

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.

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## 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:**

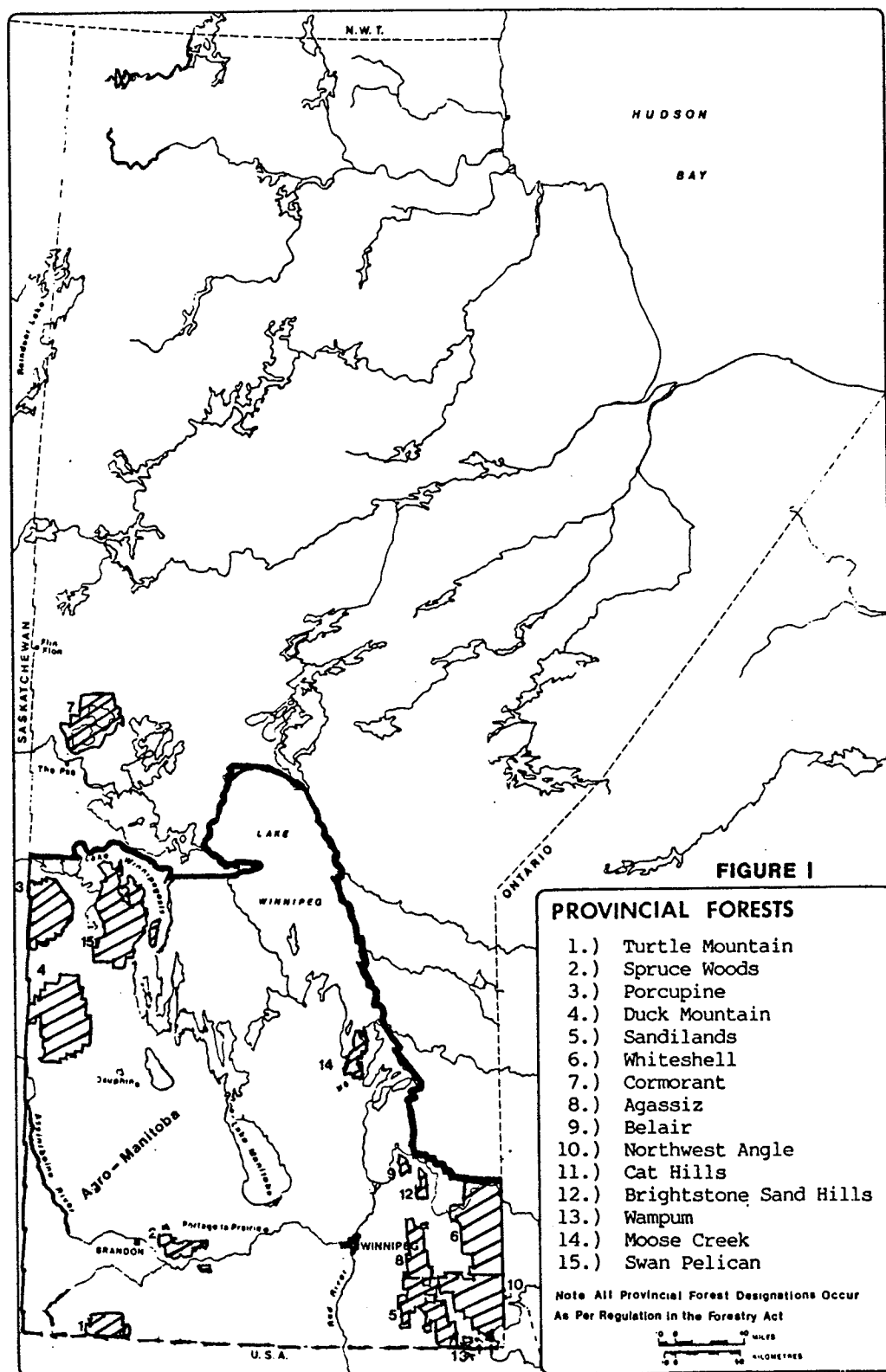
Essentially Agro-Manitoba. Boundaries coincide on the east, west, and south with the boundaries of the Province. The northern boundary runs from the point of intersection of the Saskatchewan border with the north limit of Township 46 eastward to Lake Winnipeg. From this point on Lake Winnipeg the boundary 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</u>	<u>(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>Sq.miles (km<sup>2</sup>)</u>		<u>Year Established</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

recognized the importance of northern wooded areas but also introduced management techniques to detect and suppress fires. In 1921 a federal "Air Board" staff, in cooperation with the Federal Forest Service (of the Federal Forestry Branch), created a floatplane base at Victoria Beach on Lake Winnipeg to provide fire detection service for Timber Reserve areas and Northern Crown Land timbered areas (Gill, 1960). Additional floatplane bases were created in such wooded areas as Lac du Bonnet and Norway House. Gradually the function of forest fire detection and suppression expanded to include timber surveillance. Instead of an "Air Board" service, the Royal Canadian Air Force supplied equipment and flight service for organized and sustained forest fire detection and control.

The Federal Government, via the Forestry Branch, continued to expand its management responsibilities, particularly in Eastern Manitoba (East of Winnipeg, generally from Pine Falls south to the Canada-United States border and east to the Manitoba-Ontario border). Federal forestry staff conducted and completed both an aerial survey and a ground survey of the eastern forest inventory which led to the creation of the Sandilands Forestry Reserve in 1923 (Gill, 1960). Further to this, and in consequence of innovative techniques in timber area and volume measurement established through the Federal Government's involvement in aerial and ground surveillance, the extent of the timber supply was established. This information confirmed the existence of

adequate feedstocks for a pulp-and-paper mill in Manitoba. In 1927 the Manitoba Paper Company was established at Pine Falls.

On July 15, 1930 an agreement was signed between the Dominion Government and the Province of Manitoba for provincial control of natural resources. General forest management in Manitoba after 1930 continued as the responsibility of the provincial Department of Mines and Natural Resources. Its policy was to conserve and develop the province's forestry resources. The timber management principles were similar to those that had been practised federally. The Province henceforth evaluated and measured the timbered area, utilized the resource in a "sustainable" manner, and protected it (Gill, 1960).

Since 1930 forest management in Manitoba has evolved substantially, particularly over the decades of the 1970s and '80s. Management has extended to lands beyond Provincial Forests. On Crown timbered land outside of Order-in-Council Provincial Forests, The Forest Act provides a general authority for the Provincial Minister of Natural Resources to regulate, administer, and dispose of the timber resource through its agency, the Forestry Branch (Gill, 1960).

The Forest Act, however, is not all-encompassing. There are several other authorities. For example, if forest management activities impinge on other resources and other resource users, these resource interest groups interact,

drawing on the appropriate provincial statutes that best represent the interests of all groups. Many statutes, including The Crown Lands Act, Provincial Park Lands Act, Wildlife Act, Federal Fisheries Act, and Mines Act, apply in some degree.

Within Order-in-Council Provincial Forests that have been set aside specifically for perpetual forestry use, the Forestry Act and its regulations predominate. Other land-use and resource-use activities (as they relate to the surface) are required to be compatible with the primary use, which is related to forestry management. In terms of management activities, designated Provincial Forests are specifically geared to forestry operations. All other uses are considered to be secondary and, if they are allowed, must not interfere with the utilization and management of the timber resource. "Other uses", however, are allowed only by permission of the Director of Forestry or the Minister as in The Forest Act (Province of Manitoba, 1987).

In Provincial Forests where other, overlapping designations occur on the same land base, joint management and administration of use occurs. For example, some Provincial Forests, or portions thereof, have supplementary functions: they can also function as Provincial Parks and/or Wildlife Management Areas or have some other designation. There are situations now, in which these multiple-use designations are applied. In response to this, forest

management principles and practices have had to be modified.

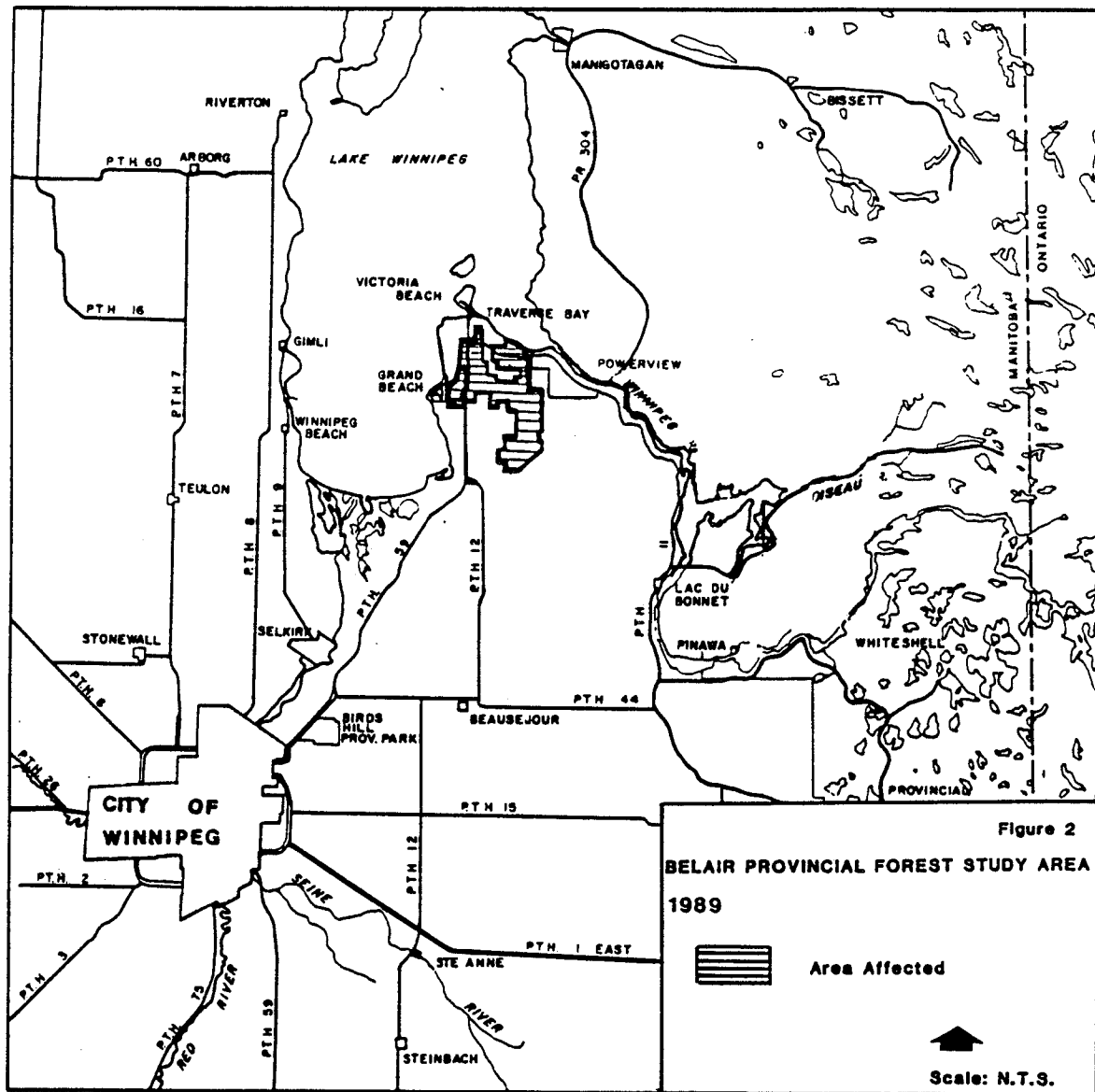
The management of the land base and resources of Provincial Forests is often complex and requires on-the-spot decisions that affect multiple-use interests. Local municipalities, the public, private interest groups, and industry, all demand rights-of-use involving Provincial Forests beyond the traditional uses that are related to forestry. Heretofore, legislation under The Forestry Act has prohibited many intensive uses (other than mineral development) within Provincial Forests and has allowed many extensive uses (non-permanent activities) to occur within their boundaries. One might think that such a policy would discourage public involvement. However, this is not the case. The use of such lands by the general public, especially for some recreational activities, is increasing.

Today, considerable demand is placed on Provincial Forests for recreation, yet there has been no real recreational planning or strategy development to monitor this development. This has led to a rising concern about the allowable future use of forest lands. Of fundamental interest are those related issues that now involve the use of the Provincial Forest land base for recreational purposes.

### 3. The Belair Provincial Forest

The Belair Provincial Forest is an example of a forested area that is highly regarded for its renewable and non-renewable resources and for its public recreational appeal. What has not been adequately understood is the relationship between resource development and forestry management practices, and the public's recreational wants and needs (Brockman and Merriam, 1973). Consequently, the Belair Provincial Forest (Figure 2) (Plate 1) has become an example of conflicting activity uses. It is located in one of the most intensively used recreational areas of the province (Lake Winnipeg-Traverse Bay area). Here the general public has increased its recreational activities at the same time as further forestry use demands have also been made. Whether or not increased recreational uses of the Belair Provincial Forest will compete with its long-term forestry objectives needs to be determined. Should extensive recreation-related uses be allowed to continue in an uncontrolled manner? Should permanent recreational facilities be permitted in resource production areas? These questions need to be addressed.







THE BELAIR PROVINCIAL FOREST

PLATE I

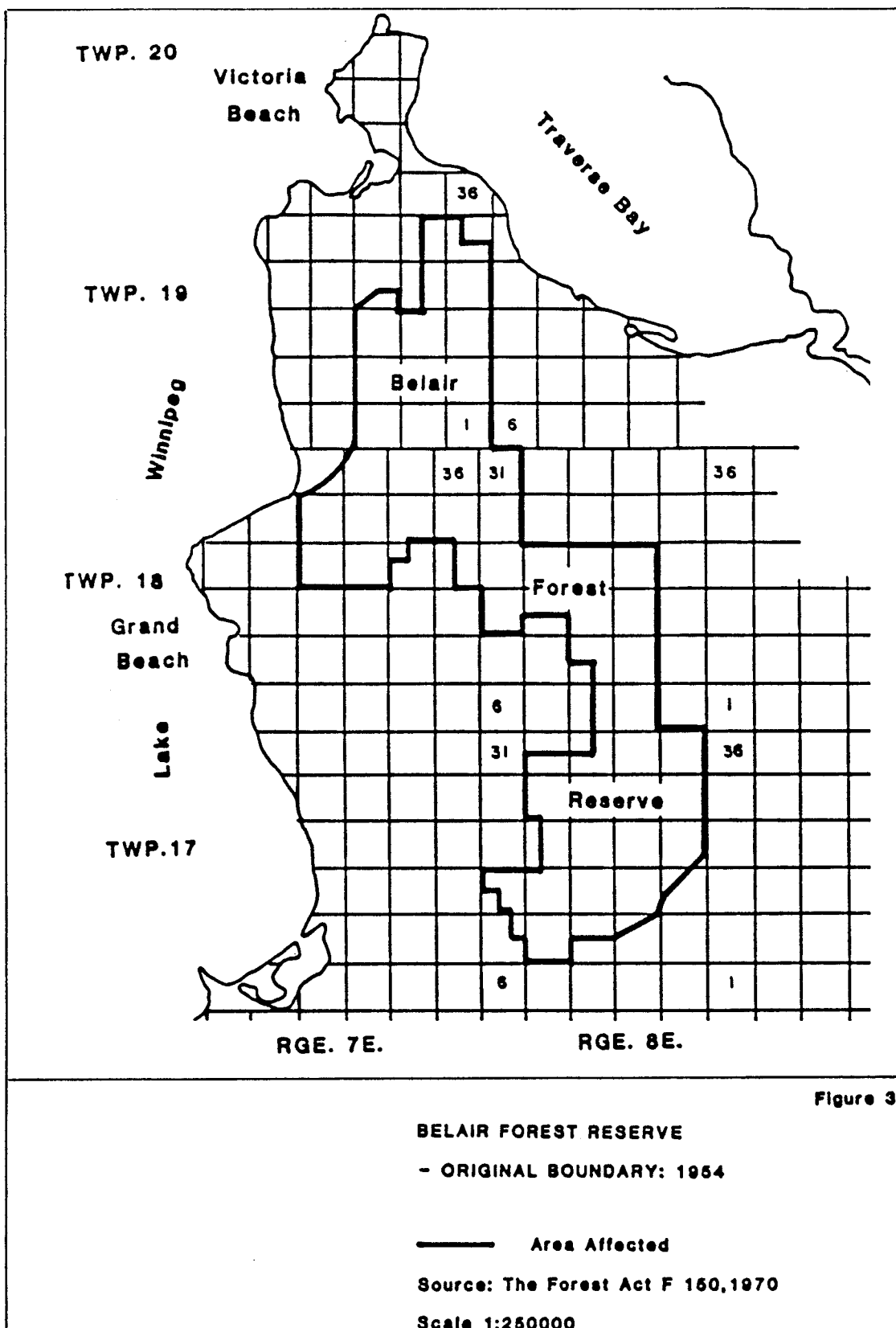
A public recreational use strategy needs to be developed for all Provincial Forests (Brockman and Merriam, 1973). This case study, using the Belair Provincial Forest, will investigate uses, needs, and special interests. It will also offer some planned strategy ideas for recreational development, while respecting the renewable and non-renewable resource-use activities occurring within its boundaries.

### 3.1 Past and Present Land-Use Issues

Provincial Forests such as the Belair were originally created to conserve timber lands. Prior to 1954, when the Belair was not yet a Timber Reserve, some wood was harvested for the Pine Falls pulp and paper mill. The mill used only black spruce (see Appendix A for all scientific names), white spruce, and balsam fir. Jack pine was harvested only for lumber, fuel wood, and utility line poles. However, by 1953, mill conversion at Pine Falls increased the use of jack pine from 14 to 17 percent in the making of pulp (Abitibi-Price Inc., 1990).

The percentage of jack pine extracted specifically for pulp and paper in 1953 is not known. However, other studies done at that time did compile figures that are relevant to land use. For example, prior to 1953 soil sample studies undertaken by the Forest Service Section of the Department of Mines and Natural Resources revealed that the terraced upland areas of the Belair forest was not suitable for agriculture. Its primary capability was for timber production (Gill, 1956).

In 1954 the Belair Forest Reserve (known later as the Belair Provincial Forest) contained 140 square kilometres (54 square miles), as outlined in Figure 3 (Renewable Resources Division, 1975). The Belair remained at this size until 1960, when the Provincial Parks Act proclaimed that 25 square kilometres (9.5 square miles) of the Crown forest land be designated as Grand Beach Provincial Park (Somers, 1964). Of



this, 14.9 square kilometres (5.75 square miles) became a joint use area (park land and forest land), and was subjected in theory to joint-use management (Figure 4). However, since no working interim guidelines were developed, no implementation was carried out. The bulk of the remaining Forest Reserve was administered under The Forest Act only.

From the 1960s until 1982 the boundaries of the Provincial Forest Reserve and the Provincial Park remained the same. However, in 1964 all Forest Reserves were designated Provincial Forests (Renewable Resources Division 1975). In 1982, the Forestry Branch of the Department of Natural Resources acknowledged the need to secure more Crown lands for Provincial Forests which were to be placed in a secure, long-term forestry designation. Intensive forestry management would be implemented to sustain the Annual Allowable Cut for "Management Unit 23" (Figure 5). The new forest lands were needed for future wood supply commitments and to meet the demands of the area's forest based industries (Manitoba Natural Resources, 1982).

A three-year study (1984-86) entitled The Catfish Creek Land Use Study: Background Report Prepared for the Crown Lands Classification Committee, recommended that the Belair Provincial Forest could extend its boundaries in order to secure new softwood and hardwood stands (Manitoba Natural Resources, 1986b). A commitment to sustain wildlife resources was also made. By 1987, an Order-in-Council

Figure 4

**BELAIR PROVINCIAL FOREST  
- GRAND BEACH PROVINCIAL PARK**

**Legend:**



**Provincial Park Boundary**



**Portion of Park Lands in Provincial Forest**

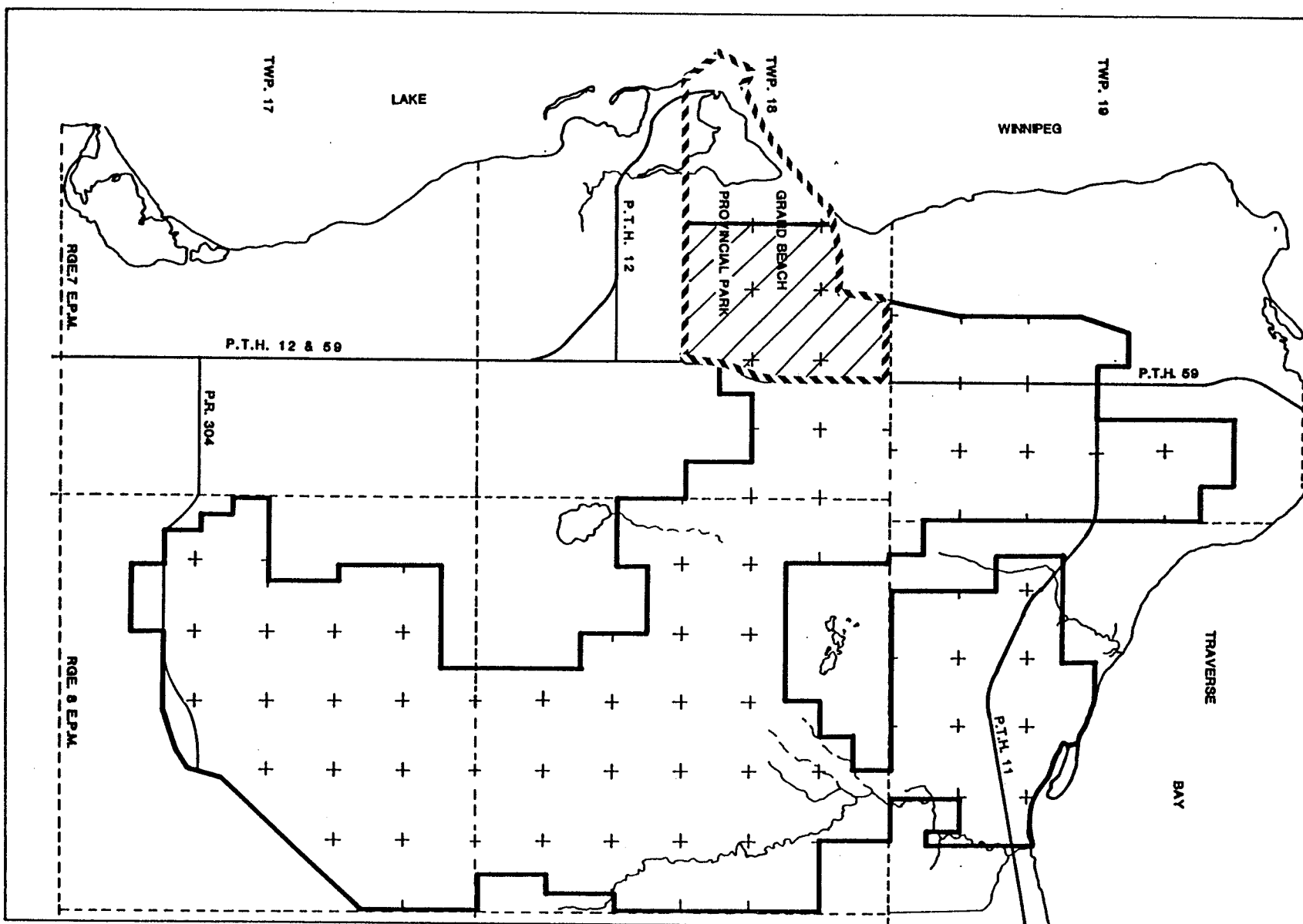


**LIMITS OF STUDY AREA**

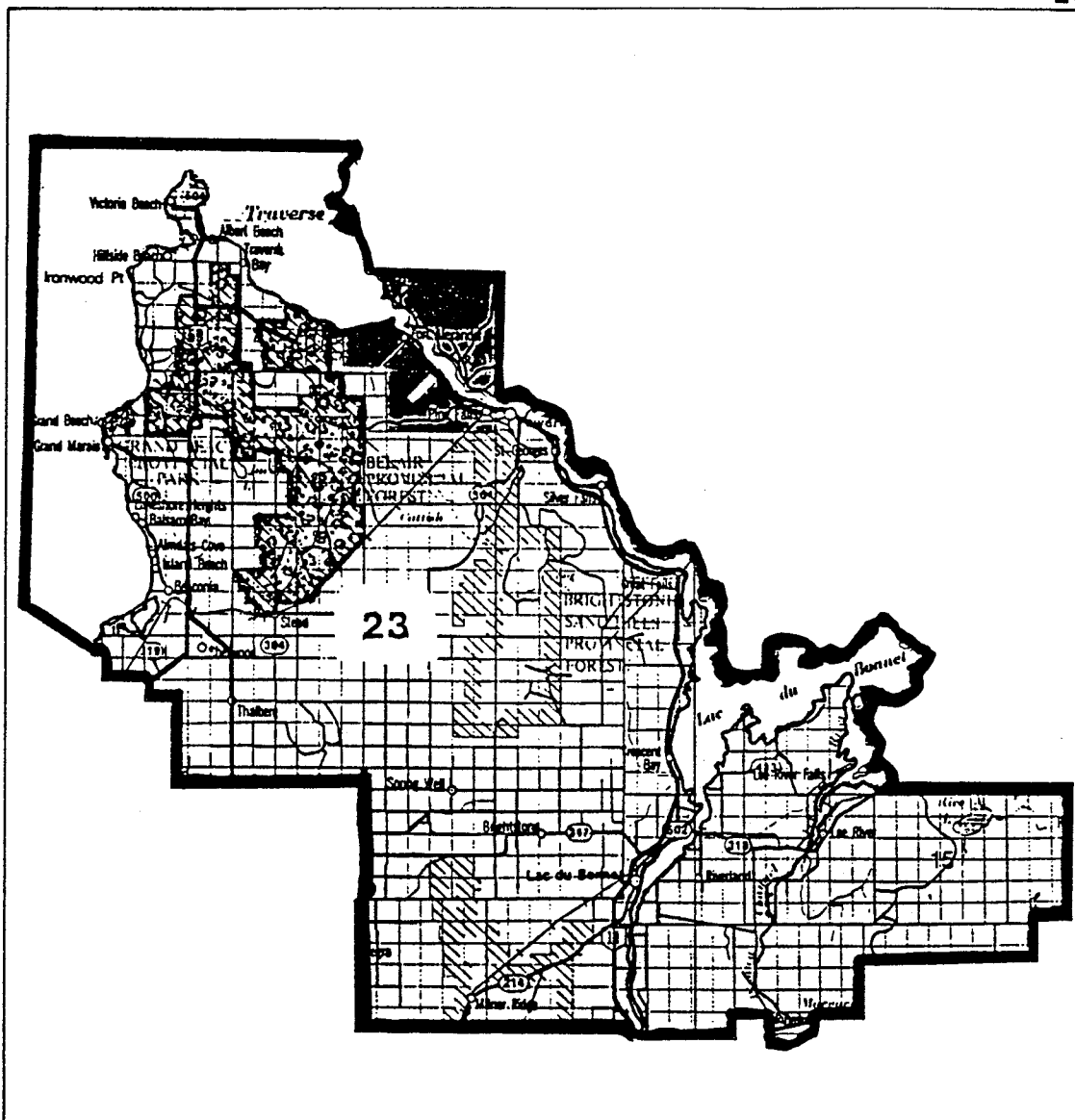


0 1 2

**Scale in Miles**







**Figure 5**

# THE BELAIR PROVINCIAL FOREST IN ITS RELATIONSHIP TO FOREST MANAGEMENT UNIT 23

**Source: Manitoba Natural Resources  
Forestry Branch: Inventory Section**

**Scale 1:500000**

established the extended boundary of the Belair Provincial Forest to the present 204 square kilometres (78.8 square miles). It also created the Catfish Creek Wildlife Management Area (approximately 74 square kilometres, 28.5 sq. miles) as a jointly managed area under the jurisdiction of the Department of Natural Resources Wildlife and Forestry branches (Figure 6).

Because of the variety of demands to which it is subjected, the Belair Provincial Forest must be considered a multi-use resource management area. It is a natural resource production area (forest and wildlife) as well as a resource extraction area (forest, wildlife, minerals). It is also a quality public recreational area for wandering, sport hunting, all-terrain vehicle riding, snowmobiling, berry picking, wildlife and nature viewing, and cross-country skiing. Recreational use within the Belair Provincial Forest is now so popular that additional intensive uses are envisaged. For example, in 1989 a ski-hill lodge-site proposal was reviewed by government and partially approved. No strategy or specific land-use planning for such an intensive use was ever previously contemplated.

If a Provincial Forest is used by the public for recreation and fulfils a multi-use concept, then public

**BELAIR PROVINCIAL FOREST - CATFISH CREEK  
WILDLIFE MANAGEMENT AREA**

**LEGEND:**



The Catfish Creek Wildlife Management Area  
Within the Belair Provincial Forest

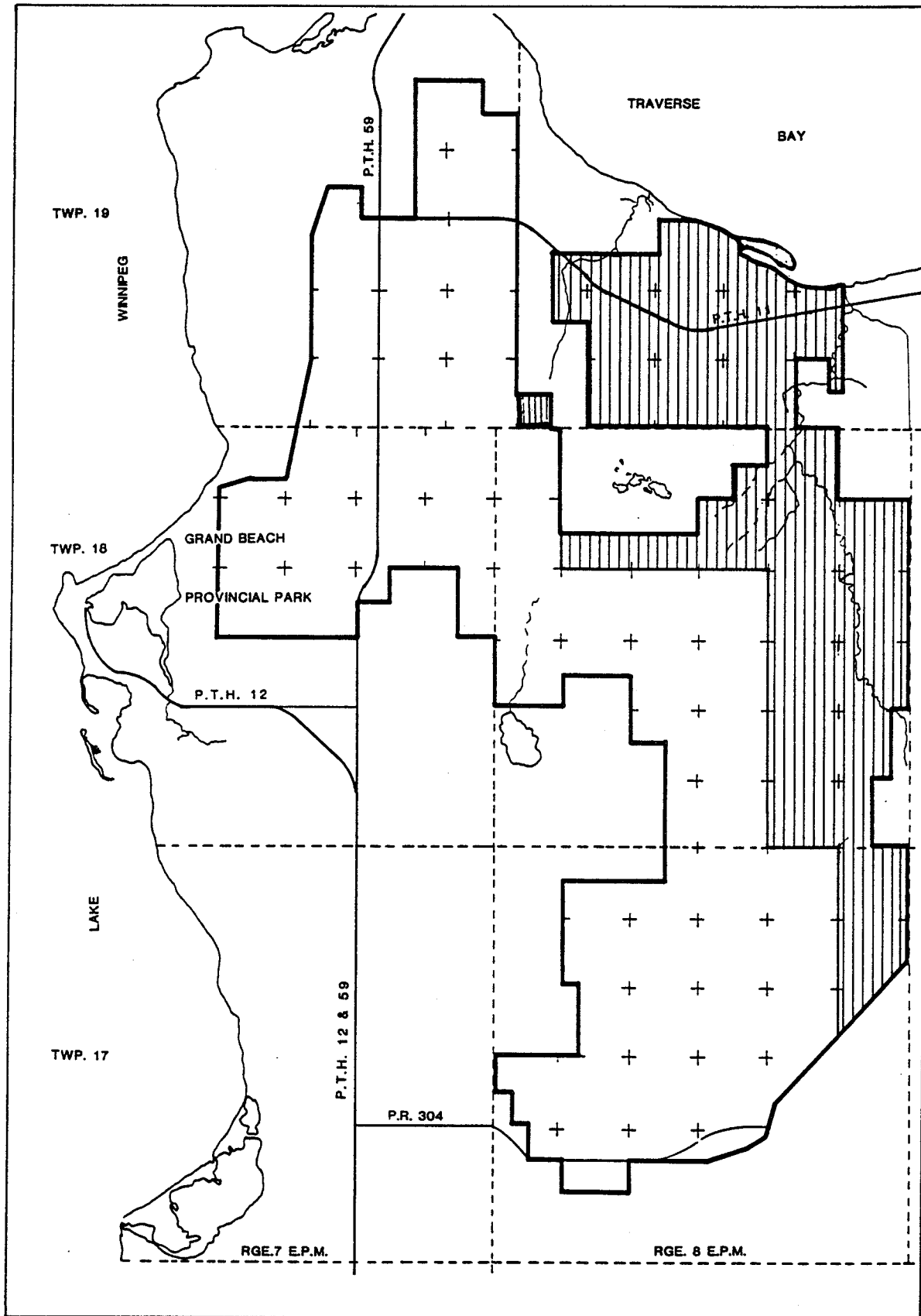
Source: Manitoba Natural Resources,  
Wildlife Branch, 1989.

