

SOUTH INDIAN LAKE LAND USE AND OCCUPANCY
KAYAS AKWA WAPAHKI

by

Carl J. Hrenchuk

A Practicum Submitted in Partial Fulfillment
of the Requirements of the Degree,
Master of Natural Resources Management

Natural Resources Institute
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Winnipeg, Manitoba, Canada
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A practicum submitted to the Faculty of Graduate Studies of the University of Manitoba in partial fulfillment of the requirements of the degree of Master of Natural Resources Management.

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ABSTRACT

The area in the vicinity of Southern Indian Lake has been occupied for at least 3500 years. The purpose of this research was to document the occupation of the region, and the use of its resources, within the period of living memory of the current residents of South Indian Lake (SIL). The area of contemporary land use of the SIL community exceeds 35,000 km². For residents, who travel up to 410 km to hunt and trap, the region is not 'wilderness' in a conventional sense, but 'home', in continuity with previous, more nomadic occupation. The territory is extensively and intensively utilized, and intimately known.

Trapping travel became less linear since the registration of traplines. The number of marten sold annually since lake impoundment increased ninefold in part due to species migration. A decline in muskrat sales to about 15% of pre-impoundment levels was not independent of lake flooding. The location of preferred and consistent commercial fishing locations on Southern Indian Lake altered significantly with flooding. Recalled mean commercial whitefish catch per unit of effort was 92.5 kg/net/night for the pre-impoundment period, and 12.2 kg/net/night since flooding.

The bush life in both commercial and subsistence forms has continuing vitality for the community and retains strong personal, cultural, and economic significance. This was demonstrated in the mapping of harvest locations of wildlife, wood, and berries and of toponyms around Southern Indian Lake. The majority of respondents envisioned a viable lifestyle continuing the use of the resources of the land, if in an altered manner. Yet, bush life, even in its subsistence form, requires the presence of, and access to, the resources of the bush.

Further responsibility for and control of area resources by SIL is recommended. Extension by the Province of rights similar to those in Article 15 of the Northern Flood Agreement is also proposed, in recognition of long-term community use and occupancy.

KEYWORDS: land use and occupancy; native harvest; resource mapping; hunting; trapping; northern Manitoba.

KAMAMAWASINAHIKANIWAHK

Opipunapiwin oma kayas kaohchiyaniwahk, nantaw etoke nistwawkichimitanaw mena neyanomitanaw aske. Oho kakehntekiskechikatekwaw, tantho kakehpeapatahk mena kakehpeayaniwahk ota opipunapiwinihk esko ohchichikiskisichik anike mekwach ekota kayachik. Mistahi awasime apatan anima aske, motha poko kehchiwak ihtawinihk. Kapimotehochik oko kamachechik ahpo kawanehikechik motha pikwachai itehtamwak, nekinan itamwak tapiskoch kayas kakepeisipapamotehochik. Kwayask pimotehonaniwan, mena mistahi apatan oma aske akwa nakachihtaniwan.

Motha ekwatho akwa ehisipecyakot awena pimoteho kawanehiket aspin kakehothasinahikatekwaw wanehikewaskeya. Mihchet nawach atawakaniwan wapischanak aspin kakehthiskipachikaniwahk ekehtakosihkwaw. Wachaskwak wetha kehnamatewak kakesithiskepek. Mistahi mena kehwanahchikepathin pakitahwawin kakehthiskipachikaniwa. Neswawmitahtomitanow kwasikwan atihkamekwak kakeotahwachik peyak tipiskaw emowes thiskipek.

Nesitanawnkotwasosap kwasikwan poko keotahwawak kakesithiskepek. Mistahi itehtakwan askepimachihowin kaskihchikewinihk isi mena pimatisewinihk. Kakehmasinahikatekwaw oho ita kaotinihchik pisiskisesak, mihta, akwa mensa, ekota kaohchikiskehtakwahk itho ehkistehchikatek oma aske. Kahkithaw kekach kakehayamihichik etehtamwak keyapich takemithwapachihtachik otaskewaw, keyam wetha ahpo petos isi. Maka askepimachihowin takehiki ohchitaw piko kitastekwaw mena takeotinikatekwaw anihi kekwana askehk kaihtakwahkwaw.

Wethawaw tipithawe kitakehkanawapahtamasochik otaskewaw anike Opipunapiwithiniwak. Kitakehatianiskopathik anima Kewetinohk Thiskipachike Masinahikan ota itho otetha kayas ota ehochiayaniwahk akwa ekehpeapachitaniwahk oma aske ota ihtawinihk.

MISTAHI KAPATAHKWAW ITWEWINA: kaitapatahk aske mena kayaniwahk; ithinepimachihowin; aske masinahikewin; machewin; wanehikewin; kewetinohk Manitoba.

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LIST OF ACRONYMS

SIL: the community of South Indian Lake, in contrast to the water body, Southern Indian Lake.

HBC: Hudson's Bay Company.

RTL: registered trapline, or registration of traplines (as in **pre-RTL**).

DFO: the federal Department of Fisheries and Oceans.

DNR: the Manitoba Department of Natural Resources.

LWCNRSB: Lake Winnipeg, Churchill and Nelson Rivers Study Board.

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Chapter I

INTRODUCTION

1.1 PREAMBLE

The use of the resources of the land by native peoples has seen increased study across northern Canada since the pioneering work done for the Inuit Tapirisat of Canada in the early 1970's (Freeman 1976). The approach used to date has included research defining "occupancy," with the legal connotative meaning of the term never entirely absent: tenure itself creates an interest in the land. Many of these studies have involved land claims or compensation issues.

There is merit to this approach through the process of definition alone, regardless of litigation or mitigation. Communities in the north over time face increasing developmental pressure on the base of resources which has sustained their lifestyle and collective identity. The "frontier" of Manitoba's north has moved substantially over the lifetime with which this research concerns itself. The current study will aid in understanding how community land use and community cultural awareness have changed and adapted in the midst of considerable cultural influence and environmental alteration.

1.2 BACKGROUND

1.2.1 Early habitation

People have inhabited the Southern Indian Lake area for at least 3500 years (Dickson 1980). Judging from artifacts found to date, a series of cultures have spent time in the area, influenced in part by climatic change. Initial movements were likely from the north as the treeline shifted southward (Pettipas 1989). Arctic as well as subarctic cultural remains have been found in the region. About 1200 years ago, Cree people were resident in the area, as evidenced by a new form of pottery which originated here and spread south, east, and west (Pettipas 1989).

Hudson Bay Co. (HBC) records show that Cree-speaking peoples were resident in the area about 1700 (Wright 1971), and participated in the fur trade. Peoples at that time lived a nomadic lifestyle from seasonal bases, influenced by the availability of resources in the locale. Settlement was intimately connected with resources: occupancy with land use. Trade for furs would be the start of a "modernization" process which continues through to the present.

1.2.2 The study community

South Indian Lake (SIL) is a Cree community in northern Manitoba which formed a permanent settlement in its current location (57°N 99°W) sometime before or near the turn of the century (Figure 1 and Appendix A, Map A1). The major resource, Southern Indian Lake, is a biologically productive system considering its latitude. Its

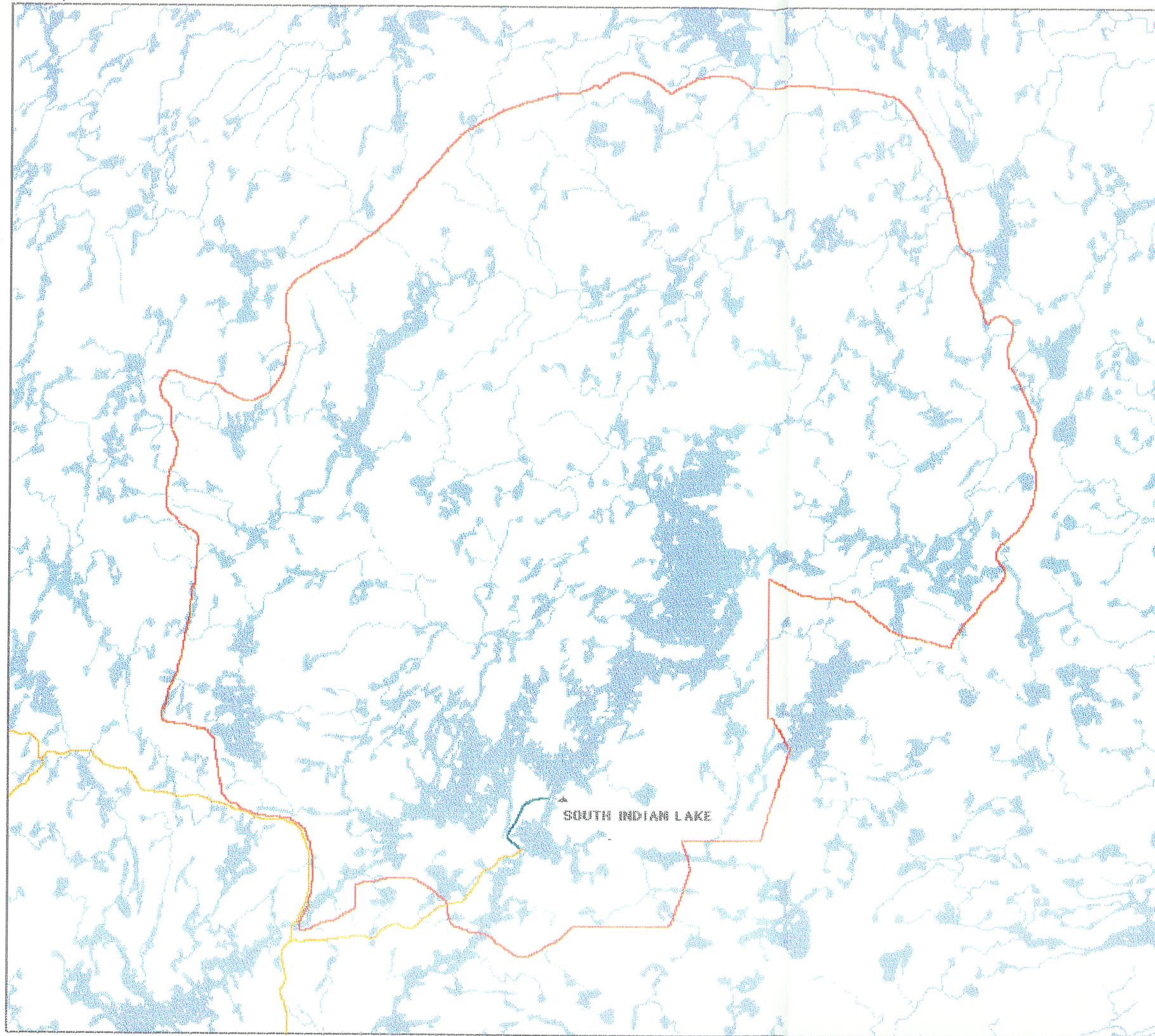
relatively shallow depth and inflow of nutrients have combined to create conditions that could readily support a fishing culture. The Cree term for the place, Opeepunnapweewin ("wintering place"), indicates its desirability as a seasonal home. Fish were plentiful, moose available, and at that time the Kaminuriak caribou herd, in the southern reaches of its winter migration, regularly reached Southern Indian Lake (Collinson 1975; John B. Moose, personal communication 1980).

The community of SIL has been seen as an offshoot of the Nelson House band. This may be an unwarranted assumption, though most of its population retain treaty status affiliation with Nelson House (Waldram 1988). In 1815, Nelson House was also on the Churchill River (Tyrrel 1916) while people were resident at SIL. Land tenure by groups of Cree was not that of mainstream society at that time, nor is it entirely so now. Land is occupied transiently, if consistently, over time. The question arises in this context as to what defined "settlement" to those in SIL at that time, and in the present. Currently, SIL does not have separate band status nor reserve lands. It is administered through an elected mayor and council under the authority of the provincial Department of Northern Affairs.

In 1976, Manitoba Hydro impounded Southern Indian Lake, raised the mean lake level 3m, and diverted much of the Churchill River flow into the Nelson River watershed (Newbury et al. 1984). SIL has been affected by this flooding, yet has been largely excluded from the terms of the federal/provincial Northern Flood Agreement (Canada/Manitoba 1977) to which it is not signatory. Among other terms of this

Figure 1: SOUTH INDIAN LAKE COMMUNITY RESOURCE AREA

SIL Resource Area with RTL Perimeter



- Roads
- Transmission line
- RTL perimeter
- SIL community

0 20 40 Kilometres 1:943937



agreement, the five Indian bands have been granted "first priority" to the wildlife resources within their resource areas, a benefit which to date has not been offered to SIL.

Prior to the impoundment of Southern Indian Lake, SIL was among the most viable and self-sufficient of those communities later affected. By the time of flooding, the community had a long-standing history of resource use (Malaher 1984; Van Ginkel Associates 1967). A winter commercial fishery had existed since 1942 and a summer fishery began in 1950 (Wagner 1981). Prior to flooding, the commercial fishery of Southern Indian Lake was the largest in northern Manitoba (Bodaly et al. 1984).

Since impoundment, the commercial fishery has remained the largest single source of gross income for the community, though its viability has been impaired (Wagner 1981). The community economy and confidence has been damaged by the flood. Social and economic problems are underlain in a time of northern development by insecurity about access to the resource base and reinforced by experience of lake impoundment.

1.2.3 The regional context

A glance at a map of northern Manitoba as late as 1950 sets the context for much of this period (see Appendix A, map A2). The current Chipewyan community of Tadoule Lake was further north at Little Duck Lake. Thompson, Lynn Lake, and Leaf Rapids did not yet exist. The highway system extended to Flin Flon, and the western spur of the rail line approximately to Sherridon. Living at SIL represented opportunity

from a fishing, hunting, and trapping perspective. The resources were available for a comparatively rich existence from life in the bush. At the same time, bush life required a measure of independence and self-reliance. Government infrastructure was essentially unavailable for much of the period. Individual and community initiative in large measure determined the degree of success; self-sufficiency was a given requirement.

Life in the bush also required the resources upon which it was based. The natural resources available were adequate for the population over most of the period, and development early in the period seemed little threat to community viability. The commencement in 1942 of a registered trapline system throughout most of northern Manitoba provided communities needed protection of their resource base from the incursions of outsiders and the depletion of fur stocks (Johnson 1989). The introduction of a commercial fishery augmented the life available to residents, and fit with established seasonal patterns. The establishment of Lynn Lake in 1950 improved transportation for fishing activity and improved access to goods and services. Its proximity and location on the rail line allowed better prices to be obtained at SIL for fresh rather than frozen fish, and ultimately enabled the development of a summer fishery where spoilage was no longer a limiting factor (Weagle and Baxter 1975). Until the 1970's, developments external to the community did not involve permanent limitations to the resource base or of access to it.

The Churchill River Diversion plunged the community fully into the modern world -- road access to South Bay at the south end of Southern

Indian Lake in 1972; construction labour opportunities with Manitoba Hydro beginning in 1972; television reception in 1974; and a modern townsite with a suburban layout, if lacking running water and sewage facilities for most residents, by 1975. The diversion provided benefits to the community, and threats to its social cohesion and economic well-being.

1.3 ISSUE STATEMENT

Resource-based activity seems to remain a preferred lifestyle for many people of the community. The impoundment of the lake has changed the location and sustainability of a portion of this activity, though it seems not to have altered the overall importance of fishing, hunting, and trapping to community life.

The community of SIL, however, has undergone significant changes in its relations with the larger world over the past seventy years. Within the same period, comprehensive alterations have occurred to the traditional foundation of the community cultural and economic life. Modernization occurred in a rapid, traumatic manner, and the mainstream industrial economy is developing around a community which was recently "remote."

How has community resource harvesting adapted to these changes? How has their interaction with and valuation of their resource base altered over this period and in response to externalities? What cultural values sustain it?

A definition of the nature of historic resource use and a sense of its significance from a community standpoint is missing. It would be of some value in determining the importance of the resource base to the future well-being of SIL in a developing north.

1.4 RESEARCH OBJECTIVES

The primary purpose of this research is to document the subsistence and commercial resource base of the people of SIL within a limited historical period. This purpose involves an appreciation of the community perspective of its activity and a consideration of this activity within the context of the larger Manitoba society.

The specific objectives of this study are:

1. to determine the present and past use and occupation of the area by the community, as defined by them, in the period of living memory.
2. to document the location of hunting, fishing, and trapping resources; the sites of residency and the seasonal movements of community members; and to identify areas of preferred use or cultural significance.
3. to consider how resource harvesting activity has adapted within the local context of changing ecological and social conditions.
4. to investigate the vitality and importance of resource-based activity within current community life and culture.

1.5 DEFINITION OF TERMS

RESOURCE AREA: following the Northern Flood Agreement, a community resource area is roughly coincidental with its trapline zone, but is understood to include "the rivers and lakes which were traditionally available to and used by them as a source of food supply, income-in-kind and income" (Canada/Manitoba 1977).

LAND USE and OCCUPANCY are complementary terms describing the interrelationship of the occupant group and the resources of a particular geographic base. By convention, **LAND USE** in this context is defined through the map biographies to show the nature and extent of this involvement. **OCCUPANCY** retains a territorial flavour, and includes the longer-term knowledge of the land use system. An inelegant construction, the terms are most useful in conjunction, as they refer to aspects of the same active relationship.

In the local terminology, **INLAND LAKES** are those away from the **MAIN LAKE**, Southern Indian Lake; those lakes inaccessible by boat for fishing purposes.

DOMESTIC or SUBSISTENCE ECONOMY: more properly a "mode of production", either term has come to denote the sector of a northern village economy which produces goods for direct consumption. The other sector of the modern native economy is one of exchange of goods or services for cash (Usher 1980). These are roughly analogous to the **INFORMAL and FORMAL** economies of industrial Canada. Subsistence, like informal, activity is ignored by conventional economic indicators, yet contributes (perhaps substantially) to the well-being of its participants.

1.6 SCOPE

Study of SIL land use and occupancy would be complemented by evaluation of the quantity (and perhaps economic value) of domestic harvesting practised. It would serve to define in a less qualitative way the extent of the role of the traditional lifestyle in the context of the modern community.

Time and financial constraints prevent inclusion of harvest quantification in the current study. However, its exclusion is not meant to indicate that it would not be a useful addition in the future, given adequate treatment and recognition of the limits to the economic component of the issue.

Chapter II

REVIEW OF RELATED LITERATURE

Human habitation of the SIL region is longstanding, and dwarfs the relatively recent attempts to describe and evaluate it. As a component of a contemporary study of SIL land use and occupancy, this review will begin with some historical background to the occupancy of the region. Related literature will be reviewed considering archaeological, historical, and modern sources. Secondly, the nature of this residency will be developed with the use of sources documenting SIL area land use, and its economies.

Methodology utilized in previous socio-economic or land use and occupancy reports will be surveyed with regard to its relevance in the context of this project. A further section will consider the character of this community as represented in the literature, both before and after the influence of the Churchill River Diversion.

2.1 SIL REGION OCCUPANCY

2.1.1 Archaeological findings

Evidence suggests that the Southern Indian Lake region has been a favoured location over time for a variety of cultures. It is fortunate that a considerable amount of archaeological excavation was carried out prior to inundation of the majority of sites through lake impoundment. Over 400 archaeological sites were identified, and it has

been estimated that if time had permitted, as many as 5000 could have been found (Mallory 1975). A relatively complex picture of use of the area by a series of cultures was developed by this research.

Surveys conducted by Wright in 1965 and 1966 suggested occupation of the area from the 10th century to the historic period by a population which he identified as "one of the bands of the Cree" (Wright 1971). At this juncture, evidence of significant use of the area prior to that time was lacking. Further fieldwork and analysis of artifacts filled in the chronology, and added complexity. The earliest cultural remains found and identified to date are projectile points from the Shield Archaic Tradition, the oldest of which was radiocarbon dated at 1390 ± 65 BC (Dickson 1980). Prehistoric Southern Indian Lake was inhabited by a series of cultures utilizing the area over time, migrating in accompaniment with slow climatic change (Dickson 1977). The Taltheilei Tradition appeared in Manitoba about 2000 years ago and eventually succeeded the Shield Archaic Tradition on northern Southern Indian Lake. Interestingly, no Taltheilei artifacts were discovered at a site to the southern end of the lake (Kelly 1982). The modern Dene presence in Manitoba in the Chipewyan communities of Lac Brochet and Tadoule Lake emerged from this Taltheilei tradition.

