

A Strategy For Outdoor Recreational Planning  
For Manitoba's Provincial Forests, Based  
On an Evaluation of the Belair Provincial Forest

by

Kip J. Tyler

A Thesis  
Submitted to the Faculty of Graduate Studies  
in Partial Fulfilment of the Requirements  
For the Degree of

Master of Arts

Department of Geography  
University of Manitoba  
Winnipeg, Manitoba

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## Abstract

Some Provincial Forests in southern Manitoba have become popular public recreational areas, yet little planning for that type of land use has been done. In Manitoba, all Provincial Forests have heretofore been managed with a specific forestry objective in mind, that is, the full utilization of the forest resource on a sustained-yield basis for the purpose of producing forestry products. Regulation of all other uses and activities, such as preserving wildlife habitat, watersheds, and wilderness recreation, is subsumed under a multi-use management approach. However, since multi-use is not clearly defined and has no guidelines for specific existing activities, most of these other uses and activities cannot be effectively administered.

One of these other uses and activities is recreation. It is the focus of this study. During the 1970s and '80s recreational activities in some Provincial Forests increased dramatically, yet no recreation-oriented development strategy was devised to accommodate these activities. Clearly, Provincial Forests cannot continue to be adequately managed under the present forestry management mandate. The entire use-spectrum must be taken into account. A comprehensive and responsible recreational management strategy is vital in order to guide and direct growing recreational demands and protect the interests of all forest users.

In this report, the Belair Provincial Forest is used as an example. A set of management guidelines for recreational use has been developed that could be applied to recreational management in Provincial Forests generally.

## Table of Contents

	Page
Abstract.....	i
Acknowledgements .....	vi
List of Figures .....	vii
List of Tables.....	ix
List of Plates .....	x
List of Definitions .....	xi
1. Introduction .....	1
2. Provincial Forests in Manitoba .....	4
2.1 Background .....	4
2.2 The Provincial Forest Mandate .....	12
2.3 The Management of Provincial Forests in Manitoba .....	13
3. The Belair Provincial Forest .....	18
3.1 Past to Present Land Use Issues .....	22
3.2 The Study Area and Regional Setting .....	30
3.3 Land Tenure, Existing Land Classification Present Land Use Features .....	34
4. Physical Geography of the Belair Provincial Forest .....	43
4.1 Physiography .....	43
4.2 Bedrock Geology and Surficial Geology .....	48
4.3 Soils and Vegetation .....	51
4.4 General Climate .....	54
5. Renewable and Non Renewable Resources .....	55

5.1	Forestry .....	57
5.1.1	Present Forestry Activity and Capability .....	57
5.1.2	The Importance of Forestry .....	70
5.2	Wildlife .....	72
5.2.1	Present Wildlife Activity, Capability and Habitat .....	72
5.2.2	Wildlife Use and Concerns - Recreational Interaction ...	82
5.3	Fisheries .....	84
5.3.1	Present Fisheries, Habitat and Capability .....	84
5.3.2	Fisheries Concerns - Resource Use - Recreational Interactions .....	87
5.4	Water Resources .....	89
5.4.1	Surface and Ground Water Resources .....	89
5.4.2	Water Resources - Resource Development, Recreational Interactions .....	93
5.5	Aggregate Resources .....	95
5.5.1	Aggregate Resource Utilization and Its Future Potential.....	95
5.5.2	Aggregate Resources - Natural Resources - Recreational Resource Interactions .....	96
6.	Recreation .....	98
6.1	The Popularity of Recreation in Manitoba's Outdoors ...	100
6.2	An Overview of the Recreational Demands on Provincial Forested Areas .....	103
6.3	Traditional and Contemporary Forest Recreational Uses .	107
6.4	Perceptions of Forest Use and Citizen Rights in Manitoba .....	112
6.5	The Growth of Recreational Activities in the Belair Provincial Forest .....	117

