

Fur Lakes Land and Resource Management Plan



Saskatchewan
Agriculture
and Food

Letter of Transmittal

June 3, 1998

The Honourable Eric Upshall
Minister of Agriculture and Food

The Honourable Lorne Scott
Minister of Environment and Resource Management

Dear Sirs:

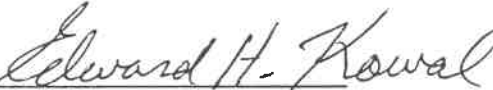
We respectfully submit the Fur Lakes Land And Resource Management Plan.

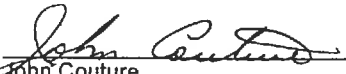
The Planning and Advisory Committee was established to develop a plan for Crown land in the Fur Lakes area. The Committee included a number of local stakeholders and representatives of provincial and municipal governments.

The plan identifies land use management policies and provides a framework for decision making by the Provincial Government and the Rural Municipality of Canwood No. 494. A series of public meetings provided residents with the opportunity of providing input in developing the plan.


We appreciate the opportunity to have participated in developing the Fur Lakes Land and Resource Management Plan. We look forward to having the plan implemented.


John Chuey (Co-Chair)
Saskatchewan Agriculture and Food



Ed Kowal (Co-Chair)
Sask. Environment and Resource Management


John Couture
R.M. of Canwood No. 494


Len Kowalko
Saskatchewan Municipal Government


Gary Ericson
Saskatchewan Energy and Mines


Malcolm Leggett
Cottage Owners

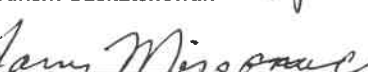

Mike Finley
Nature Saskatchewan


Metro Lynchak
Regional Park Board/R.M. of Canwood No. 494



Frank Fox
Sask Water


Ian McGill
Tourism Saskatchewan


Dudley Gaches
Farm Woodlot Association


Harry Miszaniec
Lease Holders


Jim Hay
Saskatoon Nature Society


John Shanks / Lyle Pittman
Saskatchewan Wildlife Federation


Hank Veerenhuis
Private Landowners/Local Residents

Acknowledgments

The Fur Lake Planning Committee acknowledges the assistance and participation of the Advisory Committee in providing local input into the plan. Stakeholder members participated in meetings and provided background information in developing the plan.

Acknowledgement is given to the following individuals for serving as technical advisors and attending committee meetings during preparation of the plan:

Jim Schmidt, Saskatchewan Agriculture and Food, Lands Branch; and Jim Smith and Brenda Thurston, Saskatchewan Environment and Resource Management, East Boreal EcoRegion.

Appreciation is also given to the following individuals for specific tasks:

Cindy Gampe, Saskatchewan Agriculture and Food for preparing the maps; Don Bernier and John Durbin, Saskatchewan Environment and Resource Management for preparing the forest inventory and fish carrying capacities provided in Appendix A and respectively; and Al Keller, Sask Water, for calculating the Fur Lake - Fisheries Carrying Capacity provided in Appendix C.

The Planning and Advisory Committee is grateful to the following people for providing information:

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Finally, special appreciation is extended to Hugh Otterson and the Rural Municipality of Canwood No. 494 for providing a location for Planning and Advisory Committee meetings and to the Village of Shell Lake for allowing the use of the community hall for public meetings.

Fur Lakes Planning and Advisory Committee

Advisory Committee

Cottagers

Malcolm Leggett
Saskatoon, Saskatchewan

Environment

Mike Finley,
Saskatoon, Saskatchewan

Jim Hay
Saskatoon, Saskatchewan

Farm Woodlot Association

Dudley Gaches
Mont Nebo, Saskatchewan

Lease Holders

Harry Miszaniec
Shell Lake, Saskatchewan

Private Land Owners/Local Residents

Hank Veerenhuis
Mont Nebo, Saskatchewan

Regional Park Board

Metro Lychak
Shell Lake, Saskatchewan

Saskatchewan Wildlife Federation

John Shanks / Lyle Pittman (alternate)
Saskatoon, Saskatchewan

Planning Committee

John Couture
R.M. of Canwood No. 494
Debden, Saskatchewan

John Chuey (Co-Chair)
Saskatchewan Agriculture and Food
North Battleford, Saskatchewan

Gary Ericson
Saskatchewan Energy and Mines
Lloydminster, Saskatchewan

Frank Fox
Sask Water
North Battleford, Saskatchewan

Ed Kowal (Co-Chair)
Sask. Environment and Resource Management
Prince Albert, Saskatchewan

Len Kowalko (Writer)
Saskatchewan Municipal Government
Saskatoon, Saskatchewan

Metro Lychak
R.M. Of Canwood No. 494
Shell Lake, Saskatchewan

Ian McGilp
Tourism Saskatchewan
Saskatoon, Saskatchewan

Plan Summary

The Fur Lakes planning area is located in the central part of Saskatchewan in the Rural Municipality of Canwood No. 494. The area supports several land and water uses relating to agricultural grazing, forests, and recreation. The Fur Lakes area has important waterfowl and wildlife habitat and presents a scenic area for recreational activities such as fishing and hunting.

To address the issue of competing land uses and utilization of Crown land in the study area, a land use planning process was initiated to develop a management plan for the area. As part of the land use planning process, public meetings were held to identify local concerns and provide stakeholder input. These concerns provided a basis in developing the plan. Information was collected on local resources and land use and incorporated in the plan as background material.

The plan provides in table format the objectives, strategies, and management policies that apply to the entire planning area. In order to distinguish areas based on specific land uses, two management areas were developed and are indicated on Map No. 4 - Management Areas. These management areas identify the land uses that are permitted in conformance with the intent of the zone.

The intent of the Resource Protection Area (RPA) is to maintain an area in a natural state. The priority is to safeguard habitat areas and ecosystems, and to protect riparian areas along the Fur Lakes and streams within the planning area. The greatest level of land use restriction will apply to this area. The intent of the Resource Development Area (RDA) is to provide for sustainable management and integrated land use. A lower level of restriction will apply to development and activities as compared with the RPA. This area will be managed as a multiple use zone for a broad range of uses and activities. Combined, these two management areas support and assist in the continuation of traditional land uses and activities and will allow for diversification of land use where it is compatible and environmentally acceptable.

The plan identifies the legislative and regulatory framework for implementing the policies of the plan. The plan includes a recommendation encouraging the compatible use of private land in the Rural Municipality of Canwood No. 494. The Planning and Advisory Committee recommends the review of all planning area lands for potential designation as wildlife habitat lands pursuant to *The Wildlife Habitat Protection Act, 1992*. The Committee also recommends that an overall Forest Resource Management Plan be prepared for the entire planning area. The plan will be monitored on an ongoing basis by the regulatory agencies and will include consultation with stakeholders when changes are proposed.

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SECTION 1.0 GENERAL BACKGROUND

1.1 Introduction

The Fur Lakes are a combination of three lakes geographically located in the central part of Saskatchewan in the Rural Municipality of Canwood No. 494 (see Map No. 1 - Planning Area). The Fur Lakes area supports a number of land uses and development activities including haying and livestock grazing, gravel extraction, fuelwood cutting, as well as recreation and cottage development. Abundant wildlife, freshwater lakes, a mixed forest comprised of both coniferous and deciduous trees provide a scenic environmental setting offering the public a number of recreational related opportunities.

The importance of the area to local residents became evident when the proposed sale of Crown land adjacent to the Fur Lakes led to a number of public concerns including the potential for clear cutting of trees. Competing interests for use of land and public concerns on the potential environmental impact on the forest and the Fur Lakes led to Saskatchewan Agriculture and Food (SAF) withdrawing the sale of Crown lands. The Department agreed that there would be no further disposition or surface disturbance of vacant Crown lands adjoining the Fur Lakes pending the completion of a land use plan. The plan was to be developed with public input and provide opportunities for direct participation in the planning process. The Fur Lakes Planning Committee was established to prepare the plan. Also, the Fur Lakes Advisory Committee, comprised of representatives from local interest groups, was formed to assist the Planning Committee in developing the plan.

1.2 Legislative Authority

The Provincial Lands Act provides SAF and Saskatchewan Environment Resource Management (SERM) with the authority to administer Crown lands. The legislation also permits these departments to set administrative policies on Crown land in the public interest. The land within the planning area is administered by SAF, however, SERM maintains an interest in resource and environmental protection. SERM is responsible for wildlife habitat lands designated pursuant to *The Wildlife Habitat Protection Act, 1992*. These two provincial agencies are jointly responsible for the administration of these public lands.

1.3 Plan Purpose And Scope

The Fur Lakes Land and Resource Management Plan will provide a comprehensive administrative framework for the responsible use of land and resources in the planning area. The plan will support the sustainable use of land in the public interest based on input from local residents. While both Crown and private lands are included in the planning area, plan policies will apply only to Crown lands. In focusing on Crown lands, the plan will guide SAF, SERM, and related provincial agencies in the management of these lands. The plan will also complement municipal policies on private lands in the planning area. Maintaining appropriate and compatible land use will be emphasized in this plan. Where Crown lands are subsequently sold, any land use policies and zoning regulations adopted by the Rural Municipality of Canwood No. 494 would apply.

The plan focuses on three main elements of land use planning which include: issues, objectives, and policies. These elements are described as follows:

- (a) Issues - are those concerns on land use development and activities that need to be addressed through formulation of management objectives and policies in the plan. Issues are expressed by the public and are those identified by the Planning and Advisory Committee.
- (b) Objectives - are statements of what the Planning and Advisory Committee is attempting to achieve or a desired result in the long term in managing Crown lands.
- (c) Management Policies - are statements of how the Planning and Advisory Committee intends to achieve the stated objectives. The policies will determine what forms of development and land and water related activities will be allowed within each of the designated land use management areas.

1.4 The Planning Area

The planning area consists of about 2,687 hectares (6,640 acres) of land. The land is located in the Rural Municipality of Canwood No. 494 (see Map No. 1 - Planning Area). While some deeded land is included in the planning area, the majority of the area is Crown land (see Map No. 2 - Crown Land Status and Reservations). Crown land in the planning area is either vacant or leased to individuals primarily for livestock grazing. The private land is used primarily for cattle operations, hay production and grazing. The Fur Lake Recreation Site situated at the south end of the main lake provides overnight camping facilities. The Kingfisher subdivision on the north-east side of the main lake is the site of privately owned cottages. The use of private land can have an impact on the surrounding area, and therefore, is examined in relationship to the Fur Lakes.

1.5 Management Plan Development Process

In developing and ensuring implementation of the Land and Resource Management Plan, a land use planning process was followed which is summarized in the following steps:

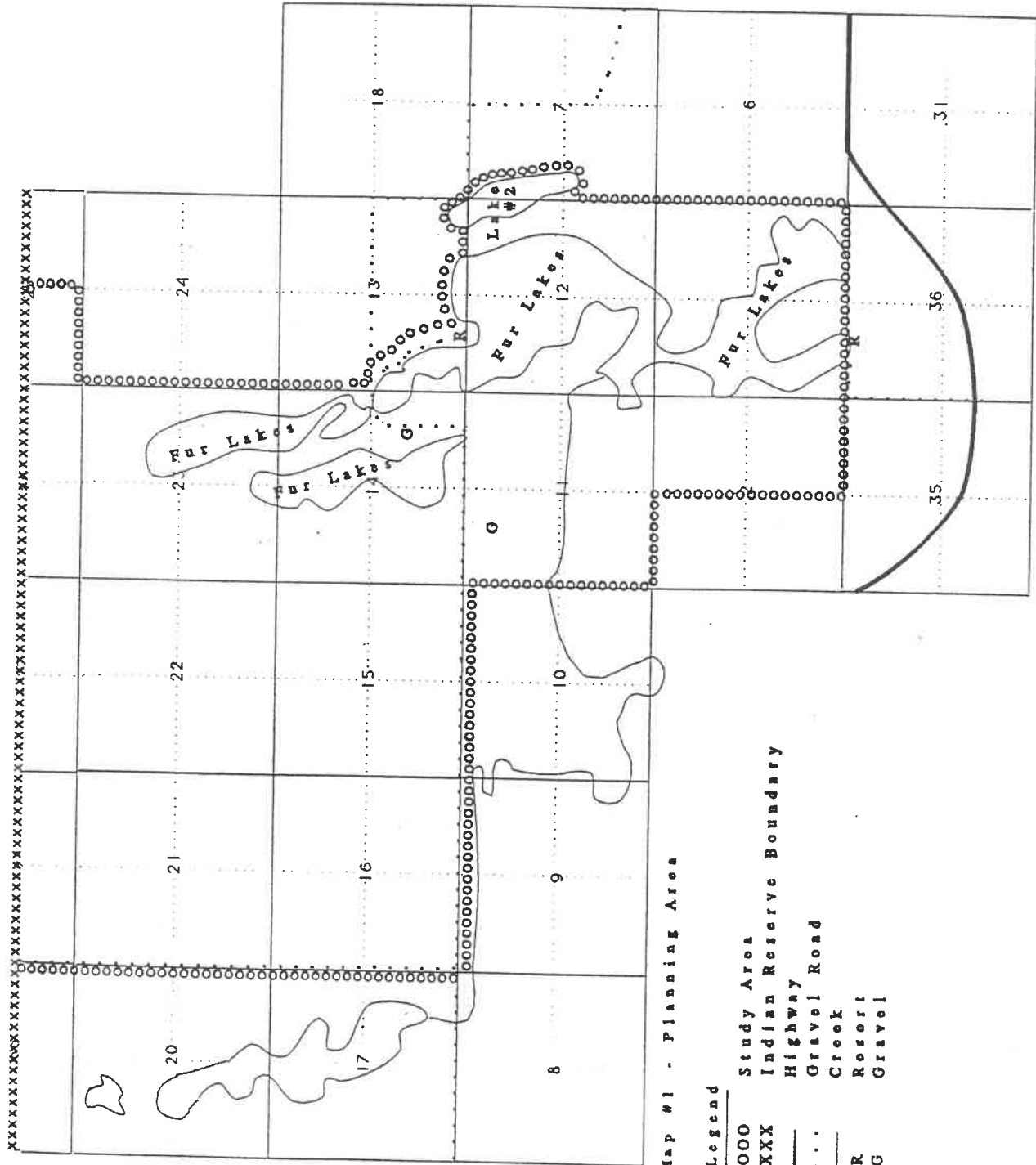
- a) Identification of Issues and Concerns - A public meeting was held on March 5, 1997 to identify local concerns and request input from local stakeholders. Overall goals and objectives were identified including an examination of local issues and concerns expressed by interested parties.
- b) Data Collection and Analysis - Information was collected by government agencies and presented to the Planning and Advisory Committee. The data collected are incorporated in the plan as background information.
- c) Formulation of Plan Policies and Designation of Management Areas - The Planning and Advisory Committee discussed various issues and formulated management policies based on plan objectives. This phase also included designating two management areas.



Township 50

Range 6

Range 7



Map #1 - Planning Area

Legend

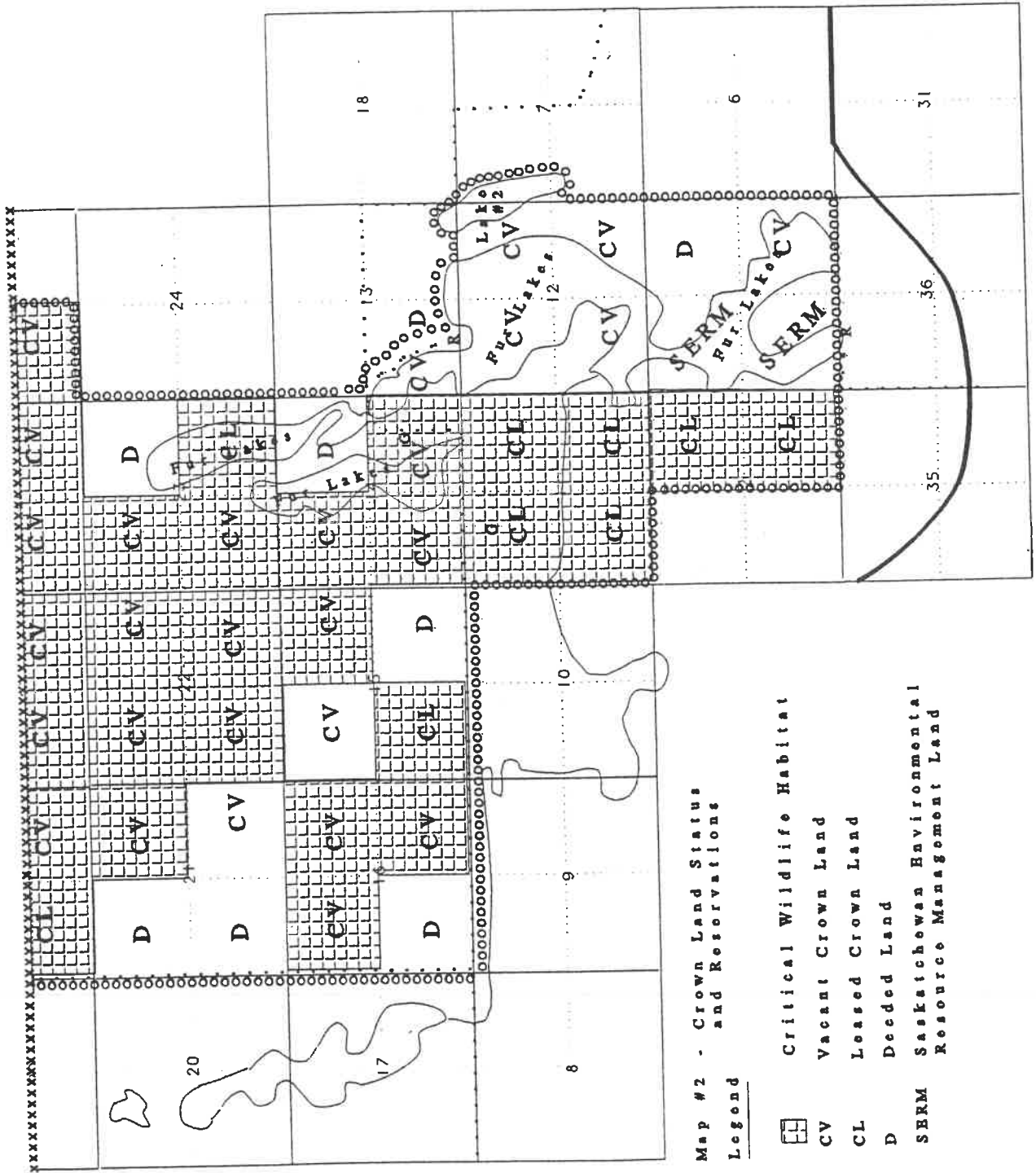
- OOO Study Area
- XXX Indian Reserve Boundary
- Highway
- ... Gravel Road
- Creek
- R Resort
- G Gravel



Township 50

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- d) Implementation - This phase identified ways of implementing the plan. Acceptance of the plan by the responsible provincial agencies will ensure that the use of Crown land will be in accordance with the policies of the plan.
- e) Review and Monitoring - The plan will provide a framework for the administration of Crown lands within the planning area. The plan will be reviewed periodically and monitored for any changes that may be necessary. Any future changes to the plan will include public input as may be determined by SAF.

