AN INTEGRATED RESOURCE MANAGEMENT APPROACH TO BALANCING COMPETING INTERESTS IN THE GRASS RIVER PROVINCIAL PARK

BY

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A Thesis

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ABSTRACT

The primary purpose is to research the biological, physical, social and economic aspects of a specific area, for identifying and resolving resource related conflicts, while at the same time strengthening compatible land uses. To maintain this balance between resource conservation and utilization, an integrated resource management approach is used. This approach is guided by Provincial legislative requirements, principally the Manitoba Environment Act (1988) and the Provincial Parks and Consequential Amendments Act (1993). The intent of the provincially accepted Principles and Guidelines of Sustainable Development is also recognized. The Grass River Provincial Park was selected as a case study to examine the approach for resolving resource conflicts.

Subsequent to the development and implementation of the 1984 Grass River Provincial Park Management Plan (GRPPMP), several changes to the biophysical and socio-economic character of the Park had taken place. This research investigated these changes and modified the parameters of the plan within the context of the current legislation.

The research results suggest that the current effort in resource conflict resolution will be influenced by a range of land use factors not dissimilar to that of the original plan. However, greater emphasis and focus have evolved with regard to balancing natural resource utilization and conservation of the park. As a result, the analysis of the updated resource data base has been sensitive to the current economic and environmental trends. The sustainability of resources is recognized within the context of overall management plan recommendations.

This research concludes that particular attention should focus on various biophysical factors including:

- woodland caribou habitats and their life cycle requirements;
- special physiographic features and archaeological and heritage resources;

- water quality, particularly that of the Grass River and adjoining waterbodies
- resource based recreational opportunities (e.g., fishing).

This research also concludes that the following social and economic aspects should be allowed:

service facilities/campground operations;

timber harvesting;

trapping and commercial outfitting operations;

mineral exploration, with extraction activities to be permitted only upon receipt of a Manitoba Environment Act License;

increased infrastructure development in specific areas, as required.

This research recommends the continued designation of the Grass River Provincial Park as a Natural Park, under Manitoba parks legislation.

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CHAPTER 1 - INTRODUCTION

1.1 Background

Our society is becoming increasingly aware of land use and resource related issues and concerns, particularly in Provincial Parks. Most issues arise from competitive interests between resource utilization and land use development on the one hand, and conservation and protection of the same natural resources on the other. Such uses as timber harvesting and mineral extraction are viewed by some interests as conflicting with the "perceived" intent of park designations, that being places which are designated to conserve the natural environment and to promote recreational opportunities. The escalated interest in environmental protection and land stewardship has spurred the desire for increased research to be conducted in natural resource management to achieve a balance between resource conservation and consumption (M. Waldram, *pers com*). In response to the range of views regarding use of resources, the Province of Manitoba has developed and enacted various pieces of legislation, regulations and guidelines to address these resource use issues.

The Manitoba Environment Act, enacted in 1988, requires that potential significant adverse impacts to the environment be addressed prior to a project's development. Second, a set of Principles and Guidelines of Sustainable Development has been adopted by the Province of Manitoba to aid in maintaining a balance between economic growth and environmental conservation. This has particular relevance because of its vision to review the Park Lands Act in terms of mandate and application. The third is the Provincial Parks and Consequential Amendments Act (1993) which, when fully implemented will supersede the original Park Lands Act.

Resource extraction and land use development of the Park has been planned and managed under the 1984 Grass River Provincial Park Management Plan (GRPPMP). This plan aided in managing the use of

resources and development to meet the interests of the public. A revision to this plan by applying current management tools, is now required.

> Changing circumstances will require that the Management Plan be further reviewed periodically since many factors will affect environmental conservation and the use of recreational and commercial resources. A general update of the Management Plan will be undertaken every 10 years. (Jones et. al. 1984, p. 3).

1.2 Purpose and Objectives

The purpose of this research is to update and enhance the Grass River Provincial Park Management Plan (1984) in the context of its applicability to meet the current requirements of land and resource utilization, as well as conservation and protection. This research will be conducted within the framework of current Provincial legislative requirements, much of which have changed since 1984. It will also assess the changes required to maintain effectiveness given the current public opinion and regulatory policy regarding the environment and provision to maintain sustainable economic growth of the region. Finally, this research will offer general recommendations to further enhance the effectiveness of the Management Plan in an integrated fashion, within the context of the Provincial Parks and Consequential Amendments Act.

More specifically, the objectives will be to:

- review the 1984 GRPPMP to understand its background, intent and mandate;
- review related literature pertinent to resource management approaches, conflict identification and current Provincial environmental legislation;
- establish a current baseline of resource and environmental conditions required for land use, resource harvesting and conservation management;
- identify existing and potential conflicts, based on the Park's resources and the economic requirements of the region;
- analyze resource conflict issues;

- provide recommendations to maximize compatibility of resource use.

The intent is to achieve these objectives by using the 1984 GRPPMP as a base, to enhance this base to identify resource use conflicts and to provide updated management strategies within the context of current legislation.

1.3 Assumptions and Limitations

To fulfill the purpose and objectives, several assumptions are made. These assumptions will provide the limits within which the research is conducted. It is within these parameters that an attempt will be made to be consistent with priority issues currently affecting resource use within the park.

The following basic assumptions and limitations will apply:

- resource management issues will be addressed within the context of the Manitoba regulations. Federal legislation is assumed to be addressed within the overall context of the counterpart Provincial regulations. Those Federal regulations not covered by Provincial regulations will not be applicable;

- information sources of a current nature (e.g., literature and personal communications) will best reflect the current resource conditions, issues and conflicts involved. Pre-1984 documents referenced are generally used to reconstruct or enhance the details and conditions within which the 1984 Management Plan was constructed;

- the Manitoba Environment Act including Regulations 163-88 and 164-88 is applicable for addressing project development issues within the Grass River Provincial Park. Manitoba Environment Act licensing procedures are applicable to proposed and ongoing development activities within the Park;

- as the Manitoba Parks and Consequential Amendments Act (1993) has received Provincial legislative assent, it is anticipated that this act will be recognized in the fullness of its proposed mandate;

- this research will be consistent with the intent of the Provincial Principles and Guidelines of Sustainable Development (prior to 1995);

- though some resource issues are regional in nature and do extend beyond the bounds of the study area, the intent is to deal with those issues within the bounds of the Grass River Provincial Park;

- in such cases where detailed resource information is unavailable, or beyond the scope of development for this research, extrapolation of related resource information may be required;

- the extent of resource issues is not intended to be exhaustive; priority though will be given to resource issues which, through the course of research, are determined to be priority in terms of resource management decision making;

- public consultation, which is an important part of resource management planning, is beyond the scope of this research. It is assumed that the nature of decisions made is in accordance with public interest and opinion;

- an inherent need exists in retaining some flexibility to adapt to changing environmental and economic conditions and priorities. Of particular importance is the assumption that alteration of resource conditions will be based primarily on natural or planned phenomena (e.g., natural forest fires rather than human related carelessness);

- the intent is to address issues relevant to the Park's resources and not to support, defend or scrutinize the economic viability of resource extraction, rationale for land use development, or environmental conservation strategies designed for or permitted in this Park;

- environmental conditions, regulatory considerations and other related parameters are generally current to 1994.

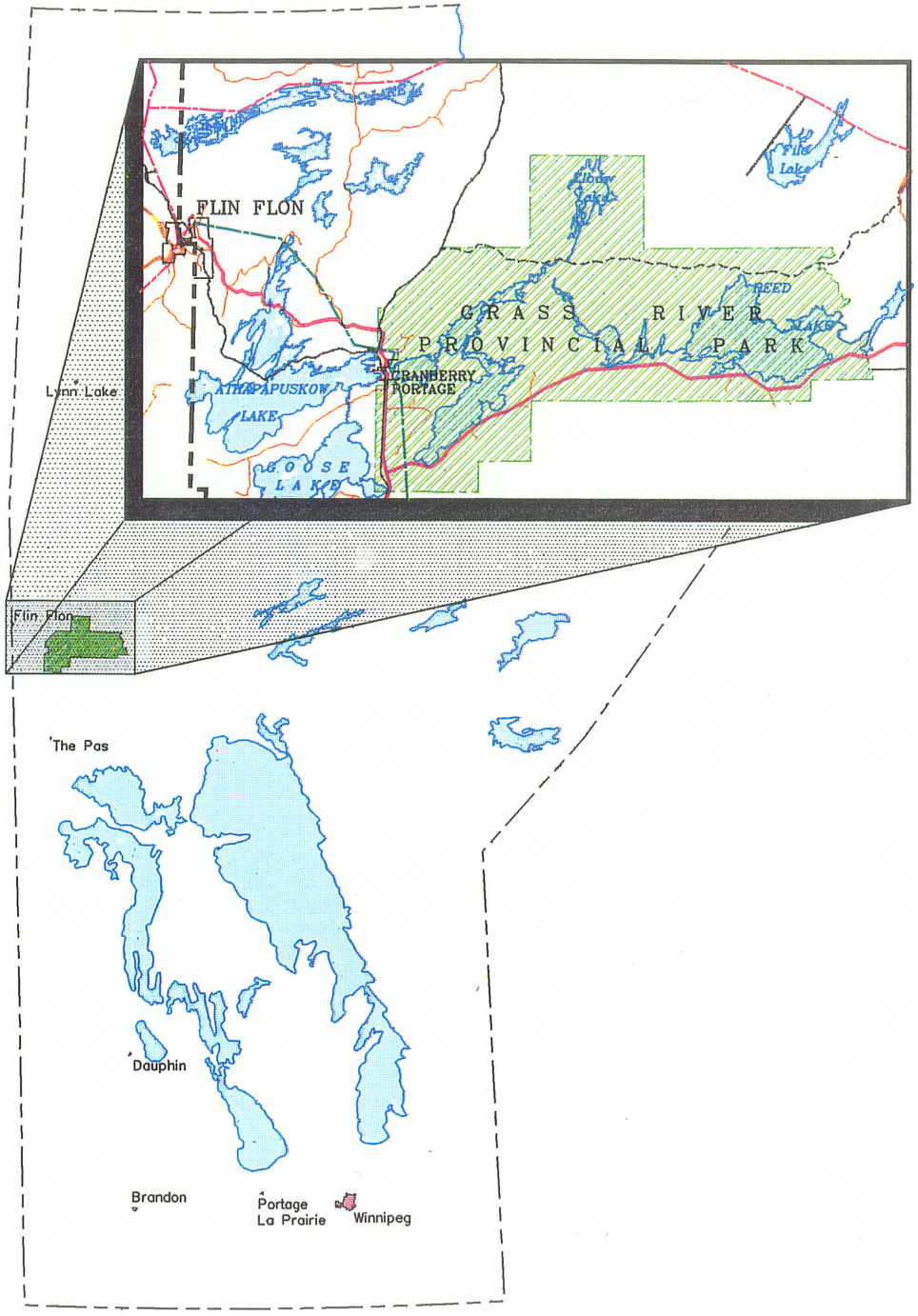
1.4 Study Area Location and Extent

The Grass River Provincial Park was selected as a test case for applying an integrated resource management approach to resolve potential land use conflicts.

The Park is located in northwest Manitoba, with the closest boundaries located approximately 560 kilometres north of Winnipeg, 200 kilometres southwest of Thompson and 32 kilometres east of Flin Flon. The community of Cranberry Portage is located on its west boundary (Figure 1).

In an east-west direction the Park extends some 80 kilometres and its maximum north-south extent is about 50 kilometres. The Park covers a total area of approximately 2 300 square kilometres (Jones et. al., 1984).

The Park boundaries typically follow the survey system particularly along the north and south limits. The east and west boundaries follow a combination of the survey system, linear facilities (CN rail line) and for a short distance, natural features such as rivers. The Precambrian Shield and the Manitoba Lowlands are located in the north and south parts of the Park respectively.



GRASS RIVER PROVINCIAL PARK
STUDY AREA

FIGURE 1

1.4.1 Regional Setting

Environment Canada's climatic data gathered at Flin Flon reports that the average winter and summer temperatures for 1990 were about -22°C and 18°C respectively, with annual precipitation totalling approximately 350 millimetres.

Located in the majority of the Park is the Precambrian Shield, which consists of rugged terrain including bedrock outcrops intermixed with organic areas containing features as bogs and fen associations. Conifer dominant species including jack pine and spruce occupy the Precambrian Shield area. The Manitoba Lowlands, located in the southern end of the Park is comprised of patternless drift plains (Weir 1983, Pedocan Land Resource Ltd. 1994) for which black and white spruce dominate.

Located in the Churchill Province (Pedocan Land Resources, 1994), part of a mineralized geological formation referred to as the Greenstone Belt is found in the Park. The Greenstone Belt is known to contain precious base metals (Geological Map, 1987).

Fedoruk (1970) indicates that the Park is located within the Major Drainage Basin 5TA, which is noted for high water quality.

According to Adams (1985) the Kississing Lake Habitat Sub-Region of the High Boreal Precambrian Ecoregion covers much of the Park area. Inhabiting the boreal forest (coniferous and mixed woods) which dominates this region, is a variety of wildlife including moose, deer, woodland caribou, bear, coyote, fox, martin and fishers. Furbearers such as mink, otter, beaver and muskrats inhabit this region's riparian areas as well as much of the Manitoba Lowland areas in the south part of the Park.

Mining, forestry and tourism are the main industries of the region.

CHAPTER 2 - REVIEW OF INFORMATION SOURCES

2.1 Overview

A literature review was undertaken to gain an understanding of the various resource management approaches available for resolving potential conflicts, and the current Provincial legislation which establishes policies and practices for resource allocation. Also as part of this process, the 1984 Grass River Provincial Park Management Plan was reviewed. Biological, physica, social and economic conditions were investigated with the intent of updating that plan to the extent possible. This was completed through literature searches and personal communications.

2.2 Literature Research

2.2.1 Resource Management Approaches

The debate regarding the best approach for making decisions involving complex systems is not new. In the 1960's, decision making and problem solving approaches considered assessments of the system as a whole, assessments of the pieces which make up the whole system, and assessments of sub-sets of the whole system (in that case, problem areas). It was also recognized that though no approach was capable of resolving all issues, each had its own merits and all contributed to an increased level of knowledge and understanding for complex systems (Churchman, 1968). Much has been learned since the 1960's, however the basic principles remain. Specific to natural resource decision making, current approaches include analysis of the whole system, currently referred to as Ecosystem - Based Management (EBM); analysis of the inter-relationships of the parts which make up the whole system, or Integrated Resource Management (IRM) and looking at priority sub-systems within the whole system, called Biodiversity Management (BDM). Within each of these, various specific management techniques have evolved. Some techniques such as Gap Analysis for Resource Management (Rowe 1993), have

evolved for BDM, while other techniques, such as Adaptive Management (Theberge 1994), could be applied to IRM, EBM and BDM, whereas the TRIAD technique is applicable to EBM and perhaps to IRM. The focus of this discussion will be on IRM, EBM and BDM as general concepts and specific techniques as examples will be introduced as applicable.

IRM

IRM is focussed on understanding and managing the interaction and inter-relatedness of the elements of an ecosystem (Hammond, 1991) according to set management objectives (R. Bonar cited by Wildfor, 1991) for appropriate resource management decision making. The approach is premised on two basic principles, the first of which is ecological responsibility which is consistent with the intent of Sustainable Development, while the second, balanced use of resources, acknowledges that all potential implications of human interaction affecting the system must be recognized. This interaction, whether conservation related, commercial extraction related or a combination, must be viewed in a resource management perspective.

IRM is typically based on establishing a set of objectives the purpose of which is to guide the management of the resources of a particular area. The objectives however, typically being set by a committee of experts or individuals whose work relates to specific elements of the resource(s), may be somewhat difficult to achieve consensus on, particularly when qualitative aspects of natural resources are being considered.

As with other approaches, it is impossible to research all elements of an ecosystem or area of interest. However, this limitation is sometimes overcome by recognizing the various priority elements or species within an ecosystem, particularly those which emulate the habitats or condition requirements of other species. These 'indicator' species are focussed on, sometimes in concert with 'emphasis' species, which allows for management options to be applied to those species of particular interest to man.

Typical techniques employed for implementing the IRM concept contain common steps in the process. The identification of categories such as forest, wildlife, water and landscape which when analyzed, will provide an understanding of the inter-relatedness with other components. The anticipated result of the process is balanced decision making based on the analysis and inter-relationships of each component.

EBM

EBM is a concept which Wedeless and Williams (1995), Grumbine (1994) and Theberge (1994) allude to as being somewhat difficult to develop a concise definition for. Wedeless and Williams (1995) suggest that this difficulty arises from two factors: first, the term itself has only recently evolved, and second, EBM means different things to different people. Notwithstanding this, Theberge (1994) also suggests that ecosystems themselves "are exceedingly complex, and they are notoriously unpredictable despite successional theory" (p. 16). For purposes of this discussion, the definition of Grumbine, cited in Wedeless and Williams (1995) will be used.

> ". . .integrates scientific knowledge of ecological relationships within a complex sociopolitical land values framework toward a general goal of protecting native ecosystem integrity over the long term". (p. 2)

Grumbine (1994) further explains the complexities of EBM application in a forest ecosystem as having characteristics including a management system which crosses all levels of biodiversity hierarchy (genes, species, populations, ecosystems, etc.), is not influenced by administrative or political boundaries, involves maintaining native species and re-introducing native expired species, requires extensive research, data collection and efficient use of data, and requires monitoring to assess the results of decision-making. As well, this concept provides for Adaptive Management, a scientific management approach which allows for learning while practicing resource management.

The EBM, Wedeless and Williams (1995) state, attempts to mimic or emulate natural disturbance patterns as closely as reasonable and to maintain the integrity of the ecosystem, particularly in reference to such

natural disturbances as forest fires. This concept, the authors also allude to, is not always politically or socially acceptable, particularly for large natural disturbances.

Researchers cite Seymour and Hunter (1992) and Thompson (1993) as advocating the TRIAD technique for EBM in forests. Essentially three separate intensities of management classes would be assigned to the ecosystem, with each class fulfilling specific management purposes. Typically the three management classes would consist of a totally undeveloped area (reserve), an area comprised on a blend of ecosystem management practices and a third area in which extensive resource extraction and land use development is practiced in order to meet a set of pre-determined values and management goals.

Dearden and Rollins (1993), in reference to ecosystems and parks, discuss a range of management options available, suggesting that "wilderness parks, nature reserves, natural environment parks and ecological reserves usually take a hands-off approach...many provincial parks follow the second of these approaches - moderate intervention...(while) some provincial parks, many wildlife areas and most municipal parks follow the last approach - major intervention (p. 171).

BDM

The definition of biodiversity as Noss (1995) cites the World Conference on Environment and Development is "the variability among living organisms from all sources, including terrestrial, marine, and other aquatic ecosystems and the ecological complexities of which they are part; this includes diversity with species, between species and of ecosystems". Biodiversity management, in theory, requires consideration of all species within the biological hierarchy. By protecting the richest biological ecosystems, biodiversity can be maintained. However, with over 70 000 documented species in Canada (McAllister, 1994), of which over 230 are considered to be at risk according to COSEWIC, managing species by species to ensure total biodiversity of resources is clearly an impossible task. Notwithstanding this, the World Wildlife Fund (WWF) suggests that biodiversity, similar to that previously

noted for ecosystems, means different things to different people. However, the WWF suggests that many difficulties could be overcome if biological diversity takes on an operational mode, or by having measurable indicators for use in environmental inventorying, monitoring and assessment.

From a biodiversity protection perspective it has been stated that biological and ecological values could be maintained by focussing protection priorities on "hotspots" of high specie richness. In order for this to be achieved however, ecosystem boundaries should be established, rather than political or administrative boundaries. Further, there is a requirement in biodiversity management for system adaptability to respond to the changing environment. The hotspot concept for biodiversity management does not imply, however, that all environments require protection. WWF elaborates suggesting that for "reserve networks... sometimes management will be intensive, and in some zones it will involve extraction of timber, minerals and other resources. In other areas, management will consist mostly of protecting areas from disruptive human influences" (Noss, 1995 p. 17).

The Gap Analysis technique to biodiversity management attempts to maintain significant portions of native biological diversity for the full range of habitats and environmental conditions. Though difficulty exists in inventorying biodiversity, Rowe (1993) suggests that a series of filtering stages to sample areas of ecological diversity could be utilized.

A recently developed (developing) technique referred to as "eco-species hotspots", is an example of how areas which have many co-occurring species, can be spatially identified. Similar applications involving clusters or groups of areas could be undertaken for sensitive or endangered species. The one area of weakness, that being the consideration of all species being equal, could be overcome by introducing species taxonomy. The Canadian Centre for Biodiversity suggests this concept of species taxonomy, would create an "eco-taxa hotspot" approach to biodiversity management.

2.2.2 Resource Conflicts

Factors affecting man's perception of natural resources are many, value laden, and open to interpretation (Schroeder, 1981). Often they are inter-related and frequently they occur simultaneously. For convenience of this discussion several of these factors will be elaborated upon in isolation from others.

Changing Values: Natural resources are valued differently through time and space. Man's focus and priorities regarding natural resources also change through time, primarily regarding intensity of utilization. During favourable economic times, the tendency is more towards conservation of intrinsic values, whereas during times of economic difficulty, natural resource utilization from a commercial perspective frequently becomes priority.

Natural Resources are Typically not Homogeneous; each resource changes in quality and quantity across space. In areas of scarcity, rarity or lack of abundance, the particular resource is perceived to have more value or importance, particularly from a conservation perspective. In areas of abundance, there frequently is less priority to employ stringent resource conservation measures, with the exception of an abundance of many natural resources (e.g., BDM hotspots).

Different Values: All resources of a park are of value, but not of equal value (Dearden and Rollins, 1993 p. 159). Park resources in general are varied and for the most part, are extensive. The value of each resource however, is not equal for all people compared to other resources in the park. The moose hunter for example may value his experience by success rate, replacement cost, substitution cost or recreational value associated with his sport. The botanist, however, might value the rare plant that the moose had eaten as a much greater loss (or gain if not eaten) than the value of the moose itself. The timber harvester, however, will tend to assess the economic value associated with cutting the trees upon which the moose depends for winter thermal cover, and he might be totally unaware of the intrinsic value the botanist placed upon the rare plant.

Total Value: The mere complexity of ecosystems makes it impossible to establish a true value of a particular resource. Though direct economic value of a resource can often be calculated, the intrinsic value (e.g., aesthetics, preservation of rare species, etc.) cannot be accurately calculated.

Perceived Value: Resources are valued different by each person. There is no scientific formula available to determine the true value of a resource.

Multiple Users: There are many users of park resources. Man has an uncanny ability to see things only from his own perspective. Frequently in having vested interests in the natural resources of a park, one tends to over-look the important aspects of one resource in relation to other resources or other uses of the same resource. Yet those resources are finite and have minimum thresholds for sustainability. Over-use of a resource (fishing) could reduce the quality or quantity of the resource for other and future users. Conflicting views frequently arise in regard to type and extent of resource use, and who the priority users should be.

Uncertainty of Future Effects by Man's Use of the Resources: Resource extraction is viewed by some as having negative effects and by others as having positive effects. Sometimes man's interaction with the environment will have both positive and negative effects. Timber harvesting for instance, typically reduces mature forest habitat for some wildlife species, however, creates additional habitat conditions for other species. Priorities must be clearly established among the resources for conflicts to be prevented and all aspects of man's activity on the environment must be considered in order for the nature of the disturbance to be fully understood (e.g., type of interaction, location, extent, and the resources affected).

Misunderstanding of Park's Purposes and Park Objectives: By establishing clear and concise park objectives, potential conflicts regarding the implementation of management options can be reduced. Parks offer a variety of resources to an array of users. Without legislation or policy to support objectives and purposes of parks, the intent of the park's uses may be altered or misinterpreted. If the distinction

between Wilderness and Recreation parks, for example is not clearly understood by user groups, resource use conflicts are likely to develop.

2.2.3 General Legislation and Policies

A general review of relevant Provincial and Federal legislation concluded that sufficient similarities existed to allow Provincial legislation to be a proxy for both. Where Federal legislation was not parallelled by Provincial legislation, it was not considered applicable.

Review of Provincial legislation revealed that pre-1984 legislation existed to orientate the development of the 1984 GRPPMP and therefore was a determining influence on the resource base of that park's 1984 Management Plan.

Much of the pre-1984 environmental legislation has since been superseded by new regulations or revisions to existing regulations of the acts. Of particular interest was the institution of the Manitoba Environment Act, Chapter 26 (1988), which is supported by Manitoba Regulations, including 163-88 and 164-88 (Licensing Procedures Regulation and Classes of Development). This legislation became the catalyst for other regulations to be revised or enacted for the protection, conservation and/or use of specific natural resources. As a result several associated regulations were reviewed by the Province in the years immediately preceding the invoking of the Manitoba Environment Act. The second important legislation, the Provincial Parks and Consequential Amendments Act was assented in 1993. The Manitoba Principles and Guidelines of Sustainable Development not legislated, but adopted in principle, also is pertinent to resource management planning.

The Manitoba Environment Act

The Environment Act (E125) is a Provincial act intended to ensure that the environment is maintained to sustain a high quality of life now and for future generations.

The Manitoba Environment Act outlines the functions of the Manitoba Department of Environment, establishes the Clean Environment Commission and the Manitoba Environmental Council, requires the development of a "State of the Environment" Report, sets out an environmental assessment process for developments, and establishes three classes of developments for activities (Guide to the Manitoba Environment Act).

Classes of Development Regulation, 164-88 April/88 of the Manitoba Environment Act, establishes classes of development by means of example (Class I, II & III). This is particularly relevant to resource harvesting or extraction activities which are allowed within the Park. Potential adverse effects to the natural conditions of that park will be outlined according to the nature and magnitude of the development or operation. Provision is also made for projects not falling within any of these classes to be elevated to a licensable state if potential significant impacts are anticipated.

The Environment Act Licensing under the Manitoba Environment Act, does stipulate the following as requiring a Class II license.

> Developments within Provincial Park lands referred to in a park Management Plan prepared by the Parks Branch of the Department of Natural Resources. (Manitoba Environment Act E125-MR164/88 p. 6).

It is important that the resource use policies developed outside the framework and requirement of Manitoba Environment Act Licensing do recognize the importance and complexity of licensing developments within Provincial park boundaries. Thus, the policies and provisions developed for resource management do require flexibility for practical application in regards to those developments requiring licensing. A copy of the Environment Act Proposal Form (EAPF) is attached in Appendix A.

Sustainable Development

The concept of sustainable development was initiated as a global principle led by the International Institute of Sustainable Development (IISD), which states:

> The U.N. Commission described sustainable development as paths of economic, environmental, social and political progress that: ...meet the needs of the present without compromising the ability of future generations to meet their own needs. (Manitoba Round Table on Environment and Economy (a) p. 2).

The World Resources Institute (1992) elaborates, suggesting that four dimensions-economic, human, environmental and technological - must be developed simultaneously for the goals of sustainable development to be reached.

From a provincial perspective this is particularly relevant, as it attempts to encourage economic growth based on resource utilization, yet in a manner that will not allow those same resources to be detrimentally impacted by that utilization in the short term, and will permit the similar utilization of the resources for future generations. The application of this concept would require a thorough understanding of the availability of resources, the stability and threshold for maintenance of the resources and an understanding of resource utilization and sustainability. However, at present, the in-depth understanding of resources as wildlife populations and threshold capacities of populations, their vulnerability and adaptive behaviours is not always available (D. Schindler, *pers com*). Also, other resources, such as forests and vegetation, are quite susceptible to local variations in quantity and quality caused by uncontrollable forces such as forest fires, windstorms, tornados and disease. The base information for some of the resources is not static, and changes to threshold conditions do occur; many of these changes are not within human control (P. Ashton, *pers com*). Beeusaert (1995) concludes that "the implementation of the concept of sustainable development has generally proven to be very difficult" (p. 14).

