La Ronge Integrated Land Use Management Plan

Background Document

BACKGROUND DOCUMENT
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THE LA RONGE PLANNING AREA — A DESCRIPTION

The purpose of this chapter is to provide a general description of the La Ronge Planning Area and its natural, heritage, and recreational resources. Historical information and population characteristics are also presented. A brief discussion also highlights various uses and values of the area's land and resources.

Chapter 1 - The La Ronge Planning Area

The La Ronge Integrated Land Use Management Plan (the Plan)has been prepared for an area that covers approximately 66,700 hectares (ha) of land and water (See Figure 1-1). This planning area is an approximate 20 kilometre-wide corridor along Highway #2 (i.e., generally 10 kilometres on either side of the Highway) for an approximate north-south distance of 60 kilometres. The corridor extends northward from the Highway #165 Creighton turnoff to the Nemeiben Lake access. From Nemeiben Lake to the mouth of the Bow River, the eastern edge of the planning area shares a boundary with Lac La Ronge Provincial Park. This boundary then follows the Bow River south to Highway #165. The southern boundary is defined by Highway #165 and Highway #2, while the western boundary follows the western edge of forest inventory map sheet Z13 E47 N607 from Highway #2 to the south end of Bigstone Lake and then follows the eastern and northern shorelines of Bigstone Lake, extends along the Montreal River, and continues along the eastern and northern shorelines of Egg Lake. The boundary then works its way to the southwest shore of Nemeiben Lake encompassing an area of wetland fen. The northern boundary of the Plan is defined by the south shore of Nemeiben Lake.

Three major northern communities — the Lac La Ronge Indian Band; the Northern Village of Air Ronge; and the Town of La Ronge — are situated within the boundaries of the planning area. The following Reserves of the Lac La Ronge Indian Band are included among these communities:

- Lac La Ronge Reserve #156 (includes Far Reserve, Fairchild Street and Bell's Point);
- Potato River #156A;
- Kitsakie #156B (includes Morin's Hill, Charles Street, Jack Pine, 101, Bigstone and Big Rocks);
- Little Hills #158;
- Little Hills #158A; and
- Little Hills #158B.

Parcels of private titled land and a number of residential, recreational, and agricultural subdivisions and special management areas are also found in the planning area (See Figure 1-1 in Appendices 1). These areas, which are not incorporated within the boundaries of any of the local communities, include the following:

- Napatak Recreation Subdivision;
- Potato Lake Rural Residential Subdivision;
- Lamp Lake Special Management Area;
- Rabbit Creek Special Management Area; and
- Eagle Point Subdivision.

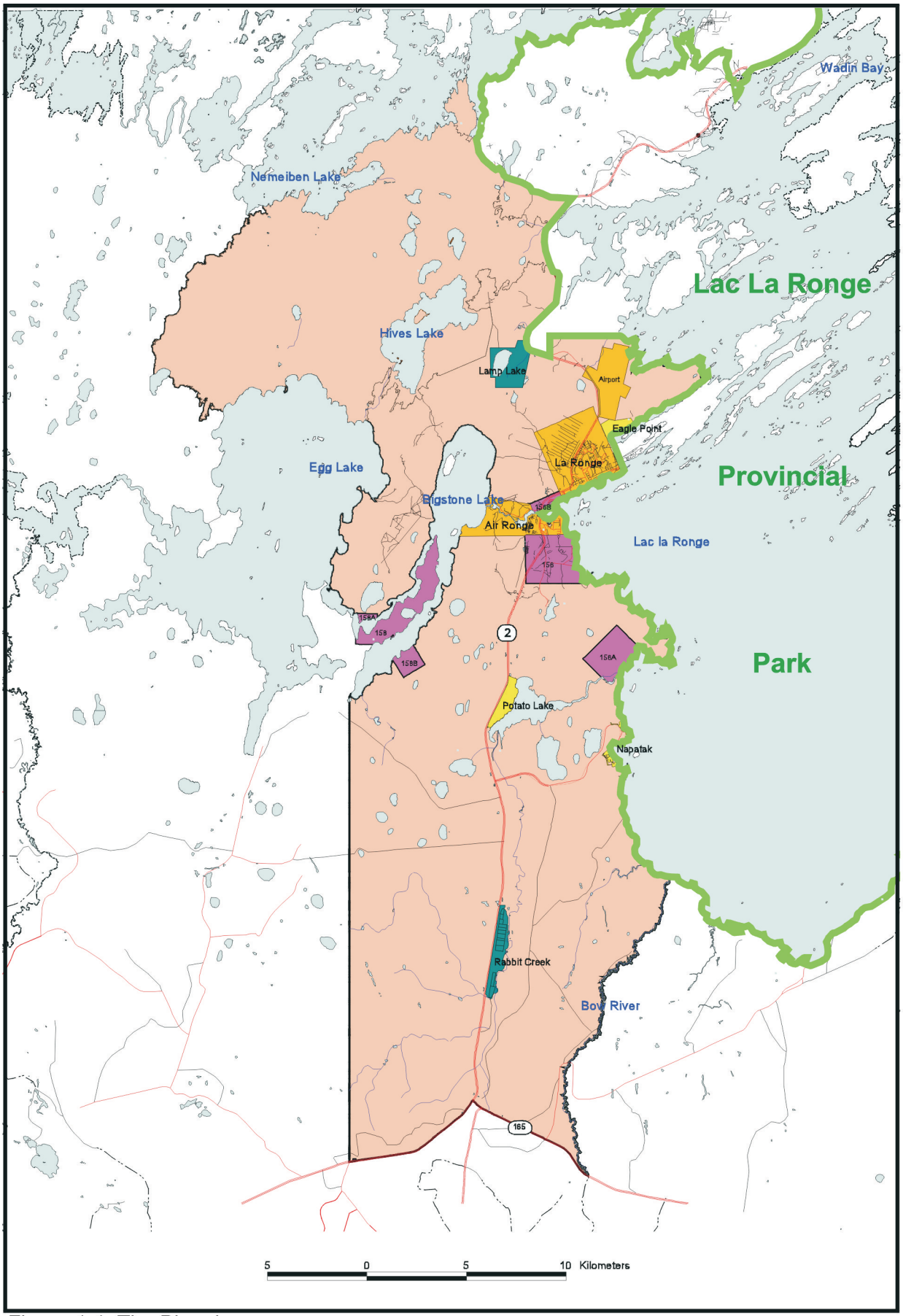

Figure 1-1 The Planning area.

Two subdivisions and several First Nations and municipal communities are situated adjacent to, or in the vicinity of, the planning area. These additional developed areas include the English Bay and Wadin Bay subdivisions, the Northern Hamlet of Missinipe and the Northern Settlement of Stanley Mission, and the following Reserves of the Lac La Ronge Indian Band:
Nemeiben River #156C; Stanley Missions #157; Stanley Mission #157A (including Nistowiak Falls); Grandmother's Bay #219; and Morin Lake #217 (including the Hall Lake and Sikachu Lake communities) (See Figure 1-1 in the Management Plan).

Chapter 2 - Ecological and Natural Resource Description

2.1 Landscape Area Description[1]

The La Ronge Planning Area extends across two ecoregion landscape areas — the Sisipuk Plain Landscape Area of the Churchill River Upland Ecoregion in the north and the La Ronge Lowland Landscape Area of the Mid-Boreal Upland Ecoregion in the south (Appendix 1 illustrates the location of the La Ronge Planning Area in relation to the Churchill River Upland and Mid-Boreal Upland Ecoregions.)