The Fur Lakes planning area has a number of natural resources that are important in sustaining certain land and water related activities and traditional land uses. This section provides a summary of the natural and heritage resources considered to be important in the planning area.

Archaeological heritage sites, including ancient aboriginal campsites, hunting sites, and ceremonial places, and historic sites and structures, are fragile, non-renewable resources. Such sites need to be preserved and protected for their inherent scientific, historic, and cultural values. Archaeological sites may also have economic development potential as public educational, recreational, and tourism resources.

Although a systematic archaeological survey of the Fur Lakes planning area has not been conducted, important sites, especially those dating to the pre-contact period, are likely to be found. As studies elsewhere in the Province have shown, lands near larger water bodies and waterways were often favored for hunting and domestic use. Such sites have potential for improving our understanding and appreciation of Saskatchewan's rich archaeological heritage.

There are no known historical features within the planning area, however, local history information indicates that the neighbouring Pratt Lake area has significance as a former site for ski tournaments. In the 1930's, the Mont Nebo Ski Club played host to the Northern Provincials attracting the best competitors throughout the province to Pratt Lake. Information also indicates that a corduroy road was built on a shallow portion of Fur Lake with the intent of shortening the travel distance through the area. The project did not provide a secure road, however, the proposal was much talked about during the early years and is representative of the past and considered important in the local history of the area.

2.2 Forest and Vegetation

The forest within the planning area forms part of the Boreal Transition EcoRegion commonly referred to as the forest fringe. The terrain is referred to as the Shellbrook Plain landscape and is characterized by a mix of forest and farmland. The forest landscape is a mosaic of coniferous and deciduous trees, shrubs, and natural grasses which varies throughout the planning area as a result of soil and drainage

characteristics. The Canada Land Inventory (CLI) resource capability rating for the Fur Lakes is Class 5 which has severe limitations for the growth of commercial forests (CLI, 1967)¹. There is a need to care for existing timber stands with regard to the limitations for growth.

Forest timber analysis for the Fur Lakes planning area indicates a total volume of 144,520 cubic metres² (see Appendix A). About 40 percent of the total volume are hardwoods (see Figure 1). The most common hardwood is the trembling aspen which is found throughout the area. Softwoods, like the jack pine, predominate sandy locations, whereas isolated wetland areas are frequented by black spruce and tamarack. Poorly drained areas are usually covered with sedges and willows. Other shrubs commonly found in the planning area include: Saskatoon, green alder, Canada blueberry, and chokecherry. A variety of grasses, mosses, and lichens complete the understory of the forest. Information indicates that two rare plants from the Orchid Family, the Northern Twayblade and the Long-bracted Bog Orchid, were recorded in the vicinity of the Fur Lakes³. However, a survey has not been done nor have any rare plants been discovered in the planning area.

Figure 1: Fur Lakes Wood Volume

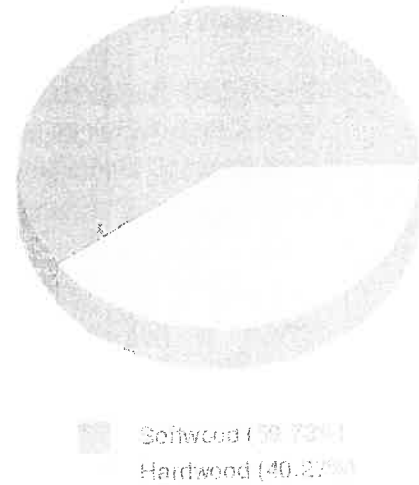
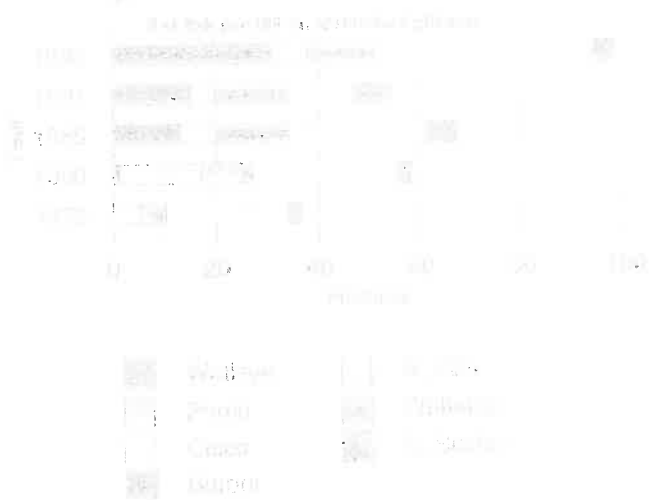


Figure 2: Fur Lakes Fish Harvest



The Fur Lakes provide recreational fishing to tourists and local area residents. These lakes were first stocked with walleye in the 1950's with subsequent additions made in later years in an attempt to improve sport fishing. The early stocking efforts led to an increase in game fish as illustrated in Figure 2. Studies conducted in 1996 indicate that walleye, northern pike, whitefish, and cisco are the main game species. Other species include burbot and common sucker. Perch have

¹ The Canada Land Inventory rates resources on a seven point scale with Class 1 being the highest.

² Information provided by SERM, Forest Ecosystems Branch.

³ Information provided by SERM.

decreased in numbers with no test net catches between 1985 and 1996. Forage size perch are still present and serve as food for other fish populations such as walleye and northern pike. The analysis of walleye and northern pike revealed that the population was being adequately maintained through natural reproduction.

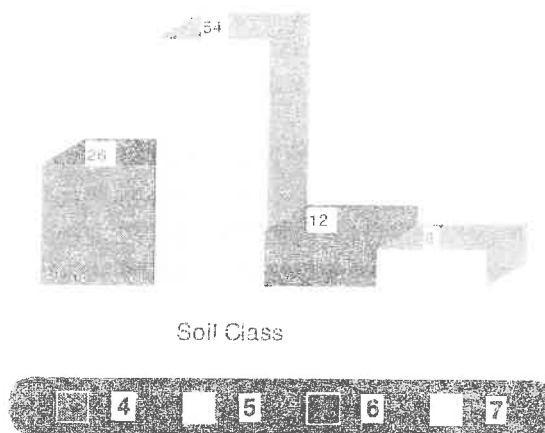
2.4 Landforms and Soils

The landscape can generally be described as undulating to moderately rolling plain. Topography ranges from gently rolling on the west side to strongly rolling on east side with slope ranging from 2 to 10 percent. The planning area is characterized mainly by sandy loam fluvial-lacustrine deposits and hummocky moraine underlain by till material.

The soil is described as being within the black to degraded black soil zone. The majority of the soil is in the Glenbush Association. The texture of those soils is gravelly to coarse sandy loams, resulting from glacial fluvial deposits. Other associations present are Shellbrook and Pine Sand. Moderate stoniness exists.

Figure 3 shows that the soil capability for agriculture varies from Class 4 to Class 7 in the planning area (Saskatchewan Land Resource Centre, 1997). Much of the land is Class 4 which has severe limitations for the growing of crops. Class 5 land has severe limitations for the production of native and tame species of perennial forage crops. Class 6 land is capable of producing native forages only. Class 7 land has no capability for arable agriculture or permanent pasture.

Figure 3: Soil Capability For Agriculture
Percentage of Total Planning Area



2.5 Minerals, Sand and Gravel

Minerals are generally categorized as industrial, metallic, and fuel minerals. Industrial minerals include materials such as potash and bentonite, whereas metallic minerals are comprised of gold, silver, zinc, and others. Fuel minerals include crude oil, natural gas, and coal. Information for minerals indicates that there are no active mineral areas. There is small scale gravel quarrying.

The Province of Saskatchewan controls the mineral rights below the surface of the land. As of September, 1997, none of the petroleum, natural gas or other mineral rights were under disposition (lease). However, due to the geological structure of the region, Saskatchewan Energy and Mines rates the Fur Lakes planning area as having a high potential for petroleum and natural gas, and a moderate potential for diamonds.

With respect to aggregates, information shows that the Fur Lakes region has a medium to high granular construction material potential for the possible economical development of sand and gravel deposits for general municipal use (E.A. Christiansen Consulting Ltd. 1979). Uses of such sand and gravel resources would include low quality concrete, base aggregate for paved road construction, surface road gravel, and fill material.

2.6 Water

Surface water in the Fur Lakes planning area occurs in streams, springs, wetlands, sloughs and freshwater lakes. The Fur Lakes are a chain of small freshwater lakes connected by a series of intermittent streams. The largest lake in the chain, located in the NW¼ 12-50-7 W3M, has a maximum depth of 16 metres. The gross drainage area contributing to the lakes is about 70 square kilometres located predominantly in the northwest portion of the planning area. Median annual spring inflows of approximately 1,000 dam³ originate within the drainage area, much of which remains stored within the basin where it is available for native wetland plant species and wildlife. Surface stream flow originates near Mont Nebo where the Fur Lake and Pratt Lake Creeks converge and flow eastward connecting to Mistawasis Creek, and eventually into the Shell River. Surface water use consists of recreation, livestock watering and irrigation.

Ground water resources within the planning area consist of surficial glacial sand and gravel aquifers. Records indicate completed domestic well depths between 9 and 46 metres in the southeastern portion of the planning area. Intertill or subfill aquifers may be encountered between 150 and 180 metres deep in the Empress Group sands and gravels of the Hatfield Valley on the eastern boundary of the planning area.

2.7 Wildlife and Waterfowl

The planning area is located in the Boreal Transition EcoRegion between the Aspen Parkland and the Mid-Boreal Upland EcoRegions. According to Canada Land Inventory this area is Class 2 indicating a high habitat capability for wildlife. This superior habitat has produced an abundance of wildlife species such as moose, elk, and white-tailed deer significant for hunting. The planning area also includes a number of fur bearing animals important to local trappers. These include: the beaver, coyote, fisher, red fox, marten, mink, muskrat, otter, raccoon, squirrel, weasel, and wolf. The black bear is prevalent in the planning area. Locally, the northern flying squirrel is a rare species.

There is an abundant and diverse bird population as a result of suitable habitat for nesting and breeding. According to CLI information the area varies from Class 2 to Class 4 indicating a high to moderately high habitat capability for waterfowl (CLI n.d.). Migratory birds such as geese, ducks, swans, snipes, grebes, mergansers, and common loons are present. Typical resident birds include the gray jay, boreal chickadee, black and white warbler, and great-crested flycatcher (see Appendix B). SERM does not have any information in terms of occurrences of rare or endangered species in the Fur Lakes area.

SECTION 3.0 EXISTING DEVELOPMENT AND LAND/WATER USE ACTIVITIES

Agriculture, forest related activities, trapping, roads and utilities, farmsteads, gravel extraction, and recreation related development are the main land uses and activities within the planning area (see Map No. 3 - Land Use and Tenure). The various forms of development and land/water based activities in the Fur Lakes planning area are discussed below.

3.1 Agriculture

Poor quality soil combined with stones and variable topography are the main limitations of the use of land for agricultural purposes. The relatively cool and moist climate is a factor encouraging the production of agricultural forage crops within the planning area. Consequently, land use is dominantly grazing and haying with only a minimal acreage used for crop production. Cultivated fields are virtually non-existent in the area.

Developed fields are seeded to tame forage to support livestock enterprises. Perennial forages such as alfalfa and smooth brome grass are the main source of food. However, the majority of the grazing is obtained from native vegetation with bush pasture supplying a large portion of this resource.

3.2 Roads and Utility Development

Vehicular access into the area is provide by a combination of main and secondary grid roads. Direct access for local area residents is provided by an east-west secondary grid road that connects to main farm access roads and links with Highway No. 3. This combination of roads also provides access to the Kingfisher cottage subdivision and to the Fur Lake Recreation Site. Utility development within the planning area is comprised of electricity and telephone.

3.3 Settlement

Settlement within the planning area is limited to four farmsteads (see Map No. 3 - Land Use and Tenure). These farmstead sites are located on deeded lands and are the basis of cattle and haying operations in the area. The families rely on livestock production as a major source of income. Some trapping and wood harvesting is carried out by these residents. Also, one of the residents has a home based small leather crafting business.

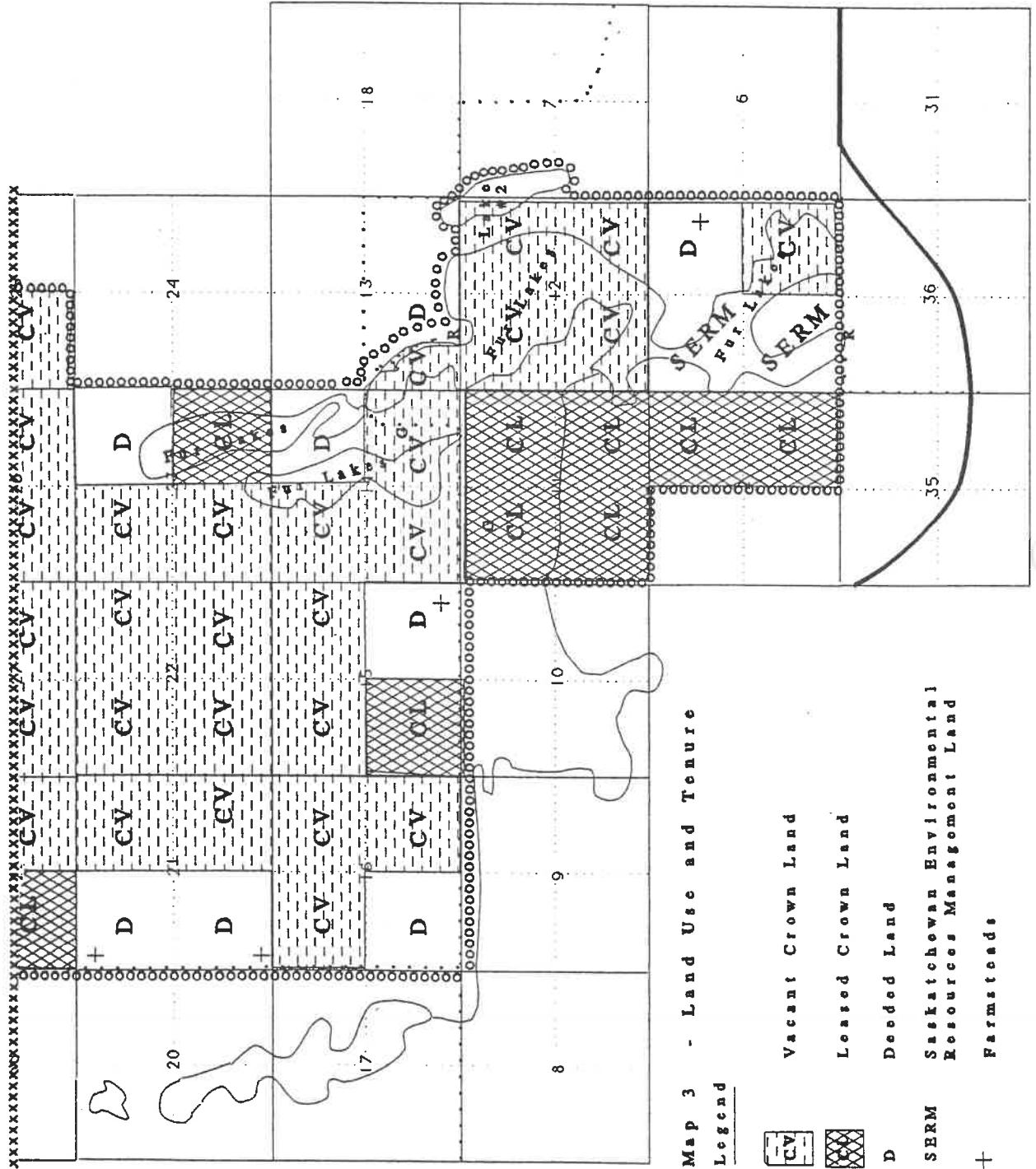
There are no First Nation residents within the planning area, however, they do comprise a significant population in this part of the Province. Many of the First Nations originally settled on the adjacent Ahtakakoop Indian Reserve No. 104 and the nearby Mistawasis Indian Reserve No. 103, whereas, others resided in nearby communities of Shell Lake and Mont Nebo. While local First Nations have not as yet identified any locations of cultural significance contained within the planning area, it would be expected that Fur Lakes would generally be considered important.