Notwithstanding the inherent difficulty in fulfilling all aspects of sustainable development, several principles and guidelines have been outlined by the Manitoba Round Table on the Environment and Economy. These principles and guidelines which encompass the Province's position regarding its commitment to environmental responsibility as well as promoting a viable economy, in general, are listed in Appendix B.

In specific reference to provincial parks, there was support for park policies in general to be reviewed. It was stressed that certain areas and parks should be protected, but it was also stressed that "resource based communities should not be compromised by excluding significant park lands from resource extraction" (Manitoba Round Table on Environment and Economy, p. 3). The outcome of the Manitoba Round Table on Environment and Economy's assessment was that the Parklands Act should be updated to reflect a park classification system which would provide for multiple use in some parks while restricting other parks to selective uses.

The Manitoba Parks and Consequential Amendments Act

Within the context of the findings of the Manitoba Round Table on Environment and Economy as it applies to Provincial Parks, obvious applications to the Grass River Provincial Park existed. The application of the Principles and Guidelines of Sustainable Development provided support for a review of the Park Lands Act. The results of this review provide the framework for the implementation of Provincial Parks and Consequential Amendments Act (Chapter 39).

This Act (1993) states

> WHEREAS Provincial Parks are special places that play an important role in the protection of natural lands and the quality of life of Manitobans;
>
> WHEREAS existing and future Provincial parks should be managed in a manner consistent with the principles of sustainable development so that representative examples of diverse natural and culture heritage are conserved and appropriate economic opportunities are provided;

> AND WHEREAS a system of Provincial Parks will contribute to the province's goal of protecting 12% of its natural regions;
> (Ministry of Natural Resources 1993; Chapter 39, p. 1)

According to this Act, the purposes of the Provincial Park System are:

(a) to conserve ecosystems and maintain biodiversity;

(b) to preserve unique and representative natural, cultural and heritage resources;

(c) to provide outdoor recreational and educational opportunities and experiences in a natural setting.

(Ministry of Natural Resources; Chapter 39, Section 5)

Classifications set out in this Act for Provincial Parks include Wilderness parks, Natural parks, Recreational parks, Heritage parks and Other parks as may be specifically required. Each designation of park has its own main purpose. The wilderness park classification is established to preserve representative areas of a natural region, while a natural park is established to both preserve areas of the natural region as well as to accommodate recreational opportunities and to allow resource uses. A recreational park's main purpose is to provide recreational opportunities and a heritage park designation is to preserve an area of land containing a resource of cultural and/or heritage value. The "other park" designation is to accommodate any other type of park that may be specified by regulations.

Within each park classification, this Act allows for land use categories to be developed for management of the park. These categories are as follows:

> Land Use Categories
> 7 (3) A regulation under subsection (1) shall further categorize the land in a Provincial park into one or more of the following land use categories:
>
> (a) a wilderness category, if the main purpose of the categorization is to protect representative or unique natural landscapes in an undisturbed state and provide recreational opportunities that depend on a pristine environment;

(b) a backcountry category, if the main purpose of the categorization is to protect examples of natural landscapes and provide basic facilities and trails for nature-oriented recreation in a largely undisturbed environment;

(c) a resource management category, if the main purpose of the categorization is to permit commercial resource development or extraction in a manner that does not compromise the main purpose of the park classification as described in subsection (2);

(d) a recreational development category, if the main purpose of the categorization is to accommodate recreational development;

(e) a heritage category, if the main purpose of the categorization is to protect a unique or representative site containing a resource or resources of cultural or heritage value;

(f) an access category, if the main purpose of the categorization is to provide a point or route of access in a Provincial Park or a location for a lodge and associated facilities.

(g) any other category that may be specified in the regulation.

(Ministry of Natural Resources 1993 Chapter 39, Section 7-3)

As with the Manitoba Environment Act, this Provincial Parks and Consequential Amendments Act also encourages public consultation and feedback.

Under this Act, management plans for each park will be developed to deal with resource protection, use and development.

It is anticipated that a transition period will be required for implementation of this new Act. To date the Provincial Parks and Consequential Amendments Act has not been applied. (At the time of this research, the Act was in the process of being legislated).

Manitoba Environment Act (1988) and Provincial Parks and Consequential Amendments Act (1993) as They Apply to the Grass River Provincial Park

(a) Manitoba Environment Act

Though this Act does not regulate the development and implementation of the management plan of a park as a Class Development, it does regulate developments in Provincial parks referred to in management plans. Accordingly, any development identified in management plans will be regulated according to the requirements of the Manitoba Environment Act.

(b) Provincial Parks and Consequential Amendments Act

According to the Parklands Act, the GRPP is designated as a Natural Park. This designation allows for recreation, conservation of natural areas, as well as specific areas for resource extraction. The expectation is that the designation will not change (R. McCharles, *pers com*). The land use categories within the Grass River Provincial Park will likely change to conform to those set out in the new parks act.

2.2.4 1984 Grass River Provincial Park Management Plan

The Management Plan, which was supported by interim documents, provides the basis for implementing and regulating the resource uses of the Park. It contains ten maps which provide spatial detail on specific resource and land use factors and classifications. The Plan recommended zoning according to four categories: Special Areas Zone, which protected critical woodland caribou calving areas; Developed Recreation Zone, which provided for public campground and related recreational facilities; General Recreation Zone, which provided for recreation based use of the park; Commercial Resource/Recreation Use Zone, the purpose of which was to provide for resource extraction to occur and for recreation activities to continue.

The Grass River Provincial Park, classified as a Natural Park, was guided by the legislation which was enacted at the time. Of particular note were the Provincial Park Lands Act (1972), the Clean Environment Act, passed in 1968 and the Environmental Assessment and Review Process, which was adopted by the Provincial Land Use Committee of Cabinet in 1975 (Blunt, *pers com*). This process was

revised by the enactment of the Manitoba Environment Act of 1988 of which Manitoba Environment has been delegated the responsibility for matters pertaining to the environment.

Given the importance of the 1984 Grass River Provincial Park Management Plan to this research, a summary of its highlights, much of which was extracted directly from that Management Plan, is provided in Appendix C.

2.2.5 Biological, Physical, Social and Economic Factors

An extensive research of resource baseline information was undertaken for the development of the 1984 GRPPMP. The Park Plan and related documentation also demonstrated that considerable effort went into assessing the then current extent of management techniques for resource conservation and implications of commercial extraction of resources within the Park. The intent of this research is to utilize that information base of the 1984 GRPPMP and adjust or supplement it with current resource information. The combination of biophysical conditions of the Park as described in the 1984 GRPPMP and the data updates will provide the framework for developing baseline biophysical and socio-economic conditions.

The biophysical and to some extent the socio-economic information researched did reveal that the resource baseline information updates were available, however, not in a consistent, comprehensive or standardized fashion. In some cases where data did exist, definitive scientific conclusions could not be reached because of data limitations or the lack of comprehensive field studies in the area.

Regional environmental descriptions and data were based on well respected scientific documents such as Adams 1985, Rowe 1972, Environment Canada and Provincial resource records, as well as various provincially and/or nationally accepted classifications and area delineations (e.g., Watershed Units of Canada). Though some documents were dated relative to more current information sources, these publications provided a standardized interpretation of specific resource bases from a regional

(landscape) perspective. This information was frequently supplemented by more detailed data specific to the Park and/or outlying area. The summary of regional environmental conditions presented in Chapter 1, provides an overview description of the area in which the Park is located.

Various independent environmental studies for project developments in the Park's surrounding area were reviewed. These studies were undertaken primarily by resource or land use developers to meet the requirements of Environmental Licensing under the Manitoba Environment Act. For studies conducted prior to the enactment of the Manitoba Environment Act, the review was orchestrated through the Manitoba Environmental Assessment and Review Agency (MEARA) (B. Blunt, *pers com*). MEARA was the environmental review agency which was superseded by Manitoba Environment.

Project development related environmental assessments became a valuable source for reconstructing current resource baseline conditions. Of particular note were several transmission line and sub-transmission line Environmental Impact Statements (EIS) developed by Manitoba Hydro, a highway proposal developed for the Department of Highways and Transportation, an EIS developed and submitted for environmental licensing by a mining facility south east of Lynn Lake, and an EIS which was submitted for licencing a mining operation at Snow Lake.

Maps, charts, brochures and resource harvesting records provided another valuable source of information for identifying key resource use trends and particular environmental sensitivities in the Park and surrounding area. Many of these records were obtained from the respective Provincial Government departments.

Non-legislative publications, reports and documents pertaining to areas pertinent to environmental stewardship and/or park planning or resource management were obtained from project developers, Provincial Government departments and resource users. Of particular value were government publications which provided recommendations, guidelines and acceptable practices to minimize environmental impact and degradation of resources. Such publications included Recommended Buffer

Zones for Protecting Fish Resources in Lakes and Streams in Forest Cutting Areas (1990), Recommended Fish Protection Procedures for Stream Crossings in Manitoba (1984), Forest Management Guidelines for Wildlife in Manitoba and Timber Harvesting Practices for Forestry Operators in Manitoba (1994).

As well, general research studies conducted by Provincial Government departments and others provided valuable information on an array of environmental factors. Documents, including Woodland Caribou in Manitoba (1993), Moose Census, Population Analysis and Recommendations for Game Hunting Area 3b and, Standards for the Development of Habitat Suitability Index Models, provided concise information pertaining to specific topics, as ungulate species population, habitat requirements and management options.

Additionally, documents pertaining to Sustainable Development, such as Natural Lands and Special Places, which was developed by the Manitoba Round Table on Environment and Economy and State of the Environment Report for Manitoba (1993) by Manitoba Environment, also provided guidance in understanding the policy issues involved.

2.3 Personal Communications

An important element to compliment the literature research was information obtained through personal communications. Many resource managers, environmental scientists, Provincial Government representatives and other parties having expertise and knowledge in the natural and commercial resource uses of the Park were contacted. Information obtained by personal communication was considered vital to developing a current resource information base (post-1984) and to understand the complexities of resource conflicts in the GRPP.

Of particular value to the resource data update, was dialogue with representatives of the various branches within the Department of Natural Resources, particularly at their Regional Office at The Pas.

Also, environmental specialists and scientists who became familiar with the Grass River Park through their work experience, provided valuable resource information.

Information retrieved from personal communications was frequently based on their personal knowledge, and if documented was sometimes obtained as raw data, or in unpublished form. Such contacts whose expertise was generally within specific disciplines, have professional interests in maintaining the balance between their interest and those interests of other disciplines. Of particular note are the wildlife resources, archaeological resources, forestry resources, aquatic resources, and commercial land uses disciplines as being influential in establishing appropriate protocols in determining overall resource use decision making.

CHAPTER 3 - METHODOLOGICAL FRAMEWORK

3.1 Study Design

Notwithstanding the benefits of applying any of IRM, EBM or BDM to assist in resource related conflict resolution, an Integrated Resource Management approach was considered particularly useful in resolving resource and land use conflicts from a variety of perspectives. The integrated (multi-disciplinary) concept is currently being utilized by the Provincial Government's Department of Natural Resources (DNR) through the functioning of regional Integrated Resource Management Teams (IRMT) to achieve consensus on resource issues. That approach to balanced decision making has a record of success. The IRM approach in itself is sufficiently adaptable to changing environmental conditions to be useful in resource conflict resolution. The concept is also adaptable to pre-determined administrative boundaries, as well as being oriented towards critical issue resolution rather than an all inclusive resource management purpose.

Of the number of definitions available for Integrated Resource Management, the one generally adopted for this research is found in the following quote:

> (...) a strategic and interactive management approach making it possible to take into account the largest number of needs and values in the decision-making process and to address in a concerted manner planning, evaluation and implementation questions. It seeks to integrate all aspects pertaining to the evaluation, planning and management of the various resources (1991, Quebec, Integrated Resource Management p. 7).

To understand and apply the fundamental principles of IRM to a comprehensive plan, the resource management categories and the components within each category were reviewed. This was achieved by reviewing other studies and research programs which utilized the integrated resource management approach for resolving resource conflicts.

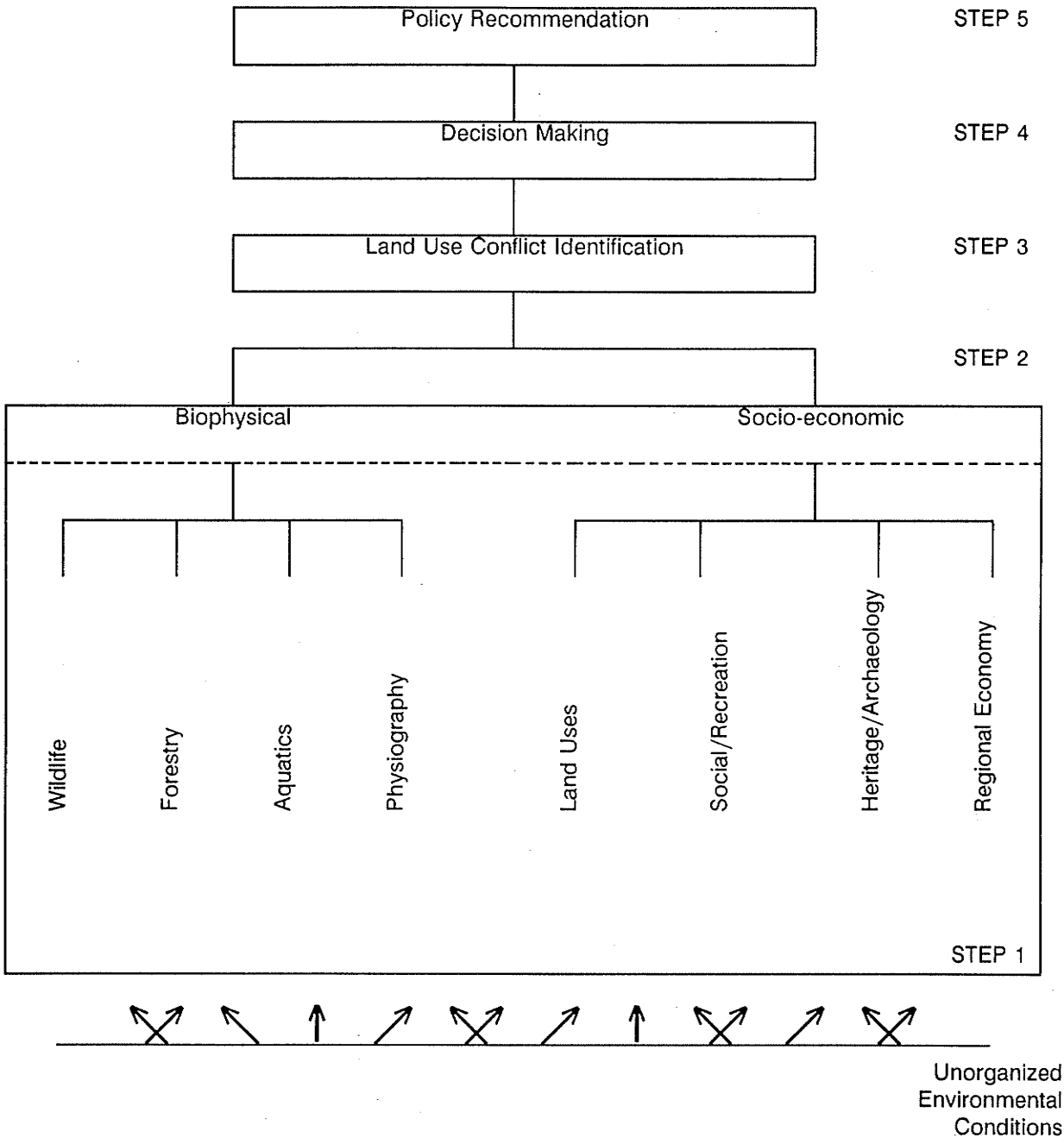
Typical categories established to organize resource information and ultimately to enhance the decision making process are: Biophysical and Socio-economic.

The biophysical category is defined as being comprised of the components of a biological and/or physical nature associated with land, air and water, while the socio-economic category is defined as being comprised of those social and economic implications or uses of the biological and physical aspects of land, air and water.

In several environmental studies, the biophysical category typically includes components as aquatics, consisting of water quality and fish resources; forestry/vegetation, consisting of rare and endangered plants, and the vegetation associations of the landscape; wildlife, typically ungulate species, fur bearers and waterfowl (and their habitats); terrain/physiography, especially soil types, and parent bedrock material and unique landforms. Within the socio-economic category, components include social effects, or the impacts and benefits on the lifestyles of those living in the area; archaeology, consisting of known and potential heritage and/or archaeological resources; land uses, or human use or modifications to the environment, which is frequently divided into several sub-components such as recreation, timber harvesting, land development, etc; and regional economics, which is often based on natural resource extraction to maintain the regional economy of communities and people in the surrounding area.

The components for the biophysical and socio-economic categories are illustrated in step 1 of Figure 2. This figure also shows the subsequent steps which were generally outlined in previous resource assessments and are considered for this research.

FIGURE 2: SCHEMATIC DIAGRAM OF STUDY PROCESS



3.2 Application of Study Process

Prior to applying the study approach, a review of resource baseline conditions was undertaken where possible. It was assumed that regional conditions and resource characteristics identified and described in the 1984 GRPPMP would comprise the baseline conditions upon which to construct an updated resource inventory. The characteristics described in the 1984 GRPPMP were categorized as best as possible into the various biophysical and socio-economic categories.

In reference to Figure 2, the study approach is best described in the following steps:

Step 1: An organization of baseline conditions into resource components to provide a systematic approach for updating resource conditions.

Step 2: A descriptive analysis of the various components to assess the inter-relatedness of each.

Step 3: A comparison of resource structures of the biophysical and socio-economic categories. This includes an analysis of regulation, practice or policy to identify the requirement for maintaining or utilizing the resources of the park area (conflict identification).

Step 4: In this step, best balanced decisions are made to manage the resources according to the legislative requirements and to minimize resource use conflicts.

Step 5: Documentation of the extent of recommended resource conservation, utilization and mitigative actions is required to ensure continued multi-purpose use in a sustainable fashion.

These five (5) steps became the framework for the approach used in this research.

CHAPTER 4 - UPDATE OF THE BIOPHYSICAL CHARACTER OF THE PARK

Biophysical components which add a unique value to the Grass River Provincial Park include wildlife, forestry/vegetation, aquatics (water quality and fish) and physiography. This chapter will discuss the updated biophysical components of the Park by example only. Factors within each component which were considered to be of priority interest to the park's planning were selected.

4.1 Wildlife

Wildlife, consisting of birds, mammals, amphibians and reptiles (Manitoba Environment Act, 1988), is considered a valuable resource component closely associated with such habitat requirements as vegetation type, crown closure, terrain, physiography, and climatic conditions (D. Schindler, *pers com*). With approximately 71 000 species in existence in Canada (McAllister, 1994) it is difficult to include all into a comprehensive analysis for which specific management objectives can be achieved (U.S. Fish and Wildlife Service, 1980). A technique employed, however, is to manage the key species which are representative of the habitats of other species. Such species are referred to as indicator species (Manitoba Forestry/Wildlife Management Project, 1992). Species referred to as emphasis species (Manitoba Forestry/Wildlife Management Project 1992) are those which represent a significant value to the region in which they exist. The process of key species management has gained considerable acceptance in Manitoba as a technique for understanding important habitats and their relationships to vegetation ecosystems (D. Schindler, M. Waldram, *pers com*).

> Moose, (elk) and woodland caribou represent three of Manitoba's highly prized game animals. As such, these species require careful monitoring and sound management practices to ensure their availability for the traditional use of future generations. (Crichton, V. 1985, p. 1)

Elk do not exist in the Grass River Provincial Park.

As indicated by Department for Natural Resources (D. Cross, *pers com*) as well as documented in the 1984 Management Plan, the Grass River Provincial Park hosts a variety of wildlife species, however, the most important are the moose (emphasis species), because of its subsistence use and its value to sport hunting, and the woodland caribou (indicator species) because of the relatively low population and vulnerability to habitat disruption (Manitoba Natural Resources 1993 Grass River Provincial Park Map). Woodland caribou have been identified as a vulnerable species by (COSEWIC) and

> will be a priority species of concern in the Department of Natural Resources work programs...Recreational hunting for woodland caribou will be suspended for all herds in all areas until further information on population dynamics is available and it can be demonstrated that there is a harvestable surplus. (Johnson, 1993 p. 8)

White tailed deer, which are known to exist in the park area, are relatively low in numbers and are close to their northern range limits (D. Cross, *pers com*). This species is not considered resident to the area. They are immune to, but can be carriers of a parasitic brainworm disease (P. Tenuous) which, when transmitted to other ungulate species, can be fatal (D. Schindler, *pers com*).

Other wildlife species such as wolves, foxes, coyotes and bears are distributed throughout, while beavers, muskrats, mink, weasel and otter are concentrated in and along riparian areas associated with lake and watercourse environments. Martin, fisher and wolverines are located predominantly in mature forests. Avian species such as loons, ducks, geese, mergansers, blue herons and cormorants reside in waterbodies, while a variety of other birds typical of boreal regions include a variety of grouse, woodpeckers, warblers and sparrows (TAEM Consultants 1994; Godfrey 1986).

4.1.1 Legislative and Other Parameters Relating to Wildlife

Important legislation pertinent to wildlife includes the Manitoba Endangered Species Act and Manitoba Wildlife Act. Policies and guidelines affecting wildlife include that pertaining to the Committee on the Status of Endangered Wildlife in Canada (COSEWIC) and subsistence food supply.

The Manitoba Endangered Species Act, Section 10(1) specifically states that no person shall kill, injure or disturb rare or endangered wildlife or the habitats upon which they depend, whereas the Manitoba Wildlife Act, Section 50 (i) states that "no person shall destroy or damage habitat on Crown Land except pursuant to a licence, permit or other authorization issued or given under this or any other act of Legislation".

The COSEWIC list of endangered species (1992), developed by the World Wildlife Fund, consists of approximately 230 species which are considered to be at risk in Canada. Based on each specie's rangeland and habitat type, very few are known to exist in the Grass River Provincial Park. The woodland caribou is considered to be a "vulnerable" species by COSEWIC (1992). Though low in total numbers, they have maintained a stable population in the Park area (Johnson, 1993).

> "Woodland caribou are especially significant because of their rarity within other provincial parks. Caribou range throughout most of the park during the year, but are most often associated with mature forest and treed muskeg. Many islands on lakes such as Reed, Iskwasum, Wedge, and Simonhouse provide important calving habitat." (Manitoba Natural Resources - Parks 1992 GRPP - Map).

Another important consideration regarding the importance of wildlife in general is that of subsistence food supply. Northern aboriginal communities are particularly reliant on local ungulate species, especially moose, for consumptive purposes (D. Robertson DNR, Baker - Chief, Granville Lake, *pers com*). The moose is the largest and most sought after of the ungulates, providing the basis for much of the protein foods for residents of several communities. Regulated hunting in the Grass River Provincial Park exists for moose but not for woodland caribou.

The 1994 Manitoba Game Hunting Guide identifies areas considerably north of the GRPP, as being available for hunting caribou (Game Hunting Areas 1, 2 and 3). No distinction made between woodland and barren-ground caribou. No regulated-hunting areas exist throughout the remainder of the Province, including the Grass River Provincial Park (Manitoba Game Hunting Guide 1994/95). Aboriginal people

however, do have the legal right to hunt animals on Crown Land for subsistence purposes. The woodland caribou is hunted by aboriginal people on a casual basis (D. Cross DNR, *pers com*).

The following sections will discuss existing research conducted on the Grass River Provincial Park's two most valuable ungulate species: woodland caribou and moose.

4.1.2 Woodland Caribou

Background

Woodland caribou number about 2 500 animals in Manitoba (Johnson, 1993) and are typically in scattered groups of 30 to 50 individuals in a band. Woodland caribou ranges are extensive within the Boreal Region of Canada. This area is generally typified by a mosaic of bedrock outcrops, bogs, lakes marshes and fens. Vegetative cover consists primarily of coniferous stands (softwoods) such as black spruce, white spruce, balsam fir, and jack pine, intermixed with deciduous stands such as trembling aspen, black poplar, white birch, and black ash (TAEM Consultants 1994).

Specific food supply which is associated with these coniferous stands consists of arboreal and terrestrial lichen growth (Johnson, 1993, Schindler, 1986, Hristienke, 1985) while the boreal environment provides winter and summer thermal cover as well. It is also noted that

> The removal of preferred caribou habitat reduces the space available to caribou to separate themselves from predators, other prey and man (Hristienke, No. 85-3 1985, p. 2).

Stardom (1972), who documented specific feeding habits of woodland caribou, concluded that, on the east side of Lake Winnipeg, there was a trend for caribou to sustain themselves on ground lichen along ridges and to crater for terrestrial lichen during mid-winter seasons. Harris (1992) has suggested that caribou feed on conifer shrubs in marshy areas in the early winter. As well, research conducted by

Bergerud (1974), (1978), Crichton (1987), Darby (1978), Schindler (1986) and Shoesmith and Storey (1977) supports the importance of lichens to woodland caribou lifecycle requisites.

Woodland Caribou Research in the Grass River Provincial Park Area

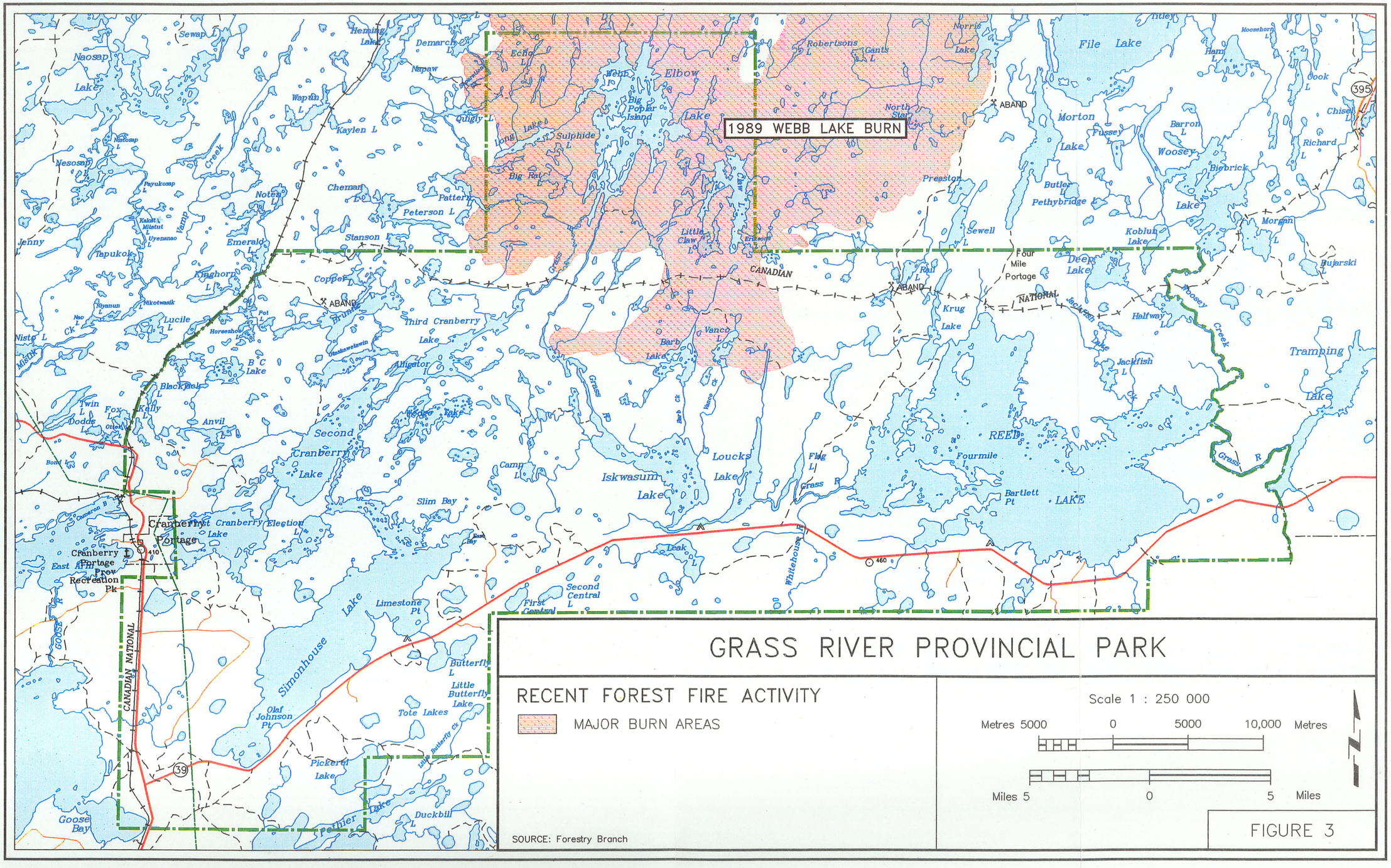
Woodland caribou exist in most areas of the boreal forest, however, in relatively limited numbers (extrapolated from Johnson C., 1993). Though not studied in a comprehensive fashion throughout the province, various data files on this ungulate have been accumulated. In central North-West Manitoba, some research had been undertaken east of Flin Flon in the Reed Lake, Kississing Lake and Cormorant Lake areas (D. Cross, *pers com*).