2.1.1 Sisipuk Plain Landscape Area

The Sisipuk Plain Landscape Area is predominantly a bedrock area dominated by outcrops of ice-scoured crystalline Precambrian rocks. The topography is gently sloping ranging in elevations of approximately 500 metres to less than 350 metres. Brunisolic soils predominate across the landscape on sandy and bouldery glacial tills, as well as on sandy and gravelly glaciofluvial deposits. Gray Luvisols occur on well drained, silty, and clayey glaciolacustrine deposits. Gleysols, Organics, and Cryosols are found in the poorly drained swales and flats (Acton, Padbury, and Stushnott, 1998).

2.1.2 La Ronge Lowland Landscape Area

This landscape area features a gently undulating to moderately rolling landscape that slopes northward from an elevation of 535 metres at the base of the Wapawekka Hills to 400 meters at the southern edge of the Boreal Shield EcoRegion. Surface deposits of sandy loam glacial till are found in the area between Lac La Ronge and Pinehouse Lake, while sandy glaciofluvial deposits are found further to the south. Poorly drained fens and bogs cover 40% of this landscape area (Acton, Padbury, and Stushnott, 1998).

2.2 Forest Resources

The northern portion of the planning area, which lies within the Sisipuk Plain Landscape Area, consists of a variety of coniferous and mixed-wood tree species. Pure stands of black spruce and/or jack pine are found in sandy glacial till areas, with jack pine being found on very thin soils associated with bedrock outcrops. Clayey glaciolacustrine materials support trembling aspen, white birch, balsam poplar, jack pine, and white and black spruce, while small trembling aspen stands are found on well-drained, south facing slopes along rivers. Other tree species found in this landscape area include willow, green alder, and tamarack (Acton, Padbury, and Stushnott, 1998).

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[1] Sections 2.1 and 2.2 provide a brief overview, respectively, of the landscape areas and forest resources found in the La Ronge Planning Area.) The 1998 document, *Ecoregions of Saskatchewan*, prepared by D.F. Acton, G.A. Padbury, and C.T. Stushnoff, was used to prepare these sections of Chapter 2. This publication is available through Saskatchewan Environment offices located throughout the province.

In the southern portion of the planning area, jack pine is the predominant species on the dry, sandy glacial tills of the La Ronge Lowland Landscape Area. An understory of lichens or feather mosses is found in the jack pine forest. Tamarack and black spruce grow in the more poorly drained areas (Acton, Padbury, and Stushnott, 1998).

In addition to the more commonly recognized species in the boreal forest, the planning area supports a wide variety of understory vegetation. A full inventory has not been completed, however the planning area supports many species of shrubs, herbs, mosses, lichens, grasses, sedges, and fungi, all important to the functioning ecosystems within the area.

Appendix 2 provides a listing of the common and scientific names of various vegetation species found within the La Ronge Planning Area.

2.3 Water Resources

Although its true value is extremely difficult to quantify, water plays an integral role in many activities both within and outside the forest. It is important to provide proper management from both quantity and quality perspectives.

The planning area is part of the Churchill River drainage system. Hives Lake and associated unnamed lakes drain into Nemeiben Lake and Lac La Ronge, while Highway Creek and associated unnamed lakes drain into Potato Lake that also drains into Lac La Ronge. The Bow River, which acts as the southeastern boundary of the planning area, drains into the southern basin of Lac La Ronge.

2.4 Geology

Precambrian-aged intrusive, volcanic, and sedimentary rocks of the Canadian Shield underlie the northern portion of the plan area. The southern part is underlain mainly by sandstones of the Cretaceous-aged Mannville Group of the Western Canada Sedimentary Basin. Phanerozoic sedimentary rocks in the southern portion of the area overlie Precambrian Shield rocks that outcrop to the north. The contact between the two sequences runs east-west through Egg Lake and then southeast across Lac La Ronge to Wapawekka Lake. A thin veneer of glacial material commonly covers the bedrock in the region.

The Phanerozoic rocks of Cretaceous, Devonian, and Cambrian ages consist of quartzose sandstones, shales, mudstones, dolomites, limestones, and lignite coals. These rocks have potential for economic deposits of base metals (lead, zinc), lignite coal, kaolin, limestone, and silica sand. Kimberlites, host rocks of diamond deposits, may also exist in the area.

Precambrian Shield rocks are part of the La Ronge domain, an approximately 50 km wide by 275 km long belt of regionally metamorphosed volcano-sedimentary supracrustal rocks trending from Lac La Ronge to Reindeer Lake. The supracrustals are enclosed and intruded by plutonic rocks ranging in composition from granite to gabbro. The belt has been metamorphosed at temperatures of 400 - 600^{o}C during Hudsonian mountain

building processes. This metamorphism has resulted, along with major tectonic pressures (folding/faulting) in the destruction of most depositional features. Tectonic overprints of the supracrustals by plastic to brittle deformation are pervasive. Figure 2-1 presents the geology and mineralization of the La Ronge Planning Area.

2.5 Wildlife Resources

The La Ronge Planning Area hosts a wide range of wildlife species, many of which the Aboriginal residents of the area depend on to support a traditional lifestyle. The information presented below is intended to provide a brief overview of the diversity of wildlife within the planning area. Appendix 2 provides a listing of the common and scientific names of various mammal and bird species found within the La Ronge Planning Area.

Moose

Moose are found along rivers and lesser drainage areas, trails, cut-lines, cut-overs, and burns where willows, young birch and aspen, alder and other shrubs, or jackpine seedlings are available for browse. The density of the moose population ranges from 0.02 to 0.25 moose per square kilometre (Tim Trottier, personal communication).

Woodland Caribou

Woodland caribou are found clumped in areas of preferred habitat, in bands or family groups of 2 -15 animals, or solitary, depending on the season. The density of woodland caribou ranges from 0.01 to 0.05 caribou per square kilometre (Tim Trottier, personal communication). This caribou species prefers extensive lowland muskegs, dense coniferous forest, sedge meadows, and associated lakeshore where ground and tree lichens are common. The Hives Lake area is valuable caribou habitat for calving purposes. (See Appendix 5, Woodland Caribou Sensitive Resource Zone, for further information regarding the Hives Lake area and the woodland caribou.) The Committee on the Status of Endangered Wildlife in Canada (COSEWIC) has designated the boreal population of woodland caribou as **threatened.**