Township 50






Range 6

Range 7



Map 3 - Land Use and Tenure

Legend

-  Vacant Crown Land
-  Leased Crown Land
-  Deeded Land
-  Saskatchewan Environmental Resources Management Land
-  Farmsteads

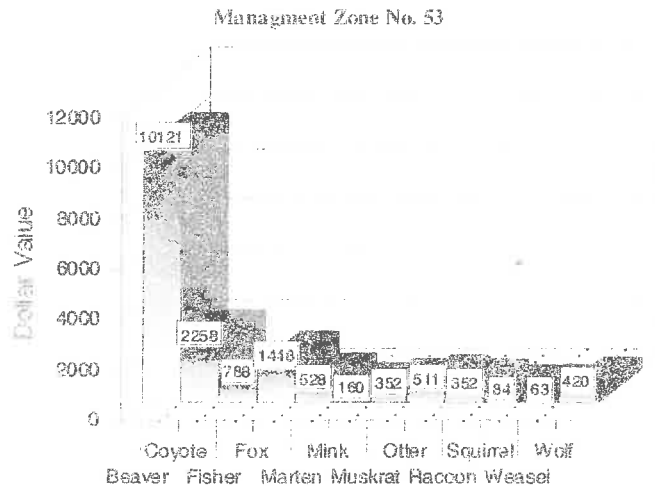
3.4 Forest Harvest and Use

The extent of forest harvest in the planning area is limited as much of the well treed areas are classified as critical wildlife habitat lands (see Map No. 2 - Crown Land Status and Reservations). Much of the area is designated as wildlife habitat lands pursuant to *The Wildlife Habitat Protection Act, 1992*. The designated land area accounts for about two-thirds of the planning area. The forest harvesting policy on these lands does not permit the logging of any softwoods. Hardwoods may be logged at a rate of 400 cords or 20 acres per quarter section of land in any year. Two of these harvests are allowed per quarter section of land every 15 years. There are no commercial woodlots in the planning area and any cutting is for personal use.

3.5 Fur Harvest and Hunting

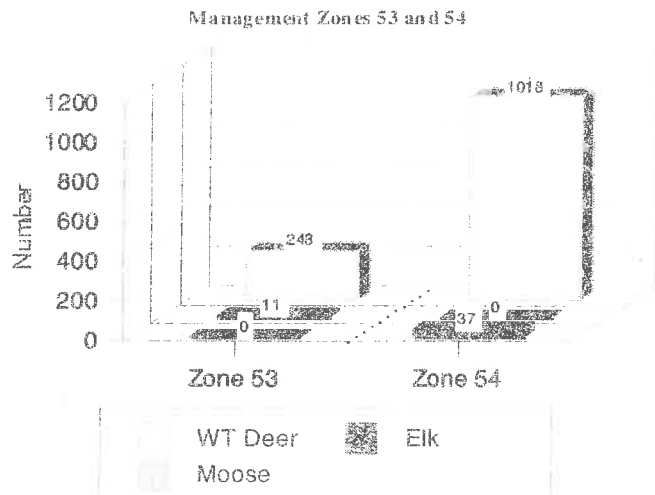
Fur trapping is carried out throughout the planning area by local area residents. There is no specific information as to the extent of the fur harvest within the planning area, however, this area represents about .5 percent of Wildlife Management Zone No. 53 for which there are harvest records. Figure 4 shows that, for 1994, the value of fur harvest was the highest for the beaver followed by the coyote, fox, and fisher. While the value does not represent accurately the actual number of fur bearing animals being harvested, it does provide information of what types of animals are being trapped.

Figure 4: Fur Harvest Value - 1994



In terms of big game hunting, information indicates for Wildlife Management Zones 53 and 54 that the white tail deer was the predominant game animal (see Figure 5). Moose and Elk were also hunted, but the numbers reported are low compared with the white-tail deer.

Figure 5: Big Game Hunting - 1994



The Fur Lakes are also popular for migratory and upland bird hunting. According to SERM, two licences have been issued to outfitters in the area for migratory and upland birds in this area.

3.6 Minerals, Sand and Gravel

Except for local gravel quarrying, there is no active exploration or mineral development in the planning area. Local gravel deposits exist within the planning area. Sand and gravel is considered to be a valuable resource and needs to be preserved from indiscriminate development. Any quarrying must have regard for the environment and impact on neighbouring land uses. Presently, the Rural Municipality of Canwood No. 494 has access to a quarrying site located in the NW¼ 11-50-7-W3M. The gravel provides a surface material for local all weather road construction by the municipality. A former gravel pit in the SE¼ 14-50-7-W3M was restored.

The Department of Highways and Transportation and rural municipalities have the first right of refusal on any exploration or quarrying for sand and gravel on Crown land. Gravel may be quarried commercially if it is not required for public use.

3.7 Tourism and Recreation

The water and forest resources of the Fur Lakes area provide considerable opportunities for recreation, however, the extent of development and activities is small relative to other lakes in the municipality. Water related activities include fishing, swimming, boating, and water skiing, while land based activities consist primarily of hunting, hiking, bird and animal viewing, and berry picking. The water based activities are largely concentrated in the public and private beach areas on the main lake.

Publicly owned facilities are located at the Fur Lake Recreation Site in the SW¼ 2-50-5-W3M. Services at this site are limited to a picnic area, boat launch, and overnight camping. The focus of private recreation development is confined to the Kingfisher cottage subdivision which is located on the east side of the main lake in the SW¼ 13-50-6-W3M. This subdivision contains 28 private sites and four larger registered parcels. There are 15 cottages in this subdivision as not all of the lots are developed.

A broader range of public facilities and services for visitors are available at four nearby Regional Parks: Emerald Lake (69 campsites and a 9 hole sand greens golf course), Canwood (20 campsites and a 9 hole sand green golf course), Morin Lake (55 campsites), and Memorial Lake (114 campsites, and 9 hole grass greens golf course). There is also a golf course near Victoire. Ecotourism is the focus of the nearby Carlton Trail Guest Ranch and Wildlife Sanctuary at Lake Savard located southwest of Victoire. This ecotourism operation interprets the picturesque landscape and abundant wildlife species for the enjoyment of small groups of visitors from all over the world. For winter tourism, Segment 5 (Shellbrook to Glaslyn) of the proposed Primary Snowmobile Trail passes by Mont Nebo adjacent to the Fur Lakes. Winter recreation activities include ice fishing, cross country skiing, and snowmobiling. The contribution of these nearby facilities and the scenic attributes of the Fur Lakes provide an opportunity for increased tourism in both summer and winter.

Unlike many of the lakes in this area, the Fur Lakes are particularly secluded, and the quality of the natural resources is suitable for individuals or small groups of environmentally conscious people, to observe and study nature. The surrounding forest land is suitable for small guided nature tours (groups of 10), either on foot or on horseback. These types of ecotourism activities can represent viable business opportunities and lead to economic diversification.

SECTION 4.0 FUR LAKE CARRYING CAPACITY

The calculation of carrying capacity of a lake is based on the concept that a renewable resource has a threshold to withstand a certain level of use without irrecoverable damage. It must be recognized that capacity calculations are not precise measurements, but are rather a reflection of expert knowledge of individuals involved in evaluating the specific resource, and are based on information which may have limitations. Therefore, the calculations would serve only as a guide and general information in the management of development and activities around the Fur Lakes.

There are various ways of determining capacity, however, the most common methodologies used in Saskatchewan to consider the carrying capacity of a lake are based on boating capacity, cottage capacity, and angling capacity. The calculations and methodology for each of the carrying capacities are identified below.

4.1 Boat Limit Calculation

The boat limit calculation estimates the amount of recreational use a lake can safely accommodate in terms of boats on the lake. The calculation takes into regard the amount of water surface area that is required to safely operate the boat so as not to interfere with other boats on the lake. Lake shape, size, and depth are determining factors. The average standard is one boat per four hectares (ten acres) of useable surface water area (Ontario Ministry of Natural Resources, 1997:60).

Sask Water calculations were based on 1980 information using a depth map completed in September 1980 by the Sport Fishing Section of SERM. Limitations of the calculation include:

- the sounding method and accuracy of instrumentation;
- the method of shoreline delineation;
- accuracy in scaling of the map used for determining the calculation; and
- fluctuating water level since 1980 (see Appendix C).

The calculation reveals that there are 100 hectares (247 acres) of useable surface water having a minimum dept of one metre for boating. Based on the standard of one boat per four hectares of useable surface water and one boat per cottage the calculation is as follows:

$$\text{Net acreage per 4 hectares} = 100 \div 4 = 25 \text{ motorized boats (25 cottages).}$$

Based on one boat per cottage, the lake could potentially sustain 25 cottages. Consideration must be given to the fact that the water level fluctuates throughout the year, and that the useable water area is split into patches of surface water area averaging about 14 hectares in size. These factors would pose constraints to the safe use of motorized boats on the lake.

4.2 Cottage Capacity Calculation

The cottage capacity calculation estimates the amount of potential cottage development based on gross acreage calculation (total surface lake area) and an applied standard of 8 hectares (20 acres) per cottage. The calculation is as follows:

$$\text{Gross area per 8 hectares} = 291 \div 8 = 36 \text{ cottages.}$$

4.3 Angling Capacity Calculation

The angling capacity calculation estimates the lakes ability to sustain fishing pressure without negatively impacting fish stock objectives set for the lake. The calculation was done by SERM and was based on estimates of fish productivity, annual fish production, and number of angler days (see Appendix D). The calculation reveals that the fisheries carrying capacity for the most popular fish species, the walleye, is 100 angler days. Based on the assumption of that all 100 angler days are used by local cabin owners and that each cabin on average accounts for at least 10 angler days per year, the angling capacity is calculated to be 10 cottages or cabins (i.e. 100 angler days divided by 10 angler days per cottage or cabin).

It should be noted that in addition to the three methodologies described above, SERM has developed a carrying capacity model for evaluating the suitability of new cottage lot development on a lake. This carrying capacity approach is based on environmental factors in determining new cottage development. This process includes ten criteria in estimating the carrying capacity for new development. Obtaining the necessary information involves considerable fieldwork in determining appropriate locations for new development.

An in-depth study utilizing the ten criteria does not appear necessary as there are only presently 28 private cottage sites and four larger parcels in the sole Kingfisher subdivision. Much of the land around the Fur Lakes is Crown land, and it is intended that the riparian area will be protected from surface disturbance and preserved in a natural state. In addition, zoning regulations are being recommended for private land adjacent the Fur Lakes under the control by the Rural Municipality of Canwood No. 494. Consequently, the need for an extensive investigation of the carrying capacity is questionable and is considered to be outside the scope of this plan. Therefore, the combination of the capacity calculations identified above will be relied upon for the general management of Crown land in the planning area.

SECTION 5.0 ISSUES

An important component of a land use plan is the identification of issues. The Fur Lake Land and Resource Management Plan issues are as follows:

5.1 Heritage Resources/Traditional Cultural Locations

- Protecting archaeological and historic resources. These resources are an important representation of the past and there is a need to protect significant archaeological resources.

Preserving traditional cultural sites within the planning area important to First Nations and local residents.

Crown Land Access

Controlling the impact of human activities and development on the environment of the planning area including trees, plants and wildlife; fish and wildlife habitat; lakes and streams, wetlands, and potential archaeological sites.

With occupant permission, maintaining public access on leased and non-leased Crown land for activities traditional to the area such as hunting, trapping, obtaining firewood, and berry picking.

Ensuring public lake access for recreational use with occupant permission.

Accommodating, but limiting the extent of occupation of Crown land for ecotourism and intensive recreational related activities and development within the carrying capacity of the Fur Lakes planning area (i.e. outfitting and public recreation sites).

Controlling commercial outfitting on Crowns lands within the planning area to ensure public access for recreational hunting.

Agriculture and Non-Timber Uses

Ensuring sustainable grazing practices as a means of avoiding overgrazing and minimizing the negative impact on native grasses and the forest ecosystem.

Controlling the location of livestock watering at the Fur Lakes.

Controlling land development limited to areas of suitable soil and topography.

Providing opportunities for the development of an agro-forestry industry and the harvesting of non-timber products (e.g. herbs, mushrooms, birch bark).

Forests and Woodlots

Controlling timber and woodlot harvesting on Crown lands with regard to the limitations for reforestation.

Providing opportunities for the leasing of Crown land and the selective cutting of timber through woodlot management plans.

Mineral Development

- Maintaining access for the exploration and development of metallic and non-metallic minerals where environmentally acceptable.

Tourism and Recreation

- Maintaining the aesthetic values of the Fur Lakes and natural areas within the planning area.
- Protecting natural resources from potentially negative impacts from tourism and recreational activities.
- Controlling the type and intensity of recreational and tourism related development and activities (i.e. Fur Lake Recreation Site, cottage lot subdivision, ecotourism operations).
- Providing for the safe operation of recreational water based activities on the Fur Lakes (i.e. watercraft and swimming).

5.3 Environmental Resources (Vegetation, Fish, Wildlife, and Water)

- Protecting significant areas of unique and natural vegetation.
- Managing the population and consumptive use of game fish and wildlife (e.g. beaver control).
- Maintaining fish and wildlife habitat, populations, and biological diversity.
- Managing the consumptive use of water in maintaining water quantity and quality.
- Maintaining acceptable water levels for the protection of fish and wildlife.

5.4 Crown Land Management

- Establishing appropriate policies and procedures for effectively managing the competing public use and development of Crown lands.
- Coordinating policies between government jurisdictions in managing Crown lands.
- Maintaining communication and dialogue between Crown agencies, the municipality, and stakeholders on interests of mutual concern (i.e. economical provision of services and suitable road access).
- Ensuring that occupants adhere to lease and sale agreements on intended land use.

SECTION 6.0 OBJECTIVES, STRATEGIES, AND MANAGEMENT POLICIES

The Fur Lakes Land and Resource Management Plan objectives, strategies, and general management policies are as follows:

<i>Crown Land Management</i>	
Objectives	Strategies
<input type="checkbox"/> To provide for effective resource and land use management.	<input type="checkbox"/> Formulate objectives and strategies; and establish the policies and procedures necessary for the management of Crown lands. <input type="checkbox"/> Include public participation in plan development and implementation. <input type="checkbox"/> Monitor development and activities within the planning area.
<input type="checkbox"/> To provide for the multiple use of Crown land.	<input type="checkbox"/> Allow for an appropriate range of uses on Crown land <input type="checkbox"/> Allow access to vacant Crown lands for non-agricultural related opportunities as a means of enhancing local opportunities.
<input type="checkbox"/> To control lake access for occupants and recreational users.	<input type="checkbox"/> Designate the location(s) for public lake access so as to minimize land use and environmental conflicts.
Management Policies	
<ol style="list-style-type: none"> 1. SAF will maintain dialogue with agencies, groups, and individuals responsible for the use of lands within the planning area. 2. The following management areas will identify the permitted uses and activities, and those that are restricted or prohibited in the planning area: Resource Protection Area (RPA) Resource Development Area (RDA) 3. Licensing of permitted land use activities will be required in accordance with all provincial legislation. 4. Access to Crown land will be considered based on permitted uses and activities of the land management area. Access will require consent from the occupant and permission from SAF. 5. Lands may be leased to facilitate agricultural use or activities where allowed within a specific management area. 6. Crown land in the RPA shall not be sold. 	
(Continued on next page)	

Management Policies continued:

7. Crown land in the RDA may be sold and shall be subject to a conservation easement or other instrument that:
 - (a) limits timber harvest in accordance with SERM's cutting policy applicable to Crown land (see Section 3.4); and
 - (b) otherwise protects the resources on the land.
8. Lands which may be available for lease or sale will be routed through the leasing/sale process of SAF. The procedure for leasing or selling land is identified in provincial policy.
9. Public access will be permitted at the Fur Lakes Recreational Site and via dedicated lands through the Kingfisher cottage subdivision as controlled by SAF and the R.M. of Canwood No. 494.

Agriculture and Economic Diversification

Objectives	Strategies
<input type="checkbox"/> To provide for the viable agricultural use of Crown land.	<input type="checkbox"/> Lease Crown land to facilitate agricultural uses. <input type="checkbox"/> Consider soil quality and topography in determining viable agricultural uses and/or development.
<input type="checkbox"/> To allow agriculture uses and activities that support sustainable management practices.	<input type="checkbox"/> Require Range Management Plans for the sustainable agricultural use of Crown land. <input type="checkbox"/> Control the location of livestock watering.
<input type="checkbox"/> To provide for economic diversification in the multiple use of Crown land.	<input type="checkbox"/> Consider requests for agro-forestry uses and non-timber uses and activities, ecotourism and outfitting. <input type="checkbox"/> Consider access to vacant Crown land for non-agricultural related opportunities.

Management Policies

1. Agricultural leasing will be limited to areas suitable for development or appropriate for grazing by domestic livestock as determined by SAF in conjunction with a Range Management Plan. Leasing shall be in accordance with the uses and activities permitted in the applicable management area.
2. Livestock watering will be accommodated at specific locations designated by SAF and will be limited to the numbers/carrying capacity approval identified in a Range Management Plan which is to be developed jointly by SAF and the lessee.
3. SAF will consider proposals relating to economic diversification in the use of Crown lands. All submissions must identify environmental impacts and mitigating measures.