Ceramics found at the Kame Hills site indicated the dominant presence of a Woodlands Tradition of Algonkians (predecessors of the modern Cree) from approximately 850 AD. Interestingly, Woodland Cultural remains have not been found to the north on the Seal River system (Dickson 1980).

The picture emerges of the Churchill River, and Southern Indian Lake, as a rough boundary between the two cultures, one which varied over time and with movements of the treeline. The land to the north and west of the Churchill was home to the Dene for 2000 years; the land to the south and east was occupied by the Cree and their forebears for the past 5000 (Dickson 1977).

Approximately 1200 years ago, a form of pottery which became known as Clearwater Lake Punctate originated in the Southern Indian Lake area (Pettipas 1989). It spread widely from there to northern Ontario, east-central Saskatchewan, and along the Winnipeg River to Lake of the Woods. The ceramic type was dominant for 800 years, particularly with Cree, but indicates as well the significant communication among groups (Pettipas 1989).

Archaeological evidence further suggested that SIL was not isolated from other early societies. Stone tools found at Southern Indian Lake have their source in deposits on the Hudson Bay Lowlands and in flint quarries in what is now North Dakota (Mallory 1975). An extended trading network operated from an early date, well prior to European contact.

2.1.2 Historical references

The historical period is substantially shorter. Wright (1971) determined that the earliest historical reference of settlement at Southern Indian Lake was to be found in the 1717 journal of Capt. James Knight, during his attempt to establish at Hudson's Bay Company (HBC) post at Churchill. Knight was met by people who came from

"Meshinepe Lake" (literally 'big water') downriver to trade. Knight was dissatisfied, fearing conflict with "the Northern Indians" if the two groups should meet. Wright concluded that the travellers were "Cree"-speaking and resident at Southern Indian Lake at that time.

The HBC located a post at the upper end of the lake in 1797. David Thompson wintered at a North West Company post on "Indian lake ... in latitude 56°48'20"N " (Tyrrell 1916) in 1805. In 1824 the HBC closed and abandoned their post on Southern Indian Lake. However, it was re-established as a winter outpost approximately 1868 and operated as such until about 1945. The HBC then created a permanent post, with a new store built in 1946, which continued until February, 1976 (HBC Archives, South Indian Lake post history).

2.1.3 Modern occupancy

A variety of cultural influences have shaped modern SIL. Conditions prior to and following the First World War created an influx of white trappers from a mixture of ethnic backgrounds (Collinson 1975). Some were transient; others married and became part of the community, adding breadth to the existing culture. The establishment of the registered trapline system more or less halted the movement of white trappers into the SIL trapline zone. This century has also seen in-migration of natives from Nelson House, Cross Lake, Bakers Narrows, and Cranberry Portage. Van Ginkel Associates (1967) provided a map of the townsite at the time of their study (Appendix A, map A3). The impoundment and diversion of the Churchill River brought many changes to SIL, including relocation of the community along one side of the narrows (Appendix A, Map A4).

2.1.4 Overview of occupancy

Southern Indian Lake and its environs have been occupied for at least 3400 years, and probably by Cree-culture peoples for at least 1000 years. The basis of the current SIL population is a core of Nelson House band members, with a mix of other native and non-native cultural traditions adding diversity. According to residents, though, this community is not a recent creation; "there was always someone at Southern Indian Lake" (Collinson 1975). While not literally true, this statement suggests continuity over time and the arbitrary nature of any date given to origin of the modern community.

2.2 SIL REGION LAND USE

Land use is the component which defines the characteristics of occupancy of the region: how the land and resources are used. Land use as a term is intended to be comprehensive, including the use of aquatic resources. In a natural resource-based community such as SIL, an investigation of land use becomes a tool for both economic and cultural enquiry.

2.2.1 The mixed economy

The subsistence economy linked the people with the land and its resources. The traditional economy was resource-based and reinforced community, co-operation, and intimate knowledge of the land (Usher 1980). Local resources were essential to success, though limited trade occurred over tremendous distances. An exchange basis was later enhanced by the fur trade, with the deliberate production of goods for trade by native households (Pettipas 1989; Usher 1980).

The traditional economy has been seen as doomed by the march of civilization. In the context of the Churchill River Diversion, it was considered an anachronism in the current age of technology (Van Ginkel Associates 1967). Social engineering was envisioned as the means of transition in the north from a subsistence to an industrial economy (Van Ginkel Associates 1967). The two forms of livelihood were seen as incompatible.

Granted that finite natural resources will not sustain an unlimited population, subsequent writers have reconsidered the modern village economy. It is one which relies upon a mixture of the formal with the traditional economy. As the capital requirements to pursue traditional production have risen, and as costs (such as living in electrified housing) have increased, wages and transfer payments have become means to support domestic production (Ross and Usher 1986). This creates a mixed economy, reliant on both modes of production for survival.

The Federation of Saskatchewan Indians in Aski-Puko (1976) suggested a reduction of subsistence activity among those receiving welfare payments, though not among those earning wages. They insisted, however, on the essential significance of domestic production. "The survival of the Churchill River Basin Cree is precariously dependant on both cash income and domestic production; neither constitutes a sufficient condition, but both forms of income are necessary conditions for survival" (1976, 320). Their data refuted conventional wisdom that would assume a decrease in domestic harvesting accompanying wage activity. The results suggested, rather, the complementarity of wage and subsistence involvement.

It is difficult to quantify the mixed economy. Much of the value of production -- essentially all of the informal, subsistence sector -- is missed in conventional economic analysis. The standard indicator of per capita income in northern villages remains well below national averages (Ross and Usher 1986).

Here we confront the paradox that is fundamental to all understanding of this kind of economy. Living off the land in general, or by hunting, trapping, or fishing in particular, is associated with poverty; but a shift away from such harvesting creates the conditions for poverty (Brody 1981).

The domestic harvest of resources provides essential food and reinforces community ties. In analysis, the domestic harvest can not be readily removed from the commercial. One supports the other. Based on their extensive overlap, Brody considered the tendency to establish a dichotomy between traditional and modern activity as a significant confusion (1981).

In a larger Canadian context, the Report of the Mackenzie Valley Pipeline Inquiry, Northern Frontier Northern Homeland, was a groundbreaking document through its investigation of native culture and economies in relation to imported industrial development (Berger 1988). The persistence of native values and of the mixed economy were seen as a measure of their worth to participants. Critical questions regarding the objectives of economic development were raised. Social, cultural, economic, and environmental concerns were identified as interrelated for those practising a resource-based lifestyle.

2.2.2 SIL economy

The modern SIL economy has developed from a subsistence base. As previously mentioned, trade had begun for furs from Southern Indian Lake as early as 1717. This provided the primary connection with the industrial economy until the establishment of the commercial fishery in 1942. Fishing became a primary activity for this community (Appendix A, map A5), and fit well with the seasonality of trapping.

Archaeological evidence suggested that ancient peoples of Southern Indian Lake had used gill nets (Mallory 1975). Weagle and Baxter (1975) did not consider the antecedents to the fishery in their brief history of the commercial fishery prior to lake impoundment. The crews hired by Tom Lamb in the initial years were from The Pas and Wabowden. Later on, local crews predominated, though buyers were largely from outside SIL. Transportation was a major problem and economic limitation. The development of the towns of Lynn Lake and Leaf Rapids with their associated rail and road links was beneficial to the Southern Indian Lake fishery (Weagle and Baxter 1975).

Considerable research was done by the Department of Fisheries and Oceans considering the effects of flooding and diversion to the ecology of Southern Indian Lake. The flow regime and temperature of major basins of the lake was altered, which created effects to ice-on and ice-off (Hecky 1984). Sedimentation was pronounced in areas of the lake due to shoreline erosion, with significant impact on turbidity (Hecky and McCullough 1984). Whitefish egg survival was likely affected by sedimentation (Fudge and Bodaly 1984), with probable implications for population recruitment. Alterations in

location, abundance, and grade of fish were demonstrated by fisheries researchers (Bodaly et al. 1983a, 1983b, 1984). A review of the environmental impact assessment research at Southern Indian Lake concluded that predictive capability regarding environmental effects was at a low level of development. Improvements can be made only through monitoring and evaluation after alteration of the system (Hecky et al. 1984).

Practica from the Natural Resources Institute (Wagner 1981; Peristy 1989; and Baker 1990) investigated economic and biologic aspects of the fishery since diversion. Peristy demonstrated that catch per unit of effort and grade of whitefish have not recovered from declines which took place after lake impoundment. Wagner's analysis concluded that the summer fishery performed in marginal economic fashion, viable only through substantial subsidization. It was suggested that for social reasons, considerations of economic efficiency might require modification. Fishing could be seen to be consonant with a traditional lifestyle: not simply as commercial enterprise. Baker's results suggested that domestic harvesting is at times an integral byproduct of activity which is seen as strictly "commercial," and is a required part of economic analysis.

Available data suggest that SIL has a mixed economy typical of northern native villages. It is a blend of the formal market economy and the traditional informal subsistence economy which has been present for generations, and which has surrounded Cree culture. Waldram (1983) suggested that in SIL the connection between cash

income and domestic production was more indirect than in some other northern village circumstances. He felt that the existence of a successful commercial fishery altered the interaction. Cash sources (wage income and transfer payments) financed commercial activity, which in turn allowed for domestic harvesting. The merit of his analysis is debatable, given the extent to which commercial fishing is financed through the Freshwater Fish Marketing Corporation and the Manitoba Agricultural Credit Corporation. However, regardless of the source of financing, it is clear that significant domestic production occurs in conjunction with commercial production, and in this sense, is financed by it.

Initial analysis of the SIL economy in 1965 ignored domestic production in evaluating total community income (Van Ginkel Associates 1967) (Appendix B, table B1). No economic valuation of any informal or subsistence activity was attempted. But at that time, resource harvesting through fishing and trapping accounted for 75.6% of the total money income; wage employment contributed 7.4% to overall money income.

The social context of the community as it faced flooding and an evaluation of the economies of SIL was attempted in 1972 (Collinson 1975) (Appendix B, table B2). Domestic harvesting of wood, fish, meat, and fur was estimated at 20% of community income, which likely undervalued this activity. The total return from resource harvesting (including wages of fishermen and limited domestic harvest) was calculated to be 58% of total income. Other wages (construction, service, and government) and transfer payments accounted for the remaining 42%.

The Treaty and Aboriginal Rights Research Centre (Wagner 1985) initiated a province-wide domestic harvesting survey to assess the scale of resource use by 26 Indian bands. Average per capita consumption of wild meat ranged from 45 to 95 lbs (21 to 43 kg) annually in the sample. The study figures were comparable to harvest statistics from other regions and suggested the ongoing significance of domestic harvesting to individual and community life. The study also considered the implications of the extent of this harvest for resource management, where government estimates of native harvest differed substantially from survey data.

2.2.3 Summary

SIL land use includes significant effort in trapping, fishing, and domestic harvest of resources. In the past, these activities have been seen to be primary to the SIL economy. This land use has also been central and traditional to the community culture. "The fishing camps and trap lines are part of the community of which South Indian Lake is the centre" (Van Ginkel Associates 1967, 2:25). Resource harvesting has been the definitive community economic and cultural activity.

2.3 METHODOLOGY

2.3.1 Land use and occupancy

Land use and occupancy studies have developed in Canada in conjunction with native land or compensation claims and in circumstances of conflicting land use. At a time when many governments are proposing concepts of co-management with native and other resource users, it would seem that the documentary and analytic functions of land use and occupancy studies might assist management decisions.

The prototype resource use study in northern Canada was the Inuit Land Use and Occupancy Project of the Inuit Tapirisat of Canada (Freeman 1976). The three-volume report has been the basis of other studies and has useful sections concerning research perspective and methodology. It was conceived "to produce a comprehensive and verifiable record of Inuit land use and occupancy in the Northwest Territories, ... also to provide an explicit statement -- by the Inuit -- of their perception of the man-land relationship" (Freeman 1976, 1:19). Place name maps, cultural maps, wildlife resource maps, and travel route maps were created for three historic periods throughout the Canadian Arctic. Standard 1:500,000 topographic sheets (1:250,000 in the Mackenzie Delta) served as the base for individual "map biographies" of personal land use. The biographies were then compiled to create community land use maps and eventually published in 1:2,000,000 scale. About 150 fieldworkers surveyed approximately 1,600 respondents in 33 settlements.

The Inuit Land Use and Occupancy Project made no attempt to quantify harvest nor to estimate a dollar value of the resources

harvested. Effort was made to accumulate a sense of the Inuit/land relationship, and the cultural significance of harvesting activity through the recording of direct statements. Open-ended interviews were utilized to collect data. The methodology recognized an assumption, which was verified by resultant data, of the validity of the recall survey technique. Recognition was given to the difficulty of communicating technical data across cultural and linguistic boundaries. Committees of each community were established to scrutinize and verify aggregate maps and reports for accuracy. Finally, a computer data base was established for storage and retrieval of information. The strengths of the Inuit study are its remarkable comprehensiveness and its sensitivity in the portrayal of the harvesting culture.

What the Land Provides (Weinstein 1976) was a product of the Fort George Resource Use and Subsistence Economy Study initiated by the James Bay Cree, after a court injunction halted Hydro Quebec construction. It was designed to document occupancy, to locate resources, and to quantify harvest by the Fort George community from these areas. Approximately 1800 persons harvested 518,976 lbs (235,898 kg) for the annual period 1973-74, or 131 kg/person/year.

Maps of 1:250,000 scale were utilized to collect locational information. This information was transferred by species to a 100 square kilometer grid system (Universal Transverse) and computer coded for further use. The intent of the study was to record the extent of dependence on subsistence resources. No cash conversion was made of

harvest statistics. The subsistence year, biological components, and ecology of species received attention. Interviews for recalled information split the period into divisions along lines derived from the hunting year. Information was species-specific, including that for fish and small mammals. The approach taken in the Ft. George study was useful in claims negotiation, but weaker in integrating the cultural value of the activity.

Peter Armitage prepared a recent land use and occupancy study for submission to the Federal Environmental Assessment and Review Office by the Innu of Quebec and Labrador (1989). Its purpose was to document the land use of two communities and to enquire into the perceived effects on land use of low-level flight by military aircraft. Again, 1:250,000 scale maps were chosen to record harvesting and occupancy. Questionnaires were used as a means of quantifying Innu harvesting. In an attempt to prevent sample bias, hunters were classed as "country-based" or "community-based." The community-based group was further divided into "very active," "moderately active," or "minimally active" categories; those who were inactive were not sampled. This stratified sampling technique was an innovation to domestic harvest evaluation, and provided a means of limiting sample bias. The sample interviewed (127) represented the proportion of the population (295) in level of activity. The two communities of the study produced 65,025 kg of edible bush food in 1987, for an average per capita production of 111 kg/person/year. Cash value to the meat production was achieved by substituting a high quality lean beef of equivalent nutritional

content as priced in a regional store. The author noted the potential reductio economica absurda that may result from assigning monetary value to harvests while socio-cultural significance is ignored (Armitage 1989, 82). Necessarily, a considerable portion of the report dealt with documentation of the location, frequency, and effects of military overflights.

2.3.2 Social and economic assessments

Economic and, more recently, social assessments have become standard features in development evaluation. In the case of northern native communities, it has proven difficult to assess a mixed village economy by conventional means used for the industrial economy. The Federation of Saskatchewan Indians (1976, 231) found that the application of traditional socio-economic indicators to the Churchill River basin Cree resulted in the anomaly of a population with an income (including income-in-kind) below the national minimum level for survival, and with a much higher than average birthrate. Conventional economic models did not exist to accurately picture either the subsistence or the mixed village economy. The authors developed an input/output model of subsistence economic performance to more closely represent the local economy. The model included cash income, domestic food, domestic shelter, domestic clothing, and domestic subsistence tool production/consumption. Their approach added to a simple income-in-kind model which values the product, but not the activity which produced it.

Armitage maintained that the Innu and other natives, like housewives in the industrial economy, have been shut out of the class of "real work" by their participation in the informal economy, and likewise classed as "unemployed." In this scenario, hunting and other subsistence activity were classed as unproductive and anachronistic (Armitage 1989). The analogy brought the subject clearly to focus. To maintain this ethnocentric outlook was to dismiss Innu culture; domestic production must be recognized as must the culture that practises it.

Collinson (1975, 176) calculated income-in-kind for the SIL community apparently by hypothesizing harvest statistics, with little empirical content. The figures in the calculations were clearly represented, but no indication was given as to how the harvest numbers or assigned values per unit were derived. Family size was not defined. The value of a fish meal used in calculations (\$1.50) differed substantially from the figure used for Cross Lake and Nelson House (\$4.00) in the same Technical Report. The assumptions made throughout the harvest valuation were not made explicit. Similar criticisms of Collinson's work for the LWCNRSB in Northern Flood Agreement communities have been voiced (Usher and Weinstein, in press). The figures derived by Collinson, though they may have been accurate, are difficult to evaluate, and seem on balance to be largely hypothetical. The bias of respondents (whether government officials or community members) is unknown, the completeness of the data is undetermined, and the overall methodology is unreported. Crude "guesstimates" by uneven methods are not adequate to meet peer review or adversarial

proceedings (Usher 1988). Methodological concerns arise in areas of purpose, definition of parameters, survey instruments or protocol, and bias of respondents (Usher and Wenzel 1987).

In summary, relevant literature suggests several methodologically problematic areas:

1. the mixed village economy is unlike the industrial one for which economic models have been developed.
2. domestic harvest statistics require care in design and collection of data. Monetary valuations also face the potential of reducing activity strictly to dollar terms.

2.4 THE SIL COMMUNITY

Land use and occupancy studies have, in part, attempted to present a picture of the people in relation to the resource, their values, and their sense of place. The literature to date has some general references regarding SIL and the life carried out while making a living in that place.

Van Ginkel Associates presented a paradoxical view of SIL and its future. "The community at South Indian Lake is atypical in that it is self-supporting, with a high per capita income as compared with similar communities" (1967, 1:2). "A striking feature of the distribution of income by sources is the relatively small contribution to total income made by welfare payments and pensions; the fact that they contributed only 6.5 percent to total income indicates the

capacity of the community to sustain itself" (1967, 2:35). "In summary, by Indian, and even by general Northern Manitoba standards, the people at South Indian Lake are very well off economically" (1967, 2:38). Interestingly, the subsistence economy was not recognized at all in this study, which would have made the economic case even stronger. The paradox comes in the refutation of a mixed village economy as an anachronism in the current age of technology. This conclusion, drawn in the face of community self-reliance, was surprisingly ideological. "The ultimate solution for every Indian in North America will be to become a member of our technocratic society and whether this society is perfect or not is irrelevant" (Van Ginkel Associates 1967, 1:8).

By 1973, it seemed that social conditions had changed substantially. Collinson represented SIL as a welfare haven, no longer self-sustaining. He found a community in transition, frustrated and mesmerized by the increasing complexity of life and the pace with which change was being brought to it (Collinson 1975, 121).

In spite of this analysis, Collinson recommended (with a new political climate and proposed flood regime) that subsistence activity be recognized, that the harvesting lifestyle remain an option, that the community receive assistance in organization for decision-making, and that active analysis of the fishery be undertaken towards its future survival.

The analysis of welfare dependency has been questioned. Collinson stated that 28% of community income came from transfer payments. This was misleading in the face of probable undervaluation of domestic production. But it was also used to debunk "one of the myths associated with South Indian Lake ... that it is a self-sufficient community" (Collinson 1975). However, use of the figures in this manner might be misrepresentative. A critic stated that "(i)n actual fact, only 3.89 percent of the total community income consisted of payments to unemployed employables not 28%" (Elias 1974). It seems that Collinson's methods have limited the value of his economic and social analyses of SIL.

In an ambitious undertaking, Waldram (1987) sought to assess the social impact of hydro development on the community of SIL using as a framework the anthropological concept of underdevelopment. He reviewed the community economy in comparison with Collinson's earlier data. Segments of the dissertation dealt with the commercial fishery, trapping, domestic harvest, employment, and transfer payments. A section dealt with hydro development and human ecology. In summary, Waldram ascribed impairment of the commercial and domestic economy to the flooding of Southern Indian Lake.

Waldram (1988) considered the political involvement in the hydroelectric developments affecting Cumberland House, Chemahawin (Easterville), and SIL. The principal thesis developed was a comparison between the making of treaties and the hydro projects in these three communities. The picture developed of SIL was of a community divided, lacking resources for decision-making, and facing an uncertain future.

