/sensitive wildlife species and habitats.
2. To maintain and enhance ungulate populations through habitat management programs planned and funded by Parks Branch and Wildlife Branch.
3. To develop viewing and interpretation programs for moose and elk in selected areas.
4. To develop and implement techniques to reduce elk depredation on surrounding agricultural lands.
5. To determine the status and distribution of moose and elk populations on an annual basis
6. To develop strategies to protect the black bear population.

4.1.3 Cultural Resources

1. To ensure the wise guardianship of cultural resources through appropriate management programs.

4.2 Recreation

4.2.1 Camping

1. To identify priority upgrading of facilities and new service requirements.
2. To establish campground functions and capacities to reflect existing and projected demand.
3. To identify opportunities for backcountry camping.

4.2.2 Day Use

1. To priorize the need for day use site redevelopment and expansion.

4.2.3 Group Use

1. To develop the north and east shores of Laurie Lake for transient group use.
2. To promote use of the Manitoba Forestry Association Site for school and other organized groups.

4.2.4 Trails

1. To upgrade and expand where necessary the existing system of hiking trails, canoe routes, and equestrian trails.
2. To develop a long-distance backcountry hiking trail system.
3. To provide a designated ATC trail system.
4. To develop a self-guiding Natural Resources theme trail.
5. To determine the need for a winter trail system.

4.2.5 Visitor Information/Interpretation

1. To develop visitor orientation pull-off facilities along PR 366 and 367.
2. To develop additional visitor information publications respecting park resources and recreational opportunities.
3. To work co-operatively with the Manitoba Forestry Association to develop education-conservation programs.
4. To provide interpretative programming at various park locations during the summer season.
5. To establish permanent interpretive programming sites at major campgrounds.

4.3 Operation and Maintenance

1. To improve highway and internal facility signing.
2. To enclose the Cache Lake maintenance compound and/or develop a relocation strategy.
3. To relocate the Glad Lake cabin and storage facility to Wellman lake.
4. To institute a dust control program for major recreational sites.
5. To initiate discussions with the Department of Highways respecting the signing and proposed upgrading of provincial roads through the park.

4.4. Enforcement

1. To increase the frequency of winter and summer resource management enforcement patrols.
2. To review the effectiveness of various approaches towards resource management enforcement.
3. To ensure compliance with regulations respecting the removal of ice fishing shacks and associated litter.

4.5 Cottaging

1. To identify additional cottaging opportunities.

4.6 Commercial Lodges

1. To encourage lodge facility upgrading and expansion of new opportunities as appropriate.

4.7 Park Boundary Changes

1. To recommend areas for inclusion within park boundaries.

4.8 Forestry

1. To accommodate existing timber sales where consistent with park recreational objectives.
2. To review the current Forestry-Parks zoning agreement as it relates to current Forestry and Parks Branch needs.
3. To develop a procedure for ensuring Parks Branch's review and input into forest management plans.
4. To review the timber permit process with respect to special conditions/restrictions to maintain park recreational and natural values.

5.0 GUIDELINES

5.1 Natural Resources

The varied landscapes of Duck Mountain Provincial Park support a diversity of wildlife, fish and plant communities. The lakes and forests provide excellent sport fishing, hunting and backcountry exploring opportunities. A number of extractive resource uses such as hunting, fishing, logging and trapping are permitted in the park. The potential for non-consumptive uses of the resource base, e.g. long-distance hiking and wildlife viewing has not been fully realized.

5.1.1 Fisheries and Water Quality

Fisheries

Limnological characteristics and heavy angling pressure dictate intensive management practices to maintain productivity. Park lakes receive a total of 100,000 angler hours per annum or approximately 30,000 man-days of angling. Stocked waters are managed on a "put-and-take" basis and stocked annually.

A range of lake morphology has enabled fisheries managers to develop a variety of fishing experiences. Lake management strategies to enhance sport fishing potential centre on stocking programs and the removal of undesirable predator species. Annual stocking programs are essential to maintain the quality fishery. Stocked species include salmonids, walleye, smallmouth bass, muskellunge and perch (Figure 1). Popular salmonid species include lake trout, brook trout, brown trout, rainbow trout and arctic char. Natural pike populations occur in a number of lakes which further diversifies sport angling opportunities.

Eighty percent or more of the sport angling pressure occurs on Two Mile, East Blue, Gull and Beautiful Lakes. Each of these lakes has been intensively managed as trout or walleye fisheries. Where increased stocking has improved success rates, angling pressure has also increased indicating a public demand for diversified, quality fishing opportunities.

The quality of the Two Mile Lake brook trout fishery has been reduced by an invasion of pike in 1983. The first step towards reclaiming the lake was taken during the fall of 1987. Liquid rotenone was applied by means of aerial spraying in order to remove rough fish species in advance of initiating a stocking program. This highly productive lake will require further management to develop a viable brook trout fishery. Until this can be achieved all of the angling pressure for brook trout will be on Gull Lake. Currently there are no other strategically located lakes which support brook trout fisheries.

East Blue Lake is a quality road-accessible rainbow and brown trout fishery. Annual stocking rates however, cannot sustain the fish size and success rate to which the public has grown accustomed.

Although Beautiful Lake has been stocked with both walleyes and muskellunge, the exceptional growth rate for walleyes has created heavy angling pressure for this sought after species. Due to this stocking success and the demand for a walleye fishery, a decision is required respecting future lake management practices.

The Glad Lake fishery has been improved by continuous gill netting to remove predator species in advance of stocking with Arctic Char. Establishing an Arctic Char fishery will increase angling opportunities and attract fishermen, thereby benefitting lodge operators.

Two other management projects which have been discussed by Parks and Fisheries managers involve West Blue and Perch Lakes. The West Blue Lake walleye population is good but angler success is very low. The low success rate is likely attributable to walleye being extremely light sensitive. The clarity of West Blue Lake would curtail daytime activity in favour of nocturnal movements which would account for low angler success during daylight hours.