In the Grass River Provincial Park area, woodland caribou herds which have been identified by Johnson (1993) are Reed Lake - Yawningstone, Naosap - Elbow Lake and Kississing Lake herds, each with populations estimated to be between 50 and 100.

The total population of woodland caribou herds which use the Grass River Provincial Park is estimated at between 125 and 250 (Johnson, 1993).

In the recent Webb Lake forest fire (1989) which crossed into the Grass River Provincial Park (Figure 3), much of the mature timber was destroyed, which reduced lichen food supply for woodland caribou. The Elbow Lake area, which was encompassed by this fire, was also considered to be a caribou calving area. Since the fire there was little evidence of woodland caribou activity in the Elbow Lake area. (D. Cross, *pers com*).

Known or suspected woodland caribou calving areas, wintering areas and general areas of occurrence are identified in Figure 4.



GRASS RIVER PROVINCIAL PARK

RECENT FOREST FIRE ACTIVITY

▨ MAJOR BURN AREAS

Scale 1 : 250 000

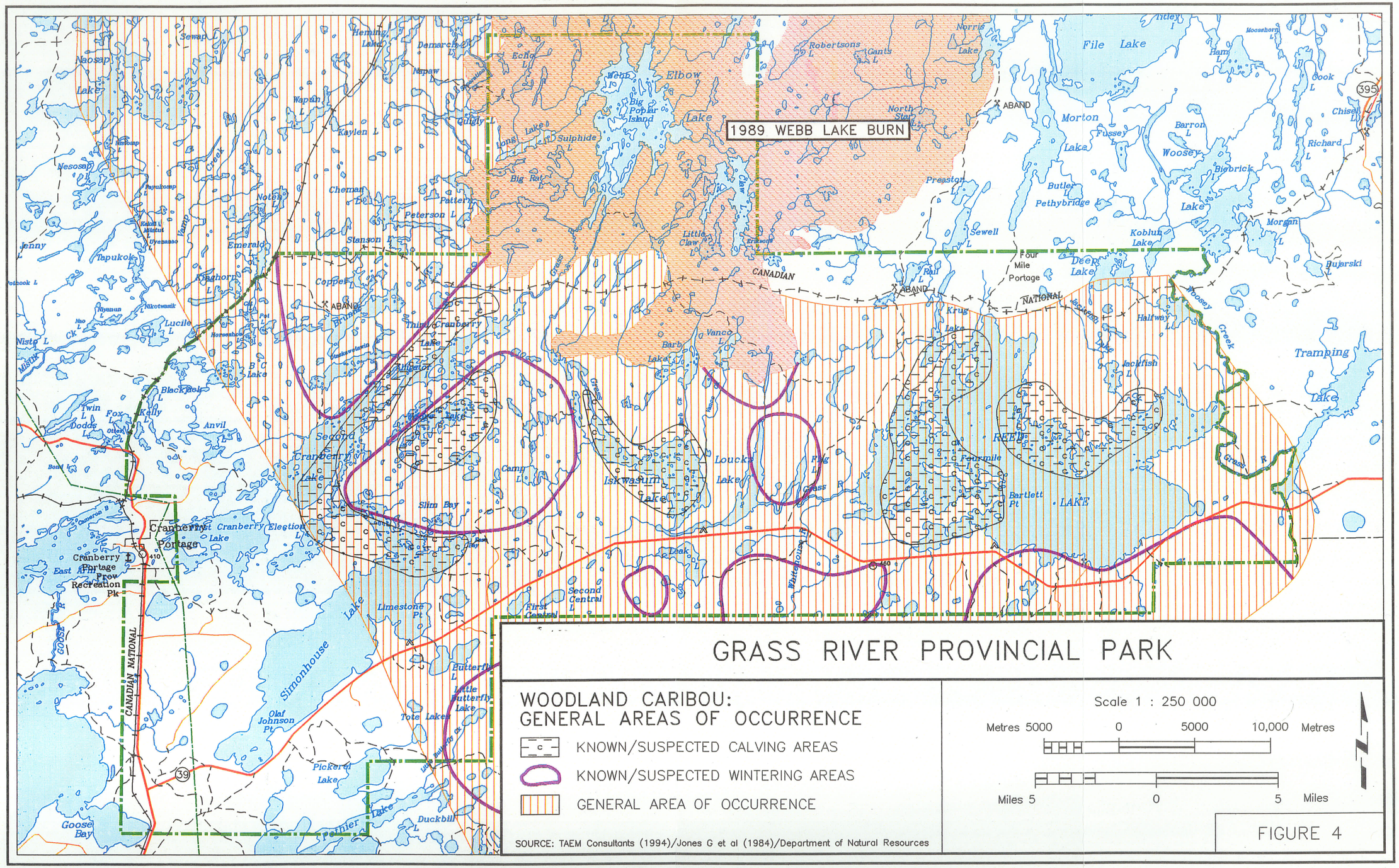
Metres 5000 0 5000 10,000 Metres

Miles 5 0 5 Miles

SOURCE: Forestry Branch

FIGURE 3

This map is based on information taken from the National Topographic System map sheet number 63N, 63K, 630, & 63J. Her Majesty the Queen in Right of Canada with permission of Energy, Mines, and Resources Canada.



This map is based on information taken from the National Topographic System map sheet number 63N, 63K, 63O, & 63J. Her Majesty the Queen in Right of Canada with permission of Energy, Mines, and Resources Canada.

Though a comprehensive data research involving woodland caribou activity in relation to vegetation ecotypes in the GRPP subsequent to the 1984 GRPPMP has not been undertaken, A. Benoit of the University of Manitoba, Natural Resources Institute, in association with the Department of Natural Resources and Repap Manitoba Inc. is in the process of conducting research work on woodland caribou in the area. Results of this research are not yet available (A. Benoit, *pers com*).

4.1.3 Moose

Background

Important natural factors affecting moose populations are the availability of productive summer and winter ranges and the presence of suitable sheltered calving areas (G.L. Jackson, et. al., 1991). Calving grounds for moose tend to be along natural secluded shorelines, small peninsulas and off-shore islands, where predators could be sighted from a distance (Schindler, *pers com*; Jackson et. al., 1991).

A 1989 moose census and management program conducted in the Pukatawagan area, about sixty (60) miles north of the Grass River Provincial Park, suggests that "moose and fire ecology are closely associated. Early successional habitat makes up only 24.5% of the area but 75.9% of moose observed and 62.9% of the estimated population were in this habitat at the time of the moose censuses" (Elliott, 1989, p. 5).

The 1991 report entitled A Moose Census, Population Analysis and Management Recommendations for Game Hunting Area 36 Including the Whiteshell Provincial Park states that a "trend has also been documented on previous surveys as moose are generally not present in areas of high deer numbers (Schindler 1987, 88). A delineation of high density deer areas has consistently shown correspondingly low moose densities" (p. 11).

More recently it has been indicated that

> Other factors influencing moose numbers include licensed hunting, subsistence hunting, predation, and parasites. The brainworm parasite (P. Tenuis) is known to occur in the southern portions of this region (Crichton, *pers com*), with white-tailed deer (odocolieus virginianus) being the main carriers of this parasites. Although it does not affect deer in any way, moose are very susceptible to this parasite. (Terrestrial Aquatic and Environmental Managers 1993, p. 4).

The overlap in deer and moose ranges and the prominence of deer and low moose populations in the same areas tends to suggest that a factor exists to cause this incompatibility. DNR supports the notion that P. Tenuis might have fatal consequences to moose (Crichton, *pers com*).

It has also been stated that "moose are fairly common in the park, especially along the waterways. White-tailed deer have invaded the park from the south and their numbers are increasing." (Manitoba Natural Resources GRPP Map Brochure 1991).

This raises the question regarding the need to consider management of deer populations in order to meet the prescribed objectives set out in resource management planning for other ungulate species.

Moose Research in the Grass River Provincial Park

Recent moose research in the Grass River Provincial Park area has been undertaken by Cross, (1991) for moose population surveys and Schindler (1994) for moose habitat evaluation for the northern part of the Park and north of the Park. Scaife (1980) also conducted moose habitat evaluations from a timber harvesting perspective. In the research undertaken in areas to the east of Lake Winnipeg, specifically in Game Hunting Areas (GHA) 17 and 26, various important habitat areas have been identified. Of particular importance is the identification of summer foraging, winter feeding and thermal cover areas, and areas important for calving, which are likely to be consistent in the GRPP area.

Potential moose habitat is closely associated with recent burn areas. In the Grass River Provincial Park, the 1989 Webb Lake Burn was the most significant disturbance, encompassing approximately 350 square kilometres of land area (Forestry Branch). This burned area now is regenerating new successional regrowth which is likely to become good moose habitat (D. Schindler, *pers com*, TAEM Consultants 1994). Other areas of recent burn include the Woosey Lake area located immediately northeast of the Park (TAEM Consultants 1994). A second major factor providing moose habitat is recently cut over or timber harvested areas (Johnson, 1993, Scaife, 1980).

4.2 Aquatics

The Grass River Provincial Park houses over 150 lakes (Grass River: Towards a Master Plan for Grass River Provincial Park, p. 2). Water quality has been, and continues to be a priority for the Park (Leroux, *pers com*). The Grass River has been designated as protected "High Quality Surface Water" by the Clean Environment Commission (Manitoba Natural Resources - Grass River Provincial Park Map 1992).

Watershed units located within the Precambrian Shield area of the GRPP have waterbody characteristics described as deep, clear and low in nutrients. Watershed units located in the Manitoba Lowland area are generally shallow but nutrient rich in nature (Jones et. al., 1984).

From a fish and fish habitat perspective the GRPP contains a transition zone between northern cold water fish communities of the Precambrian Shield and more southerly, cool water dominated fisheries of the Manitoba Lowlands. At least 17 known fish species are identified in the major lakes in the Grass River Provincial Park (Manitoba Natural Resources: Freshwater Inventory Habitat Classification System (FIHCS) 1992), which includes burbot, lake trout, long nose sucker, northern pike, walleye, white sucker, yellow perch, whitefish and a variety of shiners. Prominent fish species are present in lakes, including Reed, Elbow, Simonhouse, First and Second Cranberry Lakes. Table 1 indicates the fish species by lake for some of the larger lakes in the Grass River Provincial Park.

Table 1: Fish Species in Selected Lakes

Lake Name	Burbot	Cisco	Emerald Shiner	Flathead Minnow	Darter	Lake Trout	Lake Whitefish	Longnose Sucker	Northern Pike	Spottail Shiner	Walleye	White Sucker	Yellow Perch	Brook Trout	Rainbow Trout	Trout Perch	Goldeye
Reed	X	X	X	X		X	X	X	X	X	X	X	X				
Tramping						X	X		X		X						
Election							X		X		X						
1st Cranberry	X	X		X		X	X		X	X	X		X				
2nd Cranberry	X	X		X	X	X	X		X		X	X		X	X		X
Simonhouse	X	X				X	X		X		X	X				X	
Elbow		X					X		X		X						
Bisset						X	X		X		X						

Table Extracted from FIHCS

The Department of Natural Resources has also enhanced fisheries opportunities by providing a fish stocking program in Webster and Amphipod Lakes, which has diverted some fishing pressure from other lakes.

Monitoring and management of the waterbodies is required to ensure that water quality objectives and fish population thresholds are maintained (D. Leroux, *pers com*).

4.3 Physiography

The 1984 GRPPMP indicated the presence of several special physical features within the Park, including a palsa hazel along PTH#10 (which received special attention as being the most southerly known palsa hazel feature known) and a underground solution channel (Karst Spring) at Leak Lake. The Karst Spring has been promoted as a tourist attraction (Manitoba Natural Resources: Karst Spring, 1993).

No additional physiographic areas of interest or uniqueness other than those identified in the 1984 Grass River Provincial Park Management Plan are known to exist (R. McCharles, *pers com*).

4.4 Forest/Vegetation

Significant short term changes to forest/vegetation associations generally result from forest fires, disease, insect infestation and commercial harvesting. The vegetation composition of the Park, with the exception of forest fires and commercial harvesting, is generally similar to that as identified in the 1984 GRPPMP.

A summary of the investigations conducted by Synthen Resources Ltd. (1994) on the GRPP was based on the Manitoba Forest Resource Inventory. Table 2 provides representative ratios of vegetation cover types in relation to terrain conditions.

Table 2: Typical Vegetation Canopy and Understorey Conditions

Tree Species	% Coverage of Forest (approx.)	Second Story and Understorey	Terrain Conditions
Black Spruce Dominant	53%	feather moss, bunch-berry, cranberry and labrador tea on upland sites, with feather moss associated with greater concentration of bunch-berry, labrador tea, cranberry, horsetail, bishops cap and sphagnum mosses and sedges in the lowlying organic sites.	ranging from good growing black spruce and black spruce/jackpine on shallow soiled uplands to slower growing stands on shallow peatlands (excluding treed muskeg sites)
Jack Pine Dominant	25%	black spruce is the common second story understorey is predominantly reindeer moss and bearberry with black spruce understorey types becoming more common in the wetter areas	bedrock outcrops of the Pre-cambrian Shield, rapidly drained ridge tops and fire origin stands on shallow soiled upland sites
White Spruce and Tembling Aspen	25% (10% spruce and 15% aspen)	primarily feather moss but occasionally twin flower, bunch-berry, bishop's cap, horsetail, and fern moss; understorey associated with pure aspen sites include dewberry, fireweed and sarsaparilla as well.	in imperfectly drained productive sites although commonly together pure aspen stands are frequently found in early successional stages of post fire regrowth. White spruce will become the climax species, superseding aspen, if left undisturbed

(Synthen Resources, 1994)

The major change to vegetation was the 1989 forest fire referred to as the Webb Lake Burn, which encompassed approximately 15% of the Park's area. Figure 3 illustrates the extent of the Webb Lake Burn in the Park. Since the burn occurred, new successional vegetative regrowth has begun to re-establish itself. A second known disturbance to vegetation is that of ongoing timber harvest operations. These activities have an effect on the forest cover by reducing volumes of mature timber and altering vegetation composition in cut-over areas.

CHAPTER 5 - UPDATE OF THE SOCIO-ECONOMIC CHARACTERISTICS OF THE PARK

Socio-economic considerations address several components associated with resource management in northern Manitoba. The utilization of those resources is important to the region's economic stability and as such, management of those resources for the future must be considered.

The Northern Manitoba Economic Development Commission reported that large scale mining, forestry and hydro-electric development play an important role to the employment and economic growth of Northern Manitoba, and that mining related activity is the largest overall northern contributor to Manitoba incomes. Hydro-electric developments do not affect the GRPP, but forestry and mining are potentially significant industries in the Park and therefore must also be considered in the management of resources within the Park boundaries. The developments to support these activities are also important factors to be considered. Also occurring, however, to a lesser extent, are other operations such as fur harvesting, commercial and commercial sport fishing and recreation.

5.1 Archaeological and Heritage Resources

Heritage resources are considered part of the socio-economic component from a historic or cultural perspective. Though generally not associated with enhancing the economy of the region (with the possible exception of promoting tourism) its importance lies more with the conservation and protection of areas containing evidence which will assist in understanding our past.

5.1.1 Pertinent Manitoba Legislation relative to Heritage Resources

> "They are non-renewable. Once they are lost, they are lost forever."
> (Manitoba Heritage, Culture and Recreation, p. 3)

In adopting this philosophy, there is a provincially accepted goal to preserve such resources insomuch that legislation has been enacted to ensure that archaeological resources are not destroyed.

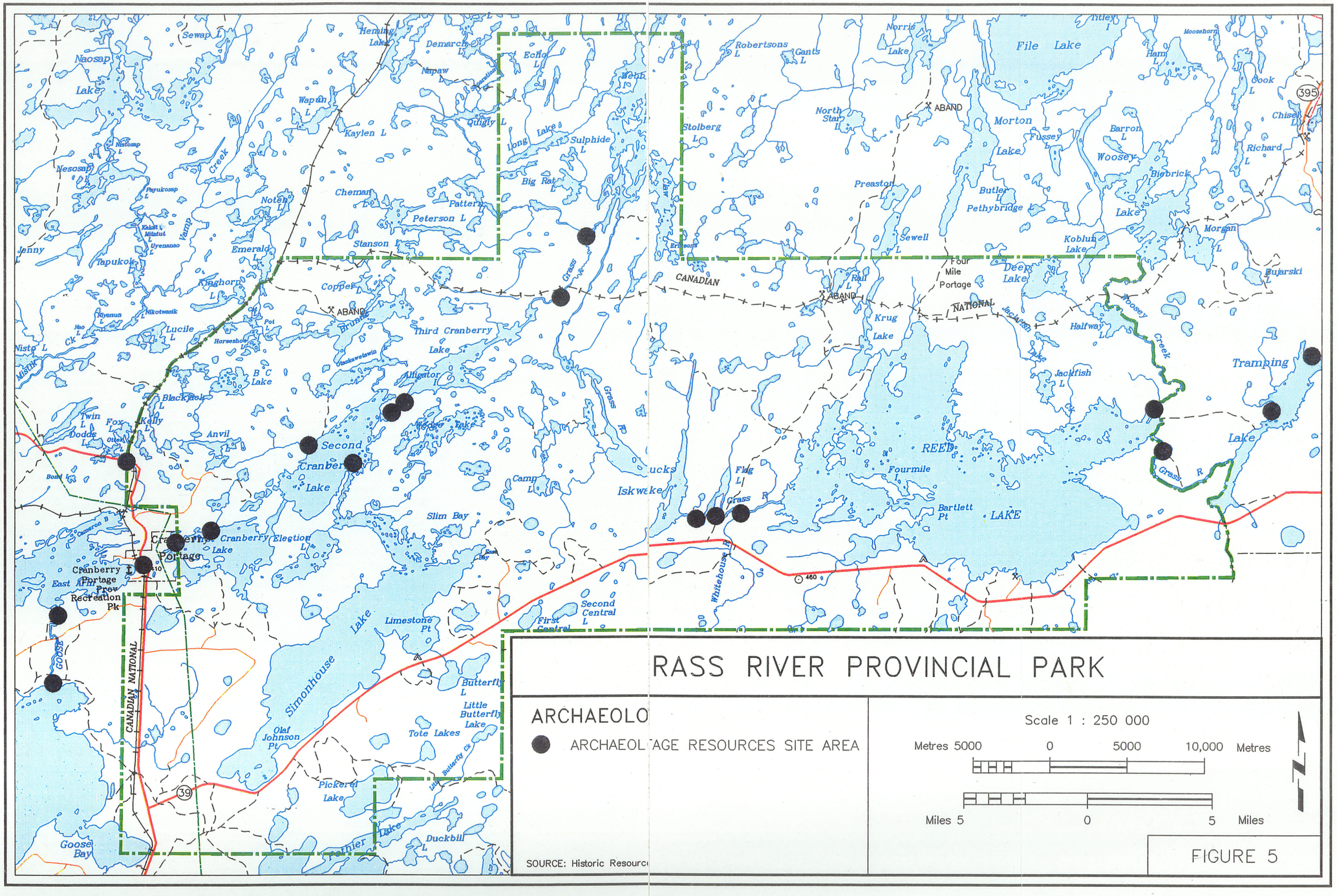
The Heritage Resources Act (1986) under the jurisdiction of the Manitoba Culture, Heritage and Citizenship, Historic Resources Branch, was enacted for the protection and preservation of heritage objects.

The Historic Resources Branch provides guiding principles for implementing the Act if there is reasonable evidence that heritage resources could be located, disturbed or impacted. These principles are contained in the Guidelines for Conducting a Heritage Resource Impact Assessment. The guidelines provide the recommended requirements for conducting a site survey and evaluation prior to proposed project developments being undertaken. These site investigations are generally to be conducted by persons skilled and knowledgeable in the field of heritage resource identification, evaluation, recovery and removal (P. Badertscher, *pers com*).

5.1.2 Recorded Heritage Sites in the Grass River Provincial Park

Approximately fifteen sites have been recorded, primarily along the Grass River and adjoining waterbodies. Figure 5 identifies the recorded archaeological and heritage resource sites in and close to the Park. Many of those sites discovered provide evidence associated with the fur trade era, however, other sites date back to pre-historic times (e.g., flakes, ceramics and projectile points). Comprehensive heritage resources investigations, however, have not been completed for the Grass River Provincial Park. Northern lights Heritage Services (1994) states

> Archaeological investigations have been conducted along the Grass River. They have been sporadic, have focussed on the pre-historic period and for the most part have been conducted by amateur archaeologists or collectors (p. 1).



RASS RIVER PROVINCIAL PARK

ARCHAEOLO

● ARCHAEOL AGE RESOURCES SITE AREA

SOURCE: Historic Resourc

Scale 1 : 250 000

Metres 5000 0 5000 10,000 Metres

Miles 5 0 5 Miles

FIGURE 5

This map is based on information taken from the National Topographic System map sheet number 63N, 63K, 630, & 63J. Her Majesty the Queen in Right of Canada with permission of Energy, Mines, and Resources Canada.

5.2 Commercial Extraction

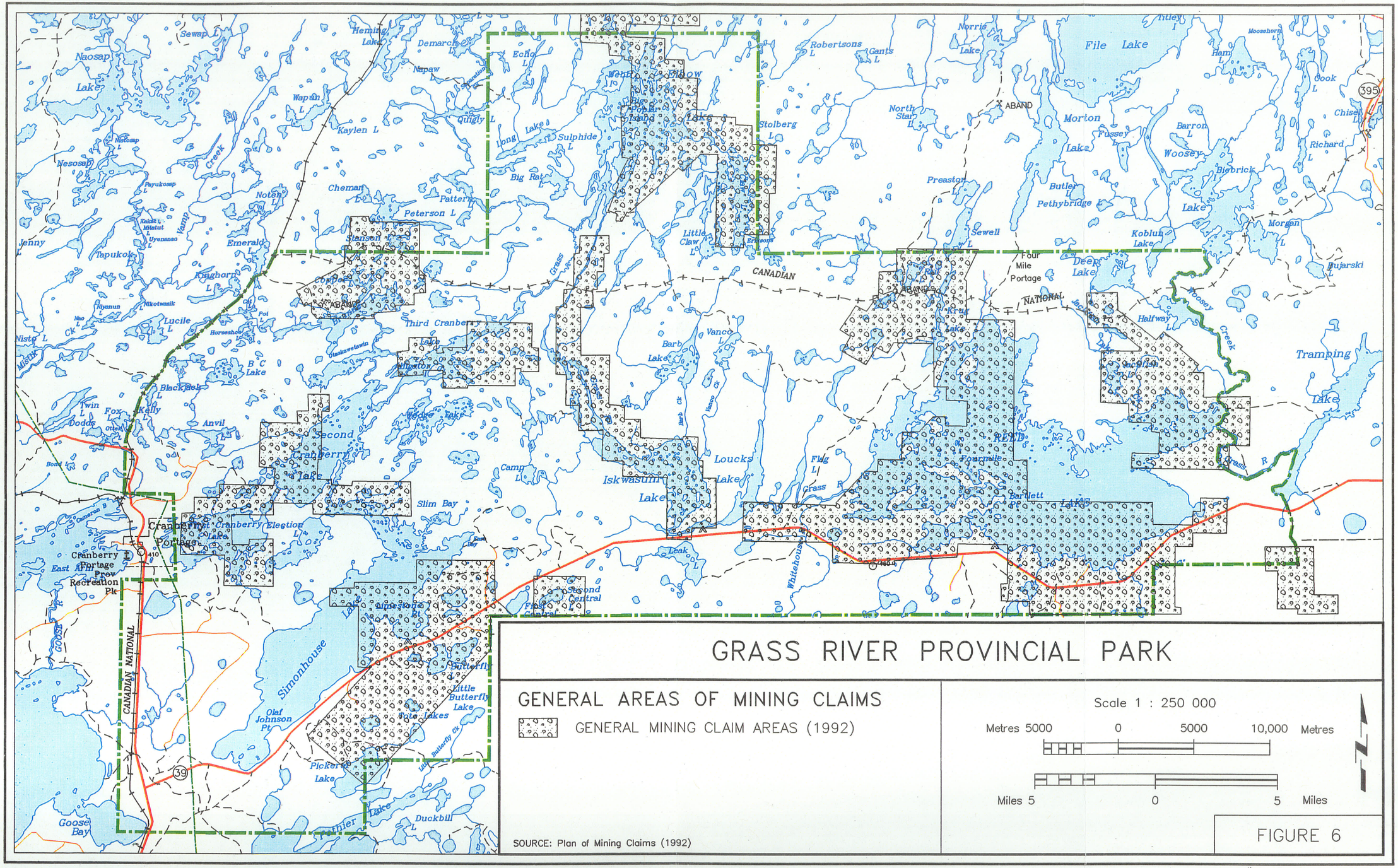
5.2.1 Mining

The mining industry in the north is very important for Manitoba. Mineral production in recent years has been valued at approximately $500 million with the province producing about 25 percent of Canada's nickel as well as substantial proportions of both base and precious metals (Teillet, 1979; D.S. Lea and Associates, 1994, p. 14).

Numerous mining claims have been registered in the Grass River Provincial Park (Mines Branch Records, Mineral Claim Maps, 1993). The general area of mining interest coincides with the spatial extent of the mineralized geological formation resident in sub-surface bedrock. Concentrations of precious minerals such as gold, copper, zinc, nickel and silver are typically located throughout the formations (Jones et. al., 1984, D.S. Lea and Associates, 1994). The general areal extent of mineral claims for 1992, which is displayed on Figure 6, spatially indicates mineral claim concentrations being located in the Elbow Lake area, in proximity to the abandoned CN Rail line at the Cranberry Lakes, at Reed Lake, Iskwasum, Simonhouse, and Elbow Lakes and along PR#391.

The extent and number of mining claims registered is typically dependent upon demand for minerals, cost of exploration, extraction and recovery (refinement) costs. Frequently, international market prices are a determining factor affecting the viability of extracting various minerals.

Mineral exploration and mineral extraction interests in the Grass River Park have been occurring for many years. Several mines were established within the Park boundaries as a result of viable mineral discoveries. The most recent mine in the Grass River Park was the Spruce Point Mine, located on the south shore of Reed Lake, which ceased operations in 1992 (Mines Branch). Currently there are no active mines operating within the Park boundaries (R. McCharles, *pers com*).



GRASS RIVER PROVINCIAL PARK

GENERAL AREAS OF MINING CLAIMS

GENERAL MINING CLAIM AREAS (1992)

SOURCE: Plan of Mining Claims (1992)

Scale 1 : 250 000

Metres 5000 0 5000 10,000 Metres

Miles 5 0 5 Miles

FIGURE 6

The mining industry in Manitoba continues to pressure for future mineral exploration and mineral exploratory works to continue in parks in general, and to promote mineral recovery where feasible. This industry is a major contributor for regional economic growth in Northern Manitoba (Northern Manitoba Economic Development Commission, 1992).