In a paper considering relocation and settlement in the Canadian subarctic in general, Waldram (1987) considered a case study based on SIL. The thesis of the article was that a southern urban model of settlement planning is culturally inappropriate in the subarctic and induces stress for native inhabitants. In reference to SIL, he suggested that closer proximity of houses and the dispersion of kinship-based settlement patterns since resettlement have resulted in an increase in inter-family tension.

2.5 CONCLUSION

The literature reviewed provides relevant historical, economic, methodological, and social reference points for the current study.

To date, mapping of land use and occupancy by the community of SIL has been limited. Commercial fish stations on Southern Indian Lake were located. The location of residences at SIL was documented. The Department of Fisheries and Oceans mapped the general shift of fishing locations after impoundment.

Economic analysis done by Van Ginkel Associates did not consider the subsistence sector. The study of income-in-kind by Collinson did not consider several categories: the production of subsistence tools, water, shelter, berries, and medicinal herbs. Further, the assumptions of the subsistence valuation method were not delineated to enable informed interpretation of the data.

In conclusion, the current research is the first comprehensive study of occupancy and land use of the area as defined by a community perspective.

Chapter III

METHODS

The stated objective of the research was to document the occupancy of the SIL region and the use of local natural resources by the community. Three methods were used to collect data: 1. interviews with community residents, 2. government data sources, and 3. contact with key informants within SIL. These sources will be discussed throughout this chapter, organized under topic headings relevant to the study objectives. These topic headings in large measure reflect the organization of the interviews themselves.

The methodology adopted for this research was developed with a recognition of two underlying concerns:

1. the need to document changes over time
2. the need to elicit concepts of use and occupancy prevalent in the community rather than imposed by study restrictions.

3.1 THE INTERVIEWS

The principal method of data collection was through holding 47 personal interviews with individuals at SIL. These took place largely in homes or at fish camps, with five (by preference of the individuals) occurring at the SIL Community Council offices. A home context was sought to allow people to be at ease, and to allow discussion or confirmation of uncertain details with family members or

others who might have been present. An individual interview was preceded by a brief introduction to the study, and an assurance of personal confidentiality in any subsequent report.

Research at SIL took place between December 15-20, 1989 and between May 31 and August 8, 1990. The December period allowed input from members of the Community Council, Fishermen's Association, and Trappers' Association, as well as a trial of interview and mapping techniques. To further the interview process, two interpreters were hired through the Outreach worker of the SIL Community Council Office. A male in his late 60's with fluency in Cree and in English interpreted when elders were interviewed, a younger man (late 20's) when otherwise required.

3.1.1 Research background

This research was facilitated in numerous ways, identifiable and unidentifiable, by familiarity with individuals in SIL and with the community itself. The researcher spent in total about eight years in SIL between September 1979 and June 1989. The accessibility, frankness, and patience of research participants in the interview process was no doubt enhanced by familiarity and previous association.

3.1.2 Interview content

Full interviews centred on the following themes: 1. community origins, 2. trapping and hunting and associated travel, 3. extensive travel, 4. fishing, 5. plant harvests, and 6. resource use from SIL in a present and future context. A list of questions was utilized to organize the

interviews, though they remained open-ended in format. Interviews had two components: one of mapping, and one of verbal responses, both quantitative and qualitative in nature (Appendix C, Figure C1).

The interviews ranged from one-half to three and one-half hours in duration, those with the elderly in general being most brief. The open-ended format allowed room for expansion where enthusiasm of the respondent prevailed, or curtailment where little information was forthcoming or where (in a few cases) time was short. The interview process was designed to encourage descriptive responses and to allow for tangency, reflection, or new areas of discussion. Open-ended questions can allow other points of view to surface without them being predetermined entirely by the format of the questionnaire (Patton 1980). Effort was made in interview design to include room for description and definition of resource use, as well as for elaboration of its meaning and importance. Notes were taken throughout the interviews and organized by subject matter.

3.1.3 Preliminary analysis

Within several days of each interview, a preliminary analysis of its particulars was conducted, while recollection was clear, yet some objective distance had been gained. The analysis concerned both the process and the product of the interview. An analysis of process included such items as the degree of map familiarity of the respondent, the apparent willingness to proceed with segments of the interview, and perhaps the availability of the person's eyeglasses. In other words, notes were made regarding items which might reflect on

the quality of the information gathered. In this manner, a general level of confidence could be formulated, and a sense of the variance occurring from such sources.

A provisional analysis in this manner provided both a specific and a generalized sense of what had been said or drawn and its relation to the other interviews. The analysis was used either directly in interpretation and compilation, or in creation of a general level of confidence in the data. Interview product was reviewed for completeness, and the apparent level of care with which mapping had proceeded. In general terms, notes were made of the overall strengths and weaknesses of the interview.

3.1.4 Sample design

Sampling of individuals was not random, but rather a selected group was sought for interviews. In the creation of a list of names for interviews, a number of criteria were used: 1. even geographic distribution of trapping effort, 2. representation from three age classes (20-40, 40-65, 65+), with inclusion of all available male elders, and 3. involvement of trappers, hunters, and fishermen identified as significant figures within these fields.

Initial contacts within the community in June, 1990, concerned selection of suggested names for interviews from a comprehensive list of trappers and fishermen. The local Trapline Liaison Officer (DNR) assisted in redrawing current boundaries on the 1979 map of the SIL registered traplines (RTL). Names of helpers or partners were attached to that of the line holder to prevent excessive duplication from

within the limited sample. A revised guideline list of names, in three rough age groups, was reviewed by the presidents of the Fishermen's and Trappers' Associations to identify those whom they felt were key persons to an evaluation of resource use by the community.

3.1.5 Map biography

The basic mapping technique utilized was the map biography: a map compiled by each person to show the areas he had travelled, hunted, trapped, fished, and stayed during his adult life. The respondent identified areas as significant to the current harvesting of moose, caribou, waterfowl, fish, berries, timber, and firewood. Of the 47 interviews conducted, 36 involved a map biography. Wherever possible, the individual himself drew the map. Effort was made to include elders to document pre-1946 harvesting by the community: 9 of the 36 mapping interviews included pre-RTL information. The biographies were recorded using felt markers on acetate overlaying 1:250,000 scale topographic sheets of the resource area. Fishing activity on the main lake was recorded directly on a map consisting of joined 1:50,000 sheets. Extensive travel by canoe, boat, dogteam, or snowmobile was outlined on a 1:1,000,000 topographic sheet. Community place names were sought to identify significant places within the SIL area. Harvesting of berries, firewood, and timber in the locale of the community was located on the 1:50,000 map.

3.1.6 Map compilation

Composite maps were constructed along thematic lines from the individual biographies and from information collected from other sources. In the case of the biographies, the appropriate data were transferred onto an acetate overlay composite which was registered to the same base map. In this manner, each interview contributed information in the formation of a community composite.

In the compilation of mapped data, decisions were made regarding choice of appropriate time periods to reflect altered or contrasting activity. In the case of trapping, the registration of traplines in 1946 was selected as the logical break. In the case of commercial fishing, the impoundment of the lake was the universal divider for those interviewed. Comparisons with things "before the flood" were omnipresent.

3.2 COMMUNITY ORIGINS

Research was done in the Provincial and Hudson's Bay Archives to fill in the historical record regarding community origins. HBC post records were searched for information as to location and size of the SIL population around the turn of the century. In particular, information clarifying the relation of SIL to Nelson House was sought.

This was then used in interviewing. In an attempt to define the nature and timing of early occupancy, a list of names of men trading at the Nelson River Post of the HBC at Threepoint Lake in 1893 was used as a reference for elderly SIL residents (Stout, HBC Archives B.195/d/7). They were asked if they knew or knew of those persons

listed, and whether those they knew had lived at or travelled in the SIL region.

The Treaty and Aboriginal Rights Research Centre served as another secondary source of community history. They provided considerable correspondence from the period 1928-1964 regarding the possibility that SIL might achieve band status or receive reserve lands.

Questions within the interviews sought information about the early community. In total, ten elderly residents provided information regarding the early SIL, and its first 'permanent' residents.

3.3 HUNTING AND TRAPPING

Hunting and trapping can be seen as pivotal within the study, and the interviews yielded pertinent mapped and written data. Information regarding trapping, hunting, and travel was taken from the individual map biographies to create a series of composite maps of collective community use. These maps were based on thirty-six map biographies, except Figure 6 (the location of areas currently significant to wildlife harvest), for which thirty-four contributed information.

For these hunting locations, only the best contemporary and consistent sites were identified. To protect those currently making a livelihood from these resources, the map identifying these locations has been considerably generalized so as not to identify specific sites.

For travel, only principal routes were marked, and no attempt was made to totally represent an individual's lifetime travel.

Interviews indicated marked changes in fur harvest over time for two species: muskrat and marten. To provide some quantitative analysis of these reported phenomena, figures for furs sold were taken from DNR summary records. Catches in the period 1948/49 through 1972/73 were compared to those in eight winters of available data from 1977/78 through 1988/89. Mean catches for each species for each period were calculated, and further expressed as a ratio between periods.

To consider the effects of flooding on muskrat production, traplines were separated into flooded (21 lines) and unflooded (29 lines) categories, following Webb (1974). Muskrat production was tabulated by individual trapline for flooded and unflooded zones, pre- and post-impoundment (Appendix B, Tables B11-B14).

The interviews also yielded information regarding trapline management techniques and means of conflict resolution among SIL trappers. Anecdotal responses were recorded concerning influences and impacts on trapping and hunting in the SIL region. Changes in family use of traplines were also discussed.

Secondary sources were used as references to the information which was collected through interviews. The Regional Fur Manager (DNR) in Thompson provided name and place of residence for SIL trapline holders. Annual reports from SIL Conservation Officers from 1953 to 1961 were made available for a historical perspective on community resource harvesting.

3.4 EXTENSIVE TRAVEL

The lifetime travel of individuals by canoe, boat, dogteam, or snowmobile often exceeded the boundaries of the base map from which trapping and hunting was recorded. For this reason, another collective map was created to show these uses. These extensive trips were undertaken for a variety of purposes -- employment, hunting, trapping, recreational, and social -- which were coded separately on the composite map. As the focus of this study was on traditional harvesting activity, extensive travels by air, road, or rail were not recorded.

Anecdotal records of extensive journeys were recorded in paraphrase where they could not be mapped.

3.5 FISHING

Collection of data on SIL fishing activity was primarily done for the commercial fishery of Southern Indian Lake, but also involved inland commercial and domestic fisheries.

3.5.1 Commercial fishing of the main lake

Fishermen were asked to identify only the best and most consistent net sites for commercial fishing on the main lake for: a) summer pre-impoundment, b) winter pre-impoundment, and c) post-impoundment. These individual results were compiled into a composite map. Sites in each period were counted, as were the number of sites that were identical before and after flooding.

A recall harvest survey for fish (average catch/net/night) was conducted within the interviews, again for the pre- and post-impoundment periods. The data were collected in several different units: fish/net(s)/night, pounds/net(s)/night, boxes/net(s)/night, and tubs/net(s)/night. The interview question sought a response measured in tubs caught per night, given the number of nets used at the time. This was thought most closely to simulate the pattern of bringing fish into the plant.

Since the nominal quantity "fish" referred to pre-impoundment activity, a figure of 1.32 kg per whole fish was used, following sampled mean weights of whitefish from 1952 and 1972 (Ayles and Koshinsky 1974). The standard conversion factor of 0.87 for round to dressed medium whitefish was used. Therefore, for analysis, one fish was converted to a value of 1.1 kg dressed weight.

For simplicity, since the use of "boxes" and "tubs" was not consistent among fishermen, the two were interpreted as equivalent. A tub was defined as 60 lb or 27.3 kg, which is the Freshwater Fish Marketing Corporation standard. A response of "5 or 6 nets" became 5.5 nets in calculations.

The mean, standard deviation, and median were determined for the pre- and post-impoundment recall harvest data.

Catch per unit of effort data for Southern Indian Lake available from LWCNRSB and Department of Fisheries and Oceans literature were used as a comparison with the recalled harvest.

3.5.2 Inland domestic and commercial fishing

Inland lakes which at some point had been commercially fished by SIL permit holders were marked on the base map. The provincial Fisheries Branch (DNR) office in Thompson provided a production history for these lakes and a listing of current permit status and ownership, which was used for comparative purposes.

Domestic harvesting of fish was covered superficially, and only for inland lakes. In the interview process, lakes which at some point were utilized for domestic purposes were identified. This took place for twenty-one of the thirty-six interviews. Where a lake was fished both commercially and domestically, the results indicate it as commercial use.

3.6 PLANT HARVESTS

Only current harvest locations with the community as a base were mapped during the interviews: for berries, green and dry firewood, and timbers for construction purposes. Medicinal plants were mentioned, but no locations were mapped. Sites that were indicated by more than one respondent were located by a single symbol on the map.

To determine the approximate radius of this harvest zone, a distance by water which included most of these sites was determined on the 1:50,000 map.

3.7 OPEEPUNNAPWEEWIN

A segment of the interviews involved surveying opinion about the 'bush' (hunting, fishing, trapping, and other domestic harvesting) component of individual and community life, the future of the bush life, and the future of the community itself.

3.7.1 Importance of bush life

To assess the significance of the bush life to the community as a whole, individuals were asked what they liked about the bush life and why it was important to them. Responses were summarized in a matrix which classed the response(s) as personal, economic, or cultural. The 'personal' class included those responses in which personal satisfactions were significant. The 'economic' class included responses which mentioned cost or food in defining the individual's attraction. The 'cultural' class of responses were those that mentioned traditional or social values as important motivations.

3.7.2 The future of bush life

A sense of the contemporary relevance of the bush life was further sought by enquiring about the relative amount of time spent in the bush. Ordinal responses to a question regarding time spent in the bush were enumerated by class. These were then arrayed in a matrix, keeping the paraphrased responses in parallel with the ordinal. In the display and analysis of qualitative data, it is important to maintain the connection between the basic data (what was said) and any interpretation of it (Miles and Huberman 1984).

People had been asked directly to speculate about the future of the bush life as they saw it. To test whether a correlation existed between time spent in the bush (as outlined above) and opinion on the future of the bush life, another matrix was created. The array matched classed response (time in bush) with paraphrases regarding the future, which had been scored into four general perspectives -- A. same, B. will continue in some altered form, C. uncertain, and D. no future.

Class C included responses such as "don't know," as well as any where uncertainty dominated. Class D included those that indicated that "kids weren't interested," presuming a future lack of involvement.

3.7.3 The community future

Responses to a question regarding the future of SIL were arrayed to display the range of opinion. In an attempt to sense the general tenor of the community opinion, those that were hopeful or constructive in tone were marked and counted.

3.8 OTHER INTERESTS IN LAND

Documentation of other interests in land within the SIL resource area came from a number of sources:

1. A manual search of the Mines Branch records in Winnipeg provided two types of information: a) mapped locations of active mineral claims and production leases (Figure 10); and b) lists of the registration number, land area, expiry date, and ownership of the claim (Appendix B, Table B6). This search was updated in September 1990.

2. The Thompson office of the Department of Tourism provided a computer printout of all licensed tourism operations in northern Manitoba. It listed owner, location, type of facility, and pertinent restrictions.
3. A manual search was made through the Lands Branch records in Winnipeg to determine other leases and private holdings within the area.
4. The provincial Manager of the Northern Flood Agreement provided access to maps and records listing land exchange locations and parcel size, as well as information regarding hold areas within the region.

With the addition of a basemap showing the RTL perimeter, these land uses were layered within a computer database. A geographical information system was utilized to generate the colour map.

3.9 VALIDITY OF DATA

Veracity of the mapping data is a concern which was addressed at the collective more than at the individual level. Transposition of individual acetate records one upon another was used to suggest the degree of accuracy community-wide. Outliers of the data set would not necessarily be invalidated, but consistency in adjacent lines of travel reinforced a sense of overall reliability. The multiple and consistent siting of camps by a variety of individuals was used as another internal check on the overall reliability of the mapped data.

Quantitative checks were used for the recall fish harvest data as an assessment of their validity, by comparison with available catch

records. Other external checks were utilized for some of the qualitative data. Fur sales records were used as a reference for qualitative assessments made repeatedly between individuals regarding changes in animal populations. In the case of inland commercial fishing, the list of lakes fished over time created by the SIL fishermen could be matched with DNR records.

Finally, evaluation of the collective data by key informants (from the Fishermen's Association, Community Council, and Trappers' Association) was used as a check on whether the compiled data were accurate, complete, and representative.

Chapter IV

RESULTS

4.1 INTRODUCTION

Information gathered during the study came from a variety of sources. Most of the data resulted from the 47 interviews carried out with 44 individuals. The interviews varied in duration and intent, and were by no means uniform in their product (Appendix B, Table B7). Of the 47 interviews, 36 resulted in mapped data, 10 produced information on community origins, 32 contributed to the mapping of areas significant to the harvest of wildlife, 21 provided domestic fishing locations, 30 mapped commercial fishing locations on Southern Indian Lake, and 9 defined trapping travel prior to the registration of traplines. Three of those interviewed were female.

The physical products of the interviews were 36 acetate map biographies and 86 pages of interview notes, quotations, and paraphrases. Their bulk precludes inclusion of the original data within this report. They are available for review, with the prior written permission of the SIL Community Council, at the Provincial Archives of Manitoba.

4.2 LAND USE AND OCCUPANCY

4.2.1 Historic occupation

Interviews with ten elderly respondents provided a sense of the community origins which confirmed the semi-nomadic nature of early occupancy, but which also extended the time frame of 'permanent' residency. SIL seems to have had full-time residents by at least the turn of the century (if not earlier), as a continuance of a periodic and seasonal occupancy of a much longer duration by the same group.

Responses to the Nelson River Post 1893 list of names (Stout, HBC Archives B.195/d/7) in part confirmed the fluidity with which people moved between the SIL and Nelson House regions near the turn of the century (Appendix B, Table B8). Twenty-five of the forty-six named were known to have travelled in the SIL area, and five of these died and were buried there. Yet, a group of almost equal number (twenty-one) were unknown or known not to have come to SIL at all.

A relatively small group of persons were identified as the "first" to stay at SIL year-round. One of the eldest persons interviewed (born 1898) suggested that people were coming to SIL when she was a small child staying at Muskwesi Sipi. She further suggested that staying year-round commenced in greater numbers when she had her first child at about age 17. In this account, permanent occupation by this group would have begun in approximately 1915.

However, several other respondents proposed a figure named "Kakakeow" as the 'first' full-time resident. A point of land near the present community has been named after him. This would likely push

back the date for permanent residency somewhat further. All of the names on the 1893 listing are of a modern type, using first and surname. The names from the HBC New Churchill (SIL) post in 1823 are Cree and Chipewyan (Charles, HBC Archives B.91/a/8).

4.2.2 The active population

According to 1985 census data there were 123 households in the community, and a total population of 845. Of this population, 57% were nineteen years of age or younger.

The active resource harvesting population varies from year to year, depending on factors such as commodity prices, other employment opportunities, and weather. Approximately 105 fishermen were active in the 1980 summer commercial fishery of Southern Indian Lake (Wagner 1981). Baker suggested that 72 were active in the summer of 1988, with about 100 participating (Baker 1990). In the summer of 1989, where firefighting jobs were available, 78 male and 2 female fishermen were licensed. "Active" in this case refers to active licensed fishermen; the number of participants would be significantly greater. Unlicensed helpers in the commercial fishery and domestic fishermen should also be considered as active in resource harvesting.

In terms of trapping, 119 trappers were licensed for 1987/88 at SIL of which 101 were active. In 1988/89, 101 were licensed, of which 76 participated. Again, these figures do not include unlicensed helpers.

These numbers do not encompass the population which is active in domestic harvesting, which would be larger. Furthermore, the harvest

activities of women and of teenage children are not represented at all.

4.2.3 Geographic extent of land occupancy and resource use

The perimeter of the RTL zone has principally been used to define resource area in the terms of the Northern Flood Agreement. In the land use and occupancy maps resulting from this study, it was used as a basis of comparison with past and present activity. The RTL section encompasses 34,885 km², the second largest RTL area assigned to a single community in the province (Johnson 1989).

The considerable geographic extent of SIL land use and occupancy is described by a series of composite maps resulting from this study:

1. pre-RTL travel and camps plus RTL boundaries (Figure 2)
2. post-RTL travel and camps plus RTL boundaries (Figure 3)
3. total reported travel and camps plus RTL perimeter (Figure 4)
4. extensive travel (Figure 5).