Environmental Resources (Vegetation, Fish, Wildlife, and Water)

Objective	Strategies
<input type="checkbox"/> To protect important natural and unique vegetation areas and preserve the beauty of shore land areas.	<input type="checkbox"/> Protect significant natural and unique vegetation areas as wildlife habitat lands. <input type="checkbox"/> Restrict the use and disposition of land adjacent to the Fur Lakes. <input type="checkbox"/> Maintain riparian reserve areas around lakes and streams. <input type="checkbox"/> Restrict the cutting of trees and mineral development adjacent to water bodies and streams. <input type="checkbox"/> Identify and protect rare plants. <input type="checkbox"/> Utilize conservation easements where Crown land may be sold.
<input type="checkbox"/> To manage fish and wildlife and maintain biological diversity.	<input type="checkbox"/> Monitor fish and wildlife populations on an ongoing basis. <input type="checkbox"/> Identify and protect threatened and endangered wildlife species
<input type="checkbox"/> To protect fish and wildlife habitat.	<input type="checkbox"/> Preserve fish and wildlife habitat areas from disturbance. <input type="checkbox"/> Control shoreland alteration.
<input type="checkbox"/> To manage and protect the quality and quantity of water resources.	<input type="checkbox"/> Require approval for development projects using water resources in the planning area.

Management Policies

1. SERM will monitor fish and wildlife populations on an ongoing basis. Fishing and hunting will be regulated to maintain adequate stock.
2. Fish spawning and rearing areas will be protected. Any alteration of the shoreline will require a shoreland alteration permit from SERM.
3. All Crown lands will be examined by SERM for potential designation under *The Wildlife Habitat Protection Act, 1992* as recommended in this plan.
4. The consumption of water resources will be managed so as to maintain water quality and quantity. The domestic use of water will require the approval of Sask Water and the approval of the adjacent landowner where legal title does not exist to the water edge.
5. All developments and activities will be examined by SAF and Sask Water or other government agencies, as the case may be, for potential negative impacts on water quality and quantity as per existing legislation and regulations.

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Management Policies continued:

6. Riparian areas will be protected and cutting of trees or surface disturbance will not be permitted within an area of 90 metres of the bank of a lake or stream or creek, except that in the case of mineral exploration or development near a lake, stream or creek, provincial legislation and regulations shall apply ⁴.
7. Natural and unique vegetation will be protected from development. Any vegetative clearing along streams will be limited to channel clearing and removal of debris and obstruction created by beavers.

Heritage Resources/Traditional Cultural Locations

Objective	Strategies
<input type="checkbox"/> To protect significant archaeological resources, and preserve traditional cultural locations and sacred sites important to First Nations.	<input type="checkbox"/> Screen all development proposals for potential archaeological resources. <input type="checkbox"/> Where necessary, require archaeological resource impact assessment and impact management studies to determine potential heritage resources. <input type="checkbox"/> Consult with adjacent First Nations regarding potential impacts of major developments on traditional cultural locations.

Management Policies

1. Pursuant to *The Heritage Property Act*, all land use and development proposals will be screened for potential heritage concerns and to determine the need for impact assessment, salvage excavation or other conservation measures.
2. Consultation referral arrangements to local area First Nations will be encouraged by government agencies as part of the development review process in recognition of traditional cultural locations.

Forests and Woodlots

Objectives	Strategies
<input type="checkbox"/> To manage the forest in a sustainable manner.	<input type="checkbox"/> Allow for non-commercial fuelwood harvest of timber on Crown lands. <input type="checkbox"/> Require Woodlot Management Plans for harvest of trees where harvesting is permitted.
<input type="checkbox"/> To preserve natural forest areas for recreation and wildlife.	<input type="checkbox"/> Preserve significant areas in a natural state.
<input type="checkbox"/> To protect forest and vegetation important for water bodies and fish habitat.	<input type="checkbox"/> Maintain riparian reserve areas along lakes and streams.

⁴ *The Oil and Gas Conservation Regulations* state that no person shall carry on drilling operations within 75 metres of the shoreline (from the well centre). The average lease site surrounding the well is 100 metres by 100 metres, but will vary by well type and surface obstructions.

Management Policies

1. Where cutting is permitted, permits will be based on:
 - SERM's acreage/cord based harvest of aspen and softwoods policies applicable to wildlife habitat lands; and
 - Woodlot Management Plans for agro-forestry and woodlot activities. Softwood harvesting will only be allowed as a result of a natural disturbance such as, disease, fire, or flooding.
2. Clear cutting of timber will not be allowed, except in accordance with a Woodlot Management Plan.
3. Woodlot Management Plans will be required for the harvesting of timber on a commercial basis in conformance with the overall Forest Resource Management Plan developed for the planning area.
4. Cutting of trees within 90 metres of a water body or stream will not be allowed within the planning area, except that in the case of mineral exploration or development near a stream or creek, provincial legislation and regulations shall apply.
5. The RPA will preserve lands in a natural state as delineated on Map No. 4 - Management Areas.

Minerals, Sand and Gravel

Objectives	Strategies
<input type="checkbox"/> To allow for mineral exploration and development including the quarrying of sand and gravel.	<input type="checkbox"/> Consider proposals for mineral exploration and development, and sand and gravel quarrying.
<input type="checkbox"/> To minimize the impact of mineral exploration and development on the environment.	<input type="checkbox"/> Require restoration plans for mineral development. <input type="checkbox"/> Require a plant and wildlife survey prior to mineral development.
<input type="checkbox"/> To minimize any surface disturbance of mineral development on lakes and streams within the planning area.	<input type="checkbox"/> Establish a buffer around lakes and streams for no surface disturbance. <input type="checkbox"/> Require a ground water resource assessment for the quarrying of sand and gravel.
<input type="checkbox"/> To provide for municipal access to sand and gravel resources within the planning area.	<input type="checkbox"/> Provide the municipality with access to sand and gravel resources.

Management Policies

1. Mineral exploration and development including sand and gravel quarrying will be evaluated by SAF, SEM, and SERM with regard to the impact on the environment and in accordance with the policies of the management area.
2. Mineral and sand and gravel development will not be permitted within a 90 metres of the bank of a lake or stream, except that in the case of mineral exploration or development near a stream or creek, provincial legislation and regulations shall apply.
3. A ground water table resource assessment will be a requirement of an application to SAF for sand and gravel quarrying.

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4. The *Sand and Gravel Policy* administered by SAF and the *Guidelines for the Restoration of Saskatchewan Agricultural Crown Rangeland* will apply to sand and gravel development proposals.
5. Second to Saskatchewan Highways and Transportation, the R.M. of Canwood No. 494 will retain the right of first refusal on quarrying for sand and gravel on Crown land.

Tourism and Recreation/Outfitting

Objectives	Strategies
<input type="checkbox"/> To concentrate public recreational uses and facilities at the Fur Lake Recreation Site.	<input type="checkbox"/> Post information signs to direct the public for lake access through the Fur Lake Recreation Site.
<input type="checkbox"/> To consider ecotourism and recreational opportunities with regard to the local environment.	<input type="checkbox"/> Review development proposals and recreational activities with regard to potential impact and local carrying capacity of the lakes and Crown land in the planning area. <input type="checkbox"/> Accommodate small scale structures accessory to an approved ecotourism proposal.
<input type="checkbox"/> To consider outfitting opportunities with regard to wildlife management and potential impact on the local environment.	<input type="checkbox"/> Review outfitting proposals with regard to potential impact and local wildlife resources.
<input type="checkbox"/> To encourage appropriate operation of all terrain vehicles (ATVs) and watercraft at the Fur Lakes.	<input type="checkbox"/> Post information signs informing the public of the location and safe operation of watercraft and ATVs. <input type="checkbox"/> Monitor boating activity on the Fur Lakes to ensure the responsible and safe operation of boats.
<input type="checkbox"/> To maintain a suitable water level at the Fur Lakes.	<input type="checkbox"/> Maintain an acceptable lake level important to fish, wildlife, and recreational users.

Management Policies

1. The Fur Lake Recreation Site will be maintained as the primary lake access for the public and overnight camping. Public camping and boat launch facilities will be limited to current facilities at the Fur Lake Recreation Site.
2. SAF will consider applications for ecotourism based on permitted uses and policies of the land use management area. Proposals shall consider, at a minimum:
 - access;
 - accredited guiding; and
 - environmental protection.

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Management Policies continued:

3. SAF and SERM will consider applications for outfitting based on permitted uses and policies of the land use management area. Proposals shall consider, at a minimum:
 - access;
 - accredited licencing;
 - environmental protection;
 - public access for recreational hunting; and
 - wildlife management.
4. Where ecotourism and outfitting is permitted by SAF:
 - (a) small scale accessory buildings or structures such as storage or equipment sheds, overnight sleeping or rest cabins, may be allowed; and
 - (b) all buildings and structures shall be of a temporary nature that can be easily moved or relocated.
5. Recreational cottage development of a residential nature will not be permitted on Crown land.
6. SAF and SERM will maintain information signs identifying public access points to the lake on Crown land and signs identifying rules for the safe operation of watercraft on the Fur Lakes as well as for the use of ATVs on Crown land.
7. The Rural Municipality of Canwood No. 494 will maintain information signs identifying public access points to the lake on dedicated lands at the Kingfisher cottage subdivision and signs identifying rules for the safe operation of watercraft on the Fur Lakes.
8. Maintaining lake water level will be a consideration in controlling the beaver population.

SECTION 7.0 MANAGEMENT AREAS

The land use management areas are delineated on Map No. 4 - Management Areas to which the following specific policies apply.

7.1 Resource Protection Area (RPA)

7.1.1 Intent

The Resource Protection Area will be maintained in a natural state. The priority will be to safeguard habitat areas and ecosystems; and protect riparian areas along the Fur Lakes and streams within the planning area. The greatest level of land use restriction will apply to this area.

7.1.2 Permitted Uses

The following are permitted uses and activities:

- passive recreational uses like hiking, sightseeing, bird watching, trail riding, and non-consumptive ecotourism;
- active recreational activities such as boating, snowmobiling, fishing, hunting, and trapping;
- berry picking for personal use; and
- information and interpretive signs.

7.1.3 Restricted Uses

The following are restricted uses and activities:

- watering of livestock based on locations specified in a Range Management Plan;
- oil and gas exploration limited to low impact seismic of walk-in placement of geophysical receiving equipment. Access for mineral and resource extraction shall be from outside the RPA;
- overnight camping limited to the Fur Lake Recreation Site;
- interpretive facilities related to passive recreational uses;
- trails planned with regard to existing trails, where appropriate, and in conjunction with SAF and SERM (see Map No. 5 - Existing Trails);

- * viewing platforms;
- * utility lines subject to review by SAF and in accordance with all other provincial regulations and requirements; and
- * boat docks, subject to SAF and SERM requirements.

7.1.4 Prohibited Uses

The following are prohibited uses and activities:

- * grazing of livestock and agriculture, except for controlled access for the watering of livestock;
- * buildings or structures (e.g. cottages), except for fencing related to controlled livestock watering as identified in *Restricted Uses*;
- * surface access for mineral and resource exploration and development except for controlled low impact seismic as identified in *Restricted Uses*;
- * sand and gravel quarrying;
- * outfitting;
- * intensive recreational activities such as construction and operation of new serviced camp grounds, golf courses, and motorized vehicular trails;
- * timber harvesting including cutting of firewood, except for the removal of trees due to natural causes or a disaster (e.g. tree damage due to fire, wind, flooding, or disease);
- * bait collection of water-based species such as minnows, sticklebacks, and freshwater shrimp; and
- * aquaculture and fish farming.

7.2 Resource Development Area (RDA)

7.2.1 Intent

The intent of the Resource Development Area is to provide for sustainable management and integrated land use. A lower level of restriction will apply to development and activities in this management area compared with the RPA. This area will be managed as a multiple use zone for a broad range of uses and activities.

7.2.2 Permitted Uses

The following are permitted uses and activities:

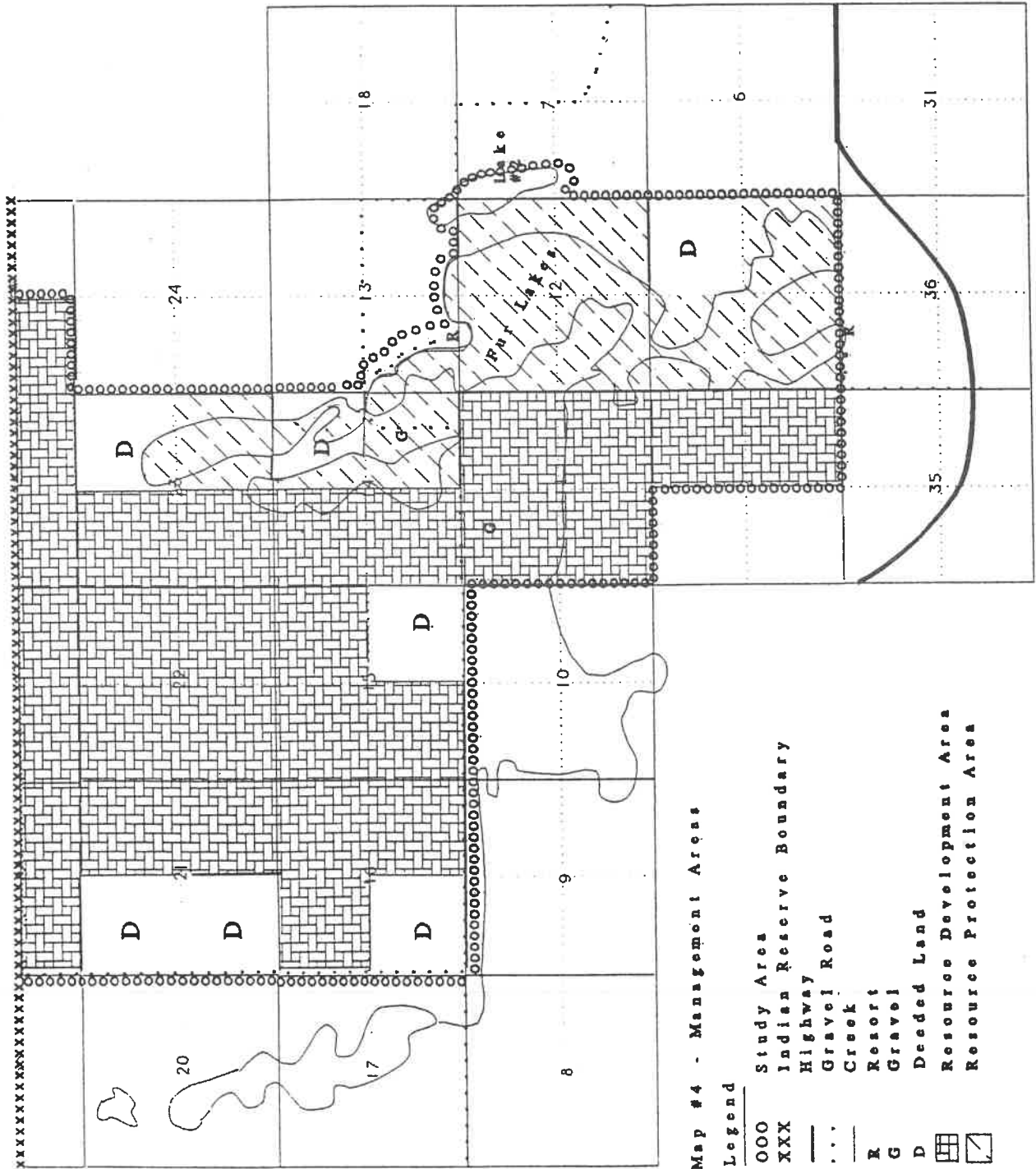
- * all of the permitted uses of the RPA;
- * grazing and land development subject to a Grazing Management Plan;