Wolf

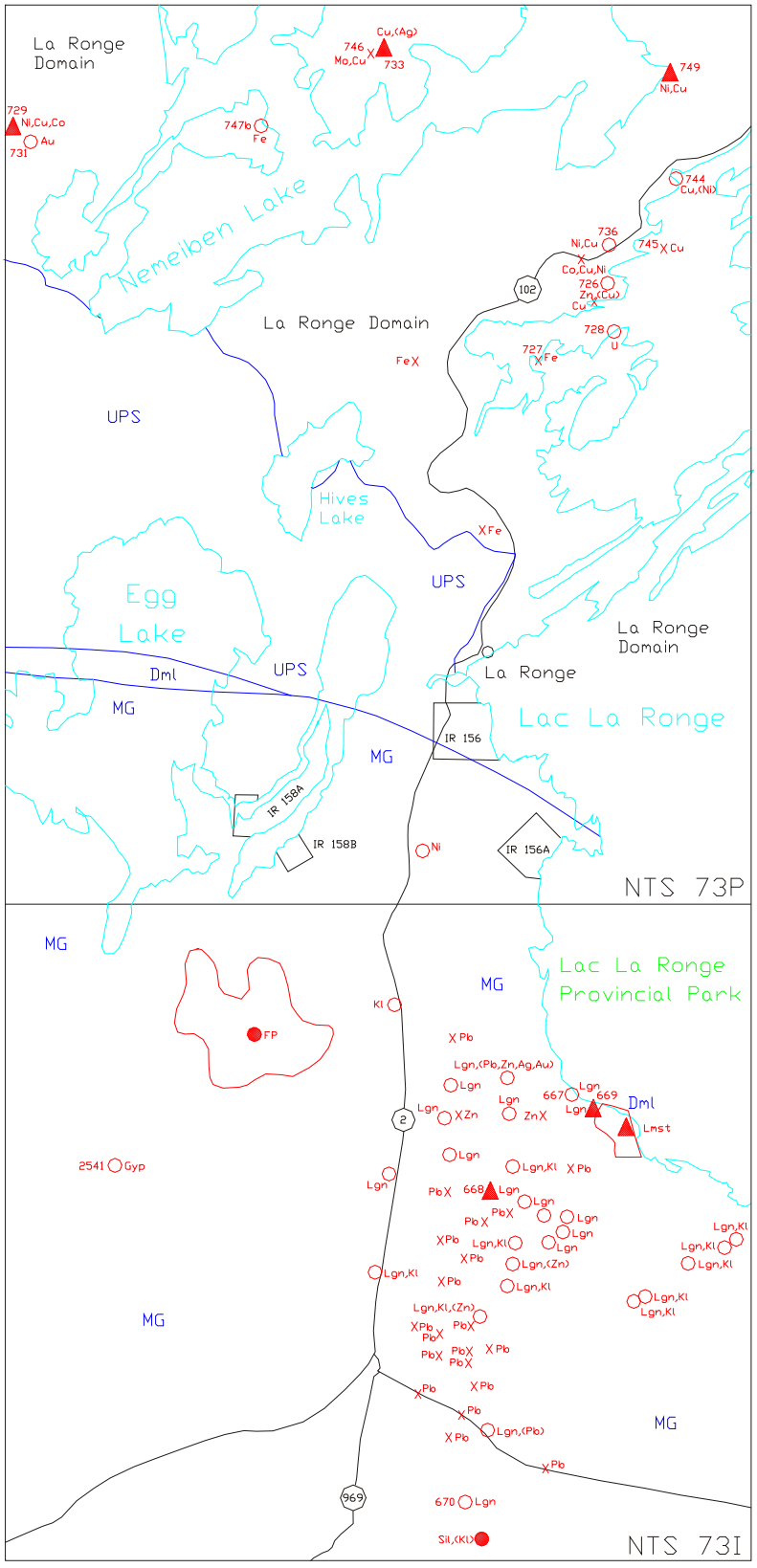
Few reports of wolves and problem wolves suggest a low population in the planning area, not surprising considering low numbers of its main prey species of moose, caribou, and beaver.

Lynx

Lynx are evenly distributed throughout the planning area in association with numerous micro-habitats of snowshoe hare. The lynx population rises and falls over a ten year cycle. Lynx are highly valued for trapping purposes.

Wolverine

Truly a symbol of the north, this widely ranging scavenger is most likely to be detected on the ice of creeks and rivers, lake margins and wherever trappers run their lines. Wolverines are a valuable furbearer. The Committee on the Status of Endangered Wildlife in Canada (COSEWIC) has designated the western population of the wolverine as a **species of special concern** (COSEWIC, May 2000).



LEGEND

Quaternary

UPS Pleistocene glacial drift

Cretaceous

MG Mannville Group: sandstone, shale, and lignite coal

Devonian

Dml Meadow Lake Formation; Lower Member: carbonate sedimentary rocks

Paleoproterozoic

La Ronge Domain: belts of relatively low metamorphic grade volcanic and minor sedimentary rocks with mafic to felsic intrusive rocks

Commodity Symbols

Ag	Silver	Lmst	Limestone
Au	Gold	Mo	Molybdenum
Co	Cobalt	Ni	Nickel
Cu	Copper	Pb	Lead
FP	Fuel peat	Sil	Silica
Fe	Iron	U	Uranium
Gyp	Gypsum	Zn	Zinc
Kl	Kaolin		
Lgn	Lignite coal		

Mineralization Symbols

▲ Developed prospect with reserves

● Mineral prospect

○ Mineral occurrence

X Bedrock geochemical anomaly

733 Saskatchewan Mineral Deposit Index reference number

Principal Deposits

668	Bow River Coal
669	Bow River Coal
Lmst	High-Purity Limestone
729	Howard Lake (Ni,Cu,Co)
733	Elizabeth Lake (Cu,Ag)
749	Dunlop (Ni,Cu)

Figure 2-1 Regional Geology and the mineralization of the La Ronge planning area.

Fisher
Fisher, a valuable furbearer, are found in mixed forest, in younger age stands close to creeks and rivers wherever small game is abundant. Trapping records suggest a healthy population in the area, making a comeback from previous lows (probably from heavy trapping pressure).

Otter
The otter, found along creeks, rivers and lakes, is a valuable furbearer, and is also attractive to visitors who enjoy opportunities to view while boating or canoeing.

Beaver
The beaver is the largest North American rodent and an important Saskatchewan furbearer. Aspen, willow, birch, and numerous species of aquatic plants comprise the majority of their diet and provide the raw materials for dam building and lodge construction. Beaver play an important role in maintaining the diversity of aquatic environments by creating ponds, altering the flow of waterways, and returning important nutrients back into streams. Although fur prices are currently low, beaver remain an important source of income for northern trappers. Negative costs related to beaver activity include the plugging of culverts, which results in the flooding of roadways and merchantable timber and the disruption of some fish spawning activity.

Black bear
Black bear are found foraging on green shoots of shrubs and forbs in spring, close to water but usually on uplands, and often close to settlements, and in berry patches in summer and fall.

Other Furbearers
In addition to those mentioned above, the following is a list of furbearing animals abundant to the planning area: red fox; pine marten; mink; muskrat; red squirrel; and the short-tailed weasel.

Birds
Upland habitats in the planning area are occupied by a variety of cavity-nesting birds that use dead tree snags for nests. These include year-round residents such as black-capped chickadees, northern three-toed woodpeckers, pileated woodpeckers, boreal and barred owls, and seasonal breeding residents such as red-breasted nuthatches, northern flickers, tree swallows, belted kingfishers, and common goldeye and bufflehead ducks. Ground nesting species include spruce and ruffed grouse, nighthawks, and bank swallows.

Representative nesting birds found throughout the planning area include a variety of warblers (Connecticut, Cape May, mourning, bay breasted, black and white, magnolia, and chestnut sided) whose nesting range is restricted to the two ecozones of the planning area. Birds on the northern or southern edge of their range include ruby-crowned kinglets, swamp sparrows, wood thrushes, cedar waxwings, blue jays, sharp-tail grouse, ptarmigan, and Cooper's hawks.

Birds that depend on lowlands with associated watercourses and lakes for nesting and

summer range include sandhill cranes, Canada geese, great blue herons, loons, grebes, and pelicans. Birds that depend heavily on riparian areas, adjacent forest and aquatic habitat include bald eagles, osprey, red-breasted mergansers, belted kingfishers, and great grey owls.

Other common bird species include red-tailed hawks, great horned owls, ravens, Canada jays, mallards, spotted sandpipers, robins, yellow-bellied sapsuckers, white-throated sparrows, and yellow-rumped warblers.

Rodents, reptiles, amphibians and non-game species
In addition to the more commonly recognized species in the boreal forest, the planning area supports a wide variety of smaller animal species. Although a full inventory has not been completed, numerous small animals and insects continue to be important to healthy ecosystem functioning.