Two management options have been proposed for West Blue Lake. The first would involve raising the profile of the potential walleye fishery on West Blue Lake through brochures and on-site signing. Fishermen would be encouraged to increase harvest. The second option would involve techniques used on Glad Lake. The pickerel would be gill-netted and the lake restocked with Kohanee salmon. A Kohanee salmon fishery is expected to be popular with fishermen. Additional research and evaluation is necessary before this second management option is considered.

The Perch Lake proposal calls for the removal of the existing smallmouth bass population and subsequent stocking of crappies. This would eventually result in a highly productive fishery with good angler success. Fisheries managers wish to establish a "casual" fishery where the possibility of catching a fish is high. The success of the Perch Lake project will determine if this concept is applied to other park lakes such as Singush, Line and Black Beaver Lakes.

Although the majority of the lakes in the park are road accessible, a few backcountry lakes like Ralph, George and Line Lakes support good native and exotic species fisheries. Both Ralph and George Lakes have native pike while Line Lake has been stocked with muskellunge. Quality backcountry fishing opportunities are important in conjunction with recreational trail and camping opportunities. Emphasis on improving these fisheries will be necessary as backcountry use increases.

The Pine River in Duck Mountain (stocked with brook trout) has been rated as one of the premier trout streams in the province. Recommendations to improve the accessibility of this significant opportunity are presented in 5.2.2.

Angling occurs during the winter and summer seasons. In order to monitor resource harvest and encourage compliance with regulations, enforcement patrols are necessary. The frequency of fisheries patrols on park lakes should be increased to protect the fisheries and raise the Departmental profile. Since survey

data indicates park visitors rate sport fishing opportunities as one of the primary reasons for their visit, it is important to protect this resource from unregulated harvest.

The availability of sport fishing information is currently limited to one handout map and promotion of sport fishing opportunities is non-existent. The regional and provincial markets are not aware of the fishing opportunities available in the park. Promotional activities such as a media tour, on-site signs, and a brochure are required to elevate the profile of the sport fishery.

Guidelines:

1) **A joint fisheries management and park development plan will be prepared to identify management and facility development priorities and to ensure a balance between park development and the ability of individual lakes to sustain sport fish harvest.**
2) **Programs to further diversify sport fishing opportunities will be developed and implemented on selected park lakes (eg. "casual" fisheries on Perch, Singush, Line and Black Beaver Lakes, additional brook trout fisheries on Spray and possibly Black Beaver Lakes).**
3) **Beautiful Lake will be managed as a walleye fishery and stocked as demand warrants.**
4) **Two Mile Lake will continue to be managed to re-establish a healthy brook trout fishery.**
5) **Current annual stocking rates will be maintained or increased depending on angling pressure and harvest. At present, there is a demonstrable need to increase stocking on East Blue Lake.**
6) **To determine derivation of angling pressure and sport fish harvest on major lakes, Parks and Fisheries will seek funding for a creel census program for the open water and ice fishing seasons.**
7) **Parks, Regional Services, and Fisheries Branches will conduct an awareness program with lodge operators to ensure fishing limits are understood and adhered to.**

8) **Public information concerning the diverse sport fishery opportunities will be developed by Parks and Fisheries Branches. Information will be displayed on site at major park centres.**

9) **At the discretion of fisheries managers, test netting will be considered only as a management tool to remove coarse fish or predator species.**

Water Quality

The quality of water and sport fishing are directly related. Many of the oligotrophic lakes are stocked with trout species. Any changes in the quality of water could adversely affect the sensitive nature of the trout fisheries and aesthetics of the water body.

Guidelines:

1) **Any development, including changes in fish species and increased stocking rates that can potentially increase the numbers of user days per annum on lakes will be evaluated prior to development with respect to the impact on water quality.**

2) **Consistent with sport fishing objectives, water quality will be periodically monitored.**

3) **Water quality and lake level research projects will be supported by Parks Branch.**

4) **A survey of existing sewage disposal systems will be undertaken by departmental staff.**

5.1.2 Wildlife

To date, wildlife management efforts have concentrated on big game species and furbearers. The diversity and range of non-game animal populations have not been adequately documented. The 1980 Duck Mountain Resource Inventory remains the only report to evaluate floral and faunal communities in the park.

Wildlife studies have focussed on the park's ungulate populations. Annual moose census data from 1970-85 is presented in Table 1. In 1980-81 the population estimate for the Duck

TABLE 1. WESTERN REGION MOOSE HERD COMPOSITIONS - 1970-1985

Area	Year	Number Observed[1]						Bulls/ 100 cows	Yrlg. Bulls 100 cows	Calves/ 100 cows	Calves/ 100 adults	% Twinning rate	% Calves in sample	Hours surveyed (h:min)	Moose sighted per hour
		Sample size	Bulls		Cows[a]										
			Total	Yrlg.	W_0	W_1	W_2								
Duck Mountain	1970	182	50	21	52	34	4	56	23	47	30	11	23	3:42	53.3
	1971	130	25	10	12	27	3	35	14	46	34	10	25	3:97	32.7
	1972	153	47	13	39	20	9	69	19	56	33	31	19	4:62	33.1
	1973	154	36	7	45	29	5	46	9	49	34	17	26	3:15	47.4
	1974	145	32	12	43	29	4	42	16	49	34	12	26	4:92	29.5
	1975	131	22	6	35	34	2	31	8	54	41	6	29	4:92	26.6
	1976	158	36	3	41	36	3	45	4	53	36	8	27	4:17	37.8
	1977	175	40	8	48	36	5	45	9	52	36	12	26	4:58	38.2
	1978	149	56	6	29	26	4	95	10	58	30	13	23	3:17	47.0
	1979	189	51	14	69	30	6	53	15	44	29	17	22	9:47	19.9
	1980	189	52	3	67	15	6	53	3	40	26	19	21	5:24	35.0
	1981	149	28	3	46	31	3	34	4	48	36	8.8	26.1	4:08	36.5
	1982	184	43	13	48	41	3	47	14	53	34	7.3	26.6	3:68	50.0
	1983	122	45	15	39	19	0	78	26	33	18	0	16	3:25	37.5
	1984	118	22	4	25	31	3	37	7	63	46	9	33	2:16	54.6
	1985	122	25	4	28	33	1	40	6	55	39	3	28	3:22	37.9

1. Duck Mountain Provincial Park and Environs.

Mountain moose herd was 1800 compared to 1500 in 1987. Herd size has declined due to hunting, poaching, natural predation, and habitat maturation.