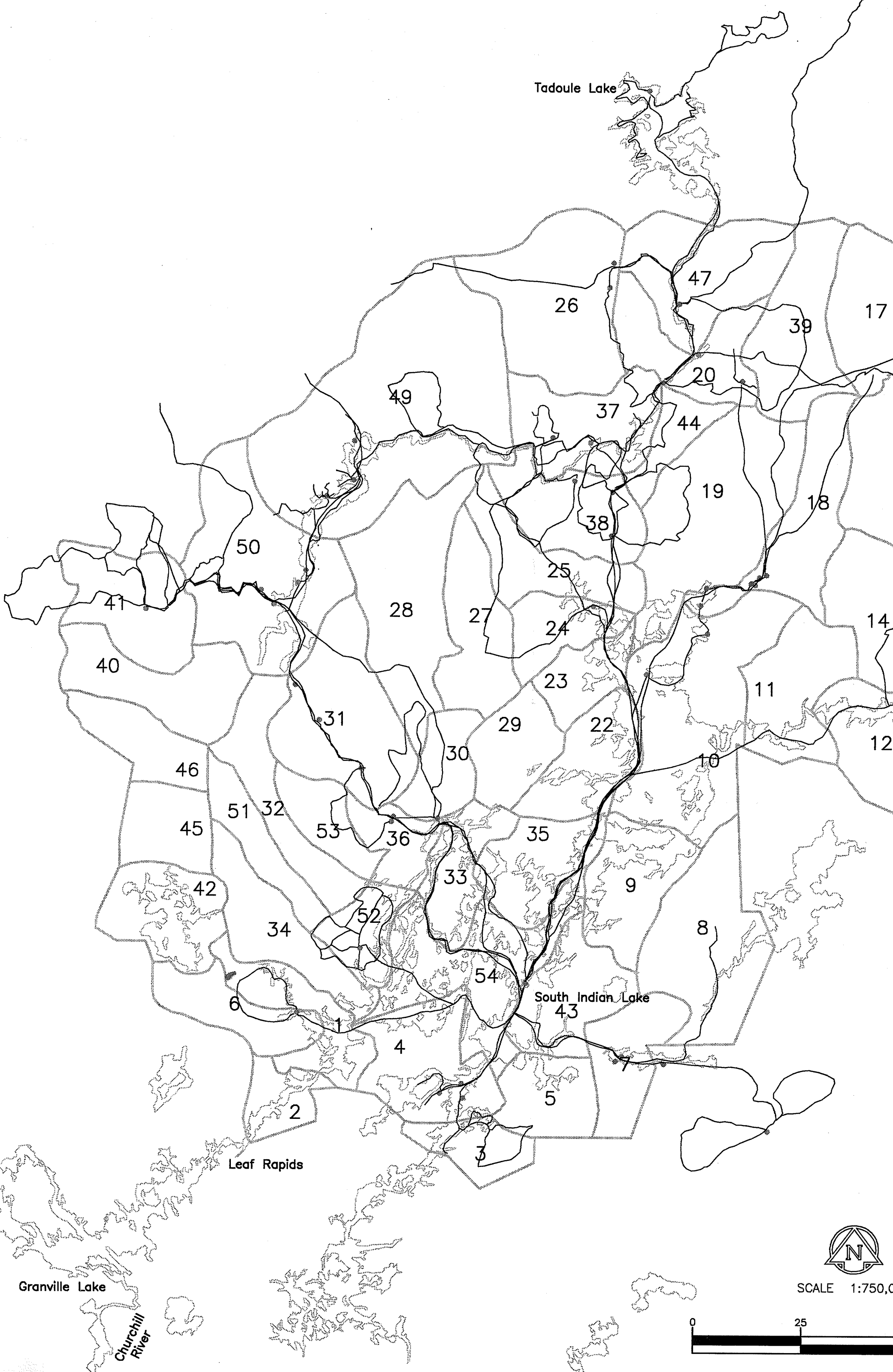
Figure 2 results from content from 9 mapping interviews, Figures 3, 4, and 5 from 36.

Community land use encompasses the whole of the RTL section and extends beyond it. Current hunting and trapping by community members encompasses an area exceeding 35,000 km². Historically, land use by the community would likely have ranged within an area of approximately 45,000 to 50,000 km².

Figure 2: RECORDED PRE-RTL TRAVEL AND CAMPS PLUS RTL BOUNDARIES

**RECORDED
PRE-RTL TRAVEL AND CAMPS
PLUS RTL BOUNDARIES**

SOUTH INDIAN LAKE
LAND USE AND OCCUPANCY



Tadoule Lake

South Indian Lake

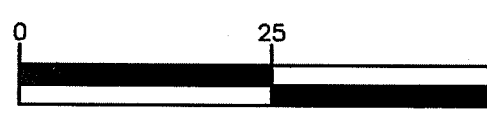
Leaf Rapids

Granville Lake

Churchill River



SCALE 1:750,000

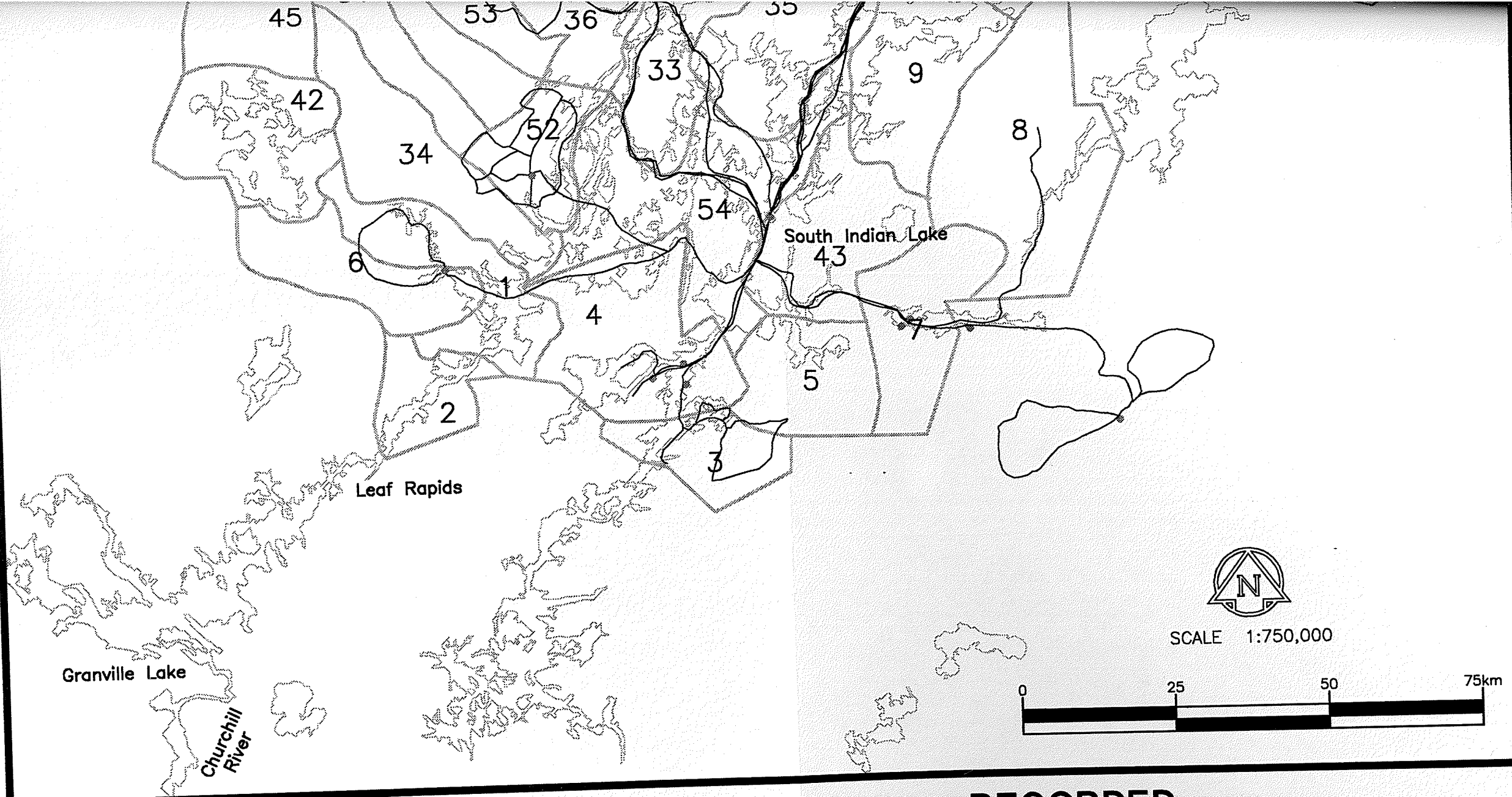


RECORDED



SCALE 1:750,000





LEGEND

- RECORDED PRE-RTL TRAVEL
- RECORDED PRE-RTL CAMPS

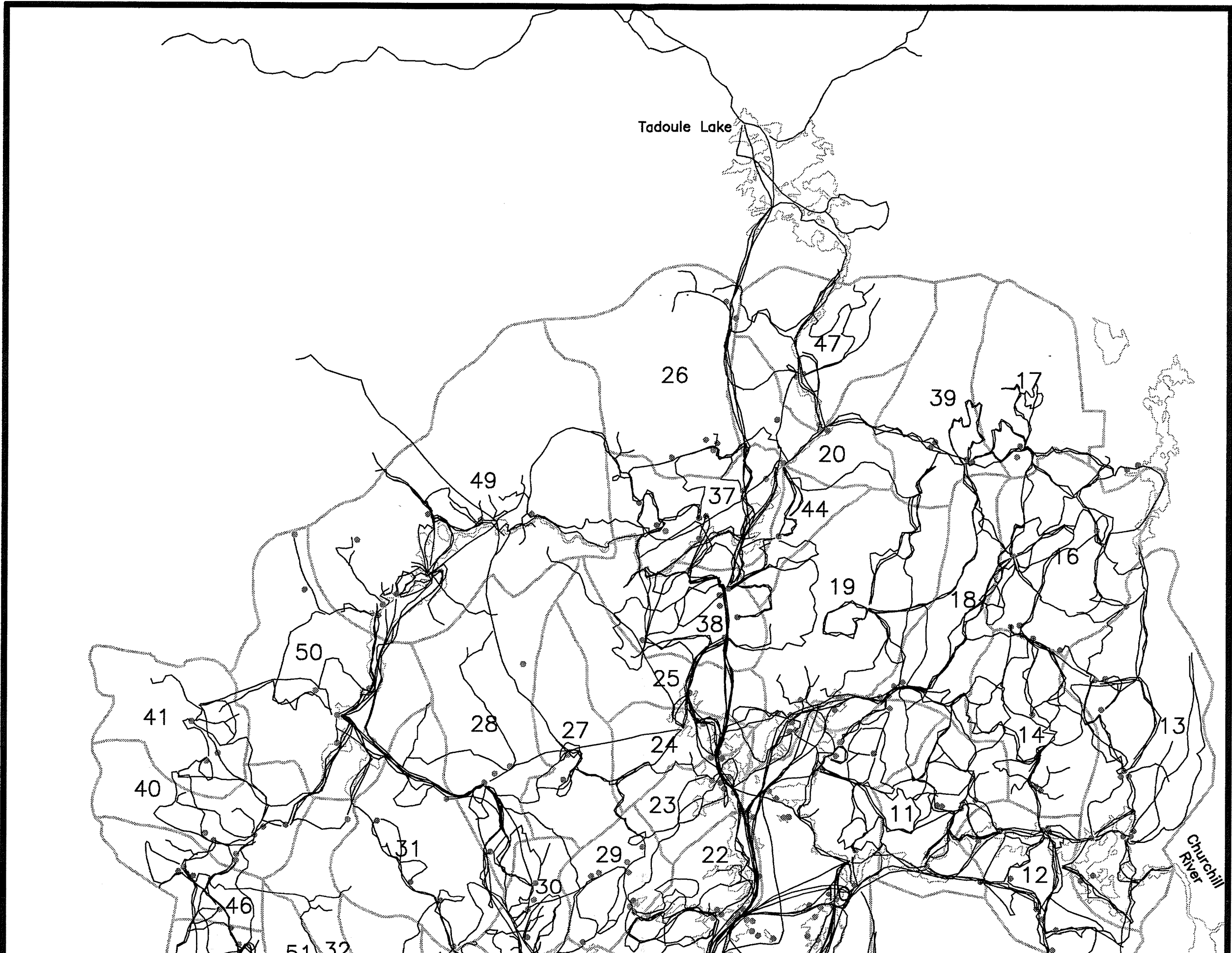
**RECORDED
PRE-RTL TRAVEL AND CAMPS
PLUS RTL BOUNDARIES**

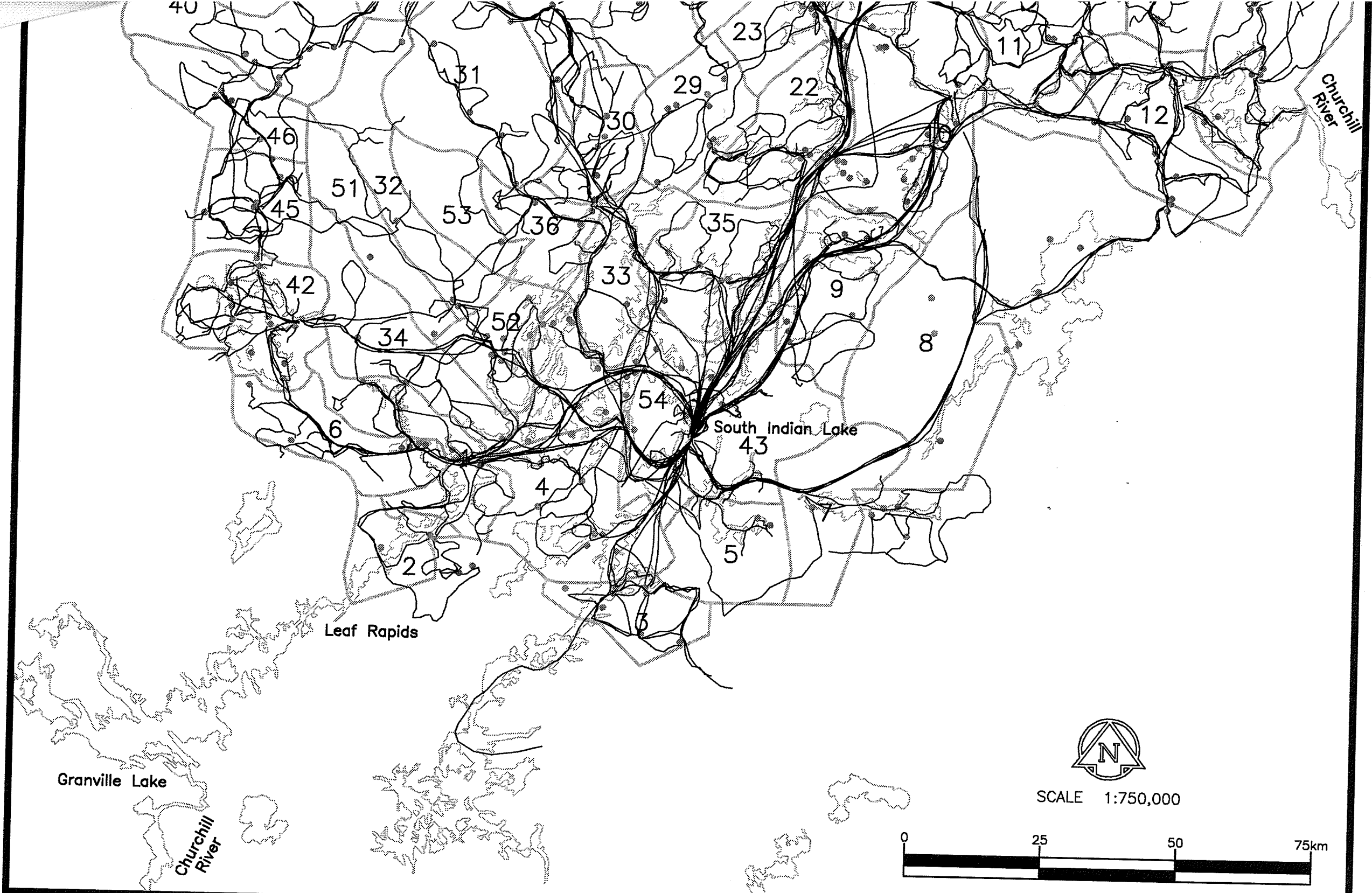
• SOUTH INDIAN LAKE
LAND USE AND OCCUPANCY

Figure 3: REPORTED POST-RTL TRAVEL AND CAMPS PLUS RTL BOUNDARIES

**REPORTED
POST-RTL TRAVEL AND CAMPS
PLUS RTL BOUNDARIES**

**SOUTH INDIAN LAKE
LAND USE AND OCCUPANCY**





LEGEND

- REPORTED POST-RTL TRAVEL
- REPORTED POST-RTL CAMPS

**REPORTED
POST-RTL TRAVEL AND CAMPS
PLUS RTL BOUNDARIES**

**SOUTH INDIAN LAKE
LAND USE AND OCCUPANCY**

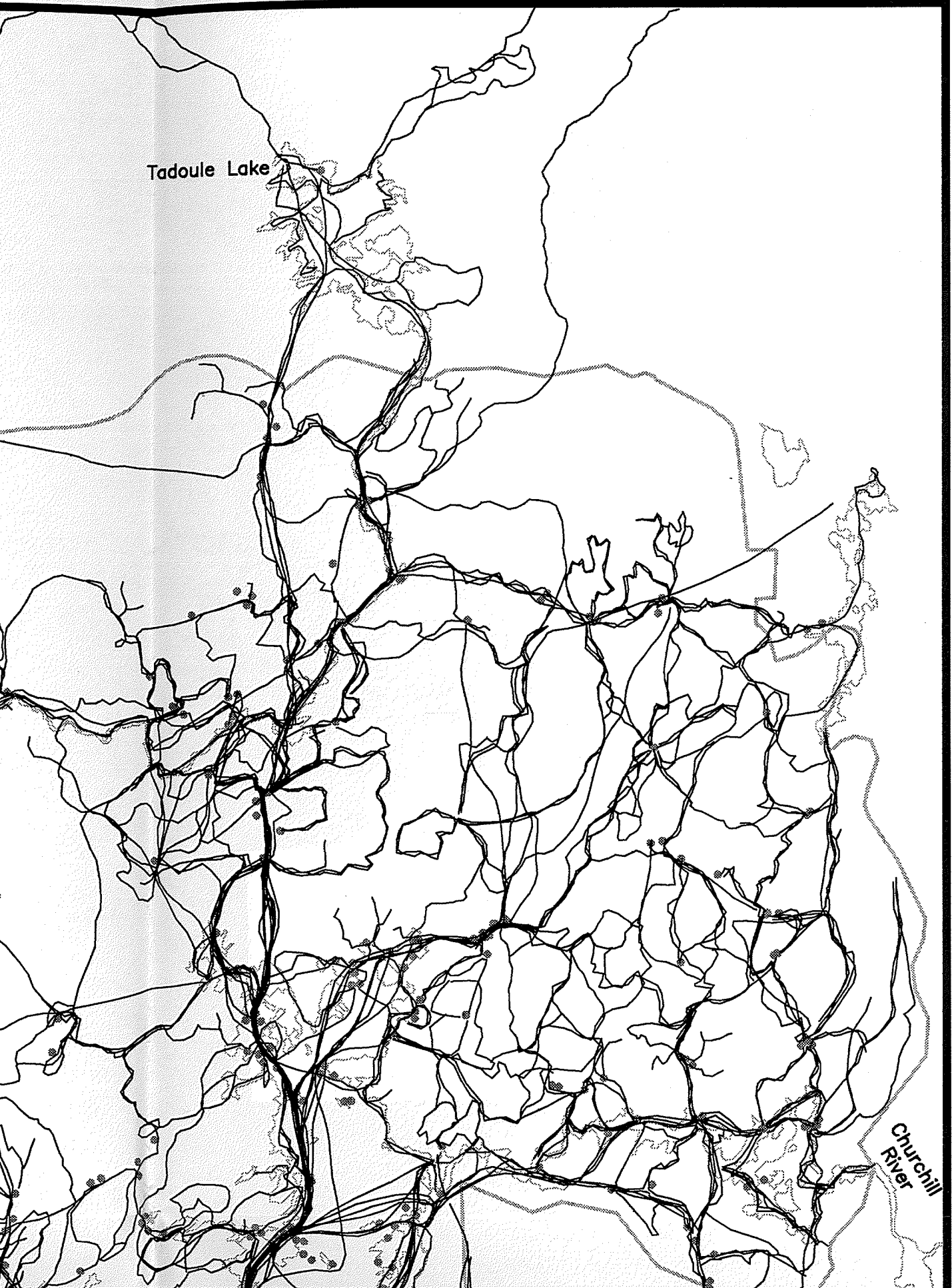
Figure 4: TOTAL REPORTED TRAVEL AND CAMPS PLUS RTL PERIMETER