Species At Risk
Two wildlife species found in the La Ronge Planning Area have been designated as Canadian species at risk by the Committee on the Status of Endangered Wildlife in Canada (COSEWIC). COSEWIC has designated the boreal population of the woodland caribou as **threatened** and the western population of the wolverine as a **species of special concern** (COSEWIC, May 2000).

2.6 Fish Resources

The main lakes in the Lac La Ronge Planning Area are Potato and Hives Lakes. There are also several unnamed lakes, insignificant in terms of fisheries potential.

Fish species known to occur in the planning area include; northern pike, walleye, sauger, burbot, lake whitefish, lake trout, arctic grayling, common cisco, common white sucker, longnose sucker, yellow perch. As well the following minnow species are known to occur within the planning area; fathead minnow, trout perch, log perch, nine spine stickleback, three spine stickleback, brook stickleback, spottail shiner, blacknose shiner, emerald shiner, Iowa darter, johnny darter, lake chub, creek chub, longnose dace, deepwater sculpin, and slimy sculpin. Appendix 2 provides a listing of the common and scientific names of various fish species found in the waters of the La Ronge Planning Area.

Potato Lake, 640 ha in size, drains into Lac La Ronge via the Potato River, a 4 km stretch that includes two sets of non-navigable rapids. Tobacco and Highway Creeks drain into Potato Lake. The lake is mostly shallow, between 0 and 5 m in depth, and is considered an ideal natural rearing pond for fish fry, before they migrate into Lac La Ronge. This drainage basin was once a major walleye run; as many as 40,000 walleye migrated each spring into Tobacco and Highway creeks in the 1950s. A variety of man-made impacts such as road building, access, and an increase in population decimated the run by the 1970s. An enhancement project on an area of Tobacco Creek substrate and numerous stocking of walleye fry into the system has had limited success.

The Bow River, draining into the southern portion of Lac la Ronge, makes up part of the planning area boundary. This river is not a major walleye spawning run, but does attract anglers at the mouth of the river looking for walleye in the spring.

The Bow River was stocked with various amounts of grayling between 1952 and 1962, but anglers did not report catching grayling until 1970. A test-netting study in 1973 confirmed that a naturally occurring population was present. In 1985 and 1986, 50,000 and 12,500 grayling, respectively, were stocked in the river. In 1989 the Bow River was stocked, for the last time, with 12,000 grayling. Although the grayling attracted occasional anglers to the Highway #165 bridge crossing during the 1980s, there is little interest in the fishery today.

Chapter 3 - Existing Resource Uses and Values

The land and resources of the La Ronge Planning Area generate a variety of environmental, economic, and social benefits. These resources provide a number of different uses or values for area residents, visitors to the area, and other residents of Saskatchewan. The intent of the following discussion is to provide a better understanding of these uses and values. This discussion cannot describe all of these uses and values nor can it present information in the fullest detail. However, a basic introduction is presented as to the extent of the diversity of these different uses and values.

The intent is to also provide an appreciation of the competing, and sometimes complementary, nature of these different uses. The reader is provided with the basic understanding that decisions must be made about the allocation of scarce resources (i.e., the land and resources) to various uses as a means to optimize economic, environmental, and social benefits. The management guidelines presented in the Plan play a key role in making these allocation decisions.

The uses of the land and resources of the planning area consist of those that are both traditional and contemporary in nature. For example, subsistence hunting, fishing, and trapping activities are still practiced by the Aboriginal residents of the area. In addition, more contemporary activities such as major resource extraction industries (i.e., forestry), wild rice production, mineral industry development, and various recreational and tourism activities (e.g., outfitting, sport fishing, sport hunting, and snowmobiling) are common to the planning area.

These numerous uses of the planning area's land and resources provide different values for different people. These values can be of a scientific, ecological, aesthetic, cultural, or economic nature and can be generally described as the following:

Ecological Values: Natural events that take place in soil, air, or water and that involve vegetation, animals and non-living things, are vital to the maintenance of a healthy environment. These ecological processes include: the filtering effect of vegetation cover to promote nutrient cycling and to clean air and water of pollutants; fire, insects and disease that remove over mature forest stands and allow them to be replaced by new growth, and release nutrients, bound up in old growth, to air, water and soil; spring flooding to flush the land and carry nutrients to the water surface, shorelines and banks; oxygen production by forest trees and other plants; and carbon storage in trees.

Aesthetic Values: The planning area has remained relatively unchanged over time, despite resource use activities occurring along the highway, and expanding settlement near Lac La Ronge. There are opportunities to appreciate the beauty of boreal forests, northern lakes, unspoiled winter wilderness settings, and the sights and sounds of a full complement of boreal forest wildlife.

Cultural Values: People from many cultural backgrounds reside in and benefit from the planning area. Most prominent among these are the aboriginal cultures: the First Nations and Métis. The rich cultural traditions of the Woodland Cree, Métis, and, in ancestral times, the Dene, strongly reflect the natural features and processes of the area. People from other cultures moving to this area have often adopted these traditions or aspects of them to help adapt to living in a new environment. People who live in a forested area tend to have a deep respect for its value in their lives.

Scientific Values: Within the planning area there are many opportunities to study nature and contribute valuable knowledge to the study of natural processes, the status of renewable and non-renewable resources, and the presence of rare or unique plant and animal species. By examining ecological processes in their natural state, we can better understand complexities of the environment and improve management and restoration methods.

Economic Values: The economic value of the uses of land and resources are those values that can be described in dollar terms. These dollar values help to account for the additional wealth that can be generated by a particular activity and that can be added to the economy of a defined region. These values are also an indicator as to how the benefits or impacts of an economic activity are distributed throughout an economy in terms of employment, income, and levels of output.

Various uses and values of the planning area's land and resources are described below. In most instances, these uses and values are described in economic or dollar terms. Often the information that is the most available and the easiest to interpret is that of an economic nature. However, this should not be interpreted to mean that economic information is the most important to consider when making allocation decisions. Economic value is only one perspective, among many that should be taken into consideration.

3.1 Timber

Harvest Volume Schedule (HVS) is the amount of wood fibre that can be harvested annually from the existing forest without jeopardizing long run sustainability of the timber supply. Based on the current inventory data base, the La Ronge Planning Area supports an estimated HVS of 17,580 cubic metres (m^3) of softwoods, and 6,215 m^3 of hardwoods. However, not all of this volume will be available for timber production. For example, areas may be excluded for reasons that develop as a result of the La Ronge Land Use Planning process (e.g., designation of protection zones or sites that may prohibit or limit harvesting activities).

Weyerhaeuser Canada has had the right to harvest timber in the planning area from 1986 to March 1999. This company's Forest Management Licence Agreement (FMLA) covered the central part of the Commercial Forest Zone, including the La Ronge Planning Area. Other forest harvesting in the area was authorized through annual permits issued to the Zelensky Brothers Sawmill, other small operators, and local residents who use timber mainly for fuel wood purposes.

In March of 1999, the Saskatchewan government announced that the right to harvest timber within the planning area was to be reallocated from Weyeryhaeuser Canada to another potential Forest Management Agreement (FMA) holder as part of a larger initiative to provide much needed economic and social development within northern Saskatchewan. A partnership between the Zelensky Brothers Sawmill and Kitsaki Management Limited Partnership (on behalf of the Lac La Ronge Indian Band) has been formed. This partnership is presently working toward the development of a Forest Management Agreement (FMA) for an area that includes the entire planning area and other provincial lands lying to the northwest and southeast. This partnership is intended

to increase timber harvesting activities in the La Ronge area, as well as, allow for the development of a new sawmill and increased opportunities for value-added production. The anticipated economic spinoff from this partnership is expected to result in as many as 600 new jobs in the La Ronge area.