5.2.2 Forestry Operations

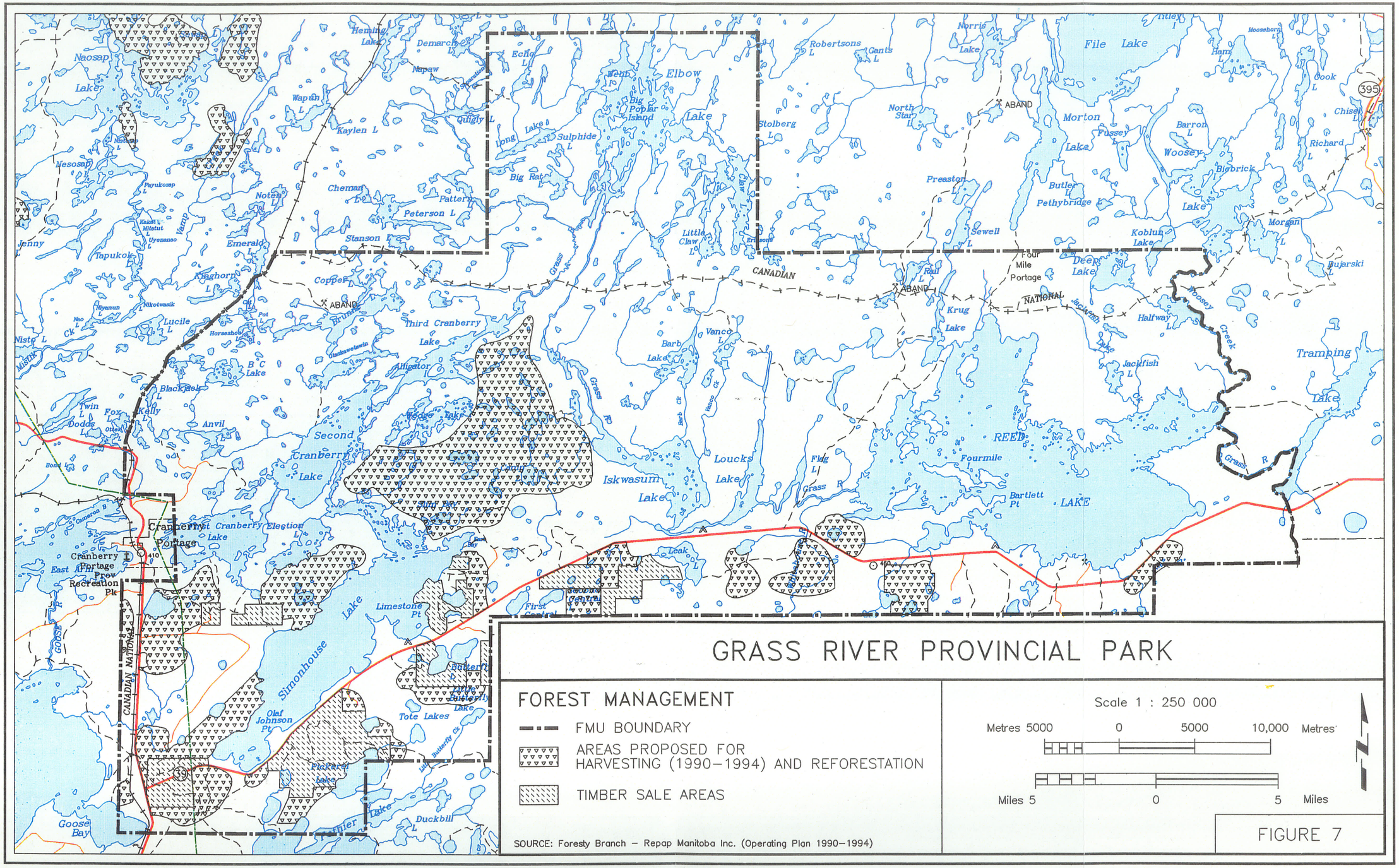
5.2.2.1 Forest Management Units (FMU)

The productive forest cover throughout the Province is arranged into Forest Management Units (FMU) by the Forestry Branch (D. Lamb, *pers com*). The Grass River Provincial Park has its own management unit: FMU#60 (Figure 7). Forest Management Unit 60 is entirely within the Repap Manitoba Forest Management Licence (C. Smith, *pers com*). As part of the Repap Operating Plan, it is considered for timber harvesting potential, for future harvesting and forest management practices (Repap Manitoba Inc., 1990).

Repap Ltd. does not conduct timber harvest operations in the Park (C. Smith and D. Lamb, *pers com*). The company however, does accept timber cut from FMU 60 at their mill at The Pas. Since FMU #60 is within the Repap Licence area, Repap includes this management unit in their operating plans reporting (D. Lamb, *pers com*). As indicated by the Forestry Branch, four independent loggers are conducting commercial operations in the Park, however, it is uncertain as to whether or not the Annual Allowable Cut (AAC) in the Park will continue to support this number of operators.

5.2.2.2 Fire Disturbance and Impact on Annual Allowable Cuts

The Webb Lake Burn (1989) extended into the north end of the Park, encompassing the Elbow Lake area and extending close to and to the south of the abandoned CNR line. As indicated in Figure 3, this burn was very extensive, affecting approximately fifteen percent of the total area of the Park. This fire



GRASS RIVER PROVINCIAL PARK

FOREST MANAGEMENT

- FMU BOUNDARY
- AREAS PROPOSED FOR HARVESTING (1990–1994) AND REFORESTATION
- TIMBER SALE AREAS

SOURCE: Foresty Branch – Repap Manitoba Inc. (Operating Plan 1990–1994)

Scale 1 : 250 000

Metres 5000 0 5000 10,000 Metres

Miles 5 0 5 Miles

FIGURE 7

This map is based on information taken from the National Topographic System map sheet number 63N, 63K, 63O, & 63J. Her Majesty the Queen in Right of Canada with permission of Energy, Mines, and Resources Canada.

has had a significant effect on the current and future timber harvesting operations of FMU #60. The annual allowable cut (AAC) which is generally a reflection of the total forested area in the FMU's will likely be reduced (Synthen Resources Ltd. 1994). For the GRPP, the annual allowable cut is further limited as it is also a function of a percentage of area within those zones in which harvesting is allowed (P. Ashton, *pers com*).

5.2.2.3 Commercial Forestry Operations in FMU 60

As part of their on-going sustainable forest management policy, the Manitoba Forestry Branch establishes an AAC by species for each Forest Management Unit within the forest zone of the Province. Also, in Provincial Parks, separate AAC's are calculated for the various use and activity zones that are defined in the Park master plans. Under most circumstances, forest harvesting is only permitted in areas designated as Commercial Resource/Recreation Zones, sometimes referred to as Open Zones. All other areas in the Park are closed to forest harvesting and the AAC calculated for these areas is not included when committing timber volumes to the forest industry (P. Ashton, *pers com*). According to the 1984 GRPPMP, approximately 35 percent of the Grass River Provincial Park is considered an Open Zone (commercial resource/recreation zone) and available for timber harvesting (Synthen Resources Ltd., 1994, p. 23).

Located about 70 km from The Pas, the merchantable timber in the Grass River Provincial Park is seen to be economically viable to commercially harvest. The annual allowable cut is based on the Forestry Branch's inventory, and is calculated to ensure that a continued supply remains available, consistent with the Principles of Sustainable Development (Lamb D., *pers com*). Forestry access road development required for timber harvesting in the Park is controlled by licensing and work permit conditions.

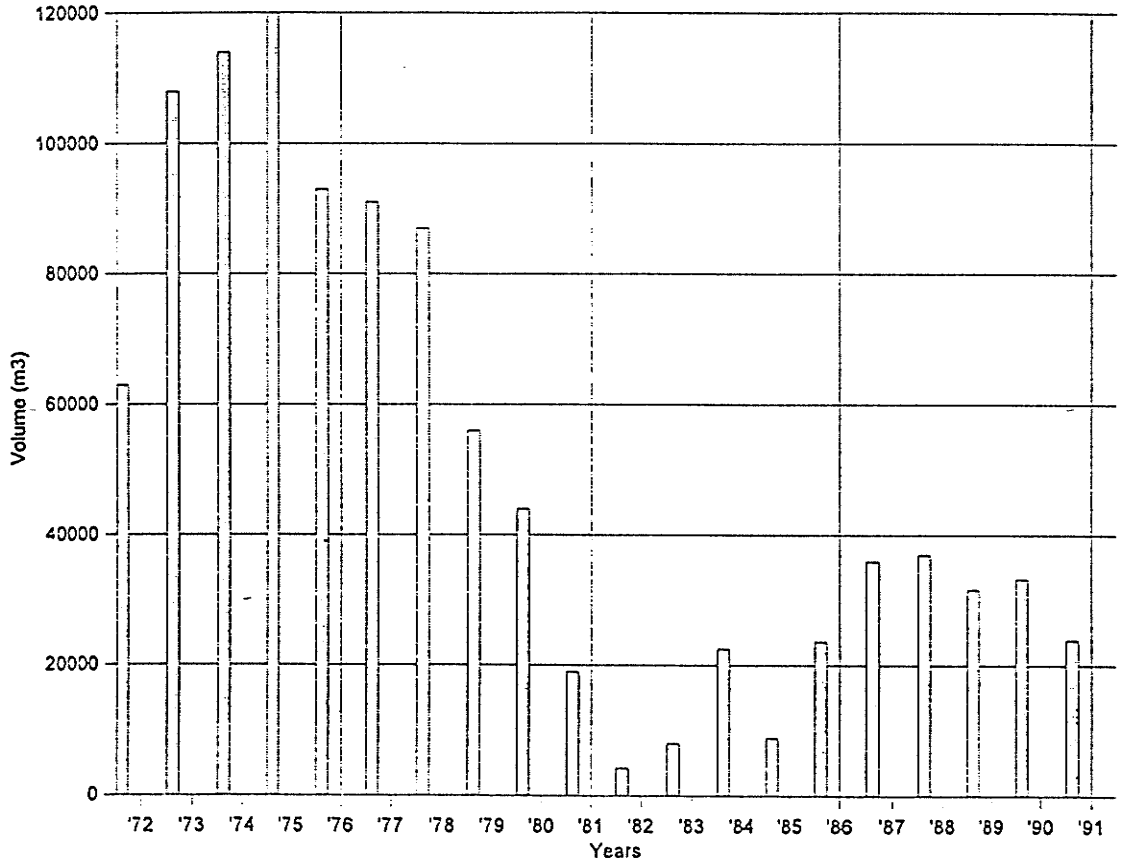
Figure 8 graphically displays the past timber harvest volumes in FMU #60. Forest enhancement in the Park has not been significant (Extrapolated from Forestry Branch Records), however forest enhancement programs in general have been increasing in recent years.

5.2.3 Commercial fishing

5.2.3.1 Commercial Net Fishing

The 1984 Grass River Provincial Park Management Plan indicated that four lakes, Election, Wedge, Brunne, and Otaskewetawin were commercially fished. In 1994, only one lake, Election Lake, was commercially fished with Wedge Lake being retired from commercial fishing in 1990 (FIHCS, 1992 and D. Leroux, *pers com*). Commercial fishing licenses for Brunne and Otaskewetawin Lakes are no longer available (D. Leroux, *pers com*).

FIGURE 8: FMU #60 - HISTORY OF TIMBER HARVESTING



Source: Forestry Branch
Synthen Resources Ltd.

Table 3 indicates Manitoba Fish Harvest records as reported for Election Lake in the last several years to 1992.

Table 3: Annual Commercial Fish Harvest for Election Lake

Year	Quota (Kg)	Walleye (Kg)	Pike (Kg)	White (Kg)	Tullibees (Kg)	Mullet (Kg)	Quota Species (Kg)
1992	2 300	0	672	1 037	0	0	1 709
1991	2 300	0	657	1 553	0	573	2 210
1989	2 300	0	756	980	0	0	1 736
1988	2 300	0	294	2 610	0	0	2 904
1986	2 300	0	173	505	0	0	678

(DNR, Fisheries Branch)

The current licence holder for Election Lake is permitted to retain the commercial fishing licence but cannot sell or transfer it (D. Leroux, *pers com*). Though Election Lake continues to be commercially fished, it is anticipated that the commercial fishing licence will not be renewed once lapsed (D. Leroux, *pers com*).

5.2.3.2 Commercial Sport Fishing

According to the FIHCS (1992), sport fishing harvests were estimated for four main commercial sport fishing operations, two on Reed Lake and two on First Cranberry Lake, with a fifth operation being located on Elbow Lake. Though no specific records are kept (D. Leroux, *pers com*) the estimated

harvests made by FIHCS are about 25 000 kg for Reed Lake, 50 000 kg for First Cranberry lake and 4 000 kg for Elbow Lake.

5.2.3.3 Sport Fishing

Sport fishing, an important tourist attraction and economic benefit to the area, is supported on many waterbodies. The northwest region of Manitoba, extending from Grass River Provincial Park to northwards of Thompson, is the most visited area of the Province by non-resident anglers, accounting for 29% of the total (Manitoba Department of Natural Resources 1984a). Provincial and forestry roads provide access to many lakes in the area (Natural Directions Ltd., p. 7).

Though no annual records are kept to monitor the success or harvest by sport fishermen (D. Leroux, *pers com*), angling pressure is considered to be significant. The lakes which are accessible from PR#391 and/or from the Grass River are the most popular and as such, land and water accessible fishing lakes and sport fishing use is increasing (D. Leroux, *pers com*).

5.3 Developed Land Uses

5.3.1 Linear Developments

As indicated in the 1984 GRPPMP, the Park contains two all-weather roads. In a north-south direction, PR#10 egresses into the Park's western boundary, north of Cranberry Portage and again to the south of Cranberry Portage for approximately 2 to 3 km enroute to The Pas. PR#391 egresses from PR#10 to provide access from west to east, en-route to the town of Snow Lake. PR#391 is located in the southern portion of the Park in the general area of the convergence of the Precambrian Shield and the Manitoba Lowlands. PR#391 is considered the primary access through the Park, to the infrastructure

provided in the Park, and for access into various important fisheries including Simonhouse, Iskwasum and Reed Lakes.

Following immediately to the west of PR#10 is located a CN rail line which passes through Cranberry Portage and proceeds north-east past the Park to the community of Sherridon. The rail line was also identified in the 1984 GRPPMP.

The once utilized but now abandoned CN rail line which departs from the junction of the existing CN line, transects the north end of the Park. In 1993, the owner, Hudson Bay Mining and Smelting Ltd., undertook to remove the rails and rail-ties from this spur line.

To the east of PR#10 is located a 230 kV transmission line owned and operated by Manitoba Hydro. This line originates from The Pas and terminates at Cranberry Portage.

A 66 kV sub-transmission line recently (1993) constructed by Manitoba Hydro is located between PH#10 and the operating CN line immediately to the west of the highway. This line originates from Cranberry Portage's sub-station and supplies a recently constructed restaurant/gas station operation located at the junction of PR#10 and PR#391.

5.3.2 Site Facilities

Since 1984, relatively few site facilities are known to have been constructed. The existing Gyles campground however, had been expanded by approximately twenty-two campsites, a lodge on Elbow Lake which was burned in the 1989 Webb Lake Burn, was replaced, and the previously noted restaurant/gas station was constructed at the intersection of PR#10 and PR#391.

Table 4 contains a summary of these facilities provided at each of the three public campgrounds in the Park.

Table 4: Facilities at Public Campgrounds

LOCATION	Grass River Provincial Park		
	Iskwasum L.	Reed L.	Simonhouse L.
ESTABLISHMENT	ISKWASUM LANDING CAMPGROUND	REED LAKE CAMPGROUND	GYLES CAMPGROUND
Camping	•	•	•
Government Operated Facility	•	•	•
No. of sites UNSERVICED	38	60	42
No. of sites ELECTRICAL			
Barbecue Pits	•	•	•
Picnic Shelters			•
Non-Modern Sanitary Facilities	•	•	•
Wheelchair Access		•	•
Showers	•		
Drinking Water	•	•	•
Playground	•	•	•
Fishing	•	•	•
Boat Launching	•	•	•
Group Camping			
Operating Season	mid-May to mid-September	May to September	mid-May to mid-September

(Manitoba Natural Resources, 1994)

The Park also supports at least twenty-one designated backcountry and shore lunch sites, many of which are located on Elbow, Claw, Reed, Wedge, Third Cranberry and Second Cranberry Lakes (D.S. Lea & Associates, 1994).

The 1984 Park Management Plan also identified four privately owned lodges as follows: Ashdowns, located on Elbow Lake; Elbow Lake lodge, located on Elbow Lake; Grass River lodge, located on Reed Lake; and Peterson's Lodge, located on Reed Lake.

A total of twenty-three private units were identified for the four lodges. With the exception of Peterson's all are accessible by boat or air only (R. McCharles, pers com).

The current status of the lodges has changed to some degree. The Ashdown Lodge was renamed Big Four Wilderness Camp and was destroyed by the 1989 Webb Lake forest fire. This lodge was rebuilt in 1990 and continues to operate (D. Leroux, *pers com*).

Table 5 compares the basic amenities offered by each lodge.

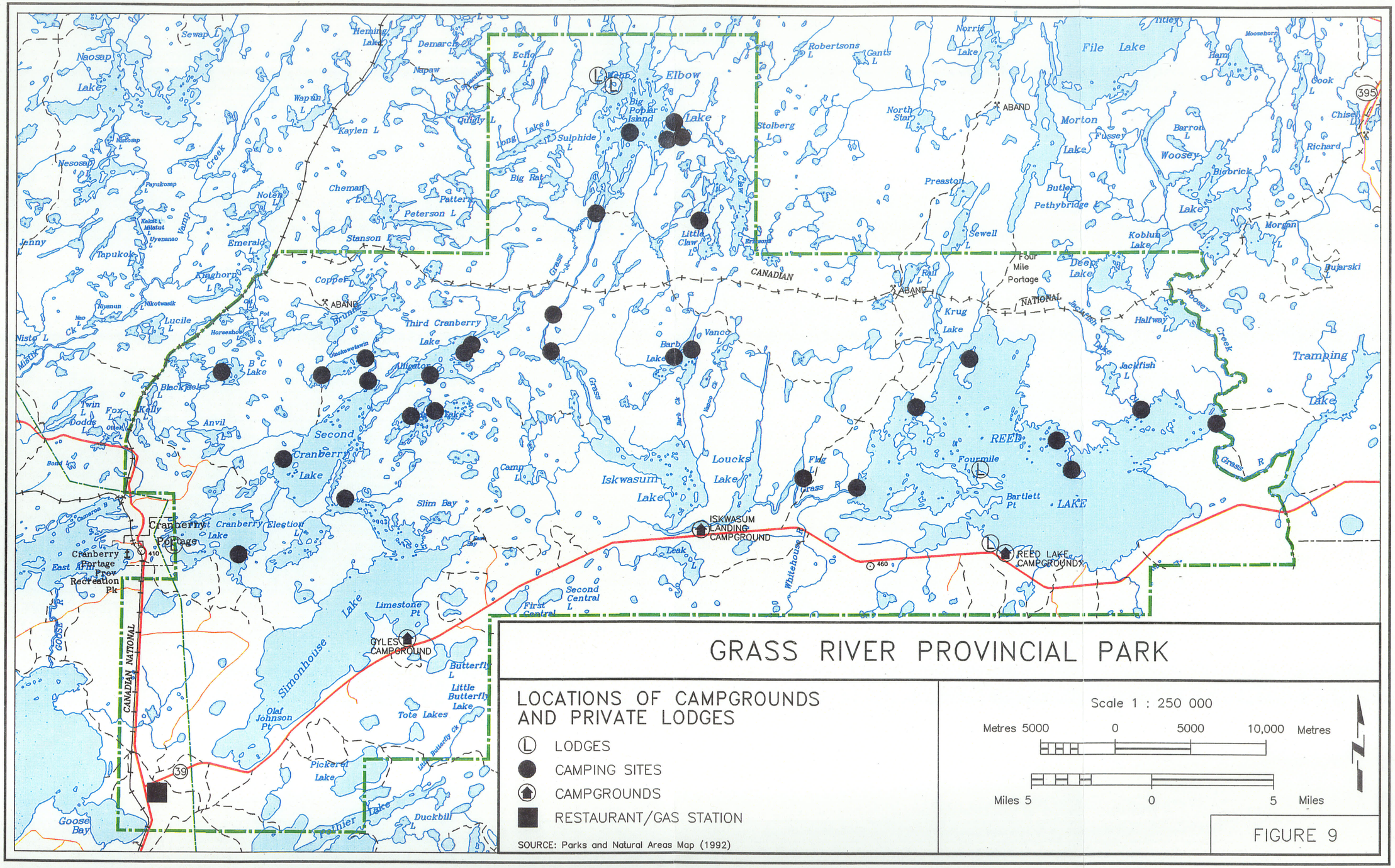
Table 5: Facilities Offered at Private Owned Lodges

LOCATION	Grass River Provincial Park (B14)			
	Elbow L.	Elbow L.	Reed L.	Reed L.
ESTABLISHMENT	BIG FOUR WILDERNESS CAMP	ELBOW LAKE LODGE	GRASS RIVER LODGE LTD.	PETERSON'S REED LAKE LODGE
Number of Units	5HK	4 (2 HK)	11	5 HK
Capacity	20	12	42	28
Bath: T - Bathtub S - Shower CB - Central Bath	S	S	S	S
Airport Shuttle			•	•
Dining L - Licensed U - Unlicensed			L	U
Operating Season	May to Oct.	Year-Round	mid-May to Oct.	June to mid-Oct.

(Manitoba Natural Resources, 1994)

Figure 9 identifies the public campgrounds and the private lodges in the Grass River Provincial Park. Also shown are some of the camping sites on the Grass River and the location of the restaurant/gas station.

Some of the privately owned lodges also offer fishing opportunities to other low accessibility lakes in the Grass River Park. Several outfitter operated boat caches as permitted by the Department of Natural Resources are located throughout the Park (Figure 10). Other commercial lodging operations located outside the Park boundaries also have boat caches and provide fishing opportunities to the less accessible lakes in the park area.



GRASS RIVER PROVINCIAL PARK

LOCATIONS OF CAMPGROUNDS AND PRIVATE LODGES

- (L) LODGES
- ● CAMPING SITES
- CAMPGROUNDS
- ■ RESTAURANT/GAS STATION

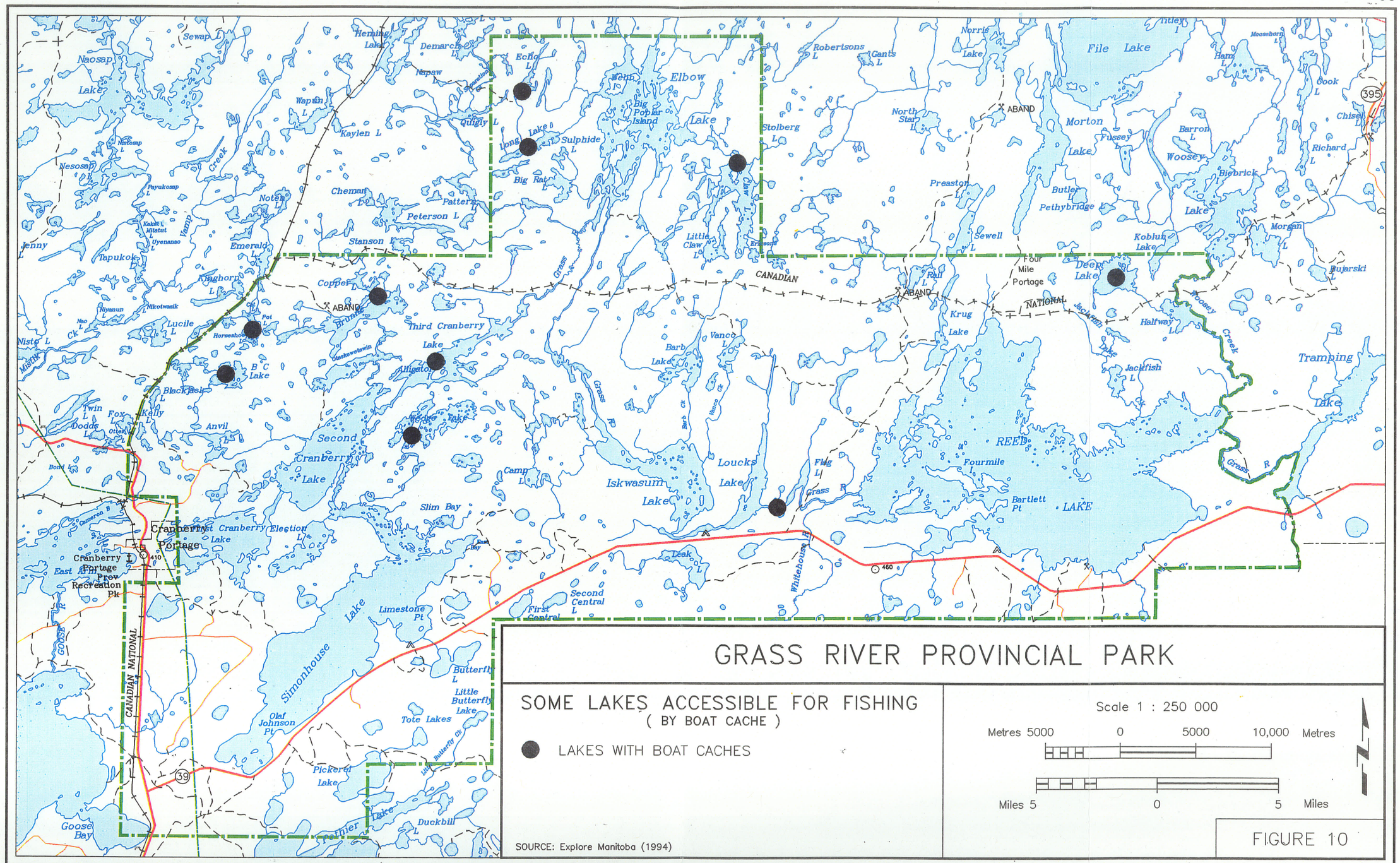
SOURCE: Parks and Natural Areas Map (1992)

Scale 1 : 250 000

Metres 5000 0 5000 10,000 Metres

Miles 5 0 5 Miles

FIGURE 9



GRASS RIVER PROVINCIAL PARK

SOME LAKES ACCESSIBLE FOR FISHING
(BY BOAT CACHE)

● LAKES WITH BOAT CACHES

SOURCE: Explore Manitoba (1994)

Scale 1 : 250 000

Metres 5000 0 5000 10,000 Metres

Miles 5 0 5 Miles

FIGURE 10

This map is based on information taken from the National Topographic System map sheet number 63N, 63K, 63O, & 63J. Her Majesty the Queen in Right of Canada with permission of Energy, Mines, and Resources Canada.