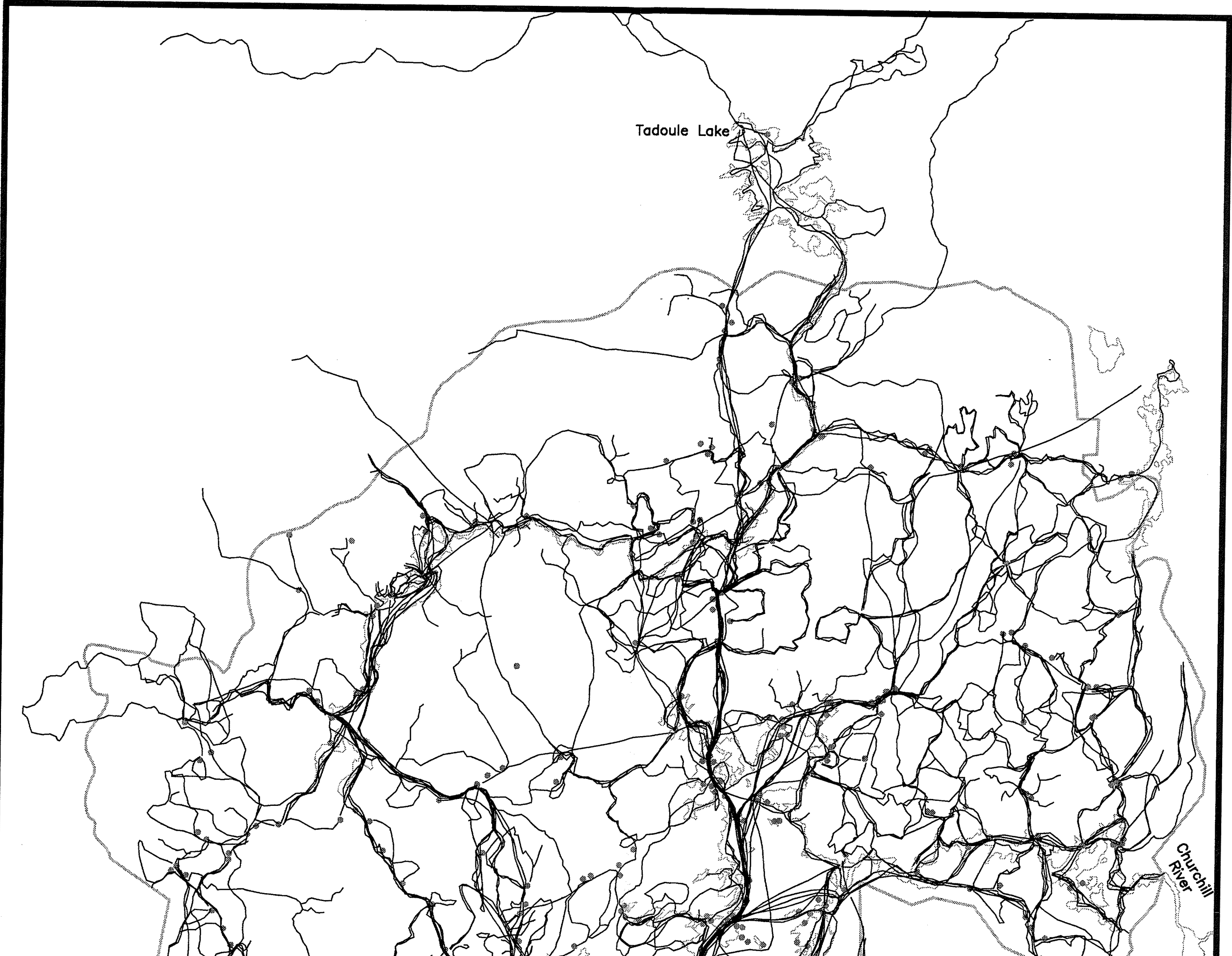
**TOTAL REPORTED TRAVEL AND
CAMPS PLUS RTL PERIMETER**

SOUTH INDIAN LAKE
LAND USE AND OCCUPANCY

Tadoula Lake

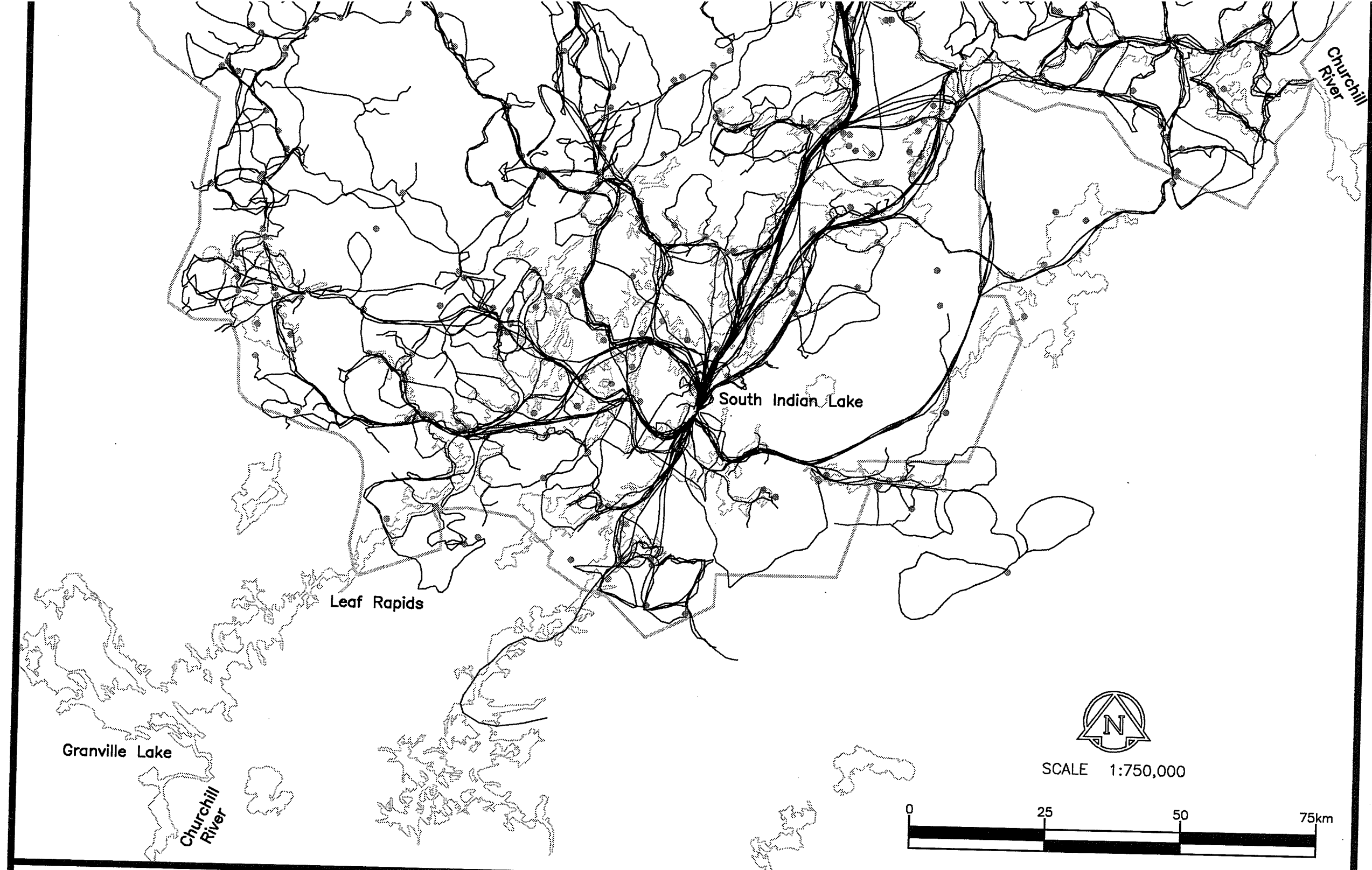
Churchill
River





Tadoules Lake

Churchill
River



LEGEND

- TOTAL REPORTED TRAVEL
- TOTAL REPORTED CAMPS

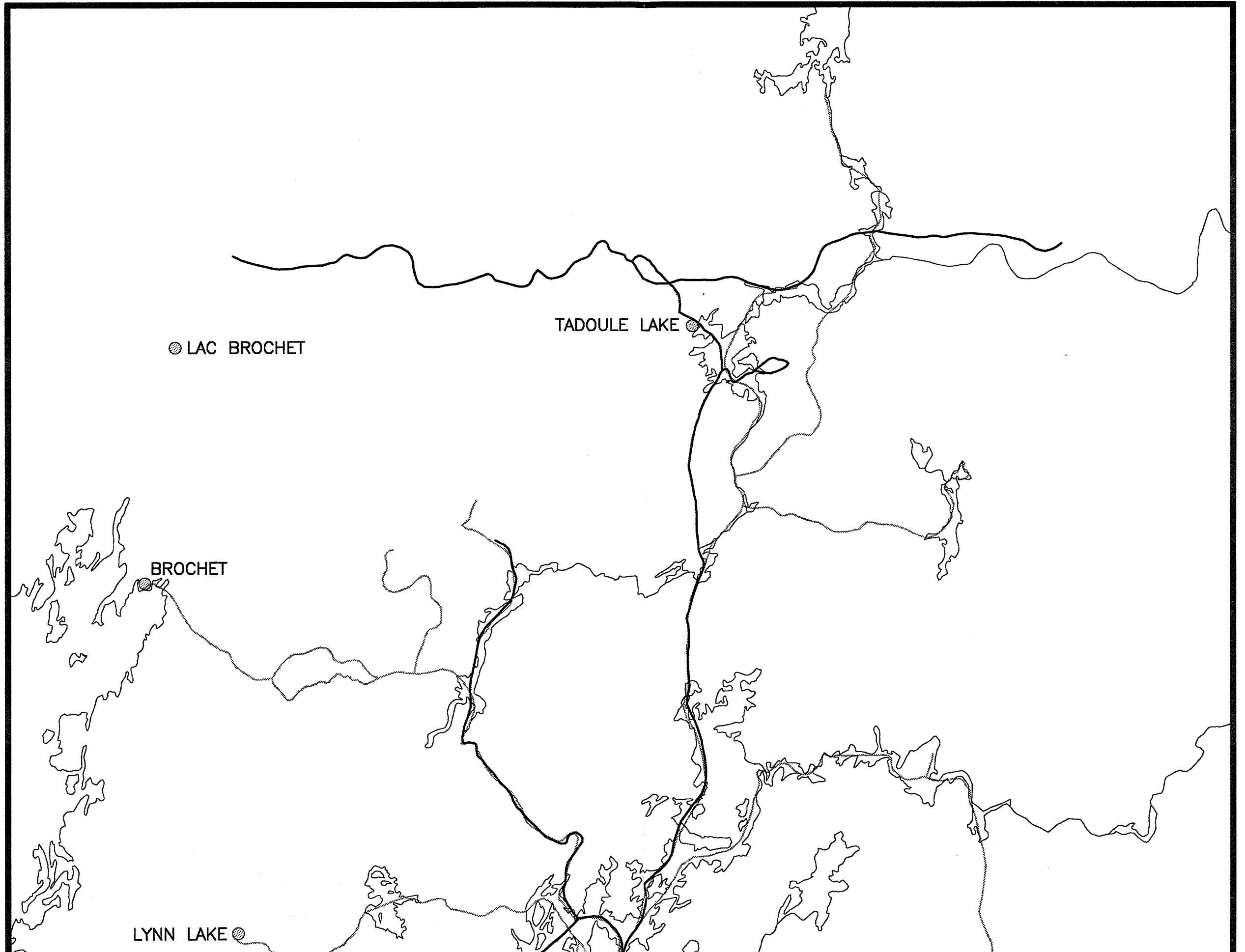
TOTAL REPORTED TRAVEL AND CAMPS PLUS RTL PERIMETER

**SOUTH INDIAN LAKE
LAND USE AND OCCUPANCY**

Figure 5: EXTENSIVE TRAVEL

EXTENSIVE TRAVEL

SOUTH INDIAN LAKE
LAND USE AND OCCUPANCY

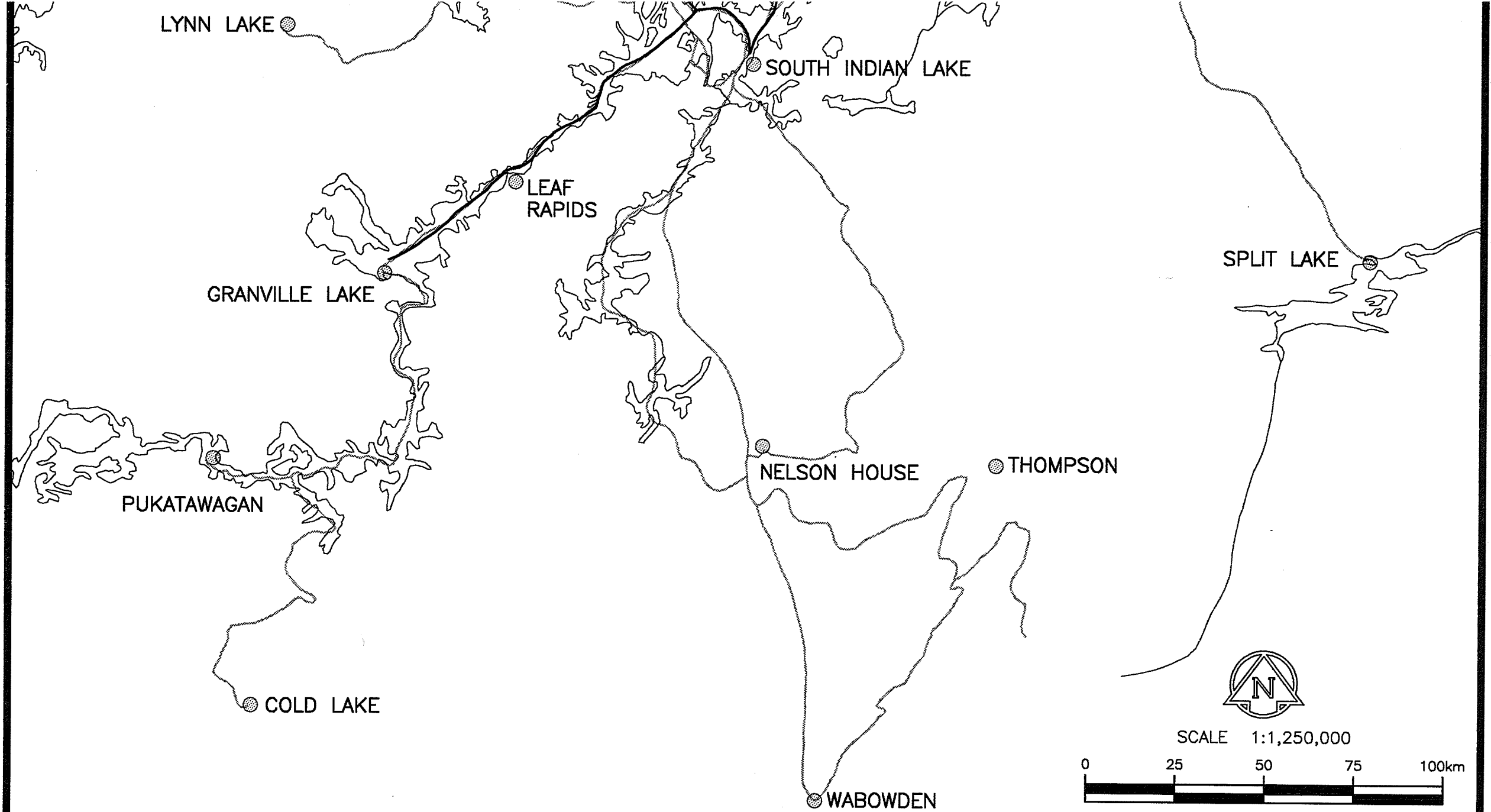


● LAC BROCHET

TADOULE LAKE ●

BROCHET ●

LYNN LAKE ●



LEGEND

- RECORDED EXTENSIVE TRAVEL PRIOR TO 1976
- RECORDED EXTENSIVE TRAVEL SINCE 1976

EXTENSIVE TRAVEL

**SOUTH INDIAN LAKE
LAND USE AND OCCUPANCY**

4.3 LOCATIONS OF RESOURCE USE

4.3.1 Trapping and hunting

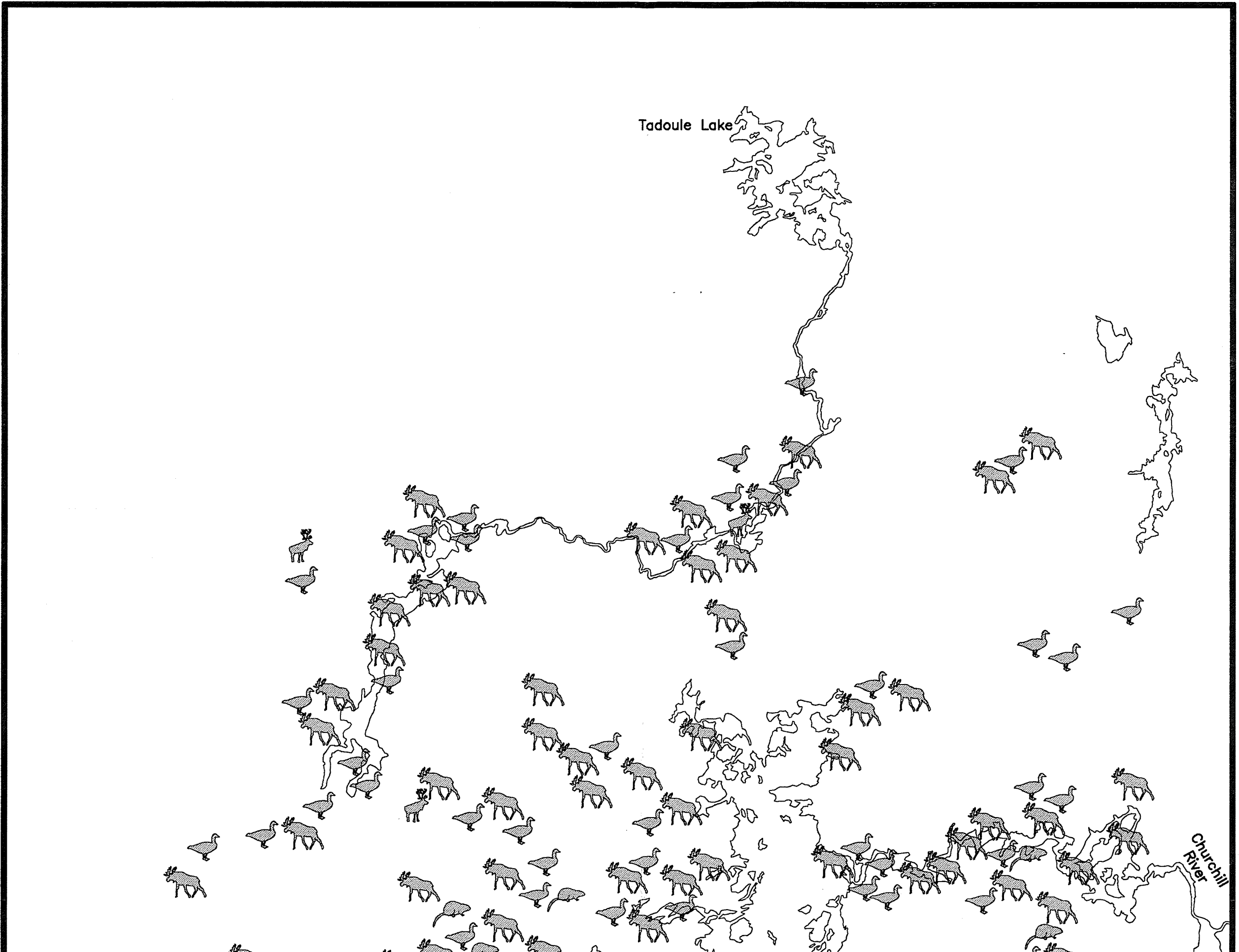
Trapping from SIL occurs over a considerable area. Trapping locations were documented over two time periods and are shown in Figures 2 and 3. Most of the 35,000 km² area defined by the RTL section has been used for trapping purposes. Early trapping ranged considerably beyond it. Pre-RTL trapping travel was mapped up to 340 km one-way from SIL. Post-RTL trapping occurs within roughly 200 km of the community, over much of the RTL zone.