6.6	Current and Anticipated Recreational Demands on the Belair Provincial Forest .....	129
6.7	The Impact of Increased Recreational Developments on Provincial Forests .....	132
7.	Strategies for Planning Forest Recreation Use .....	134
7.1	The Planning and Recommending of Strategies for Acceptable Recreational Uses .....	137
7.1.1	Management Area I - Provincial Forest Lands .....	142
7.1.1.1	Goals and Recommendations, Management Area I .....	144
7.1.1.2	Recommendations for Acceptable Recreational Uses .....	147
7.1.2	Management Area II - Provincial Forest/ Provincial Parks Lands .....	149
7.1.2.1	Goals and Recommendations .....	151
7.1.2.2	Recommendations for Acceptable Recreational Uses .....	154
7.1.3	Management Area III - Provincial Forest/Wildlife Management Area .....	155
7.1.3.1	Goals and Recommendations .....	157
7.1.3.2	Recommendations for Acceptable Recreational Uses .....	159
7.2	Long-Term Provincial Forest Recreational Use Policy - Recommendations .....	161
8.	Conclusions .....	165
9.	Reference Cited .....	167
10.	Appendix A - Scientific and Common Names Referred to in Text.....	172



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List of Figures	Page
1. Provincial Forests of Manitoba.....	xv
2. Belair Provincial Forest - 1989 .....	19
3. Belair Provincial Forest Reserve (1954).....	23
4. Belair Provincial Forest - Grand Beach Provincial Park .....	25
5. Belair Provincial Forest in its Relationship to Forest Management Unit 23.....	26
6. Belair Provincial Forest - Catfish Creek Wildlife Management Area.....	28
7. Location of Recreational Subdivision in Relation to the Study Area .....	31
8. Land Tenure.....	35
9. Mineral Development and Potential.....	37
10. Access: Trails, Roads, Right-of-Ways. ....	39
11. Snowmobile Trails.....	41
12. Physiographic Subdivisions.....	44
13. Relief and Contour.....	45
14. Typical Cross Section Showing Elevation of Uplands to Lowlands.....	47
15. Bedrock Geology.....	49
16. Surficial Geology.....	50
17. Surface Soils.....	53

18.	Diseased Timber Areas and Capability Sites.....	59
19.	Plantation Areas.....	62
20.	Windstorm Timber Salvage Areas.....	64
21.	Generalized Forest Cover Information and Cutting Classification.....	68
22.	Canada Land Inventory - Forestry.....	69
23.	Canada Land Inventory - Wildlife Ungulates.....	74
24.	Generalized Ungulate Areas.....	75
25.	Canada Land Inventory - Waterfowl and Nesting Enhancement Area/Jackfish Lake Game Bird Refuge.....	79
26.	Great Grey Owl Habitat.....	81
27.	Fisheries Habitat - Catfish Creek.....	86
28.	Water Resources and Surface Drainage.....	90
29.	Generalized Ground Water Pollution Hazard Area.....	92
30.	Snowmobile and All-Terrain Vehicle Registration Areas.....	110
31.	Recreational Development 1955-1986.....	118-123
32.	Major Seasonal Cottaging Areas.....	126
33.	Intensive Recreational Development Sites.....	131
34.	Management Sections.....	139

List of Tables	Page
1. Population of Manitoba in the Settlement Years (1870-1911).....	4
2. Federal Forest Reserves of Manitoba (1923).....	6
3. Forest Reserves of Manitoba (1961).....	7
4. Forest Reserves With Provincial Park Designations (1961).....	9
5. Provincial Forests (Reserves) Established Via the Land Use Planning Process (1984-87).....	10
6. Provincial Forests (Reserves) and Area Designation (1989).....	11
7. Timber Utilization Within the Belair Provincial Forest.....	58
8. Registry of Snowmobiles and All-Terrain Vehicles (1989).....	109
9. Summary of Response of Survey re: Public Use of Canada's Forests.....	113
10. Recreationalist User/Demand Chart.....	128

<b>List of Plates</b>		<b>Page</b>
1.	The Belair Provincial Forest.....	20
2.	Back Country Trails Used by All-Terrain Vehicles.....	40
3.	Snowmobile Trails in the Uplands Area.....	42
4.	Mistletoe Afflicted Jack Pine.....	60
5.	Plantation Sites.....	63
6.	Windstorm Blowdown Areas and Salvage Operations.....	65-66
7.	Catfish Creek Lowlands.....	77
8.	Abandoned Drains Associated to the Catfish Creek.....	85
9.	The Catfish Creek as a Winter Snowmobile Access.....	88

## List of Definitions

### Annual Allowable Cut:

A determination of the allowable annual harvest of timber; the use of such a method insures that the forest thrives in a sustainable manner. The annual allowable cut considers compiled volume inventory data by cover type, age class, and species. The basic volumetric formula is as follows:

Annual Yield:  $\frac{\text{Growing Stock}}{\text{Half the number of years in rotation}}$

Annual Allowable Cut (AAC) obviously varies between management unit groups in relation to area, volume of timber, and species. Each species is calculated separately according to its rotation age. Reductions to the AAC occur due to fires, windfalls, insects, and disease.