Treaty Indian moose harvest has declined slightly since 1985-86 due to road refuge designation, however, both Treaty and illegal harvest remains high and is adversely affecting the population. The Five-Year Report to the Legislature on Wildlife 1983 stated that legislative changes to assist in population conservation may be required and that greater emphasis on poaching enforcement is necessary.

The existing 300-meter wildlife refuge corridor along PR 366 and 367 reduces road hunting, acts as a buffer zone and can be used as an enforcement tool for controlling unsafe road hunting practices.

Table 2 outlines elk numbers in Duck Mountain from 1967-1984. As with moose the elk population has decreased in size. Population estimates from 1980-81 were 1700-1800, compared to 1400-1600 in 1984-85 and 1200-1400 in 1985-86. The 1983 report to the legislature documents that Treaty Indians tend to harvest cows and calves. A harvest which emphasizes cows and calves can have a more serious effect than a large harvest which emphasizes bulls. Sport hunting seasons since 1984-85 have been for bulls only. The incidents of elk poaching has also increased dramatically.

A shortage of elk for sport hunting and viewing purposes is expected as unrestricted harvest pressure continues. Habitat management programs can help reverse this trend. Additional restrictions on hunting areas and harvest rates may be required to ensure an increase in the number of animals in the population.

Parks and Wildlife Branches have entered into a joint elk habitat improvement program for four discrete areas identified in Figure 3.

TABLE 2. WESTERN REGION ELK HERD COMPOSITION 1967-1975 AND 1978-1984 [1, 2]

Area	Year	Sample size	Observations: Bulls Total	Bulls Yrlg.	Cows	Calves	Herd ratio/100 cows: Bulls	Yrlg.	Calves	Hours surveyed	Elk observed per hour
Duck Mountain	1967	469	144	32	254	71	57	13	28	-	-
	1968	590	137	29	296	157	46	10	53	-	-
	1969	491	115	39	224	152	51	17	68	-	-
	1970	628	228	47	262	138	87	18	53	-	-
	1971	571	153	38	317	101	48	12	32	-	-
	1972	473	82	24	283	108	29	8	38	-	-
	1973	609	138	40	333	138	41	12	41	9.00	67.7
	1974	641	83	21	411	147	20	5	36	8.42	76.1
	1978	839	164	57	409	266	40	14	65	15.25	55.0
	1979	433	89	22	235	109	38	9	46	9.47	45.7
	1980	322	49	6	183	90	27	3	49	10.8	29.8
	1981	634	94	31	352	188	27	7	53	5.92	107.1
	1982	742	116	39	415	211	28	9	51	9.09	81.6
	1983	315	60	12	180	75	33	7	42	9.18	34.3
	1984	751	85	22	478	188	18	5	39	8.60	87.0

1. Survey conducted with fixed-wing airplane, observers were unable to distinguish between cows and calves.
2. Duck Mountain Provincial Park and Environs.

NOTE: No survey flown in 1975 and 1977.
Surveys were conducted from 1964 to 1966 with a fixed-wing airplane. All surveys since 1967 have been flown with a helicopter.