5.3.3 Remote Cottaging Lots

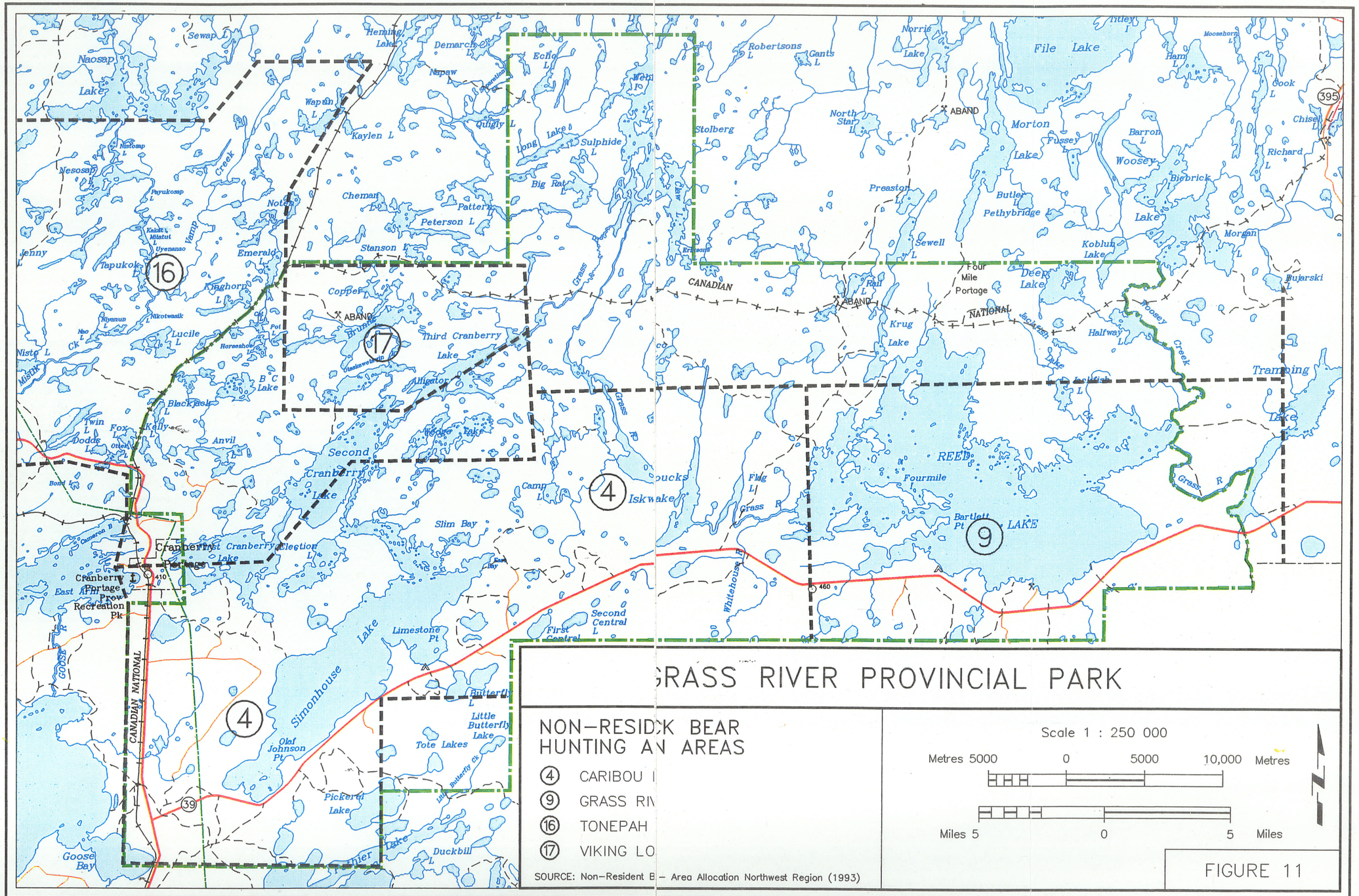
The Manitoba Crown Lands Branch has the mandate to allow limited numbers of lots on remote lakes, on a lease basis for individual use. Typically this has been restricted to non-accessible or limited access lakes. Within the Grass River Provincial Park, there are no known lease lots on remote lakes (R. McCharles, *pers com*).

5.3.4 Non Resident Black Bear Operators

The Grass River Provincial Park accommodates several allocation areas for the purpose of providing non-resident hunters with black bear hunting opportunities. According to the 1993 Area Allocation for Non-Resident Bear Hunting, four primary non-resident bear hunting operators exist in the Park. The operators generally coincide with the Lodge operators in the Park area. Figure 11 identifies the 1993 non-resident black bear allocation areas.

5.3.5 Registered Traplines and Fur Harvesting

The Park continues to support fur harvesting activities by local residents. Approximately eight registered traplines (RTL's) of the Cranberry Portage Trapline Block are either entirely or partially located within the Park, while three Registered Traplines from the Herb Lake Trapline Block and one Registered Trapline of the Cormorant Trapline Block are partially within the Park (Province of Manitoba - Plans for Registered Traplines in Cranberry Portage, Herb Lake and Cormorant). In total, seven RTL's have the majority or all of the trapline areas within the Park. (Department of Mines, Resources and Environmental Management 1988). Figure 12 identifies the location of Trapline Blocks and RTL's in the Grass River Park.



GRASS RIVER PROVINCIAL PARK

NON-RESIDENT BEAR HUNTING AREAS

- (4) CARIBOU
- (9) GRASS RIV
- (16) TONEPAH
- (17) VIKING LO

SOURCE: Non-Resident B – Area Allocation Northwest Region (1993)

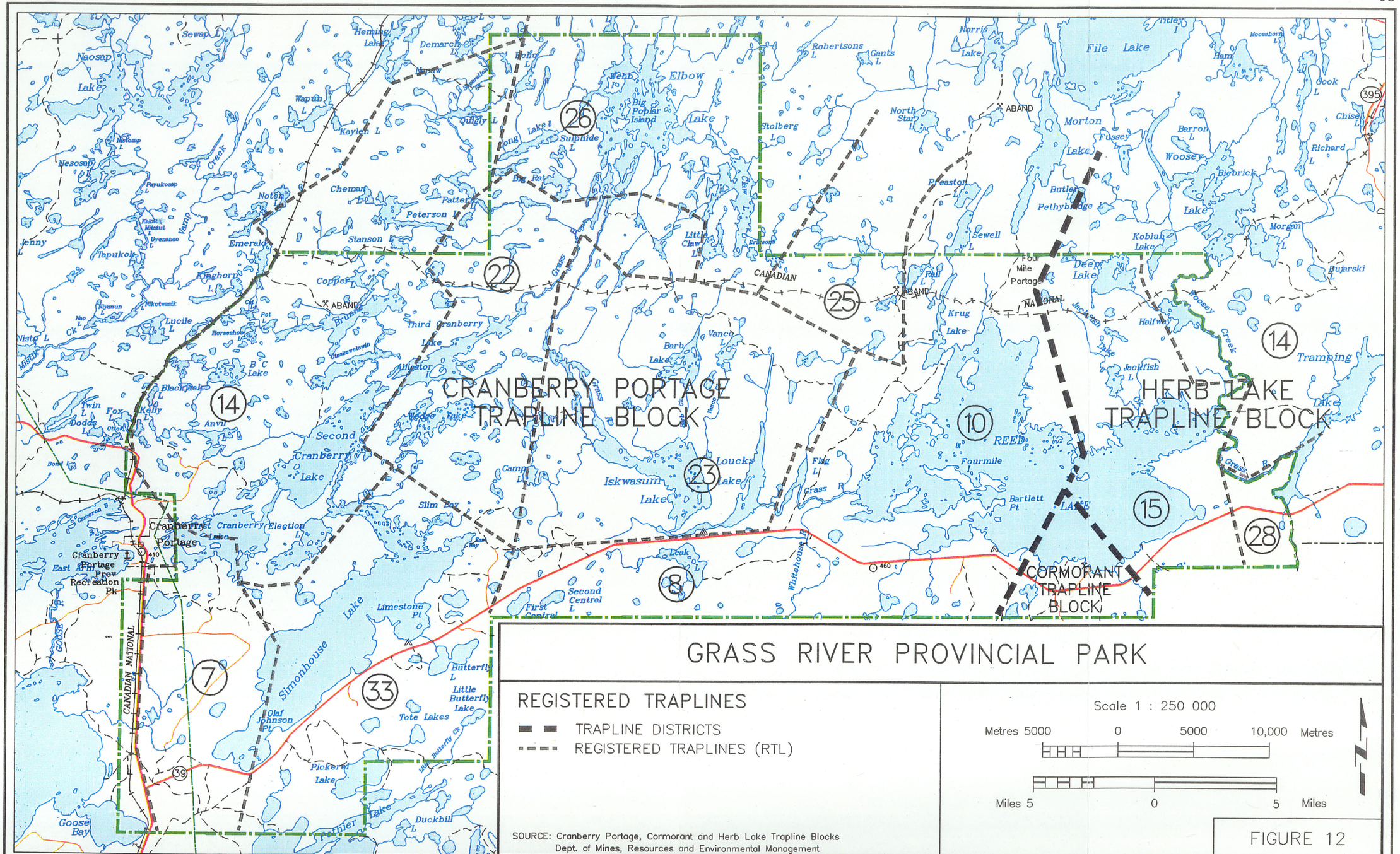
Scale 1 : 250 000

Metres 5000 0 5000 10,000 Metres

Miles 5 0 5 Miles

FIGURE 11

This map is based on information taken from the National Topographic System map sheet number 63N, 63K, 63O, & 63J. Her Majesty the Queen in Right of Canada with permission of Energy, Mines, and Resources Canada.



GRASS RIVER PROVINCIAL PARK

REGISTERED TRAPLINES

- TRAPLINE DISTRICTS
- REGISTERED TRAPLINES (RTL)

Scale 1 : 250 000

Metres 5000 0 5000 10,000 Metres

Miles 5 0 5 Miles

N

SOURCE: Cranberry Portage, Cormorant and Herb Lake Trapline Blocks
Dept. of Mines, Resources and Environmental Management

FIGURE 12

The Province of Manitoba has the authority to grant trapline permits. These allow the trapline holder the privilege of fur harvesting within the designated areas. Additional labour required by each trapline holder for harvesting in his area, is allocated to his trapline and the harvest is therefore recorded in the Provincial Fur Harvest Records under the holder's name.

In recent years (e.g., 90/91, 91/92, and 92/93), the general trend in fur harvesting has tended to support a slightly increased trapping effort or success rate, at least from a provincial perspective (Department of Natural Resources 1988-1993). However, a trend of increased harvests is not expected to surpass historic normal records, when the demand for furs was supported by high international market prices. (B. McLeod, *pers com*). Within the Grass River Provincial Park, fur harvesting has not been strong in recent years. The 1989 Webb Lake Burn reduced mature forest stands considerably at the north end of the Park. Other factors affecting trapping are generally attributed to low fur market prices and increased harvesting effort.

A general review of the registered trapline fur harvest records was undertaken for those traplines in the Grass River Park. As many of the traplines are located partially within and partially outside the Park boundaries, the individual trapline harvests within the Park are difficult to calculate. Fur harvest records revealed that the primary furbearer species consisted of beaver, mink, martin and fisher (Manitoba Fur Harvest Records 1989 - 1990). The average annual fur harvest income ranged between 0 and $1 945.10 in 1989/90 for all species in the Cranberry Portage RTL's affected by the Park.

5.4 Recreation

5.4.1 Canoe Routes

The GRPPMP (1984) has identified the Grass River as a designated canoe route. This route, which was used during the era of the fur trade, is still recognized as an important heritage resource. Travel Manitoba and the Parks Branch of DNR indicate that the Grass River Canoe Route is currently used for

recreational canoeing, providing the opportunity for "one (to) canoe from Cranberry Portage on the west side of the park to Wekusko Falls, east of the park on the Grass River" (Manitoba Natural Resources - Parks Grass River Provincial Park, Map 1992). Several campsites and shore lunch sites have been developed along the Grass River route for canoeists and others enjoying recreational pursuits.

5.4.2 Fishing

Recreational fishing is considered to be a very important feature to the Park (D. Leroux, *pers com*) as a variety of fishing opportunities are provided to local, resident and non-resident fishermen. Favoured lakes tend to be Reed Lake for lake trout and northern pike, as well as the Cranberry Lakes, Iskwasum and Loche lakes for a variety of species. Cranberry Lakes have shown signs of a reduction in fish stocks. Campground facilities continue to be used by fishermen, particularly in the spring and fall. Augmenting the recreational fishing within the Park is commercial sport fishing, which is an important income generator for the privately owned lodges (D. Leroux, *pers com*). Northern communities promote fishing opportunities to enhance the tourist industry. Special fishing limits are placed on lakes on a case-by-case basis. The rainbow trout stocking program in 1984 was maintained for two (2) lakes; Amphipod and Webster. Though rainbow trout are not native to the area, the intent is to provide a unique fishing opportunity and to reduce fishing pressure on other lakes.

CHAPTER 6 - CONFLICT IDENTIFICATION AND ANALYSIS

6.1 Biophysical

6.1.1 Aquatics

Water quality continues to be an important component of Grass River Provincial Park. The Clean Environment Commission has recommended the designation of the Grass River as a high quality surface water system to protect its natural water quality conditions. The Grass River and major bodies of water also provide important fish habitat, riparian based habitat, and food supply for a variety of furbearers and some ungulate and avian species. Avian staging, nesting and roosting sites are also located on islands of Reed Lake. Important ungulate calving areas on shorelines and islands are also provided in the Park, particularly on the lakes (e.g., Reed Lake) of the Grass River System.

From a resource harvesting perspective, several lakes have been commercially fished. By 1984, four lakes were licensed to be commercially fished and in 1994 only one lake, Election Lake, continued to be commercially fished.

The high water quality conditions of the Park support various recreational based opportunities including sport fishing, camping and canoeing. Commercial sport fishing opportunities are provided by private lodge operators located in the Park as well as by some lodge operators located outside but in proximity to the Park. Though the majority of commercial sport fishing opportunities are provided on the Grass River system and adjoining waterbodies, similar opportunities are also provided in remote lakes, accessed by a means of combined fly-in and boat-cache use.

The locations of several archaeological and heritage resources sites appear to have a direct relationship to the Grass River system.

Water degradation resulting from resource extraction activities such as timber harvesting is of potential concern, particularly to the Grass River. The development and operation of future mines in the park area is also of potential concern to reducing water quality.

The three public campgrounds located on the Grass River system, appear to be sufficiently regulated and are not considered to be a major concern to overall water quality degradation.

6.1.2 Vegetation

The Grass River Provincial Park supports common vegetation types of which jack pine, black spruce and white spruce dominant species occur in the Precambrian Shield area and black spruce and white spruce species dominate the Manitoba Lowlands. Rare and endangered plant species in this area are primarily associated with bog/fen ecosites. The vegetation cover/wildlife species association is influenced by availability of food supply and other life cycle requirements such as winter thermal cover. Of particular note are the woodland caribou and moose; the former is suspected to be old growth boreal forest dependent while the latter is more associated with riparian and aquatic vegetation types in the summer and boreal and mixed forests in winter.

Forest fires, disease and insect infestation are natural phenomena affecting forests. Forest fires, in particular the 1989 Webb Lake Burn, which entered the north end of the Park, altered the forest/vegetation landscape by approximately 15%. Early successional regrowth re-establishing itself in the burn is expected to provide increased browse availability for wildlife species as moose. However, this would similarly reduce potential habitat availability for boreal dependent species as the woodland caribou.

Commercial timber harvesting is an important activity which creates local employment and supports the economy of nearby communities. This activity has been continuing in the Park for several decades, although in more recent years, timber volumes extracted from the Park have been reduced. Timber

harvesting also reduces potential habitat for boreal dependent wildlife species but enhances food supply and other habitat conditions for different wildlife species.

6.1.3 Wildlife

Of the variety of wildlife species in the Grass River Provincial Park, the woodland caribou and moose are considered to be among the most important. COSEWIC has designated woodland caribou (west of Ontario) as a vulnerable species, and as such, the populations and life-cycle requirements, such as habitats, calving areas, rutting and wintering sites are to be maintained if possible. Evidence suggests that caribou are dependent on terrestrial and arboreal lichen supply which is supported by mature boreal environments. Evidence also suggests that this species is using the Manitoba Lowlands area south of Reed Lake for wintering.

Mature habitat conditions are affected by major forest disturbances such as commercial timber operations, forest fires and insect infestation. The 1989 Webb Lake Burn is considered to have significantly reduced important boreal habitat and suitable ungulate calving grounds in the Elbow Lake area. It is also suspected that this fire has redirected woodland caribou travel from the Naosap/Kississing Lake areas to the interior of the Park. Known and suspected calving areas are located on shorelines and islands of Reed, Iskwasum, Leak, Wedge and Second and Third Cranberry Lakes.

Moose and major forest related disturbances such as forest fires and commercial timber harvesting tend to be closely associated. These forest disturbances enhance new successional regrowth of vegetation which provide browse for this species. Winter thermal cover is provided in boreal as well as mixed wood environments, while calving areas are typically located on islands and aquatic shorelines. This species is highly sought after in both regulated hunting and non-regulated (aboriginal) hunting. Scaife (1980) infers that many of the hunter moose kills in the Grass River Provincial Park have occurred along existing all-weather and temporary access roads.

Other wildlife species as noted in the 1984 GRPPMP include two gull-tern colonies, and white pelican roosting areas on Reed Lake, both of which are considered to be very sensitive to human disturbance. Riparian dependent furbearers are located along many of the shoreline environments while boreal dependent species typically inhabit upland terrain conditions.

6.1.4 Physiography

Other than those identified in the 1984 GRPPMP, no new unique physiographic sites are known to exist. Karst Springs at Leak Lake has been promoted as a tourist attraction and as a result, unintentional human disturbance might impact on this natural phenomenon. The most southerly known Palsa Hazel, which is located north of the intersection of PR#10 and PR#391, may also be susceptible to human disturbances. Other known physiographic sites are of size and nature that significant adverse effects would likely only be caused by larger scale disturbances such as timber harvesting.

6.2 Socio-Economics

6.2.1 Regional Economy

The Grass River Provincial Park currently accommodates land use related activities including timber harvesting, mining exploration, commercial fishing, trapping, recreation and tourism. Limited in extent, but important is the access and recreation based service infrastructure, which is also present.

Mining is the major economic industry supporting the regional economy, with mining operations located at Flin Flon, Snow Lake and Thompson. Direct and indirect business and employment opportunities both in and beyond these communities are a direct result of the mining industry. Increasing concern exists regarding future mining activities in Provincial Parks (e.g., four provincial parks recently designated in Northern Manitoba do not allow major resource extraction or development).

Grass River Provincial Park is located on one of the favourable mineralized formations in Manitoba; the Greenstone Belt. Though mining extraction does not currently occur in the Park, mineral exploration is continuing. Major mining interests lie in the more accessible (e.g., road, water or rail line) areas where mineralized geological formations are found.

Though mineral exploration is not considered to be detrimental to wildlife populations, this activity can cause increased disturbance in areas where wildlife species exist. Mineral exploration also tends to detract from the recreational and wilderness experience value offered by the Park. Degradation of water quality, particularly of the Grass River and major waterbodies, is also of concern, especially by future mineral refining operations which may be envisioned in the Park.

The possible future development of mineral refining operations is considered to be potentially detrimental to many of the Park's natural resources. Examples are a decline in water quality, vegetation and wildlife habitat degradation, reduced air quality due to atmospheric release of noxious emissions, and reduction of the intrinsic aesthetic and recreational value offered by the Park. Such development would also likely increase non-recreational vehicular traffic in the Park, increase incidences of wildlife-vehicle collisions, and reduce the quality of access provided through the Park.

Timber Harvesting

The majority of timber harvesting activities in the region, including the Grass River Provincial Park, is controlled through Repap Manitoba Inc. operating plans. Repap accepts timber harvested from within the Park by independent operators. The current annual allowable cut of about 30 000 m^3 (1991) is considerably reduced from volumes extracted in the 1970's. Though this activity is important from a regional perspective, timber harvest volumes from the Park itself constitute about 5% of Repap's total allowable cut in the operating region (Repap Manitoba Inc. 1990 - Operating Plan Revision).

Timber harvest operations in the Park are undertaken by independent operators. Traditionally, independent operators harvest smaller stands than larger operators would find economically viable to harvest. Independent operators tend to be receptive to selective cutting practices, as well as clear-cut methods. Selective cutting and patch harvesting of timber create a mosaic of vegetation patterns, which are more attractive to some wildlife species, such as moose. Post-harvest vegetative regrowth also provides suitable browse conditions for some wildlife species. Associated with timber harvest operations however, are access roads and trails which could provide increased hunting pressure on species as moose. Scaife (1980) reported that hunter originated moose kills in Grass River Provincial Park were closely associated with access roads and all-weather roads. According to the 1994 Manitoba Game Hunting Guide, in Provincial Parks, hunting is prohibited within 300 metres of recreation areas, roads and prescribed trails.

Timber harvesting operations are viewed by some people as opposing the perceived intent of parks, that being conservation of wilderness areas and providing recreational opportunities. Additional concern exists in regard to the reduction of wilderness experiences, recreational opportunities (e.g., wilderness hiking) and the reduction in habitat for boreal forest dependent wildlife.

Commercial Fishing

Election Lake is the only remaining lake in the Park to be commercially fished. This activity is deemed to have a competing interest with commercial sport and recreational fishing, which are attractive and important features which enhance tourism. It is likely that commercial fishing will be phased out (Leroux, *pers com*), thereby creating a commercial net-free fishing park.

Trapping

Trapping, which has been on-going for many years, appears to have had little significant impact on regional populations of furbearer species. According to fur harvest records, there does not appear to be

any consistent pattern in harvest effort by the trapline holders. Boreal furbearer populations may have been negatively affected by the reduction in forest habitat by natural causes such as fire, or human related causes such as timber harvesting.

It is generally assumed that trappers, when on the traplines, will harvest big game species such as moose, if the opportunity arises.

Commercial Outfitting Operations

Four commercial lodges in the Park provide tourist related services associated primarily with fishing and non-resident black bear hunting. As inferred through estimated fish harvests (FIHCS, 1992) some lodges are providing a contribution to the regional economy. Potential resource conflicts resulting from commercial sport fishing do not appear to be significant, with the exception of potential reduction of specific fish species populations, which is a growing concern. Commercial sport fishing does contribute to additional angling pressure on fish species, both on the Grass River System as well as on some of the less accessible or remote lakes. An estimated annual harvest from Reed Lake, First Cranberry Lake and Elbow Lake is about 75 000 kg (FIHCS, 1992).

6.2.2 Archaeology and Heritage Resources

The discovery of several archaeological and heritage resources along the Grass River System supports the historic value of this waterway. As a comprehensive archaeological investigation has not yet been conducted, unknown sites are likely to exist. Unintentional (or intentional) disturbance of archaeological and heritage sites by the park's users, is of concern. Areas not associated with the Grass River waterway are not considered to be priority areas of concern. Legislation exists to protect historic and culturally significant areas.

6.2.3 Land Uses

Major elements of infrastructure are PR#10, PR#391, three public campgrounds, an existing rail line, an abandoned rail line and a recently constructed restaurant/gas station complex at the intersection of PR#10 and PR#391.

Since 1984, in response to increased user demand, Gyles campground has been expanded by approximately 22 campsites. This campground expansion is not expected to create significant detrimental effects on aquatics, wildlife or the natural vegetation of the Park in general. Site specific impacts associated with the expansion of the campground are local in nature, and consistent with developments of this kind (e.g., site impacts will be evident).

The abandoned rail line has been decommissioned and rails and rail ties removed. This has provided potential increased access route use into the north end of the Park, from both recreational opportunities and minerals exploration perspectives. However, increased access provided by the abandoned rail line might contribute to increased hunting pressure and associated human related disturbances such as noise, which may be disruptive to wildlife species particularly moose. Woodland caribou, being rather curious in nature, are not expected to be unduly affected by increased human presence and associated low-impact traffic along the line.

The recent development of the restaurant/gas station complex at the Park's west boundary will likely redirect some traffic (and revenue) from the Cranberry Portage area. Though the increased traffic volume is expected to be modest and manageable, it may increase the incidence of wildlife-vehicle collisions. From a recreation or resource user perspective, this facility provides a needed service at the Park's west end. Local environmental impacts associated with this development are confined primarily to the site area.

6.2.4 Social/Recreational

The prime purposes of natural parks are to provide recreation and wilderness experience opportunities and to conserve the park's unique cultural and natural resources. Recreational opportunities offered are related to high water quality, canoeing opportunities through the breadth of the Park, wilderness hiking, sight-seeing, consumptive and non-consumptive wildlife related opportunities, fishing and camping. Factors potentially limiting these recreational opportunities include natural resource extraction such as timber harvesting, to a lesser extent mineral exploration, and additional development in the Park's undisturbed or remote areas.

The Grass River is a designated canoe route complete with many camping sites along its course. This canoe route is being promoted as one of the Park's key features. Recreational fishing is another important feature which attracts many anglers from outside the region, while hunting opportunities are thought to be more of a local interest. Non-consumptive recreational opportunities are increasing in general and it is expected that these activities will also increase. Increased recreational opportunities associated with the use of the abandoned rail line include backcountry hiking, wilderness camping, access for fishing, cycling, sport hunting, and perhaps sightseeing.

Since many of the recreational opportunities are associated with the Grass River and associated waterbodies, any significant potential for water quality degradation or major impacts to the existing condition of the waterway is of concern. In general, recreational pursuits tend to be low impact in nature. Cumulatively however, the effects on the natural resources may be of concern.

CHAPTER 7 - CONFLICT RESOLUTION: RECOMMENDATIONS

7.1 Background

The previous chapter identified potential resource conflicts and descriptively analyzed the issues involved. This chapter uses that analysis of the resources to provide recommendations in an attempt to balance resource utilization and conservation. The recommendations are consistent with the intent of the Principles and Guidelines of Sustainable Development as well as the Provincial Parks and Consequential Amendments Act and the anticipated designation of the Grass River Provincial Park as a Natural Park. Each component, though identified individually, will be discussed with view that other biophysical and socio-economic requirements will be integrated. Section 7.2 will provide recommendations of a biophysical nature while Section 7.3 will address socio-economic components.

7.2 Management of Biophysical Considerations

Aquatics

Water quality for the Park in general, but particularly for the Grass River and adjoining waterbodies, is of prime importance. To ensure continued protection of water quality and aquatic habitats, a buffer zone of 1.6 kilometres (1 mile) should be designated for the Grass River and associated waterbodies. (The concept of an expanded buffer area has been used elsewhere in Manitoba. The Bloodvien River, which as a Heritage River designation, has a 1.6 kilometre buffer). The intent is to ensure that water quality will be maintained by minimizing sediment loading, preventing ground based pollutants from entering this watercourse, and protecting the natural characteristics of this resource.

Where mineral exploratory work is allowed adjacent to this buffer, strict conditions would be applied before drilling operations and/or extractive activities would be permitted. An Environment Act Licence

will be a requirement as authorization to proceed with significant exploratory work or extraction operations. Developments using setting ponds, producing noxious emissions, or involving operations which pose a potential threat to water quality or aquatic wildlife habitats are to be restricted.

Restrictions should be implemented for the number of large fish (spawners) by species in allowable catches. This concept had been successful in other provinces and should be enforced for the Grass River Park. This should be easily regulated, given the limited access points into the Park. Commercial sport fishing operators should also be encouraged to adopt and promote a voluntary "catch and release" practice, in addition to existing regulations. Election Lake's commercial net fishing license will not be transferred or reallocated.

Wildlife

The Park supports a variety of wildlife of which woodland caribou and moose have been given special recognition. Special effort should be instituted to protect these species in particular. A park boundary expansion to the northwest (Figure 13) would assist in conserving old growth forest and further conserve possible migration routes for the Naosap and Kississing caribou herds. A southern expansion is also recommended, the purpose of which would be to protect caribou migration routes and wintering areas to the south of Reed Lake. These park expansion areas would be consistent with the Province's intent to protect 12% of the Province by parkland designations. The expansions are also consistent with the purpose of the new Parks Act: to conserve representative natural resources. Both expansion areas would be restricted from timber harvest operations.