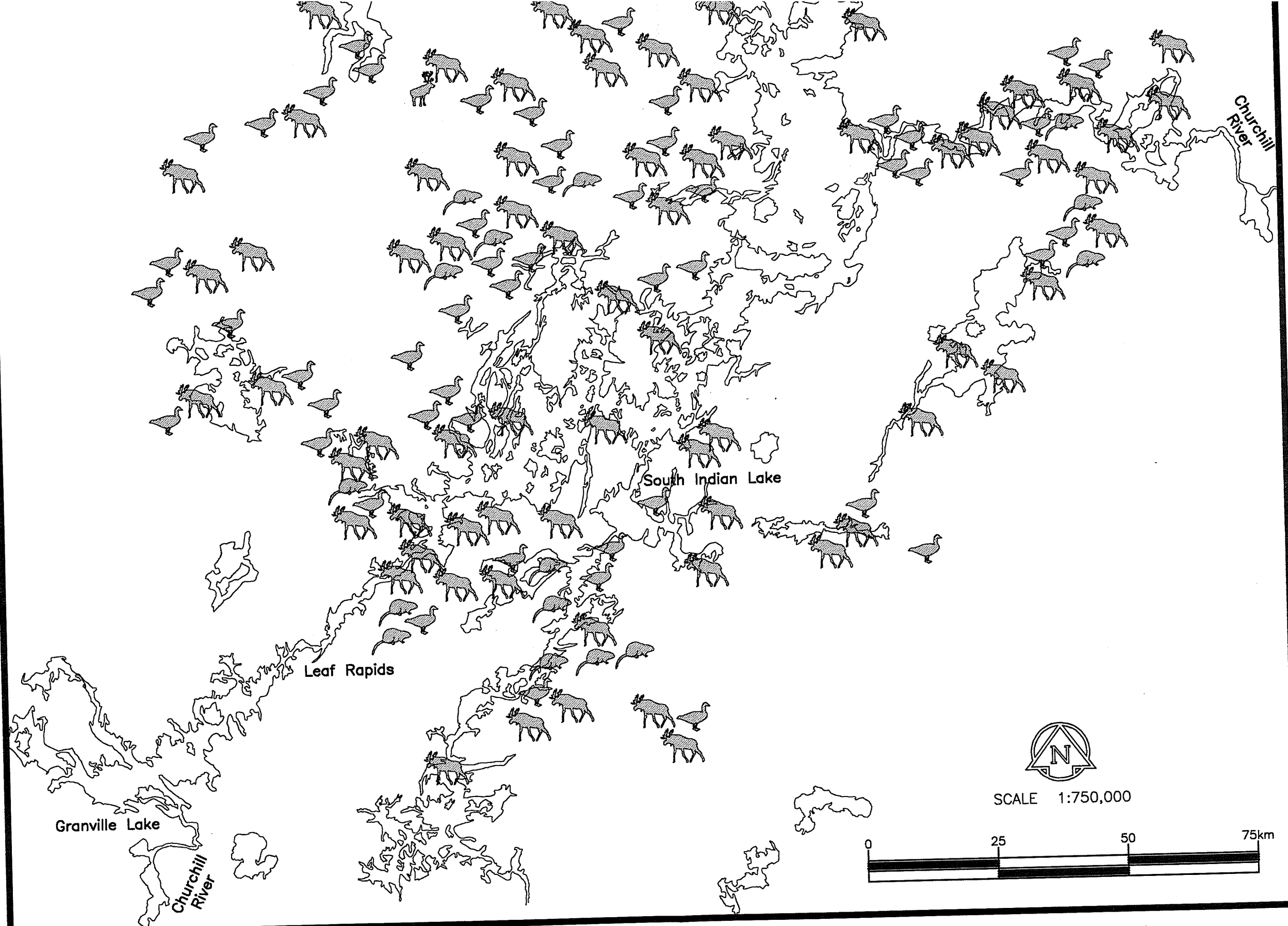
Prime hunting locations for several species were documented for current use only and are shown in Figure 6. A total of 232 prime sites in four wildlife classes were identified by 32 individuals. Three sites were mapped for caribou, 102 for moose, 108 for waterfowl, and 19 for muskrat. Most of these sites (82%) were within 125 km of the community by air. All the identified locations were within 175 air km. However, as well, caribou hunting was mapped up to 410 km one-way from SIL. Hunting sites ranged throughout the RTL section, marked in 39 of 50 traplines. The location of these sites was not simply dependent on proximity to the community or to the main lake.

Figure 6: PRIME AREAS SIGNIFICANT TO CURRENT SIL WILDLIFE HARVEST

**PRIME AREAS SIGNIFICANT TO
CURRENT SOUTH INDIAN LAKE
WILDLIFE HARVEST**

SOUTH INDIAN LAKE
LAND USE AND OCCUPANCY





LEGEND:



WATERFOWL



MUSKRAT



CARIBOU



MOOSE

**PRIME AREAS SIGNIFICANT TO
CURRENT SOUTH INDIAN LAKE
WILDLIFE HARVEST**

**SOUTH INDIAN LAKE
LAND USE AND OCCUPANCY**

4.3.2 Extensive travel

The travel of SIL residents ranged considerably beyond the core area represented by maps of basic trapping and hunting (Figure 5). These travels were undertaken for employment, for hunting, for recreation, or for social purposes.

Early mapped extensive travel showed trapping and hunting activity up to 340 km from SIL. Trips by dogteam for trade of furs up to 420 km one-way were mapped. Employment freighting goods by canoe to SIL took community members 390 km one-way to Cold Lake. Social travel was mapped to Split Lake (165 km), to Brochet (240 km), and to Nelson House (170 km), among others.

More recent extensive travel by dogteam, boat, or snowmobile has generally been limited to trapping and hunting trips. Social visits are generally accomplished by road or by air. Hunting was mapped up to 410 km from SIL. Trapping is limited to the RTL zone.

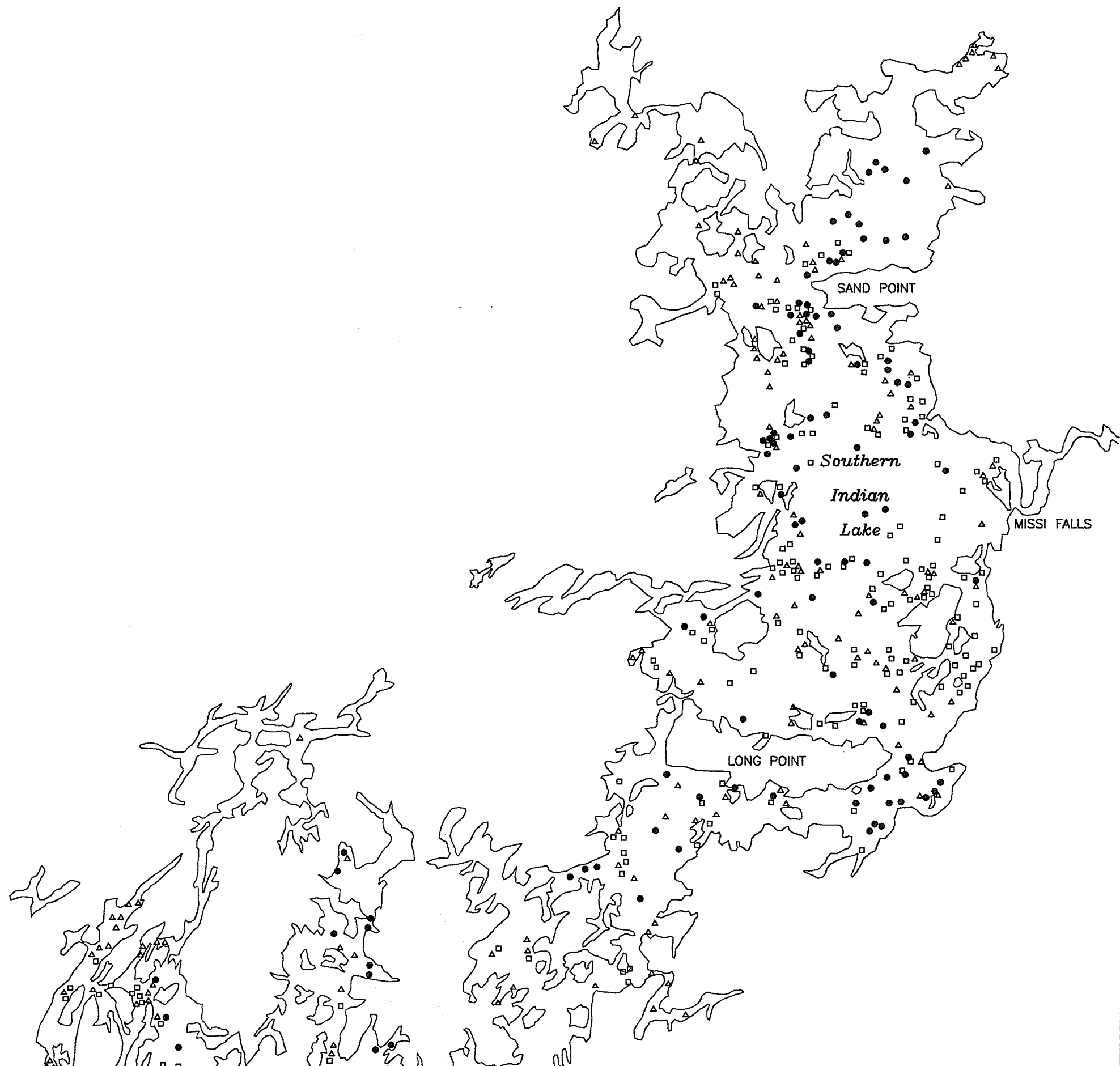
4.3.3 Fishing

Southern Indian Lake has been extensively fished by the community (Figure 7). For pre-flooding summer sites, 212 net locations were identified as the best and most consistent. Winter sites numbered 168, totalling 380 prime locations identified for fishing before the flood. The post-flooding fishing sites were not separated by season, and totalled 114.

Furthermore, commercial fishing has been widespread on inland lakes within the area. A total of 58 inland lakes which had at some point

been commercially fished by SIL permit holders were identified. Some of these lakes have also been used for domestic fishing purposes. An additional 37 lakes fished domestically were identified in 21 interviews.

Figure 7: PREFERRED COMMERCIAL FISHING SITES IDENTIFIED, SIL





LEGEND

- ▲ SUMMER, PRE-IMPOUNDMENT
- ◻ WINTER, PRE-IMPOUNDMENT
- POST-IMPOUNDMENT

**PREFERRED COMMERCIAL
FISHING SITES IDENTIFIED,
SOUTHERN INDIAN LAKE**

SOUTH INDIAN LAKE
LAND USE AND OCCUPANCY

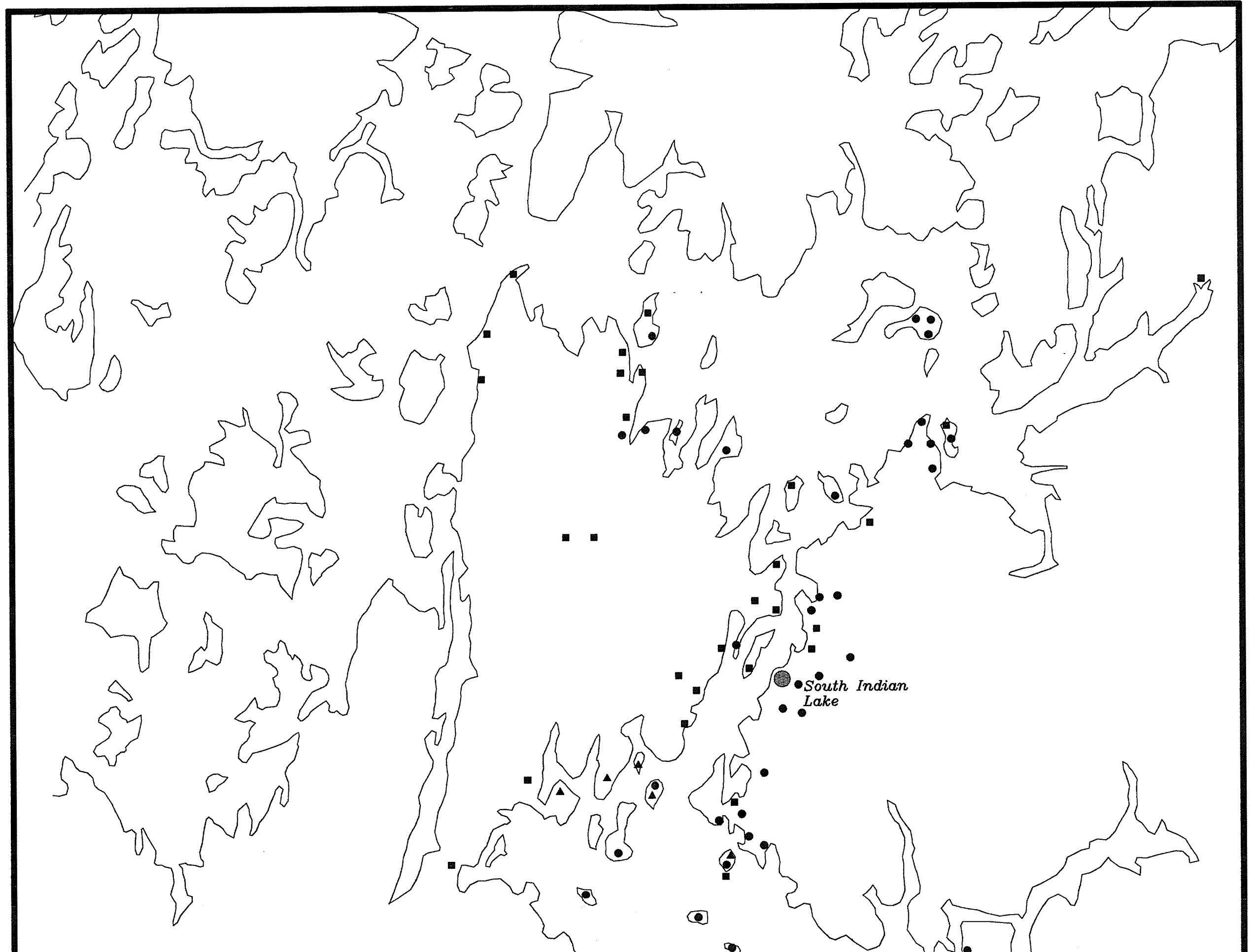
4.3.4 Plant harvests near the community

The harvesting of firewood, berries, and construction logs is commonplace near the community (Figure 8). In total, 41 distinct sites were identified in the vicinity for berry picking, 52 different locations where firewood was recently harvested, and 9 sites for construction timbers. Nearly all the identified locations (92 of the 102) were within 16 km of SIL by water. All identified locations were within 24 km. Considerable harvest of these items takes place at fish camps and traplines, but was not recorded.

Figure 8: CURRENT PLANT HARVESTS NEAR SIL

**CURRENT PLANT HARVESTS NEAR
SOUTH INDIAN LAKE**

SOUTH INDIAN LAKE
LAND USE AND OCCUPANCY





LEGEND

- ▲ CONSTRUCTION LOGS
- BERRIES
- FIREWOOD

**CURRENT PLANT HARVESTS NEAR
SOUTH INDIAN LAKE**

SOUTH INDIAN LAKE
LAND USE AND OCCUPANCY

4.4 HARVEST TRENDS, CHANGES, AND ADAPTATIONS

4.4.1 Trends in trapping

The extent and location of trapping activity was considerably influenced by formal registration of traplines in 1946. Prior to this date, by law any individual could trap anywhere in the region. The establishment of registered traplines followed physical features of the landscape, and allocated exclusive rights for the fur of each line to the registered trapline holder. Trapping travel prior to registration tended to be wider-ranging and more linear than that which came after trapline registration. Trapping was also regularly carried out beyond the current RTL perimeter, particularly to the north and south. Travel for trapping purposes within registered traplines became more circuitous in structure, the pattern of use more intensive (Figures 2, 3, and 4).

In the interviews, respondents discussed changes in species distribution over time. As a comparison with these observations, the DNR sales records of species particularly mentioned, marten and muskrat, were tabulated for verification (Table 1). Over the pre-impoundment period 1948/49 to 1972/73, the mean number of muskrat sold by SIL trappers was 7,829/year. Over eight post-impoundment years for which data was available from 1977/78 to 1988/89, the mean number sold was 1,222/year. The later catch as a ratio of the earlier is 15.6%.

Using the same time periods for sales of marten from SIL trappers, the mean for the early period was 29/year; the late period, 848/year. The earlier catch as a ratio of the latter for marten is 3.4%.

TABLE 1

DNR FUR SALES RECORDS FOR SIL: MARTEN AND MUSKRAT

PERIOD	YEAR	MUSKRAT	MARTEN
PRE- IMPOUND. (A)	1948/49	19,763	0
	1949/50	12,555	0
	1950/51	7,640	9
	1951/52	8,362	12
	1952/53	11,288	25
	1953/54	8,992	13
	1954/55	10,609	16
	1955/56	14,410	55
	1956/57	10,806	12
	1957/58	12,601	23
	1958/59	11,139	21
	1959/60	8,956	14
	1960/61	7,197	30
	1961/62	4,709	0
	1962/63	3,145	0
	1963/64	4,835	2
	1964/65	7,293	16
	1965/66	11,955	95
	1966/67	5,923	114
	1967/68	3,993	18
	1968/69	2,623	31
	1969/70	1,913	152
	1970/71	2,242	20
	1971/72	1,353	32
	1972/73	1,430	16
	<hr/>		
	TOTAL A	195,732	726
	n=25		
	MEAN A	7,829	29
<hr/>			
POST- IMPOUND. (B)	1977/78	1,998	324
	1978/79	1,224	617
	1979/80	1,900	537
	1981/82	810	772
	1982/83	977	813
	1983/84	1,548	736
	1987/88	700	1,632
	1988/89	622	1,354
	<hr/>		
	TOTAL B	9,779	6,785
	n=8		
	MEAN B	1,222	848
<hr/>			
		MUSKRAT B/A = 15.6%	MARTEN A/B = 3.4%

Data for individual trapline production is unavailable before 1961/62. Prior to the date of impoundment, the zone later flooded produced 34,114 muskrat from 1961/62 to 1972/73, averaging 2842.8/year (Appendix B, Table B11). After impoundment, this flooded group of traplines produced 3,234 muskrat over six years between 1977/78 and 1988/89, averaging 539.0/year (Appendix B, Table B13). The zone which would not later be flooded produced 17,294 muskrat over the same period prior to the date of impoundment, averaging 1441.2/year (Appendix B, Table B12). In the post-impoundment period, this unflooded zone produced 4,634 muskrat over the same six years, averaging 772.3/year (Appendix B, Table B14).

4.4.2 Changes in fishing

The location, effort expended, and economics of the commercial fishery were substantially altered by impoundment of Southern Indian Lake. Figure 7 indicates the alteration of location of productive net sites. Only fifteen sites were identical in location before and after the flood, from a total of 494 marked sites, pre- and post-impoundment.

The size of catches as well as effort expended changed with flooding. Fisheries researchers utilize the concept of 'catch per unit of effort' as an indicator of the relative performance of a fishery. Catch is measured against some standard of effort for a specific period: in this case, kilograms of saleable whitefish caught per 100-yard net for an equalized period of one night. In this study, recalled fish harvest information was gathered to reflect a measure of catch per unit of effort. Twenty-three fishermen provided responses

for pre-flood catches, seventeen post-flood (Table 2). The mean reported pre-flood catch was 92.5 kg/net/night, the median 62.4 kg/net/night, and the range 229.4 kg/net/night. The mean reported post-flood catch was 12.2 kg/net/night, the median 10.2 kg/net/night, and the range 26.8 kg/net/night.