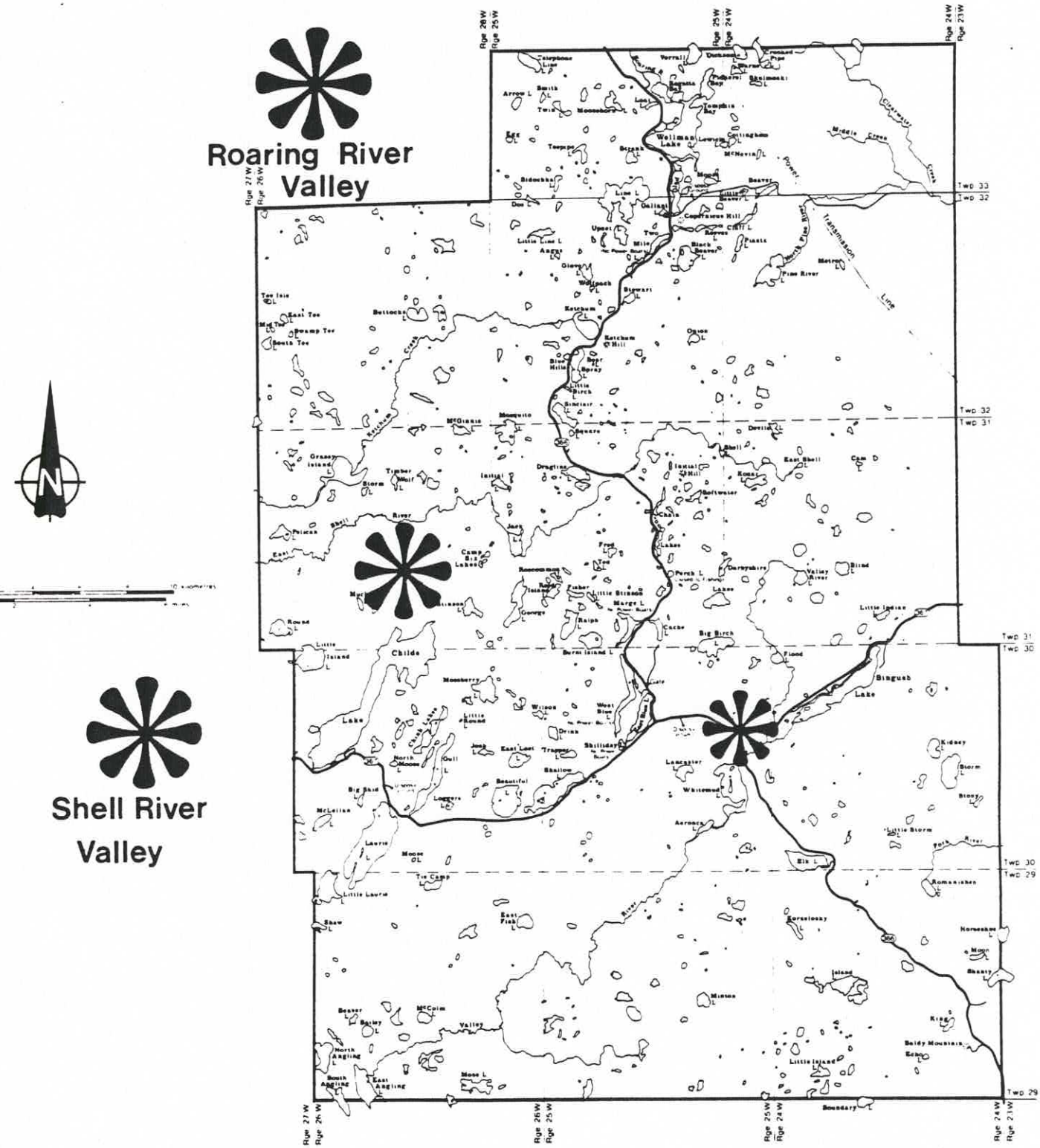


Figure 3
Elk Habitat Improvement Areas

The program will involve manipulating vegetation through a combination of prescribed burns and mechanical methods. By increasing the amount of grasslands in the Roaring and Shell River Valleys and the area north of Childs Lake, the elk population is expected to increase. Where habitat improvement projects are initiated adjacent to P.R. 366 and 367 these areas will be afforded protection from sport hunting pressures.

There has been significant loss of mixed-grass meadow habitat which comprises critical winter ranges in the Shell and Roaring River Valleys. The 300 acres of grassland in the Roaring River Valley has been reduced to 50 acres by encroaching shrub growth. This loss of habitat has resulted in elk concentrating along the periphery of the mountain on agricultural land. It is expected that the habitat improvement projects will cause a movement of elk back to the upland meadows, thereby reducing depredation.

The emphasis for elk management will be placed on developing various strategies to maintain a viable herd. These may include, but may not be limited to, the foregoing habitat improvement project and a change in harvest strategies to govern types of seasons and means of access in backcountry areas such as the Shell and Roaring River Valleys.

The existing system of designated routes in place for big game hunting seasons is currently under review by Departmental staff. The designated route system (Figure 4) allows hunter access to a large portion of the backcountry areas thereby placing increased pressure on the big game populations. Further evaluation is required to properly assess whether or not the routes should be modified or eliminated in the Duck Mountain area.

In recent years, Duck Mountain has provided quality sport hunting opportunities for black bear for North American and European markets. Although economic benefits have accrued to local lodge owners, outfitters and guides, concern has been expressed over the potential for overharvest. Strategies must be