To further protect woodland caribou, commercial timber harvesting operations are not to be permitted in areas important to their survival. Timber harvesting operations should be restricted to those areas close to existing access routes. Though woodland caribou do not appear to be disrupted by the physical presence of timber harvest operations, they may be affected by habitat reduction, impact on calving grounds and reduction in winter food supply and thermal cover. The current "No-regulated hunting"

GRASS RIVER PROVINCIAL PARK

PROPOSED PARK EXPANSION

NORTHWEST EXPANSION

SOUTHERN EXPANSION

Scale 1 : 250 000

Metres 5000 0 5000 10,000

Miles 5 0 5

FIGURE 13

This map is based on information taken from the National Topographic System map sheet number 63N, 63K, 630, & 63J. Her Majesty the Queen in Right of Canada with permission of Energy, Mines, and Resources Canada.

policy (1994) for woodland caribou should be supported by a species specific co-management (no harvest) plan cooperatively initiated by the DNR and subsistence food users (Aboriginal Groups). Calving areas in particular should be protected and migration routes impacted as little as possible. This practice has been successful as a moose management technique in the Pukatawagan area of Manitoba and should be implemented for woodland caribou in the GRPP. A comprehensive study on woodland caribou and their habitat requirements should be undertaken to further understand this species. Adaptive management techniques could be applied as new information becomes available.

Indications are that moose habitat availability is increasing as a result of recent forest fire and timber harvesting activities. To ensure that moose populations are maintained, the currently regulated "bulls-only" hunting season is to be continued.

As a species specific management tool, traditional to liberal limits for regulated hunting of white-tailed deer should be considered for this particular situation only. With the control of deer populations, P. Tenuous disease, which is considered to be fatal to moose and caribou would also be controlled.

This could effectively be implemented by expanding the deer season for the Park only, allowing one additional deer to be taken with each moose license purchased, or having a two-deer tag season for the Park only.

Vegetation

A survey of rare and endangered plant species will fulfill the requirements of the Manitoba Endangered Species Act. Those sites identified will be protected from disturbances, particularly from commercial resource harvesting activities. In fulfilling the purpose of the Provincial Parks and Consequential Amendments Act, vegetation considered important to representative wildlife species are to be conserved.

Terrain and Special Physiographic Areas

The writer is not aware of any new locations where unique physiographic sites have been located, but a comprehensive terrain analysis has not been undertaken for Grass River Provincial Park. The completion of an inventory will provide insight into terrain conditions, special physiographic features, areas where rare plants might be located, as well as providing information pertinent to a variety of other resource factors (D. Forrester, *per com*). The results of this research could also provide the basis for the ecosystem based approach to resource management for the entire region.

7.3 Management of Socio-Economic Considerations

Archaeology

Notwithstanding the absence of a comprehensive archaeological survey for the Park, it is recognized that several heritage resources and archaeological sites are located along the Grass River. This river is recognized as being a major waterway which has historic importance related to the fur trade years. As such, this system should be proclaimed a Heritage River. This river, as others in Manitoba, should be protected by a 1.6 km (1 mile) restriction zone on each side of its shorelines. This would restrict resource extraction and control developments in those existing recreation-based site locations. No developments should be allowed along the Grass River or major lakes or waterways without a Heritage Impact Assessment. In accordance with the purpose of the Provincial Parks and Consequential Amendments Act, a comprehensive archaeological study should be undertaken along the Grass River to document those sites important from a cultural or heritage perspective.

Commercial and Extractive Practices

Forestry

Commercial timber harvesting operations are an important aspect of the regional economy. Mature and over-mature timber stands, if not harvested, would eventually succumb to natural causes such as windstorms, fire or disease, or would become decayant and regenerate as part of the life cycle of the forest. Also, as indicated in the 1984 GRPPMP:

> Forestry operations are both compatible with some wildlife species, such as moose and grouse, and potentially in conflict with others, such as caribou. Similarly, logging can have deleterious effects on some recreational activities and on aesthetic enjoyment, but may be of positive assistance to hunters and trappers. (Jones et. al., 1984, p. 70).

Timber harvesting operations are practiced both within and beyond the Park boundaries. Four independent operators are actively logging in the Park. The continuance of timber harvest practice by the independent operators should be allowed in areas which are completely out of sight of recreational areas, major roads, access areas and major lakes and rivers. This will require the maximum recommended natural vegetation buffer width (100 metres) being maintained along all public areas and access roads. Buffers as per the 1984 Recommended Fish Protection Procedures Stream Crossing Guidelines referenced in the 1984 Management Plan must be maintained for other areas as well. Harvesting operations should also be restricted from areas significant to caribou occurrences, including Reed Lake, Simonhouse Lake, Wedge Lake, First and Second and Third Cranberry Lake, Leak Lake and Iskwasum Lake. Timber extraction should be restricted to winter (freeze-up to spring thaw) operations to reduce impact on other park uses and to minimize ground surface impact (e.g., rutting, erosion, degradation of low growth surface vegetation). Harvesting in currently accessible areas should be encouraged and development of additional access roads from main all-weather roads would be kept to a minimum. Limited access for timber harvest operations would be allowed from PR#391 generally to the northwest of Simonhouse Lake. Any access road development will require licensing under the Manitoba

Environment Act. Consistent with the intent of the Principles and Guidelines of Sustainable Development, a full regeneration program as per work permits should be implemented and continued to ensure renewal of that resource. All timber harvest operations and operating plans for future allowable cuts must be licensed under the Manitoba Environment Act. All other timber operation guidelines as set out by the Province are to be adhered to.

Mineral Claims and Mineral Exploration

Mineral exploration is a vital component to the regional economy. Though exploratory work will continue beyond the Park boundaries, it should not be precluded from within the Park. The 1989 Webb Lake Burn area at the north end of the Park could be designated for exploratory work. This area has high mineral potential and since foliage is minimal, aerial based surveillance would be enhanced. Access along the abandoned CN line would also be encouraged (restricted to ATV only with restricted speed limits), to further enhance mineral exploration. Existing mining claims overlain on geological maps would provide a proxy for specific areas of interest for mineral exploration. These would include Elbow Lake, Reed Lake and Simonhouse Lake areas. Though exploratory work is allowed, mineral developments would not be allowed in the Park unless licensed under the Manitoba Environment Act. Local operations which currently exist at Flin Flon and Snow Lake should be assessed for economic viability of processing. Any other significant development associated with mineral extraction would also require a Manitoba Environment Act Licence. This license would include provision for abandonment and rehabilitation plans to ensure that the appropriate mitigations measures are applied, thereby ensuring that potential adverse effects are kept to acceptable levels.

Mine Development

The Spruce Point Mine closed in 1992. No active mines currently exist in the Park. Approval to allow extraction mines to be located in the Park would continue to be reviewed under the current permitting

policy and upon licensing under the Manitoba Environment Act. Mineral refining operations should not be permitted in the Park.

Trapping

The current level of fur harvest activity is not intensive. Because of low harvest volumes, this activity is unlikely to have a significant negative impact on the regional furbearer populations. Existing timber harvested areas and areas supporting new successional vegetative regrowth in the Webb Lake Burn area might provide future increased fur harvest yields of some furbearer species. Trappers should be consulted for input into co-management plans for ungulate species, particularly moose.

Commercial Fishing

Commercial fishing would likely be discontinued once the current fishing licence on Election Lake is lapsed. Sale or transfer of the commercial fishing licence would not be permitted. Commercial sport and sport fishing could be continued with emphasis on "catch and release" practices.

Infrastructure

Recreation is a vital component to the enjoyment of the resources that the Park has to offer. To further encourage use of the recreational facilities, efforts should be made to provide electrical supply to each of the existing public campgrounds. As identified in the 1984 Management Plan the least impact route for a distribution line would be within the PR#391 road allowance. Hence, new access by the distribution line would not be created and the line could easily be maintained. The existing campground facilities are presently not used beyond their maximum capacity, and therefore, expansion of the existing facilities is not currently envisioned.

The abandoned CN rail line could provide for multi-purpose access opportunities including regulated hunting, sport fishing, mineral exploration and other recreational uses such as cycling, nature hiking and access for related wilderness experiences. The following prominent uses implemented for the abandoned rail line could be sequenced according to best seasonal use, as follows: bicycle trail, hiking, camping and access to fishing for spring/summer and fall; access (ATV) for geological exploration in the spring, summer and fall; late fall/early winter access for moose hunting; mid-winter access for timber extraction; spring and early summer access for forest renewal and regeneration programs. Access to the abandoned rail line would be provided from Snow Lake and could generate additional income for that community.

Recreational Land Use Development

Development of recreation based services should be restricted to the three existing campgrounds until such time as the demand exceeds the facility or infrastructure capacity. Provision of electricity would likely increase use at these locations.

A restaurant/gas station facility was allowed to be constructed at the junction of PTH#10 and PR#391. This facility does not appear to adversely impact the overall resources or park use. Though some business has likely been redirected from Cranberry Portage, it has provided a source of regionally generated income and provides a service to vacationers and other park users. Though future development of a similar service with restrictions might be considered in the Reed Lake area, it is not provided for as a recommendation in this plan.

CHAPTER 8 - MANAGEMENT PLAN RECOMMENDATIONS AND CONCLUSIONS

Grass River Provincial Park should retain the classification of a Provincial Natural Park. The new Act allows for areas within the Park to be managed according to land use categories for which set objectives have been established. These categories are wilderness, backcountry, resource management, recreational development, heritage, access, and other. These land use categories have been applied with the purpose of avoiding conflicts in use and for managing the resources of the park. This is consistent with the Provincial Parks and Consequential Amendments Act and is in keeping with the intent of the Principles and Guidelines of Sustainable Development.

In accordance with the Land Use Categories, in classifying the Grass River in the Heritage Category the water quality will be protected from impacts associated with infrastructure development, commercial use and the effects of resource extraction and harvesting. The historic and cultural significance of the river and adjoining waterbodies will also be protected within this classification, as will critical wildlife habitats.

With major areas throughout the Park, particularly the park's expansion area, being classified in a Wilderness Category, woodland caribou migration routes, wintering areas and contiguous boreal environments upon which they depend will be protected. Low-impact recreational activities such as wilderness hiking are encouraged in this area, however timber extraction activities are not permitted. Mining exploration is permitted south of Reed Lake in all seasons except winter.

The Backcountry Category provides for remote and wilderness type recreational activities to take place in the northern part of the Park. Hiking, sight-seeing and consumptive as well as non-consumptive recreational opportunities are permitted. Provision is also made for year-round mineral exploration to occur in areas where geological formations are known to contain base or precious metals.

The Recreational Development Category recognizes the need for commercial recreation and tourist related facilities to be provided. This category includes areas currently developed as public campgrounds as well as the possible future expansion of these facilities to accommodate increased demand, if required.

Mineral exploration and timber harvesting areas have been allocated in the Resource Management Category. This general area exists primarily to the west, north west and south of Simonhouse Lake. As well a mineral exploration area extends into the Backcountry Category, in the Webb Lake Burn area, where the geological formations are known to contain base metals. Access along the abandoned CN rail line and from major waterbodies, is available. Mineral exploration activities in the Backcountry category will be superseded by that category's conservation measures, if incompatibilities emerge. The Simonhouse area has several potential timber harvesting areas available. Some existing access roads can be expanded.

The Access Category includes all-weather roads (PR#10 and PR#391) as well as the existing and abandoned rail line, thus providing access into the various areas of the Park. Occasional all terrain or winter snowmobile access adjacent to the existing rail line would be provided. Low impact access is provided to the northern part of the Park by the abandoned rail line. High impact traffic is provided on PR#10 and PR#391.

The Other Category recognizes the need for protection of two unique physiographic sites: the palsa hazel located east of PR#10 and the Karst Springs in the Leak Lake area. The Other Category also identifies existing locations for outfitter lodges and recreation based service establishments.

Figure 14 spatially delineates each of the Land Use Categories as outlined in the Provincial Parks and Consequential Amendments Act. The application of these categories is consistent with the intent and purpose of that Act and in doing so recognizes the intent of the provincially adopted Principles and

Scale 1 : 250 000

Metres 5000 0 5000 10,000

Miles 5 0 5

LAND USE CATEGORIES

- HERITAGE
- WILDERNESS
- BACKCOUNTRY
- RECREATION DEVELOPMENT
- ACCESS

RESOURCE MANAGEMENT

- TIMBER & MINERAL EXPLORATION
- MINERAL EXPLORATION

OTHER

- UNIQUE PHYSIOGRAPHIC AREA
- OUTFITTER AND/OR SERVICE ESTABLISHMENT

FIGURE 14

This map is based on information taken from the National Topographic System map sheet number 63N, 63K, 630, & 63J. Her Majesty the Queen in Right of Canada with permission of Energy, Mines, and Resources Canada.

Guidelines of Sustainable Development. The Manitoba Environment Act and relevant provincial legislation was applied where required.

Summary

The use of an IRM approach was successful in utilizing an updated resource base to analyze resource components relative to each other, to make appropriate decisions and develop recommendations in a balanced fashion. The objectives outlined in Chapter One have been met. Several regulatory policies were assessed relative to the biophysical and socio-economic characteristics of the Park. The new Provincial Parks and Consequential Amendments Act was reviewed and applied according to that Act's classification for parks and land use categories within parks. The intent of the Principles and Guidelines of Sustainable Development was recognized and the requirements of the current Manitoba Environment Act pertaining to developments within the Park were applied.

Adaptive management techniques should be employed as an ongoing mechanism for responding to new information and future changes to the biophysical and socio-economic characteristics of the Park and surrounding area. The flexibility provided by adaptive management could extend the functional ten year operating duration envisioned for this plan to maintain the balance of resource conservation and utilization. Major changes, such as those affecting regulatory or policy direction, may not effectively be integrated without substantive review of goals and objectives for the Grass River Provincial Park Management Plan.

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APPENDIX A: ENVIRONMENT ACT PROPOSAL FORM

Manitoba
Environment

Environment Act Proposal Form

This form prescribes the nature and sequence of the information required to file a proposal for a development pursuant to subsections 10(3), 11(7), and 12(3) of the Manitoba Environment Act.

Name of the development:
Legal name of the proponent of the development:
Location of the development: Street address: | Municipality: City or Town: | Legal description:
Name of proponent contact person for purposes of the environmental assessment:
Mailing address: | Postal code: Telephone: FAX:
Date: | Signature of the proponent, or corporate principal of the corporate proponent: Printed name:

OFFICE USE ONLY

Date Received _____

Client File Number _____

Development Review Class _____

Region _____

Departmental Contact Person

_____

Phone Number _____

NOTE: The proponent should reproduce the underlined portions of each section as noted below, adding the required information following each section as it applies to the development. A response to all the sections is required.

DESCRIPTION OF THE DEVELOPMENT:

i) Certificate of Title showing the owner(s) and legal description of the land upon which the development will be constructed; or (in the case of highways, rail lines, electrical transmission lines, or pipelines) a map or maps at a scale no less than 1:50,000 showing the location of the proposed development:

ii) Name of the owner of mineral rights beneath the land, if not the same as as that of the surface owner:

iii) Description of the existing land use on the site and on land adjoining it, as well as changes that will be made thereto for the purposes of the development:

iv) Land use designation for the site and adjoining land as identified in a development plan adopted pursuant to the Planning Act or the City of Winnipeg Act, and the zoning designation as identified in a Zoning By-Law, if applicable:

v) A description of all previous studies and activities relating to feasibility, exploration, or project siting and prior authorization received from other government agencies:

vi) A description of the proposed development (including site plans), and the method of operation and hours of operation:

vii) An identification of any storage of gasoline or associated products:

viii) A description of the potential impacts of the development on the environment, including, but not necessarily limited to:
- type, quantity and concentration of pollutants to be released into the air, water or on land;
- impact on wildlife;
- impact on fisheries;
- impact on surface water and groundwater;
- forestry related impacts;
- impact on heritage resources;
- socio-economic implications resulting from the environmental impacts.

ix) A description of the proposed environmental management practices to be employed to prevent or mitigate adverse implications from the impacts identified in (viii) which will have regard to, where applicable: containment, handling, monitoring, storage, treatment, and final disposal of pollutants; conservation and protection of natural or heritage resources; environmental restoration and rehabilitation of the site upon decommissioning; and protection of environmental health.

SCHEDULE:

The proposed date of commencement of construction, commencement of operation, including staging of the development and termination of operation, if known.

FUNDING:

Name and address of any Government Agency (Federal, Provincial or otherwise) from which a grant or loan of capital funds have been requested, where applicable.

NOTE:

The Environment Act requires that subject to the Confidential Information clause, Section 47, a proposal shall be filed in the public registry.

Proprietary information provided in this form should be clearly noted. A separate summary of the proposal excluding the proprietary information should accompany the proposal for the public registry file.

20 copies of any bound report or blueprints supporting the Proposal are required.

The completed Proposal form should be sent together with a covering letter to:

Director, Environmental Approvals
Manitoba Environment
Building 2, 139 Tuxedo Avenue
Winnipeg, Manitoba
R3N 0H6

(May 91 Revision)

APPENDIX B: GENERAL PRINCIPLES AND GUIDELINES OF SUSTAINABLE DEVELOPMENT

Principles and Guidelines of Sustainable Development

The vision of environmentally sound and sustainable economic development for Manitoba will be governed by the following principles:

PRINCIPLES:

1. **Integration of Environmental and Economic Decisions:** requires that we ensure economic decisions adequately reflect environmental impacts including human health. Environmental initiatives shall adequately take into account economic consequences.

2. **Stewardship:** requires that we manage the environment and economy for the benefits of present and future generations.

   Stewardship requires the recognition that we are caretakers of the environment and economy for the benefit of present and future generations of Manitobans. A balance must be struck between today's decisions and tomorrow's impacts.

3. **Shared Responsibility:** requires that all Manitobans acknowledge responsibility for sustaining the environment and economy, with each being accountable for decisions and actions, in a spirit of partnership and open cooperation.

4. **Prevention:** requires that we anticipate, prevent or mitigate significant adverse environmental (including human health) and economic impacts of policy, programs and decisions.

5. **Conservation:** requires that we maintain essential ecological processes, biological diversity and life-support systems of our environment; harvest reusable resources on a sustained yield basis; and make wise and efficient use of our renewable and non-renewable resources.

6. **Recycling:** requires that we endeavour to reduce, reuse, and recover the products of our society.

7. **Enhancement:** requires that we enhance the long term productive capability, quality and capacity of our natural ecosystems.

8. **Rehabilitation and Reclamation:** requires that we endeavour to restore damaged or degraded environments to beneficial uses.

   Rehabilitation and reclamation require ameliorating damage caused in the past. Future policies, programs and developments should take into consideration the need for rehabilitation and reclamation.

9. **Scientific and Technological Innovation:** requires that we research, develop, test and implement technologies essential to further environmental quality including human health and economic growth.

10. **Global Responsibility:** requires that we think globally when we act locally.

    Global responsibility requires that we recognize there are no boundaries to our environment, and that there is ecological interdependence among provinces and nations. There is a need to work cooperatively within Canada, and internationally to accelerate the merger of environment and economics in decision making and to develop comprehensive and equitable solutions to problems.

In addition to these principles, there are a number of fundamental guidelines. These Guidelines have equal status to the Principles, supporting them and indicating how the vision for Manitoba will be achieved:

GUIDELINES:

1. **Efficient Use of Resources:** we shall encourage and support development and application of systems for proper resource pricing, demand management, and resource allocation together with incentives and disincentives to encourage efficient use of resources and full environmental costing of decisions and developments.

2. **Public Participation:** we shall establish appropriate forums which encourage and provide opportunity for consultation and meaningful participation in decision making processes by all Manitobans. We shall endeavour to ensure due process, prior notification and appropriate and timely redress for those affected by policies, programs, decisions and developments.

3. **Understanding and Respect:** we shall be aware that we share a common physical, social and economic environment in Manitoba. Understanding and respect for differing social and economic views, values, traditions and aspirations is necessary for equitable management of these common resources. Consideration must be given to the aspirations, needs and views of various regions and groups in Manitoba.

4. **Access to Adequate Information:** we shall encourage and support the improvement and refinement of our environmental and economic information base and promotion of the opportunity for equal and timely access to information by all Manitobans.

5. **Integrated Decision Making and Planning:** we shall encourage and support decision making and planning processes that are open, cross-sectoral, incorporate time horizons relevant to long-term implications and are efficient and timely.

6. **Substitution:** we shall encourage and promote the development and use of substitutes for scarce resources where they are both environmentally sound and economically viable.

Manitoba

manitoba hydro

APPENDIX C: SUMMARY HIGHLIGHTS OF THE 1984 GRASS RIVER PROVINCIAL PARK MANAGEMENT PLAN

a) BACKGROUND TO THE MANAGEMENT PLAN

Grass River Provincial Park, approximately 2 300 square kilometres in area, was designated in 1963 and was recognized...

> as perhaps Manitoba's finest wilderness park and as a rich storehouse of natural, recreational, and commercial resources. (Department of Natural Resources, Parks Branch 1981, p. 1).

The purpose of this plan was to

> To conserve, manage, and preserve these resources for the use and recreational enjoyment of Manitobans... Such a plan achieves its purpose by establishing the park's fundamental objectives, and ultimately determining what can go on in the park, where specific activities are permitted, and under what conditions these activities are allowed. (Department of Natural Resources, Parks Branch 1981, p. 1).

The planning process began in 1980 and was concluded in 1984 with the release of the Grass River Provincial Park Management Plan. During the period between 1980 and 1984, an extensive data retrieval and documentation process for updating resource inventories was completed. Interim reports included Towards a Master Plan for the Grass River Provincial Park (1981) and Grass River Provincial Park Master Plan - Progress Report and Final Objectives.

A public consultation and public/interest group input program was conducted (Department of Natural Resources, Parks Branch, 1981). The responses and reactions during this consultation process were recorded.

Park Classification

According to the Grass River Provincial Park Management Plan (1984) and in accordance with the Provincial Park Lands Act, this park was classified as a Provincial Natural Park. This designation is generally assigned to spacious provincial park areas which can provide a range of outdoor recreational opportunities and which are adaptable to multiple use management (Provincial Park Lands Act, 1972).

According to the Grass River Provincial Park Management Plan, the purpose of this park is to:

- provide a semi-wilderness character and outdoor recreational experiences.
- be managed to maintain its excellent water quality and historic waterway.
- protect and preserve significant woodland caribou herds.
- provide opportunities for high-quality sport fishing.
- be managed to maintain the representative flora and fauna of the Precambrian Shield and Manitoba Lowlands.
- accommodate commercial use of resources where this does not lessen future recreational use or unduly compromise the Park's primary purposes. (Jones G. et. al., p. i)

b) RESOURCE MANAGEMENT

The following summary highlights were quoted directly from the Grass River Provincial Park Management Plan to convey the management recommendations for resources within the Park:

"Resource Management

- Significant natural and cultural features are identified as Special Area Zones. Information about existing and potential Special Areas will be updated continuously.

- Guidelines and standards are provided for the management of water and fish, key park resources. Major sport fishing waters are listed under four different categories which may require special management practices.

- Habitat protection is central to wildlife management, particularly for caribou. A wildlife refuge corridor will be established along PR#391 as part of an intensive moose management program.

Facilities and Services

- Upgrading of existing facilities and site expansion will be undertaken at the Gyles Campground.

- A system of designated campsites will be introduced into backcountry areas.

- Several interpretive trails and expanded park and regional information programs will be developed.

- Improvements will be made to signing within and outside the Park. Opportunities will be investigated for improved visitor services to be developed in co-operation with commercial outlets within the Park, and the nearby communities of Cranberry Portage and Snow Lake.

- Guidelines are provided for commercial recreation operations.

Commercial Resource Extraction

- The Park's extraordinary geology and potential for expanded mining activity is recognized. Guidelines and standards relating to mining are provided.

- A five-year forestry management plan to guide harvesting and reforestation will be a requirement.

- Trapping will continue under current management practices.

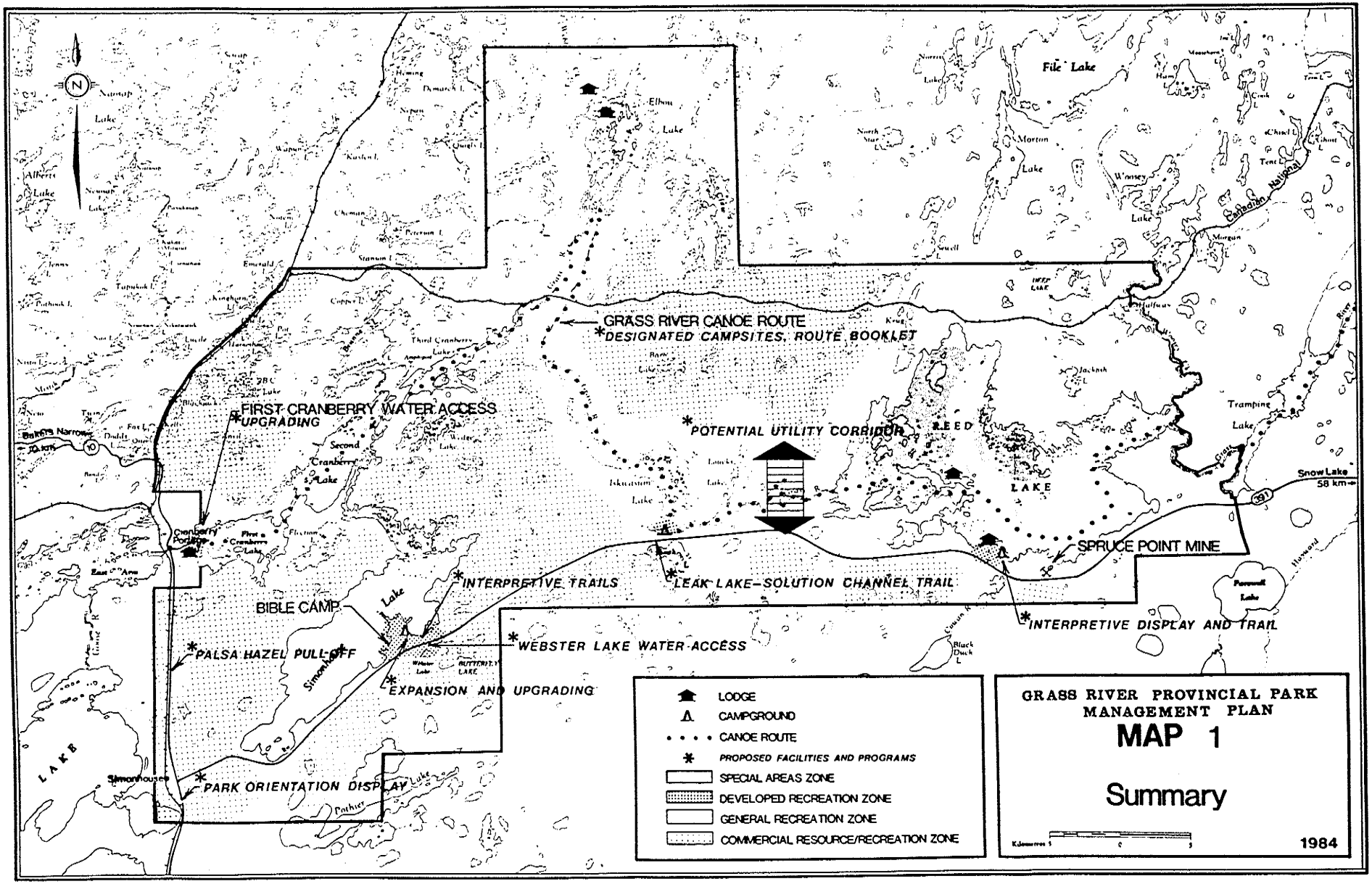
- A potential utility and access corridor is identified to serve future industrial (e.g., forestry and mining) needs north of the Grass River.