In Manitoba the allowable cut is discretely established for each management unit (Gill, 1956; Manitoba Natural Resources, 1981).

### Extensive Recreational Use:

This refers to recreational activities that are temporary and/or sporadic in nature, and are of a low monetary value in terms of individual investment. Such uses are those associated with the casual use of an area, i.e. cross country skiing, snowmobiling, wandering, nature viewing, sport hunting and fishing (Manitoba Natural Resources, 1986a).

**Forest Management Unit:**

Refers to any area which may be subject to a forestry utilization management plan. A sustained yield principle is pursued as the object of forestry management (Province of Manitoba, 1987).

**Forest Recreation:**

Any form of recreation that takes place in a designated forest area (Douglas, 1982).

**Intensive Recreational Use:**

Refers to those recreational uses that are of a permanent nature, usually representing a considerable investment. Intensive use implies the development of the land base to support a recreational use activity i.e. cottaging, resort development (Manitoba Natural Resources, 1986a).

**Non-renewable Resources:**

Resources that, once used or extracted, cannot be replaced, i.e. aggregate removal (Soil Conservation Society of America, 1976).

**Outdoor Recreation:**

Recreation in open space areas where the natural setting or resource is the principle component. Generally these areas are little suited for intensive development and are extensive in nature (Manitoba Natural Resources, 1986a).

**Provincial Forest:**

Includes any lands designated as such in The Forest Act. All Provincial Forests referred to in this report are listed

in Schedule "A" within The Provincial Forest Act (Province of Manitoba, 1987).

**Renewable Resources:**

Resources that can be sustained naturally or by assisted replacement and replenishment, i.e. lumber, fish, wildlife (Soil Conservation Society of America, 1976).

**Southern Manitoba:**

Essentially Agro-Manitoba. Boundaries coincide on the east, west, and south with the boundaries of the Province. The northern boundary runs from the point of intersection of the Saskatchewan border with the north limit of Township 46 eastward to Lake Winnipeg. From this point on Lake Winnipeg the boundary follows the lakeshore northward, around the lake to the eastern shore and southward down the east shore to the northern boundary of the Local Government District of Alexander. The boundary then follows the northern border of Alexander to the Whiteshell Provincial Forest eastward to the Ontario border. All provincial forests except the Cormorant Provincial Forest fall within this area (Figure 1); (Barto and Vogel, 1978).