— LIMITS OF STUDY AREA



0 1 2

Scale in Miles



demand must be considered when defining what a multi-use concept means. How uses and activities interact, and how they can be managed, must not be left to chance.

Since the public appears to perceive a need for more forest wilderness space, user demands must be expected to continue to escalate (Brockman and Merriam, 1973). This investigation of representative multiple use of the Belair Provincial Forest will provide data upon which a policy towards user demands and forest protection can be based. This policy framework can then be applied to other Provincial Forests.

### 3.2 The Study Area and Regional Setting

Within the Belair Provincial Forest there are Crown Lands designated as Provincial Forest/Provincial Park, Provincial Forest lands, and Provincial Forest/Wildlife Management Area lands. The Provincial Forest component is located approximately 100-130 kilometres (62-80 miles) north of Winnipeg in the most westerly area of the Local Government District (LGD) of Alexander (Figure 2).

To the southwest the Belair Provincial Forest partially borders Grand Beach Provincial Park and some private lands associated with frontage on Lake Winnipeg. Not surprisingly, portions of the land base have already been developed for intensive recreational use. In fact, the northern areas of the LGD of Alexander (north of Grand Beach to the Traverse Bay area) have some of the highest recreational cottage area densities in the Province. In some cases these areas, developed for recreational uses, resemble small urban communities (Figure 7). In the Belair Beach, Hillside Beach, and Traverse Bay areas there are now more than 2,250 cottage lots (Manitoba Rural Developments, 1988).

To the northeast, the Provincial Forest borders Traverse Bay, the Fort Alexander Indian Reserve, as well as some open Crown Land areas. This area exhibits some extremely deep peat (organic) surface material underlain by waterlogged lacustrine clays. Although this string bog-and-lake terrain is not part of the study area, the land surrounding these bogs and lakes

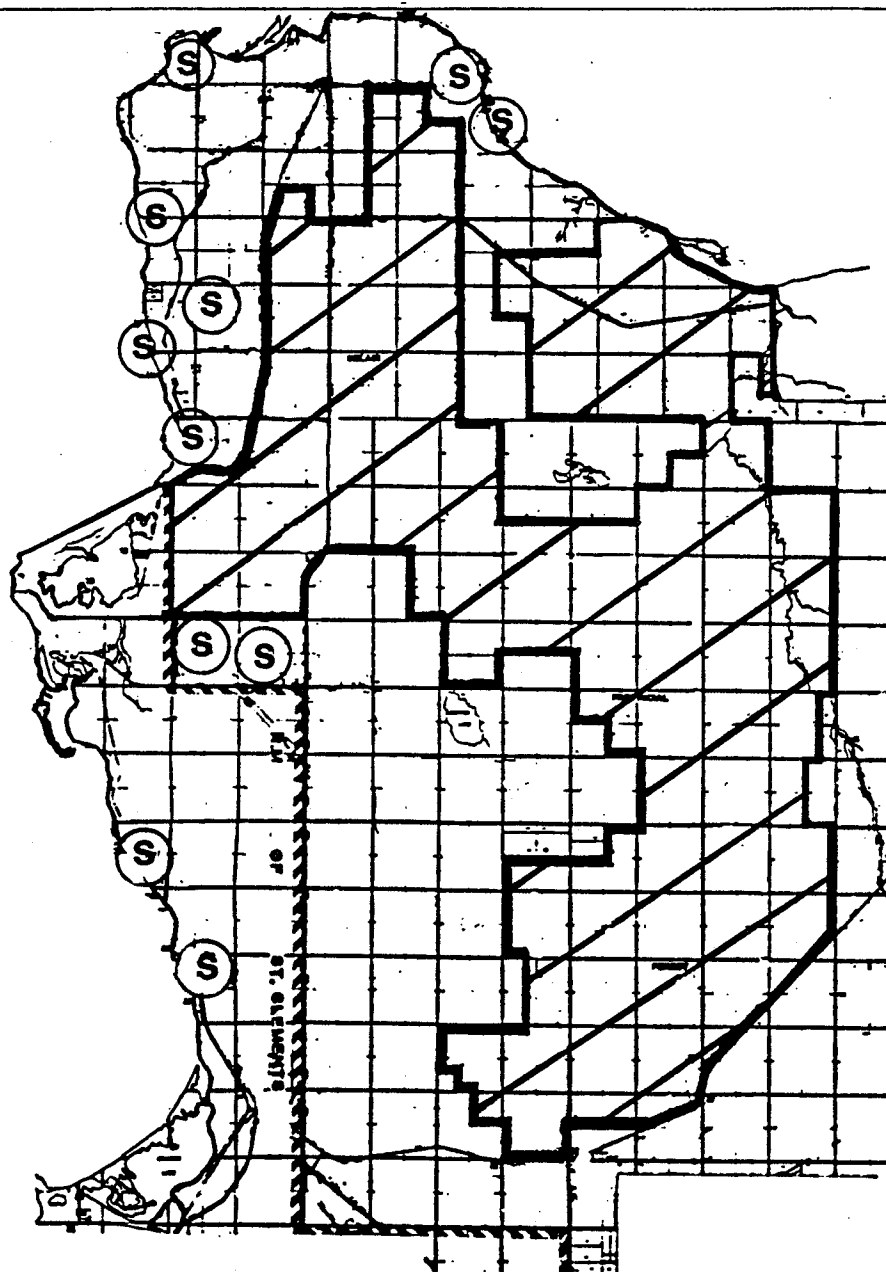




Figure 7

**RECREATION SUBDIVISIONS LOCATION  
IN RELATION TO THE STUDY AREA**

-  Recreation Subdivisions
-  Area Affected

Municipal Planning Branch 1983

Scale 1: 2 Miles

is included in the Provincial Forest, having been added to the Belair Provincial Forest in 1986 and simultaneously accorded Wildlife Management Area status.

The lowland area is known for its resident moose, white-tailed deer, black bear, and coyote populations (Manitoba Natural Resources, 1986b). It is also suitable habitat for weasel, snowshoe hare, fox, beaver, and other fur-bearers, and provides habitat for game bird species such as ruffed grouse, spruce grouse, and the great grey owl.

To the south and southeast of the study area, agricultural development has occurred to a limited extent. Here municipal roads and drainage systems service the bulk of the agricultural sector of the LGD of Alexander. Here also private land has been developed for cereal crops and sod production.

Compared to the adjacent terrain, the interior of the Provincial Forest has little infrastructural development and has undergone clearing only in association with forestry production, mineral extraction, and to a very limited extent for provincial or municipal services such as landfill sites, microwave towers, and a satellite tracking station.

Roads and trails have been created for timber and aggregate extraction. There is, however, one central access road which is known as the Stead Trail or North Star Trail. Since the 1920s it linked the community of Stead with the community of Belair. Now, however, this trail intersects



Provincial Highway 59. Highways 59, 11, and 304 are the only major traffic corridors leading into the Provincial Forest. No other municipal roads or rights-of-way have been developed.

The lack of access and the absence of supporting infrastructure for organized activities have allowed development of a relatively stable wildlife population. Ironically, it is this isolation that is so appealing to those who wish to enjoy the wilderness. This is particularly evident in the central, northern, and western sections of the Provincial Forest, because the general public and adjacent cottaging public have easy access to these parts of the study area.

### 3.3 Land Tenure, Existing Land Classification, Present Land-Use Features

The Belair Provincial Forest within the LGD of Alexander consists primarily of Crown land along with a few parcels of private land (Figure 8). All Crown land within the LGD of Alexander has been subject to land-use classification coding (Manitoba Natural Resources Branch, 1989d). The Belair Provincial Forest has been accorded Provincial Park Lands and Wildlife Management Area designations. However, these are really land-use area classifications recognizing specific land-use interests (Figures 4 and 6). The areas are so designated by the Provincial Government so that they can be assigned an appropriate resource development and management priority.

On Provincial Forest lands, forestry operations occur under the authority of The Forest Act. In designated Provincial Forest/Park Lands areas both The Forest Act and The Park Lands Act apply and the utilization of the renewable resource is to be managed by these two authorities. A similar procedure applies to lands designated Provincial Forest/Wildlife Management Area. Here both the Forest Act and The Wildlife Act apply, and the utilization and management of the renewable resource is again a joint responsibility.

The classification applied to Crown Lands is, therefore, an important component of land-use planning because it recognizes where resource administrative boundaries are

**LAND TENURE****LEGEND:**

Provincial Crown Land



Private Land



Dwelling Unit

Major utility sites, microwave tower, municipal dump, etc.  
(within Forestry Branch Leasing System).Source: 1989 Assessment Roll Listing for the  
Local Government District of Alexander.

Aerial Photos Covering the Belair Provincial Forest.

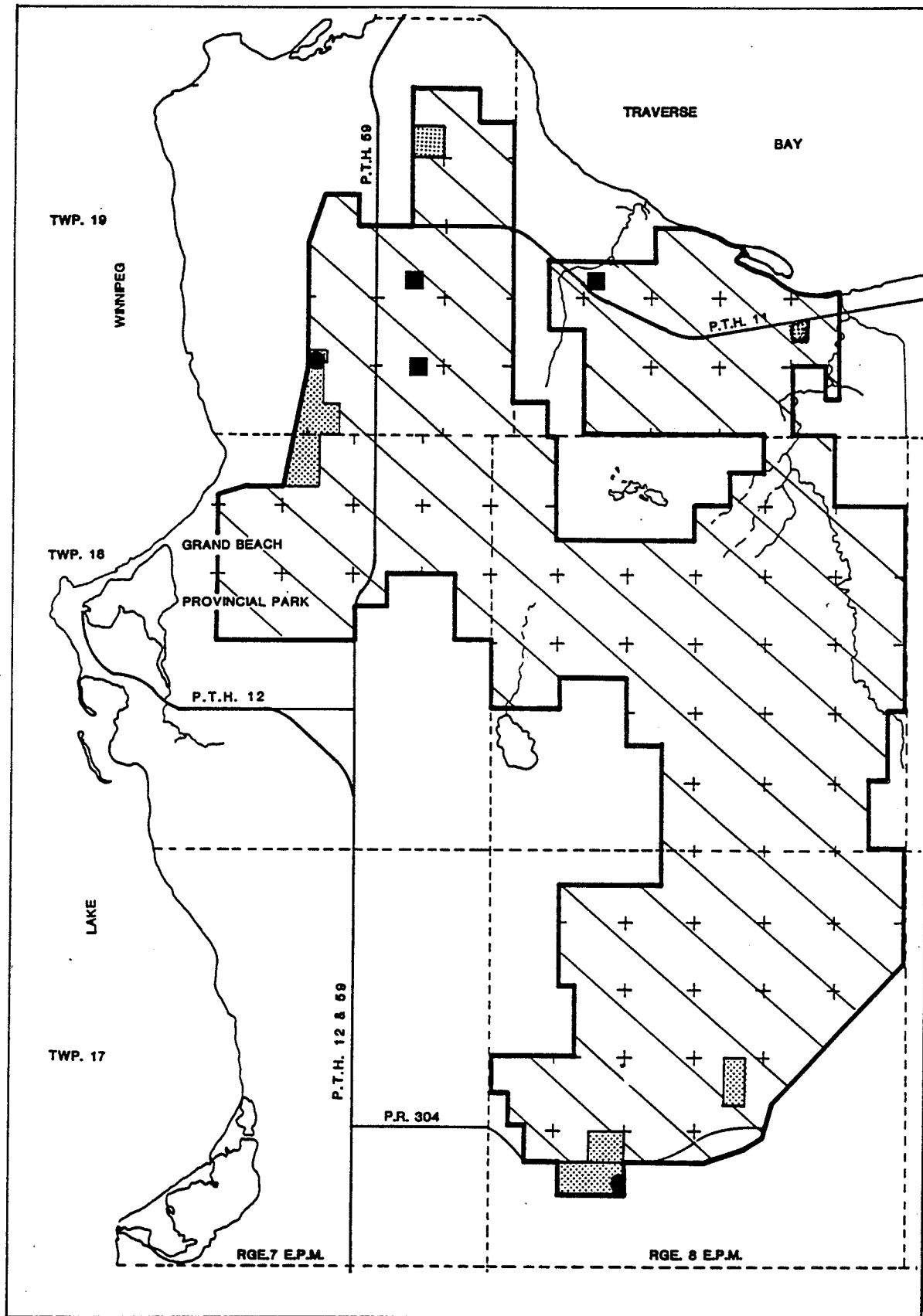
Manitoba Natural Resources, Eastern Region  
Forestry Files.

LIMITS OF STUDY AREA



0 1 2

Scale in Miles



located and where management responsibilities lie.

There are, however, some perceived inadequacies in this approach. The Provincial Forest is administered for defined land uses, but these may be in conflict with recreational uses for which there has been little planning. Since these recreational pursuits (pleasurable outdoor activities) in a forest setting are increasing, how will the original land classification of the Belair survive the onslaught of multiple uses?

In terms of current land-use activities, the Belair is still identified as an active forestry area. Operations related to the harvesting and regeneration of timber are evident throughout. Recently, even hardwoods have been utilized. All of these cutting areas and plantation areas are active.

Aggregate-quarrying is another major land-use activity. Sand and gravel deposits within the Belair Provincial Forest are undergoing exploitation. Extraction is for private, commercial, and government projects. Many such deposits have been reserved for future exploitation and should be noted (Figure 9).

## MINERAL DEVELOPMENT AND POTENTIAL

### LEGEND:



Existing Mineral Leases



Existing Borrow Pits



Future Mining Potential for Sand and Gravel

Source: Quaternary Geology of the Winnipeg River  
(Pine Falls Map Sheet).

Aerial Photos for the Belair Provincial Forest, 1989

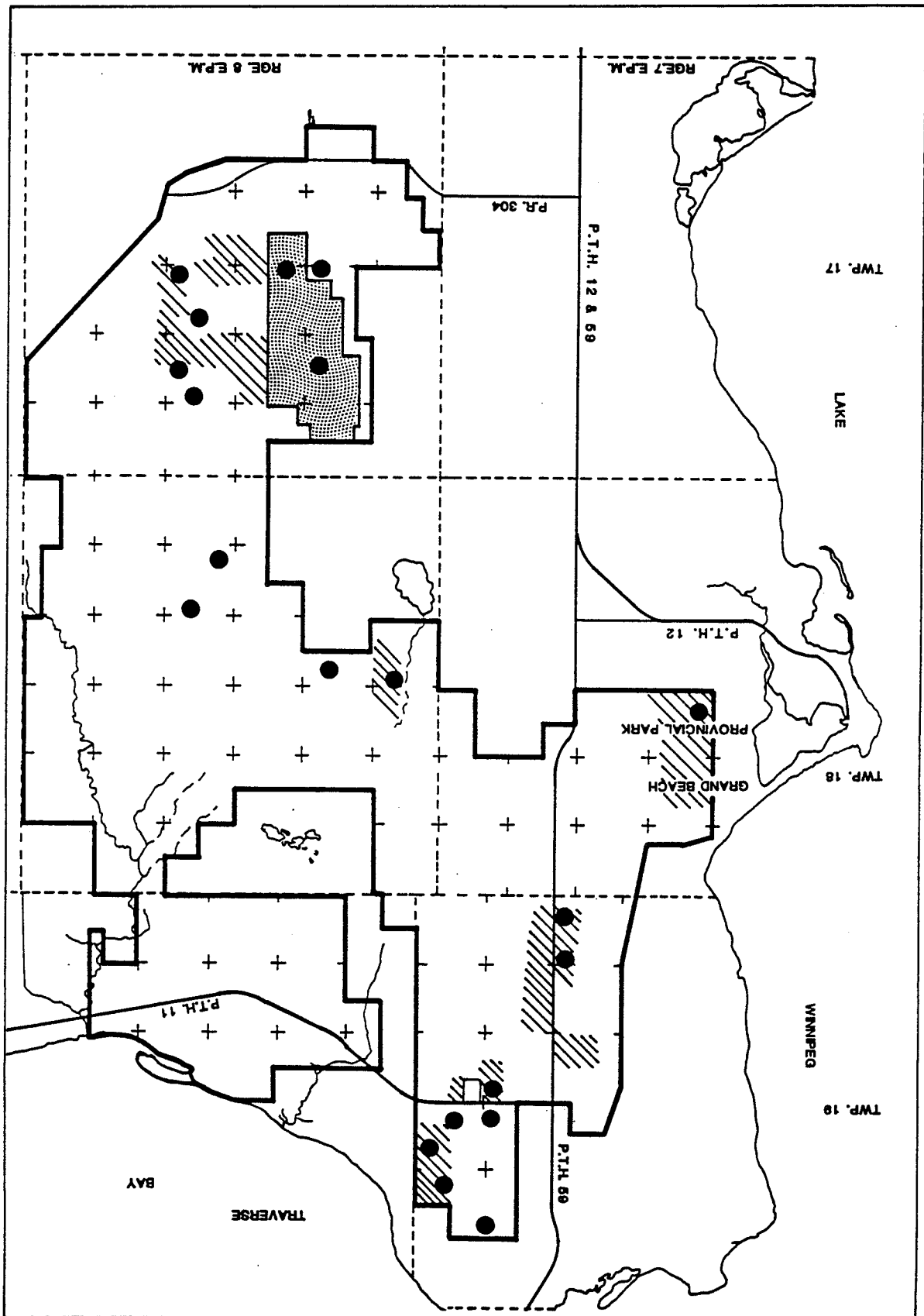


LIMITS OF STUDY AREA



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Scale in Miles



The roads and trails (Figure 10) have become access routes for all-terrain vehicles, pleasure touring, berry picking, and hunting (Plate 2). In the winter months some of these trails become busy snowmobile corridors (Figure 11) (Plate 3). Other winter uses of these roads and trails include cross-country skiing and snowshoeing.

Some land-use features at specific locations and permanent sites require acknowledgement. These include satellite tracking stations (Manitoba Telephone System), microwave communication towers, and two residents on private land near the community of Belair. There is also one centrally located garbage dump at Traverse Bay (Figure 8) that is utilized by both the Rural Municipality of Victoria Beach and the LGD of Alexander. Unfortunately, many depleted gravel pits in the vicinity of Highway 12 have also been used for casual garbage dumping. Some depleted pit areas have been transformed into well known motocross and all-terrain vehicle activity sites.

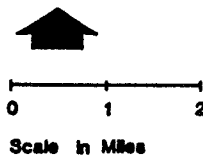


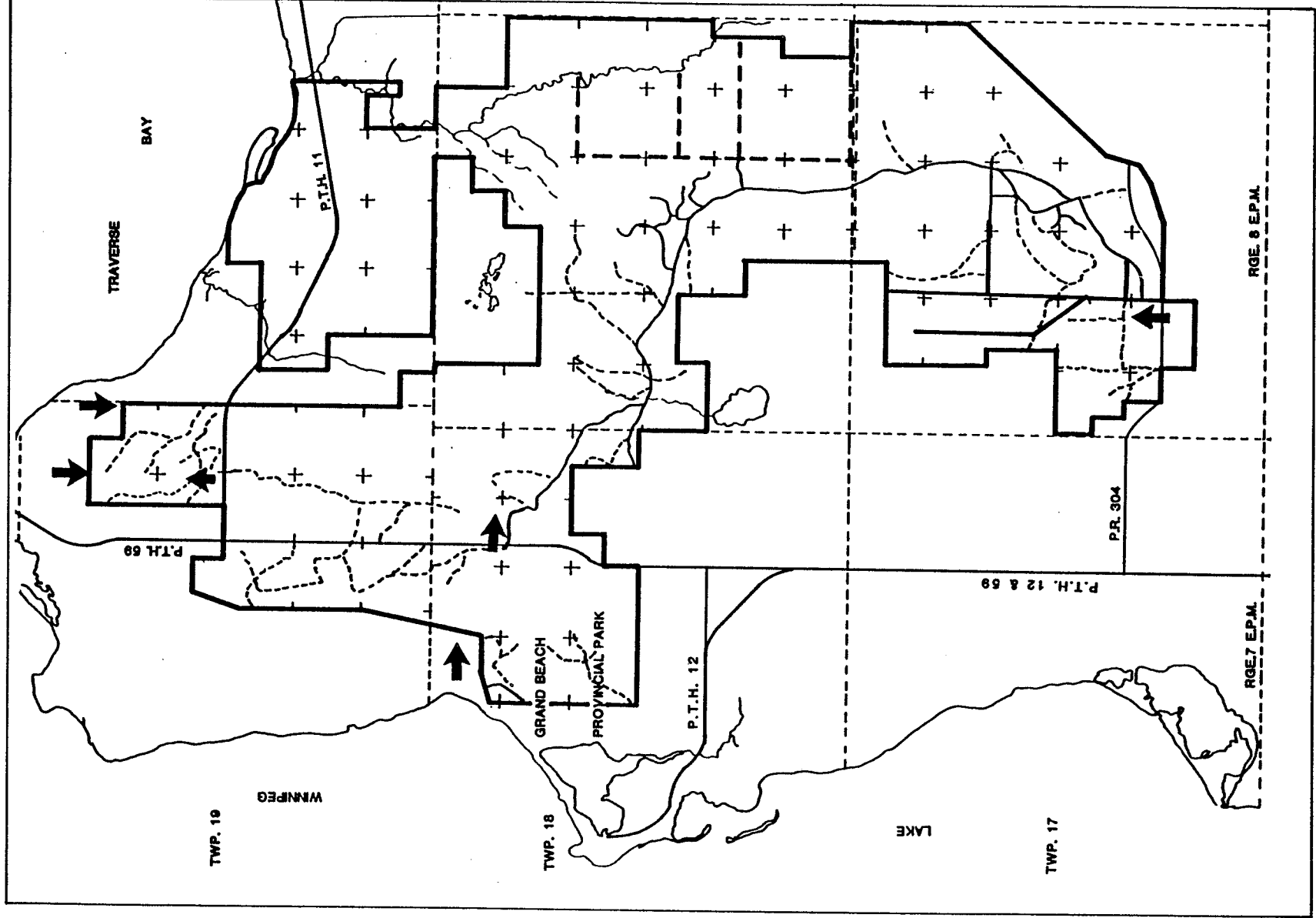
**ACCESS: TRAILS, ROADS, RIGHT-OF-WAYS****LEGEND:**

- Rugged Trail
- Central Trail (Gravel, Clay)
- ===== Fire Guard Clearing With Trail (FGT)
- Road
- - - - - Drainage Ditch Access
- ➔ Major Access Areas

Source: Manitoba Natural Resources  
Forestry Branch, Aerial Photos, 1983, 1989.

———— LIMITS OF STUDY AREA







**BACK COUNTRY TRAILS USED BY ALL-TERRAIN VEHICLES**

## SNOWMOBILE TRAILS

### LEGEND:

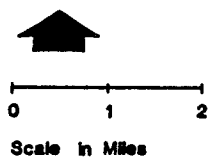
— — — Major Trail System

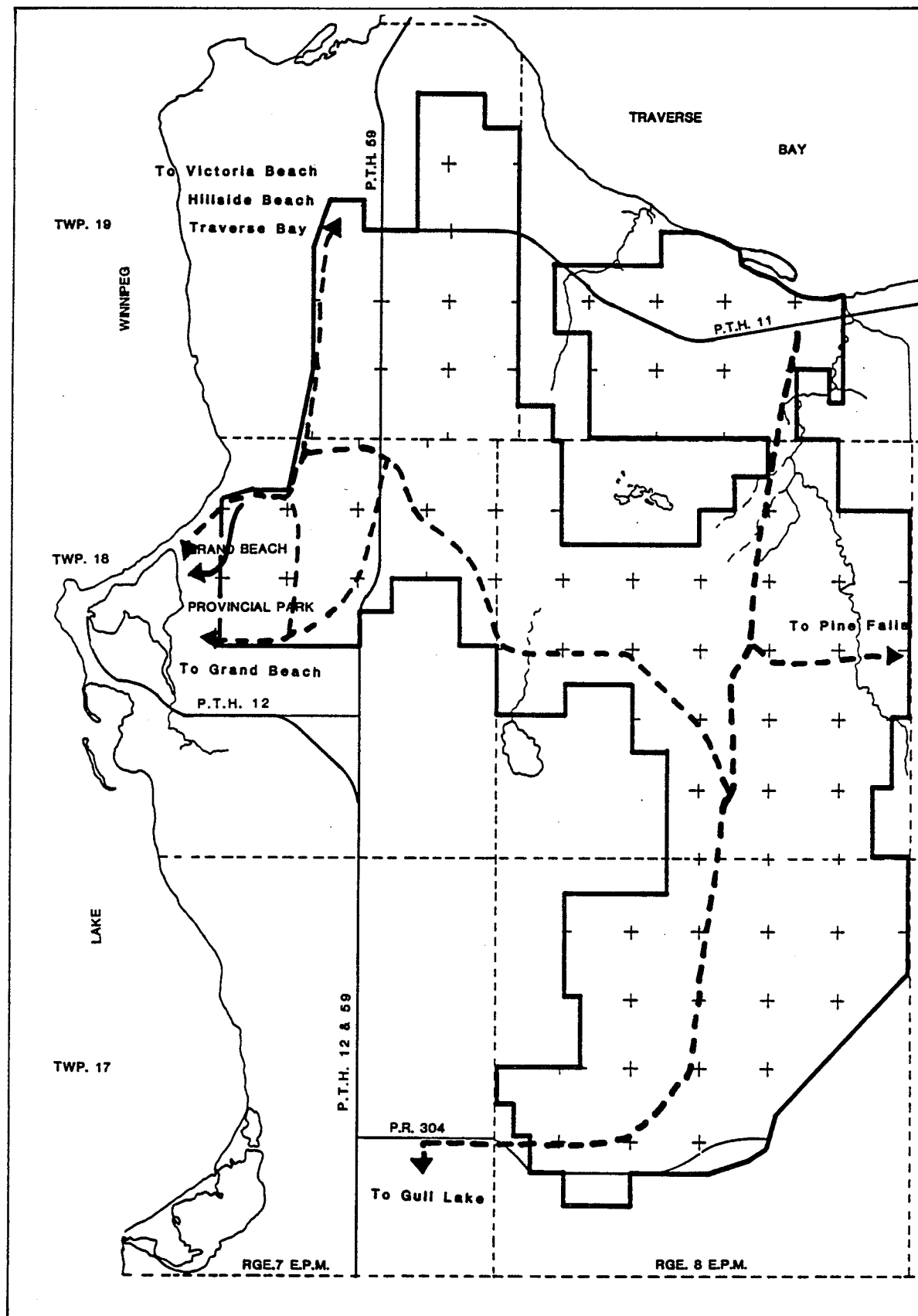
← Destination Points

Note: Many local use trails  
occur off this major trail system.

Source: Snowways Trails and Touring Association,  
Mankoba Natural Resources,  
Observations, 1989.

———— LIMITS OF STUDY AREA







SNOWMOBILE TRAILS IN THE UPLANDS AREA

#### **4. Physical Geography of the Belair Provincial Forest**

##### **4.1 Physiography**

The study area (Belair Provincial Forest) lies within two physiographic subdivisions (Figure 12), the Agassiz Lake Plain section of the Manitoba Lowlands and the Winnipeg Lake Terrace section of the Manitoba Lowlands (Smith and Ehrlich, 1967; Underwood McLellan et al., 1976). When the Belair Provincial Forest was established in 1954 its land area encompassed the jack pine-dominated upland areas of the Winnipeg Lake Terrace Section referred to as the Belair-Agassiz-Sandilands Uplands. Here surface deposits consisted mainly of glacial and glacio-fluvial deposits of boulder till and sandy end moraine materials. The terrain varies from a gently undulating plain to that of an irregular hilly moraine topography. One of the most striking features of this upland terrace is its elevation, which is well over 244 metres a.s.l. (800 feet) in much of the area. This is distinctly different from the lowlands, where average elevations are 229± metres a.s.l. (750 feet) (Figure 13).

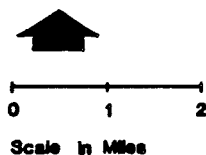
In 1986, when the Belair Provincial Forest was expanded eastward, it essentially encompassed those lowland plain lands. Here, the surface deposits are glacial lacustrine and alluvial origin. As a result, this physiographic section displays depressed and poorly drained sites over extensive areas. A distinctive feature is the extensive deposits of organics (deep and shallow peat) that overlie the pro-glacial

**PHYSIOGRAPHIC SUBDIVISIONS****LEGEND:**

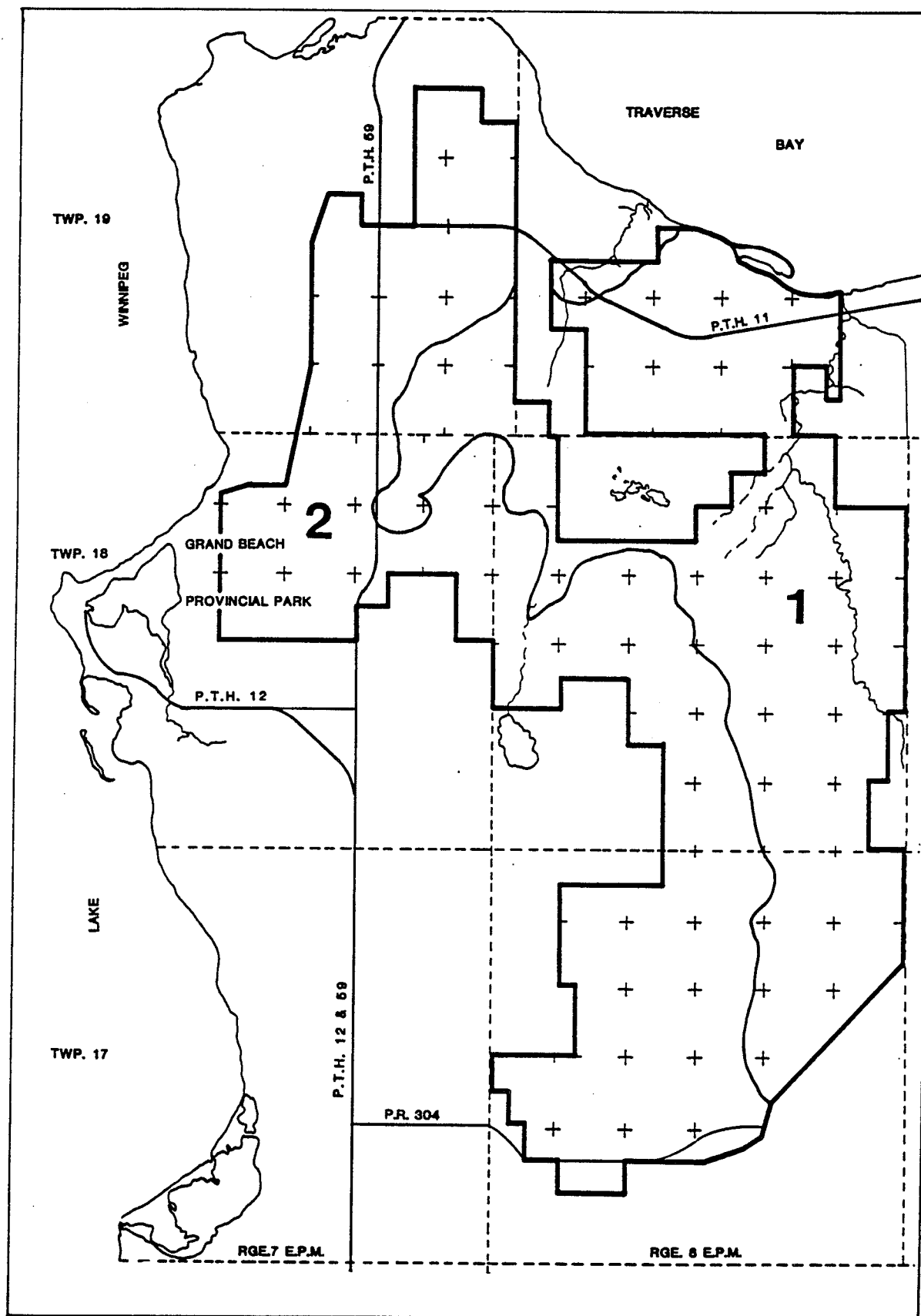
- 1) Agassiz Lake Plain of the Manitoba Lowlands.
- 2) Winnipeg Lake Terraces of the Manitoba Lowlands.