Township 50

Range 6

Range 7

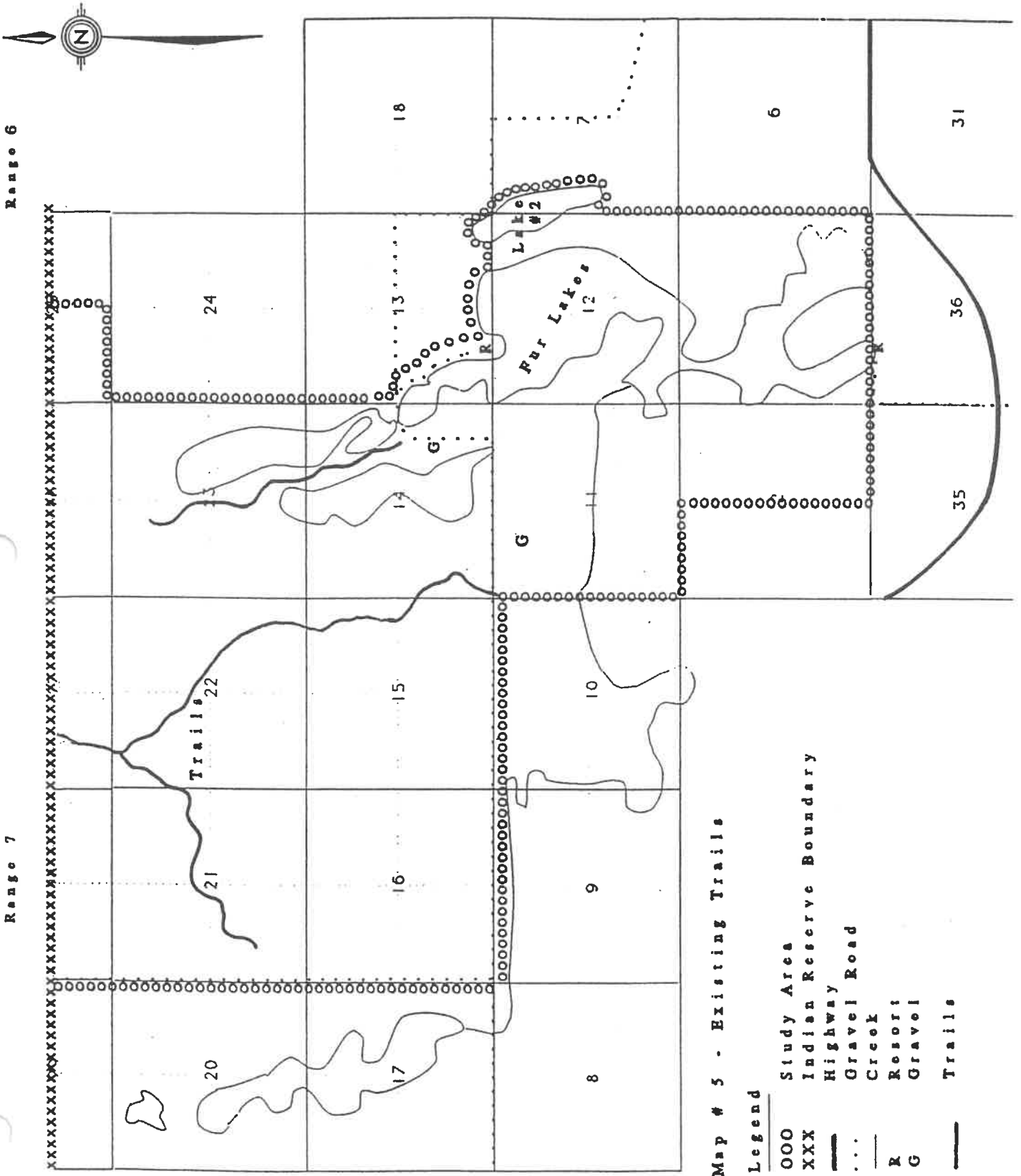


Map #4 - Management Areas

Legend

- 000 Study Area
- XXX Indian Reserve Boundary
- Highway
- ... Gravel Road
- Creek
- R Resort
- G Gravel
- D Decided Land
- [Hatched Box] Resource Development Area
- [Hatched Box] Resource Protection Area

Township 50



Map # 5 - Existing Trails

Legend

- OOO Study Area
- XXX Indian Reserve Boundary
- Highway
- ... Gravel Road
- ~ Creek
- R Resort
- G Gravel
- Trails

- agro-forestry such as plantations, nurseries or growing of mushrooms;
- timber harvesting subject to SERM's timber policy applicable to wildlife habitat lands or a Woodlot Management Plan as the case may be;
- apiaries;
- cutting of trees for fuelwood for personal use (non-commercial);
- resource and mineral exploration and development
- sand and gravel quarrying;
- ecotourism and recreation related development and activities;
- roads and public utilities;
- outfitting, subject to SAF and SERM requirements;
- temporary buildings and structures such as equipment storage or overnight rest cabins where approved accessory to an ecotourism or outfitting operation.

7.2.3 Prohibited Uses

The following are prohibited uses and activities:

- any commercial enterprise not permitted in the RPA or RDA;
- cottages, except as may be permitted by SAF as an accessory use to an ecotourism or outfitting recreation operation.

SECTION 8.0 IMPLEMENTATION

8.1 Legislative and Regulatory Control

The following provincial agencies will provide a legal basis for implementing the policies of the plan through legislative and regulatory controls:

Agriculture and Food - administers Crown land leases established under the authority of *The Provincial Lands Act*. Leases will be based on the policies of the plan.

Municipal Government - is responsible for the administration of *The Planning and Development Act, 1983* and *The Heritage Property Act*. These two Acts will be applied in the review of development in accordance with the policies of the plan.

Environment and Resource Management - administers *The Ecological Reserves Act* permitting the designation of natural areas, and *The Wildlife Habitat Protection Act, 1992* where lands are considered important for wildlife may be designated as habitat lands. *The Wildlife Act* and *The Fisheries Act* govern the protection and harvest of wildlife and fish respectively. *The Prairies and Forest Fire Act, 1982* establishes a framework for fire prevention and suppression. Proposed

development is subject to review under *The Environmental Assessment Act* and *The Environmental Management and Protection Act*. *The Conservation Easement Act* provides landowners with the opportunity to conserve land in its natural state (see Section 8.2). SERM will utilize the above legislation in carrying out the policies of the plan.

Energy and Mines - administers *The Department of Energy and Mines Act*, *Minerals Resources Act*, *The Crown Minerals Act*, *The Oil and Gas Conservation Act*, and *The Pipelines Act* controlling petroleum, natural gas, and mineral development. Any exploration or development will have regard to the policies of the plan.

8.2 Conservation Easements

The Conservation Easement Act provides a means of conserving areas such as marshlands, wildlife habitat, recreational trails, archaeological, historic or scenic site. Lands that may be considered for Crown sale may require an agreement ensuring conservation of the land. Conservation easements provide an excellent opportunity on a voluntary basis for landowners to conserve special areas while benefiting from ownership of the land and potential tax reduction. SAF and SERM will support the use of this legislation as a means of meeting the policies of the plan.

8.3 Zoning Bylaw Control

The planning area is within the jurisdiction of the Rural Municipality of Canwood No. 494 which has the authority to control development through land use zoning under *The Planning and Development Act, 1983*. The Municipality will recognize and support the Fur Lakes Land and Resource Management Plan by establishing local land use policies in its Basic Planning Statement and Zoning Bylaw that complement the policies of the plan.

8.4 Recommendations

The following recommendations are put forward by the Planning and Advisory Committee:

1. *The Committee recommends that the Rural Municipality of Canwood No. 494 have regard to the Fur Lakes Land and Resource Management Plan in developing policies for controlling development on private land adjacent to the Fur Lakes.*

Rationale: There is a need to have consistent policies for both Crown and private lands in meeting the objectives for lands within the planning area.

2. *The Committee recommends that the Rural Municipality of Canwood No. 494 not permit the subdivision of private land creating new cottage lots within the planning area.*

Rationale: Given the fragility of the main lake, there is a need to limit development to the extent of current subdivision in keeping with the carrying capacity of the lake. The R.M. of Canwood may consider adopting a basic planning statement and zoning bylaw that would control the subdivision of land throughout the municipality, and more specifically, apply to lands adjacent to the Fur Lakes.

3. The Committee recommends that SERM consider all Crown lands that are presently not wildlife habitat lands in the planning area be designated as wildlife habitat lands pursuant to *The Wildlife Habitat Protection Act, 1992*.

Rationale: Maintaining a sustainable wildlife population requires the retention of lands critical to wildlife. There is a need to reserve all Crown land within the planning area as wildlife habitat protection lands as all the land is considered to be critical to wildlife.

4. *The Committee recommends that SAF apply the restriction of The Wildlife Habitat Protection Act, 1992 within the planning area.*

Rationale: There is a need to ensure that wildlife habitat is protected. SAF administers Crown land within the planning area, therefore, that agency should be responsible for ensuring that land important to wildlife be preserved. Areas set aside must be of sufficient size to allow survival of species therein.

5. *The Committee recommends that SAF and SERM, Forest Ecosystem Branch, in consultation with the Farm Woodlot Association of Saskatchewan, give high priority to developing a Forest Resource Management Plan which would include local input in the development process, and be consistent with forest fringe planning and the Fur Lakes Land and Resource Management Plan.*

Rationale: A Forest Resource Management Plan is required for the sustainable use of the forest resource and to provide a framework for individual woodlot management plans.

SECTION 9.0 PLAN MONITORING AND REVIEW

The following actions will be undertaken in plan monitoring and review:

- * Resource use and development will be monitored on an ongoing basis by the appropriate provincial agencies to assess its environmental impacts and the effectiveness of any mitigation activities (e.g. permitted activities impacts on the environment such as landscape, wildlife, birds, and habitat).
- The Planning and Advisory Committee will meet on an annual basis to review progress and implementation, and to address new issues.
- The Planning and Advisory Committee will review Woodlot Management Plans for conformance to the Fur Lakes Land and Resource Management Plan at the annual meeting.
- Saskatchewan Agriculture and Food will consider review of the plan within 5 years of its acceptance by the Provincial Government. A request may be made by a stakeholder participant at any time for the review of a particular issue.

- Saskatchewan Agriculture and Food will require consultation with stakeholders involved in the initial development of the plan where changes are proposed to the Fur Lakes Land and Resource Management Plan.

SECTION 10.0 GLOSSARY

The following are terms used in the Fur Lakes Land and Resource Management Plan:

Agricultural Disposition - the permitting, leasing, or sale of Crown land by Saskatchewan Agriculture and Food.

Conservation Easement - an easement registered at the Land Titles Office on a Certificate of Title pursuant to *The Conservation Easement Act* with the intent of conserving natural areas and maintaining wildlife habitat or preserving historical or scenic features.

Development - the carrying out of any building, engineering, mining or other operations in, on or over land or the making of any material change in the use or intensity of the use of any building or land.

Development Contract - a contract between Saskatchewan Agriculture and Food and an agricultural lessee describing the terms and conditions for land development on Crown land.

Ecotourism - travel to relatively undisturbed or uncontaminated natural areas, with the specific objective of planning, admiring, and enjoying the scenery and its wild plants and animals, as well as any cultural aspects found in these areas.

Fall Back Procedure - referral to the regulatory government agency responsible for the area of concern (recorded in the minutes of The Planning and Advisory Committee meeting of June 11, 1997).

Forest Resource Management Plan - an overall strategy and guidelines that include the use, harvest, management and protection of forest resources in the planning area developed in accordance with the Fur Lakes Land and Resource Management Plan.

Habitat - a place or location where an organism or species characteristically lives or grows.

Heritage Property - means:

- (i) archaeological objects;
- (ii) paleontological objects;
- (iii) any property that is of interest for its architectural, historical, cultural, environmental, archaeological, paleontological, aesthetic or scientific value; and
- (iv) any site where any object or property mentioned in subclauses (i), (ii) or (iii) is or may reasonably be expected to be found (*The Heritage Property Act*).

Land and Resource Management Plan- a plan describing the use and management of Crown land as separate parcels or in conjunction with private lands and its resources within the planning area.

Management Area- a block of land delineated on Map No. 4 - Management Areas which identifies those uses that are permitted, restricted, or prohibited.

Outfitting- the provision of facilities, equipment or services by an outfitter for the purpose of assisting another person in hunting, taking or catching wildlife or angling, taking, or catching fish .

Outfitter- a person who provides an outfitting service for, or for the promise or expectation of, remuneration, economic or material gain, or business or employment benefit (SERM).

Plan- the Fur Lakes Land and Resource Management Plan.

Planning Area- the geographical area identified in Map No. 1 and examined by the Planning and Advisory Committee with regard to land use and activities.

Range Management- manipulating the biological and physical factors of an ecosystem to derive maximum resource productivity and sustainable use without degradation.

Riparian- the areas along rivers, creeks, lakes, sloughs, and springs that are generally vegetated by grass, shrubs, and trees.

Watercraft- a vessel that is motorized and has the ability to travel on water.

Sustainable- the ability to manage and sustain a resource over time.

Traditional Cultural Location- any site which is considered by a community to be significant because of its association with the community's cultural practises or beliefs. The land is rooted in the community's history and is important in maintaining the continuing cultural identity of the community.

Woodlot Management- the sustainable utilization of the forest resource typically by small operators.

SECTION 11.0 REFERENCES

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APPENDICES

Appendix A:

Fur Lake - Planning Area Timber Volumes

DOT GRID SYSTEM

The Dot Grid System was applied in evaluating the timber stand for the Fur Lakes Planning Area as identified in the following tables. The Dot Grid System consists of dots distributed evenly in squares. The dot grid is a sheet marked off in 1-inch squares which may be subdivided further into 16 squares. Each 1-inch square contains 64 equally spaced dots per square inch. The grid is superimposed on a map or photo by means of a transparent overlay. The dots that fall within the boundary of the timber stand or area being estimated are counted. Where dots fall on the boundary, alternate dots are counted. Each dot represents certain ground acreage according to the size of the scale. The grid was placed on the map without bias, that is, not aligned in any particular way with respect to the boundaries.

Fur Lakes Study Area

50 Range 7 West of the Third

Location	Ownership	Area Report			Total	Hardwood	Softwood	Total
		Non Wooded	Water	Wooded		Volume	Volume	Volume
NW Section 1	Crown	14.45	22.88	19.14	58.25	707.79	369.37	1,077.16
NE Section 1	Patented	16.80	0.00	44.92	61.72	2,549.12	2,117.00	4,666.12
SW Section 1	Crown	0.78	29.69	30.47	60.94	599.28	852.27	1,451.55
SE Section 1	Crown	13.29	27.73	25.00	66.02	869.23	663.85	1,533.08
NE Section 2	Crown Lease	16.41	0.00	44.53	60.94	820.76	1,068.46	1,889.22
SE Section 2	Crown Lease	15.80	1.56	48.75	65.91	1,456.12	1,415.92	2,872.04
NW Section 11	Patented	19.14	0.00	46.88	66.02	1,554.44	3,545.62	5,100.06
NE Section 11	Patented	24.81	10.55	30.86	66.02	752.12	2,495.89	3,248.01
SW Section 11	Crown Lease	22.27	0.78	42.97	66.02	1,955.19	733.91	2,689.10
SE Section 11	Crown Lease	12.50	0.78	52.74	66.02	995.64	1,358.22	2,353.86
Nw Section 12	Crown	11.33	39.06	10.55	60.94	315.05	772.70	1,087.75
NE Section 12	Crown	27.73	21.48	16.80	66.01	1,141.87	635.10	1,776.97
SW Section 12	Crown	22.27	21.88	16.80	60.94	481.44	333.06	814.50
SE Section 12	Crown	23.44	1.95	40.63	66.02	2,931.88	3,122.32	6,054.20
SW Section 13	Patented	24.22	15.23	21.48	60.93	641.29	777.91	1,419.20
SE Section 13	Patented	50.39	1.95	13.67	66.02	780.28	465.05	1,245.33
NW Section 14	Crown	0.00	12.89	48.05	60.94	1,454.74	10,312.87	11,767.61
NE Section 14	Patented	9.38	21.88	28.13	59.39	1,738.63	405.26	2,143.89
SW Section 14	Crown	3.91	6.25	55.86	66.02	432.53	66.39	498.92
SE Section 14	Crown	10.55	18.75	36.72	66.02	1,359.86	85.64	1,445.50
NW Section 15	Crown Lease	26.17	1.95	32.81	60.94	1,891.08	1,317.75	3,208.83
NE Section 15	Crown	2.34	2.73	51.17	56.24	1,147.70	3,591.61	4,739.31
SW Section 15	Crown Lease	22.27	1.17	42.58	66.02	1,453.48	3,103.55	4,557.03
SE Section 15	Patented	35.94	0.78	24.22	60.94	1,190.22	1,309.29	2,499.51
NW Section 16	Crown	6.25	4.30	45.70	56.25	1,606.11	2,868.95	4,475.06
NE Section 16	Crown	1.17	0.00	59.77	60.94	1,778.51	2,232.28	4,010.79
SW Section 16	Patented	0.78	8.20	45.31	60.94	1,394.14	3,551.19	4,945.33
SE Section 16	Crown	14.45	0.78	50.78	66.01	1,296.75	3,474.78	4,771.53
NW Section 21	Patented	22.27	0.00	38.67	60.94	2,073.12	1,438.91	3,512.03
NE Section 21	Crown	10.16	0.39	55.47	66.02	2,854.41	2,648.43	5,502.84
SW Section 21	Patented	15.23	0.00	45.70	60.94	2,103.74	1,839.81	3,943.55
SE Section 21	Crown	1.56	0.00	64.45	66.02	187.11	1,612.06	1,799.17
NW Section 22	Crown	2.34	0.39	63.28	66.01	1,494.68	2,584.75	4,079.43
NE Section 22	Crown	7.81	2.73	50.39	60.93	677.05	2,447.33	3,124.38
SW Section 22	Crown	3.12	1.17	61.72	66.01	2,506.20	2,133.84	4,640.04
SE Section 22	Crown	5.86	1.95	53.13	60.94	402.42	3,213.53	3,615.95
NW Section 23	Crown	7.42	8.98	49.61	66.01	661.13	2,281.06	2,942.19
NE Section 23	Patented	26.95	7.03	32.03	66.01	2,105.26	1,295.36	3,400.62
SW Section 23	Crown	3.91	3.13	58.99	66.03	693.01	3,981.84	4,674.85
SE Section 23	Crown	3.91	32.42	29.69	66.03	1,307.18	744.74	2,051.92
SW Section 25	Crown	1.95	0.78	21.48	24.21	1,469.98	900.46	2,370.44
SW Section 26	Crown	3.91	1.95	19.53	25.39	196.90	1,357.28	1,554.18
SE Section 26	Crown	2.34	0.00	22.66	25.00	843.19	1,389.74	2,232.93
SW Section 27	Crown	1.56	0.00	23.83	25.39	331.79	889.17	1,220.96
SE Section 27	Crown	1.56	0.00	21.88	23.44	352.34	1,076.26	1,428.60
SW Section 28	Crown Lease	3.52	0.78	19.14	23.44	1,287.27	689.77	1,977.04
SE Section 28	Crown	5.08	0.39	19.92	25.39	1,354.31	753.26	2,107.57
Total		578.90	337.07	1,778.86	2,701.52	58,196.34	86,323.81	144,520.15