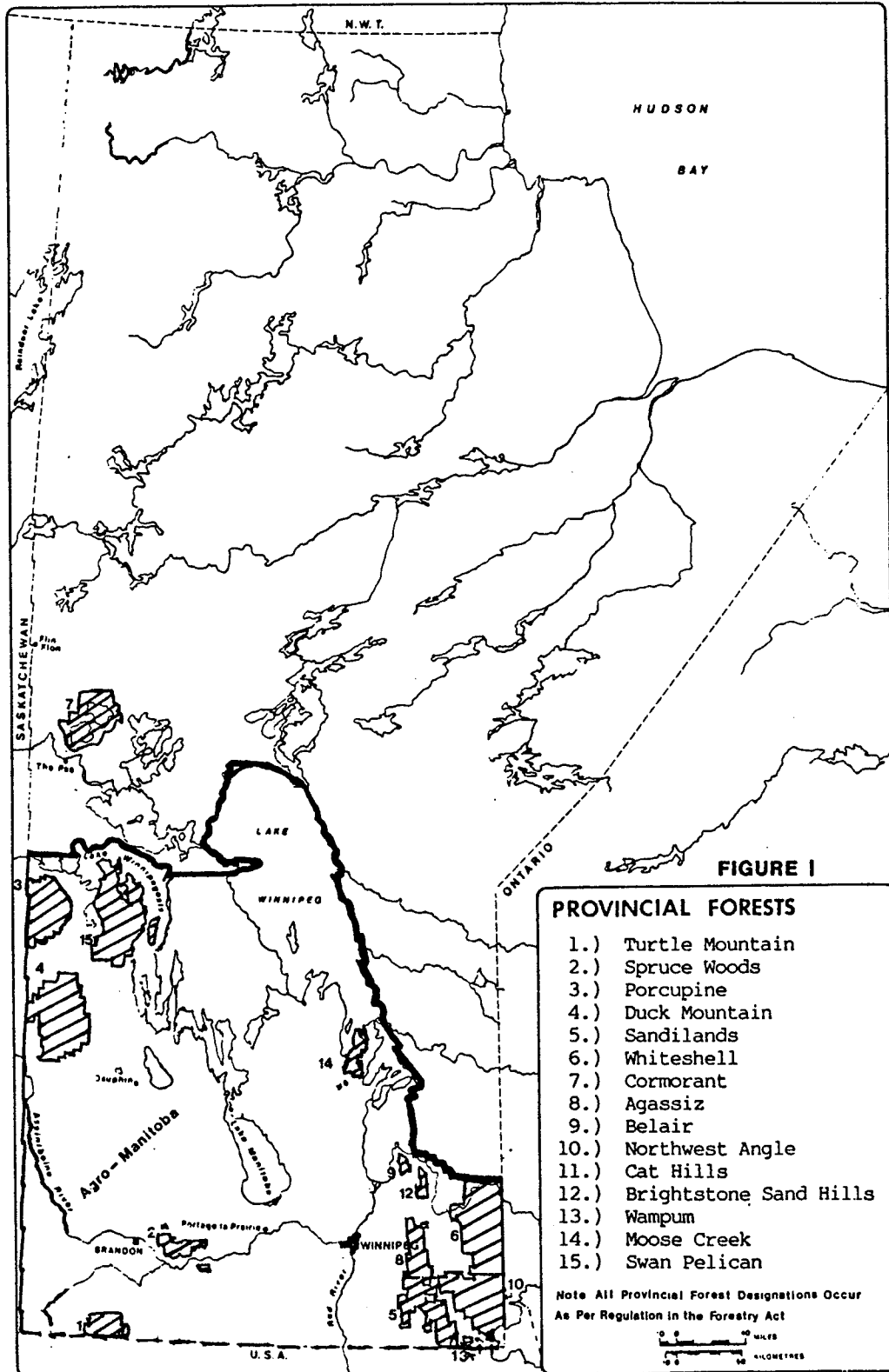
**Sustained Yield:**

A balance between the growth of the forest and the drawdown or depletion of the resource. In forestry management this can be achieved once inventory is known. Then an "allowable cut" is derived (Manitoba Natural Resources, 1981).



**Sustained Yield Management:**

The planned use of a forest area whereby the timber produced is periodically removed without reducing the capacity of the area to continue production at an equal or greater rate in perpetuity (Province of Manitoba, 1987).



## 1. Introduction

Many Provincial Forests (formerly known as Forest Reserves) in southern Manitoba are being subjected to increasing demands in respect to recreational use on a year-round basis. Forest areas are popular because they offer an escape from congested urban centres and an opportunity to experience pleasurable outdoor activities in a wilderness setting. However, the impact of many of these activities is now causing concern because they have the potential to conflict with the principal purpose of a Provincial Forest, which is the development of its timber resource. In order to forestall this in Manitoba, the Provincial Forests need to be carefully managed, and guidelines related to recreational use need to be implemented. This will contribute to the protection of all renewable and non-renewable resources in a forest.

Public perceptions as to the use of Provincial Forest lands for leisure pursuits seem to be changing (Brockman and Merriam, 1973). Formerly, people tended to confine their recreational activities to the controlled areas of urban parks and Provincial Parks. However, parks now tend to be crowded and activities in them too restricted (Manitoba Natural Resources, 1988). Therefore, people are increasingly utilizing the accessible, yet undeveloped, forest areas for an opportunity to enjoy the freedom they associate with the natural setting.

In Manitoba, many Provincial Forest areas are easy of access. Accessibility and associated increased use ultimately pose concerns relative to the forests' well-being over the long term. If unregulated intensive uses and increased extensive recreational uses of Provincial Forests continue, a management strategy will be necessary in order to prevent conflict between the diverse expectations of forest users.