TABLE 2
 RECALL COMMERCIAL WHITEFISH HARVEST RESPONSES:
 PRE- AND POST-IMPOUNDMENT, SOUTHERN INDIAN LAKE

Int. #	Response		Conversion	
	pre	post	pre	post
1	100 f/n/n	7-8 t/n/n	110 kg/n/n	13.7 kg/n/n
6	1400 f/6n/n		256.7 kg/n/n	
7	250-300 lb/n/n	4-6 t/n/n	125 kg/n/n	13.7 kg/n/n
11	7 t/5n/n	3 t/5n/n	38.2 kg/n/n	16.4 kg/n/n
14	1400 f/6n/n		256.7 kg/n/n	
17	16 t/7n/n		62.4 kg/n/n	
18	1800 lb/n/n		233.8 kg/n/n	
19	60 f/n/n		66 kg/n/n	
22	16 b/5n/n		87.4 kg/n/n	
24		14 t/18n/n		21.2 kg/n/n
26	2000 lb/15n/n		60.6 kg/n/n	
29		1-1.5 t/n/n		34.1 kg/n/n
31		10 t/24-30n/n		10.1 kg/n/n
32	1 b/n/n		27.3 kg/n/n	
33	10 t/7n/n	3-5 t/15n/n	39 kg/n/n	7.3 kg/n/n
34	17 t/15n/n	8 t/30n/n	38.2 kg/n/n	7.3 kg/n/n
35	1000 lb/6n/n	650 lb/25n/n	75.8 kg/n/n	11.8 kg/n/n
36	15 t/15n/n	8 t/20n/n	27.3 kg/n/n	10.9 kg/n/n
37	10 t/8n/n	8 t/20n/n	34.1 kg/n/n	10.9 kg/n/n
38	5 b/n/n	6 t/22n/n	136.5 kg/n/n	7.4 kg/n/n
39	2 t/n/n	8 t/24n/n	54.6 kg/n/n	9.1 kg/n/n
40	100 lb/n/n	8-10 t/26n/n	45.5 kg/n/n	9.5 kg/n/n
41	8-10 b/7n/n	4 t/15n/n	35.1 kg/n/n	7.3 kg/n/n
42	15-20 t/5n/n	5-10 t/20n/n	95.6 kg/n/n	10.2 kg/n/n
46	10 t/7n/n	4 t/15n/n	39 kg/n/n	7.3 kg/n/n
47	40 b/6n/n		182 kg/n/n	
TOTAL			2126.8 kg/n/n	208.2 kg/n/n
MEAN			92.5 kg/n/n	12.2 kg/n/n
STANDARD DEVIATION			73.4 kg/n/n	6.8 kg/n/n
RANGE			229.4 kg/n/n	26.8 kg/n/n
MEDIAN			62.4 kg/n/n	10.2 kg/n/n

NOTE: kg/n/n = kg/net/night; t=tub; b=box; f=fish
 1 fish = 1.1 kg dressed; 1 tub = 27.3 kg
 round to dressed medium whitefish = 0.87 multiplier

4.4.3 Changes in time spent in the bush

Contemporary SIL community members spend less time in the bush than they did at a younger age (Table 3). None of those interviewed indicated that they spent relatively more time in the bush than previously. Four indicated that they spent about the same amount of

TABLE 3
RELATIVE TIME SPENT IN BUSH, WITH STATED REASONS

Int. #	More	Less	Same	Stated Reasons
9		*		
17		*		family responsibilities
20			*	
21			*	interested in bush life
22			*	family likes it
26		*		difficult travelling
27		*		grandfather used to stay 2-3 months
29		*		schooling for children
32		*		conveniences of town
35			*	feels "lonely" in town
36		*		more work then
38		*		less opportunities for a family life now in the bush
39		*		low fur prices
41		*		better dollar return for less time
42		*		major part of trapline burnt
44		*		family and other responsibilities
	—	—	—	
	0	12	4	n=16

time, and twelve that they spent less.

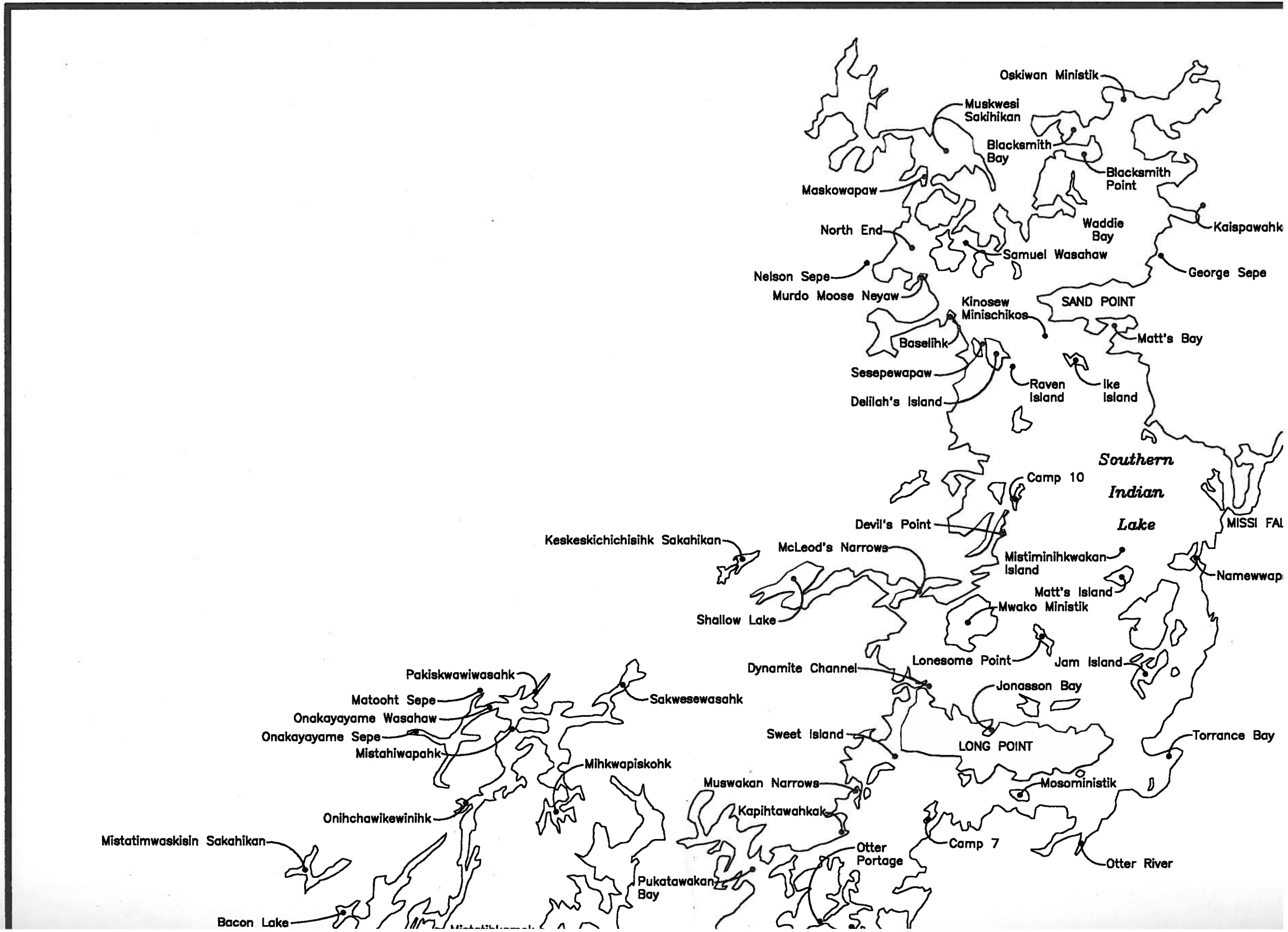
4.5 VITALITY AND IMPORTANCE OF RESOURCE-BASED ACTIVITY

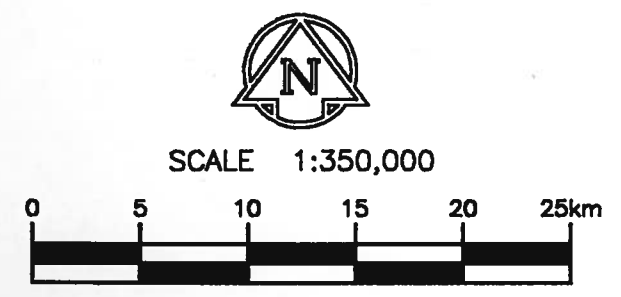
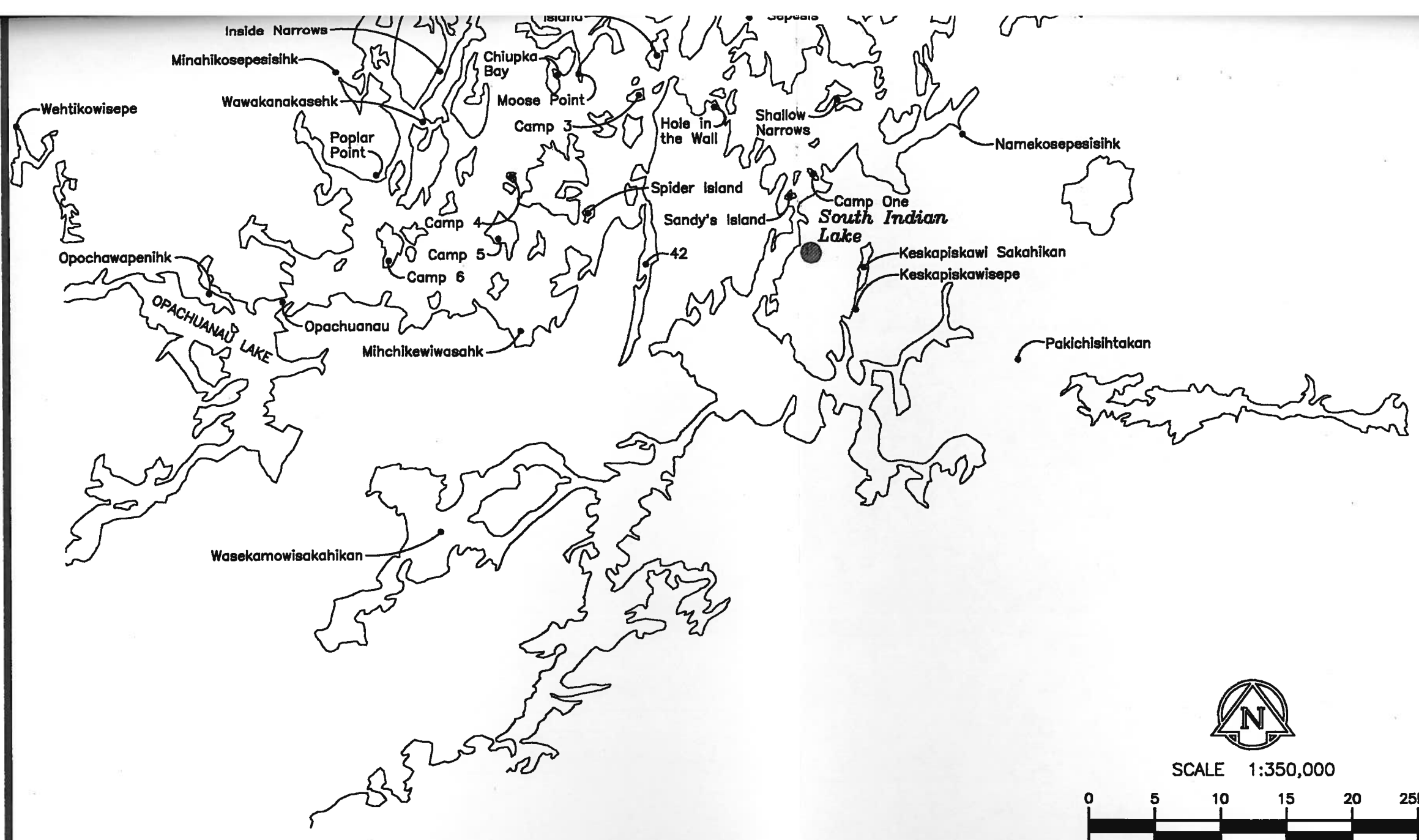
4.5.1 Mapped involvement

Activity in resource harvesting within the community remains high. Maps of post-RTL travel (Figure 3) and extensive travel (Figure 5) have components of current and ongoing activity. Most of those who contributed to the post-RTL map (32 of 36) remain engaged in trapping and hunting at the time of this study. Therefore, Figure 3 adequately represents activity in the present, as well as travel since 1946. The maps of wildlife harvesting (Figure 6) and of berry and wood harvest (Figure 8) have no historical component, but are descriptive of a portion of today's community activity in these sectors. In a different way, the map showing toponyms around Southern Indian Lake indicates the continued involvement of the culture in life on the lake (Figure 9). Community names for local geographical features far outnumber the official toponyms of a topographic map, and are in widespread usage.¹ Furthermore, the map of other interests in land shows a more recent use of traditional skills and resources: 10 locations of licensed tourist facilities operated by 3 SIL enterprises (Figure 10).

¹ See Appendix B, Table B10 for the meanings of Cree toponyms. In mapping toponyms, Cree or English place names were both collected, as community usage determined.

Figure 9: COMMUNITY TOPONYMS, SOUTHERN INDIAN LAKE

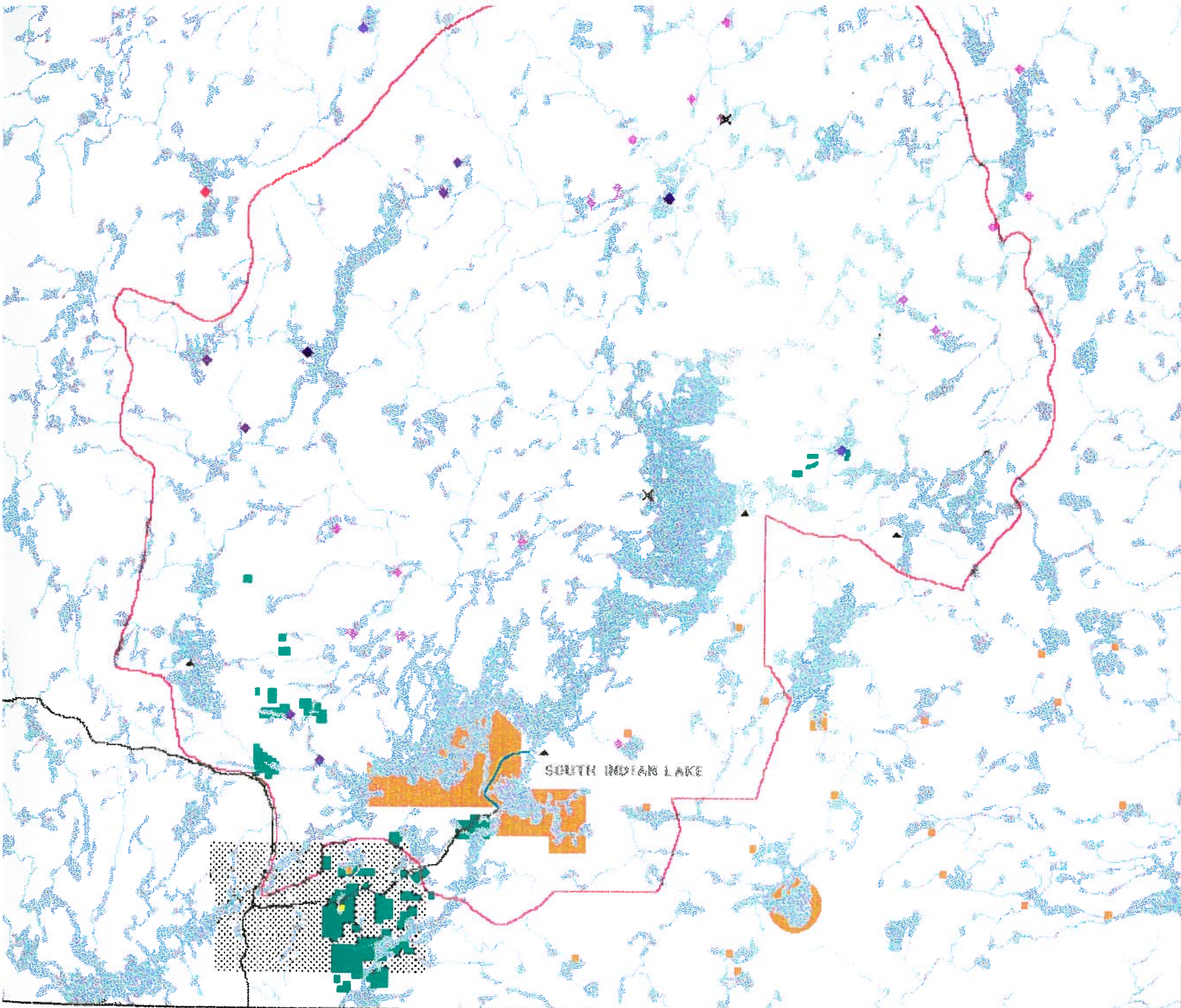




**COMMUNITY TOPONYMS,
SOUTHERN INDIAN LAKE**

**SOUTH INDIAN LAKE
LAND USE AND OCCUPANCY**

Figure 10: OTHER INTERESTS IN LAND IN THE SIL REGION



- | | | |
|--|----|-------------------|
| | 1 | Roads |
| | 2 | Transmission line |
| | 3 | RTL perimeter |
| | 4 | NFA exchange |
| | 5 | Active mineral |
| | 6 | Ruttan mine |
| | 7 | Leaf Rapids town |
| | 8 | Lodge: SIL own |
| | 9 | Outcamp: SIL o |
| | 10 | Lodge: other ov |
| | 11 | Outcamp: other |
| | 12 | Private land |
| | 13 | Government cam |

20 40 Kilometres 1:943937



4.5.2 Importance of bush life

The reasons for the continuing importance of bush life can be classed as personal, economic, and cultural. Responses to the question of the current importance of bush life to individuals are summarized in Table 4. From the 25 respondents, 22 stated personal motivations, 20 economic, and 13 cited cultural or social reasons for their continued involvement.

Personal motivations involved some sense of greater freedom in the bush relative to town living. Other personal responses mentioned a sense of increased opportunity (lots to do), health, or personal fulfillment. Cultural motivations cited included tradition and the teaching role of parents or elders.

TABLE 4
STATED IMPORTANCE OF BUSH LIFE, WITH CLASSED MOTIVATIONS

Int. #	MOTIVATIONS			Comments
	Personal	Economic	Cultural	
9	*	*		you're free in the bush; lots of food
12		*		livelihood was good; everything was rich
14		*		costs less to live on the trapline
16	*	*		people can eat whatever they want
17	*	*		where he gets his food; family in bush
18	*		*	totally used to it; free to do as you feel
20	*		*	lots to do in the bush
21	*	*	*	no drinking; well off
24	*	*		food; quiet
25	*	*	*	scenery; more alive in the bush; less expensive; raised that way
26	*	*	*	quiet; healthier; loves making his living that way
27	*	*	*	likes hunting; quiet
29	*	*	*	peaceful; part of culture; can live on wild meat
30	*	*		fish, moosemeat; contentment
32	*	*		independence; spiritual reasons; confidence from feeding self
33		*	*	likes the way he was taught to survive
35	*	*	*	food; loses appetite on store food; traditional way of life
36	*		*	likes travelling; the quiet; lots to do
37	*	*	*	likes traditional life; freedom; feels better
38	*	*		to feed family; being own boss
41	*	*		more freedom; fresh air; of value regardless of money
42	*	*		likes feeding himself; where he makes his living
44	*		*	in your blood; freedom; dreaming what it used to be like
46	*	*		life as he wants; live for next to nothing; prefers bush life
47	*		*	likes hunting; no one waking you up
	22	20	13	n=25

4.5.3 Future of bush life

From a community perspective, the future involvement in, and viability of, a resource-harvesting lifestyle seems somewhat positive (Table 5). Of the 29 who responded, 6 felt that bush life would remain more or less the same; 10 felt that it would continue as a mainstay, if in altered form; 6 were uncertain; and 7 felt that kids weren't interested in continuing the lifestyle or that there was no future in it. If the uncertainty class is taken as a fulcrum, 16 positive responses more than balance the 7 arguably negative.

There was no apparent correlation between the stated relative time spent in the bush (from Table 3) and the stated opinion regarding the future of bush life.

The perspective expressed considering the overall future of SIL was more bleak. Only 8 of 21 respondents expressed a hopeful or constructive approach to the community's future (Table 6).