Township 50 Range 7 West of the Third		Fur Lakes Study Area		Per/Hectare		Per/Hectare		Per/Hectare		Per/Hectare	
Location	Ownership	Cover Type	Dots	Area	Softwood Volume	Hardwood Volume	Total Volume	Softwood Volume	Hardwood Volume	Total Volume	Total Volume
NE Section 2	Crown Lease	SH10D JP 1A	93	36.33	23.61	15.08	38.69	857.72	547.84	1,405.55	
		HS10C 1A JP	21	8.20	25.69	33.27	210.74	272.92	483.66		
		Total Wooded	114	44.53			1,068.46	820.76	1,889.22		
		Clearing	42	16.41							
		Total Non Wooded	42	16.41							
Total Area		156	60.94								
SE Section 2	Crown Lease	SH10C JP 1A	37	14.43	37.36	24.73	62.09	539.10	356.85	895.95	
		SH10D JP 1A	6	2.34	23.61	15.08	38.69	55.25	35.29	90.53	
		HS10C 1A JP	82	31.98	25.69	33.27	58.96	821.57	1,063.97	1,885.54	
		Total Wooded	125	48.75				1,415.92	1,456.12	2,872.03	
		Clearing	40	15.60							
Total Non Wooded	40	15.60									
Water	4	1.56									
Total Area		169	66.02								
NW Section 1	Crown	SH10D JP 1A	3	1.17	23.61	15.08	38.69	27.67	17.67	45.34	
		HS10C 1A JP	19	7.42	25.69	33.27	58.96	190.67	246.93	437.60	
		HS10D 1A JP	27	10.55	14.32	42.02	56.34	151.03	443.19	594.22	
		Total Wooded	49	19.14				369.37	707.79	1,077.16	
		Clearing	18	7.03							
Clear Swamp	19	7.42									
Total Non Wooded	37	14.45									
Water	58	22.66									
Total Area		144	56.25								
NE Section 1	Patented	SH15D JP bS 1A	55	21.48	82.93	72.82	155.75	1,781.34	1,564.17	3,345.51	
		HS10D 1A JP	60	23.44	14.32	42.02	56.34	335.66	984.95	1,320.61	
		Total Wooded	115	44.92				2,117.00	2,549.12	4,666.12	
		Clearing	24	9.38							
		Clear Swamp	2	0.78							
Brush	17	6.64									
Total Non Wooded	43	16.80									
Total Area		158	61.72								
SW Section 1	Crown	SH10C bS JP 1A	20	7.81	55.54	17.59	73.13	433.77	137.38	571.15	

Township 50 Range 7 West of the Third			Fur Lakes Study Area			
Location	Ownership	Cover Type	Per/Hectare	Per/Hectare	Per/Hectare	Total
			Softwood	Hardwood	Softwood	Hardwood
			Volume	Volume	Volume	Volume
		Dots	Area	Volume	Volume	Volume
		SH10D JP 1A	1.17	23.61	15.08	38.69
		HS10B 1A JP	10.55	10.41	7.61	18.02
		HS10C 1A JP	10.94	25.69	33.27	58.96
		Total Wooded	30.47			
		Clearing	2			
		Total Non Wooded	0.78			
		Water	29.69			
		Total Area	60.94			
SE Section 1	Crown	SH10C bS JP 1A	7.42	55.54	17.59	73.13
		HS10D 1A JP	17.58	14.32	42.02	56.34
		Total Wooded	25.00			
		Clearing	5			
		Clear Swamp	11.33			
		Total Non Wooded	13.28			
		Water	27.73			
		Total Area	66.02			
NW Section 11	Patented	S15D JP	28.13	97.61	13.34	110.95
		SH15C JP 1A	3.91	76.79	20.77	97.56
		HS15C 1A JP	12.11	37.81	67.98	105.79
		H15D 1A	2.73	15.45	100.66	116.11
		Total Wooded	46.88			
		Clearing	16.02			
		Clear Swamp	3.13			
		Total Non Wooded	19.14			
		Total Area	66.02			
NE Section 11	Patented	S15D JP	14.84	97.61	13.34	110.95
		SH15C JP 1A	11.33	76.79	20.77	97.56
		HS15C 1A JP	4.69	37.81	67.98	105.79
		Total Wooded	30.86			
		Clearing	5.08			
		Clear Swamp	17.97			
		Brush	1.17			
		Flood	0.39			
		Total Area	66.02			
		Softwood		27.62	17.64	45.27
		Hardwood		109.83	80.29	190.11
		Total		281.05	363.97	645.02
		Total Area		852.27	599.28	1,451.55
		Softwood		412.11	130.52	542.62
		Hardwood		251.75	738.71	990.46
		Total		663.85	869.23	1,533.08
		Softwood		2,745.32	375.19	3,120.51
		Hardwood		300.25	81.21	381.46
		Total		457.88	823.24	1,281.12
		Total Area		42.18	274.80	316.98
		Total Area		3,545.62	1,554.44	5,100.07
		Softwood		1,448.53	197.97	1,646.50
		Hardwood		870.03	235.32	1,105.35
		Total		177.33	318.83	496.16
		Total Area		2,495.89	752.12	3,248.01

Fur Lakes Study Area

Township 50 Range 7 West of the Third

Location	Ownership	Cover Type	Dots	Per/Hectare		Per/Hectare		Per/Hectare		Total Volume	Hardwood Volume	Softwood Volume	Total Volume
				Area	Volume	Area	Volume	Area	Volume				
		Total Non Wooded	63	24.61									
		Water	27	10.55									
		Total Area	169	66.02									
SW Section 11	Crown Lease	SH10D jP 1A	69	26.95	23.61	15.08	38.69	636.37	406.46	1,042.83			
		HS15D tA jP	41	16.02	6.09	96.70	102.79	97.54	1,548.73	1,646.27			
		Total Wooded	110	42.97				733.91	1,955.19	2,689.10			
		Clearing	53	20.70									
		Clear Swamp	4	1.56									
		Total Non Wooded	57	22.27									
		Water	2	0.78									
		Total Area	169	66.02									
SE Section 11	Crown Lease	S10C jP	12	4.69	41.93	1.37	43.30	196.55	6.42	202.97			
		SH10D jP 1A	97	37.89	23.61	15.08	38.69	894.61	571.40	1,466.01			
		HS10C tA jP	21	8.20	25.69	33.27	58.96	210.74	272.92	483.66			
		HS15B tA jP	4	1.56	34.52	68.56	103.08	53.94	107.13	161.06			
		HS15D tA jP	1	0.39	6.09	96.70	102.79	2.38	37.77	40.15			
		Total Wooded	135	52.74				1,356.22	995.64	2,353.86			
		Clear Swamp	7	2.73									
		Brush	24	9.38									
		Flood	1	0.39									
		Total Non Wooded	32	12.50									
		Water	2	0.78									
		Total Area	169	66.02									
NW Section 12	Crown	S15D jP	17	6.64	97.61	13.34	110.95	648.20	88.59	736.79			
		HS10C tA jP	3	1.17	25.69	33.27	58.96	30.11	38.98	69.09			
		HS15B tA jP	7	2.73	34.52	68.56	103.08	94.39	187.47	281.86			
		Total Wooded	27	10.55				772.70	315.05	1,087.74			
		Clear Swamp	29	11.33									
		Total Non Wooded	29	11.33									
		Water	100	39.06									
		Total Area	156	60.94									
NE Section 12	Crown	HS15C tA jP wS	43	16.80	37.81	67.98	105.79	635.10	1,141.87	1,776.96			

Fur Lakes Study Area

Township 50 Range 7 West of the Third

Location	Ownership	Cover Type	Dots	Per/Hectare			Per/Hectare			Per/Hectare		
				Softwood Volume	Hardwood Volume	Total Volume	Softwood Volume	Hardwood Volume	Total Volume	Softwood Volume	Hardwood Volume	Total Volume
SE Section 13	Patented	HS10C tA JP	11	4.30	25.69	33.27	58.98	110.39	142.96	253.35		
		HS15C tA JP wS	24	9.38	37.81	67.98	105.79	354.66	637.32	991.98		
		Total Wooded	35	13.67				465.05	780.28	1,245.33		
		Clearing	126	49.22								
		Clear Swamp	3	1.17								
		Total Non Wooded	129	50.39								
		Water	5	1.95								
		Total Area	169	66.02								
NW Section 14	Crown	S15B JP	29	11.33	70.32	2.69	73.01	796.60	30.47	827.08		
		S15C JP	71	27.73	98.70	8.21	106.91	9,214.63	766.49	9,981.12		
		HS15C tA JP	16	6.25	37.81	67.98	105.79	236.31	424.88	661.19		
		H15C tA	7	2.73	23.93	85.31	109.24	65.33	232.90	298.23		
		Total Wooded	123	48.05				10,312.87	1,454.74	11,767.62		
		Water	33	12.89								
		Total Area	156	60.94								
NE Section 14	Patented	SH10D JP tA	23	8.98	23.61	15.08	38.69	212.12	135.49	347.61		
		HS10C tA JP	10	3.91	25.69	33.27	58.96	100.35	129.98	230.32		
		HS15D tA JP wS	39	15.23	6.09	96.70	102.79	92.78	1,473.18	1,565.96		
		Total Wooded	72	28.13				405.26	1,738.63	2,143.89		
		Clearing	23	8.98								
		Brush	1	0.39								
		Total Non Wooded	24	9.38								
		Water	56	21.88								
		Total Area	156	60.94								
SW Section 14	Crown	S10D JP	28	10.94	32.53	3.31	35.84	355.80	36.20	392.01		
		S15C JP	14	5.47	98.70	8.21	106.91	539.77	44.90	584.67		
		S15D JP	29	11.33	97.61	13.34	110.95	1,105.75	151.12	1,256.87		
		SH15C JP tA	33	12.89	76.79	20.77	97.56	989.88	267.74	1,257.63		
		HS15C tA JP	28	10.94	37.81	67.98	105.79	413.55	743.54	1,157.09		
		H15D tA	11	4.30	15.45	100.86	116.11	66.39	432.53	498.92		
		Total Wooded	143	55.86								
		Clearing	1	0.39								
		Clear Muskeg	9	3.52								

Township 50 Range 7 West of the Third		Fur Lakes Study Area										
Location	Ownership	Cover Type	Dots	Per/Hectare		Per/Hectare		Per/Hectare		Per/Hectare		Total Volume
				Softwood Volume	Hardwood Volume	Softwood Volume	Hardwood Volume	Softwood Volume	Hardwood Volume			
		Total Non Wooded	10	3.91								
		Water	16	6.25								
		Total Area	169	66.02								
SE Section 14	Crown	S10D bS	7	2.73	80.41	11.14	91.55	219.87	30.46	250.34		
		S15D jP	27	10.55	97.61	13.34	110.95	1,029.49	140.70	1,170.19		
		SH15C jP tA	23	8.98	76.79	20.77	97.56	689.92	186.61	876.53		
		HS10C tA jP	1	0.39	25.69	33.27	58.96	10.04	13.00	23.03		
		HS15D tA jP wS	36	14.06	6.09	96.70	102.79	85.64	1,359.86	1,445.50		
		Total Wooded	94	36.72								
		Clearing	19	7.42								
		Clear Muskeg	2	0.78								
		Brush	6	2.34								
		Total Non Wooded	27	10.55								
		Water	48	18.75								
		Total Area	169	66.02								
NW Section 15	Crown Lease	S10C bS	1	0.39	35.93	0.40	36.33	14.04	0.16	14.19		
		S15C jP	3	1.17	98.70	8.21	106.91	115.67	9.62	125.29		
		SH15B jP tA	12	4.69	39.19	16.12	55.31	183.71	75.56	259.27		
		HS15C tA jP	68	26.56	37.81	67.98	105.79	1,004.34	1,805.74	2,810.08		
		Total Wooded	84	32.81								
		Clearing	40	15.63								
		Treed Muskeg	6	2.34								
		Clear Muskeg	15	5.86								
		Brush	2	0.78								
		Cutover	4	1.56								
		Total Non Wooded	67	26.17								
		Water	5	1.95								
		Total Area	156	60.94								
NE Section 15	Crown	S10B jP	25	9.77	38.91	2.75	41.66	379.99	26.86	406.84		
		S15B jP	6	2.34	70.32	2.69	73.01	164.81	6.30	171.12		
		S15C jP	66	25.78	98.70	8.21	106.91	2,544.64	211.67	2,756.31		
		HS15C tA jP	34	13.28	37.81	67.98	105.79	502.17	902.87	1,405.04		
		Total Wooded	131	51.17								

Township 50 Range 7 West of the Third			Fur Lakes Study Area				Fur Lakes Study Area			
Location	Ownership	Cover Type	Dots	Per/Hectare		Per/Hectare		Per/Hectare		Total Volume
				Softwood Volume	Hardwood Volume	Softwood Volume	Hardwood Volume	Softwood Volume	Hardwood Volume	
		Clear Muskeg	6	2.34						
		Total Non Wooded	6	2.34						
		Water	7	2.73						
		Total Area	144	56.25						
SW Section 15	Crown Lease	S15C jP	65	25.39	98.70	8.21	106.91	2,506.09	208.46	2,714.55
		HS15C 1A jP	38	14.84	37.81	67.98	105.79	561.25	1,009.09	1,570.34
		H15D 1A	6	2.34	15.45	100.66	116.11	36.21	235.92	272.14
		Total Wooded	109	42.58				3,103.55	1,453.48	4,557.02
		Clearing	42	16.41						
		Clear Muskeg	15	5.86						
		Total Non Wooded	57	22.27						
		Water	3	1.17						
		Total Area	169	66.02						
SE Section 15	Patented	S10D jP	3	1.17	32.53	3.31	35.84	38.12	3.88	42.00
		S15C jP	15	5.86	98.70	8.21	106.91	578.33	48.11	626.43
		S15D jP	3	1.17	97.61	13.34	110.95	114.39	15.63	130.02
		HS15C 1A jP	36	14.06	37.81	67.98	105.79	531.71	955.98	1,487.69
		H15C 1A	5	1.95	23.93	85.31	109.24	46.74	166.62	213.36
		Total Wooded	62	24.22				1,309.29	1,190.22	2,499.51
		Clearing	88	34.38						
		Clear Muskeg	4	1.56						
		Total Non Wooded	92	35.94						
		Water	2	0.78						
		Total Area	156	60.94						
NW Section 16	Crown	S10D bS	10	3.91	80.41	11.14	91.55	314.11	43.52	357.62
		S15C bS	5	1.95	108.66	6.67	116.33	214.18	13.03	227.21
		SH15C jP 1A	59	23.05	76.79	20.77	97.56	1,769.79	478.69	2,248.48
		HS10D 1A jP	7	2.73	14.32	42.02	56.34	39.16	114.90	154.06
		HS15C 1A jP	36	14.06	37.81	67.98	105.79	531.71	955.98	1,487.69
		Total Wooded	117	45.70				2,868.95	1,606.11	4,475.06
		Clearing	1	0.39						
		Clear Muskeg	15	5.86						
		Total Non Wooded	16	6.25						

Township 50 Range 7 West of the Third		Fur Lakes Study Area										
Location	Ownership	Cover Type	Dots	Per/Hectare		Per/Hectare		Per/Hectare		Per/Hectare		Total Volume
				Softwood Volume	Hardwood Volume	Softwood Volume	Hardwood Volume	Softwood Volume	Hardwood Volume			
		Water	11	4.30								
		Total Area	144	56.25								
NE Section 16	Crown	S10B JP	4	1.56	38.91	2.75	41.66	60.80	4.30	65.09		
		S15C JP	7	2.73	98.70	8.21	106.91	269.89	22.45	292.34		
		SH5A JP TA	38	14.84	0.86	4.33	5.19	12.77	64.27	77.04		
		SH15B JP TA	33	12.89	39.19	16.12	55.31	505.19	207.80	712.99		
		SH15C JP TA	22	8.59	76.79	20.77	97.56	659.92	178.49	838.42		
		HS15C TA JP	49	19.14	37.81	67.98	105.79	723.72	1,301.20	2,024.91		
		Total Wooded	153	59.77				2,232.28	1,778.51	4,010.79		
		Brush	3	1.17								
		Total Non Wooded	3	1.17								
		Total Area			156	60.94						
SW Section 16	Patented	S15C bS	25	9.77	109.66	6.67	116.33	1,070.91	65.14	1,136.05		
		SH15C JP TA	66	25.78	76.79	20.77	97.56	1,978.77	535.48	2,515.25		
		HS15C TA JP	2	0.78	37.81	67.98	105.79	29.54	53.11	82.65		
		HS15C TA WS	23	8.98	52.42	82.41	134.83	470.97	740.41	1,211.38		
		Total Wooded	116	45.31				3,551.19	1,394.14	4,945.33		
		Cleaning	17	6.64								
		Clear Muskeg	2	0.78								
		Total Non Wooded	2	0.78								
		Water	21	8.20								
		Total Area		60.94								
SE Section 16	Crown	S10D bS TL	44	17.19	80.41	11.14	91.55	1,382.06	191.47	1,573.54		
		S15C JP	32	12.50	98.70	8.21	106.91	1,233.77	102.63	1,336.39		
		SH5A JP TA	9	3.52	0.86	4.33	5.19	3.02	15.22	18.25		
		SH15B JP TA	1	0.39	39.19	16.12	55.31	15.31	6.30	21.61		
		SH15C JP bS TA	24	9.38	76.79	20.77	97.56	719.92	194.72	914.64		
		H15D TA	20	7.81	15.45	100.66	116.11	120.70	786.42	907.12		
		Total Wooded	130	50.78				3,474.78	1,296.75	4,771.54		
		Cleaning	31	12.11								
		Clear Muskeg	2	0.78								
		Brush	4	1.56								