Expanded recreational use of Provincial Forests, both intensive and extensive, is occurring in many different areas. A case study of the Belair Provincial Forest provides an example of this trend. The Belair Provincial Forest is located close to Winnipeg and other urban centres. Because of its accessibility, and its desirability as a wilderness retreat, more and more recreational activities have been pursued there over the past twenty years. Activities include sport hunting, hiking, horseback riding, berry picking, the viewing of wildlife, cross-country skiing, and snowmobiling. Recently, all-terrain motorcycle riding, all-terrain off-road three- and four-wheel riding, and licensed four-by-four vehicle riding have also become popular. In addition to this, major private facility proposals relating to ski slope development and the location of permanent lodges have been received. Further increments to persistent recreational activity may, it can be argued, seriously detract from the forest's primary and traditional uses. However, "traditional" and "innovative" uses are not necessarily incompatible.

Recreation within forests can be sustained if it is suitably controlled. Compatible recreational use, therefore, needs to be planned and implemented.

No study of recreational use in a Manitoba Provincial Forest has been undertaken prior to this investigation. The evaluation of activities in the Belair Provincial Forest provides the basis for recommendations for a working guide for public recreational use management of this and all other Provincial Forests. The assessment includes a discussion of Manitoba's Provincial Forests: why they were created, the value of their wilderness settings, a history of their traditional uses, past and present recreational demands, an evaluation of the Belair Provincial Forest as an example of a controlled multiple use area, and a workable strategy for defining and implementing acceptable recreational uses of Provincial Forests.

## 2. Provincial Forests in Manitoba

### 2.1 Background

Throughout Manitoba's early history, until the end of the nineteenth century and into the early years of the twentieth, forest resources were increasingly utilized by a growing Western Canadian population. In the southern area of the province the population was almost twenty times as large in 1911 as it had been in 1870 (Table 1).

Table 1

Population of Manitoba  
in the Settlement Years (1870-1911)

<u>Year</u>	<u>Population</u>
1870	25,288
1900	255,211
1905	365,688
1911	461,394

Source: Barto and Vogel, 1978

Immigration settlement policies and the Dominion Government's mandate to create a viable Western economy with agricultural settlement in mind, were largely responsible for this influx of people. After these dates the growth trend continued, but was less dramatic. However, the large influx of people into Manitoba, and their continued demands for arable land, became the basis for concern as the accessible forest resources of southern Manitoba steadily decreased.

During these early years Manitoba's forests supplied settlers' needs for building materials and fuel. Little

thought was given to the preservation and replacement of Manitoba's wooded areas. Settlers cleared and extracted timber from both arable and non-arable land whenever they needed the timber or the cleared land. The future of forests in Manitoba was not their concern (Gill, 1962).

Yet even before 1900 some government concern about the decline of forest areas was in evidence. In recognition of the need to preserve some wooded lands from settlement, the Turtle Mountain, Spruce Woods, and Riding Mountain areas were not made available for settlement. These areas were set aside as Federal Timber Reserves (Renewable Resources Division, 1975). These lands, totalling 4,100 square kilometres (Harrison, 1934), were administered by the Lands Branch of the Department of the Interior until 1906. Subsequently, until 1930, the administration of all forest or timber reserve areas was transferred to the Dominion Forestry Branch via the Forest Reserve Act of 1906 (Renewable Resources Division, 1975).

Two additional reserves were established in 1906: the Duck Mountain Reserve (3,693 square kilometres) and the Porcupine Reserve (1,987 square kilometres). The Sandilands Forest Reserve was created in 1923 (Renewable Resources Division, 1975). At this time five Forestry Reserves, two of which were previously Timber Reserves, had been established under The Dominion Forest Reserve Act (see Table 2).

**Table 2**  
**Federal Forest Reserves of Manitoba - 1923**

<u>Name</u>	<u>Area Sq.Miles (km<sup>2</sup>)</u>		<u>Year of Establishment</u>
Turtle Mtn.	109	282	1906(1895 Timber Reserve)
Spruce Woods	224	580	1906(1895 Timber Reserve)
Porcupine Mtn.	767	1987	1906
Duck Mtn.	1426	3693	1906
Sandilands	<u>189</u>	<u>490</u>	1923
TOTAL:	2716	7032	

Source: Renewable Resources Division, 1975.

Until 1930, these five Reserves were the only land areas in Manitoba not available for settlement and agricultural development. One of these areas, the Riding Mountain Timber Reserve, was eventually declared a Federal National Park prior to the formal transfer of the administration of natural resources to the Province of Manitoba on July 15, 1930 under the terms of the Statute of Westminster. It remained unavailable for settlement, (Gill, 1962).