**Source:** Manitoba Soil Survey, Soils Report No. 15, 1967

— LIMITS OF STUDY AREA







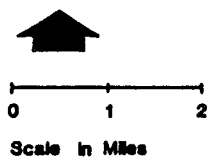
**RELIEF AND CONTOUR**

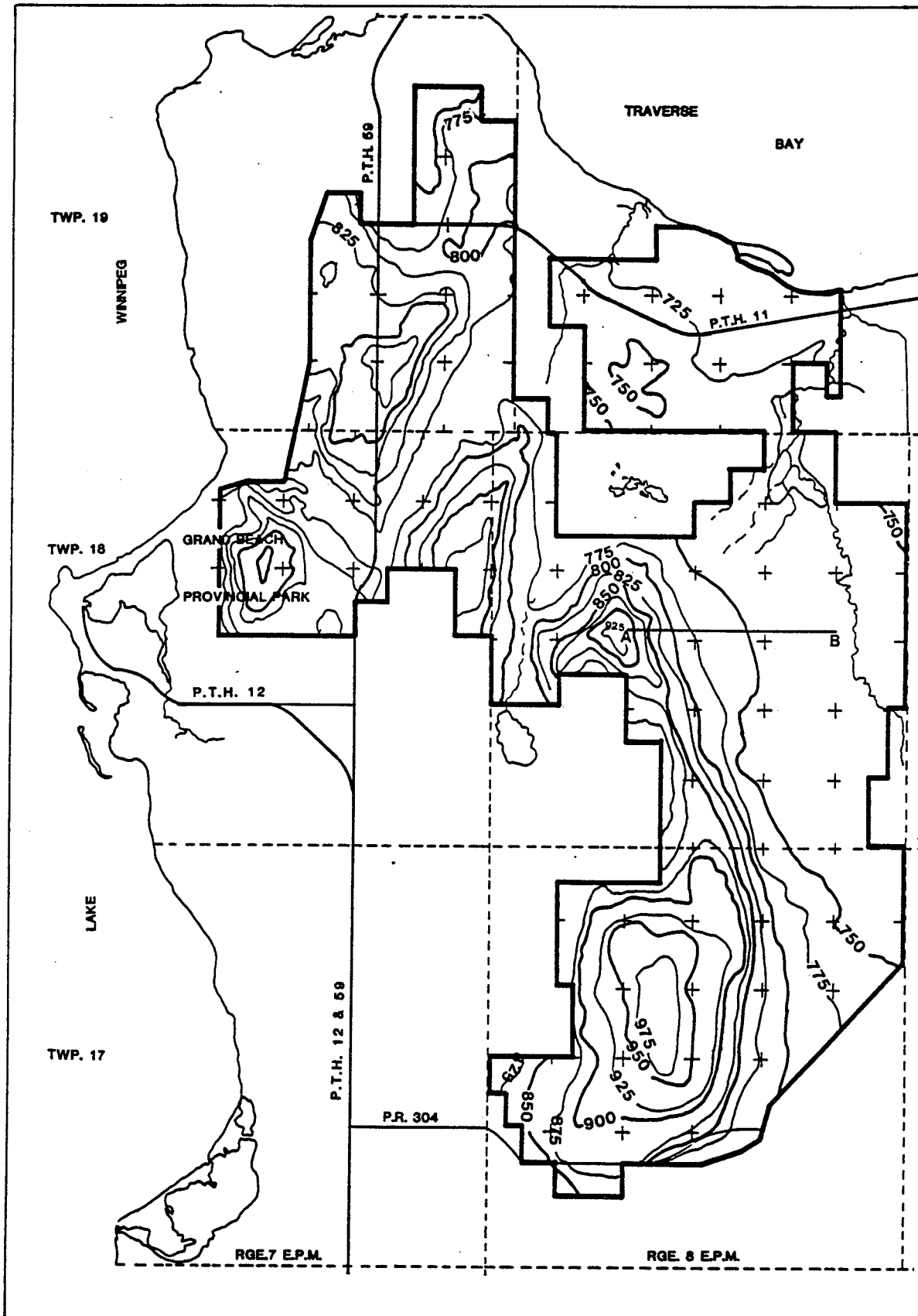
FEET	METERS.
725	221
750	229
775	236
800	244
825	252
850	260
875	267
900	274
925	282
950	289
975	297

A ——— B      Line Representing a Portion of the  
Cross Section of the Belair Uplands in  
Relation to the Lowlands. See Figure

Source: 1:50,000 Scale Map Sheet 62 1/9, 62 1/10  
National Topographic Map, 1975.

————— LIMITS OF STUDY AREA

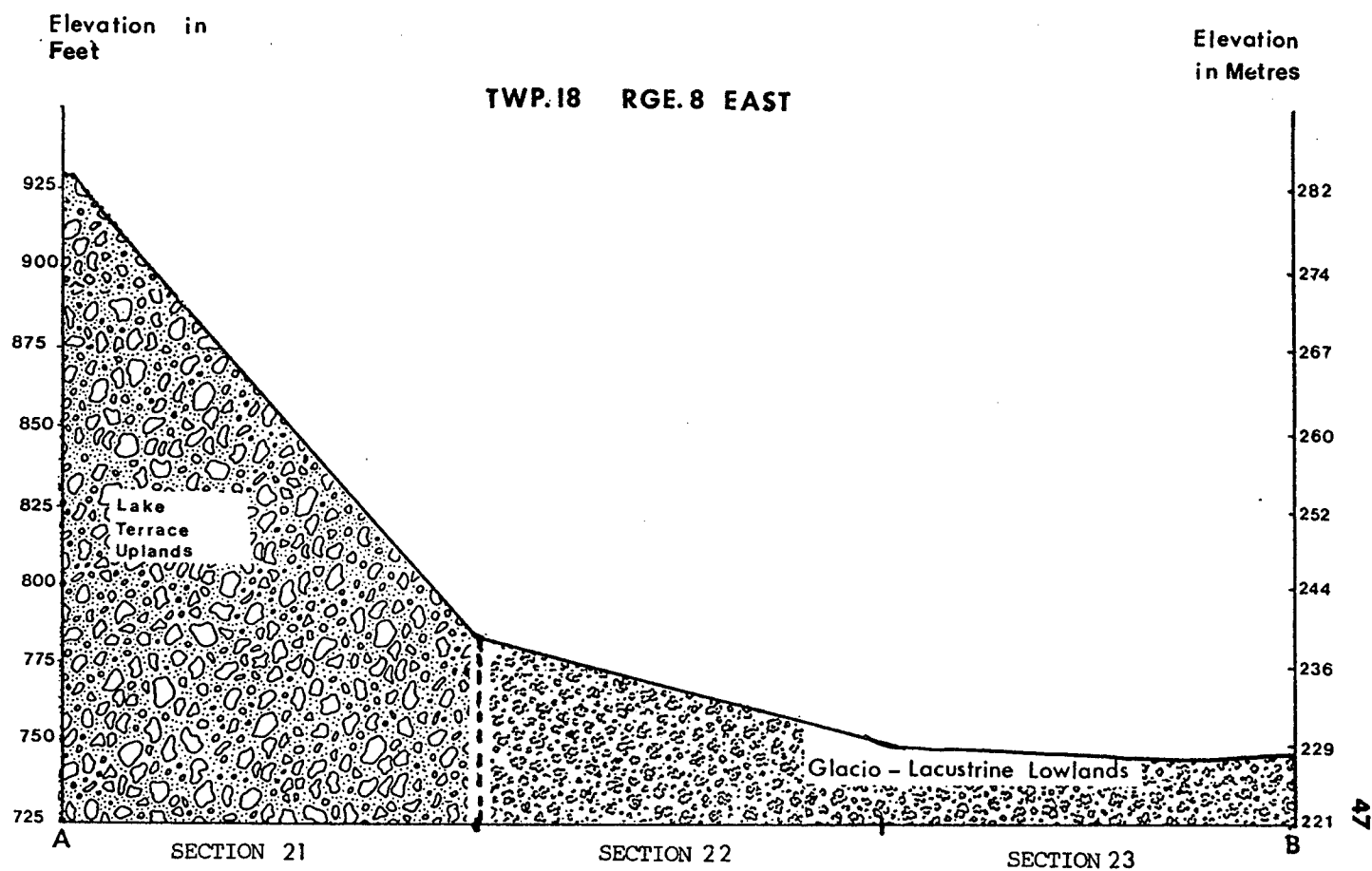




lake and glacial till deposits (Weir 1983). Here again the terrain is depressed, with extremely poor drainage. These conditions inhibit growth, and only moisture tolerant species such as tamarack, black spruce, and marsh complex vegetation can survive.

The contrast in terrain between the Lake Terrace upland and Agassiz Lake Plain lowland is a striking feature of the study area (Figure 14). Within the Belair Provincial Forest the differences in surficial geology, soils, and vegetation are distinct between the two physiographic subdivisions. Many land- and resource-related activities have focused on those easily accessible upland terrace areas. The lowland area, in contrast, has been subject to little activity other than winter timber removal.

Figure 14 Typical Cross Section Showing Elevation of the Belair Uplands in Relation to the Lowlands.



#### 4.2 Bedrock Geology and Surficial Geology

A review of the study area's bedrock geology reveals the influence of underlying materials. Ordovician sedimentary rock bisects the area from north to south (Figure 15). The western half of the area is underlain by elements of the Red River Formation (limestone and dolostone) and the east side by sandstone and minor occurrences of shale (Smith and Ehrlich, 1967; and McPherson et al., 1971).

The forming of the surficial geology of the area was dependent on both glacial effects and the pro-glacial Lake, Agassiz. Surficial material content and composition are largely dependent on a site's physiographic location. Upland areas consist of glacio-fluvial (outwash plains) and littoral sand, sand and gravel clay till, and moraine deposits of varying composition. To the east are the lowland areas of glacio-lacustrine deposits, within which (Figure 16) deposits of peat of varying age and thickness occur (Smith and Ehrlich, 1967; Underwood et al., 1976; and McPherson, et al., 1971).

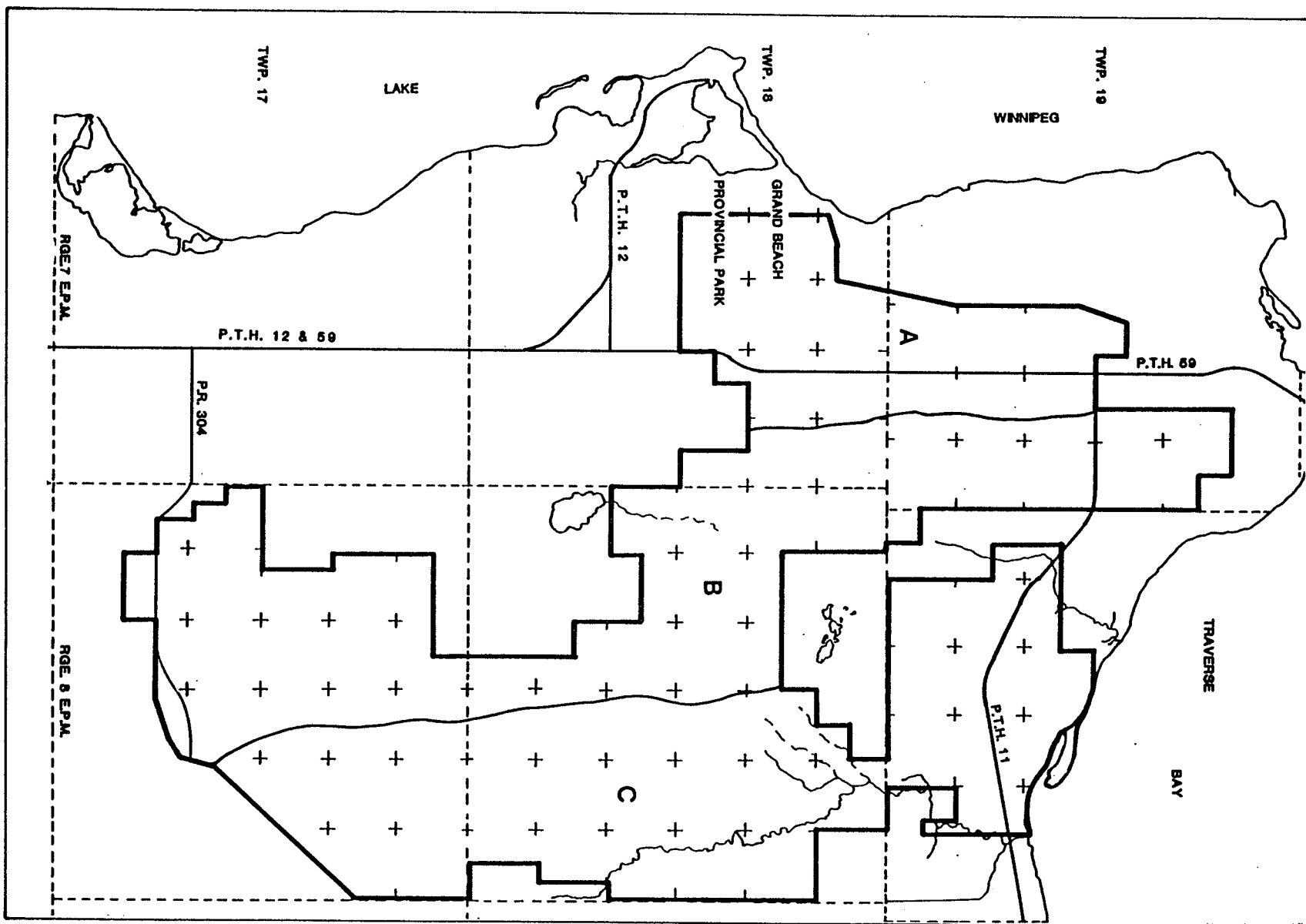
**BEDROCK GEOLOGY****LEGEND:**

- A**      **ORDOVICIAN ROCK**  
Dolomitic Limestone and Dolostone
- B**      **PRECAMBRIAN ROCK**  
Sandstone
- C**      **GRANITIC ROCK**

**Source :**      From: MC. Pherson, Leith, Anderson,  
"Pleistocene Stratigraphy of a Portion of  
Southeastern Manitoba, 1971"

—— **LIMITS OF STUDY AREA**







**SURFICIAL GEOLOGY****LEGEND:**

Lacustrine Clays (include organics)



Glacio-fluvial and Littoral Sands



Glacio-fluvial and Littoral Sands and Gravel



Clay Till

**Source:** "Aggregate Resources of the Winnipeg Region."  
Mines, Resources and Environmental Management,  
1976.

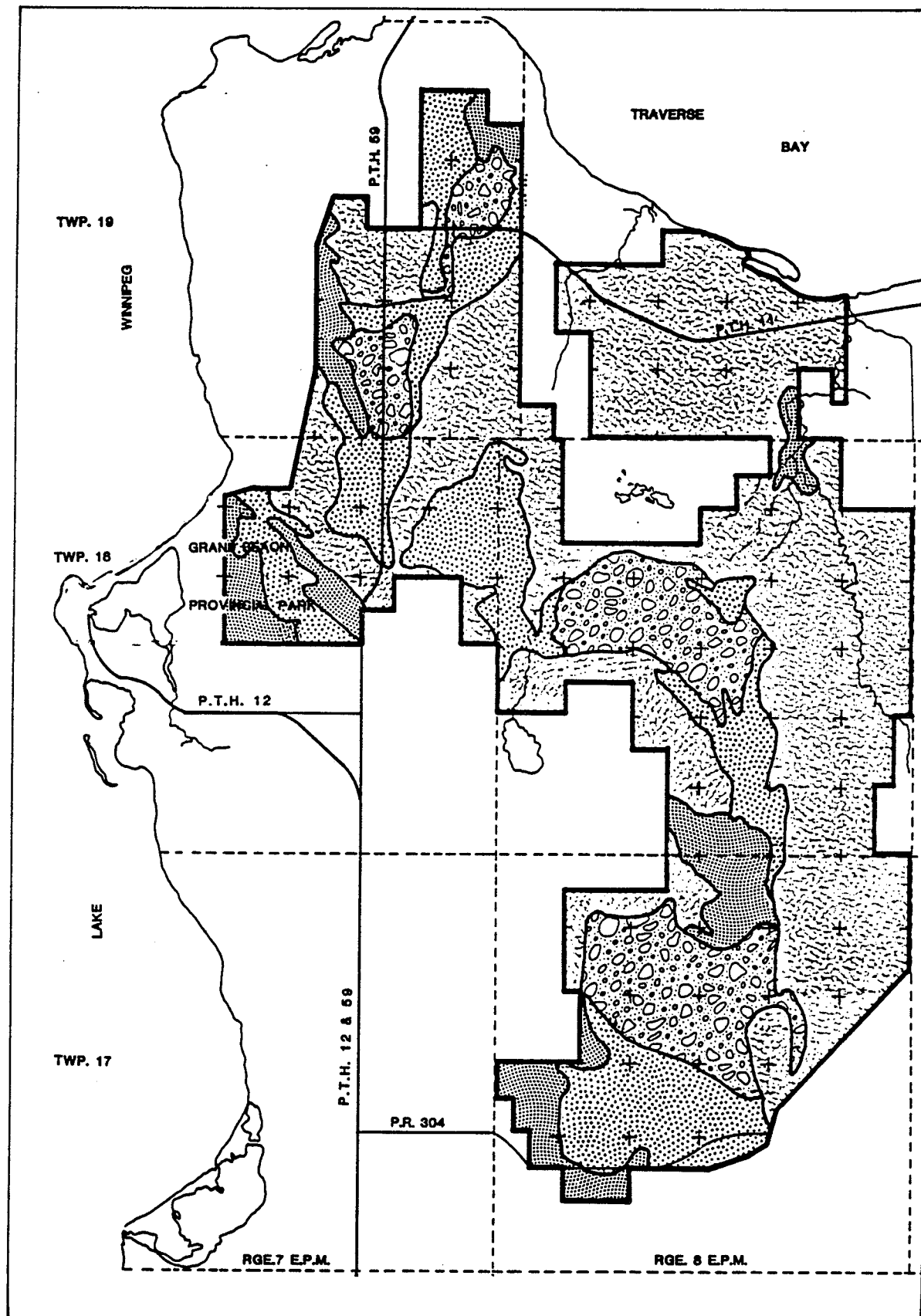


LIMITS OF STUDY AREA



0 1 2

Scale in Miles



#### 4.3 Soils and Vegetation

The soils of the study area are composed mainly of Brunisolic/Podzolic, Gleysolic, and Organic orders (Smith and Ehrlich, 1967; Weir, 1983). Brunisolic/Podzolic soils are derived from glacial and glacio-fluvial deposits such as outwash and till and consist of gravel and sandy material. These soils are mainly associated with the Sandilands uplands area. Gleysolic soils have developed upon lacustrine deposits and are associated with clay, silty, and some sandy materials associated with glacial Lake Agassiz. These sediments occur on the lake bed itself and in channels associated with the littoral, including that represented by the continental ice sheet. The other major soil order is the Organics, whose composition is either of Fibrisols or Cryic Fibrisols developed on sites that are mostly water-saturated year-round.

The vegetation is characteristic of a mixed boreal forest. Upland associations (predominantly associated with Brunisolic/Podzolic soils) consist mostly of jack pine and some aspen. Other species, such as white birch and bur oak, are less common. Because of the nature of this soil complex (which was developed chiefly from sandy and gravelly outwash materials or on modified till), these soils are well to imperfectly drained. Sites associated with sandy and gravelly soils are drouthy and consequently low in organic matter.

In the Agassiz Lake Plain section of the Manitoba

Lowlands, both glacio-lacustrine and Organic soil associations occur. The soil spectrum is chiefly Organic and Gleysolic in character (Smith and Ehrlich, 1967). Soil surveys and field analyses have determined that as much as 80 percent of the study area east of the terrace upland contains Organics with a varying thickness of Organic matter 30cm+ (12"+) for shallow peat, 90 cm+ (36"+) for deep peat underlain by calcareous fine-textured lacustrine sediments. Most of the Organic composition consists of fibrous to mucky sedge peat sporadically interspersed with islands of black spruce and tamarack.

The only other soil order of significant concentration is the Chernozems, which are located in the vicinity of Catfish Creek. These soils have developed on alluvial and lacustrine deposits and are moderately to well drained. Black ash, balsam poplar, some willow and wetland grasses are common. (For a complete breakdown of these soil areas relative to their vegetation mix see Figures 17, which were derived from aerial photography and soil surveys of the study area (Smith and Ehrlich, 1967)).

## SURFACE SOILS

### LEGEND:

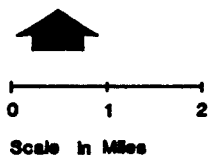
S-W	Sandylands - Wood Ridge Complex
W	Woodridge
S	Sandylands
Sc	Sandylands Catenna
L	Lone Sand Series
Wg	Wintergreen
Sl	St. Labre
Wa	Wampur
Co	Callento
Mn	Malonton
Mn/c	Malonton/Clay
Ky	Kerry
Rh	Richer Complex
Fo	Foley
Pr	Pine Ridge
Ba	Balmoral
Dc	Dencross
Fy	Fyala
Mh	March Complex
Th	Thalberg
Py	Pine Valley
E	Elma
Pe/t	Peguis
Ta	Tarno
Fr	Framnes
Sp	Shallow Peat.
Dp	Deep Peat

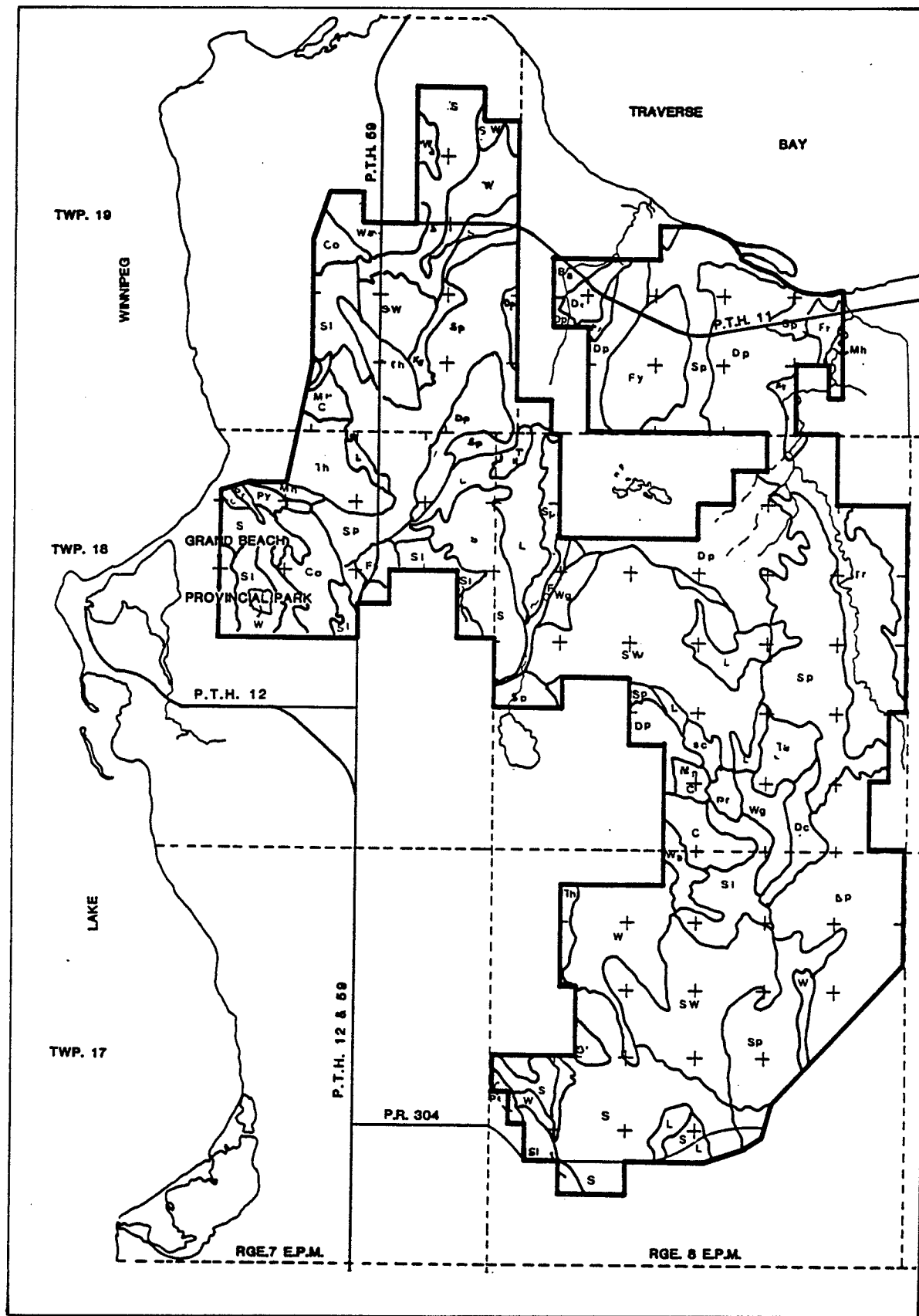
—— LIMITS OF STUDY AREA

Sources: Soils of Lac du Bonnet, Soils Report #15, 1967.

Note: See Figure 18

concerning a soil series feature  
in relation to vegetation cover.





#### 4.4 General Climate

The study area's climate is comparable to that of the rest of Agro-Manitoba. It is continental, with large seasonal temperature ranges and moderate precipitation. In the spring, fall, and winter the area is affected by major frontal disturbances between cold Continental Polar and warm dry Marine Polar air from the south. In the summer the area is generally dominated by Maritime Arctic with occasional intrusions of Maritime Tropical air (Barto and Vogel, 1978; Smith and Ehrlich, 1967).

The mean monthly winter temperatures are substantially below  $0^{\circ}$  C., and mean summer temperatures are above  $18^{\circ}$  C. (Weir, 1983). These temperatures are averages only and do not characterize the variations in seasonal and daily temperatures throughout the year. For example, the influence of Lake Winnipeg and Traverse Bay may effectively retard the advance of spring, causing delays in early growth, while the growing season can be extended in the fall due to a slow release of heat from these nearby water masses.

The area's mean yearly precipitation is in the range of 500mm ( $20 \pm$  inches) of which approximately 75 percent (375mm/15 inches) occurs during the growing season (Weir, 1983).

## 5. Renewable and Non-Renewable Resources

Both renewable and non-renewable resources are significant within the Belair Provincial Forest. The study area is located within a Forest Management Unit (F.M.U. 23) (Figure 5) which contains valuable forested lands with a large standing inventory of merchantable softwoods and hardwoods. The spruce, pine, and hardwoods from this management unit for pulp, lumber, and fuelwood can be continuously harvested using an Annual Allowable Cut model.

Wildlife resources are also important. Among the most productive wildlife areas are the upland wooded areas, creek corridors, bogs, and natural wetlands. In many parts of the Provincial Forest the diverse topography and vegetation provide adequate cover and habitat for wildlife populations.

There is also a limited aquatic resource in this area. Catfish Creek is an important spawning area for walleye, sauger, tullibee, and other freshwater species. Commercial fishermen on Traverse Bay and, to a lesser extent, anglers who fish the bay and creek areas, exploit these and other species.

Within the boundaries of the Provincial Forest substantial deposits of sand and gravel have been identified and/or exploited. This resource is in constant demand in the Winnipeg, Selkirk, and other Southeastern Manitoba areas.

Renewable and non-renewable resources in the Belair Provincial Forest should further be researched, evaluated, and



in some cases excluded from use or exploitation. A review of the natural resource base is essential to ensure its protection and allow the recommendation of recreational uses that take into account the need to preserve other interests and capabilities.

## **5.1 Forestry**

### **5.1.1 Present Forestry Activity and Capability**

The most significant resource related activity in the Belair Provincial Forest is wood production. The timber resource is widely used for pulp, lumber, wood crafts, and fuelwood. In 1987-88 over 7000 cubic metres (2800 cords) of timber were produced for manufacturing purposes - a 700 cubic metre (280 cord) increase from the previous year (Manitoba Natural Resources, 1986c; 1987a). Table 7 represents a statistical breakdown of timber utilization.

Although these figures may seem small in comparison to production volumes from the Duck Mountain or Porcupine Mountain Provincial Forests, they nevertheless support the total management unit timber volumes designated under sustained-yield plans. In fact, all of Management Unit 23's timber volumes, including specific hardwoods, are committed now and into the future (Manitoba Natural Resources, 1989e). Recent utilization of hardwoods such as black ash, American elm, and Manitoba Maple by furniture companies in Winnipeg makes other areas of the Belair Provincial Forest subject to future intensive timber extraction.

Table 7  
Timber Utilization Within the  
Belair Provincial Forest - 1987 (Cubic Metres)

Lumber	Pulpwood	Piece Products	Fuelwood	Round Timber	Totals
125	Spruce - 1196 Balsam - 145 Jack Pine- 3883	Posts - 30	Spruce - 778 Poplar - 705 Other Hardwoods-206 Dry - 48	20	7136

Source: Manitoba Natural Resources, Annual Report, 1987a

On the upland sites of the Belair diseased, healthy "blowdown" and fire-killed timber stands are extracted under timber permits or timber sale agreements with the Province. Jack pine is the major species cut; however, this species is prevalently diseased. A parasitic plant mistletoe, that roots in the bark of the trees causes abnormal branching. Mistletoe has affected some 800 hectares (2000 acres) of jack pine in the Provincial Forest (Figure 18, Plate 4) (Manitoba Natural Resources, 1989f; 1965). Past cutting activities and current clear-cutting practices have eradicated much of these diseased stands.