3.2 Non-Timber Forest Products

Various non-timber forest products are harvested within the planning area. One such product is wild mushrooms that are found in the sparse jackpine stands. In particular, chanterelle and pine mushrooms have been extensively harvested in the Meeyomoot area that lies partially in the southern portion of the La Ronge Planning Area. One of the more productive annual harvests in this area yielded approximately 50,000 pounds of mushrooms. Morel mushrooms is another commercial mushroom species that is harvested in Northern Saskatchewan. These mushrooms may appear in the first year after a forest fire. Other non-timber forest products found within the planning area include wild berries (blueberries and lowbush cranberries), green moss, lichens, birch bark, and medicinal plants such as Labrador tea and bearberry.

3.3 Trapping

Trapping and trading for furs started in the planning area in the early 1800s. Since the early 1980s, trapping has diminished in economic significance throughout northern Saskatchewan due to changes in lifestyle for some aboriginal people, less demand and lower prices for pelts due to pressures from anti-trapping groups, and the loss of several key fur buyers. However, in the planning area, young people continue to join trapping blocks, perhaps reflecting their desire to retain traditional lifestyles. Fur bearers trapped include muskrat, fisher, mink, squirrel, marten, weasel, fox, lynx, beaver, otter, and wolf.

The La Ronge Planning Area presently includes portions of the N-5, N-6, and N-7 Fur Conservation Areas. Figures 3-1 and 3-2 highlight, respectively, the total dollar value and the total number of fur pelts harvested in these trapping areas for the 18-year period extending from the 1981/1982 fiscal year to 1988/1999, inclusive.[2] Figure 3-1 indicates that the total value of all fur harvested in these three Fur Conservation Areas increased steadily from over $125,000 in 1981/1982 to over $150,000 in 1986/1987, after which the total value of the fur harvest continued to decrease. In 1998/1999, the total dollar value of fur harvested in N-5, N-6, and N-7 was under $25,000. Figure 3-2 illustrates that the total number of furs harvested from the years 1981/1982 to 1987/1988, inclusive, fluctuated in a range between just under 10,000 and approximately 13,000. After 1987/1988, the number of pelts harvested tended to decrease. By 1998/1999, the total number of furs harvested was over just 2000.

[2]The total dollar value and number of furs harvested cannot be determined specifically for the portions of N-5, N-6, and N-7 found in the La Ronge Planning Area. Accordingly, the dollar values and number of furs harvested that are presented in Figures 3-1 and 3-2 are greater than if only the trapping activity that occurred directly in the planning area was considered.

3.4 Outfitting

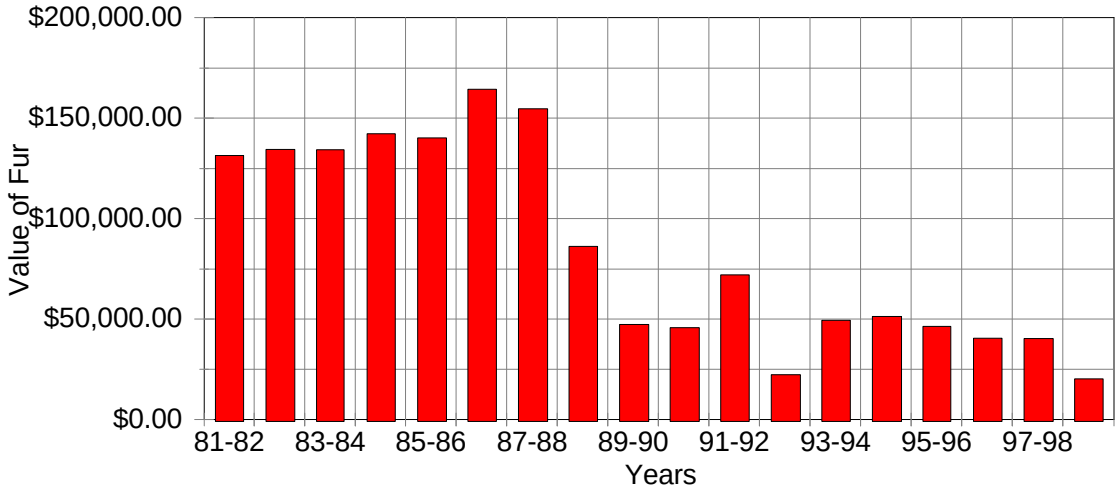
The La Ronge planning area falls entirely within Wildlife Management Zone 72. There are sport fishing outfitting operations at English Bay, Wadin Bay and Nemeiben Lake. Other outfitters based outside the planning area are authorized for moose, deer and bear.

3.5 Other Uses of Wildlife Resources

People value wildlife for both consumptive and non-consumptive uses. Consumptive uses include: use of animals such as moose, woodland caribou, white-tailed deer, black bear and game birds for meat, hide or antlers; and use of animals such as lynx, wolverine, fisher, mink and squirrel for their fur.

Animals valued for non-consumptive uses include: those considered symbols of wilderness, such as the common loon, bald eagle, wolf and great grey owl; those considered symbols of the north, such as woodland caribou, willow ptarmigan and wolverine; and those appealing to sight or hearing, such as moose, spruce grouse, osprey, warblers and finches.

Figure 3-1: Total Value of furs harvested from Fur Conservation Areas N-5, N-6 and N-7 from



1981 - 1999 (Saskatchewan , Wild Fur Harvest and Cash Values 1981-1982 to 1998-1999).

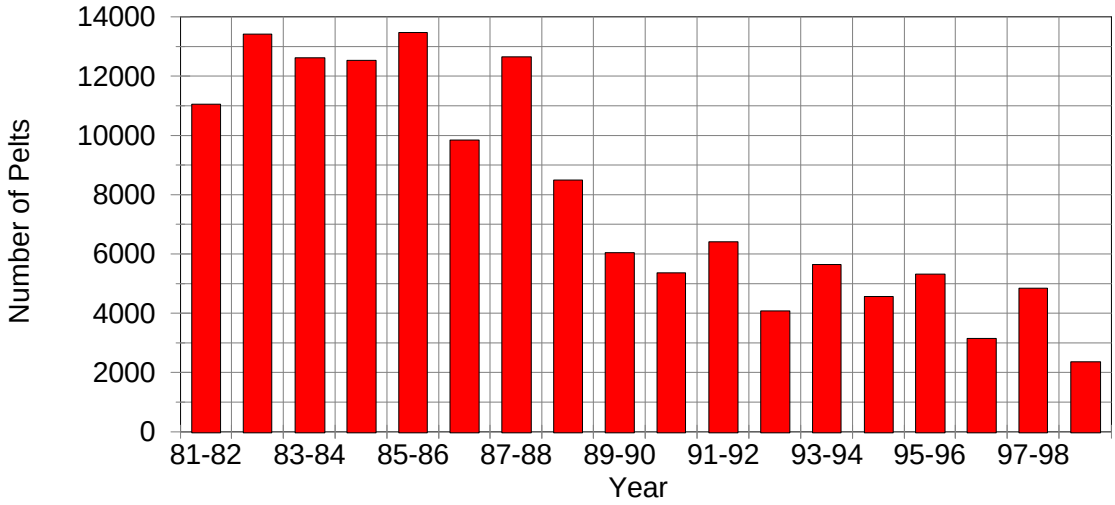


Figure 3-2: Total number of pelts harvested from Fur Conservation Areas N-5, N-6 and N-7 from 1981 -1999 (Saskatchewan, Wild Fur Harvest and Cash Values 1981-1982 to 1998-1999).