Under the Provincial Forestry Act of 1930, the Province of Manitoba assumed the responsibility not only for preserving these Forest Reserves but of managing them as well. Henceforth, Federal involvement concerning forestry matters in Manitoba was reduced to a minimum.

The assumption of responsibility in respect to all forestry concerns set the stage for the establishment of the Provincial Forest mandate and the Provincial Forestry Management Plan, which occurred later.

From the 1930s to the 1960s the Province of Manitoba



recognized the need for continuing the process whereby forest lands would be preserved. Most land suitable for agricultural settlement had been claimed prior to 1930 (Murchie and Grant, 1926). In some cases unsuitable lands were homesteaded and subsequently abandoned. This occurred to a considerable degree along the west side of Lake Manitoba, in the southeast, and in other areas of marginal soils along the "pioneer fringe".

In the course of the 1940s, '50s, and '60s, the rural population of Manitoba declined by 26 percent (Barto and Vogel, 1978). Within this same time period Forest Reserve expansion continued. In 1931 the Whiteshell Forest Reserve, in 1947 the Cormorant Reserve, in 1954 the Agassiz Reserve and the Belair Forest Reserve, and in 1956 the North West Angle Forest Reserve were established (Table 3).

**Table 3**  
**Forest Reserves of Manitoba - 1961**

<u>Forest Reserves</u>	<u>Area Sq. Miles (km<sup>2</sup>)</u>	
Turtle Mountain	70	181
Spruce Woods	232	601
Duck Mountain	1451	3758
Porcupine Mountain	807	2090
Sandilands	584	1512
Whiteshell	1087	2915
Cormorant	575	1489
Agassiz	275	713
Belair	54	140
North West Angle	280	725
<b>TOTAL</b>	<b>5415</b>	<b>14 024</b>

Source: Renewable Resource Division, 1975  
Manitoba Natural Resources, 1989a

The ten Provincial Forestry Reserves were all managed and administered under the authority of the 1930 Forestry Act. The Forestry Branch of the Department of Mines and Natural Resources was responsible for overseeing four basic functions: protection, management, timber sales, and recreation (Manitoba Natural Resources, 1981). However, in 1961 the Renewable Resources Branch was created within the Department of Mines and Natural Resources, which absorbed the former Forestry Branch and the Game and Fisheries Branch into a regional framework. The province was divided into eight regional areas charged with responsibility for forestry protection, management, and administration.

Recreational activity within Provincial Forests came to be considered separately from the forest administration mandate. Until 1960-61 it had been the responsibility of the Provincial Forester via The Forest Act. In 1960, with the passing of The Provincial Parks Act, it became possible for specific Provincial Parks and Provincial Recreational Areas to be formed (Somers, 1964). Once regulations for The Parks Act were proclaimed several Provincial Park Land areas were established (Table 4) and separate staff began administering park lands. Henceforth, lands designated "forestry use" and "parks use" were administered separately.

Table 4

**Forest Reserves, Provincial Park or  
Provincial Recreational Area 1989**

<u>Forest Reserve</u>	<u>Provincial Park Association</u>	<u>Sq. Miles</u>	<u>(km<sup>2</sup>)</u>
Turtle Mountain	Turtle Mountain Provincial Park	73	189
Spruce Woods	Spruce Woods Provincial Park	96	249
Duck Mountain	Duck Mountain Provincial Park	492	1274
Whiteshell	Whiteshell Provincial Park	1056	2735
Belair	Grand Beach Provincial Park	9.5	24.6

Source: Manitoba Natural Resources, 1989b

In 1964 The Forest Act was revised and Forest Reserves were renamed Provincial Forests. No further Provincial Forests were created, nor were the boundaries of the existing Provincial Forests extended until the 1980s. Certain significant events prompted a new thrust to create additional Provincial Forests.

First, continued restructuring of the Renewable Resources Branch within the Department of Renewable Resources and Transportation Services broadened the scope of its services until, eventually, the separate Department of Natural Resources was created. It was formed in response to a "growing public involvement in provincial resources" and because there was a need to include all the functional aspects of Natural Resource branches into one Department (Manitoba Natural Resources, 1981).

The second reason was the recognition of the need for Crown Land Use Planning within the Department of Natural Resources and other government departments. The importance of the directive for land use planning to the Department of Natural Resources and other government departments, in

particular the Department's Forestry Branch, was that:

(1) there was now in place a mechanism to resolve land-use issues involving more than one Department; and

(2) there was in place a mechanism for assessing land use and environmental impacts of project proposals affecting Crown Lands (Manitoba Natural Resources, 1986a).