Similar practices prevail in the extraction of mature healthy stands of jack pine, which is used primarily for lumber and fuelwood, although some is used for pulp. Other cutting operations include salvage cutting of "blow-down" timber resulting from severe wind storms in 1988-89, and fuelwood cutting in areas of mixed timber where the general public cuts white birch, aspen, some oak, and jack pine under permit (Figure 18).

# DISEASED TIMBER AREAS AND FUELWOOD SITES

## LEGEND:



Mistletoe Infestation



Fuelwood Cutting Site

Source: Manitoba Natural Resources,  
Forestry Branch Files, 1989.

Belair Provincial Forest Operations Report 1965

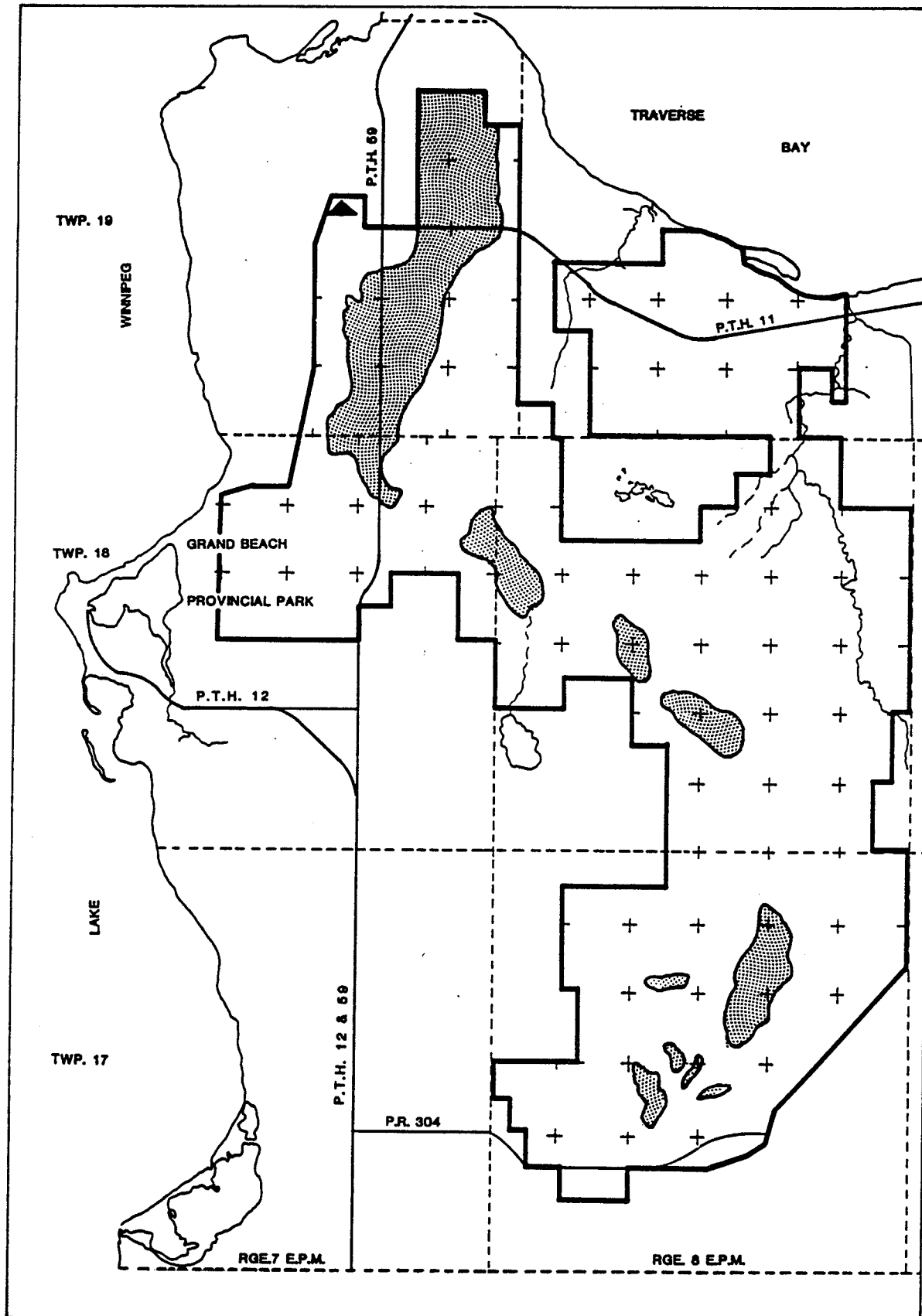


LIMITS OF STUDY AREA



0 1 2

Scale in Miles





**MISTLETOE AFFLICTED JACK PINE**







**PLATE 4**

Silvicultural activities are reflected in many plantations throughout the uplands (Manitoba Natural Resources, 1989g) (Figure 19) (Plate 5). Reforestation of all cut-over areas involves primarily the planting of jack pine and red pine.

In the lowlands, east of the uplands area, some significant stands of desirable hardwoods and softwoods are located. Here, due to ground conditions, cutting operations are restricted to the winter season.

Over the years the Belair Provincial Forest area has been subjected to limited yet progressive forestry related activities. All of these activities contribute to the overall yearly production that constitutes the allowable cut. In 1987, for example, the merchantable timber cut was 7100 cubic metres. However, in 1988-89 an exception to the rule occurred. Because of the extensive windstorm damage in those summers, the annual allowable cut was exceeded, allowing for the emergency harvesting of the jack pine and black spruce blow-down (Figure 20) (Plate 6A, 6B).

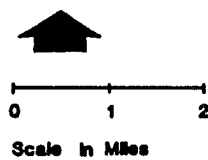
**PLANTATIONS****LEGEND:**

-  Jack Pine
-  Red Pine
-  Jackpine/Red Pine
-  Scots Pine
-  White Spruce
-  Black Spruce

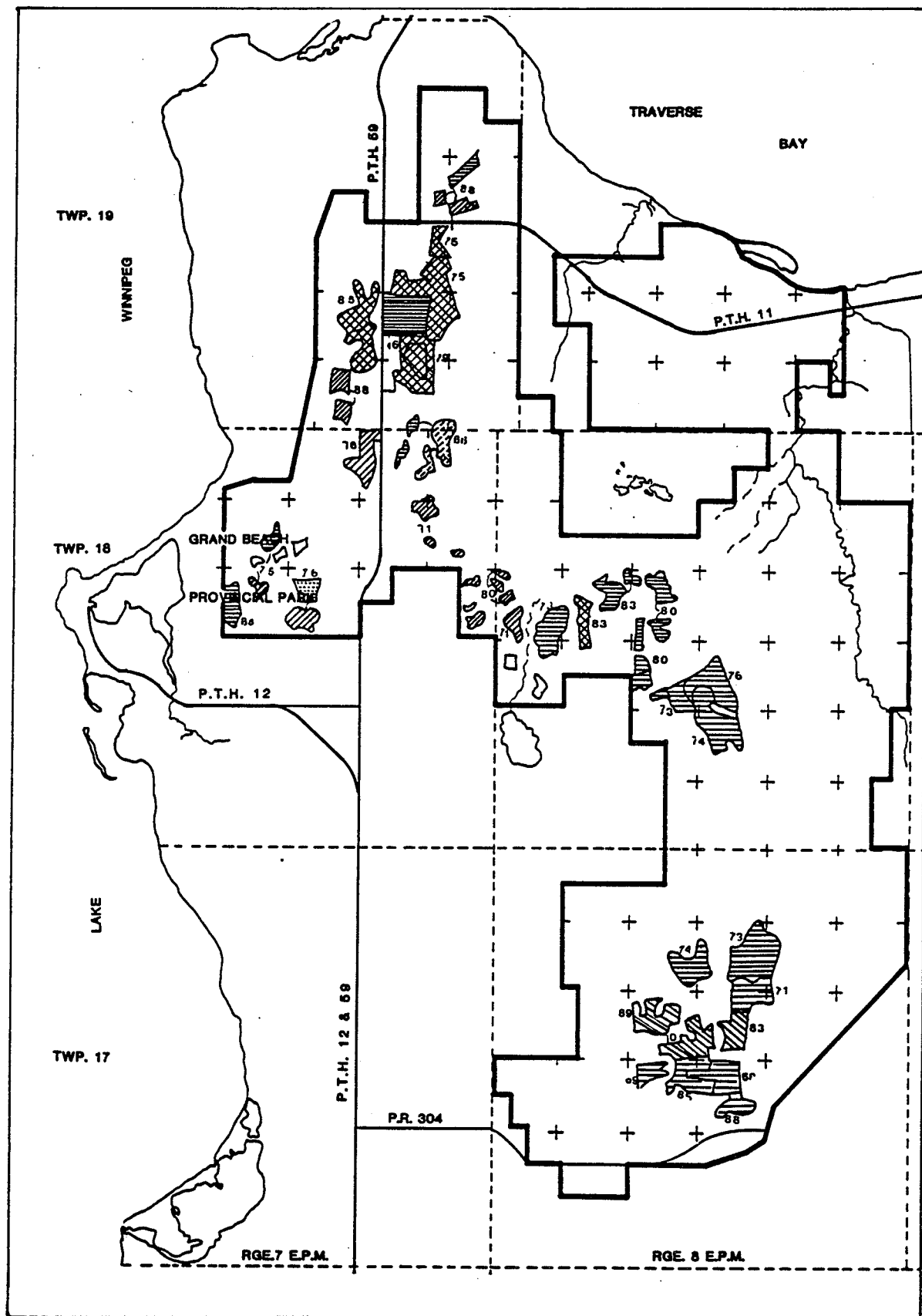
76      Number represents year of plantation, example 1976.

Source:    Manitoba Natural Resources,  
             Forestry Branch, 1989.

———      LIMITS OF STUDY AREA









**PLANTATION SITES**

**PLATE 5**

**WINDSTORM TIMBER SALVAGE AREAS****LEGEND:****Available Salvage**

Spruce, balsam fir, jack pine salvage for  
1989/90 - 15,195.08 cubic meters merchantable  
timber.

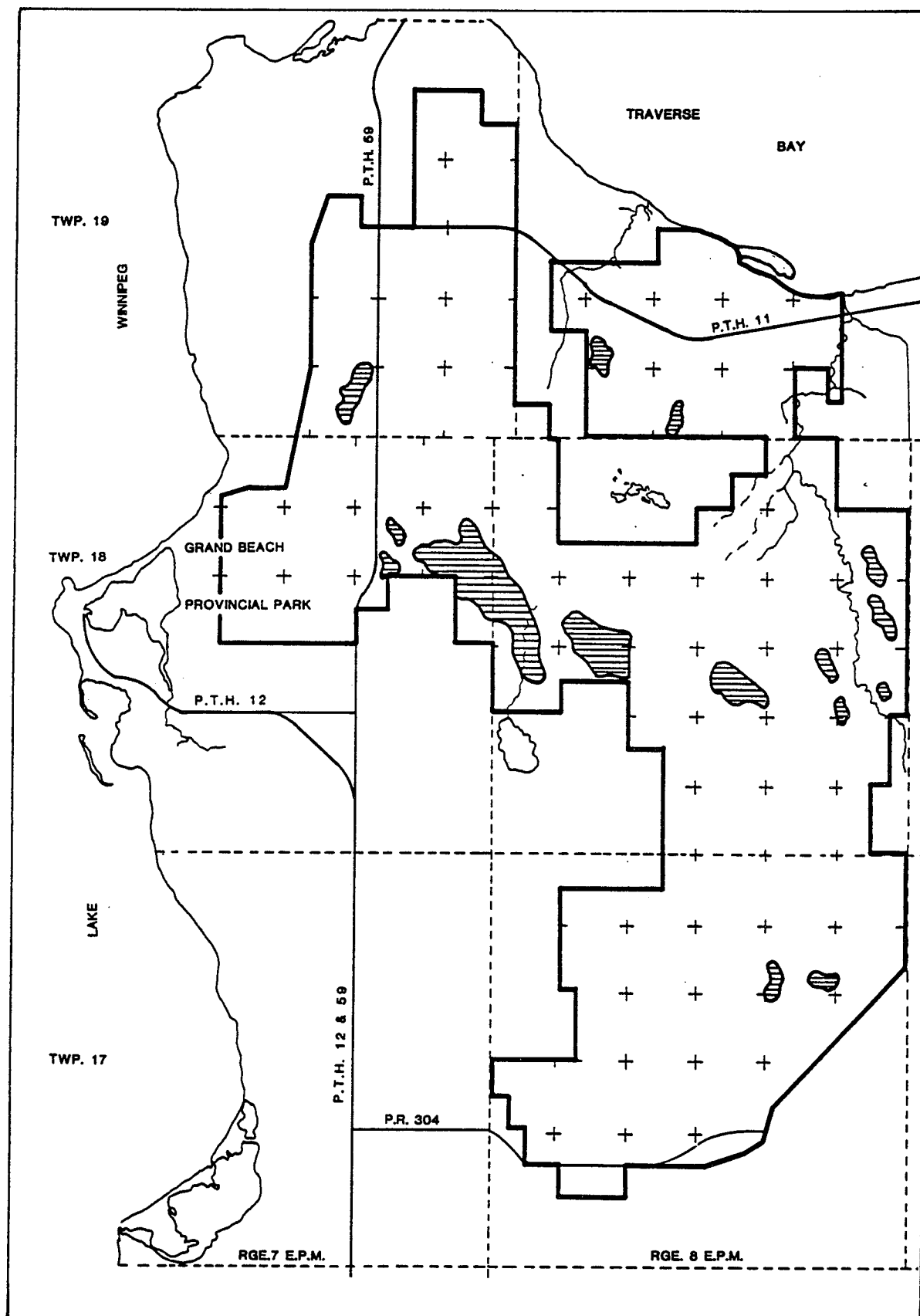
Spruce, balsam fir, jack pine, salvage for  
1989/90 - 28,366.28 cubic meters merchantable  
timber.

**Source:** Summary of Timber Volume Reports,  
Manitoba Natural Resources,  
Forestry Branch, 1990.

**LIMITS OF STUDY AREA**

0 1 2

Scale in Miles





WINDSTORM BLOWDOWN AREAS

PLATE 6A



WINTER SALVAGE OPERATIONS OF BLOWDOWN MERCHANTABLE

GRADE TIMBER

PLATE 6B

The study area comprises mature timbered sites (cutting class 3,4,5), immature timbered sites (cutting class 0,1,2); and non-productive sites (Figure 21). Significantly, the land base capable of it is now or will become productive forested land. This means that as timber stands progress from immature to mature status, their total value in terms of merchantable volume is always constant. Only those areas that lack forest growth are essentially non-productive from a forestry perspective. However, with forestry infrastructure site improvements, some of these lands could become productive in the future. Lands that are now classified as treed muskeg, marsh, marsh muskeg, and meadow areas fall into this category. Although these lands are not important as a forestry resource, they are valued wildlife lands.

Much of the Belair Provincial Forest is productive forested land. Although the Canada Land Inventory rating of the production capability and quality of the forest cover is low (Figure 22), the Belair has significant forest-products potential. A pulp mill at Pine Falls, an expanded furniture industry that uses the area's hardwoods, and the general public's demands for other types of wood products assure that there is a constant market demand for wood and wood fibre.



## GENERALIZED FOREST COVER INFORMATION AND CUTTING CLASSIFICATION

### LEGEND:

#### SOFTWOODS

jp	Jack pine (cutting class 3,4,5, mature wood)
I-jp	Jack pine (cutting class 1,2 immature wood)
bs	Black spruce (cutting class 3,4,5, mature wood)
I-bs	Black spruce (cutting class 1,2 immature wood)
ws	White spruce (cutting class 3,4,5, mature wood)
I-ws	White spruce (cutting class 1,2 immature wood)
t	Tamarac (cutting class 3,4,5 mature wood)
	Tamarac & Cedar (cutting class 3,4,5, mature)
sbF	Spruce-Balsam fir (cutting Class 3,4,5, mature)
I-sbF	Spruce-Balsam fir (cutting class 1,2,immature)

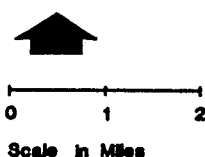
#### HARDWOODS

A	Aspen ( cutting class 3,4,5, mature wood )
I-A	Aspen ( cutting class 1,2, immature wood )
	Black Ash, Maple, Elm ( various age and mix )
Bp	Balsam poplar ( various age and mix )
	Non-Forested Species Areas of treed muskeg, swamp, fen, bog, deep peat.

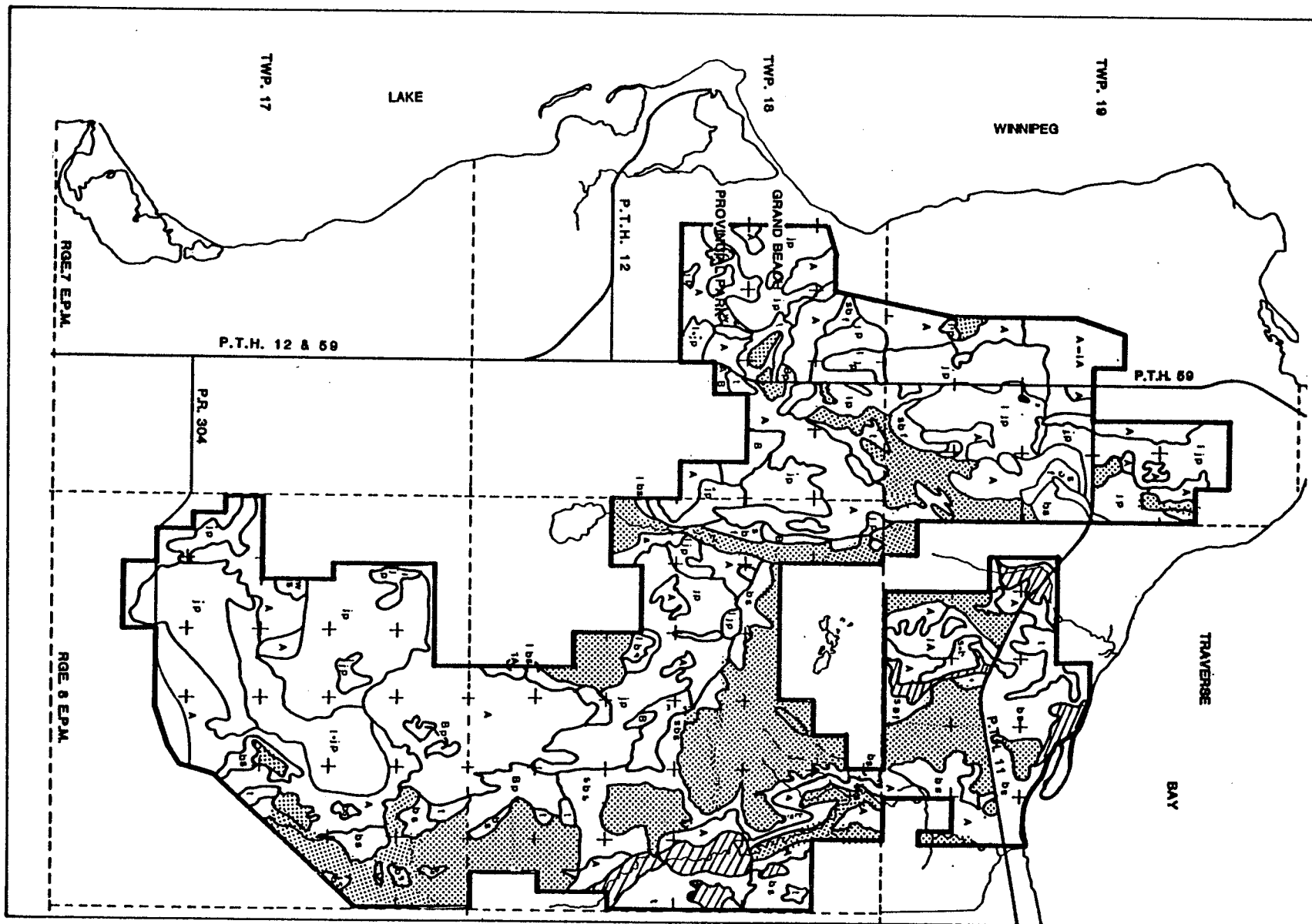
Source : Manitoba Natural Resources  
Compiled from Forestry Inventory Data: 1983:  
Forestry Inventory Data ( Geographical Information  
Services, 1989 ), Aerial photos for Belair 1989.

Note: Red pine plantations are not shown. Figure 20 accounts for this  
cover type. This inventory groups red pine with jack pine.

———— LIMITS OF STUDY AREA







**FOREST CAPABILITY**

**BEST AREA**  
3                      Only Moderate Limitations to the Growth  
                         of Commercial Forests.

**POOREST AREAS**  
7                      Severe Limitations to the Growth of  
                         Commercial Forests.

M -                  Soil moisture deficiency

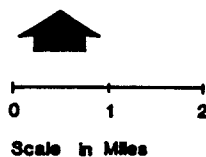
W -                  Soil moisture excess

X -                  Either "M" or "W"

Note: Small numeral placed after a class numeral give the  
approximate proportion of the class out of 10

Source:              Canada Land Inventory for Forestry,  
                         Environment Canada, 1973.

—————          LIMITS OF STUDY AREA





### 5.1.2 The Importance of Forestry

The Belair Provincial Forest is estimated to represent as much as 25 percent of the merchantable timber volume of Forest Management Unit 23. On an annual basis this equates to a timber supply valued at close to \$9 million on a gross value of shipments calculation, in 1982-83 dollars (Manitoba Natural Resources, 1983). In 1987-88, 7136 cubic metres of pulpwood, fuelwood, and lumber were cut. Assuming that the average unit value of a cubic metre of logged wood is \$32.46 (1983 dollars) based on gross-value-of-shipment, the annual value of forestry revenue could be as much as \$231,635. For a logged timber value at mill site (for primary manufacturing) this 7136 cubic metres would be valued at \$713,600 assuming a Free on Board (F.O.B.) mill price average of \$100 a cubic metre.

The Belair hardwood stands, as previously indicated, are also significant revenue makers. Black ash, American elm, and Manitoba maple along and adjacent to Catfish Creek and Jackfish Creek are expected to be exploited in the near future. The furniture industry has expressed great interest in these select hardwoods which are priced as high as \$800 to \$1200/Thousand Feet Board Measure (M.F.B.M.).

Other hardwoods such as aspen are important to the chipboard industries in Winnipeg. The expansion of demand from the furniture industry is confidently predicted (Manitoba Natural Resources, 1986b).

The majority of the Belair Provincial Forest's wood supply is now or will shortly be fully allocated. The Annual Allowable Cut for both softwoods and hardwoods will be realized. Therefore, reforestation (under current policy, a Provincial responsibility) is essential.

## 5.2 Wildlife

### 5.2.1 Present Wildlife Activity, Capability, and Habitat

Wildlife within the Belair Provincial Forest includes game, non-game, and fur-bearing species. The habitat includes mixed wooded uplands, cut-over areas, stream corridors, bogs, and wetlands. The habitat supports big game species such as moose, white-tailed deer, black bear, wolf, and coyote as well as weasel, snowshoe hare, fisher, river otter, muskrat, and beaver. Game bird species are also common and include ruffed grouse, spruce grouse, and sharptailed grouse. The Belair Provincial Forest is also home of the great grey owl. As well, a limited number of ducks (for example the mallard and wood duck) and heron (Great Blue Heron) are found in the area of Catfish Creek.

These game and non-game species have value, variously for food, income, recreation, and science.

The importance of wildlife habitat has always been of concern to the Wildlife Branch of the Department of Natural Resources. The area east of the original Provincial Forest has been accorded a Wildlife Management Area designation. It received this status even though a Provincial Forest designation also exists for the same area (Figure 6). In such locations both wildlife and forestry management practices must be adhered to in the course of resource harvesting.

The land capable of sustaining ungulates (moose, deer) in the Belair Provincial Forest is designated C.L.I. Classes

2,3,4,5, and 6 (Environment Canada, 1971) (Figure 23). Of critical importance are those lands identified as Classes 2 and 3, which are production areas. These areas are responsible for maintaining much of the deer and moose population of the surrounding game hunting area (Manitoba Natural Resources 1989h). The productive capability of these wildlife areas (and in particular the Class 2 areas) is directly proportional to the extent of high-quality habitat areas. Class 2 lands include riparian habitat, escape cover, winter cover, and browse. Class 3 also includes these features but is deemed to be less productive because of a more limited capability to produce food and cover. Class 2 and 3 lands are essential wildlife habitat.

All wildlife species require cover. White-tailed deer prefer thick aspen and mixed aspen/jack pine cover from late spring through mid- fall. Moose prefer the wetlands and bogs within the eastern section of the Provincial Forest. Black bear use the transition areas immediately off the uplands for denning but move throughout the mixed forest areas during the spring, summer, and fall (Figure 24).

**WILDLIFE UNGULATE CAPABILITY****LEGEND:**

**2**      **Best Lands for the Production of Wildlife Ungulates.**

**6**      **Poorest Lands for the Production of  
Wildlife Ungulates.**

**Subclass of site restrictions**

**c -**      **Climatic factors may reduce rating of habitat**

**g -**      **Poor distribution of land forms.**

**f -**      **Lack of soil nutrients for optimum plant growth.**

**m -**      **Soil moisture is excessive or deficient for the site.**

**Source:**    **Department of Regional Economic Expansion,  
1973.**

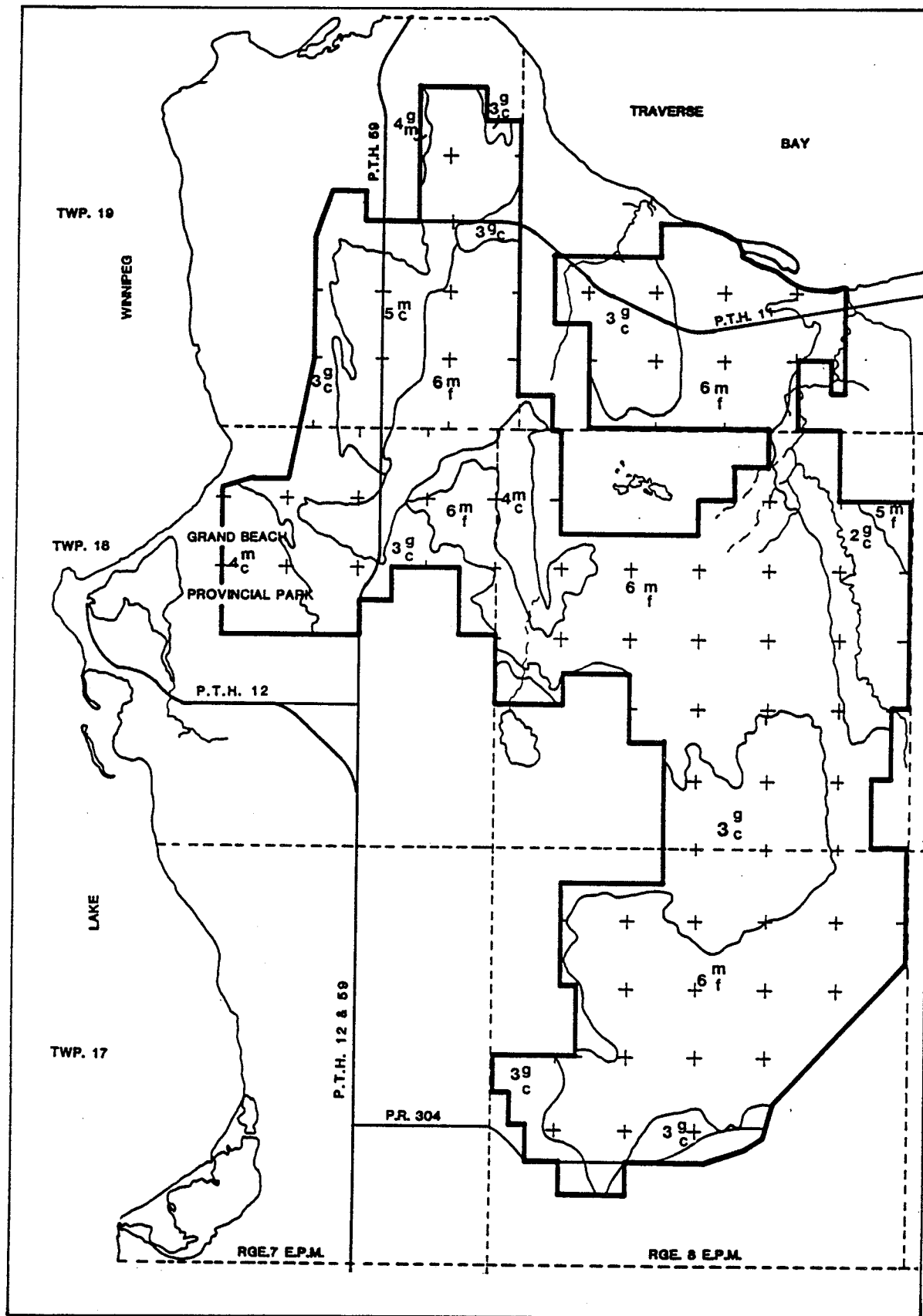
———— **LIMITS OF STUDY AREA**



0      1      2

**Scale in Miles**





# GENERALIZED UNGULATE AREAS

## LEGEND:



White-tailed Deer Range



Winter Season Concentrations



Moose Summer Range



Moose Winter Range

Source: Mankoba Natural Resources,  
Wildlife Branch, 1989-90.

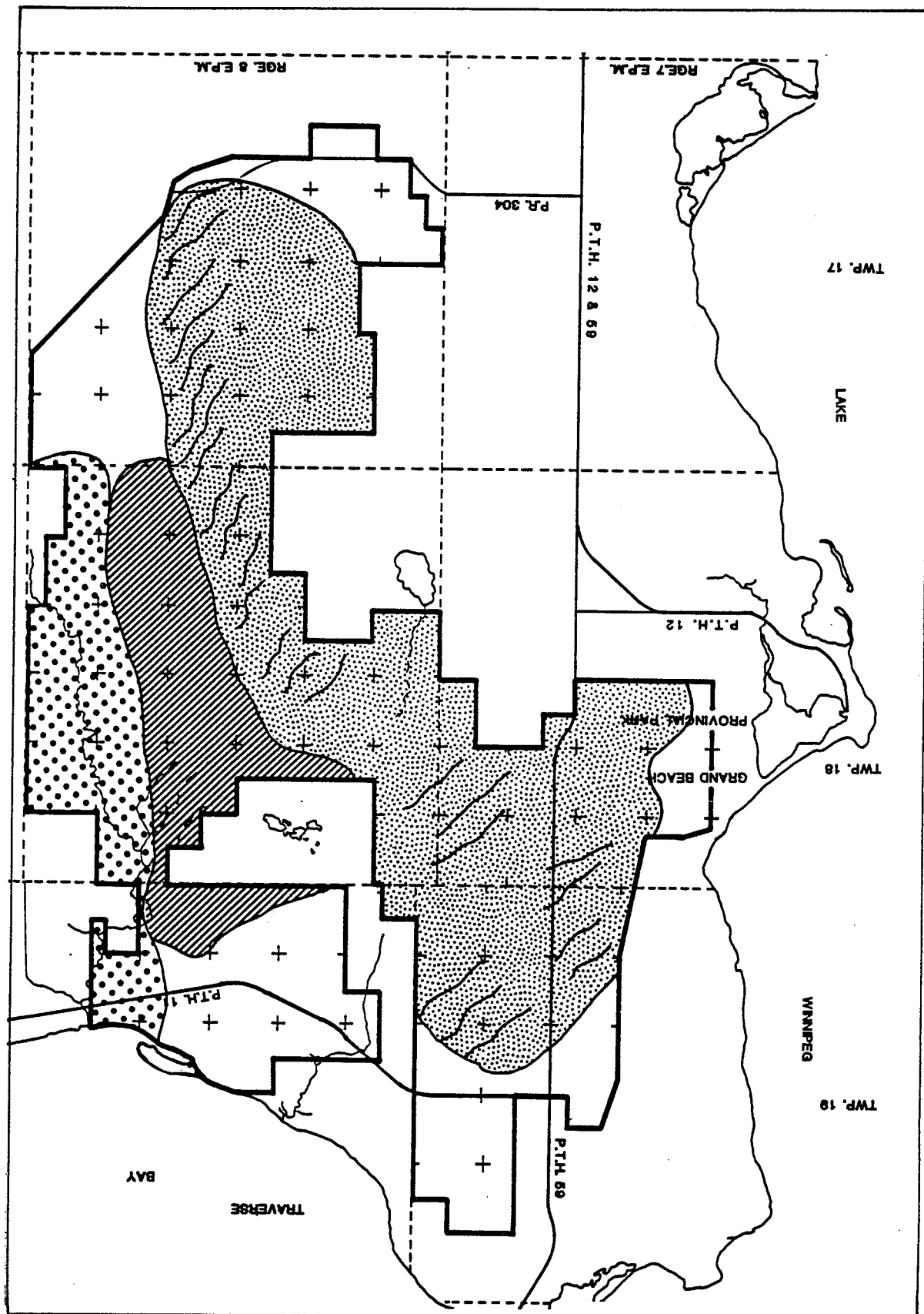


LIMITS OF STUDY AREA



0 1 2

Scale in Miles



In the winter months the white-tailed deer move out of the thick deciduous and mixed vegetation to upland sites where enough protective cover exists. When temperatures moderate they move to more open areas of jack pine and aspen. Favorite feeding range is recently cut-over areas and plantation sites. Moose move into the mixed-wood/deciduous areas to take advantage of the browse available there (Manitoba Natural Resources, 1989h).