Zoning

- Four land-use zones are identified to guide management and use of the Park. The land use zones are: Special Areas, Developed Recreation Zones, General Recreation Zones and Commercial Resource/Recreation Zones. (Jones G. et. al. p. 7-8)

Map 1 identifies the location of the land use zones in the 1984 GRPPMP.

c) RESOURCE INFORMATION


GRASS RIVER CANOE ROUTE
*DESIGNATED CAMPSITES, ROUTE BOOKLET
*FIRST CRANBERRY WATER ACCESS
*UPGRADING
*POTENTIAL UTILITY CORRIDOR
REED
LAKE
SPRUCE POINT MINE
*INTERPRETIVE TRAILS
LEAK LAKE–SOLUTION CHANNEL TRAIL
*INTERPRETIVE DISPLAY AND TRAIL
BIBLE CAMP
*WEBSTER LAKE WATER ACCESS
*PALSA HAZEL PULL-OFF
*EXPANSION AND UPGRADING
*PARK ORIENTATION DISPLAY
LODGE
CAMPGROUND
CANOE ROUTE
*PROPOSED FACILITIES AND PROGRAMS
SPECIAL AREAS ZONE
DEVELOPED RECREATION ZONE
GENERAL RECREATION ZONE
COMMERCIAL RESOURCE/RECREATION ZONE
GRASS RIVER PROVINCIAL PARK
MANAGEMENT PLAN
MAP 1
Summary
1984

Physiography

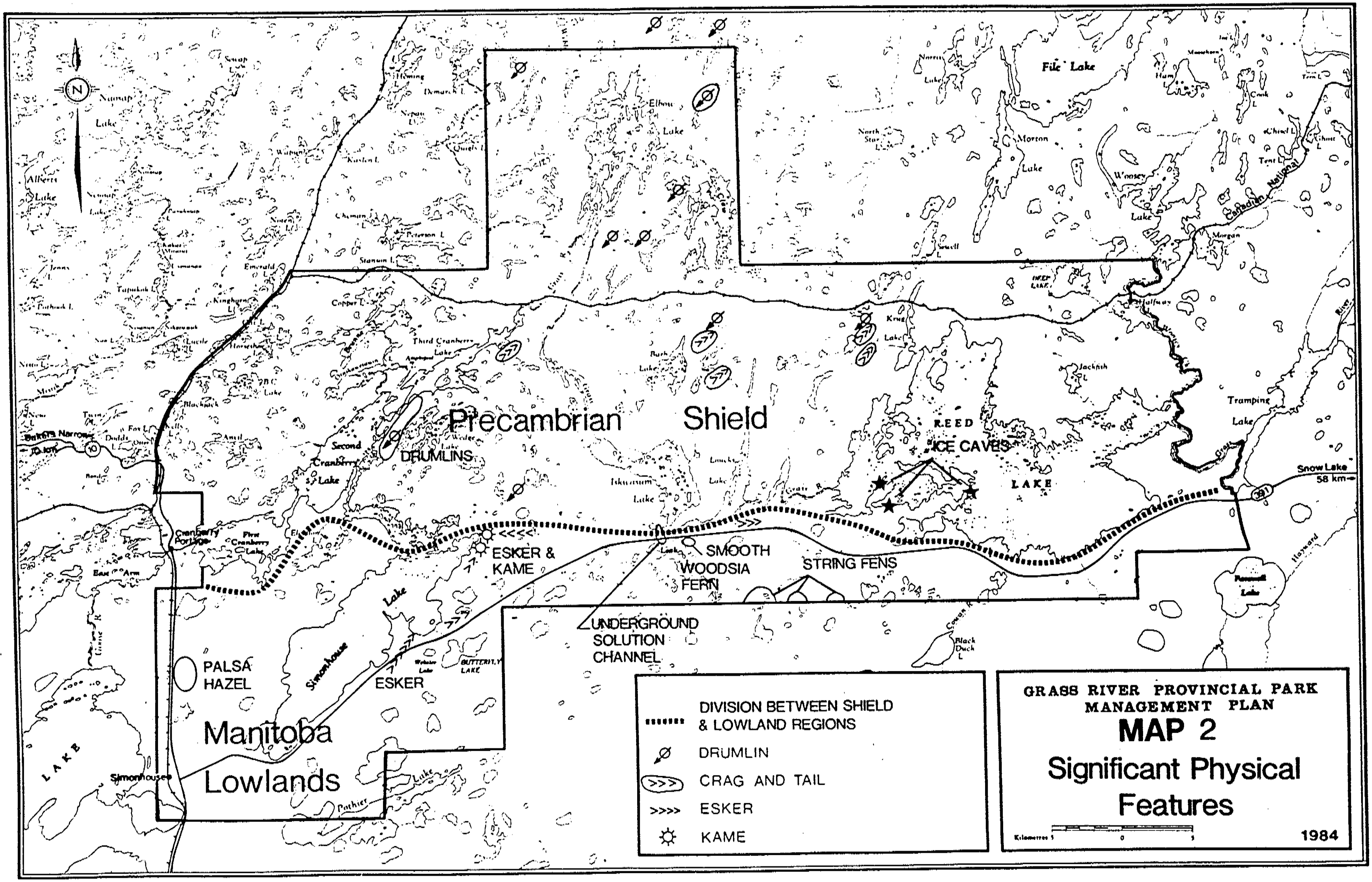
The Management Plan identified the two regional physiographic regions; the Precambrian Shield and Manitoba Lowland, with the former being dominated by parent bedrock outcrops intermixed with organic deposits and the latter consisting primarily of dolomite limestone. As identified on Map 2, Significant Physical Features, one of the most noted geographic formations in the Park is the Palsa Hazel, which is a frozen peat mound in a discontinuous permafrost bog. The importance of this palsa is associated with its most southerly known location in Manitoba. Other important physiographic and post-glacial features include ice caves at Reed Lake, kame, esker, craig and tail and drumlin occurrences. An underground solution channel located at Leak Lake flows through the limestone rock, under PR#391 to Iskwasum Lake, located north of the highway.

Vegetation

The Grass River Provincial Park Management Plan describes vegetation dominance in the Precambrian Shield as being black spruce which covers 55% of the forest, primarily in the uplands of the Precambrian Shield. Jackpine dominated stands on mineral based soils occupy about 20% of the forest. White spruce dominates about 10% of the land cover while deciduous hardwoods such as aspen, poplar and birch occupy the remainder.

The Manitoba Lowland supports a wider variety of (wetland) vegetation types primarily associated with bogs, fens, swamps and marshes. Stunted black spruce and tamarack are the common forest species.

Rare plants known to occur in marshy and fen areas include the fern known as "smooth woodsia". Other rare plants also likely occur in similar habitats in the Park.


Precambrian Shield
Manitoba Lowlands
DRUMLINS
ICE CAVES
ESKER & KAME
SMOOTH WOODSIA FERN
STRING FENS
UNDERGROUND SOLUTION CHANNEL
PALSA HAZEL
ESKER
DIVISION BETWEEN SHIELD & LOWLAND REGIONS
DRUMLIN
CRAG AND TAIL
ESKER
KAME
GRASS RIVER PROVINCIAL PARK MANAGEMENT PLAN
MAP 2
Significant Physical Features
1984
File Lake
Morton Lake
Woosey Lake
Tramping Lake
Snow Lake 58 km
Reed Lake
Simonhouse Lake
Simonhouse
Cranberry Portage
Second Cranberry Lake
Third Cranberry Lake
Elbow Lake
Iskwasum Lake
Halfway
Kiskittogisu?
Athapap? Lake

Wildlife

Wildlife consists of common mammals such as foxes, coyotes and bears which are distributed throughout the area. Riparian and aquatic species consist of beaver, muskrat, mink, weasel and otters, while forest dwellers include martin, fisher and wolverine.

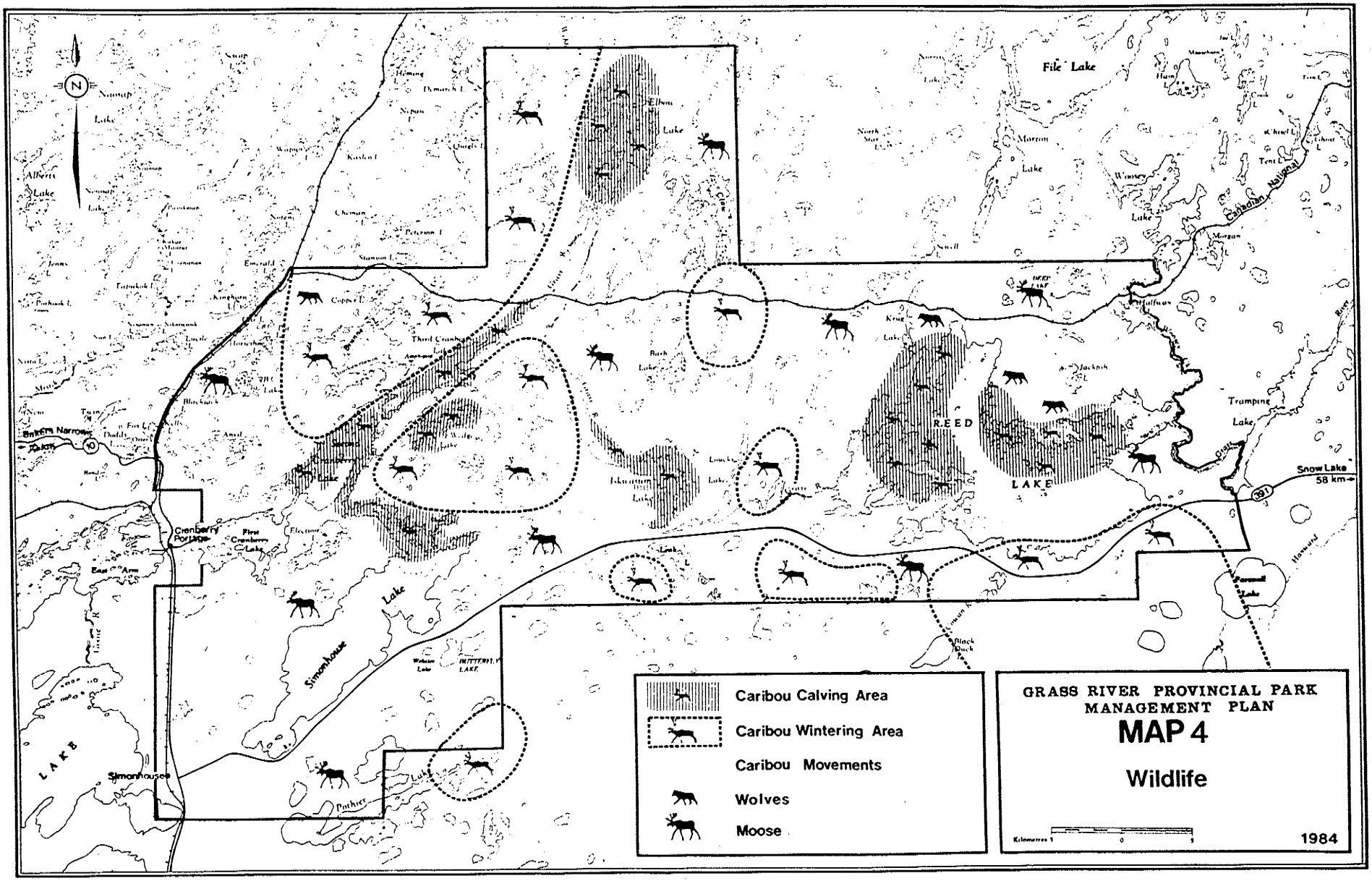
Though a wide variety of wildlife is supported, the presence of several hundred woodland caribou is considered to be among the most important. In 1984, two woodland caribou herds were identified, one ranging through Cranberry Lakes, Elbow Lake, Iskwasum Lake and Loucks Lakes and the other, having two sub-groups, occupying in the Reed Lake area. Woodland caribou in the Park utilize both upland and lowland areas for their lifecycle requirements.

> Woodland caribou are mature coniferous forest dwellers that feed on lichen growth, especially in winter. Their preferred habitat is a mix of mature and immature caribou range, as lichens are very slow to regenerate. It may take up to 40 or 50 years for caribou habitat to re-establish itself in these areas. (Jones G. et. al., p. 16).

Important woodland caribou calving areas are on the islands and shorelines of Reed Lake with other probable calving areas on the islands of Simonhouse, Wedge, Elbow, and Loucks Lakes. Wintering areas for this ungulate species are identified on Map 4: Wildlife.

Another important ungulate species is the moose:

> Moose are distributed throughout the Park and, like caribou, favour islands and shorelines for calving. Moose utilize a variety of habitats, from bogs, river courses and lakeshores to mature boreal and deciduous upland areas. They feed on succulent wetland plants and herbs in summer and primarily on woody stemmed shrubs in winter. Unlike caribou, moose make extensive use of burns and forest cutovers due to the regeneration of deciduous species. (Jones G. et. al., p. 16).


File Lake
REED
LAKE
Caribou Calving Area
Caribou Wintering Area
Caribou Movements
Wolves
Moose
GRASS RIVER PROVINCIAL PARK
MANAGEMENT PLAN
MAP 4
Wildlife
1984

Waterfowls, raptors and upland game are common throughout the park area. Two gull-tern colonies located on Reed Lake and one on Leak Lake, as well as four pelican colony roosting areas on Reed Lake, are sensitive to human disturbance.

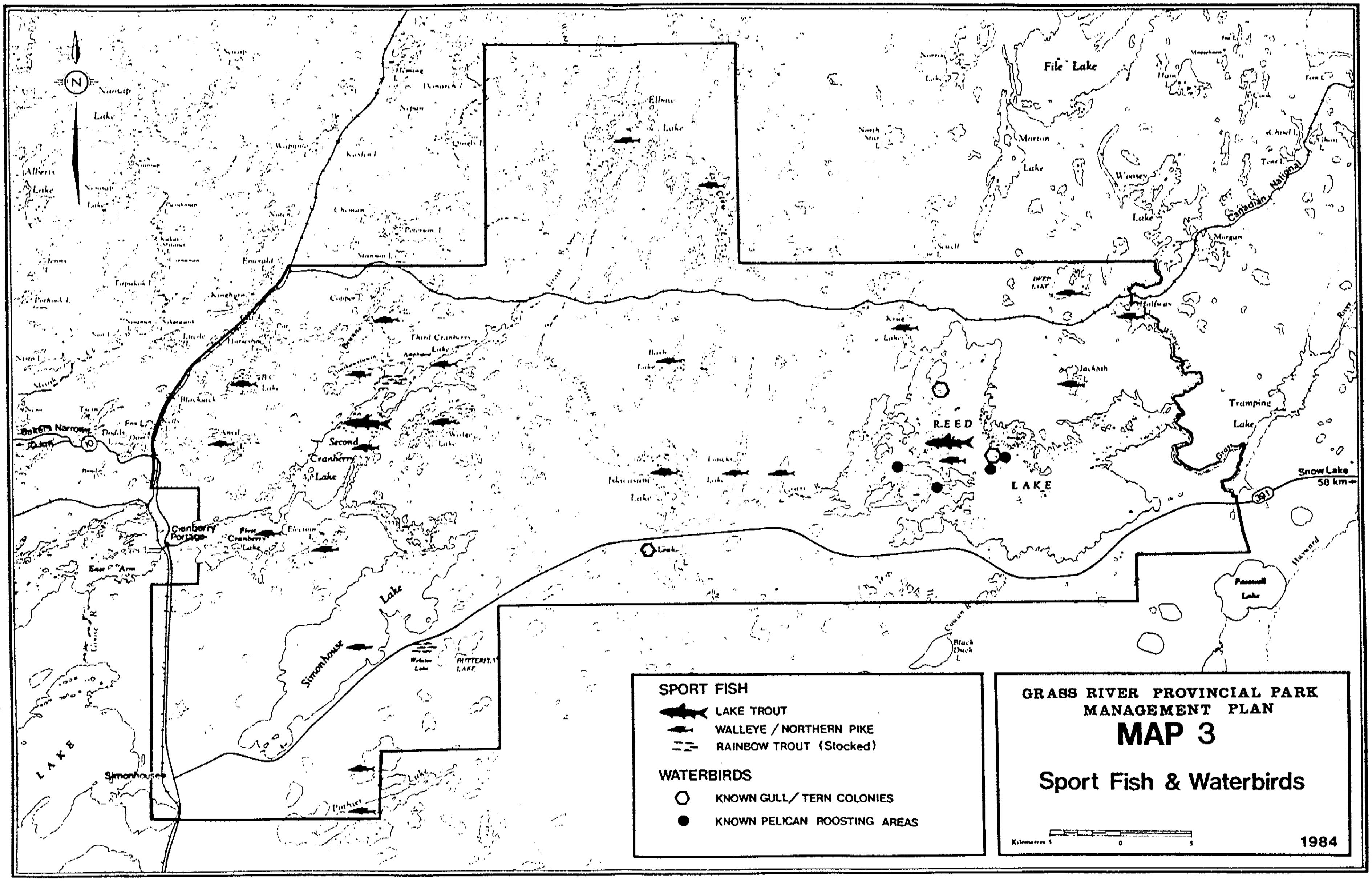
Aquatics

Approximately 25% of the Parks 2 300 square kilometre area consists of lakes, rivers, and streams. The waterbodies in the Precambrian shield area are generally deep and relatively low in nutrients. Waterbodies in the Manitoba Lowland area, which is along the southern part of the Park and consists of sedimentary limestone deposits, are typically more nutrient rich and support a greater abundance of fish.

One of the Park's most important features is its water quality, which should be protected from any degradation. These water bodies support abundant fish populations of which northern pike, walleye and whitefish are the most common. Simonhouse Lake is particularly noted for large northern pike, while Iskwasum, Elbow and Loucks Lakes are highly regarded for walleye. Lake trout is supported in Reed Lake and Second Cranberry Lake.

Rainbow trout have been introduced in Webster Lake and Amphipod Lake. Map 3, Sport Fish and Waterbirds, identifies important waterbodies which support various fish species.

The groundwater level is relatively high, particularly in the Manitoba Lowland portion of the park. Of interest are groundwater discharge areas such as the one near Iskwasum Lake on the north side of PR#391. It begins as an underground channel near Leak Lake, flows through limestone, under PR#391, and discharges as a small stream emptying into Iskwasum Lake. This feature has considerable interpretative value for visitors.


GRASS RIVER PROVINCIAL PARK
MANAGEMENT PLAN
MAP 3
Sport Fish & Waterbirds
1984
SPORT FISH
LAKE TROUT
WALLEYE / NORTHERN PIKE
RAINBOW TROUT (Stocked)
WATERBIRDS
KNOWN GULL / TERN COLONIES
KNOWN PELICAN ROOSTING AREAS
File Lake
Morton
Lake
Canadian National
Elbow
Lake
REED
LAKE
Trumping
Lake
Snow Lake
58 km
391
Second
Cranberry
Lake
Cranberry
Portage
Bakers Narrows
10
Simonhouse Lake
Simonhouse
LAKE
Black
Duck
L

The only major watercourse, the Grass River, generally follows fractures in the underlying bedrock, is relatively shallow, and has rapids in some areas. It ultimately drains into the Nelson River more than 320 kilometres northeast of the Park.

Archaeology and Heritage Resources

The Grass River, an important water route in Northern Manitoba has a fur trading history of about 200 years, and which human activity has occurred up to about 5 000 years ago. Several archaeological sites have been located in the Park.

Recreation and Infrastructure

Notwithstanding the relatively undeveloped nature of this park, some consumer based amenities, primarily to support the recreational use of the park and commercial use of the resources, are provided.

Three (3) campgrounds identified in the Management Plan are as follows:

Gyles - with twenty (20) campsites, this campground provides fishing and other recreation access from the south shore of Simonhouse Lake. It provides basic, non-modern facilities and services, with no electricity.

Iskwasum - forty (40) sites provided on Iskwasum Lake tend to be used by fishermen in spring and fall, and families during July and August. Basic non-modern services and facilities similar to that of Gyles campground are provided.

Reed Lake - with sixty-two (62) unserviced campsites, this popular campground is located near two (2) privately owned lodges on Reed Lake. This campground provides store and boat rental services which are not provided at Gyles and Iskwasum.

The Park Lands Act provides for commercial services based on leasing and siting regulations. As such the Park supported four (4) privately owned lodges in 1984:

Ashdown's Camp located on Elbow Lake

Elbow Lake Lodge located on Elbow Lake

Grass River Lodge located on Reed Lake

Peterson's Reed Lake Lodge located on Reed Lake

A privately owned/operated bible camp near Gyles Camp and a riding stable located near PR#10 and Simonhouse Road existed in 1984. Other infrastructure consists of Highway #10, PR#391 and a CN rail line, a fire lookout tower near Loucks Lake (no longer used), three solid waste disposal areas, a microwave tower, and a Manitoba Hydro 230 kV transmission line extending inside the west parameter of the Park boundary enroute from The Pas to Cranberry Portage.

The Grass River has been designated as a canoe route, of which the waterway provides continuous transport from the west to the east boundaries of the Park, and beyond.

Recreation Activities

The prominent recreation based activities are summed up in the 1984 GRPPMP as follows:

> The main recreational attractions of Grass River Provincial Park are its quality fishing, hunting, and back country canoeing experiences.
>
> As lakes have been relatively undisturbed by man, excellent sport fishing opportunities abound. Grass River has a reputation that attracts anglers from across the continent.
>
> Angling pressure is concentrated on the road accessible lakes such as Reed, Iskwasum, Simonhouse, and First Cranberry. The water access site on First Cranberry Lake is the focal point for extensive use by Cranberry Portage residents and other visitors. Other major sport fishing lakes accessible by boat or aircraft include Second and Third Cranberry. Loucks, Elbow, Halfway, Krug, and Jackfish Lakes.

Map 5, Existing Recreational Facilities and Infrastructure, identifies the recreational based infrastructure of the GRPP in 1984.

d) HUMAN LAND USES

Forestry

Manfor ceased forestry operations in the Park, however, up to five (5) independent operators have been and as of 1984 were harvesting timber, primarily in the Park's south west portion. Associated with forest harvesting operations are access roads which typically extend from Highway #10 and PR #391.

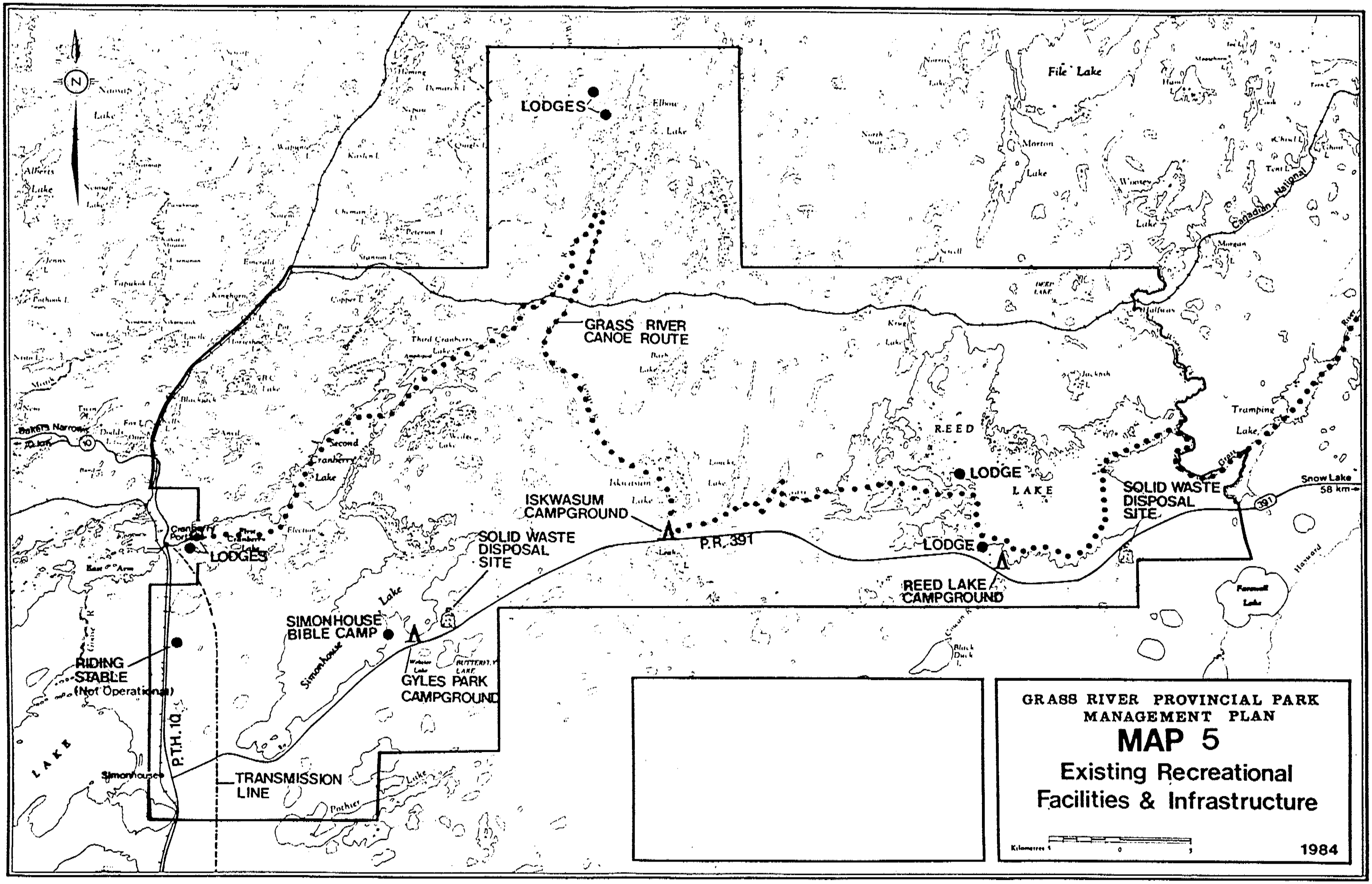
Trapping

Twelve registered traplines which are located throughout the Park provided a source of revenue for eighteen trappers. Moderately high capacity for fur production focussed on beaver, muskrat, lynx, otter, ermine, fisher, mink and fox, and to a lesser extent on timber wolves, coyotes and wolverines.

Commercial Fishing

Four lakes were being commercially fished in 1984, primarily during the winter. Election Lake, Wedge Lake, Brunne Lake and Otaskewetawin Lake fishing quotas allowed 2 300 kg of pickerel, pike and whitefish for the first two lakes, and a combined 4 600 kg of the same species for the latter two, of which not more than 460 kg were pike and pickerel.

Other lakes had been commercially fished prior to 1984, but no longer have quotas.


LODGES
GRASS RIVER
CANOE ROUTE
File Lake
REED
LAKE
LODGE
SOLID WASTE
DISPOSAL
SITE
Snow Lake
58 km
ISKWASUM
CAMPGROUND
P.R. 391
LODGE
REED LAKE
CAMPGROUND
SOLID WASTE
DISPOSAL
SITE
LODGES
SIMONHOUSE
BIBLE CAMP
GYLES PARK
CAMPGROUND
RIDING
STABLE
(Not Operational)
P.T.H. 10
TRANSMISSION
LINE
Simonhouse
GRASS RIVER PROVINCIAL PARK
MANAGEMENT PLAN
MAP 5
Existing Recreational
Facilities & Infrastructure
1984

Mining

> Grass River Provincial Park is part of the highest potential copper-zinc-gold-silver districts in Manitoba, and one of the best in Canada.

Spruce Point copper mine was operating in the Park in 1984.

Aggregate

Three quarries along PR#391 are used for occasional extraction for road maintenance.