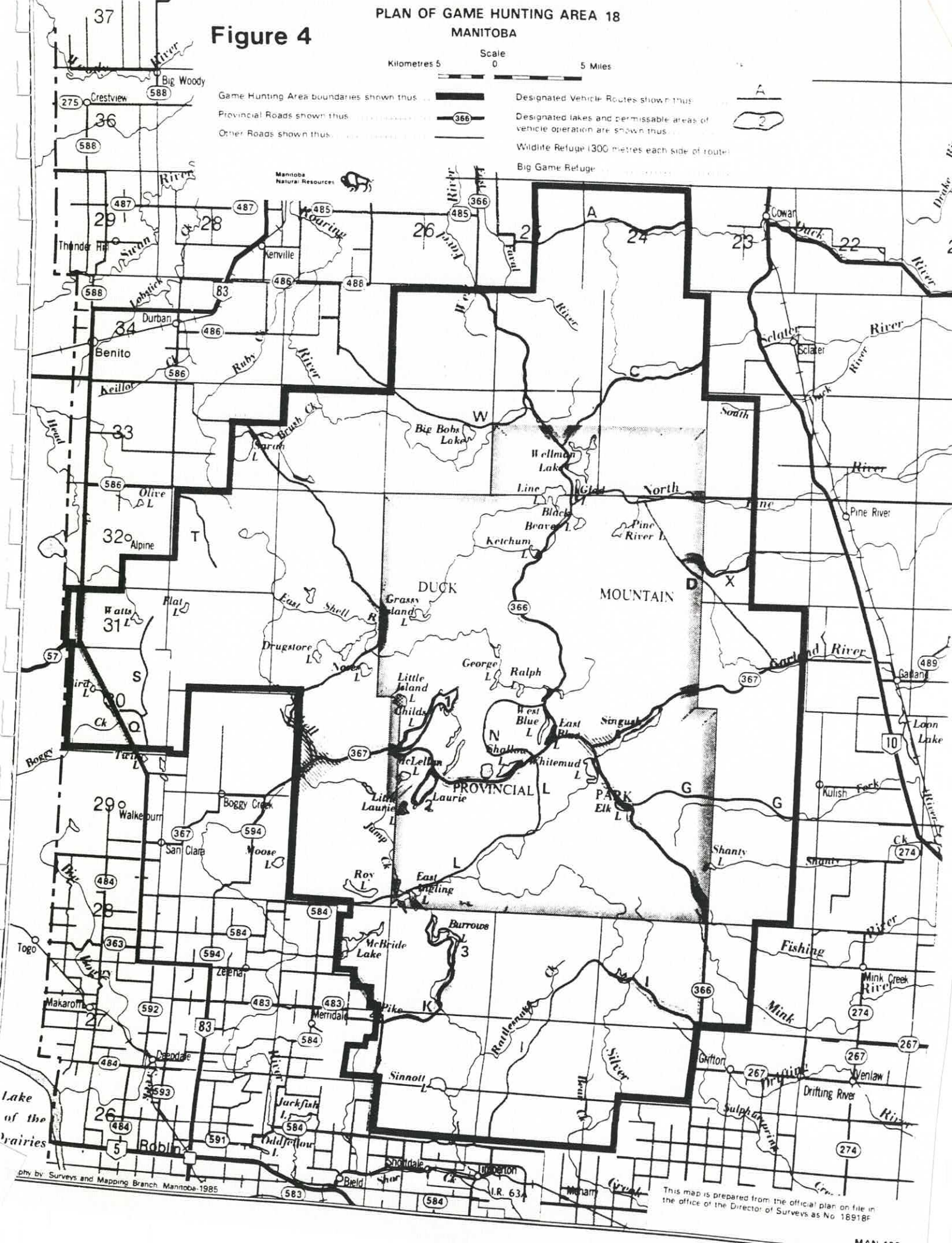
Figure 4

PLAN OF GAME HUNTING AREA 18
MANITOBA

Scale
Kilometres 5 0 5 Miles

Game Hunting Area boundaries shown thus
Provincial Roads shown thus (366)
Other Roads shown thus
Designated Vehicle Routes shown thus A
Designated lakes and permissable areas of vehicle operation are shown thus (2)
Wildlife Refuge (300 metres each side of route)
Big Game Refuge

Manitoba Natural Resources



Photography by Surveys and Mapping Branch, Manitoba-1985

This map is prepared from the official plan on file in the office of the Director of Surveys as No. 18918E

developed to attain a fair and equitable allocation of this resource consistent with the ability of the population to sustain sport harvest.

Guidelines:

1) **An inventory and catalogue of special/sensitive wildlife species and habitats will be considered a resource management priority.**
2) **Parks and Wildlife will jointly develop an integrated elk management plan. Objectives will highlight associated trail and wildlife viewing opportunities, the feasibility of implementing special/primitive seasons in backcountry areas as well as the designation of discrete management areas as wildlife refuges.**
3) **In view of the impact of Treaty, illegal and sport harvest on ungulate populations, a review of seasons and other management alternatives will be undertaken to ensure healthy viable populations are maintained.**
4) **Wildlife and Parks will jointly develop strategies respecting the fair and equitable allocation of the black bear resource.**
5) **Enforcement of wildlife regulations on a year-round basis will continue to be a priority. Paramount to 3 above, efforts will be made to reduce the illegal harvest occurring in the park.**

5.1.3 Cultural Resources

Until 15,000 years ago Duck Mountain was covered with thick sheets of glacial ice. When the glaciers began to melt, Lake Agassiz was formed and for the next 4,000 years Duck Mountain became part of the western shore of this great lake. Over time the vegetation has changed from forest to grassland to forest again about 3,500 to 4,000 years ago. Several undated faunal remains of now distinct species have been found in the park area, one has been dated to 8,600 years ago.

People were also present in the Duck Mountain area some 8,000 to 10,000 years ago through evidence found near Singush Lake. It is likely that these visits were of short duration. Later occupations by different cultural groups are also in evidence, but these were likely seasonal gatherings that continued over a long period of time. This small amount of evidence underscores the fact that little is really known about the pre-contact native peoples.

For the most part, the early explorers stayed to well-defined waterways, passing between the Riding and Duck Mountains. La Verendrye and his sons were probably the first fur traders in the area, and those who followed were connected to the North West Company until its amalgamation with the Hudson's Bay Company in 1821. Of some note are John Tanner and surveyors, Henry Youle Hind and J.G. Tyrell.

Historically, logging, the major resource harvesting industry, began in the early 1880's. Serious agriculture and settlement did not follow until 1896 when the Canadian Northern Railway reached Dauphin and Federal policy began to encourage immigration to the Prairies. This was then followed by trail development for settlement, extension of logging roads and forestry development under the Federal Government until 1930.

The significance of the human heritage of Duck Mountain Provincial Park has been minimally documented through the writing of the Cultural History Themes, Duck Mountain Provincial Park in 1979. This study identified the early logging of the Ducks, exploration, the role of Government in Natural Resources, and prehistoric use of the area.

An additional compilation of cultural resources was begun in the summer of 1985 with the establishment of a Cultural Resources Inventory for Duck Mountain and · rro nding area. This inventory identifies 40 sites that still exist and form a valuable, non-renewable park resource.

Guidelines:

1) **Prior to any major development involving subsurface disturbance and which may impact on unknown or known cultural resources, a Heritage Resources Assessment will be completed.**
2) **Expand, update and maintain the existing Cultural Resources Inventory and Cultural History Themes for the park.**
3) **Establish a Cultural Resources Survey of the park.**
4) **Liaise with existing resource organizations like the Historic Resources Branch and the Dauphin Chapter of the Manitoba Archaeological Society to continue cultural research.**

5.2 Recreation

Vehicle traffic counts from 1981-84 averaged 35,865 which equates to approximately 125,328 visitors annually. The majority of the visitors are campers, with day users and cottage owners representing a smaller proportion of the total visitor use. Both vehicle attendance and campground statistics indicate overall use in Duck Mountain Provincial Park to be static with minor annual fluctuations. The distance from major population centres such as Winnipeg and Brandon is a limitation to park use. Local and regional visitors use park facilities for a portion of a day, a full day or weekend. Visitors from outside the region use the park for extended visits of 3-5 days.