In the case of furbearers, both lowland riparian and upland areas are considered to be important habitat. The Catfish Creek corridor is good production and survival habitat for beaver, muskrat, and others. They depend on adequate water supply, aquatic vegetation cover, associated ponds, and relative isolation (Plate 7).

In the upland areas wolf, coyote, and fox are dependent on adequate cover amongst the deciduous and mixed timber stands. They prey upon ungulates, snowshoe hare, squirrels, and other small mammals living in the same surroundings (Manitoba Natural Resources, 1989h).

Upland game birds such as ruffed, spruce, and even some sharp-tailed grouse are viewed throughout the Belair Provincial Forest. Ruffed grouse prefer mature mixed deciduous stands of aspen and birch, and frequent the many forest openings such as clear-cut areas and trails. Spruce grouse frequent stands of spruce and pine and prefer edges of bogs and the dense conifer stands. Sharp-tailed grouse, on



CATFISH CREEK LOWLANDS

PLATE 7

the other hand, require more interspersed vegetation such as willow thickets and grassy sites. They also inhabit the limited open cutover areas and are commonly seen perching in small clumps of trees and shrubs (Oetting et al., 1973).

Waterfowl potentials are limited, and occur only in the ponds and marshes along the Catfish Creek waterway, where sites are available for suitable nesting cover and brood rearing (Manitoba Natural Resources, 1989h). This riparian corridor, even though it is located in Class 5 waterfowl lands, (Environment Canada, 1973) (Figure 25), functions as a spring and fall staging area for migrating waterfowl. Enhancement of nesting cover would increase this area's waterfowl-breeding potentials. The site is already ideal for viewing local waterfowl such as wood ducks, which nest in cavities in dead trees.

The only other waterfowl production area identified is Jackfish Lake (Figure 25). Although the lake is located outside of the Provincial Forest, the Refuge boundary partially overlaps it. The Jackfish Lake Game Bird Refuge protects Canada Goose which nest on this spring-fed lake. Upland game birds also receive protection where the Game Bird Refuge boundary extends into the wooded uplands.

Song birds, hawks, owls, water and shore birds are abundant throughout the Provincial Forest area. Perching and seed eating birds have been observed frequently. Heron and bald eagle nesting sites are common to the creek corridor.

# **WATERFOWL CAPABILITY / NESTING ENHANCEMENT**

## **JACKFISH LAKE GAME BIRD REFUGE**

### **LEGEND:**

**Class 5 -** Lands have a moderately severe limitation  
to the production of waterfowl.

### **Problems within this classification:**

- 1) Insufficient nutrients.
- 2) Poor distribution of marches.
- 3) Excess water along the edges of the water course.
- 4) Adverse topography



**Potential Nesting Enhancement Area**



**Jackfish Lake Game Bird Refuge**

**Source:** Environment Canada, 1973,  
Manitoba Natural Resources,  
Wildlife Branch, 1989.

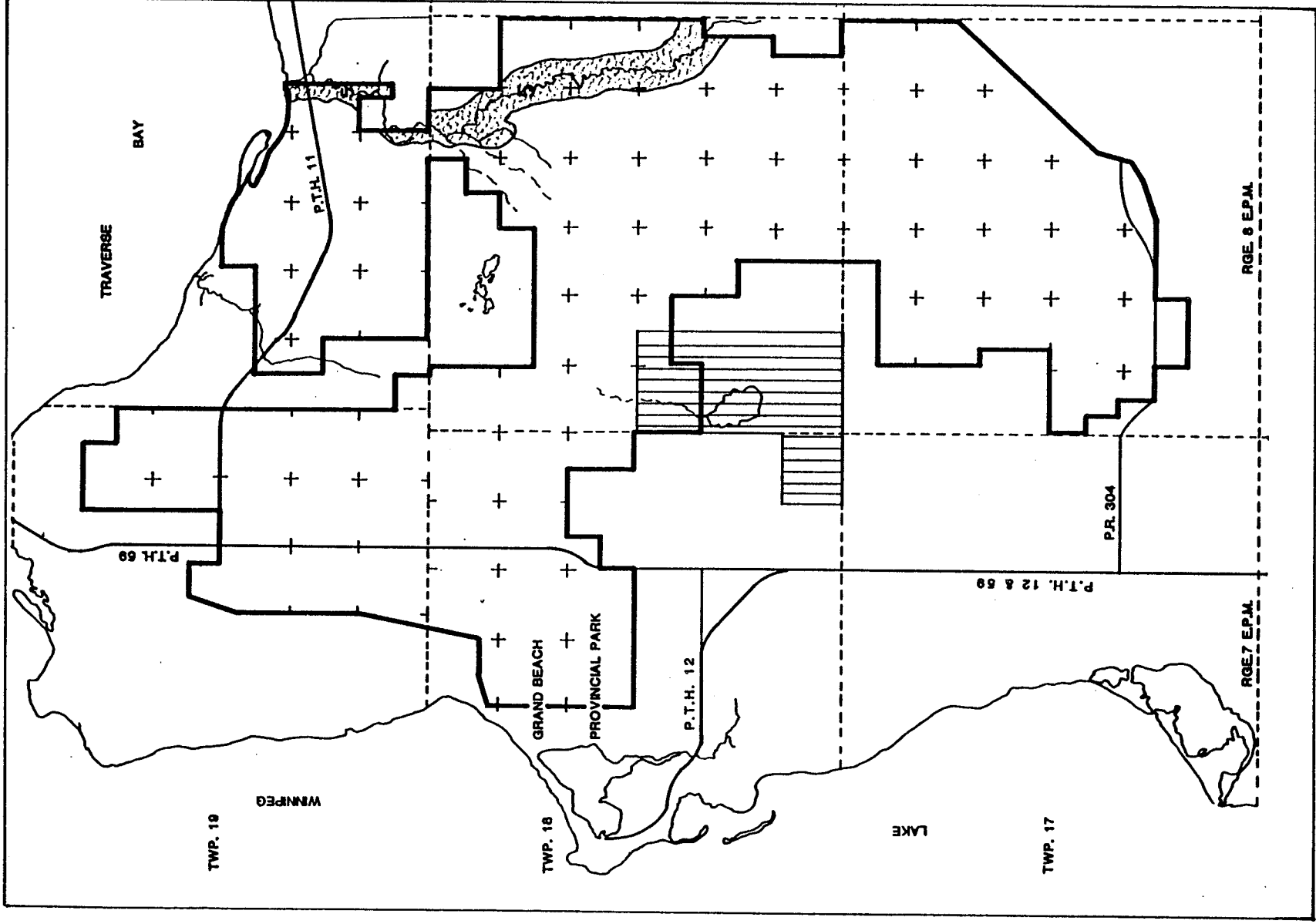


**LIMITS OF STUDY AREA**



0 1 2

**Scale in Miles**





Hawks and owls frequent mature habitats where rodents, grouse, and other prey are numerous (Manitoba Natural Resources, 1986b). Of particular interest to the Department of Natural Resources are sightings of the great grey owl. In Manitoba this species is considered rare/vulnerable. In 1983 Wildlife staff tagged twenty-five owls in order to identify both their breeding range and reproductive success rate. The results of this ongoing study will be presented in a PhD thesis in May of 1991. A general conclusion is that this owl requires the creek corridor as part of its habitat range. The owls prefer the Catfish Creek and adjacent lowlands, either wooded or open. (Figure 26) (Manitoba Natural Resources, 1989i).

# GREAT GREY OWL HABITAT

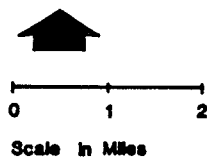
## LEGEND:

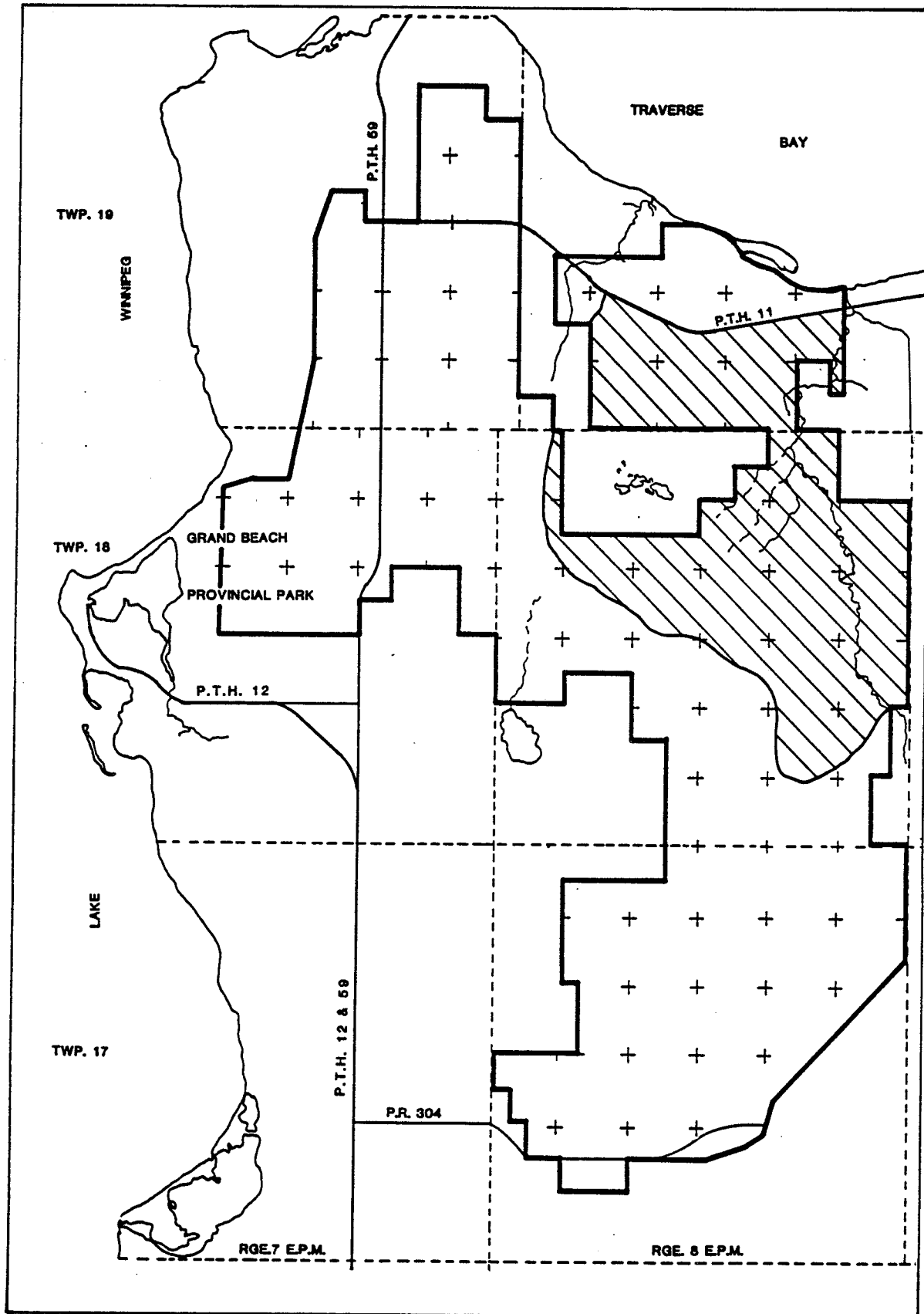
 GREAT GREY OWL HABITAT INVESTIGATION AREA:WINTER

Note: Summer and winter habitat is not believed to differ greatly.  
However, the area's remoteness and abundance of food  
may be a contributing factor to the Great Grey Owl Sitings.

Source: Manitoba Natural Resources,  
Wildlife Branch, 1989.

 LIMITS OF STUDY AREA





### 5.2.2 Wildlife Use and Concerns - Recreation Interaction

Utilization of wildlife in the Belair Provincial Forest is both consumptive and non-consumptive. This Provincial Forest harbors wildlife variously used for subsistence (deer and moose are hunted by Treaty Indians from the Fort Alexander Indian Reserve), and to support trapping, sport hunting, and recreational viewing.

The Provincial Forest is an "open" trapping area (accessible to any licensed trapper). Sport hunting seasons for deer, moose, black bear, wolf, waterfowl, and upland game are designated annually. Treaty Indians hunt these animals for subsistence whenever the animals are available, in accordance with their treaty rights. Since sport hunting is a popular activity it also draws people from beyond the immediate region. People also come to view wildlife, (bird watching, game watching, and wildlife interpretation) for personal enjoyment and education.

Many forms of consumptive and non-consumptive uses of wildlife involve a form of recreational interaction. A significant segment of the public sets aside both money and time to participate in such activities. The enjoyment of the wilderness and the interaction with wildlife are possible because of the proximity of the Belair to access points and the fact that it remains as a wilderness setting. Yet how much intrusion by man and man's commercial and recreational activities can be allowed before the wilderness balance is

irreparably altered? Is it desirable to maintain this balance? These are questions that must be considered for the future use and well being of Provincial Forests.

Of great concern to wildlife managers is the effect of increased use of renewable and non renewable resources and the effect this has on the wildlife habitat. Attention is being focused on potential loss of habitat due to resource utilization and increased access. In order to maintain productive habitat areas special management planning in terms of resource utilization is increasingly urgent. Strategies must be devised to safeguard the wildlife resources where resource extraction has occurred and, as a consequence, access into new wilderness areas has been provided.

### **5.3 Fisheries**

#### **5.3.1 Present Fisheries, Habitat and Capability**

The existing fisheries resource in the Belair is based on Catfish Creek to Traverse Bay. Traverse Bay is subject to a commercial fishing season with an annual harvest of 1.9 million kilograms. Species caught include walleye, sauger, and northern pike, yellow perch, freshwater drum, lake sturgeon, tullibee, burbot, goldeye, channel catfish, and black bullheads (Manitoba Natural Resources, 1986b).

The mouth and lower course of Catfish Creek provide a spawning ground and nursery for fish populations of Traverse Bay. In the past, channelization of the upstream sections by ditches for agricultural purposes, together with beaver damming, caused alteration to the stream flow. These drainage schemes have largely been abandoned. Most of the ditches that now enter Catfish Creek are non functional as hinterland drains (Plate 9). The beaver dams in the upper reaches do not affect spring water levels and, furthermore, permit passage of spawning fish. The prime fish habitat along this waterway must be identified and protected (Figure 27). Jackfish Creek to the northwest is not of equivalent concern because it is not a significant spawning ground or migration route.



**ABANDONED DRAINS ASSOCIATED TO THE CATFISH CREEK**

**PLATE 8**

Figure 27

# FISHERIES HABITAT - CATFISH CREEK

LEGEND:



Major Fisheries Habitat



Drainage Ditches Associated With Catfish Creek

Source: Manitoba Natural Resources,  
Fisheries Branch, 1989.



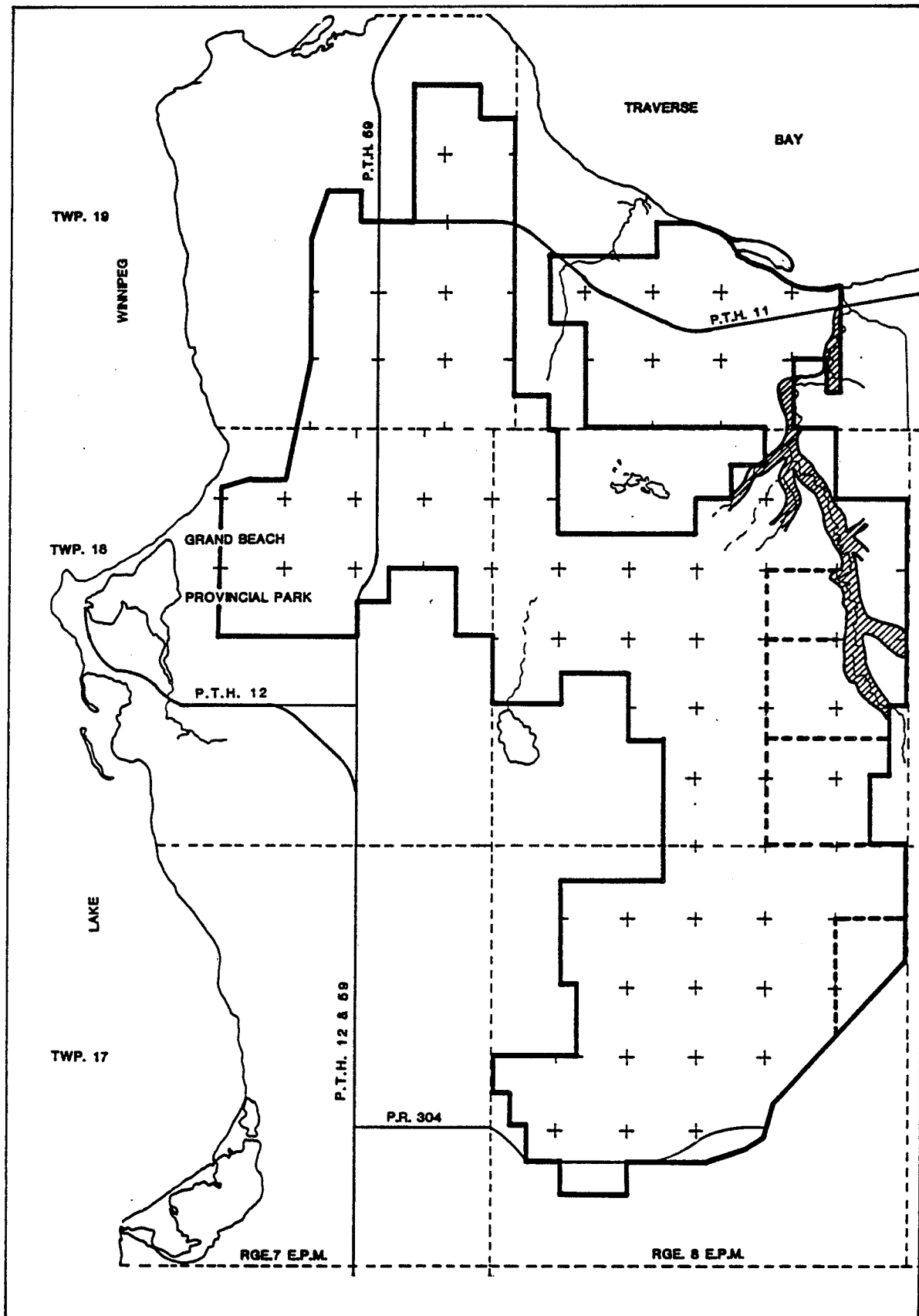
LIMITS OF STUDY AREA



0 1 2

Scale in Miles





### **5.3.2 Fisheries Concerns - Resource Use - Recreational Interactions**

A major concern in respect to Catfish Creek is water quality and maintenance of fish habitat. Since resource development projects related to forestry can negatively impact upon the waterways, management strategies including more careful cutting practices to prevent erosion adjacent to the creek are necessary. All roads, crossings, or ditches need to be carefully planned so that spawning and fish migration in this creek corridor can continue. When drainage ditches for an agricultural experiment were introduced in the late 1940s, these had a destabilizing effect on the waterways and a probable negative impact on fish migration.

In the past, forestry cutting operations in the vicinity of Catfish Creek have occurred mainly in the winter. Land access to the softwood and hardwood supply is via a winter road only that is impassable in the spring, summer, and fall.

Recreational use of the area is not a concern at this time. Access to the waterway is via boat or canoe from the Highway 11 bridge crossing. In the winter access is by snowmobile via the twisting creek corridor (Plate 9).



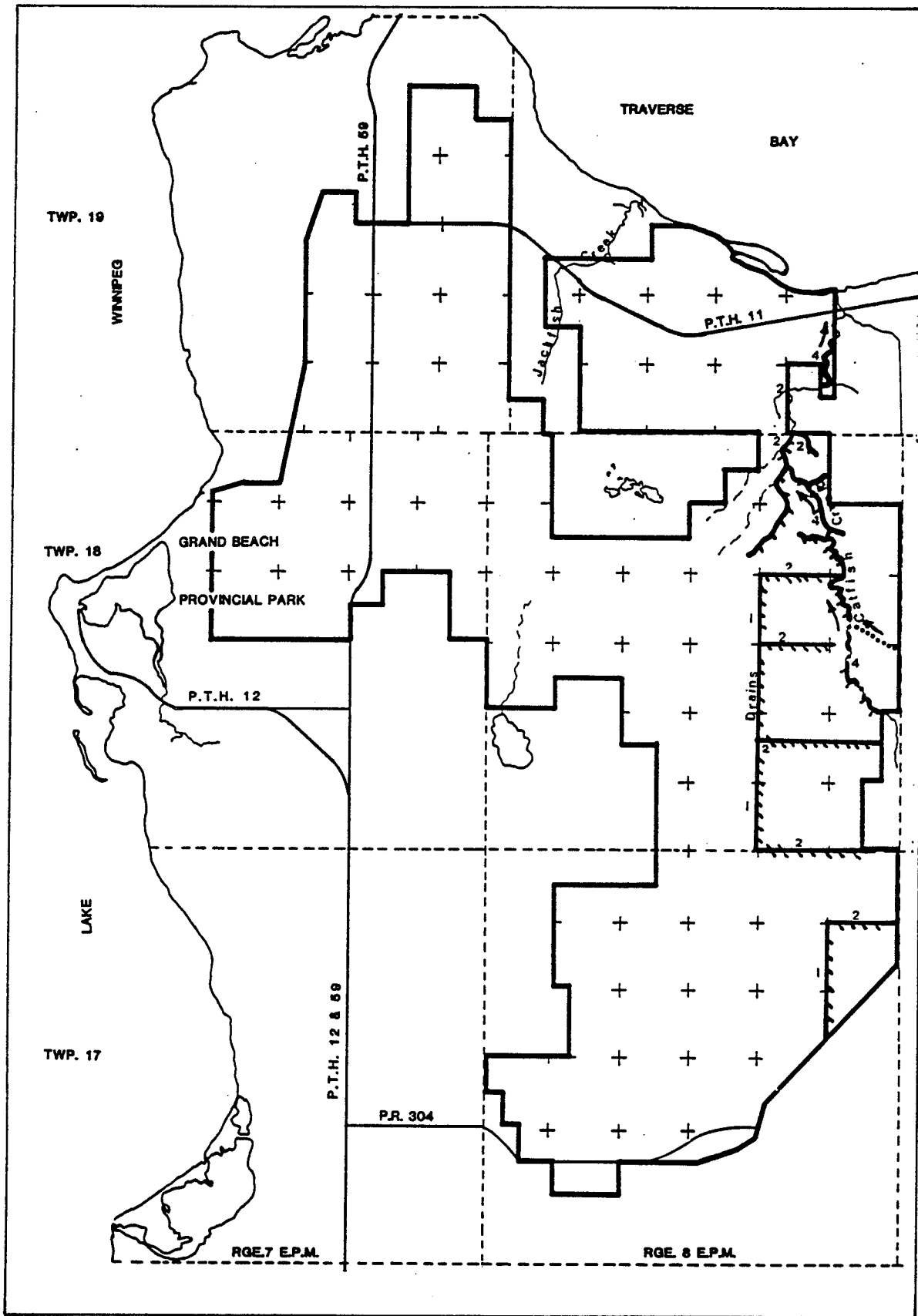
THE CATFISH CREEK AS A WINTER SNOWMOBILE ACCESS

## **5.4 Water Resources**

### **5.4.1 Surface and Groundwater Resources**

The major aquatic feature of the Belair Provincial Forest is Catfish Creek, which is now recognized as important fish habitat. This was not so in the past. The areas upstream from Section 12 of Township 18 Range 8 East (Figure 28) were channelized to support a land development project in the late 1940s and early 1950s (Manitoba Natural Resources, 1986b). Following this, pioneer drains were developed specifically to drain the organic soils both west and south of the Creek. This original agricultural development thrust failed when it was realized that the thickness of the organics over mineral soils, the surface water conditions, and the failure of the drainage system to work prevented successful land development. The present situation is illustrated in Figure 28.

The agricultural development attempt had a direct effect on areas outside the present boundary of the Belair Provincial Forest but little on the resource base of the Provincial Forest. However, when the project failed, the drainage ditches were abandoned and most of them are now overgrown, vegetated, and beaver-dammed. The ditches directly affecting the eastern slope of the Belair are also largely overgrown and vegetated.



The only other active natural channel within the study area is Jackfish Creek, an extremely narrow waterway that sporadically drains the interior wetlands into Traverse Bay. In some cases its channel flow is interrupted as it disperses into bog areas.

The only flooding threats in the area are created by the persistent beaver-damming of both Catfish Creek and Jackfish Creek. However, this has little impact upon the Belair Provincial Forest.

Inspection reveals the presence of aquifer systems throughout the edge of the uplands. However, little is documented about these groundwater resources. This uplands area consists of sandy moraine material that functions as a recharge area. When rainfall and snow melt accumulate the discharge is eastward towards the lower elevations of the plains section of the Manitoba Lowlands.

Another situation significant to the Belair is the presence of glacial and glacio-fluvial deposits (sand, gravel, boulder, till, etc.). They are present in all of the upland area. Here surface and underlying soils are extremely porous and leaching of contaminants into the groundwater can easily occur. It is therefore highly vulnerable to groundwater pollution (Figure 29).

Figure 29

## GENERALIZED GROUNDWATER POLLUTION HAZARD AREA

### LEGEND:



Groundwater pollution hazard area  
where sand and/or gravel deposits may contain  
aquifers or are hydraulically connected to  
deeper aquifers are at or near ground surface

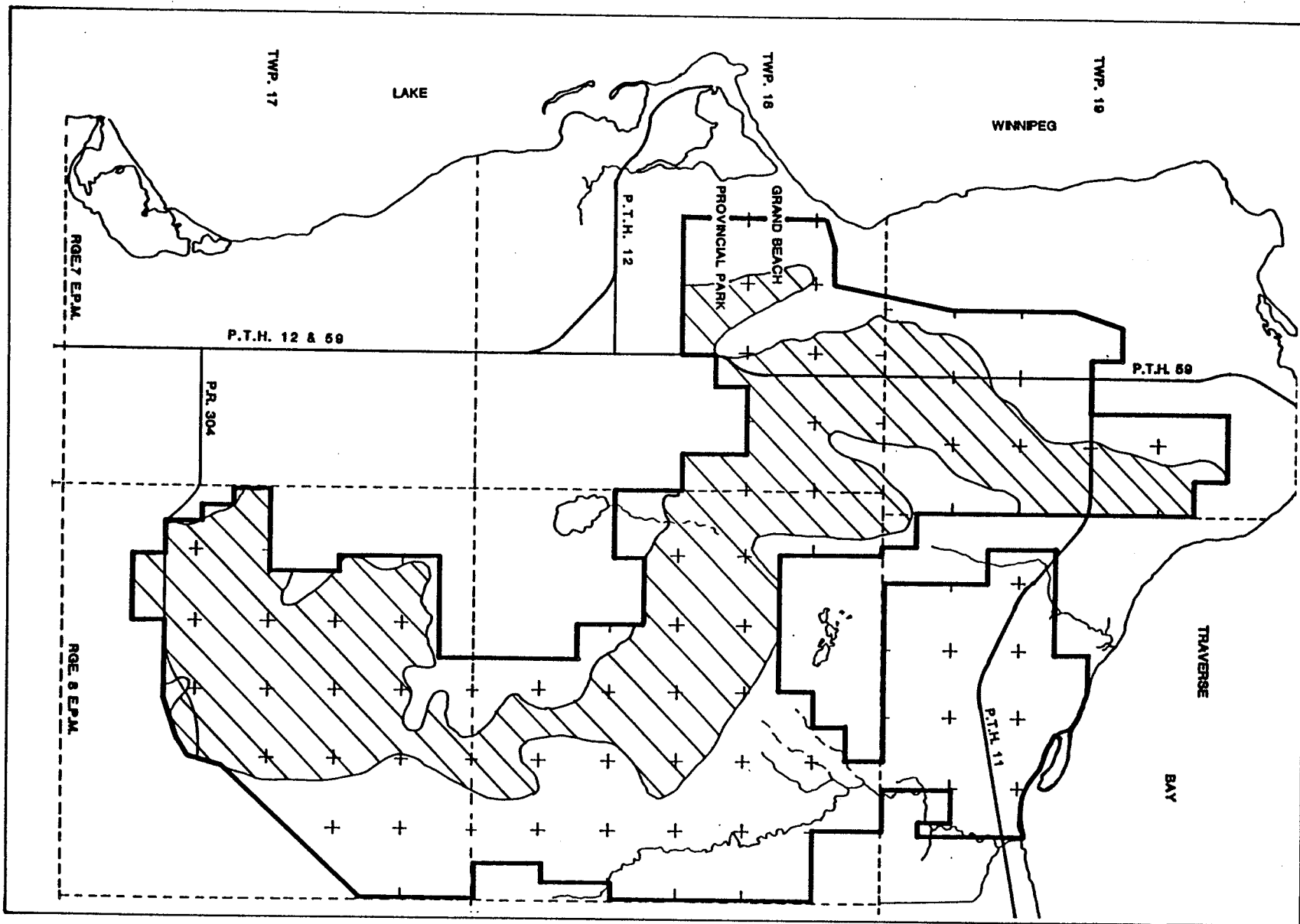
Source: Manitoba Natural Resources,  
Water Resources Branch, 1986-89

— LIMITS OF STUDY AREA



0 1 2

Scale in Miles





#### 5.4.2 Water Resources - Resource Development, Recreational Interactions

At the present time there are no major concerns about water resources in the study area. However, future development of the Belair, with intensive use and permanent site projects, may have a negative impact on water flow and drainage. Any extension of drainage systems into environmentally sensitive areas should be fully assessed prior to implementation (when enforced), and denied when the allowable-impact threshold is foreseen as being potentially exceeded.