Forestry Branch now had an appropriate mandate to plan for the future. From 1981 to 1987 several areas of forest lands were reviewed and assessed for future long-term forestry use. Through the new interdepartmental land-use planning process, Forestry Branch eventually established five new Provincial Forests (Table 5) and revised the boundaries of several existing Provincial Forests.

The establishment of Manitoba's Provincial Forests to date has involved considerable foresight, planning, and innovative thinking. There now are fifteen Provincial Forests. They total approximately 2,200,000 hectares (5,434,000 acres).

**Table 5**

**Provincial Forests Established via the  
Land Use Planning Process (1984-87)**

<u>Provincial Forest</u>	<u>Area</u>		<u>Year Established</u>
	<u>Sq.miles (km<sup>2</sup>)</u>		
Cat Hills	6.1	16	1981
Brightstone Sand Hills	51.3	133	1984
Wampum	3.8	10	1987
Moose Creek	254	658	1987
Swan Pelican	1430	3705	1987

Source: Manitoba Natural Resources, 1989c.

Table 6 gives a final area breakdown of the Provincial Forest area designations in Manitoba. Figure 1 shows their locations.

**Table 6**  
**Provincial Forest Area Designation, 1989**  
Sq.miles (km<sup>2</sup>)      Year of Creation

Turtle Mountain	70	181	1906*
Spruce Woods	232	601	1906*
Porcupine	807	2090	1906*
Duck Mountain	1455	3770	1906*
Sandilands	1070	2772	1923*
Whiteshell	1329	3442	1931*
Cormorant	571	1479	1947*
Agassiz	307	795	1954*
Belair	78.8	204	1954*
Northwest Angle	822	2129	1956*
Cat Hills	6.1	16	1981
Brightstone			
Sandhills	51.3	133	1984
Wampum	3.8	10	1987
Moose Creek	254	658	1987
Swan Pelican	1430	3705	1987
Approximate:	8487	21985	

Source: Manitoba Natural Resources, 1989a.

\*Originally Forest Reserves

## 2.2 The Provincial Forest Mandate

The original mandate governing Provincial Forests had been to insure their well being by protecting the timber resource and controlling wood disposal, suppressing wild fires, conducting research, and planting trees. This need to protect the timber resource was recognized by both the Dominion Government and the Province. The Federal Department of the Interior and the Provincial Government's Forestry Branch had established this mandate and they continued to reinforce it. The mandate was refined and expanded to include not only forestry interests but those of other resource user groups associated with the Provincial Forests' land base.

The expanded mandate, according to the Forestry Branch of the Department of Natural Resources, recognizes Provincial Forests primarily for "the perpetual growth of timber, for preservation of the forest cover, and to further provide for a reasonable use of all the resources that the forest lands contain" (Province of Manitoba, 1987).

The expanded mandate today accounts for the diversity of uses of, and the needs and demands associated with, Provincial Forests. It is the guide for resource managers who ensure that the primary objectives of the mandate are realized. In practice, both multi-use management strategies and sustainable development principles are being implemented.

### 2.3 The Management of Provincial Forests in Manitoba

Provincial Forests are managed by the Forestry Branch in a manner similar to that applying to other Crown forest areas under the authority of The Forest Act. Currently, the main objective of forest management is to fully utilize the forestry resource in a sustainable manner.

When, in the 1890s, administration of the forests was placed with the Dominion Lands Branch of the Department of the Interior, nothing in the way of forest management in the field was attempted. Limited manpower was allocated to forestry duties. Its duties were confined to the cruising of timber areas, the prevention of unauthorized timber harvesting, and the collection of dues (Gill, 1960).

It was not until 1895 that some recognition was directed towards forest management via the creation of Federal Timber Reserves and, in 1899, by the appointment of a Chief Inspector of Timber and Forestry in Ottawa. In 1901 the growing of tree stock materialized. Trees were supplied to Manitoba farmers from the Dominion Experimental Farm in Brandon and later from Indian Head in Saskatchewan (Gill, 1960). The growing of seedlings for restocking forest lands for commercial purposes also commenced.

The Federal Government continued to be involved in a managerial capacity in respect to Manitoba's forests. In fact, after Manitoba's northern boundary was extended to the 60th Parallel in 1912, the Federal Government not only