Visitor use surveys reveal the primary reasons for park visitation include the wilderness atmosphere, sport fishing opportunities, beaches and campgrounds. During the fall and winter, the park is used extensively by sport hunters.

The top priority lands required in the five- to seven-year period for recreational development are shown in Figure 5. These areas are focussed around existing development nodes while providing for a variety of backcountry uses.

5.2.1 Camping

Blue Lakes

The Blue Lake campground offers 93 unserviced transient and 45 seasonal sites. It is the most popular campground due to its central location and natural and recreational amenities.

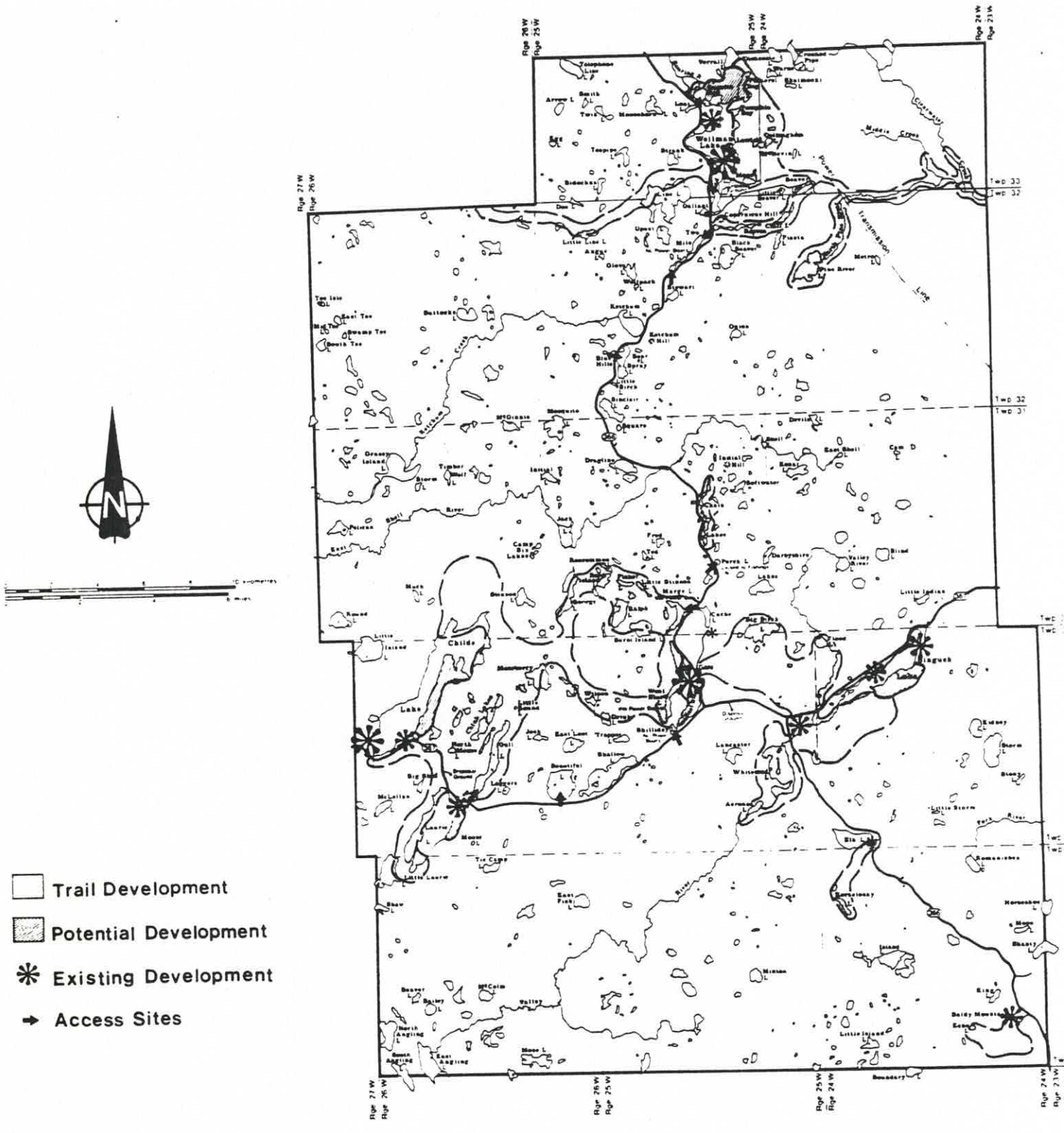


Figure 5
Recreational Land Use Requirements

During the five-year period from 1981-85, transient camping use at Blue Lakes has fluctuated slightly. The average total number of unit days recorded was 5071. The 1985 overall occupancy rate was 40.5% with a weekend rate of 53.9%.

The average length of stay for transient campers has increased from 2.6 days in 1981 to 2.9 days in 1985, indicating a trend towards more extended visits.

Overflow conditions were reached primarily on summer long weekends when weather conditions were good. Existing visitor use levels do not warrant transient campsite expansion at this time, however, when use levels warrant expansion, the area southeast of the existing campsite between East and West Blue Lakes has been identified for development.

Seasonal permits from 1981-85 have increased from 26 to 45. Average unit days of seasonal camping for the five-year period from 1981-85 was 4758. The number of applicants for the annual draw will determine when seasonal campground expansion is considered.

Visitor use surveys indicate that the public desires the convenience of modern facilities. Currently, however, no facilities at Blue Lakes are modern. Availability of hydro will facilitate the modernization of the camping facilities.

The Blue Lakes area has also been identified for development of a remote campground. A location along the southwest shore of West Blue Lake has been proposed for a "walk-in/canoe-in" campground.

Childs Lake

The Childs Lake campground offers 89 transient and 61 seasonal sites. Availability of electrical sites has increased visitor use to the Childs Lake area.

Transient camping use at Childs Lake has varied slightly from 1981-85. The average number of unit days recorded was 2877. The 1985 overall occupancy rate was 28% with a weekend rate of 40.6%.