Intensive development on upland sites should not be initiated without exhaustive site investigation. Such studies would determine the source and availability of water, whether the development will affect the water supply or alter its natural balance, and whether the development will precipitate a groundwater pollution hazard.

Development could jeopardize aquifers and surface water supplies. Garbage dumping is also a significant threat associated with development in the uplands. In Section 26 of Township 19, Range 7 East, local authorities were forced to close the garbage dump and liquid waste disposal ground. This was due to the leaching of heavy metals and other pollutants into the aquifer. On such elevated sites pollution and contamination of the groundwater has become a major concern (Manitoba Environment, 1988). Inadequately planned

developments would inevitably intensify the problem.

## **5.5 Aggregate Resources**

### **5.5.1 Aggregate Resource Utilization and Its Future Potential**

The subsurface geologic and surficial geological make-up of the uplands exhibits sizable quantities of aggregates (sand and gravel). These aggregates are exploited by commercial companies. The quality and quantity of these materials are largely dependent on the distribution of surface and subsurface deposits created by glacial, proglacial, and periglacial processes.

This morainic and alluvial material presents a varied topography. It can occur as concentrations of gravel and sand of varying composition, underlain and/or interbedded with alluvial materials of fluvial and lacustrine origin.

There are a number of active and inactive quarries (Manitoba Energy and Mines, 1987). Known reserves of aggregates are secured by lease or caveat to various public and private interests.

The mineral potential of the Provincial Forest has also been investigated. Identified sites have been categorized as to particular resource capabilities and are prioritized by the Mines Branch for future investigation (Figure 9).

### 5.5.2 Aggregate Resources - Natural Resources - Recreational Resource Interactions

The extraction of aggregates is largely dependent on demand. The cost of development, transportation costs, and proximity to market must be considered. Extensive deposits of aggregates have been set aside via mineral lease and land classification (Crown Land Classification), to be developed when required.

Aggregate extraction bears a direct relationship to other resource uses. Mineral extraction requires road access and results in forest cover depletion and scarring of the landscape. Since Provincial Forests are designated as multi-use areas, aggregate removal may be permitted, subject to site rehabilitation. New approaches to the rehabilitation of depleted quarry-sites are urgently needed, yet little has been accomplished to remedy the associated disruption of terrain in the Belair Provincial Forest.

Where abandoned quarries remain, they have often been spontaneously used for "unintended" recreational purposes. With the advent of the all-terrain vehicle and other motorized vehicles that permit off-road use, depleted pits have become public gathering places for races, hill climbs, and other off-road activities.

An alternate use of depleted aggregate pits is for garbage dumping. Uncontrolled accumulations of junk, wrecked cars, tires, and other refuse are common. Pits that are utilized in this way are an eyesore and a potential hazard to groundwater.

## 6. Recreation

Because of the pressures and hectic pace associated with urban lifestyles, people are escaping to the comparative quiet of the "wilderness" to obtain relief. Usually this escape to simpler surrounding takes place on weekends or after working hours. The "wilderness" setting can be any natural area that is relatively untouched by commercial activities and human population. Recreation can be any pleasurable pastime engaged in by one person or a group. It is "an action that refreshes the mental attitude of an individual" and is engaged in because man is seeking pleasure and diversion (Douglas, 1982).

The individual who works all day, the housewife who labors at home all day, both require a refreshed perspective that can be promoted by a change in their environmental situation. There is a priority to disassociate oneself from the monotony of daily routine. Such recreational diversion is worthwhile and necessary. Therefore, outdoor recreational activities of whatever form, if they achieve the sought-after relief from monotony and stress, realize comparable benefits to the individual. "Recreation revitalizes the spirit, it restores a person's vitality, initiative, and perception of life, thereby preparing the individual to return to his work" (Douglas, 1982).

Outdoor recreation tends to involve leisure-oriented activities that interact with the environment. For the

purpose of this study "outdoor recreation" is more narrowly defined to refer specifically to "forest recreation". The forested setting can be a semi-wilderness or wilderness within a Provincial Forest, Provincial Forest/Provincial Park, or Provincial Forest/Provincial Wildlife Management Area.

Forest recreation appears to be increasing and changing in many areas of the province, particularly the Belair Provincial Forest<sup>1</sup>. The pursuit of forest recreation is particularly prevalent in areas close to centres where people wish to escape from urban pressures. In Manitoba many different forms of forest recreation are pursued.

Traditional forms of forest recreation include such activities as nature viewing, sport hunting, wandering, and the viewing of wildlife. More recently recreational activities have come to include the use of motorized vehicles such as snowmobiles, all-terrain vehicles, motorcycles, and other four-wheel drive vehicles. Hence, the recreation-seeking public utilizes the forested areas more than ever before.

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<sup>1</sup> Information about increased and changing recreational use for the Belair Provincial Forest was obtained from regional forestry personnel, unofficial forestry field notes, personal interviews of local residents and store owners in the Belair district, statistics of increased leisure homes in areas close to the Belair, and statistics on all-terrain vehicle licences. Data for American forest recreation use shows increase and change, see Douglas, 1982. No comparative accumulated data for Manitoba's Provincial Forests have yet been collected.

### 6.1 The Popularity of Recreation in Manitoba's Outdoors

For those who seek wilderness areas for recreation, the possibilities are numerous. Many studies have been completed to determine which activities are carried out in specific areas and which areas are the most popular (Hammit and Cole, 1987; Douglas, 1982). Outdoor recreation is becoming increasingly popular with Manitobans and visitors who engage in a variety of summer and winter pastimes in provincially administered forest areas. Although there are no data on exact numbers of people who frequent Provincial Forests and Provincial Wildlife Management Areas, there are sufficient comparable statistics on the outdoor recreational use of Provincial Parks.

In 1987 (May-Sept.) for example, a total of 1,689,909 vehicles were recorded entering Manitoba's Provincial Parks (Manitoba Natural Resources, 1987b). This represents a total of 5.9 million visits, assuming 3.5 persons per vehicle.<sup>2</sup> This is a substantial increase over 1977, when 1,152,256 vehicles were recorded during the same time period (Manitoba Tourism, Recreation and Cultural Affairs, 1977). Using the same 3.5 persons per vehicle, this represents 4.3 million visits or roughly a 27 percent increase in one decade. The recreational expectations of people who visit Provincial Parks vary substantially, between intensive and extensive. In

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<sup>2</sup> 3.5 persons per car is the average number of automobile occupants used in statistical computations by Manitoba Parks Branch.



Manitoba, some of the most notable consumptive demand relates to summer homes and camping. Summer home users are indicators of a desire to have quasi-urban amenities in a wilderness setting away from a primary residence. Users who choose to locate in rural and semi-wilderness areas also indicate a perceived need for a more "natural" environmental setting as an integral part of their personal lifestyle. At the present time there are approximately 6000 leisure homes on Provincial Crown Lands in Manitoba (some subdivisions outside of parks have since been registered and lots within them have become private). Of this number, 37 percent are in Southern Manitoba (Barto and Vogel, 1978). Most of the summer homes are also within a 160-240 kilometre radius of a major urban centre.

Camping in Manitoba is another indicator of a growing need by Manitobans to escape their day-to-day urban lifestyle. In 1987 Manitobans accounted for 82 percent of the total use of Manitoba Parks campgrounds (Manitoba Natural Resources, 1988). In 1987, 386,452 unit days were recorded in Manitoba. In 1977 a total of 309,441 unit days were recorded. The increase (77,000 unit days) represents a relatively modest increase of approximately 25% but nevertheless indicates a growing trend by Manitobans to associate themselves with recreational opportunities away from their every day urban lifestyles.

A review of these figures indicates that the increase in use of Provincial Parks emanates largely from urban centres,

chiefly Winnipeg. In Manitoba, it appears that the bulk of outdoor recreational demand is directly back-coupled to the general trend toward increased urbanization. Greater Winnipeg's population alone now encompasses 57 percent of Manitoba's total (Statistics Canada Report, 1989).

As Manitoba's population becomes more urbanized, the demand for outdoor recreational areas may be expected to continue to increase. There will then be greater demands on Provincial Parks. Observation indicates that similar demand pressures are to be anticipated in Provincial Forests.

## 6.2 An Overview of the Recreational Demand On Provincial Forested Areas

In 1911 the population of Winnipeg was 142,000 (Barto and Vogel 1978). As early as 1912 (Barnfather and Lemoine, 1978) people from Winnipeg were becoming interested in forest, shoreline, and semi-wilderness leisure-related activities. At that time some attention was becoming focused on the southern shoreline of Lake Winnipeg. The Grand Beach area is one example where the shoreline and backshore held such appeal that people from urban centres were willing to travel by trail (horse) and by boat via the Red River to Lake Winnipeg to reach it. The demand led to the eventual construction of a railway line linking Winnipeg to Grand Beach, and later to Traverse Bay and Victoria Beach. The Canadian Northern Railway Company built the line between 1914-1916 and further purchased a 150 acre parcel at Grand Beach in order that a permanent recreation area could be developed. Traverse Bay and Victoria Beach eventually developed into major seasonal home vacationing sites.

As the popularity of transient leisure-oriented recreational activities grew in Manitoba, so did the demand for additional outdoor recreational areas. Prior to the 1930s, areas such as the Riding Mountain and Turtle Mountain Forest Reserves were subjected to only sporadic recreational use. Only a few forestry trails penetrated these areas for camping and hunting purposes. However, it was not long

before more permanent recreational activity followed - cottaging.

After the administration of Natural Resources was transferred to the Province of Manitoba in 1930, a tract of land in Eastern Manitoba (Whiteshell) and the Riding Mountain Reserve were both considered for National Park status. These significant natural resource areas were consequently assessed also for prospective alternative outdoor recreational development. Eventually the Riding Mountain Forest Reserve was chosen to become a National park. However, this offered no practical relief in respect to the still increasing demand by urban populations for outdoor recreational sites near Winnipeg (Somers, 1964). Areas such as Grand Beach, Belair, Lester Beach, Traverse Bay, and Victoria Beach continued to receive transient and later a substantial cottaging pressure.

In recognition of the growing outdoor recreational demand of the 1930s, the Provincial Government considered utilizing the Provincial Forest Reserves for outdoor recreational purposes. As early as 1931, when the Whiteshell Provincial Forest Reserve was created, forestry planning as well as some preliminary outdoor recreational strategies were implemented. In fact, the Provincial Government was deeply concerned, and determined to "stem the flow of Winnipeggers" to resort areas outside the Province, a concern enhanced by the prospect of new roads that linked Manitoba with resort areas in Northwestern Ontario (Somers, 1964).

Outdoor recreational development in the Whiteshell began in 1932, with expansion of surveys and road access. West Hawk Lake, Caddy Lake, and Falcon Lake were the sites selected and eventually campgrounds and related facilities were provided. In the ensuing years of economic depression the Provincial Government sent work crews into the Falcon-West Hawk, Brereton, and White Lake areas to establish similar recreational facilities. The Federal Government also sent workers to Riding Mountain to establish recreational projects there.

Provincial campgrounds, recreational areas, and road access were all established within existing Provincial Forest Reserves in Southern Manitoba. It was only for a brief period during World War II that these "demand-related" projects were accorded a reduced profile. After the war the expansion of outdoor recreational projects accelerated. The Duck Mountain area received roads and recreational campgrounds and waysides. In the Interlake, roads were built to Lake St. George, for which campgrounds and future cottaging areas were designated. Provincial recreational programs were expanded or introduced in the Whiteshell, Duck Mountain, Turtle Mountain, Cormorant, and North West Angle Forest Reserves (Somers, 1964). The Lands Branch of Mines and Natural Resources also laid out some of the first recreational subdivisions on undesignated Crown land outside the forest

reserves. Many of these subdivisions were created in southeastern Manitoba along the Winnipeg River, Lee River, and Lac du Bonnet (Somers, 1964).

The late 1950s and mid-1960s were activity-filled years in Manitoba in terms of government initiatives and the challenges of meeting the many and varied recreational needs of Manitobans. The Falcon Lake summer townsite, which included the construction of an 18-hole golf course was planned. Roadside parks were created along the Trans-Canada Highway, and a substantial parcel of land which became the central area of Grand Beach Provincial Park was purchased from the Canadian National Railway. These activities prompted reorganization within the Department of Mines and Natural Resources (1960-62), resulting in the devolution of recreational planning, development, and administration to the newly created Parks Branch (Somers, 1964).

Outdoor recreational activities that developed in Manitoba's Provincial Forest Reserves were incorporated into a multi-use strategy, incorporating the goal of providing quality outdoor recreational areas to the public.

### 6.3 Traditional and Contemporary Forest Recreational Uses

For the most part, Manitoba's Provincial Forests have not been developed for intensive recreational use. Only those areas that are under joint jurisdiction have been subject to sustained recreational development. The question is whether this will change, and, if so, should planning of forest use be so structured as to encompass the full range of anticipated requirements?

Consistently, traditional recreational use of Provincial Forests has been extensive not intensive, as in Provincial Park Lands. Extensive uses refer to those outdoor recreational uses that have no permanency and no operational infrastructure. They include wandering, viewing of flora and fauna, hunting, fishing, horseback riding, cross-country skiing, cycling, snowmobiling, all-terrain vehicle riding, motorcycling, and other activities.

Intensive use tends to be persistent and involves a more permanent infrastructure, for example, lodge sites. These uses are accommodated in jointly managed Provincial Forest/Provincial Park lands. They generate considerable impact on the surrounding terrain and need to be planned and managed in accordance with an appropriate land-use strategy.

Until the mid-1960s extensive recreational uses in Provincial Forest lands involved limited access to forested areas by automobile on permanent roads, and the using of one's own initiative in respect to recreation. After the mid-1960s

the successful promotion of snowmobiles and all-terrain vehicles completely changed the method and scope of access.

All these motorized recreational vehicle types are used in Provincial Forests today, for commercial as well as personal purposes. Their users operate individually or in groups or organized clubs. In Manitoba, to date, there has been no real measurement of the extent of this use in Provincial Forests. However, observation and further investigation by Regional Services personnel of the Department of Natural Resources indicates that the use of these vehicles is increasing in some Provincial Forests, Provincial Park Lands, and Wildlife Management Areas (Manitoba Natural Resources, 1989j).

Some data have been accumulated on the negative impact of these vehicles on flora and fauna (Baldwin, 1970). These related findings shed some light on the impact of increased access upon forest land. There are increased fire starts during the summer months, with a potential for additional fires. Both legal and illegal hunting have increased, and once isolated-remote wildlife habitat is now impaired and/or disrupted.

Statistics indicate that the bulk of both snowmobile and all-terrain vehicle users are residents of Southern Manitoba, south of the 53rd parallel. (Table 8) (Figure 30). Of the 22,599 snowmobiles and all-terrain vehicles requiring licences, registration, and insurance in 1989, 19,968 were

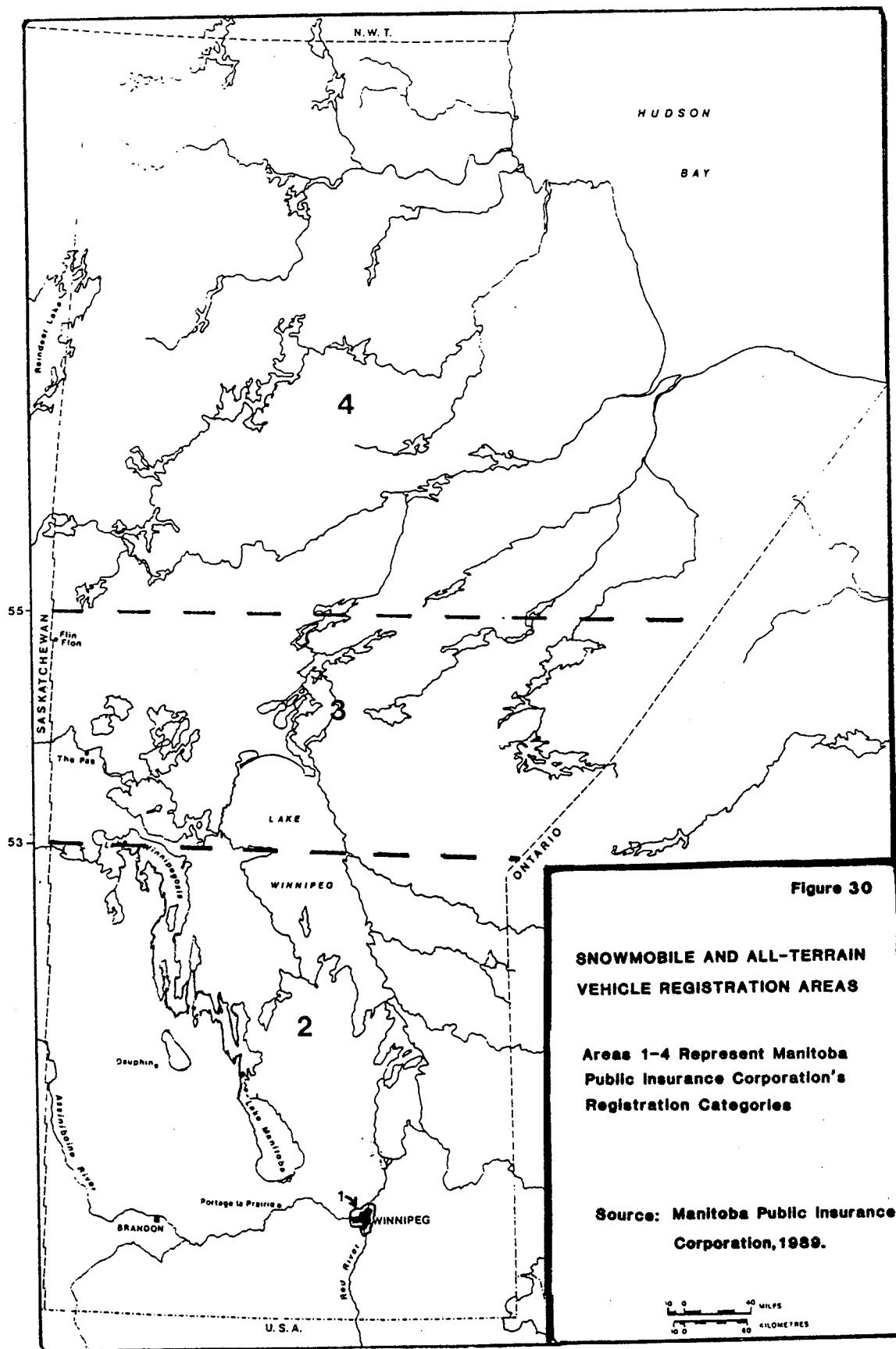


**Table 8**  
**Snowmobile and All-Terrain Vehicles Registered**  
**as of Sept. 1989**

	Snowmobile <sup>1</sup>	3-Wheel A.T.V.	4-Wheel A.T.V.	5-Wheel A.T.V.	Off-Road Motor- cycle	Amphian	Sports Buggy	4-Wheel Drive Motor Vehicle	Total of Motorized Off-Road Vehicles
Area 1 (Winnipeg area only)	6169	751	535	4	298	19	11	4	7,791
Area 2 (Area south of the 53 parallel)	9403	1368	1128	16	215	34	9	4	12,177
Sub-Total	15,572	1443	1663	20	513	53	20	8	19,968
Area 3 (Area north of the 55 parallel)	997	96	88	1	21	1	1	2	1,207
Area 4 (Areas between the 53 parallel and the 55 parallel)	1156	129	114	1	18	6	0	0	424
Sub-Total	2153	225	202	2	39	7	1	2	1,631
Total	17,725	2344	1865	22	552	60	21	10	22,599 <sup>2</sup>

<sup>1</sup>On September 1/89 snowmobiles were classified as an all-terrain vehicle. All future data will reflect this grouping.

<sup>2</sup>Actual numbers can be misleading since insurance is issued on a yearly basis yet licensing is for a three year period. Whether individuals keep up second and third year insurance has not been classified.



from Winnipeg and Southern Manitoba. Of these, 7,791 or 39 percent of such vehicles were owned by residents of Winnipeg, which has no areas within the Perimeter Highway in which these vehicles can legally operate (Manitoba Public Insurance Corporation, 1989). Much of their operation hence devolves on the Provincial Parks, Provincial Forests, and Wildlife Management Areas close to Winnipeg, especially as much rural private property is now posted, and trespass laws have been tightened.

This contemporary form of outdoor recreation attracts a fairly specific additional user-group into wilderness and semi-wilderness areas. As a result, access into remote areas is increasing.

The increasing demands for outdoor recreational opportunities are precipitating a directional change in the general public's attitude as to the purpose of Provincial Forests. The Belair Provincial Forest, for example, now is subject to a broad range of recreational activities, while its principal role remains that of a forestry-resource production area.

#### 6.4 Perceptions of Forest Use and Citizen Rights in Manitoba

Provincial Forests are increasingly appealing to recreation seekers because they have become more easily accessible. They are less crowded than the organized areas of Provincial Parks, and they are more isolated than other developed recreational areas in the Province.

Is the traditional use of forest land in Manitoba changing? What are people's opinions as to designated forested lands in terms of alternate and multiple uses? The answer to these questions becomes apparent from the evaluation of a Canadian Forestry Service's questionnaire response (Canadian Forestry Service, 1985). Six hundred Manitobans were interviewed - 300 from Winnipeg and 300 from rural and remote areas. The principal objectives of the questionnaire were to obtain a clear understanding of the public's awareness of the social and economic benefits of Manitoba's forests and the public's attitude towards forest management and development.

There were also several categories of questions that related to the recreational use of Manitoba's forests. Respondents from Manitoba indicated an interest in utilizing Provincial Forests for recreational purposes. In fact, tourism and recreation were ranked the most valuable uses of Canada's forests. Surprisingly, commercial uses and lifestyle necessity uses were rated lower in importance. This rating

Manitoba ranked second in a national survey, with 66 percent of respondents valuing recreational and leisure pursuits over livelihood related aspects.<sup>3</sup> A further conclusion of this survey was that a large proportion of Manitobans frequently visit their Provincial Forests and have a personal familiarity with them.

The results of the survey indicated that the general public appreciates many aspects of Provincial Forests and wishes to have them available for a variety of outdoor recreational pursuits. If the Provincial Government does not plan for the anticipated escalation in recreational activity on public lands, future conflicts between commercial forestry interests and outdoor recreational users could occur.

Some indication of potential conflict is indicated in the same questionnaire. In a response to the question "Should government get tougher with forest companies through stricter

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<sup>3</sup> The 1989 National Survey of Canadian Public Opinion on Forestry issues conducted by Environics Research Group Limited, advised that 21 percent of their representative Canadian respondents advised that the country's forests to them consisted of "beautiful scenery" or "as places for relaxation".

On a national scale the importance of all Canadian forests is appreciated. This national survey recently completed, centred its focus on a range of forestry issues. The central emphasis included: wood supply and forest land use, forest renewal, environmental protection, forest management and forestry protection.

What is particularly interesting is the representative Canadian response of 21 percent regarding Canada's national forests for recreational related benefits.

Source: Environics Research Group, 1989.

environmental controls?" most answered "Yes". In Manitoba, 82 percent of respondents agreed that such action should be implemented. Judging by the increasing use of forest environments people want them to be protected for future uses. These future uses include the public's continued recreational/leisure activities. Ironically, the evidence of fire incidence, landscape disruption and disturbance and harassment of wildlife by "recreationists" suggests feeble development of concepts of personal responsibility.

Many Manitobans do not fully appreciate the importance of the Provincial Forests for wood production and as a contributor to the provincial and national economy. This was indicated by the answer to other survey questions. Forty percent of respondents in Manitoba said that "it would be all right to convert some forest lands to either agricultural or urban uses". Another fifty percent of the respondents were of the opinion that the public's perception about the importance of "intact" forest areas is not of importance. This implies that the general public does not fully understand, nor are they fully educated about, the purpose of Provincial Forests.

The findings of the survey suggest that the public needs to be better informed about forested areas: what they are, where they are located, type of terrain, wildlife they support, commercial uses, and long-term strategies. They must know about forest ecosystems yet understand how forests can

be harvested and regenerated. Responsible use is essential and only an informed public can make reasonable decisions.

Manitoba forests contribute directly to industry and the provincial economy. Alternate uses of forest lands, uses that support recreation and leisure must, however, also be considered. People should have a right to enjoy the forests and, with proper planning, conflicts of interests need not arise. Outdoor recreational activities can be compatible when strategies to accommodate them are in harmony with other forestry activities.

### 6.5 The Growth of Recreational Activities in the Belair Provincial Forest

As late as the mid 1950s recreational growth was not a major issue in this part of eastern Manitoba; the Lake Winnipeg-Traverse Bay area had up to that time experienced only moderate recreational development. Development was concentrated at Grand Beach, Albert Beach and Victoria Beach. Beyond these locations, the Belair-Lester Beach, Hillside Beach, and Traverse Bay, which are currently experiencing intensive recreational development, were then semi-wilderness areas (see aerial photo coverage, 1955, compared to the 1986 photo coverage, Figure 31A-31E).

In the 1950s permanent summer cottages in this area represented only a small segment of Manitoba cottagers. Day-use of the east-shore Lake Winnipeg beaches during the summer months was popular, with Grand Beach the preferred destination, followed by Traverse Bay and Victoria Beach. In the 1950s recreational demands in the Belair Provincial Forest were associated primarily with the shores of Lake Winnipeg, not the interiors of the forested lands. The Belair Provincial Forest, therefore, was not seriously affected by recreation-seekers other than those few individuals who invaded the backlands in search of big game and upland game.



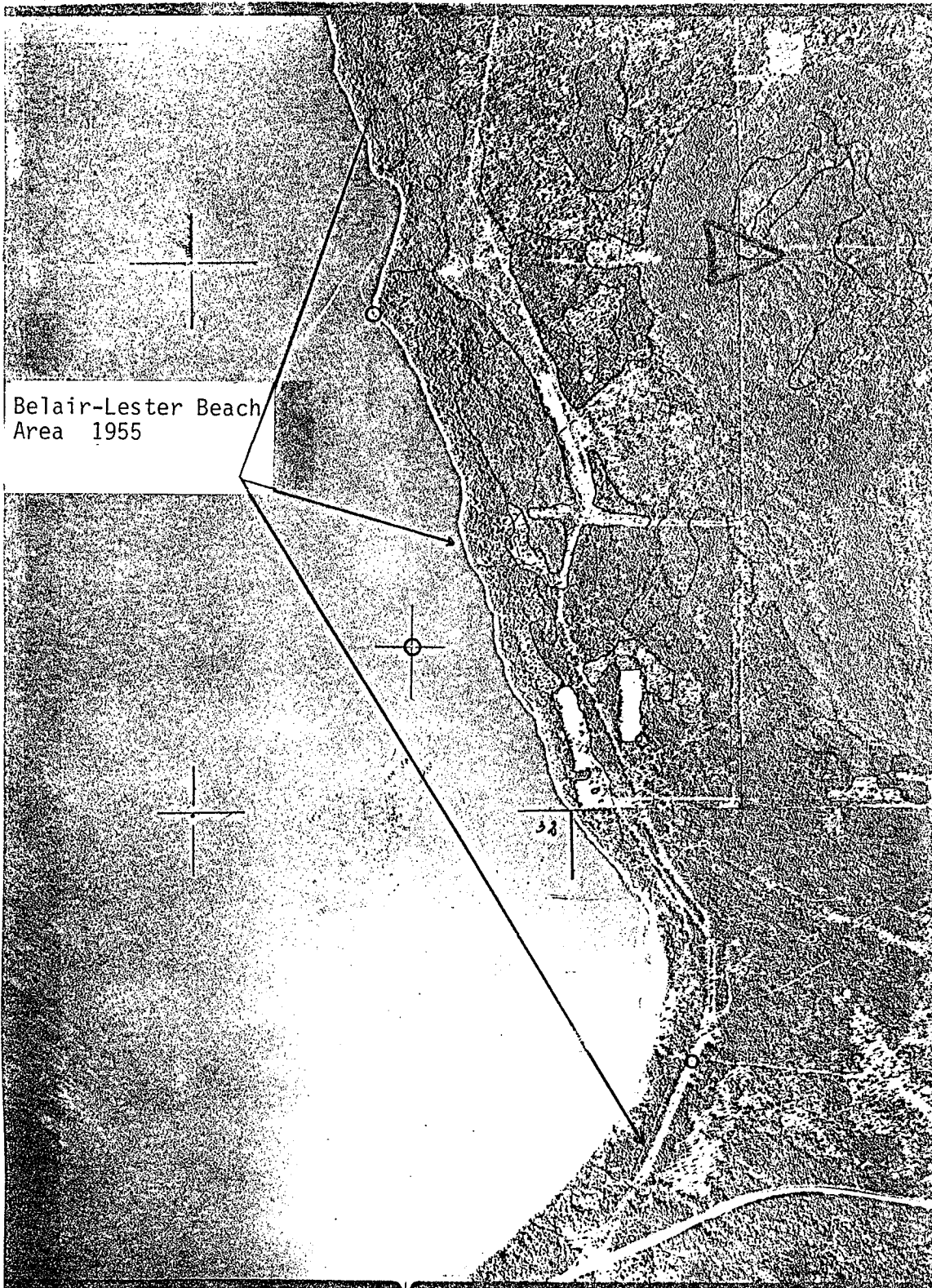
**Figures 31 A, B, C - 1955**

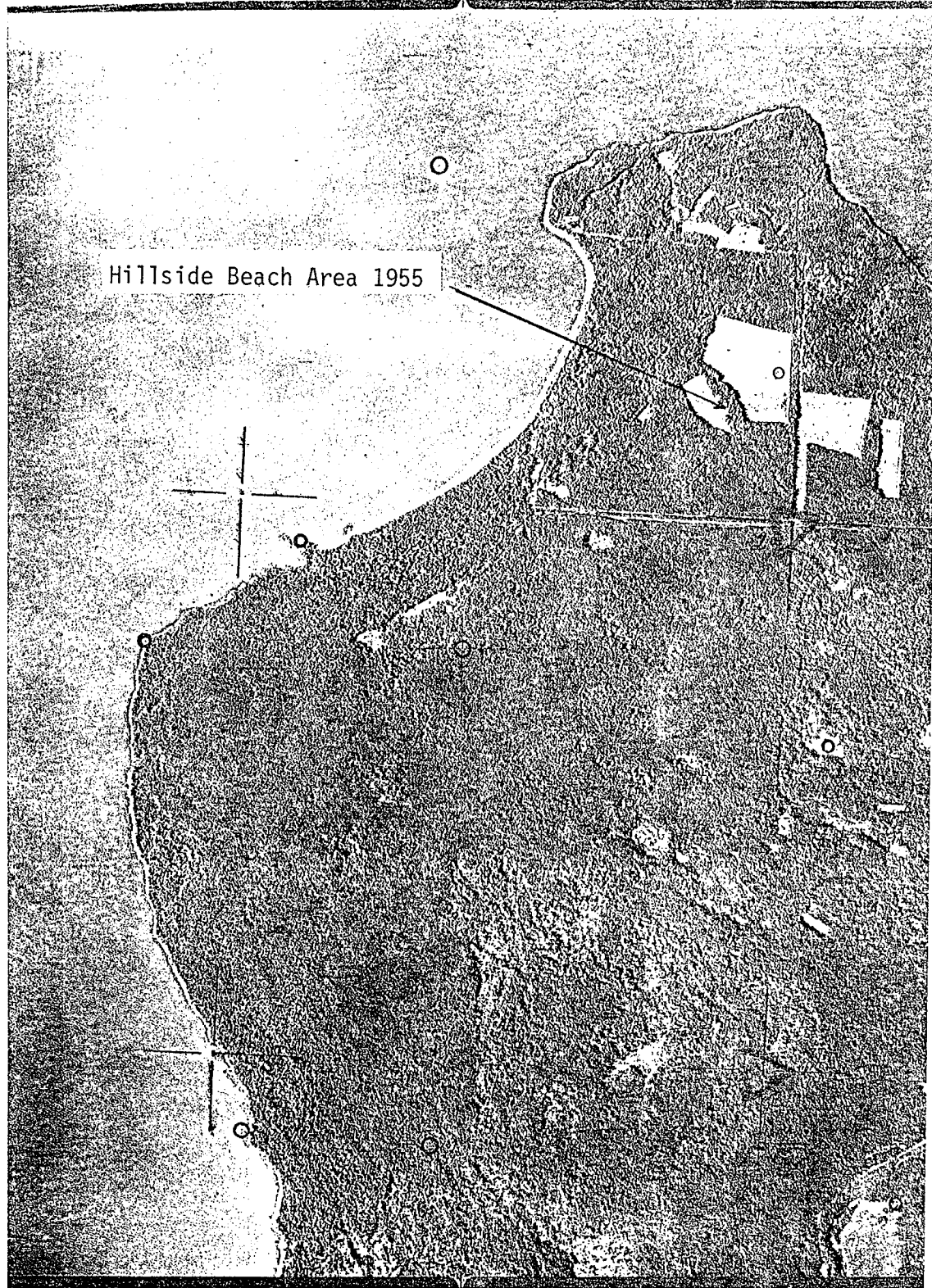
Aerial view of the Belair-Lester Beach, Hillside Beach, Traverse Bay shoreline and inland areas with little recreational development.