Township 50 Range 7 West of the Third			Fur Lakes Study Area			Per/Hectare			Per/Hectare		
Location	Ownership	Cover Type	Dots	Area	Softwood Volume	Hardwood Volume	Total Volume	Softwood Volume	Hardwood Volume	Total Volume	
		Total Non Wooded	37	14.45							
		Water	2	0.78							
		Total Area	169	66.02							
NW Section 21	Patented	S5C wS jP	9	3.52							
		SH10B jP tA	30	11.72	56.35	54.54	110.89	660.36	639.15	1,299.51	
		HS15C tA jP	49	19.14	37.81	67.98	105.79	723.72	1,301.20	2,024.91	
		H10B tA	11	4.30	12.76	30.90	43.66	54.83	132.78	187.60	
		Total Wooded	99	38.67				1,438.91	2,073.12	3,512.03	
		Clearing	51	19.92							
		Treed Muskeg	2	0.78							
		Clear Muskeg	4	1.56							
		Total Non Wooded	57	22.27							
		Total Area	156	60.94							
NE Section 21	Crown	S10C jP	8	3.13	41.93	1.37	43.30	131.03	4.28	135.31	
		S10D bS tL	32	12.50	80.41	11.14	91.55	1,005.14	139.25	1,144.39	
		SH10B jP tA	2	0.78	56.35	54.54	110.89	44.02	42.61	86.63	
		HS15C tA jP	99	38.67	37.81	67.98	105.79	1,462.20	2,628.95	4,091.15	
		H15D tA	1	0.39	15.45	100.66	116.11	6.04	39.32	45.36	
		Total Wooded	142	55.47				2,848.43	2,854.41	5,502.84	
		Clearing	13	5.08							
		Treed Muskeg	5	1.95							
		Brush	8	3.13							
		Total Non Wooded	26	10.16							
		Water	1	0.39							
		Total Area	169	66.02							
SW Section 21	Patented	S10D jP	27	10.55	32.53	3.31	35.84	343.09	34.91	378.00	
		SH15C jP tA	14	5.47	76.79	20.77	97.56	419.95	113.59	533.54	
		HS15C tA jP	72	28.13	37.81	67.98	105.79	1,063.42	1,911.96	2,975.38	
		H10C tA	4	1.56	8.54	27.70	36.24	13.34	43.28	56.63	
		Total Wooded	117	45.70				1,839.81	2,103.74	3,943.55	
		Clearing	39	15.23							
		Total Non Wooded	39	15.23							
		Total Area	156	60.94							

Township 50 Range 7 West of the Third		Fur Lakes Study Area										
Location	Ownership	Cover Type	Dots	Per/Hectare		Per/Hectare		Per/Hectare		Per/Hectare		Total Volume
				Softwood Volume	Hardwood Volume	Softwood Volume	Hardwood Volume	Softwood Volume	Hardwood Volume			
SE Section 21	Crown	S5C JP	3	1.17	11.08	2.13	13.21	12.98	2.50	15.48	15.48	
		S10B JP	11	4.30	38.91	2.75	41.66	167.19	11.82	179.01	179.01	
		S10C JP	8	3.13	41.93	1.37	43.30	131.03	4.28	135.31	135.31	
		S10D JP	26	10.16	32.53	3.31	35.84	330.39	33.62	364.00	364.00	
		S10D bs tL	31	12.11	80.14	11.14	91.28	970.46	134.90	1,105.36	1,105.36	
		HS15C 1A JP	79	30.86				1,812.06	187.11	1,799.17	1,799.17	
		H15D 1A	7	2.73								
		Total Wooded	165	64.45								
		Clear Muskeg	4	1.56								
		Total Non Wooded	4	1.56								
		Total Area	169	66.02								
NW Section 22	Crown	S10A JP	2	0.78	28.88	1.65	30.53	22.56	1.29	23.85	23.85	
		S10B JP	71	27.73	38.91	2.75	41.66	1,079.16	76.27	1,155.43	1,155.43	
		S10C JP	29	11.33	41.93	1.37	43.30	474.99	15.52	490.51	490.51	
		S10C bs	1	0.39	35.93	0.40	36.33	36.73	0.16	36.89	36.89	
		S10D bs tL	4	1.56	80.41	11.14	91.55	125.64	17.41	143.05	143.05	
		S15B JP	4	1.56	70.32	2.69	73.01	109.88	4.20	114.08	114.08	
		HS15C 1A JP	49	19.14	37.81	67.98	105.79	723.72	1,301.20	2,024.91	2,024.91	
		H15D 1A	2	0.78	15.45	100.66	116.11	12.07	78.64	90.71	90.71	
		Total Wooded	162	63.28				2,584.75	1,494.68	4,079.43	4,079.43	
		Clear Muskeg	6	2.34								
		Total Non Wooded	6	2.34								
		Water	1	0.39								
		Total Area	169	66.02								
NE Section 22	Crown	S10B JP	40	15.63	38.91	2.75	41.66	607.98	42.97	650.95	650.95	
		S10C JP	29	11.33	41.93	1.37	43.30	474.99	15.52	490.51	490.51	
		S15B JP	17	6.64	70.32	2.69	73.01	466.97	17.86	484.84	484.84	
		S20B JP	23	8.98	93.89	7.12	101.01	843.55	63.97	907.52	907.52	
		H15B 1A	20	7.81	6.89	68.70	75.59	53.83	536.73	590.55	590.55	
		Total Wooded	129	50.39				2,447.33	677.05	3,124.38	3,124.38	
		Clear Muskeg	20	7.81								
		Total Non Wooded	20	7.81								
		Water	7	2.73								

Fur Lakes Study Area

Township 50 Range 7 West of the Third	Location	Ownership	Cover Type	Dots	Per/Hectare		Per/Hectare		Per/Hectare		Total Volume	Hardwood Volume	Softwood Volume	Total Volume
					Area	Softwood Volume	Hardwood Volume	Total Volume	Hardwood Volume	Softwood Volume				
			Total Area	156	60.94									
SW Section 22	Crown		S10B JP	3	1.17	38.91	2.75	41.66	45.60	3.22	48.82			
			S10C JP	27	10.55	41.93	1.37	43.30	442.24	14.45	456.69			
			S10C bS	47	18.36	35.93	0.40	36.33	659.66	7.34	667.00			
			S10D bs tL	11	4.30	80.41	11.14	91.55	345.52	47.87	393.38			
			HS15C IA JP	25	9.77	37.81	67.98	105.79	369.24	663.88	1,033.12			
			H15D tA	45	17.58	15.45	100.66	116.11	271.59	1,769.44	2,041.02			
			Total Wooded	158	61.72				2,133.84	2,506.20	4,640.04			
			Clear Muskeg	7	2.73									
			Total Non Wooded	7	2.73									
			Cutover	1	0.39									
			Water	3	1.17									
			Total Area	169	66.02									
SE Section 22	Crown		S10B JP	57	22.27	38.91	2.75	41.66	866.37	61.23	927.60			
			S10C JP	17	6.64	41.93	1.37	43.30	278.44	9.10	287.54			
			S15B JP	14	5.47	70.32	2.69	73.01	384.57	14.71	399.28			
			S15C JP	41	16.02	98.70	8.21	106.91	1,580.76	131.49	1,712.25			
			HS15C IA JP	7	2.73	37.81	67.98	105.79	103.39	185.89	289.27			
			Total Wooded	136	53.13				3,213.53	402.42	3,615.94			
			Clear Muskeg	15	5.86									
			Total Non Wooded	15	5.86									
			Water	5	1.95									
			Total Area	156	60.94									
NW Section 23	Crown		S10B JP	7	2.73	38.91	2.75	41.66	106.40	7.52	113.92			
			S15B JP	15	5.86	70.32	2.69	73.01	412.04	15.76	427.80			
			S15C JP	3	1.17	98.70	8.21	106.91	115.67	9.82	125.29			
			S20B JP	4	1.56	93.89	7.12	101.01	146.71	11.13	157.83			
			SH15B JP tA	98	38.28	39.19	16.12	55.31	1,500.26	617.10	2,117.36			
			Total Wooded	127	49.61				2,281.06	661.13	2,942.19			
			Clear Muskeg	19	7.42									
			Total Non Wooded	19	7.42									
			Water	23	8.98									
			Total Area	189	66.02									

Township 50 Range 7 West of the Third			Fur Lakes Study Area				Per/Hectare			Per/Hectare					
Location	Ownership	Cover Type	Dots	Area	Softwood Volume	Hardwood Volume	Total Volume	Softwood Volume	Hardwood Volume	Total Volume	Softwood Volume	Hardwood Volume	Total Volume		
NE Section 23	Patented	S15B bS	2	0.78	74.40	0.30	74.70	58.13	0.23	58.36			58.36		
		SH15B jP tA	1	0.39	39.19	16.12	55.31	15.31	6.30	21.61				21.61	
		SH15D jP tA	5	1.95	82.93	72.82	155.75	161.97	142.23	304.20				304.20	
		HS10C tA jP	1	0.39	25.69	33.27	58.96	10.04	13.00	23.03				23.03	
		HS15B tA jP	22	8.59	34.52	68.56	103.08	296.66	589.20	885.86				885.86	
		HS15C tA jP	51	19.92	37.81	67.98	105.79	753.26	1,354.31	2,107.56				2,107.56	
		Total Wooded	82	32.03				1,295.36	2,105.26	3,400.62					3,400.62
		Clearing	46	17.97											
		Clear Muskeg	23	8.98											
		Total Non Wooded	69	26.95											
		Water	18	7.03											
		Total Area	169	66.02											
		SW Section 23	Crown	S10B jP	12	4.69	38.91	2.75	41.66	182.39	12.89	195.28			195.28
S15B jP	74			28.91	70.32	2.69	73.01	2,032.71	77.76	2,110.47			2,110.47		
S15C jP	36			14.06	98.70	8.21	106.91	1,387.99	115.45	1,503.44			1,503.44		
SH10D jP tA	1			0.39	23.61	15.08	38.69	9.22	5.89	15.11				15.11	
SH15B jP tA	16			6.25	39.19	16.12	55.31	244.94	100.75	345.69				345.69	
HS15B tA wS	3			1.17	34.52	68.56	103.08	40.45	80.34	120.80				120.80	
H15C tA	9			3.52	23.93	85.31	109.24	84.13	299.92	384.05				384.05	
Total Wooded	151			58.99				3,981.84	693.01	4,674.85					4,674.85
Clear Muskeg	2			0.78											
Brush	8			3.13											
Total Non Wooded	10			3.91											
Water	8			3.13											
Total Area	169			66.02											
SE Section 23	Crown	S15B jP	2	0.78	70.32	2.69	73.01	54.94	2.10	57.04			57.04		
		SH10A jP tA	3	1.17	18.14	7.31	25.45	21.26	8.57	29.82			29.82		
		SH10D jP tA	8	3.13	23.61	15.08	38.69	73.78	47.13	120.91			120.91		
		SH15B jP tA	13	5.08	39.19	16.12	55.31	199.01	81.86	280.87			280.87		
		HS10C tA jP	26	10.16	25.69	33.27	58.96	260.92	337.90	589.82			589.82		
		HS15B tA jP	7	2.73	34.52	68.56	103.08	94.39	187.47	281.96			281.96		
		HS15D tA jP	17	6.64	6.09	96.70	102.78	40.44	642.16	862.60			862.60		
		Total Wooded	76	29.69				744.74	1,307.18	2,051.93				2,051.93	

Township 50 Range 7 West of the Third

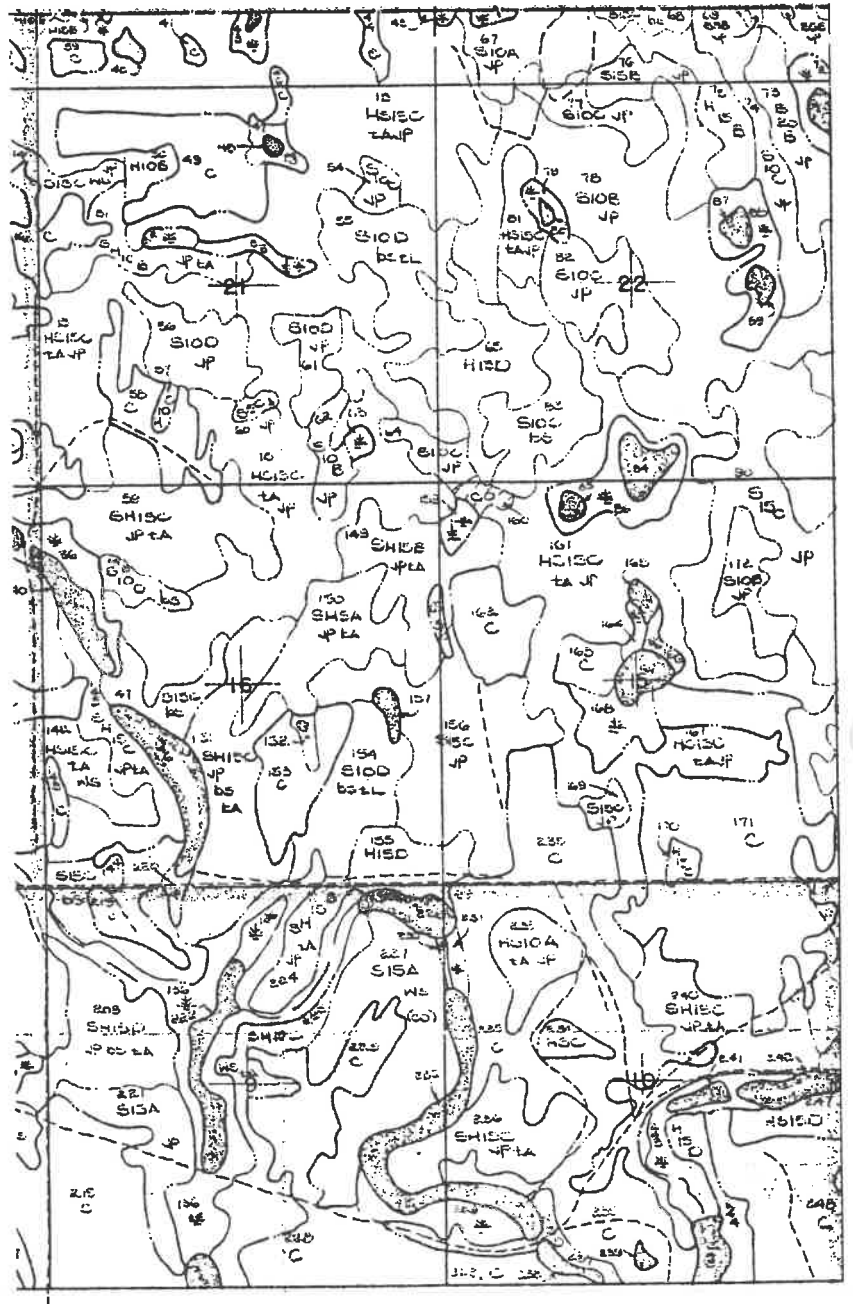
		Fur Lakes Study Area				Per/Hectare				
Location	Ownership	Cover Type	Dots	Area	Softwood Volume	Hardwood Volume	Total Volume	Softwood Volume	Hardwood Volume	Total Volume
		Clearing	10	3.91						
		Total Non Wooded	10	3.91						
		Water	83	32.42						
		Total Area	169	66.02						
Part of										
SW Section 25	Crown	SH15D jP 1A	5	1.95	82.93	72.82	155.75	161.97	142.23	304.20
		HS15C 1A jP	50	19.53	37.81	67.98	105.79	738.49	1,327.75	2,066.24
		Total Wooded	55	21.48						
		Clear Muskeg	5	1.95						
		Total Non Wooded	5	1.95						
		Water	2	0.78						
		Total Area	60	23.44				900.46	1,469.98	2,370.44
Part of										
SW Section 26	Crown	S5B jP	5	1.95	8.95	0.03	8.98	17.48	0.06	17.54
		S15C jP	28	10.94	98.70	8.21	106.91	1,079.55	89.80	1,169.34
		SH15B jP 1A	17	6.64	39.19	16.12	55.31	260.25	107.05	367.30
		Total Wooded	50	19.53						
		Clear Muskeg	10	3.91						
		Total Non Wooded	10	3.91						
		Water	5	1.95						
		Total Area	65	25.39				1,357.28	196.90	1,554.18
Part of										
SE Section 26	Crown	S15B bS	14	5.47	74.40	0.30	74.70	406.88	1.64	408.52
		S15C jP	14	5.47	98.70	8.21	106.91	539.77	44.90	584.67
		HS15C 1A jP	30	11.72	37.81	67.98	105.79	443.09	796.65	1,239.74
		Total Wooded	58	22.66						
		Clear Muskeg	6	2.34						
		Total Non Wooded	6	2.34						
		Total Area	65	25.39				1,389.74	843.19	2,232.93
Part of										
SW Section 27	Crown	S10A jP	40	15.63	28.88	1.65	30.53	451.26	25.78	477.04
		S10C jP	3	1.17	41.93	1.37	43.30	49.14	1.61	50.74