3.6 Fisheries

Subsistence fishing on Potato Lake is limited to one Traditional Resource Use (TRU) lease located near Tobacco Creek. There are no outfitter or commercial fishing activities on the lake. Three small lakes east of Potato Lake, located just north of the Napatak Subdivision have been used intermittently for wild rice and/or aquaculture. Their fisheries potential is considered low.

All other small lakes included in the planning area are considered to have low or no fisheries potential. One of these lakes, Lamp Lake, is used for an aquaculture operation to raise Rainbow trout. Demchenko Lake, a shallow lake used for wild rice, drains into Lac la Ronge through Wood Creek. Wood Creek is a relatively unimportant spawning creek for pike and suckers.

Hives Lake, 874 ha in size, has an all species commercial fisheries quota of 1100 kg. The quota was placed on the lake in 1979; since then the lake has been fished 5 times between 1980 and 1992. Total production to date has produced: whitefish - 12 kg, walleye - 5 kg, pike - 250 kg, mullet - 808 kg. The lake has no apparent inlet or outlet. This lake attracts little angler attention, and based on commercial production records, is not considered an important fishery.

3.7 Wild Rice

Wild rice (Zizania palustris) is a tall, annual, aquatic grass that was introduced to northern Saskatchewan in the mid-1930s when it was seeded as muskrat and waterfowl

feed. Government sponsored initiatives to diversify northern Saskatchewan's economy stimulated development and expansion of wild rice production on northern lakes during the 1960s and 1980s. Saskatchewan is the leader in Canadian wild rice production.

In the Northern Administration District, only residents of this part of Saskatchewan are eligible for licences for wild rice production. Provincial regulations allow wild rice producers to permit new areas for a four year period year period. The rate for a permitted area is $0.25 per hectare annually. This first four years is to allow the producer to establish new areas of wild rice. On the fifth year producers are required to enter into a licence which has a ten year term. The area covered by a licence is usually refined to the areas that have proven themselves. Each producer is allowed to hold only one licence, which lists each of the producer's wild rice production areas and the number of hectares of each area. Fees are due annually at a rate of $2.50 per hectare. Licences are renewed every ten years with new areas registered by addendum.

The number of wild rice producers in northern Saskatchewan has declined over the last decade. Recovery is unlikely unless demand for wild rice increases and road access for currently inaccessible lakes is developed.

3.8 Agriculture

There are three development areas in which agricultural activities are allowed within the planning area. These areas include the Lamp Lake Special Management Area, Potato Lake Rural Residential Subdivision, and the Rabbit Creek Special Management Area. Agriculture leases have been made available in these areas to provide economic opportunities for people living in the area. Although the soils of the area may not support conventional agricultural practices there are possibilities for raising specific or unique plants that cannot be produced in the south such as wild blueberries, cranberries, and medicinal plants. Plant stock from the La Ronge area raised in California has proven to produce increased early yields as compared to stock from the Prince Albert area. The opportunities stemming from this research on Northern vigor are yet to be capitalized on.

The Potato Lake Research site, which is operated by Saskatchewan Agriculture, Food and Rural Revitalization and the University of Saskatchewan, Department of Plant Sciences, is situated on the west shore of Potato Lake. Research has concentrated on Northern vigor and the cultivation of native and non-native medicinal plants. Native fruit research is also conducted on wild blueberries and lowbush cranberries. Northern vigor is being examined in strawberries and garlic.

To date there has been interest in garden plots, greenhouses, and raising farm animals such as chickens, goats, and hogs. All of these have been on a small scale with limited environmental or economic impact.

3.9 Traditional Lifestyles

Traditional lifestyles are those of First Nations and Métis people of the planning area. This lifestyle entails such activities as subsistence hunting, fishing, trapping, gathering, and other associated cultural activities. People engaged in traditional lifestyles continue

to hunt moose, deer, woodland caribou, and occasionally black bear, making use of many parts of the animal for food and clothing. Choice cuts of meat are dried over a smoky fire. A variety of food items are culturally distinct and include such things as moose nose, moose stomach, leg and jaw bone marrow, smoked whole muskrat, boiled snowshoe hare, fire-roasted whole ducks, and coot, duck, goose, tern, gull, and grouse eggs. Hides are tanned and used to make moccasins, gloves, mitts, and leather backing for decorative crafts. Rawhide is used to make lacing for snowshoes and other articles. Of the beaver and muskrat that are hunted and trapped, some are saved for eating.

People also use forest products to make articles for personal use, sale, and trade. White and black spruce trees are used for cabin construction and paddles; poplar for smoking meat and fish; birch for making smoke-drying racks, paddles, toboggans and snowshoes; and tamarack for snowshoes. Willows are used for ceremonial and medicinal purposes or made into willow baskets and wreaths; birchbark is used for baskets, birchbark biting and pictures; a variety of herbs are used for cooking and medicine.

Subsistence fishing includes net-fishing for suckers, whitefish, walleye, and lake trout to smoke-dry; these plus northern pike and maria for boiling or roasting; and sucker heads to boil up for feasts. Fishing is limited by the restricted fishery potential in the planning area. On Potato Lake fishing is limited by agreement with the Lac La Ronge Indian Band to one family through a traditional resource use lease.

A survey conducted in 1997 by the Lac La Ronge Indian Band among its members in Stanley Mission and Grandmother's Bay provided some insight into the traditional lifestyles of band members (Ballantyne, 1997). According to the study's findings, heavy reliance on traditional lifestyles continues to persist, with eight out of ten survey participants claiming some reliance on the consumption of wild food and various subsistence use activities. Moreover, 99% of those individuals surveyed wished to protect culturally sensitive areas.

3.10 Mineral Exploration and Mine Development

The mining industry is one of the major contributors to the Saskatchewan economy. Saskatchewan is the world leader in the production of potash and uranium. In 1997, the mining industry provided 5,960 direct jobs, 10-12,000 indirect jobs, and $245 million in royalties to the Province, from an annual production valued at $2.326 billion.

At present there is no production from the mineral deposits in the planning area. In the southern part of the region, the Mannville Formation hosts large reserves of sub-bituminous coal, local significant accumulations of kaolin, and, near the southern margin of the planning area, substantial silica sand deposits. From a regional perspective, there is limited potential for the occurrence of diamond-bearing kimberlite bodies of Cretaceous age. At depth, sporadic lead-zinc mineralization extends over a large area in the southern portion of the area, hosted by carbonate sedimentary rocks of Devonian age. A significant deposit of high-purity limestone of the Devonian-aged Meadow Lake Formation occurs along the southwest shore of Lac La Ronge. Limestone and dolomite of the Meadow Lake Formation also underlies some of the Egg Lake area, west of La Ronge, at a shallow depth. The Paleozoic-aged carbonate sedimentary rocks that

underlie this region also have some potential to host petroleum deposits. Similar formations are major petroleum hosts in the southern part of the province. A portion of the area has been assessed as having a high potential for surficial fuel peat deposits. Figure 2-1 presents the geology and mineralization of the La Ronge Land Use Planning Area.