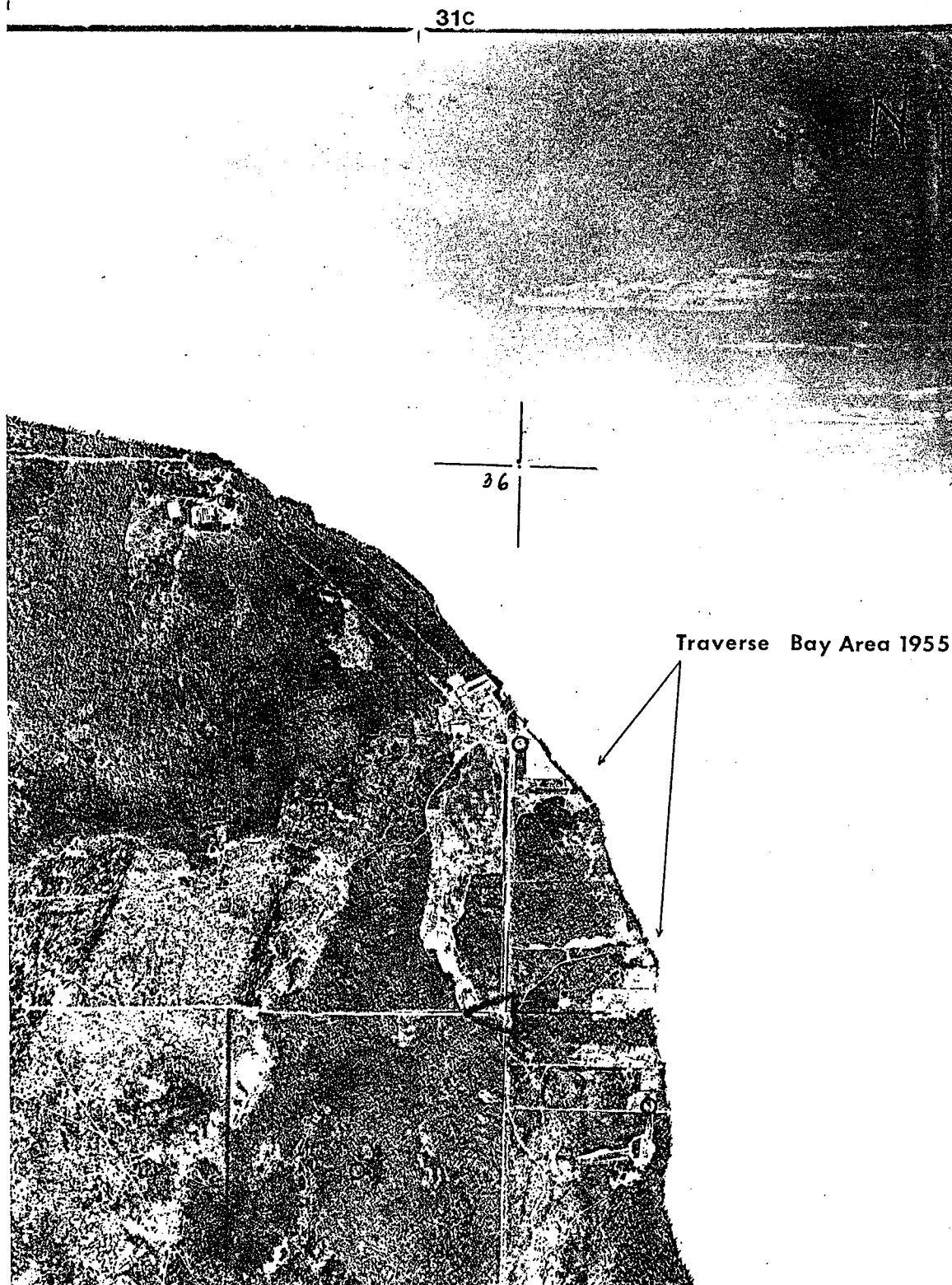
**Figures 31 D, E - 1986**

Aerial view of the Belair-Lester Beach, Hillside Beach, and Traverse Bay shoreline and inland areas exhibiting extensive recreational development.

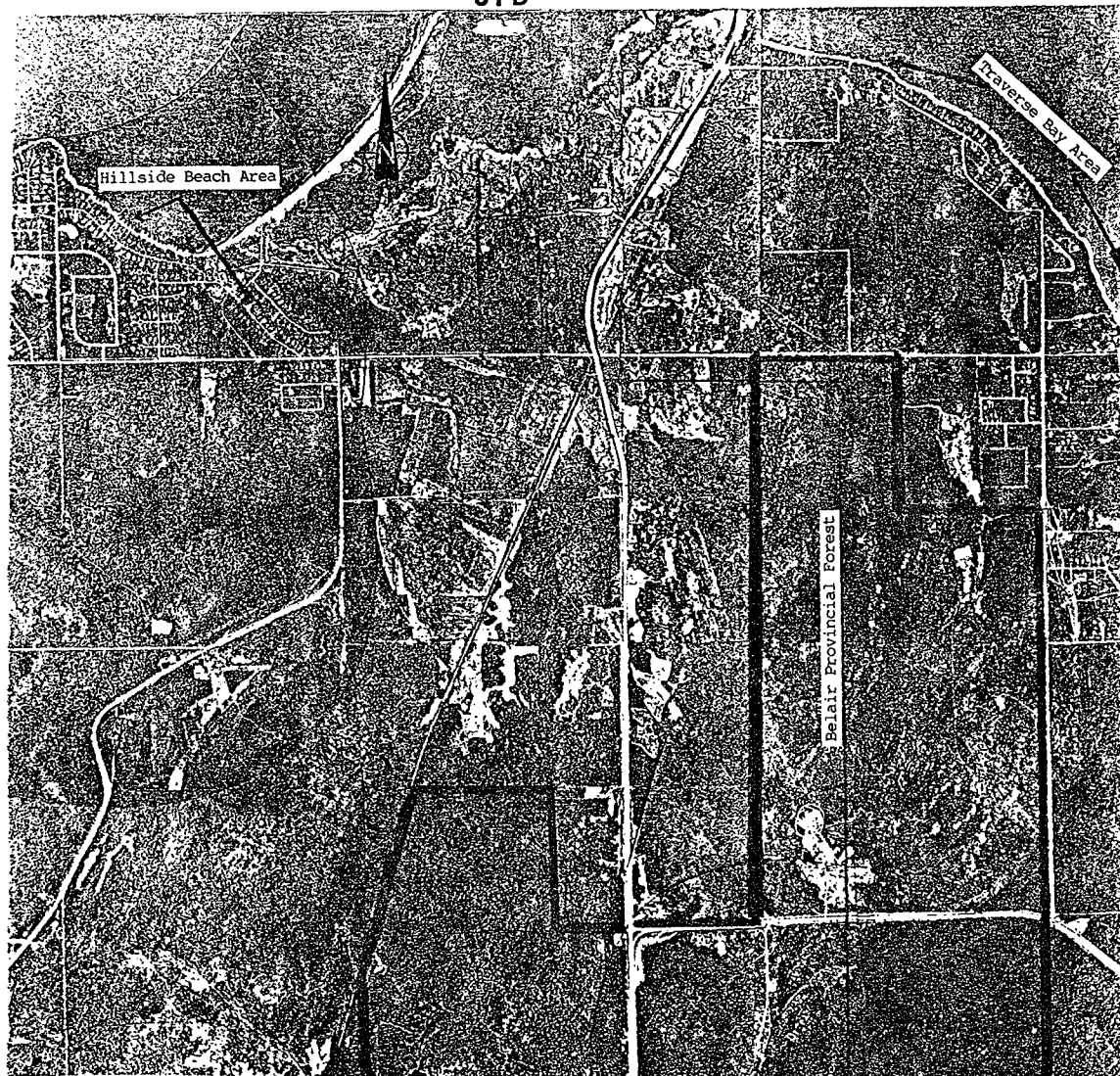
31A



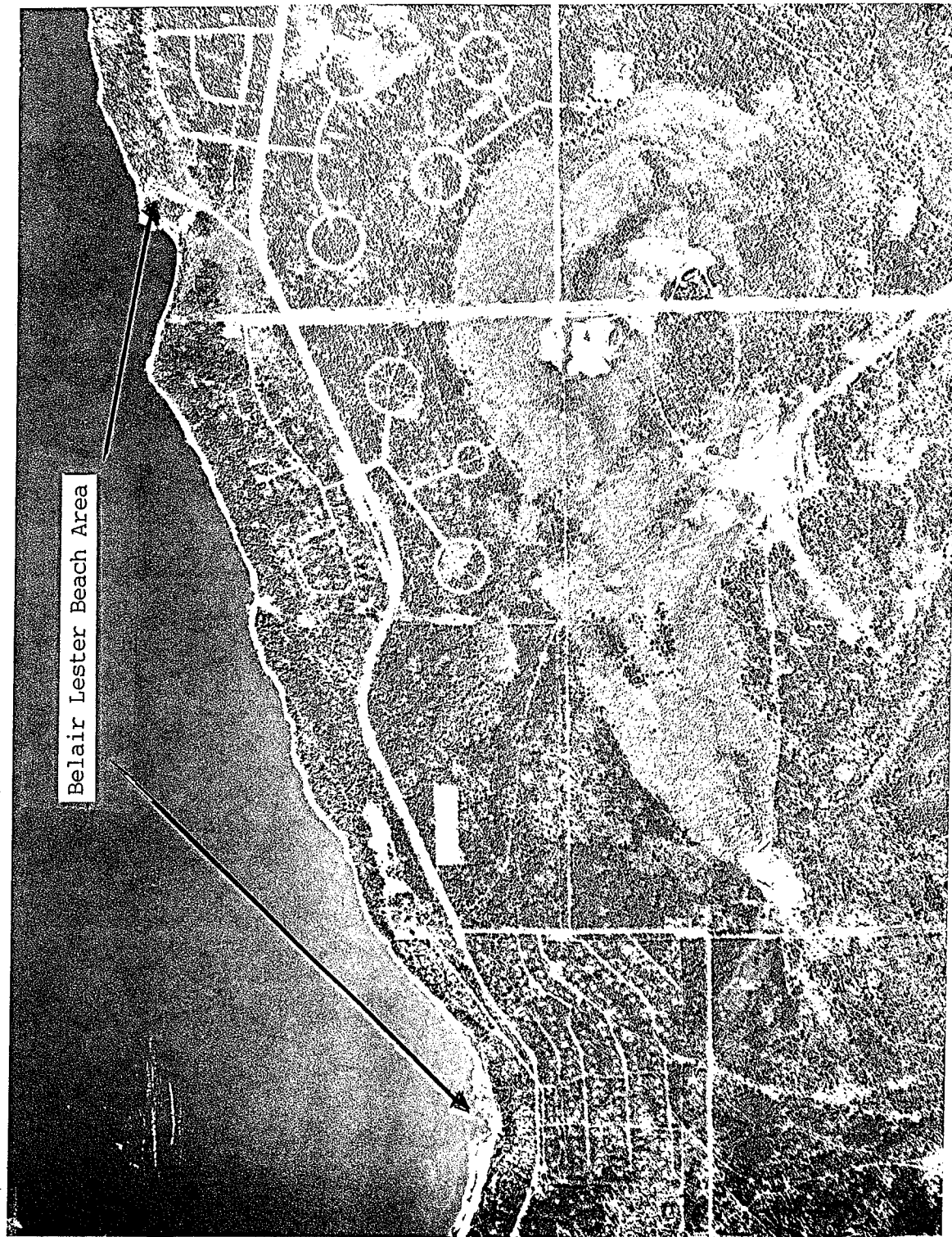




31D







By the 1960s the recreational demands on the Lake Winnipeg-Traverse Bay area had begun to change. This area, like many other attractive rural areas in Canada and the U.S.A., experienced a recreational surge. This was probably the outcome of the changing social environment of North America. The 1960s and '70s saw widespread increase in leisure time, incomes, education, and awareness, and an increasing appreciation of the environment (Butler, 1982).

A consequence of this change was that urban populations wanted to have greater opportunities to interact with non-urban environments. The recreation-related changes that occurred in the Lake Winnipeg-Traverse Bay area were one result of this phenomenon, which encompassed also a rapid increase in the use of the Belair Provincial Forest for recreational purposes.

Urbanites had more weekend leisure time, longer annual vacations, higher family incomes, and greater mobility. These facilitated escape from the congested urban environment to areas where they could relax and enjoy unstructured leisure time. The Lake Winnipeg-Traverse Bay area was a desirable site. Relatively short distance from Winnipeg, adequate road access, scenic quality, and contrast with the urban/prairie landscape associated with Winnipeg made it a favored destination.

## MAJOR SEASONAL COTTAGING AREAS

### LEGEND:



Cottage Concentration Areas

Source: Manitoba Natural Resources .

Aerial photos 1989



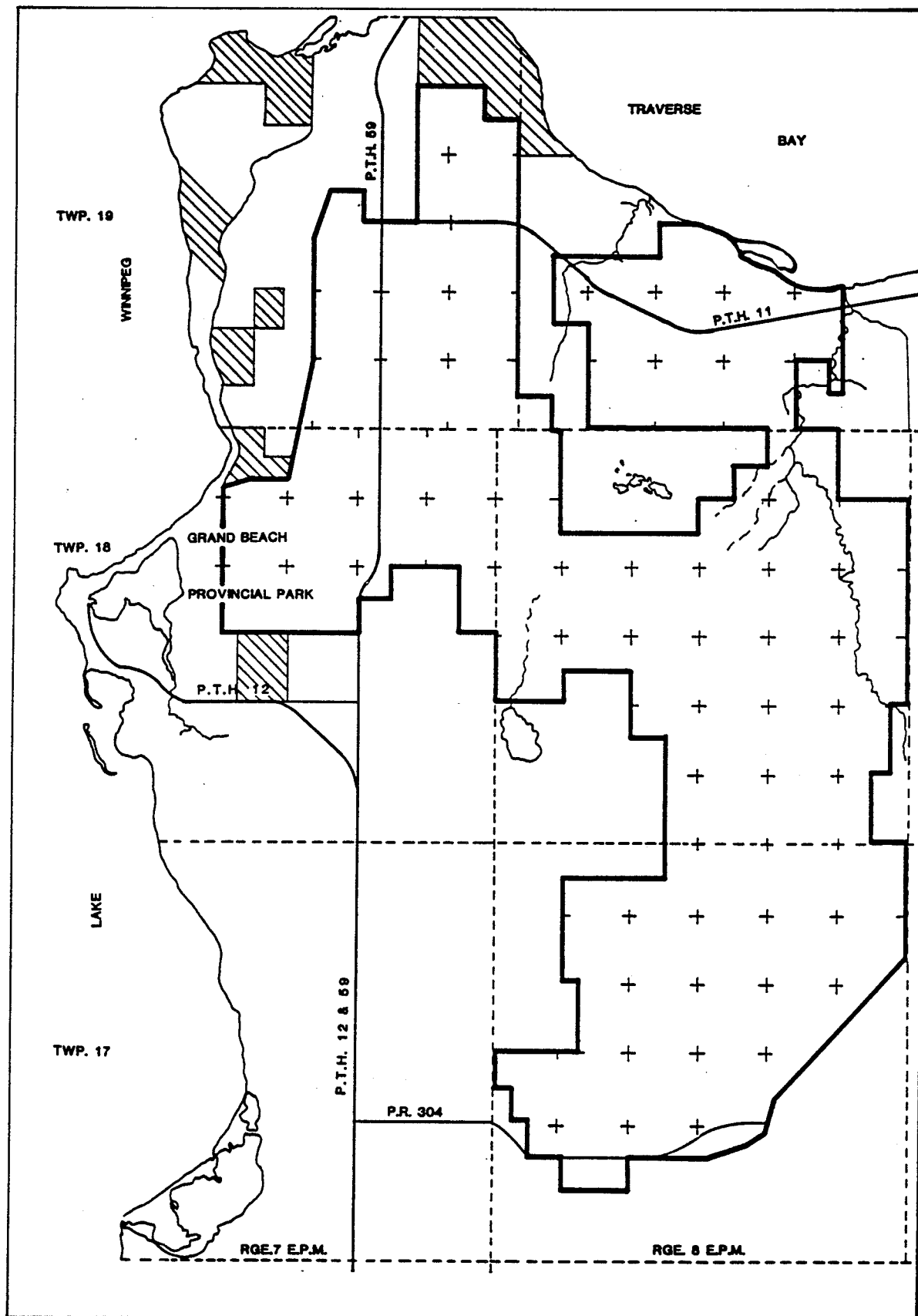
LIMITS OF STUDY AREA



0 1 2

Scale in Miles





In the winter months these trails are used by snowmobilers. Other recreational users of the Belair Provincial Forest are campers or day-visitors. Weekdays attract fewer people, but on weekends user-density is substantial, and may involve transient populations numbering in the hundreds (see Table 10).

Since the early 1960s the Belair Provincial Forest has increasingly become a playground for the general public. In fact, it is one of the most heavily used areas in Manitoba. It is also one of the most accessible and scenically beautiful forested area within a one-and-a-half hour radius of Winnipeg.

Table 10

## Recreationalist User/Demand Area Chart

<u>User</u>	<u>Type of Use</u>	<u>Location of Use</u>	<u>Season of Use</u>
Naturalist	Those involved with viewing the flora and fauna of the Provincial Forest. Those appreciating the natural setting e.g. Berry pickers, mushroom pickers, wanderers	-Trails and wood areas throughout the uplands. -Waterways of Catfish Creek -Shoreline of Traverse Bay	Spring, summer, fall
All-terrain Vehicles (motorized) 3-wheel, 4-wheel quad motorcycle	Those who access the upland trail areas for the purpose of trail riding	-sandy upland trail areas -depleted gravel pits, -Those areas in close proximity to the seasonal recreational centres.	Spring, summer, fall
Snowmobiles	Those who access the upland and lowland trail areas for the purpose of trail riding.	-Existing trail areas in the uplands and lowlands	Winter
Upland Game Hunters	The hunting of upland game birds. Ruffed grouse, spruce grouse and some sharp-tailed grouse	-trail accessible areas -cut-over areas -plantation areas -mainly upland sites	Fall
Migratory Game Hunters	The hunting of migratory game species. Ducks and geese.	-Those areas of the Catfish Creek that are canoe accessible	Fall
Big Game Hunters	The hunting of big game species, white-tailed deer, moose, black bear.	Both upland and lowland areas	Spring, Fall
Campers: Transients (tent, camper top vehicle)	Those who partake in unauthorized overnight stays -Includes leisure oriented people, hunters, berry pickers, A.T.V. users.	-Off the existing trails in the upland areas	Summer, Fall
Fuelwood Cutters (private use)	Those who cut their own fuelwoods within the designated cutting areas	Designated cutting areas	All year round
Horseback Riders	Those who access the upland and remote trail areas	Existing trails, and water hole areas along the plantations	Various times Spring, Summer, Fall
Cross Country Skiers	Those who access the designated trails with Provincial Forest/ Parklands and to a lesser extent those who utilize the snow covered trails of the uplands in the Provincial Forest area.	Designated trails, snowfilled roads and trails	Winter

## 6.6 Current and Anticipated Recreational Demands on the Belair Provincial Forest

Since 1955 the Belair Provincial Forest has been subjected to persistent increases in recreational pressure, and has become a desirable destination for recreational use. These recreational uses (up to 1990) have tended to be extensive rather than intensive. No permanent sites for the pursuit of recreation have as yet been established within the Forest. This situation, however, cannot be expected to continue indefinitely. Already there are indications that more user opportunities will be demanded. For example, within the Lake Winnipeg/Traverse Bay area, many of the cottagers who have located in inland subdivisions extend their activities into the Belair Provincial Forest during their leisure time in much the same way as shoreline cottage lot holders frequent the beach.

Transient visitors to the Lake Winnipeg/Traverse Bay area are also increasing their leisure pursuits within the Provincial Forest. They choose it because it satisfies their quest "to get away from it all" - something that cannot be achieved in the Provincial Parks (i.e. Grand Beach) which are crowded with day trippers and weekenders, especially in the summer months. As well, many people are dissatisfied with a Provincial Park setting because of the restrictions which apply there. Others require opportunities to ride their all-terrain vehicles. The Provincial Forest setting seems to be

capable of accommodating these needs.

Planned observation and random questioning of visitors indicate that those frequenting the Belair Provincial Forest have broad perspectives as to the kinds of activities appropriate to Provincial Forests (Canadian Forestry Service, 1985). In 1988 and 1989 two significant recreational land use changes were authorized on portions of forested land within the Belair. The first involved the setting aside of a major parcel of land for a planned hotel complex, associated road access, and an 18-hole golf course. The site is located on lands presently coded for Provincial Forest/Provincial Park use. The second site involves an area to be commercially developed for a downhill ski operation and lodge. This would occur on Crown land and private land within the Provincial Forest boundary (Figure 33).

These examples of approved intensive recreational development within Provincial Forest boundaries suggest that there could be a consequential impact on present and future forestry resource production capabilities. The probable extent of these repercussions should be investigated.

## INTENSIVE RECREATIONAL DEVELOPMENT SITES

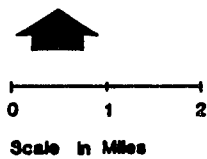
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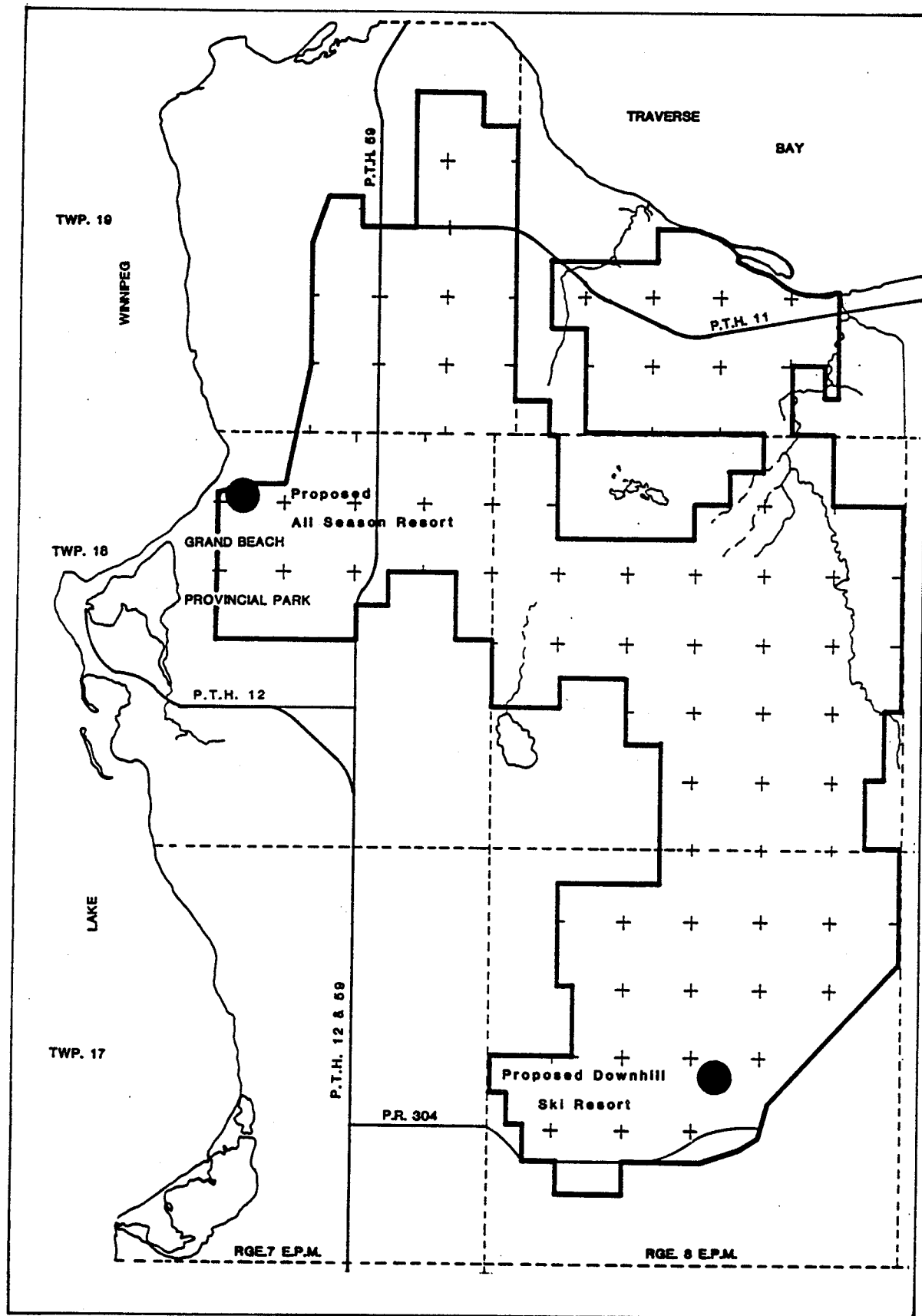


**PROPOSED INTENSIVE RECREATIONAL  
DEVELOPMENT SITES**

**Source:** Manitoba Natural Resources,  
Parks Branch, Forestry Branch, 1989.

 **LIMITS OF STUDY AREA**





need the forest as a basis of their livelihood, and recreation groups who want the forest to persist in a condition which caters to their pleasure and enjoyment.



## 7. Strategies for Planning Forest Recreation Use

Manitoba's Provincial Forests are managed and administered essentially under the authority of The Forest Act. The use of the land base, therefore, is dedicated to a perpetual growth of timber and for the commercial extracting of the timber resource. Provincial forests are, in fact, reserved for the perpetual growth of timber as their primary function. Section 23 (1) of The Forest Act states that "all Crown lands within a Provincial Forest are hereby withdrawn from disposition, sale, settlement, or occupancy, except under the authority of the Act" (Province of Manitoba, 1987). One would think that such a policy statement would indicate a secure "forestry use" position, but, in fact, the continuation of section 23 (1) states that Provincial Forests also have a purpose of providing for a "reasonable use" of all the resources that the forest lands contain.

A certain amount of ambiguity prevails in this statement because providing for a "reasonable use" or "other use" may be interpreted in different ways. There are exceptional situations in which government or municipal authorities require service-facility sites such as microwave towers, garbage dumps, etc. within a Provincial Forest boundary. As well, major mineral extraction sites invite development that impacts upon forestry. However, in terms of the levels of public recreational development, what are the appropriate limits of use? Should the Provincial Forest accommodate

intensive recreational development whereby permanent facility sites, public roads, and all the related infrastructure are supplied or should only limited, non-conflicting recreational uses occur? And if recreational uses are considered as one of the many "other uses" allowed to occur within the "multi-use" concept, at what level do they remain acceptable and at what level do they conflict with the intent of The Forest Act?

What is further perplexing are the overlapping jurisdictions under which certain Provincial Forests have both Provincial Park Lands and Wildlife Management Area lands within them. The mandates in respect to management and utilization of the forest land are complicated by the fact that those who administer Park Lands under The Park Lands Act and those who administer lands for wildlife purposes under the authority of The Wildlife Act have different points of view. In the latter case the Department of Natural Resources has deemed it advisable to institute Forest Management Guidelines for Wildlife in Manitoba. These guidelines were introduced in 1989 in an effort to render forestry and wildlife management practices more compatible (Manitoba Natural Resources, 1989k). Their purpose is to positively manage forestry-wildlife lands where exploitation of timbered lands is to occur. To some extent there are also management collaborative strategies between Parks and Forestry for the exploitation of timbered Park Lands. What is lacking, however, is an overall strategy to deal with the changing

nature of recreational uses such as those involving motorized vehicles. Thus, the increased recreational pressure (extensive or intensive) on those Provincial Forest lands not subject to long-term parks strategy, are already or potentially heavily utilized for these expanding recreational purposes. Such is the case in the Belair Provincial Forest.

The need to develop an overall strategy for recreational use within Manitoba's Provincial Forests is evident. This is because forest recreational activity is persistently increasing, and conflict with traditional forestry-wildlife uses is occurring. There is also a need to develop a recreational-uses strategy because the Forest Act itself is not specific enough in dealing with recreational-use factors.

In the following sections the Belair Provincial Forest serves as the case model. As much background data as possible was compiled for review. The review of the data prompted the development of a body of recommended basic directives. In light of these directives, a recreational development strategy for the Belair Provincial Forest was created.

### **7.1 The Planning and Recommending of Strategies for Acceptable Recreational Uses**

The use of strategy statements for planning recreational uses in the Provincial Forests of Southern Manitoba was selected as the potentially most effective method of instituting ways of regulating development and of projecting long-term recreational character and demand. These strategy initiatives were formulated from the informational data compiled and presented in the foregoing natural resources and recreational sections. The use of these data allows the formulation of prospective solutions to the fundamental questions in relation to whether or not recreational development should occur, and at what levels and locations it might be permitted to occur. This style of planning was selected because Provincial Forests are, in this context, completely dynamic, unlike parks or rural areas where specific long-term recreational uses can be strategically planned and zoned.

Provincial Forest lands, by virtue of their legislated purpose, (perpetually for forestry use and wood fibre production) are continuously being operationally utilized for forestry purposes as a primary objective. Yet in spite of the Forest Act, these same forest lands are continually being used for other purposes. For this reason they are considered (to a limited extent) as multi-use areas. Recreational use falls within this designation, but because of increasing activity,

and the changing nature of the activity, Provincial Forests cannot be adequately managed under the multi-use strategy. Recreational uses should, however, be allowable if they are compatible with other interests and prerogatives. Rules and regulations can then be prescribed to operationally administer them.