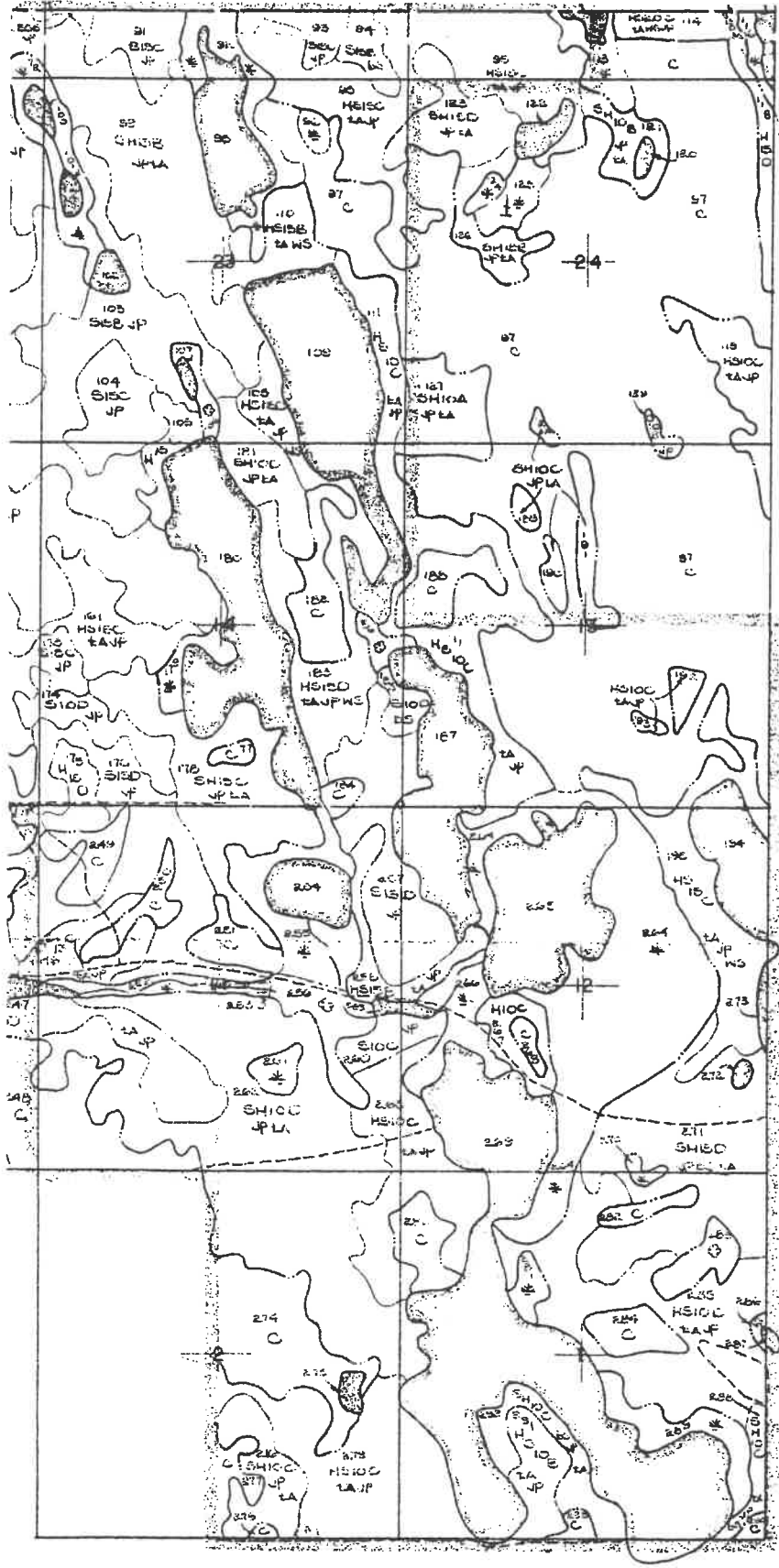
Township 50 Range 7 West of the Third										
Location	Ownership	Cover Type	Dots	Fur Lakes Study Area			Per/Hectare			Total Volume
				Area	Softwood Volume	Per/Hectare Softwood	Hardwood Volume	Per/Hectare Hardwood	Total Volume	
		S15B jP	4	1.56	70.32	2.69	73.01	108.88	4.20	114.08
		S15C bS	3	1.17	109.66	6.67	116.33	128.51	7.82	136.33
		HS15C tA jP	10	3.91	37.81	67.98	105.79	147.70	265.55	413.25
		H15B tA	1	0.39	6.89	68.70	75.59	2.69	26.84	29.53
		Total Wooded	61	23.83				889.17	331.79	1,220.96
		Clear Muskeg	4	1.56						
		Total Non Wooded	4	1.56						
		Total Area	65	25.39						
Part of SE Section 27	Crown	S5B jP	5	1.95	8.95	0.03	8.98	17.48	0.06	17.54
		S10A jP	1	0.39	28.88	1.65	30.53	11.28	0.64	11.93
		S10C jP	13	5.08	41.93	1.37	43.30	212.93	6.96	219.89
		S15B jP	5	1.95	70.32	2.69	73.01	137.35	5.25	142.60
		S15C bS	7	2.73	109.66	6.67	116.33	299.86	18.24	318.09
		S20B jP	6	2.34	93.89	7.12	101.01	220.06	16.69	236.75
		SH15B jP tA	10	3.91	39.19	16.12	55.31	153.08	62.97	216.06
		H15B tA	9	3.52	6.89	68.70	75.59	24.22	241.53	265.75
		Total Wooded	56	21.88				1,076.26	352.34	1,428.60
		Clear Muskeg	4	1.56						
		Total Non Wooded	4	1.56						
		Total Area	60	23.44						
Part of SW Section 28	Crown Lease	HS15C tA jP	46	17.97	37.81	67.98	105.79	679.41	1,221.53	1,900.94
		H10B tA	1	0.39	12.76	30.90	43.66	4.98	12.07	17.05
		H15B tA	2	0.78	6.89	68.70	75.59	5.38	53.67	59.06
		Total Wooded	49	19.14				689.77	1,287.27	1,977.05
		Clearing	8	3.13						
		Clear Muskeg	1	0.39						
		Total Non Wooded	9	3.52						
		Water	2	0.78						
		Total Area	60	23.44						
Part of SE Section 28	Crown	HS15C tA jP	51	19.92	37.81	67.98	105.79	753.26	1,354.31	2,107.56

Township 50 Range 7 West of the Third

Location	Ownership	Cover Type	Dots	Fur Lakes Study Area			
				Per/Hectare	Per/Hectare	Per/Hectare	Per/Hectare
			Area	Softwood Volume	Hardwood Volume	Total Volume	Total Volume
Total Wooded			19.92				
Clearing			0.39				
Clear Muskeg			2.73				
Brush			1.95				
Total Non Wooded			5.08				
Water			0.39				
				753.26	1,354.31		2,107.58

FUR LAKE STUDY AREA – TIMBER STAND





Appendix B:
Fur Lake - Bird Inventory

The following are species of birds seen in the immediate vicinity of Fur Lakes by Darlene and Jim Hay between 1992 and 1997 during visits to their cabin on Fur Lake:

Common Loon	Red-eyed Vireo
Yellow-billed Loon	Yellow Warbler
Red-necked Grebe	Cape May Warbler
Eared Grebe	Yellow-rumped Warbler
Western Grebe	Palm Warbler
American White Pelican	Black-poll Warbler
Double-crested Cormorant	Black And White Warbler
American Bittern	American Redstart
Great Blue Heron	Ovenbird
Great Egret	Common Yellowthroat
Tundra Swan	Chipping Sparrow
Greater White-fronted Goose	Clay-colored Sparrow
Canada Goose	Vesper Sparrow
Green-winged Teal	Savannah Sparrow
Mallard	Fox Sparrow
Northern Pintail	Song Sparrow
Northern Shoveler	White-throated Sparrow
Lesser Scaup	White-crowned Sparrow
Common Goldeneye	Harris' Sparrow
Bufflehead	House Sparrow
Common Merganser	Common Redpoll
Osprey	Pine Siskin
Bald Eagle	American Goldfinch
Northern Harrier	American Kestrel
Northern Goshawk	Merlin
Swainson's Hawk	Spruce Grouse
Red-tailed Hawk	Ruffed Grouse
Common Nighthawk	American Coot
Golden Eagle	Sandhill Crane
Piliated Woodpecker	Killdeer
Downy Woodpecker	Common Snipe
Hairy Woodpecker	Franklin's Gull
Three-toed Woodpecker	Bonaparte's Gull
Eastern Phoebe	Ringed-billed Gull
Great-crested Flycatcher	California Gull
Eastern Kingbird	Herring Gull
Tree Swallow	Common Tern
Barn Swallow	Forester's Tern
American Tree Swallow	Black Tern
Gray Jay	Rock Dove
Blue Jay	Mourning Dove
Black-billed Magpie	Great-horned Owl
American Crow	Great Gray Owl
Northern Raven	Common Nighthawk
Black-capped Chickadee	Ruby-throated Hummingbird
Boreal Chickadee	Belted Kingfisher
Red-breasted Nuthatch	Yellow-bellied Sapsucker
White-breasted Nuthatch	Northern Flicker
House Wren	Dark-eyed Junco
Sedge Wren	Snowbunting
Marsh Wren	Red-winged Blackbird
Ruby-crowned Kinglet	Yellow-headed Blackbird
Mountain Bluebird	Western Meadowlark
Swainson Thrush	Brown-headed Cowbird
Hermit Thrush	Pine Grosbeak
American Robin	Purple Finch
Cedar Waxwing	Common Redpoll
Warbling Vireo	

Appendix C:

Fur Lake - Surface Water Recreational Area For Boating

RECREATIONAL AREA OF FUR LAKE

The recreational area reported was determined for the Management Plan document as a guideline only, and should not be used as a basis for planning the lakes' carrying capacity.

The accuracy of the determination is limited by the following factors:

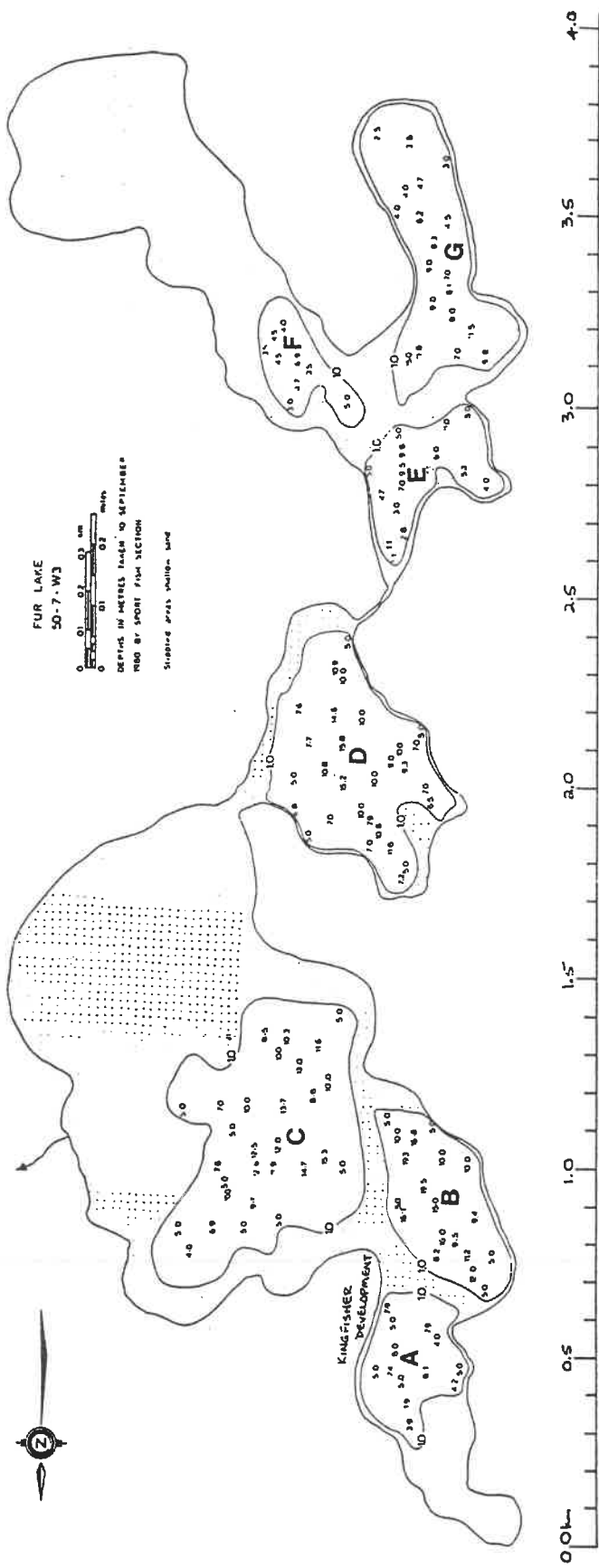
- The area was determined from a 1980 depth sounding map prepared by the then Sport Fishing Division of Saskatchewan Parks and Renewable Resources.
- Nothing is known about the accuracy of the instruments used or the method of plotting the depths measured on the map.
- The source of the base plan of the lakes is also not known although it was most likely a tracing of an air photograph taken prior to 1980.
- The map had been photocopied and faxed at least once respectively, therefore the scale had to be determined by calculation. Even so, there is potential for distortion that cannot be estimated or corrected.

The total area one metre deep or greater was measured in segments by electronic planimeter and converted to square kilometres via a square one kilometre per side drafted in the calculated scale of the map (1:11,450).

The segmental areas were as follows:

Segment	A	B	C	D	E	F	G	Total
km ²	0.0846	0.1167	0.3068	0.2000	0.0781	0.0507	0.1586	0.9955

The area of the lakes one metre deep or greater was approximately 1 km² in 1980.



Appendix D:
Fur Lake - Fish Carrying Capacity

FUR LAKE - FISHERIES CARRYING CAPACITY

Fish Productivity Estimates:

Fish productivity in Fur Lake is based on general sustainable yield estimates for small (< 1000 ha) sedimentary lakes in Saskatchewan (Murray, 1985) and for lakes in the watershed where Fur Lake is located (Chen, 1992). These productivity estimates by fish species are given below in kg/ha.

Fish Species	Estimate 1 (Murray, 1985)	Estimate 2 (Chen, 1992)	Average Estimate (kg/ha)
Walleye	1.4	2.8	2.1
Northern Pike	3.5	4.6	4.1
Whitefish	1.2	2.8	2.0

Annual Fish Production:

Annual fish production is determined by multiplying the (average) productivity estimate by the area of Fur Lake (ie. 245 ha). To maintain long-term sustainable fish populations through natural processes and without relying on supplemental fish stockings, the following production levels should not be exceeded:

Walleye	-	520 kg/yr
Northern Pike	-	1000 kg/yr
Whitefish	-	500 kg/yr

Angler Harvest Limits:

Angler harvest limits are determined by multiplying provincial angling (possession) limits by the average size of fish found in Fur Lake (based on the 1996 test netting results), see below:

Fish Species	Angling Limits (# Fish)	Average Fish Size (kg)	Harvest Limit (kg)
Walleye	5	1.1	5.5
Northern Pike	6	0.7	4.2
Whitefish	8	1.6	12.8

Number of Angler-Days:

The number of angler-days supported by a sustainable fishery is determined by dividing the annual fish productions by the angler harvest limits. The number of angler-days (rounded-up to the nearest 10 days) supported by each species is given below:

Walleye	-	100 angler-days
Northern Pike	-	240 angler-days
Whitefish	-	40 angler-days

Since anglers may take or be in possession of full limits of all fish species on any day legally fished, it is prudent to define fisheries carrying capacity by the limiting species. As shown above, the limiting species is whitefish; however, this species is not sought by anglers on Fur Lake. Consequently, it is recommended that the fisheries capacity be based on walleye as the limiting species and be limited to a maximum of 100 angler-days. (One hundred angler-days means 100 anglers fishing for one day each).

SUMMARY - FISHERIES CARRYING CAPACITY:

The recommended fisheries carrying capacity for Fur Lake is 100 angler-days.

In terms of how many cabins or cottages should be allowed on the lake, it must be assumed that **all** 100 angler-days are used exclusively by cabin owners and by the relatives, friends, and renters who visit and/or stay overnight. And, assuming that each cabin on average accounts for at least 10 angler-days per year (a low fishing pressure), **the fisheries carrying capacity is 10 cabins.**

[If fishing pressure is considered to be even less than stated above, for example five angler-days per cabin, then the number of allowable cabins could be higher. However, it should be realized that other users such as campers and day-use anglers will and do fish the lake and that they have not been accounted for in the above calculation.]

The advisory committee should also be aware that if the carrying capacity has been exceeded, which appears to be the case since there are now 12 or 13 cabins on the lake, then application can be made through the regional fishery biologist to reduce angling limits on Fur Lake. It should be further understood that application to go to one of the three "catch-and-release" designations, described on the fold out page of the Anglers' Guide, is for the purpose of maintaining high angling quality and is not to allow for excessive lake development.]

References:

Murray, A.R. 1985. Estimated Sustained Yields and Supplies of Fish in Saskatchewan Lakes. Fish. Technical Report 85-5.

Chen, M. 1992. Proposed Total Allowable Catches for 1,316 Saskatchewan Lakes. Fish. Technical Report 92-1.

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