The Precambrian terrain in the northern part of the planning area has potential to host a number of mineral deposit types. A nickel occurrence is hosted by an intrusion to the south of La Ronge. The northern end of the planning area, which consists of a greenstone belt with a large component of volcanic and related sedimentary rocks, has a very high potential to host copper-gold-silver sulphide deposits similar to the past-producing Anglo Rouyn Mine. This area also has significant potential to host nickel-copper-cobalt and lode gold deposits. Improved exploration methods, particularly airborne geophysics, have enabled mineral exploration for base metal deposits hosted by Precambrian Shield rocks to extend southward under the cover of the younger sedimentary rocks of the Western Canada Basin.

Saskatchewan Industry and Resources (SIR) is the provincial agency responsible for the administration of all Crown-owned mineral and petroleum commodities, including quarried commodities, in the Province. The plan does not in any way affect SIR's legislated mandate to manage and regulate the subsurface Crown rights and associated non-renewable resources. Appendix 3 provides a brief overview of this administrative responsibility. This appendix also presents the basic principles, issues, and management recommendations that are essential, from the perspective of SIR, to a land use planning process and that must be incorporated into all land use planning activities undertaken by the provincial government. A general discussion of mineral exploration and mine development is also presented.

3.11 Tourism

The La Ronge Planning Area is both a tourism destination area and a point of access to the tourism opportunities and facilities found throughout northern Saskatchewan. Numerous motels, restaurants, and retail outlets, along with marinas and service stations are located in the communities of La Ronge, Air Ronge, and the Lac La Ronge Indian Band Reserves. In particular, the La Ronge Planning Area and these three communities assist in providing access to the recreation and tourism resources and opportunities of both Lac La Ronge and Lac La Ronge Provincial Park, which lie adjacent to the planning area.

During the summer season, the La Ronge/Air Ronge Tourism Committee operates a Tourist Information Centre, which is located along Highway #2 in the community of Air Ronge. When this Centre is in open, records are kept of the number of tourists that visit this facility. Estimates indicate that between 10 and 25 percent of the visitors to the La Ronge area stop at the Tourist Information Centre.[3] Statistics gathered by the staff for the 5-year period extending from 1996 to 2000, also indicate that the majority of the

[3]La Ronge/Air Ronge Tourist Information Centre Statistics provided by the La Ronge/Air Ronge Community Development Corporation (November 2000).

visitors that stopped at the Centre were Saskatchewan residents. However, other visitors included residents of Ontario, Alberta, Manitoba, British Columbia, the Maritimes, the Northwest and Yukon Territories, several different American states, various European and Asian countries, and South Africa.

3.12 Recreational Resources

Recreational activity grew rapidly in the area during the 1980s and has continued to expand in the 1990s. Popular summer activities include walking, wildlife viewing, fishing, cottaging, camping, picnicking, swimming, and boating. Cross-country skiing, ice fishing, and snowmobiling are common winter activities.

Sport hunting activity in the area tends to be limited for a number of reasons, including the following:

- First Nation priority of access to hunting resources for Treaty and subsistence purposes is generally acknowledged by residents;
- game populations are naturally low which makes hunting much more of a challenge; and
- the most accessible parts of the planning area are sites of commercial and residential development and not good areas for game.

Recreational fishing is more common but is limited by lack of access and the small number of good fishing locations. People fish the Montreal River for walleye in the spring; other waters are closed to fishing during the walleye runs.

Chapter 4 - Land Use Dispositions

Various land use dispositions have been issued in the La Ronge Planning Area. These dispositions are in the form of leases, licences, and permits administered by Saskatchewan Environment. Each disposition entitles the holder to occupy various provincial Crown Resource lands for given purposes, but does not provide the disposition holder with ownership of this land. The terms and conditions of a disposition allow the holder to land use privileges that are directly related to that type of agreement. The disposition holder must operate according to the terms and conditions of such an agreement. The provincial government is obligated to ensure that these entitlements are respected.

Leases provide the tenant the most secure tenure with terms varying from one to twenty-one years. Licences apply to wild rice operations and are issued on a ten-year basis. Permits are associated with land use of a non-permanent nature and development intended for a short period of time.

4.1 Agricultural Dispositions

The intention of agricultural dispositions is to provide residents of the La Ronge Planning Area with the opportunity to pursue agricultural activities such as cultivation and production of crops, dairying, and the raising of poultry or livestock. Agricultural dispositions will also allow for the construction of buildings or other structures that will be used exclusively to enhance an agricultural operation.

Seven agricultural leases currently exist in the La Ronge Planning Area. These dispositions are contained within the developed area zones identified in this Plan as the only locations within the planning area in which agricultural activities are permitted. Five agricultural leases exist at the Rabbit Creek Special Management Area, one lease is found at the Lamp Lake Special Management Area, while the lease for the Saskatchewan Agriculture and Food research site is found at the Potato Lake Rural Residential Subdivision. These agricultural leases range in size from 2.44 hectares to 14.7 hectares.

4.2 Commercial Dispositions

Commercial dispositions cover land use exclusively providing services or products to the public for the purpose of economic or material gain, including an enterprise for which a resource allocation is made. Examples of commercial dispositions include, but are not limited to, outfitting camps, retail operations, golf courses, marinas, and privately operated campgrounds.

Four commercial lease dispositions are identified in Figure 3-1 of the Management Plan. Three of these leases are situated in the La Ronge Planning Area, while the fourth lease is found in the Town of La Ronge along the shoreline of Lac La Ronge. The fourth lease lies within the boundaries of Lac La Ronge Provincial Park.

4.3 Foreshore/Miscellaneous

Foreshore/Miscellaneous land uses are covered by miscellaneous use permits and can

provide legal authority for land uses associated with any activity covered under a lease. However, with such a permit, tenure is issued on a non-permanent and short-term basis (e.g., annually). The intention of this type of disposition is to provide for the legitimate use of Crown Resource Land, including the foreshore. Foreshore/Miscellaneous land uses include the presence of docks, boat lifts, boat houses, and fish filleting shacks.

There are sixteen miscellaneous use permits that have been issued in the La Ronge Planning Area.

4.4 Industrial Dispositions

Any agreement between the Crown and a tenant in respect of Crown Resource Lands, and any associated buildings or structures, to be used exclusively for manufacturing, processing, or storage.

Six industrial leases exist in the La Ronge Planning Area. These leases range in size from 0.41 to 19.50 hectares

4.5 Institutional Dispositions

Two institutional leases have been issued in the planning area. One lease has been issued for a non-profit outdoor experience facility in the Lamp Lake Special Management Area, while the other is a shooting range located south of the Town of La Ronge.

4.6 Provincial/Municipal Government

Various provincial and municipal government departments and agencies require land on which to base their operations and facilities to provide required services to the planning area. These dispositions include such uses as boat launches, landfill sites, and communication towers.

Three provincial/municipal government dispositions are found in the La Ronge Planning Area.

4.7 Recreation/Residential Dispositions

Recreation and residential dispositions allow for the development of seasonal recreational cabins and year-round residences, respectively, in remote locations on provincial Crown Resource Land. Present Saskatchewan Environment policy limits new residential development opportunities to developed subdivisions and or within municipal boundaries. Opportunities for remote recreational leases are also limited to existing leases or provincial Crown Resource Land north of the 56th parallel.

Twenty recreational dispositions are located throughout the La Ronge Planning Area. All leases are small, less than 0.2 hectares in size. Four registered residential leases exist in the planning area. These residential leases are all 0.11 hectares or smaller.

4.8 Rights-of-Way

Rights-of-way dispositions provide authority to maintain access roads to another disposition.