The trend at Blue Lakes towards extended visits was also evidenced at Childs Lake where the average length of stay for transient campers has increased from 2.3 days in 1981 to 2.8 days in 1985.

Childs Lake campground rarely experiences overflow conditions and is adequately meeting the current camping demand. Visitor surveys indicate campground improvements should focus on provision of a central shower building. The ongoing silviculture program is also required for public safety and aesthetic reasons.

Seasonal camping occurs at the former Childs Lake campground. Annual permits in 1981 were 64 and 57 in 1985. Average unit days of seasonal camping for the five-year period from 1981-85 was 8134. Use levels have remained static and demands for additional seasonal sites have not been evidenced.

Seasonal campers have requested that the existing washroom facilities be modernized. To date, few requests have been received for electrical sites.

In order to protect site aesthetics and provide natural buffers, periodic planting with shrub and tree species will be necessary throughout the seasonal campground.

Wellman Lake

The Wellman Lake campground offers 53 sites, 15 of which are transient. Transient camping use has remained static through the five-year period from 1981-85. Average transient unit days were 1245 per annum with an average stay of 2 days. There has been no trend towards increased length of visits as evidenced at Blue and Childs Lakes. The 1985 overall occupancy rate was 30.5% with a weekend rate of 41.4%. The Wellman Lake redevelopment concept plan identifies the north shore of Wellman Lake for campground expansion. This area should be protected for future camping opportunities.

The average number of seasonal camping permits issued from 1981-85 was 16, accounting for 2098 unit days. Upwards of 23 sites are available for seasonal camping; therefore, supply currently exceeds demand.

All of the existing washroom facilities are non-modern and showers are not provided. Visitor surveys indicate users request facility upgrading in the form of modern washrooms and showers. The 33 electrical sites are adequately meeting current demand.

The Wellman Lake campground office is used as a registration and visitor information building. The existing office is an old Lands Branch style building which should be replaced in order to properly fulfill its primary functions. An office/residence similar to Blue and Childs Lakes campgrounds is required.

Singush Lake

Existing facilities (16 unserviced sites) at Singush Lake are basic and receive minimal use. The average number of unit days for the five-year period from 1981-85 was 169. The 1985 overall occupancy rate was 7.4% with a weekend rate of 11.1%.

Large recreational vehicle campsites are located in a parking lot and tent sites are along the lakeshore. The existing camping opportunities are restricted by location and site conditions. The site is currently satisfying the demand for a low density quiet camping opportunity near a scenic lake.

Guidelines:

1) **The existing transient and seasonal campgrounds at Blue, Childs and Wellman Lakes will be maintained at status quo until visitor use increases by 20 to 30 percent.**
2) **Upgrading, and/or provision of, and modernization of washroom and shower facilities will be initiated at Blue, Childs and Wellman Lakes. This may be undertaken by East Blue, Childs and Wellman Lake lodge operators at their respective locations.**
3) **The Singush Lake campground will be maintained at status quo until increased visitor use warrants expansion. Future development will occur at the existing location or along the southwest shore.**

4) **The existing campground office at Wellman Lake will be replaced with a standard office/residence design as funding permits.**
5) **Development of a "walk-in/canoe-in" campground at West Blue Lake to provide a remote camping opportunity will be considered a priority.**
6) **Silviculture programs for all campgrounds will be continued on an "as-required" basis to improve site aesthetics and natural screening.**

Campground Attendants

Duck Mountain is viewed as a natural park with provincially-significant landscape features and recreational facilities. Each of the campgrounds at Childs, Blue and Wellman Lakes will continue to be operated and maintained by seasonal Parks staff. The absence of seasonal Visitor Services staff in the park makes the role of campground attendant important from a public relations aspect as well as for the primary operational duties.

Guidelines:

1) **Criteria for hiring campground attendants will identify inter-personal skills and natural resource training as important attributes.**
2) **Campground attendants will be given an annual pre-season hospitality training session by Parks Branch personnel.**

Backcountry

Remote drive-in, walk-in, or boat-in backcountry camping opportunities do not exist. Many park visitors use the backcountry areas on an unrestricted basis and overnight at undesignated sites throughout the park. Uncontrolled backcountry access is hazardous for the user and the park. Demand exists for provision of hike-in and drive-in backcountry camping in conjunction with trail system development.

A road-accessible, low-density, lake-orientated campground, with primitive facilities would provide an alternate camping experience for visitors. A resource-orientated, remote

campground would be used by visitors not desiring the higher density campsites and modern facilities. The demand for this type of development in the park system is increasing and in this case would reflect the complementary mixture of resource and recreation values which typifies the Duck Mountain experience.

Guidelines:

1) **Walk-in camping opportunities will be provided at West Blue Lake, along the Shell River Hiking Trail, and in association with any long-distance hiking routes established in the park.**
2) **Canoe-in camping will be provided along the Chain Lakes canoe route and south shore of West Blue Lake.**
3) **Backcountry camping will be provided in conjunction with the ATC trail proposed for the Ralph and George Lakes and Angling Lakes area.**
4) **Site investigations will be undertaken to identify a suitable location for development of a remote, low-density, road-accessible campground. Lakes to be considered are Childs, Gull and Laurie.**
5) **The demand for establishing remote backcountry campsites for use by sport hunters will be evaluated.**

5.2.2 Day Use

Day-use facilities are oriented to major park lakes and include beaches, boat launches, picnicking and play equipment. Local residents visiting for the day, cottagers and campers use these facilities.

Existing day-use/fishing access sites at Gull, Beautiful and Two Mile Lakes experience congestion during peak use periods. Site plans for Gull and Beautiful Lakes have been prepared and redevelopment work initiated. Site expansion will allow for additional vehicular parking and improved circulation patterns.

The quality of the Two Mile Lake brook trout fishery has been reduced as a result of an influx of pike and other predator species. If a quality trout fishery is re-established, the existing access site will be unable to accommodate expected use levels and an alternate site will have to be developed.