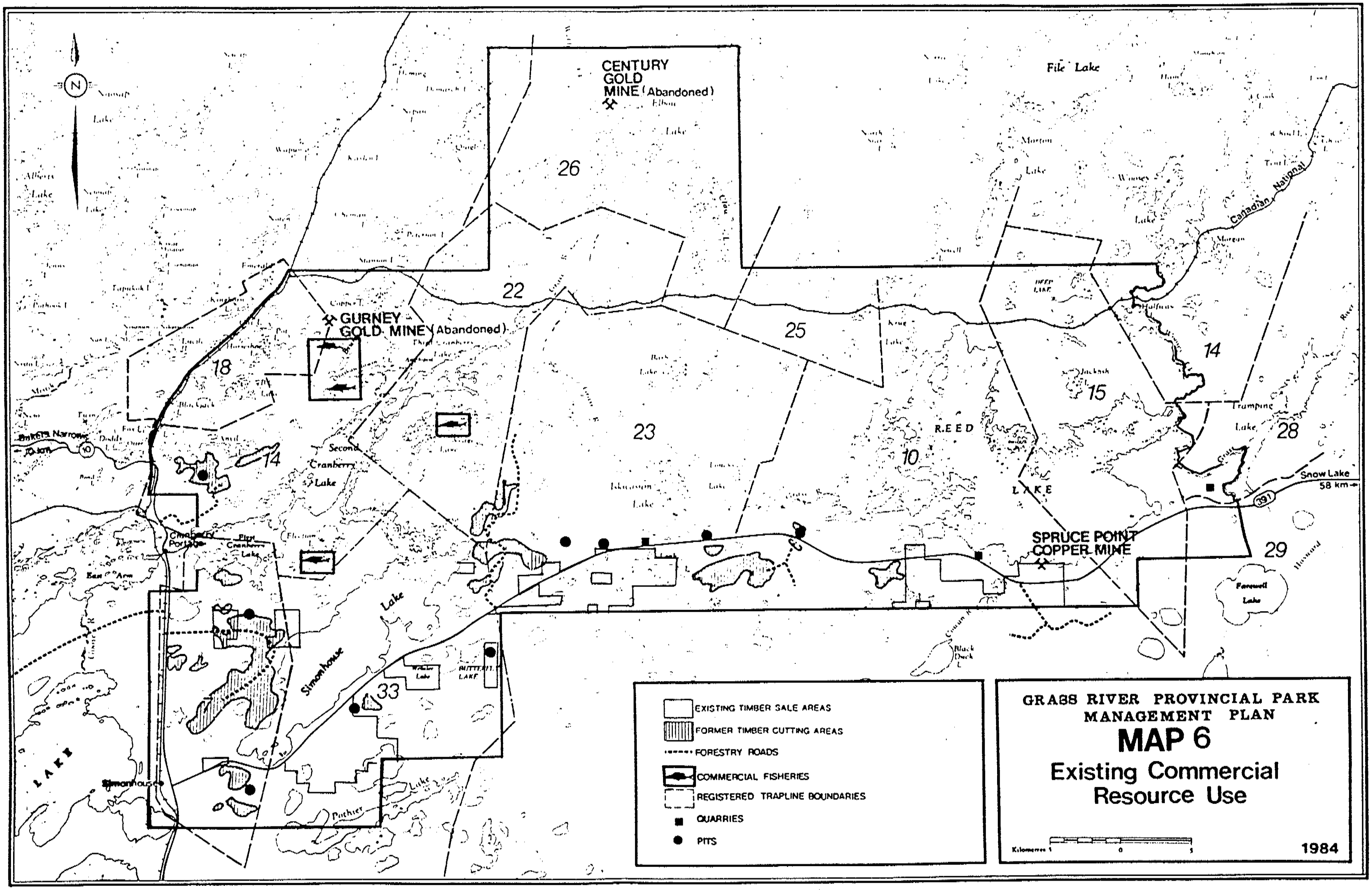
Map 6, Existing Commercial Resource Use, locates many of the commercial use areas and infrastructure of the Park as of 1984, while Map 8, New Recreational Facilities and Trails, identifies the new facilities, trails and infrastructure to promote and enhance recreational use particularly around the established campgrounds.

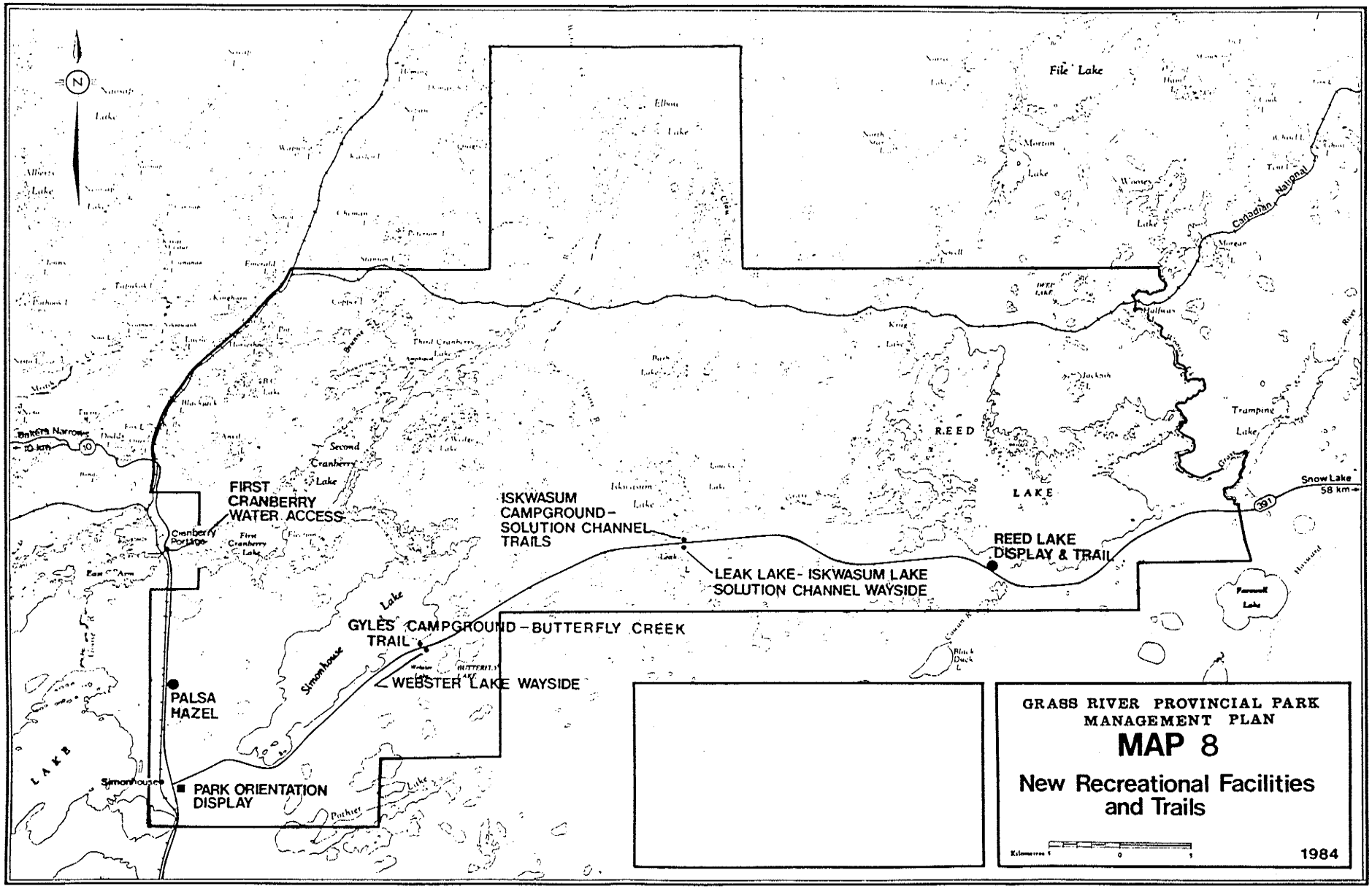
e) NATURAL RESOURCE MANAGEMENT

The following provides a brief summary of the Natural Resource Management highlights of the 1984 Grass River Provincial Park Management Plan.

Water

The 1984 GRPPMP indicates that no direct untreated discharge from mining wastes or other commercial or industrial efficient will be permitted into waterbodies, water treatment and disposal systems will require approval prior to construction and all provincial regulations and guidelines regarding construction activities will be adhered to.


CENTURY
GOLD
MINE (Abandoned)
GURNEY
GOLD MINE (Abandoned)
SPRUCE POINT
COPPER MINE
File Lake
Canadian National
Second
Cranberry
Lake
Simonhouse
Lake
REED
LAKE
Snow Lake
58 km
26
22
25
23
18
14
15
10
14
28
29
33
EXISTING TIMBER SALE AREAS
FORMER TIMBER CUTTING AREAS
FORESTRY ROADS
COMMERCIAL FISHERIES
REGISTERED TRAPLINE BOUNDARIES
QUARRIES
PITS
GRASS RIVER PROVINCIAL PARK
MANAGEMENT PLAN
MAP 6
Existing Commercial
Resource Use
1984


FIRST CRANBERRY WATER ACCESS
ISKWASUM CAMPGROUND – SOLUTION CHANNEL TRAILS
REED LAKE DISPLAY & TRAIL
LEAK LAKE - ISKWASUM LAKE SOLUTION CHANNEL WAYSIDE
GYLES CAMPGROUND – BUTTERFLY CREEK TRAIL
WEBSTER LAKE WAYSIDE
PALSA HAZEL
PARK ORIENTATION DISPLAY
GRASS RIVER PROVINCIAL PARK MANAGEMENT PLAN
MAP 8
New Recreational Facilities and Trails
1984

Fish

Fish management practices will be exercised for the protection of fish habitat, managing fish stocks and/or rehabilitating fish resources; existing guidelines regarding construction activities will be adhered to (e.g., stream crossing guidelines) and appropriate fishing regulations will be applied to ensure maintenance of existing fish populations.

The Management of the Park's sport fishing is generally identified on Map 7, Sport Fisheries, for which four categories of fish management have been used. This management concept is based on the fisheries resources described, with special restrictions applying.

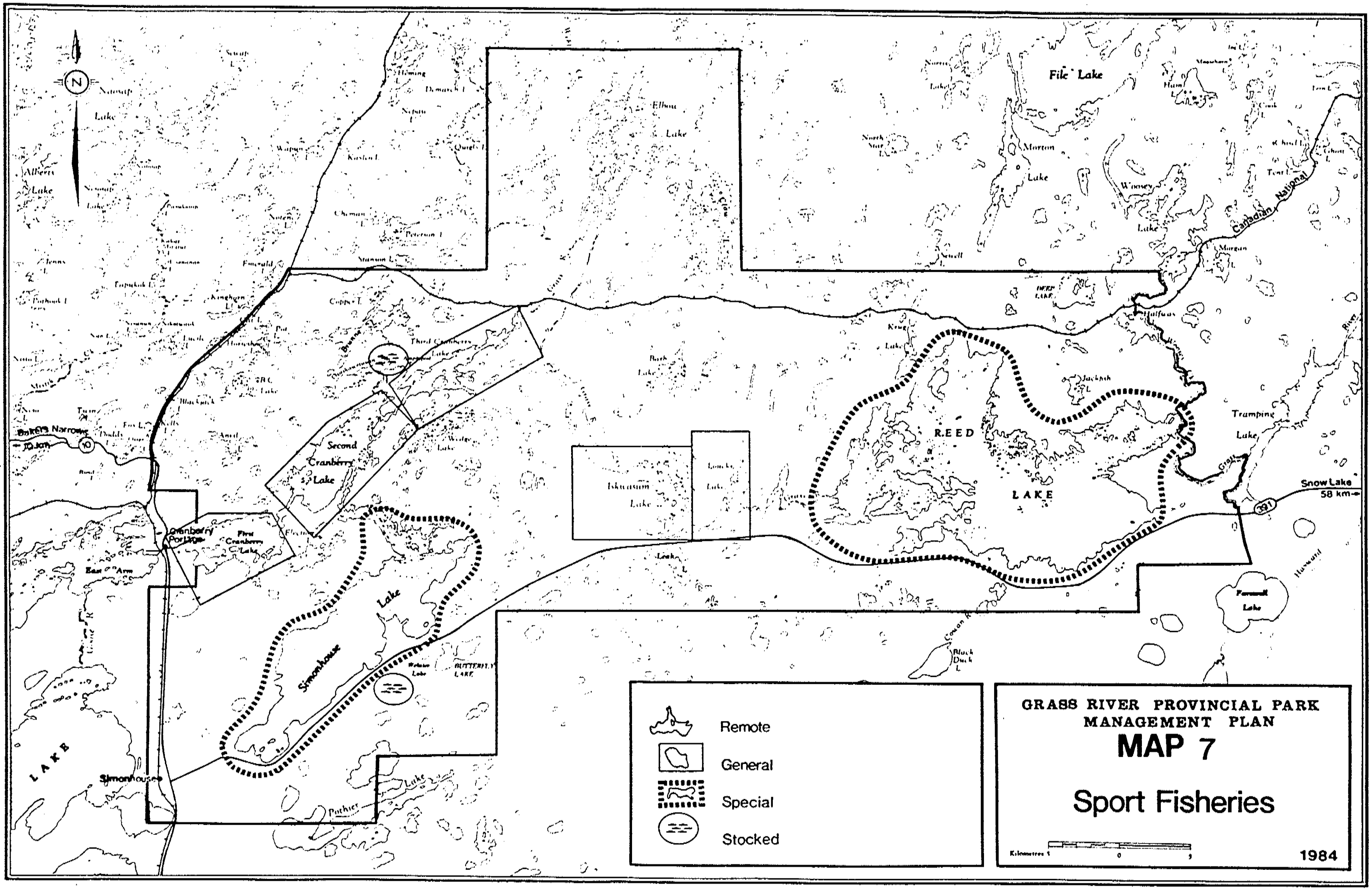
Vegetation

> Management of vegetation in Grass River Provincial Park will focus on protecting significant flora and representative plant communities, maintaining critical wildlife and fish habitat, improving vegetation at recreational sites and along access routes, and protecting and regenerating commercial forest resources. (Jones G. et. al., p. 44).

Notwithstanding that important wildlife habitat, fish habitat and other qualities will be maintained, commercial timber harvest operations will be allowed, and will be managed. Commercial timber harvestry will be restricted in critical wildlife habitat. Selective vegetation removal and replanting will also take place where appropriate.

Wildlife

Specific management practices for protecting wildlife, for the protection of pelican roosting areas and gull-term colonies on Reed Lake and protection and preservation of critical habitats for woodland caribou herds. This includes calving islands and adjacent shorelines on Reed Lake as well as Wedge, Elbow, First, Second and Third Cranberry Lakes, Simonhouse and Iskwasum Lakes. Woodland caribou


GRASS RIVER PROVINCIAL PARK
MANAGEMENT PLAN
MAP 7
Sport Fisheries
1984
Remote
General
Special
Stocked
Kilometres
File Lake
Morton Lake
Reed Lake
Tramping Lake
Snow Lake 58 km
Simonhouse Lake
Second Cranberry Lake
First Cranberry Lake
Cranberry Portage
Bakers Narrows
Iskwasum Lake
Elbow Lake
Canadian National
Simonhouse
Athapap Lake
Loucks Lake
Third Cranberry Lake
Wooser Lake
Jackfish L
Black Duck L
Grass
391
10

wintering habitat areas south of Iskwasum and Reed Lakes should also be protected. Habitat and enhancement of populations will be encouraged, consistent with size and configuration of timber harvesting areas, and encouragement of early successional vegetation regrowth.

Heritage Resources

As a management practice, proposals for land development and resource harvesting in the Park will be reviewed by the Historic Resources Branch. Archaeological resources will be protected and development will be monitored.

Scientific

Special research initiatives will be permitted; removal of specimens and artifacts will be authorized by the Director of Parks, if appropriate.

f) COMMERCIAL RESOURCE MANAGEMENT

In general, commercial harvesting of resources will be managed throughout the permitting process, with terms and conditions being applied to specific resource harvesting activities consistent with Provincial acts and regulations, and recommended practices and guidelines (e.g., Manitoba Stream Crossing Guidelines).

Specific harvesting and extraction guidelines will also be applied as follows:

Forestry

Timber harvesting is to be excluded from sensitive natural resource habitats (e.g., woodland caribou calving areas), however should be allowed in areas already committed to and in areas which enhance

wildlife habitats (e.g., moose habitat). In addition five year harvesting and regeneration plans will be approved for timber management. Yearly cutting plans within the allocated timber harvest areas will specifically detail cutting activity, retention of bushland, access roads and other activities associated with timber extraction.

Mining

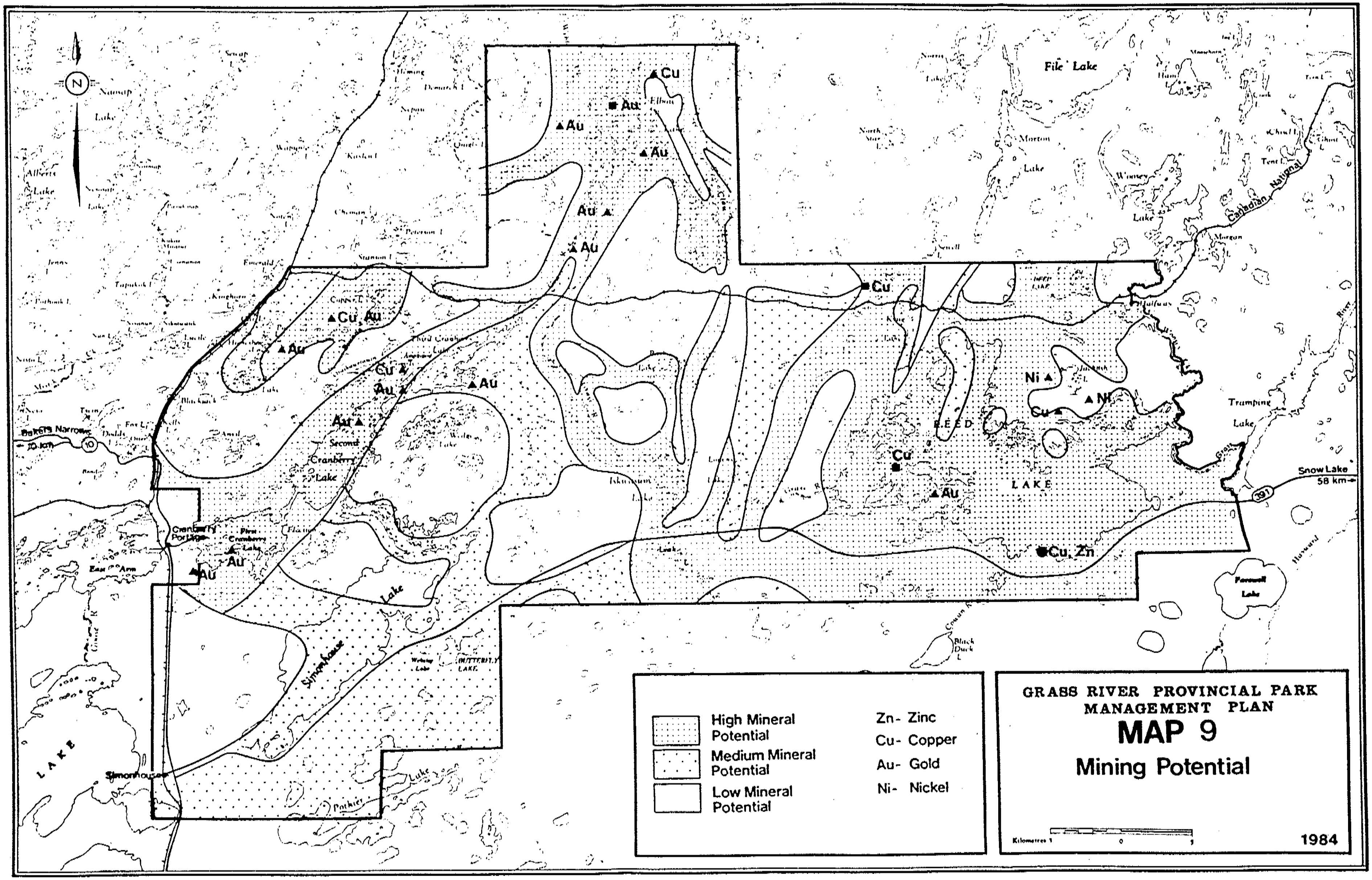
As indicated on Map 9, Mining Potential, significant potential for mineral resources exist in the Grass River Provincial Park. Mineral exploration will be permitted to continue within specified permit conditions. Any proposed mine site will be assessed on a case-by-case basis to determine the potential effects of this activity in the Park. Proposed mine developments will identify potential impact areas and address the concerns for all activities associated with the construction, operation maintenance and abandonment of the development.

Commercial Fishing

The management of fish resources dictate that sport fishing should take precedent over commercial fishing. As commercial fishing in the four commercially fished lakes does not appear to adversely affect populations, these operations could continue under prescribed quotas, seasons, net sizes and gear restrictions.

Trapping

No conflicts appear to exist with regard to fur harvest practices.


GRASS RIVER PROVINCIAL PARK
MANAGEMENT PLAN
MAP 9
Mining Potential
1984
High Mineral Potential
Medium Mineral Potential
Low Mineral Potential
Zn- Zinc
Cu- Copper
Au- Gold
Ni- Nickel
File Lake
Tramping Lake
REED LAKE
Snow Lake 58 km
Bakers Narrows
Cranberry Portage
Second Cranberry Lake
Simonhouse Lake
Simonhouse
Canadian National
LAKE
Cu
Au
Ni
Cu, Zn
Cu, Au

Aggregate Removal

Aggregate extraction may be approved by the Parks Branch under conditions related to general inaccessibility of this resource from existing pits or outside the Park.

g) ZONING

The 1984 Grass River Provincial Park Management Plan zoning consisted of four categories:

Special zones to protect areas from human disturbance include woodland caribou calving islands, Reed Lake pelican roosts, Reed Lake and Leak Lake gull/tern colonies, Reed Lake ice caves, Leak Lake - Iskwasum solution channel, string fens, Palsa Hazel, and bald eagle nests, rare plants, pictographs, and significant archeological/historic sites, if found.

Developed Recreation Zone

The Developed Recreation Zone includes existing and planned recreational developments and their associated facilities and infrastructure.

Uses permitted in the Developed Recreation Zone include campgrounds, commercial lodges, group camps, solid and liquid waste disposal sites, major highways and recreational access roads, and aggregate removal.

At the present time, the following general areas comprise the Developed Recreation Zone:

i. Reed Lake Campground and Vicinity,

ii. Iskwasum Lake Campground and Vicinity,

iii. Gyles Campground and Vicinity,

iv. First Cranberry Lake Water Access and Vicinity, and

v. PTH#10 and PR#391 corridors.

General Recreation Zone

> The General Recreation Zone is set aside primarily for a wide range of recreational activities and/secondarily, for a selected number of commercial activities deemed generally compatible with those recreational uses... Most of the Park, especially its water bodies, is reserved for general recreational use. Boundaries of the General Recreation Zone have been typically set at a distance of approximately two kilometres from the shorelines of major lakes and the Grass River. (p. 79-80).

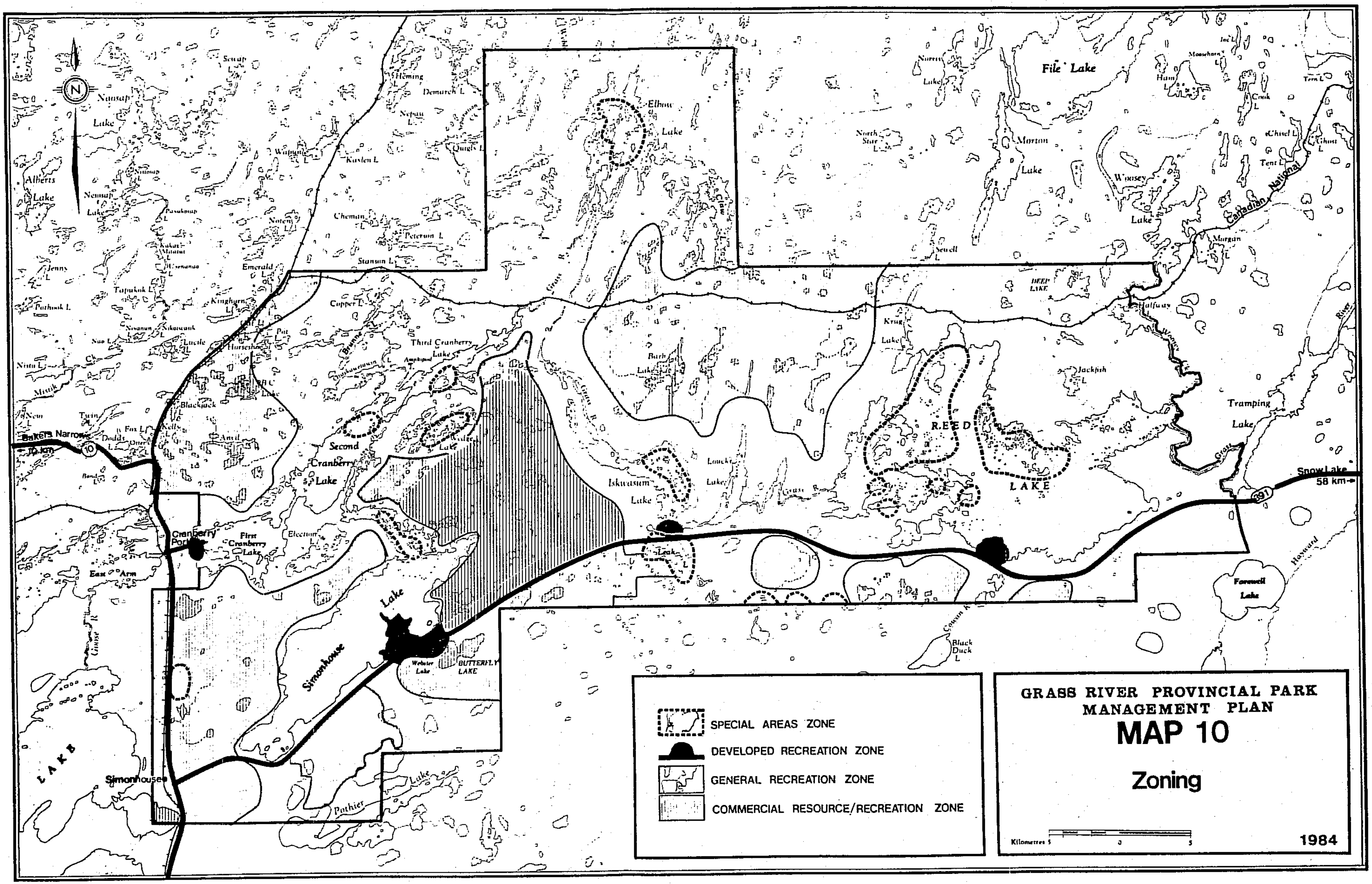
Activities permitted in the General Recreation Zone include remote camping, existing remote lodges, sport fishing and hunting, canoeing and boating, commercial fishing and aggregate removal.

Commercial Resource/Recreation Zone

The Commercial Resource/Recreation Zone is intended to provide opportunities for both general recreation and intensive commercial resource uses. All commercial uses allowed in this zone are subject to permit terms and conditions, and to all applicable Provincial acts and regulations.

All activities permitted in the General Recreation Zone and the Special Areas Zone are allowed in the Commercial Resource/Recreation Zone. Additional uses permitted only in the Commercial Resource/Recreation Zone include commercial forestry and major industrial access roads and infrastructure.

Map 10, Zoning, identifies the zoning classes within the Grass River Provincial Park.


GRASS RIVER PROVINCIAL PARK
MANAGEMENT PLAN
MAP 10
Zoning
1984
SPECIAL AREAS ZONE
DEVELOPED RECREATION ZONE
GENERAL RECREATION ZONE
COMMERCIAL RESOURCE/RECREATION ZONE
Kilometres
File Lake
Elbow Lake
Morton Lake
Woosey Lake
Canadian National
Tramping Lake
REED LAKE
Iskwasum Lake
Second Cranberry Lake
Third Cranberry Lake
First Cranberry Lake
Cranberry Portage
Simonhouse Lake
Simonhouse
Webster Lake
BUTTERFLY LAKE
Bakers Narrows 10 km
Snow Lake 58 km
Farewell Lake
Black Duck L
Athapap Lake
Alberts Lake
Jackfish L
Halfway
Copper L
Emerald L
Kinghorn
Anvil
Blackjack
East Arm
Pothier Lake