Three dispositions have been issued in the La Ronge Planning Area for the purposes of providing access. Two of these dispositions, both of which are held by SaskPower, have allowed for power line development to the Napatak Recreation Subdivision in the southern portion of the planning area and the Nemebien Lake cottaging subdivison found just to the north of the planning area. The rights-of-way disposition by Napatak is approximately 8.5 hectares in size, while the disposition by the Nemebien subdivision is approximately 6.4 hectares with 3.0 hectares lying in the planning area and 3.4 hectares situated in Lac La Ronge Provincial Park. The third disposition that provides road access has been issued as miscellaneous use permit. This disposition lies north of town and covers an area of 0.4 hectares.

4.9 Sand and Gravel Leases

This type of disposition provides access to sand and gravel resources.

Twenty-four sand and gravel leases have been issued in the La Ronge Planning Area. These leases are held by both private companies and Saskatchewan Highways and Transportation. Lease size ranges from 0.21 hectares to 14.28 hectares.

4.10 Traditional Resource Use Cabins

Traditional resource use (TRU) dispositions provide the tenant with the authority to use provincial Crown land to erect buildings or structures to be used exclusively for residence in conjunction with trapping or commercial fishing activities. These dispositions can be in the form of a 10-year lease or an annual permit. New TRU dispositions, and any such existing dispositions that can be converted, are in the form of annual permits.

There are 14 Traditional Resource Use (TRU) Cabins in the planning area, each covering 0.11 ha or less. Most are of these TRUs are associated with traplines.

4.11 Wild Rice

Seven wild rice leases within the La Ronge planning area are issued to 5 individuals and one company. The individual leases cover areas ranging in size from 6 to 155 hectares. The company lease covers 2,000 hectares.

Chapter 5 - Population of the La Ronge Planning Area

The La Ronge Planning Area includes the communities of the Northern Village of Air Ronge, the Town of La Ronge, various reserves of the Lac La Ronge Indian Band, as well as, the Potato Lake, Eagle Point, and Napatak subdivisions, the Lamp Lake and Rabbit Creek special management areas, and a number of isolated parcels of land. In 1996, Statistics Canada data indicated that the combined population of La Ronge, Air Ronge, and the Kitsaki and La Ronge reserves of the Lac La Ronge Indian Band was 5,395. (Population figures for the unincorporated portion of the planning area, such as the subdivisions, special management areas, and the isolated parcels of land, are not available.) Recent population projections for these main communities estimate that this combined population could possibly reach over 9,500 by the year 2016 (Saskatchewan Municipal Affairs, Culture, and Housing, June 2000).

Table 1-1 presents Statistics Canada population data for La Ronge, Air Ronge, and the Kitsaki and La Ronge Indian reserves (IR). Also included in this table are population figures for those communities that are situated outside of the La Ronge Planning Area, but are still part of the La Ronge area in general.

TABLE 1-1
POPULATION STATISTICS - LA RONGE AREA
(Statistics Canada)

YEAR	1976	1981	1986	1991	1996
La Ronge (Town)	1714	2579	2696	2578	2964
Air Ronge (Northern Village)	348	557	698	782	957
Kitsaki IR #156B	370	533	501	490	559
La Ronge IR #156	242	342	370	578	915
TOTAL POPULATION, LA RONGE PLANNING AREA	**2674**	**4011**	**4265**	**4428**	**5395**
Sucker River IR #156C	85	91	110	150	216
Stanley Mission IR #157	155	539	589	867	992
Morin Lake IR #217	------	------	132	228	336
Grandmother's Bay IR #219	------	99	132	157	197
Stanley Mission (Northern Settlement)	------	------	175	199	190
Missinipe (Northern Hamlet)	20	50	28	40	40
TOTAL POPULATION, LA RONGE AREA	**2934**	**4790**	**5431**	**6069**	**7366**

Chapter 6 - Historical Background[4]

The area was originally inhabited by the Woodland Cree, who used the many lakes and rivers for transportation, hunting and trading. Explorers and fur traders were the first newcomers to the area, in the mid- to late 1700s. Fur trading posts were established some time later at the mouth of the Montreal River, Potato Point, Fox Point, and later English Narrows. Cree people were drawn to the posts, and some stayed to begin settlements. All but the one at Montreal River were short-lived. Eventually, most trading focused around Stanley Mission on the Churchill River, and La Ronge, at the south end of Lac La Ronge. By 1914 the Hudson's Bay Company had established a post in La Ronge; the Revillion Frères were not far behind. Eventually the two companies combined.

The second major influence on settlement was the arrival of the churches. The first missionaries in the area built a Roman Catholic church on Bigstone Lake in the late 1800s. People congregated there, seasonally at first, then established the first permanent settlement which included satellite locations along the Montreal River. In 1906, All Saints Anglican Church was built overlooking Lac La Ronge, followed by the construction of a large residential school. The growing mixture of Cree, Dene, Métis and immigrant Europeans moved from the Bigstone-Montreal River area to settle near the church in what is now La Ronge.

The tourism industry started in the 1930s, with people flying in to experience the rich fishing opportunities. With the completion of the provincial highway from Prince Albert in 1948, tourism numbers increased dramatically. Between the 1950s and the 1970s, the road was extended north of La Ronge for mineral exploration - this also increased tourism opportunities.

[4]Section 2.6 is a summary of information provided in The La Ronge Homepage at the Internet location of http://www.rongenet.sk.ca (Retrieved November 2000).

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GLOSSARY OF TERMS

Aesthetics - the natural beauty of the environment.

Cambrian - the geologic period covering the time span of 500 to 545 million years ago.

Cretaceous - the geologic period covering the time span of 65 to 135 million years ago.

Devonian - the geologic period covering the time span of 355 to 420 million years ago.

Ecoregion (or ecological region) - a relatively large area of land characterized by a distinctive regional climate as expressed by general patterns of vegetation

Ecosystem - an area of land or water, considered in relation to all of its components (soil, air, water, plants, animals, microbes) and the interaction among these components and also with humans. As an example, a forest stand is an ecosystem, if it is viewed as an interacting system of all those components, and not just as a group of trees.

Endangered - a species that is facing imminent extirpation or extinction (COSEWIC, 2000).

Glaciofluvial - Pertaining to the meltwater streams flowing from the wasting glacier ice and especially to the deposits and landforms produced by such streams

Glaciolacustrine - Pertaining to, derived from, or deposited in glacial lakes; especially said of the deposits and landforms composed of suspended material brought by meltwater streams flowing into lakes bordering the glacier but also including lakes lying entirely on glacial ice and due to differential melting

Mineral exploration with significant environmental impact - The use of heavy equipment for stripping, trenching and other activities, creation of temporary access roads, as well as diamond drilling.

Phanerozoic -that part of geologic time represented by rocks in which life is abundant. 545 million years ago and younger.

Precambrian - All geologic time, and its corresponding rocks, before the Phanerozoic. 545 million years ago and older.

Riparian - the zone of vegetation found between aquatic ecosystems (e.g., rivers, creeks, lakes, springs) and terrestrial ecosystems (e.g., upland areas).

Species of Special Concern - a species that is of special concern because it is particularly sensitive to human activities or natural events, but does not include extirpated, endangered, or threatened species (COSEWIC, 2000).

Swale - A low tract of land, usually wet, moist, or marshy.

Threatened - a species that is likely to become an endangered species if nothing is done to reverse the factors leading to its extirpation or extinction (COSEWIC, 2000).

Tourism - travel more than 80 kilometres for the purposes of business or pleasure (source?). An export industry

Understory - That portion of the trees or other vegetation in a forest stand below the main canopy level.

Waterbodies - collections of water such as lakes, sloughs, rivers, or creeks.