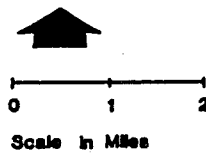
The foregoing sections identified three resource areas within the Belair Provincial Forest (Figure 34). They are those Crown lands whose utilization is essentially administered via The Forest Act; those Crown lands whose use is administered via The Forest Act and Park Lands Act; and those Crown lands subject to The Forest Act and The Wildlife Act. Currently, natural resource use and recreational use in the Belair Provincial Forest pursue distinct and separate goals and cannot be effectively managed under the traditional, vague interpretations of "multi-use".

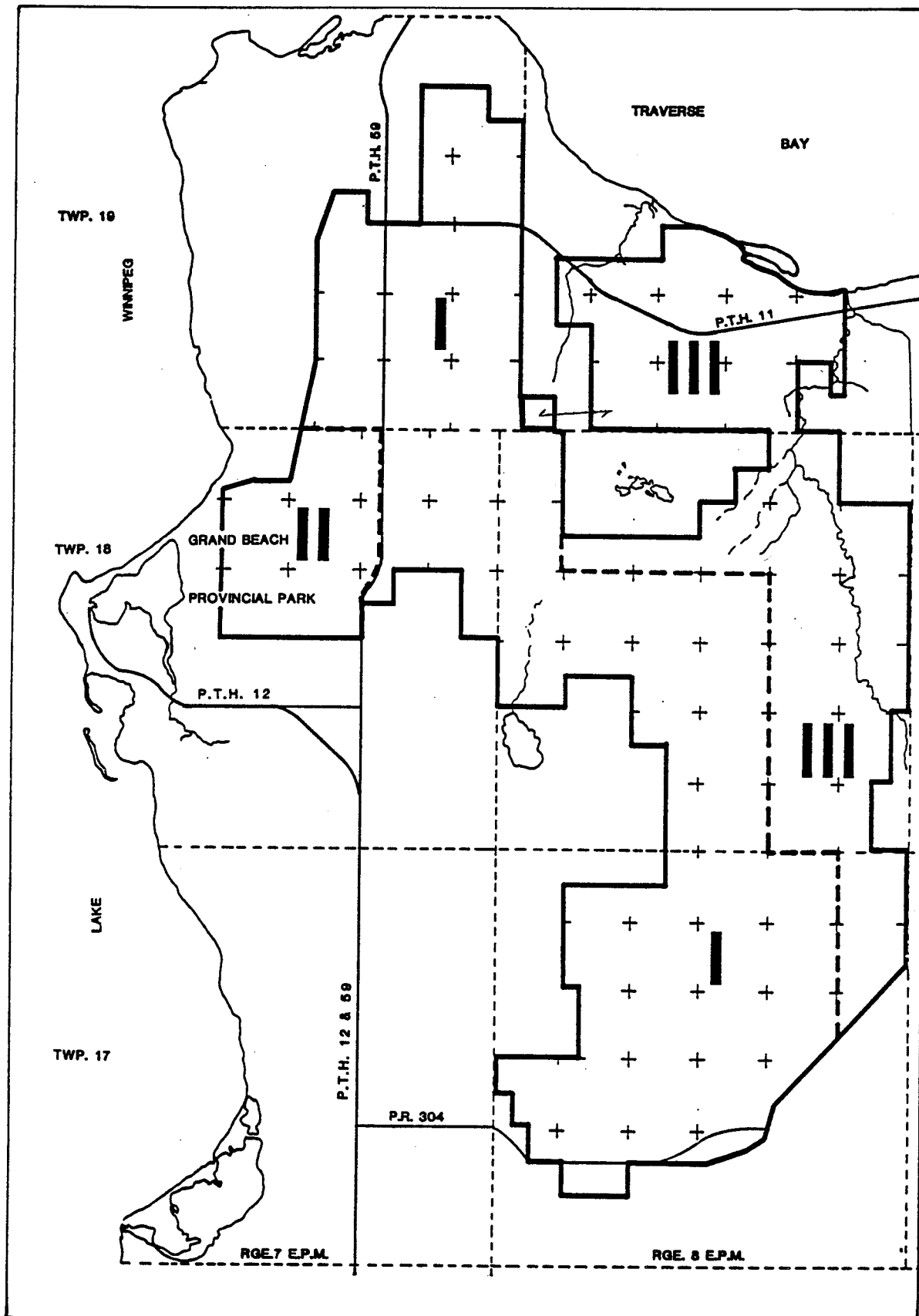
The forestry resource is economically important to the local area as well as to the Province. The area's wood supply is totally committed in terms of commercial production on a sustained-yield basis. The wildlife is also of significant importance, both for consumptive and non-consumptive purposes. To a limited extent the central waterways of the area have a related importance as an aquatic habitat essential to the commercial fishery and to a lesser extent, the sport fishery of Traverse Bay. The Provincial

**MANAGEMENTS SECTIONS****LEGEND :**

<b>MANAGEMENT AREA I</b>	<b>Designated Provincial Forest Lands</b>
<b>MANAGEMENT AREA II</b>	<b>Designated Provincial Forest / Provincial Park</b>
<b>MANAGEMENT AREA III</b>	<b>Designated Provincial Forest / Wildlife Management Area</b>

— LIMITS OF STUDY AREA





Forest also encompasses extensive groundwater recharge areas and important aquifer systems. Such areas also display a surface geology and plant-and-animal communities that in some cases should be considered as fragile in the context of "alternate uses". There is also a commercially valuable aggregate resource.

Forest recreation activities are socially significant and popular. These activities should be compatible with resource uses, not conflict with them. Therefore, the following recommendations are presented:

- 1) Extensive recreational activities only, are to be allowed on Provincial Forest lands solely under the authority of The Forest Act.
- 2) Extensive recreational activities only are to be allowed on Provincial Forest lands subject to a dual administrative authority as Provincial Forests/Wildlife Management Areas.
- 3) Extensive and intensive recreational activities are to be permitted on those Provincial Forest lands under a dual administration and termed Provincial Forests/Provincial Park Lands.

It is further recommended that Management Areas I, II and III, as identified in Figure 34, should be managed for compatible resources/recreational use by identifying recreational uses compatible with the terrain and with other resource-use activity. In such a process, acceptable



recreational uses can be identified for each Management Area. The method of deciding acceptable uses should involve a review of all the available land-base data, renewable and non-renewable resource information, and the recreational information presented in the background data.

For each Management Area, a synopsis could be made of the physical land base, the resources, and recreational potentials. Subject to these considerations, specific recommendations could then be formulated and where appropriate, compatible recreational uses prescribed. Following this, a long-term recreational use policy could be developed.

### 7.1.1 Management Area I - Provincial Forest Lands

Approximately 70 percent of this area is classified as lake terrace or uplands and the remainder as lowlands. The uplands relief consists of elevations above the 236 metre (775 feet) elevation. In fact, some of the most prominent landscape features are located in this area, with maximum elevations exceeding the 297 metre (975 feet) mark.

These elevated uplands are dominated by surficial materials consisting of glacio-fluvial and littoral sands and gravels along with some minor occurrences of clay till. The surficial materials immediately adjacent to the uplands consist of lacustrine deposits and overlying organic material. The soils of the uplands are derived from the surficial deposits and consist of Brunisolic-Podzolic soils associated with the Sandilands-Woodridge group. As well, there are some random pockets of surface clay. Off the uplands are the areas of shallow and deep peat organic soils, mainly underlain by lacustrine clays.

Vegetation of the upland sites consists predominately of natural stands of jack pine, planted red pine, and open areas with natural stands of white spruce, birch, and poplar. Small portions of the lowlands contain areas of black spruce, some balsam fir, and some treed muskeg, swamp, and fen-complex communities. The timber resource from both upland and lowland areas is commercially utilized and the total timber volumes are completely committed to that industry.

The varied wildlife of this area takes advantage of the extensive vegetation cover, including to some extent the cut-over areas. The upland mixed forest in particular provides a variety of quality habitat. White-tailed deer range throughout the uplands, while the immediately adjacent areas are attractive to moose. Much of the upland is also favorable habitat for black bear and upland game bird species. In all cases wildlife exhibit very different habitat requirements and preferences that must be realized.

A network of roads and trails provide access to the upland areas within this Management Area. Some of them were established for settlement purposes and later for timber and mineral extraction. Currently they are consistently used in forestry operations and, to a lesser extent, for mineral removal. They are also extensively used by the public to provide access to the scenic interior wilderness areas of the Provincial Forest.

This Management Area is utilized extensively by the public for individual and group leisure pursuits. The area's landscape features, relief, vegetation, and natural resource features qualify it as an area of significant recreational potential despite other demands upon its renewable and non-renewable resources. Renewable and non-renewable resource development and designated public recreational uses in this Management Area can, however, be compatible.

#### **7.1.1.1 Goals and Recommendations, Management Area I**

##### **Forestry:**

The forestry resource in Management Area I is economically important to the Province and must be safeguarded from conflicting development.

1) Forestry-related activities must remain the primary focus of use of the entire area.

2) Compatible extensive recreational activities must not interrupt or conflict with forestry operations.

3) Permanent site-specific extensive recreational activities should be precluded. Temporary (specific time limit) permits only, for specific uses, should be issued, depending upon site approval, which must be obtained before permit issue.

##### **Wildlife:**

The wildlife resources in Management Area I can tolerate a degree of disturbance, such as extension of logging operations onto new sites. Foresters and wildlife officials now endeavor to minimize these disturbances with various management techniques. Increased accessibility attends these forestry operations, and allows for greater public penetration. Recreational uses that penetrate this area, therefore, should not jeopardize or impact on the area's wildlife.

1) Extensive public recreational activities can be relatively impact-neutral in respect to wildlife. Where there

is evidence that recreational use does impact negatively on wildlife, those activities should be disallowed.

2) Any vehicle-use access trail or road within Management Area I should be closed to that use when it is deemed there has or will be an adverse impact on the area's wildlife or habitat. Field analysis and monitoring must be instituted to accomplish this.

**Water Resources:**

In this area there are soils that are potentially sensitive to groundwater contamination. The upland area is considered as a recharge area in which rainfall and snow melt collect and discharge eastward. Recreational activities must not jeopardize this resource.

1) Those recreational activities (if any) that may cause pollution to the groundwater or may severely impact on the groundwater discharge areas should not occur.

**Aggregate Resources:**

Management Area I includes all of the past, present, and prospective mineral excavation sites. The extraction of these minerals is an integral part of resource development in the Belair Provincial Forest. The management of the excavation-pit areas has not been progressive and many excavation areas have been left unrehabilitated. Many of these pits have become major sites for all-terrain vehicle use, garbage dumping, and a source of fire starts. Goals and recommendations from a recreational use perspective are two-

fold. The first concerns those areas with mineral-development potentials and the latter involves existing sites lacking proper rehabilitation.

A) Potential Mineral Development Areas:

1) Extensive recreational use of these areas before development is conditionally acceptable.

2) If and when mineral development occurs, the excavation areas should be restricted from all recreational activities.

3) No recreational use should occur on active sites until the aggregate is removed and the pit rehabilitated or deemed safe for public use by the appropriate authority.

B) Existing Mineral Excavation Areas:

Although extensive recreational uses occur at this time in all of the existing pit areas, they must be regarded as uses occurring at the public's own risk. It is recommended that:

1) Extensive recreational use in these areas be declared not acceptable.

2) If further pit development occurs, the active excavation areas should be interdicted to all recreational activities.

3) No recreational use should be permitted to occur until the excavated site is rehabilitated or deemed safe for public use by the appropriate authority.

#### 7.1.1.2 Recommendations for Acceptable Recreational Uses

1) Nature Viewing - This is a totally acceptable activity, which includes walking or hiking and viewing of land forms, vegetation, and wildlife. Excluded areas are those active excavations, logging operation areas, and any other area identified as a no-public-use area.

2) All Terrain Vehicle Use - This activity is deemed acceptable as long as it occurs along existing trails throughout Management Area I. It should be interdicted in areas deemed to be of significant importance to the natural resource base or where there is an identifiable danger to the public. Areas to be excluded from public use include: sensitive wildlife habitat areas, logging operations, newly created plantation sites, forest fire restriction zones, unsafe mineral extraction areas, and any other identified non-public-use areas.

3) Snowmobile Use - This is a generally accepted recreational activity. User areas for the most part include all of the central trail areas and snow-covered roads. Snowmobiling should not be allowed off these trails, or where there is a danger to the public. Snowmobiling should be restricted to areas away from any significant wildlife habitat.

4) Horseback Riding - This form of extensive recreation is generally approved, although Management Area I has seen little activity of this type to date. Restrictions will be

the same as those relating to motorized activities.

5) Camping - Only site-specific and special site request areas can be approved for use. Camping should not be generally allowed within this management area.

6) Sport hunting - This is an acceptable activity in Provincial Forests. Most of Management Area I can sustain this activity. Exceptions will be those areas in which timber operations are occurring or where game hunting restrictions negate sport hunting.

7) Native Hunting - This is an acceptable activity in Provincial Forests because Crown forest lands are designated "unoccupied". As with sport hunting, native hunting is curtailed only for Order-in-Council game protection areas.

Relative to conflicts of user groups in the harvesting of wildlife, greater emphasis must be placed on official interactions with the native bands as well as sport hunting organizations to elicit cooperation in sustaining wildlife populations.

8) Cross-Country Skiing/Snowshoeing - This is an approved recreational use and is generally acceptable in most areas except those deemed dangerous to the public. Excluded areas are active excavation sites, logging operation areas, and any other designated non-public-use-area.



### 7.1.2 Management Area II - Provincial Forest/Provincial Park Lands

All of this land area is classified as lake terrace. Its upland relief includes significant elevations similar to those in Management Area I. At least 75 percent of the surficial material consists of glacial, glacio-fluvial, littoral sand, gravel and clay-till deposits. The remaining area displays organic surfaces but is underlain with mixtures of lacustrine clay or sandy morainic deposits.

Grey-wooded and humic Gleysols as well as Podzolic soils are common throughout. The vegetation of sandy morainic sites is dominated by jack pine and aspen in well drained areas, and by tamarack and cedar on wet sites.

Among wildlife, white tailed deer, fur bearers, and upland game birds predominate, as in Management Area I. There is limited but favorable habitat for the production of wildlife.

Management Area II, like Management Area I, is extensively used for recreation. Because of its Park Lands designation, it has been subjected to some organized recreational uses. These include established cross-country ski trails and snowmobile trails. Long-term recreational commitments for the area include some major intensive recreational development. Because of this the utilization of the timber resource in this area cannot be managed to the same level as in Management Area I. In fact, the timber resource

should be managed separately, with its own Allowable Cut calculation. The rationale for this is the joint jurisdiction, that of Forestry and that of Parks.

On such Park Lands, where both intensive and extensive types of recreational uses are provided for, there is a need for more planning. In this area the strategy for managing future recreational uses should be given special consideration. Major intensive recreational uses impact significantly upon the surrounding lands in this area for several reasons. For example, the general public which utilizes such areas does so for longer periods of time and demands more stability in respect to the visual surroundings. Depending on the type of recreational operation and its acreage (lodge and golf course) the adjacent wooded area may be required to retain an extensive visual buffer zone that would preclude forestry operations. Non-intensive recreational developments such as organized cross-country ski trails and snowmobile trails might be expected to require wooded buffer zones excluded from forestry operations.

Joint-use areas are special areas for both resource harvesting and recreational utilization. Therefore, all forms of development (recreational or resource harvesting) should be cooperatively managed. Any goals and recommendations suggested must be cognizant of this.

### **7.1.2.1 Goals and Recommendations**

#### **Forestry/Parks:**

The resource base of Management Area II is important to both Forestry and Parks. The area will be evaluated in terms of commercial development as part of the forest management mandate, and in terms of intensive and extensive recreational potentials in terms of parks management. Because of the dual designation of the area, the following recommendations should be implemented:

- 1) Parks managers and forestry managers should identify compatible areas in terms of their management criteria and mandates.

- 2) Appropriate buffer strategies should be implemented in the interests of maintaining visual landscape quality.

- 3) The commercial utilization of mature and diseased stands of softwoods and hardwoods should continue as a land-use priority.

#### **Wildlife:**

Intensive and extensive recreational development, and forestry operations, will affect wildlife and its habitat. Recreational uses and timber operations should be planned for in a manner that will cause minimal disturbances to the wildlife, and with an eye to habitat enhancement.

- 1) Management Area II, because of the recreational development potentials already being realized, is in need of a special recreational resource development plan. Recreational

development would be conditional upon the continued well-being of wildlife.

2) This plan for Management Area II should include zones for forestry operations, and at the same time be dynamic enough to include strategies to minimize the risk to wildlife.

**Water Resources:**

This area, like Management Area I, includes sensitive soil areas that are vulnerable to groundwater contamination. Any recreational development, whether intensive or extensive, must be designed so it will not impair this resource.

1) Activities that have the potential to pollute the groundwater or to negatively affect groundwater discharge areas should not occur.

**Aggregate Resources:**

Although there are no active excavation sites nor any mineral leases in this Management Area, sizable deposits of potentially exploitable sand and gravel have been identified. Whether any extensive exploitation will ever be undertaken cannot be forecast at this time. However, because of this potential, it is imperative that any development strategies that pertain to intensive recreational development in these areas not occur until a complete assessment of mineral deposits is completed.

**A) Potential Mineral Development Areas:**

1) Extensive recreational use of these areas is currently deemed acceptable.

2) Intensive recreational uses should be planned for in consultation with the appropriate authorities who are charged with the administration of The Mines Act, and should be sited so as to avoid conflict-of-interest relative to mineral extraction.

3) Any depleted mineral extraction areas should be subject to scheduled rehabilitation.

**7.1.2.2 Recommendation for Acceptable Recreational Uses**

The entire spectrum of potentially acceptable intensive and extensive recreational uses cannot as yet be fully addressed. The identified snowmobile trails, cross-country ski trails, and nature trails are deemed compatible uses. However, plans for the installation of some major resort facilities, which would engender concomitant intensification of recreational impact on adjacent portions of the Management Area must be carefully evaluated.

Management Area II is in need of a major recreational resource-use planning report. In the interim, only those uses that are extensive (non-permanent and representing a minimum capital outlay) and are specifically recognized by Parks Branch administration should be allowed.

### 7.1.3 Management Area III - Provincial Forest/Wildlife Management Area.

The bulk of this Management Area is classified as lowlands. For the most part, it lies at elevations below 236 metres (775 feet). The terrain consists chiefly of sandy, silty, clayey morainic and alluvial deposits. The topography is essentially flat to gently sloping. The soils are characteristic of lacustrine lowlands and consist of deep and shallow peats with only a few areas of humic gleysols over the unaltered lacustrine deposits.

The vegetation is dominated by black spruce and tamarack in water-saturated sites. Other poorly drained sites vary between treed muskeg and fen complexes, in varying combinations, with significant areas of peat. Mixtures of white spruce, aspen, and balsam fir occur on the slightly elevated (and hence better-drained) sites. Some elevated clay banks along Catfish Creek and Jackfish Creek harbor significant stands of hardwoods such as black ash, maple, and elm.

The forestry resource and the wildlife resource are of paramount importance in Management Area III. Commercial forest products are derived from both the softwoods and hardwoods. Black spruce is chiefly utilized in the pulp and paper industry and the hardwoods are utilized for the rough lumber and furniture industries.

The wildlife is of many types. The major ungulate is

moose, but white-tailed deer have been noted, as has black bear. Furbearers, waterfowl, game birds, song birds, and raptors such as the "rare/vulnerable" great grey owl utilize the area. There is also a limited fisheries resource related to Catfish Creek. Although not much is known about the overall extent of the creek's role in sustaining the fisheries resource, it is a significant spawning ground for many of the fish species common to Traverse Bay and Lake Winnipeg.

Management Area III is quite isolated and lacks significant infrastructural development such as all-weather access routes. The partially operable Catfish Creek drainage system is in part largely overgrown with vegetation, and becoming beaver-dammed. Wildlife no doubt, will continue to benefit from this situation.

Recreational development and activities have been, to the present, very limited. Isolation and low accessibility cause it to differ significantly from Management Areas I and II. The only recreational activities occurring in this area appear to be those associated with extensive uses.



### **7.1.3.1 Goals and Recommendations**

#### **Forestry/Wildlife:**

The forestry and wildlife resource of Management Area III are of considerable significance and should be safeguarded against the prospect of future conflicting recreational developments.

1) Forestry-related activities and wildlife management should continue to be the primary uses of all of this area.

2) Recreational activities should not interrupt or conflict with the designated primary uses.

3) Forestry and wildlife managers should jointly control all forestry-related operations.

4) All forestry operations should be conducted during the winter months so they will not require any permanent all-weather road access.

#### **Water Resources:**

Groundwater hydrology and surface water are important features of this management unit. To modify them would likely affect the quality of the area - a factor that is of significant importance to wildlife. Extensive recreational development is not considered to be as much of a concern as in Management Areas I and II. However, if at some future date recreational development were to become prevalent, it should not put the water resource in jeopardy.

1) Recreational activities which may cause pollution to the groundwater or impact on the discharge areas which would

ultimately affect the water levels of the lowlands should be interdicted.

**Aggregate Resources:**

There has been little demand for aggregate or organic material from this management area. Future demand is not anticipated. Consequently, there appears to be no urgency to anticipate strategies as to their potential exploitation.

#### 7.1.3.2 Recommendations for Acceptable Recreational Uses

Extensive, as distinct from intensive uses, are appropriate to Management Area III. They include:

1) Nature Viewing - This activity represents an acceptable, extensive non-consumptive recreational activity. Walking, hiking, and boating into the area can be approved. All-terrain vehicle or other vehicle use should be interdicted in sensitive wildlife areas. To date, few roads or trails exist to stimulate a concern.

2) All-terrain Vehicle Use - This is a conditionally acceptable recreational activity; however, at this time, there are few trails that provide access into Management Area III. The terrain is so rugged that there is some hazard to participants. Interdicted areas should be identified by Forestry or Wildlife, ie. logging operation areas, sensitive wildlife habitat areas, etc.

3) Snowmobile Use - This is a conditionally acceptable recreational activity on existing trails, drain areas, and on Catfish Creek. New trail construction should not be approved without the prior completion of appropriate impact studies.

4) Cross-Country Skiing/Snowshoeing - These are approved extensive recreational uses. To date some winter trails are used, but the activity is quite limited. Interdicted are logging operation areas and any designated non-public-use area.

5) Sport Hunting - This is a conditionally acceptable activity in Management Area III. All of this management area can support sport hunting. Exceptions will be active timber operations and other interdicted areas that studies may reveal.

6) Native Hunting - This is an acceptable activity in this management area as these Crown forest lands are designated "unoccupied". As with sport hunting, native hunting is curtailed only for Order-in-Council game protection areas.

Relative to conflicts of user groups in the harvesting of wildlife, greater emphasis must be placed on official interactions with the native bands, as well as sport hunting organizations, to elicit co-operation in sustaining wildlife populations.

7) Camping - Only site-specific and special-site-requests areas should be approved for use. This activity should normally not be allowed within Management Area III.

## **7.2 Long-Term Provincial Forest Recreational Use Policy-Recommendations**

Many Provincial Forests are valued for their recreational potential. In Manitoba increased use of forest land for recreational purposes is anticipated. Most of these areas are not fully recognized officially for their recreational potentials, even though their popularity as a base for leisure activities has been increasing.

In the Belair Provincial Forest recreational activities have for some years now, continuously expanded. Outdoor recreational activities are the major use, while intensive recreational developments have yet to materialize.

Intensive recreational development and uncontrolled extensive recreational development could prove disastrous for Provincial Forests. If such uses were allowed to develop unchecked in an unplanned manner, the land base and principal resources now being exploited would be negatively affected. For example, a ski-hill development would result in a reduction to the forest land base, introduce the public on a permanent basis, and affect any adjacent and long-term timber harvesting operations.

Whether or not Provincial Forests have appropriate legislative authority to control future recreational developments and uses is debatable. What is critical is the acknowledgement that appropriate strategy plans be developed to regulate and control future recreational activities.

Recreational uses in many forests have already reached levels at which their influences impact on the natural resources and related operations that have economic importance for the province.

Limiting public recreational uses in resource production areas and natural habitat areas is basic to sustainable development principles. This means, however, that within specific areas, certain recreational activities cannot be allowed while others can. In the Belair Provincial Forest intensive use is restricted to specific, limited areas. Unplanned intensive uses would doubtless lead to a reduction of potentials in terms of both forestry and wildlife resources.

On the other hand, controlled outdoor recreational uses should be accommodated. However, they must be accounted for and acknowledged in all strategies applying to the utilization of Provincial Forests.

The following policy recommendations should, therefore, be considered for Manitoba's Provincial Forests:

- 1) All Provincial Forests in Southern Manitoba should be subject to a recreational use management and operational strategy.
- 2) A range of appropriate recreational potentials should be identified for each of these Provincial Forests.
- 3) The range of recreational opportunity accommodated should be based on complete knowledge of the capability,

capacity, and resilience of each area.

4) Interdicted recreational activities should be rationalized and explained to the general public. The Department of Natural Resources should develop strategies and methods for informing the public in regard to allowable and restricted recreational uses in Provincial Forests.

5) It is further recommended that the Department of Natural Resources enter into discussions with the public about the primary importance of forested areas and the limitations inherent in a "multiple use" philosophy. A public education program should be integral to this process.

6) Once a recreational-use strategy is developed for Provincial Forests, regulatory operational guidelines should be developed and introduced to the public, ie: signage of acceptable uses (no-go areas, winter-use areas, no-public access, etc.) is all part of this procedure.

7) All issues of a recreational nature must be dealt with in an integrated manner. The Department of Natural Resources must entrust the Branches' integrated planning and management teams (Resource Planning Committees) with this mandate. This is not a single branch strategy but a multi-branch responsibility. For example, conflict resolution mechanisms relative to forestry/wildlife issues and forestry/recreational issues can be devised. Resource managers from various disciplines should all interact in the design of cutting plans, renewal activities and access control

mechanisms. The same applies to outdoor recreational users. Forestry operations and recreational users can co-exist as long as the participating public realizes that its activities are conditionally allowed, depending upon their influence on the forestry operation and the forests' well being. For example, joint pre-planning of snowmobile trails and cross country ski trails should occur.



## 8. Conclusions

Data collected from a study of Manitoba forests, in particular the Belair Provincial Forest, establishes that they are important renewable and non-renewable resource production areas. However, a case evaluation of the Belair Provincial Forest reveals that some Provincial Forests are subject to additional demands, among them public recreational use.

The expanding popularity of recreational activities in forests in which natural resource production has predominated poses significant management problems. These problems are not easily addressed despite the "multi-use" clause in the Forest Act. A strategy whereby intensive and extensive recreational uses can be managed is proposed. A study was undertaken involving a detailed review of the renewable and non-renewable resources and the full range of outdoor recreational activities and demand associated with the Belair Provincial Forest. Those background data were analyzed to provide the basis for identifying acceptable and non-acceptable recreational uses. The method devised is deemed appropriate for application in all Provincial Forests for the management of recreational activities.

The Manitoba Government should recognize that outdoor recreational pressures are continuing to escalate and focus away from traditional areas such as established municipal and provincial park systems. If use of Provincial Forests in Southern Manitoba is seen as a logical attendant consequence

of this phenomenon, then outdoor recreational strategies for the protection of natural resources and public enjoyment of leisure wilderness pursuits must be devised and implemented.

In this discussion about prescribing recreational uses, protecting natural resources, and regulating certain activities for conservation purposes, it may be necessary for the Provincial Government to elicit the support of not only the general public but the appropriate native bands, ie. The Fort Alexander Indian Reserve, in this endeavor. Successful and workable recreational/resource use strategies will have to include workable levels of co-operative management among these user groups if this planning strategy is to succeed. Co-management arrangements may well serve to achieve the desired results (Pinkerton, 1989). In this case, an operationally acceptable working plan of recreational use for Manitoba's Provincial Forests is desired. A pro-active approach to the planning and managing of sustainable recreational uses in Provincial Forests is necessary and cannot be achieved without co-operation from all levels of society.

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APPENDIX AA LISTING OF SOME IMPORTANT MAMMALS, BIRDS, FISH AND  
VEGETATION ASSOCIATED TO THE BELAIR PROVINCIAL FOREST

## MAMMALS

CANIDAE

Wild Dogs

Canis lupus

Wolf

Vulpes vulpes

Red Fox

Canis latrans

Coyote

URSIDAE

Bears

Ursus americanus

Black bear

CERVIDAE

Deer

Odocoileus virginianus

White-tailed deer

Alces alces

Moose

CASTORIDAECastor canadensis

Beaver

MUSTELIDAE

Weasels

Martes pennanti

Fisher

Lutra canadensis

River otter

LEPORIDAE

Rabbits, hares

Lepus americanus

Snowshoe hare

ARVICOLIDAE

Voles and Lemmings

Ondatra zibethicus

Muskrat



## BIRDS

STRIGIDAE

True Owls

Strix nebulosa

Great Grey Owl

ARDEIDAE

Herons, Bitterns

Ardea herodias

Great Blue Heron

ANATIDAE

Ducks, Geese

Aix sponsa

Wood Duck

Anas platyrhynchos

Mallard

Branta canadensis

Canada Goose

PHASIANIDAE

Grouse, Pheasants

Bonasa umbellus

Ruffed Grouse

Dendragapus canadensis

Spruce Grouse

Tympanuchus phasianellus

Sharp-Tailed Grouse

ACCIPITRIDAE

Hawks, Eagles

Haliaeetus leucocephalus

Bald Eagle

CORVIDAE

Crows, Jays

FRINGILLIDAEGrosbeaks,  
Buntings, Finches  
SparrowsTURDIDAE

Thrushes

FRESHWATER FISHPERCIDAE

Stizostedion vitreum (Mitchill)  
Stizostedion canadense (Smith)  
Perca flavescens (Mitchill)

Walleye  
Sauger  
Yellow Perch

COREGONINAE

Coregonus artedii Lesueur

ICTALURIDAE

Ictalurus punctatus (Rafinesque)  
Ictalurus melas (Rafinesque)

Channel Catfish  
Black Bullhead

ACIPENSERIDAE

Acipenser fulvescens Rafinesque

Lake Sturgeon

GADIDAE

Lota lota (Linnaeus)

Burbot

HIODONTIDAE

Hiodon alosoides (Rafinesque)

Goldeye

SCIAENIDAE

Aplodinotus grunniens (Rafinesque)

Freshwater Drum

ESOCIDAE

Esox lucius Linnaeus

Northern Pike

## VEGETATION

PINACEAE

Larix laricina (DuRoi) K. Koch  
Picea glauca (Moench) Voss  
P. mariana (Mill) BSP.  
Abies balsamea (Mill) L.  
Pinus banksiana Lamb.  
P. resinosa Ait.

Tamarack  
 White Spruce  
 Black Spruce  
 Balsam Fir  
 Jack Pine  
 Red Pine

SALICACEAE

Populus tremuloides Michx.  
P. balsamifera L.  
Salix L. spp.

Trembling Aspen  
 Balsam Poplar  
 Willow

FAGACEAE

Quercus macrocarpa Michx.

Bur Oak

BETULACEAE

Betula papyrifera Marsh.

White Birch

OLEACEAE

Fraxinus nigra Marsh.

Black Ash

ULMACEAE

Ulmus americana L.

American Elm

ACERACEAE

Acer negundo

Manitoba Maple

LORANTHACEAE

Arceuthobium spp.  
Arceuthobium americanum

Mistletoes  
 American Mistletoe