The Pine River offers an alternative brook trout fishery but is largely unaccessible at this time. Trail and day-use facility development would increase visitor use along the river.

Major day use developments exist at Childs, Blue and Wellman Lakes. Facilities include boat launch, beach, play equipment, and picnic sites.

The Childs Lake boat launch will be expanded in association with lodge development. The fixed dock located between the boat launch and beach is subject to damage by ice which involves costly repairs. As the dock ages and becomes unrepairable it should be removed and replaced with a floating dock to be located adjacent to the main boat launch.

The boat launch at East Blue Lake is located next to the beach. Conflicts between swimmers and boaters have occurred in the past indicating the necessity for separating the two user groups. The boat launch at West Blue Lake is capable of meeting existing launching demand. Site definition will be required if use levels increase.

Boat-launch facilities at Wellman Lake are adequate to meet current demand. The fixed dock has been repaired and is expected to be useable for a number of years. Eventually, the fixed dock will be replaced by a floating facility and relocated along the southwest shore to create a desired separation between boaters and swimmers. Boat-launching facilities at Regatta Bay will continue to serve the north end of Wellman Lake.

The existing Singush Lake boat launch is poorly designed and would be unable to support use if a good sport fishery were established.

The establishment of an Arctic Char fishery is expected to increase boating traffic on Glad Lake. The existing boat access sites along the north and west shorelines are not adequate to meet the expected demand. Redevelopment of central boat launch on Glad Lake will be necessary.

Existing picnicking facilities throughout the park are meeting current demand. The day use area at Childs Lake requires under-planting in advance of the large spruce dying off. The picnic shelter at Wellman Lake is in need of painting to standardize the color scheme.

A total of four playgrounds have been erected at Childs Lake (2), Blue Lake and Wellman Lake. The facilities require periodic safety inspections to ensure standards are maintained. Any hazards should be quickly repaired to avoid injuries.

Baldy Mountain is prominently advertised as a tourist destination spot in Manitoba. Existing facilities require upgrading to be compatible with visitor expectations. Facility upgrading proposed for Baldy Mountain includes a new entrance sign, interpretive displays and day-use facility improvements.

Land along Roaring River adjacent to P.R. 366 has been proposed for a day use/park orientation site. Site development would involve a trail along the Roaring River, picnic sites, parking and a visitor information kiosk to highlight natural, cultural and recreational facilities.

Guidelines:

1) **A redevelopment plan for Two Mile Lake will be prepared to finalize fishing access site expansion options.**
2) **As existing, fixed docks become damaged or unrepairable, they will be relocated and replaced with floating docks.**
3) **Site plans will be prepared to separate boat launches from swimming areas and to redesign boat launches at Singush and Glad Lakes.**
4) **Play equipment will be inspected on a regular basis to maintain safety standards.**
5) **A site plan will be prepared for Baldy Mountain to upgrade day-use facilities and provide additional interpretive information.**
6) **A new day use area will be developed along the Roaring River as budgets permit.**

7) **The feasibility of developing day-use facilities to access sport fishing opportunities on the Pine River will be investigated.**

5.2.3 Group Use

The three church camps at Wellman Lake are meeting existing demand for fixed-roof group use in the park. However, short-term group use demand is steadily increasing. Organized groups interested in utilizing facilities include boy scouts and girl guides, schools, church groups and C.F.B. Shilo. Laurie Lake and Bay 2 in the Childs Lake campground have been designated for short-term group use.

The Manitoba Forestry Association Site is to be developed for conservation-education programming for school and other organized groups. Groups will be able to visit the site on a daily basis. Facilities proposed for development include a visitor centre, picnic area and forest ecology trails (Appendix III).

Guidelines:

1) **Group use development at Laurie Lake will proceed according to an approved site plan.**
2) **Parks Branch will support the development efforts of the Manitoba Forestry Association. Both monetary and technical assistance will be provided to realize the overall forest centre development concept.**

5.2.4 Trails

Summer

The existing summer trail system consists of one self-guiding interpretive trail, four hiking trails and two canoe routes. The Shining Stone interpretive trail has recently been upgraded and it is well used by visitors. Demand for additional interpretive trails is evidenced in visitor surveys. Interpretive potential exists on the Shell River, Copernicus, Baldy Mountain and M.F.A. forestry trails.

Hiking and interpretive trail development is required in association with the major campgrounds. Trail development near the Childs Lake campground was initiated during the fall of 1987. Future trail development has been identified for the Wellman Lake area.

Parks Branch and Wildlife Branch have entered into a co-operative project to enhance elk habitat in the interior regions of the park. Once the project is completed and elk are frequenting the manipulated areas, public access will be provided via hiking/interpretive trails. Habitat sites in the Shell River Valley, Childs Lake and Blue Lake areas will be suitable for trail development.

The park's resource base lends itself to development of a natural resources theme trail. This trail could take the form of an interpretive walking trail or an automobile ecotour. The trail's storyline would identify the variety of resource activities occurring in the park and highlight management objectives for each resource sector.

The forest ecology trails developed at the M.F.A. site will provide interpretive opportunities focussing on past and present forest management in the Mountain. The foregoing proposals will be evaluated in detail when a Visitor Services Development Plan is prepared.

The Baldy Mountain, Blue Lake, Copernicus and Spray Lake hiking trails provide visitors with hiking opportunities ranging from 2-10 km. Each of these trails requires annual maintenance to clear deadfall and check route signs. Development potential exists along each of the four trails. The Baldy Mountain trail offers potential for expansion along the old central road to form an additional hiking loop. The Blue Lakes hiking trail will be expanded to connect the proposed "walk-in/canoe-in" campground on West Blue Lake. Trail expansion at Copernicus lookout is restricted and should be confined to upgrading projects such as clearing a scenic overlook to view northward towards Glad Lake