TABLE 5
FUTURE OF BUSH LIFE CORRELATED WITH RELATIVE TIME SPENT

Time spent	Int. #	Stated opinion on bush future	Scored		
	9	uncertain; need for teacher for bush life	C		
	17	jobs and bush life compatible	B		
	26	skills declining; hard to make a living	C		
	29	have to rely on it in long run	A		
LESS	32	kids lack interest	D		
TIME	36	continue even if it doesn't pay	B		
IN	38	kids have a real interest	A		
BUSH	39	a few will trap and fish	B		
	41	involvement will be recreational	B		
	42	will go out regardless of economics	A		
	44	part-time; there will always be hunting	B		
SAME	20	young people interested in different life	D		
TIME	21	people will continue in part with bush food	B		
IN	22	kids will continue	A		
BUSH	35	trapping will disappear as a way of life; recreation/tourism as new income source	B		
	12	possibly nothing in future on account of diversion	D		
	13	kids today not interested in bush life	D		
NO	14	bush life will possibly fail	C		
RESPONSE	15	grandson will continue fishing or maybe get a job	B		
IN	19	kids not interested in trapping or fishing	D		
TABLE	24	available in the future the same as for him	A		
3	25	who knows what will be left; developments always coming up	C		
	30	do it for sport	B		
	31	if trapping keeps up, a future for bush	C		
	33	doesn't want own kids to follow bush life	D		
	34	sees no future in fishing or trapping	D		
	37	older kids will follow a similar pattern	A		
	46	hopes that kids don't forget it altogether	B		
	47	doesn't know	C		
A = same; B = continue with changes; C = uncertain; D = no future					
TOTALS	A=6	B=10	C=6	D=7	n=29

TABLE 6
STATED OPINIONS OF SIL COMMUNITY FUTURE

Int. #	Comments
8	future "like a steel door" to close anytime; children don't listen to traditions; language being lost
9	used to be better
12	future generations will have to be supported by government or Hydro
13	not much future
14	there are going to be shortages of game and goods
17	better to start a new settlement where it is unflooded
21*	own reserve with separate band status
23	hard for future generations; maybe they can live on whiskeyjacks
24	life hard with community growing in size
25	personally, no choice but to stay here
26	poor future; government grants cut from education
29*	community will always be here; jobs required to supplement bush living
30*	education as a key to making a living in the future
34	plans possibly leaving the community with his family
35*	addictions worker required for real social change
37*	need for education for community to regroup; teach children values and behaviour to allow future change
38	future heading down; nobody wants to work
39*	community will always be there
41	protect area from further development
44*	get enough people interested and get the community on its feet; Big Sand Lodge as a model for development: brings pride and a sense of accomplishment
46*	more jobs required; leadership required

* = hopeful or constructive in outlook = 8 n=21

Chapter V

DISCUSSION

The results of this study demonstrate active use of local resources by the SIL community which builds upon historic use and occupancy of the region. Current use is an adaptation and extension of previous uses. Likewise, future use will see adaptive reallocation of resources by the community to meet future demands and conditions.

SIL continues as a community in transition, as do all others. Harvest of resources and time spent engaged in bush life has altered over living memory. The importance of this engagement has cultural, personal, and economic components which are interrelated. Changes in these components lead to adaptations in activity. Overall, the vitality and continued importance of the bush life to the community are amply in evidence. The future involvement of community members in bush life seems a preferred scenario.

5.1 MAPPING CONSIDERATIONS

5.1.1 Sample representation

The mapped results represent a minimal picture of the degree of community activity. At every point, the study methods tend to underrepresent the portrayal both of the extent and intensity of use.

The sampled population is a subset of the larger active harvesting population of SIL. Most of the maps represent the activity of a minor portion of the harvesters of the community. Information on domestic fishing, for example, was gathered from perhaps 20 or 25% of the relevant population. Some effort was made to include in the sample many of the steady hunters, trappers, and fishermen. In this sense, a linear extrapolation of the results would not be expected. However, it is clear that a more complete sample would result in more comprehensive coverage.

The map biographies were compiled exclusively with adult males. In so doing, an entire class of resource harvesters has been neglected. This was a methodological choice due to time limitations, but its bias and possible effects should be noted. There may be roles in land use that would not be well reported by males. Potentially, women's involvement would be greater in rabbit snaring, berrypicking, and the collection of medicinal plants. Whatever the case, the sample nearly neglects women's harvesting altogether.

Furthermore, the travel and trapping routes marked are only the major routes, and in no way represent the minor trapping trails nor the lifetime travel of individuals. In a similar manner, camps marked are a fraction of the places where individuals might have spent the night (or several nights) while travelling. The maps of wildlife areas are those of favoured hunting grounds. Descriptions of these core areas tend to an understatement of the actual hunting range (Freeman 1976). Similar comments will be made through the various segments of the body of this discussion.

Throughout the interview process, where a respondent was unsure of a travel route or location, out of policy it was not marked. This has a conservative effect, minimizing the total representation. What exists would tend to be accurate, but of a lesser magnitude.

Therefore, an evaluation of the study results should at all points recognize the minimizing effects which the sampling and study methods have imposed. Community resource use and land occupancy has been generally underrepresented. No limited definition of complete land use can be drawn from the resultant maps, as the maps depict a minimal, rather than comprehensive representation.

5.1.2 Map biography and compilation

The map biography technique has some inherent strengths and weaknesses. A map biography likely does not demonstrate the amount of travel by any individual. For example, where a trapper has remained on one trapline for his adult lifetime, the hundreds of trips across the same trails would not be shown using this technique. Further along this line, the biography does not distinguish the full-time resource harvester from the casual or weekend hunter. To a degree, this is appropriate: harvesting is harvesting. To the individual, occasional subsistence harvesting may have a high degree of importance. Where the degree of full-time use is high, as in SIL, again the travel may be understated.

The compilation of individual biographies overcomes some of the shortcomings of the technique. Meaning is to be found in the collective use of the area and its resources. The representation of

collective use provides a good indication of occupancy: the longer-term territorial aspect of use of the land. It provides a good indication of the territorial extent and intensity of use where the information collected is solid and representative. This is the density aspect of intensity: how closely the land is known. It provides a lesser indication of the frequency aspect of intensity of use.

5.2 LAND USE AND OCCUPANCY

5.2.1 Historic occupation

Occupation of the SIL area by some of the ancestors of the current SIL population is of greater duration than has been previously suggested. The LWCNRSB report included a short community history of SIL, and determined that the community appeared to have been established around the HBC outpost in the late 1920's, as family groups settled at the site (Collinson 1975). Following Collinson, Waldram (1983) suggested that the "re-establishment of the Hudson's Bay Company post in the 1930's effectively marked the birth of the community."

The results of this study suggest that residency on a permanent basis was longer than these writers propose. Furthermore, evidence from the HBC post history contradicts their chronology. The HBC operated an outpost at SIL from "c.1868 - c.1945", after which it gained post status (HBC Archives, South Indian Lake post history). The research shows a stable nucleus well prior to 1945, or even before the 1920's.

Waldram's account is not so clearcut as Collinson's, and suggested that there were people in the region in the early 1800's. John

Charles' post journal (Charles, HBC Archives, B.91/a/8) confirms that Cree and Chipewyan were trading at SIL in 1823. It is likely that these represented, respectively, the northern and southern extensions of these cultural groups in the region. At the time, the area was occupied in part by Cree peoples, though the boundaries and the seasonality of the occupancy remain undefined.

Two further elements are worth consideration. The first is that establishment of a date has been attempted from an ethnocentric viewpoint -- centred around the existence of a commercial enterprise or the influx of non-native trappers. The second is that this date represents an arbitrary point on a continuum, and not a unique starting point.

The fluidity with which people moved between the Threepoint Lake (now Nelson House) and SIL areas has been shown by the recognition of the names of those trading at Nelson House in 1893. These were all adult males at the time, over a range of ages. The interview responses confirm the semi-nomadic nature of life in the region by the high number of those known to have come to SIL. It seems likely that a general pattern of winter and spring occupancy of the area (Opeepunnapweewin) prevailed, with summers spent further south. But the almost equally high number who were not known in SIL and the few who remained to be buried there might suggest a partitioning of the territory, even at a relatively early date.

It does seem clear that at least by 1915, numbers of families were located in an area near the present SIL. It also seems apparent that there was an influx from Nelson House after establishment of the reserve. However, if the figure of Kakakeow is seen as an historical one, this date is merely one involving greater numbers. Setting a date seems arbitrary when what is being considered is a gradual movement from nomadic to more settled existence.

Furthermore, interviews pointed out a number of locations where communities of people had "settled" in the SIL region. Misipaskweow, on the Rat River approximately 15 km from South Bay, was identified several times as the location of a 'permanent' settlement. Likewise, a group seemed to locate for a period at the current Barlow Lake. Another settlement was identified at Kaispawahkasehk near the north end of Southern Indian Lake off Waddie Bay (Figure 9).

In other words, setting a date for community establishment can be seen as a somewhat arbitrary exercise. Furthermore, it does not define the period of occupancy. It should be seen as a point in a continuum of use and occupancy rather than as a novel movement into an otherwise vacant niche or territory.

5.2.2 Geographic extent of land occupancy and resource use

The results portrayed in the maps of travel (Figures 2, 3, 4, and 5) are central to a demonstration of land use and occupancy, and form the heart of this study. The image portrayed is of a land base which has been travelled extensively and which is known intensively. This is not

wilderness as it might be perceived from a mainstream perspective, but home: known, travelled, and used in the past and in the present. A central point, easily missed, is the minute detail by which the land is known. This quality of detail is easily overlooked in such a study. It stands as an indication of the close connection between the culture and its land base. In sharp contrast, the same geographic area is viewed in a legal context as 'unoccupied Crown land'.

The map of pre-RTL travel and camps (Figure 2) represents travel prior to 1946. Consequently, the sample size is small, 9 biographies contributing to the map. It shows some features which prefigure that of the post-RTL travel. The main routes have begun to emerge. This is largely a function of topography, though it also reflects a particular interest in the northern trapping grounds. Secondly, two areas (Barlow and Northern Indian Lakes) also show activity which is like that of the later traplines.

In contrast to the post-RTL map, the pre-RTL travel was in large part extended and linear. Long trips were made setting traps which would be checked on return. The exclusive use of dogteams would facilitate direct travel with minimal clearing of bush required. It would also allow extensive use of rivers as safe winter routes.

In contrast with current trapping usage, the Tadoule Lake region was regularly used by South Indian Lake trappers. Trapping activity in the Stanley River and Shethanei Lake area was mapped as far as the Wolverine River and Little Duck Lake. The Seal River region at that

time was favoured for marten, and areas further north for white fox when high prices warranted distant travel.

The mapped travels do not reflect the full range of activity. Five interviews contained anecdotal accounts of travels which could not be mapped, and which extended beyond the current RTL section. They were not recorded because of failing eyesight or from an inability to relate the journey to a topographic map. Trips as far as Nueltin Lake and to Churchill were described by several persons. Likewise, a memorable journey "to the barrens" was corroborated by several sources, but the principal actor was unavailable, having been permanently hospitalized for some time. Therefore, travel prior to 1946 is considerably understated by the study maps.

Travel since 1946 is better represented by the resulting composite map, though here too, limitations must be recognized. Principal routes suggested by the earlier map are developed. The major contrast comes in the relative circularity of travel as opposed to linearity prior to trapline registration. Furthermore, the overall impression is of much more intensive use. The appearance of the travel maps is similar to those of the western Arctic (Freeman 1976, 111).

Some areas on the post-RTL map are less densely marked than the majority of the RTL zone. Areas of low defined use result, on the one hand, from relatively little use (such as traplines 26, 49, and 17). These areas are generally a long distance from SIL and difficult to get to, being off major travel routes.

On the other hand, many areas of apparent low defined use result from sampling bias. To sample 36 respondents given 50 traplines necessarily leaves substantial gaps. Traplines (such as 5, 43, 8, 53, and 31) would likely show a density of marked travel quite similar to that of most of the rest of the map. Therefore, even though the post-RTL depiction of travel is more representative, it still understates usage from 1946 to the present. The network of trails displayed on a fully representative map of community activity would blanket the majority of the RTL section.

A much wider area than the core area around the community has been used transiently (Figure 5). Trapping or hunting in these areas accounts for a portion of this travel. However, a significant amount resulted from freighting for the HBC, travel to trade furs, or from social visits to surrounding groups. This travel does not so much suggest occupancy of a wider area, but the interlocking nature of regional land use among groups.

5.2.3 Overlapping use of resource areas

To some degree, overlapping use of adjacent resource areas occurs between neighbouring communities. The SIL RTL zone is surrounded by, to the north and west, the Chipewyan fur block; to the east, the Split Lake RTL; to the south, the Nelson House RTL; and to the southwest, the Pukatawagan RTL. Overlap in trapping is minimal, and not at all prevalent where the area is actively trapped by the registered community. In the case of hunting, more extensive overlap takes place.

The more obvious overlapping for SIL occurs with Tadoule Lake and Nelson House. As seen from the map of pre-RTL trapping travel (Figure 2), the Tadoule Lake region was formerly frequented by SIL residents. The Churchill Band was at Caribou Lake until approximately 1940, at Little Duck Lake until 1957, when they were moved to Churchill (Waldram 1987). In the early 1970's a number moved to South Knife Lake, and then to the current location at Tadoule Lake in 1973.

There has been long-term overlap of these ranges. Elders at SIL tell of their parents seeing Chipewyans at Sand Point, having come to trade at SIL. The 1823 HBC New Churchill (SIL) post journal details trading with both Cree and Dene groups. Some overlap currently occurs as well. SIL hunters follow caribou a considerable distance north of the RTL boundary, occasionally up to 200 km. In turn, Tadoule hunters follow the Seal river upstream to hunt moose, sometimes as far as Chipewyan Lake. In summer, because of rapids on the river, travel by boat upstream from Tadoule is feasible only when the boat is relatively empty. A moose in the boat would be a difficult load with which to buck the current if initial travel was downstream to Negassa or Shethanei Lakes. In spring, goose hunters from Tadoule Lake move up the Seal to the area around Porcupine Rapids. So, mutual overlapping use is the case with the northern section.

The situation to the south with Nelson House is somewhat more complex. Hunting south from SIL, down the flooded Rat River system particularly for moose is common. Also, one SIL resident holds a Nelson House trapline which borders the SIL RTL. In terms of

commercial fishing, the quotas of two inland lakes are held jointly between SIL and Nelson House residents. Two thirds of the Gauer Lake quota is now held in SIL. The Uhlman Lake quota is split in half between SIL and Nelson House fishermen. Membership in the SIL Fishermen's Association, with access to fish on Southern Indian Lake, is effectively controlled by the community and essentially held to community members.

Occasional use of the area along the South Bay road for moose hunting by Nelson House residents has been suggested. Otherwise, overlapping into the SIL resource area by Nelson House through hunting or trapping would seem to be minimal. There is a sense in SIL that some of the northern Nelson House traplines are underutilized. The SIL Trapline Liaison Officer (DNR) said that Nelson House traplines at Gauer, Uhlman, and Livingston Lakes had not been used recently, though Baldock Lake was in use (personal communication 1991). A more uncertain type of overlap exists with the presence of Nelson House land exchange areas from the Northern Flood Agreement within the SIL RTL section (Figure 10 and Appendix B, Table B3). Negotiations have been underway for a portion of this to form the foundation of a land base for a South Indian Lake Band. However, this would likely take some considerable time, if it does indeed occur. Of more concern might be the exchange areas which are linked to prime resource locations, such as at Cousins Lake. To date, the provincial response within the Flood Agreement negotiations seems to have been to refuse the areas within the RTL sections (resource areas) of other communities. The status of these indicated areas will likely remain uncertain, and may or may not be problematic.

Hunting pressure within the SIL resource area comes more from residents of the mining town of Leaf Rapids. This is largely limited to the fall season, and principally along the road to South Bay. Some summer angling also occurs along the road and on the Churchill River above Opachuana.

In summation, SIL occupancy has been longstanding. The mapping of use within current memory defines a portion of the continuum of use and occupancy of the area by the Cree. This recorded period has seen intensive use of the area which in part extended beyond the current RTL perimeter. Within the broader historical area is a core area of extremely intensive use. The core area as defined by use is not wilderness, but home for the people of the community, and known in intimate detail.

5.3 LOCATIONS OF RESOURCE USE

Locating resources utilized by the community embodies the idea of occupancy. The land is occupied through the livelihood which it affords. Intimate knowledge of the area includes knowledge of animals, seasonal changes, and successional shifts over a longer time. The study provided information detailing trapping, hunting, fishing, and other harvesting activity in which SIL residents are engaged.

One respondent pointed out the means by which people here are connected to place. When asked whether he had a favourite spot, he indicated the naive nature of the question by saying that it was "not

special noplace. Everything changes every year."² The willows change, and so the moose change their habits, and their location. Life in the bush is tied to the animals, and is constantly changing. What he liked and needed was "healthy country" to continue in the bush life. Another respondent said that a special place for him was wherever 'I can set a net, go moose hunting, and get ducks and geese in the spring.'

Occupancy is therefore about the life lived in that land. The life is made by the changing availability and location of the resources of the land.

5.3.1 Trapping and hunting

Trapping has been discussed considerably, in effect, in the preceding section. The verification of locational results was done internally. The confluence of major routes from individual sources occurs well within what could be assumed as a reasonable margin for drawing error. A high degree of reliability was demonstrated in the location of camps by different individuals. Both of these checks suggest a high degree of reliability in those routes and camps marked. This, however, does not ameliorate the overall understatement of use.

This is particularly true of the designation of camps, which were defined as established camping sites. It became apparent that somehow the term 'camps' was being interpreted as 'cabins' by respondents. In fact, perhaps only one individual (interview 33) had interpreted the question fully as intended, marking a much denser grid of locations.

² A convention has been adopted for this report that quotations of individuals have been set off by double quotation marks, paraphrases by single quotation marks.

Personal familiarity of the author with a significant number of locations suggests that what have been marked are indeed cabins, and not camps, and must be interpreted as such. A network of sites of regular use would be more dense.

Hunting is not well represented on the travel maps and on the map of areas of significant wildlife harvest (Figure 6). In the first place, when marking travel, the organization of the interview focused on trapping trails, with secondary emphasis on hunting travel. Areas outside of the RTL perimeter, particularly to the south, were underidentified in this process.

Further, the map of wildlife areas designates only three areas significant for caribou. This is largely because of the wide area over which caribou travel and the difficulty of identifying specific locations. Also, caribou were largely absent from the SIL region for a 25-year period (1960-1985), though of considerable importance in the period before this. Anecdotes were repeatedly told of shooting caribou right within the narrows at the settlement. The presence of caribou at SIL during migration is a likely contributor to the community's location and existence. Considering the historic (and potentially future) importance of caribou to the community, the mapping method understates it.

It should also be noted that hunting of grouse, ptarmigan, rabbits, beaver, porcupine, lynx, and bear for subsistence use has not been specifically indicated in either the mapped or written results. These

harvests are a considerable input to the subsistence diet. But marking harvest locations was not suited to the interview technique. Again, hunting involvement has been underdefined in this fashion.

Considering the limited number of species for which mapping was done, hunting has been demonstrated to be an important and widespread activity for SIL residents. The areas mapped of significance for wildlife harvest refer only to current activity, with no longstanding historical component. This is a picture of hunting as it is now.

The results show a high degree of participation: 32 contributors identified 232 sites for four classes of wildlife in 39 of the 50 traplines. It can be assumed that a more complete sample would have identified further sites, with more even coverage. The sites are widespread over the area, and extend north, south, and southeast of the RTL perimeter. Harvesting activity for the community is not limited to an area near the community, nor one strictly accessible by boat.

Locations identified as significant to wildlife harvest are influenced principally by the presence of suitable habitat, and of course, use by residents. In the short term, they are relatively unchanging, barring major habitat alteration. Given the usual population fluctuations and ecosystem succession, productive habitat will tend to retain its productivity in the shorter term. There is a likely correlation between the location of a camp and preferred hunting locations.

In some cases, individuals marked very limited and specific sites for a particular species. Given that these resources are important in the livelihood of the individual and the community, a decision was made to generalize the presentation of results sufficiently to prevent their overt use by non-SIL residents. This forms a part of the assurance of confidentiality that was provided to respondents. In this case, symbols were used to generalize the location and extent of prime sites. In contrast, the Inuit Tapirisat study (Freeman 1976) represented collective hunting areas by polygons whose edges were the frontier of areas which enclosed individual use. The style of presentation chosen here in no way impairs the utility of the information for the purposes of this study. A demonstration of the importance of hunting should not be allowed to impair its successful pursuit.

5.3.2 Extensive travel

The extensive journeys mapped have been discussed in section 5.2.1. For interpretation, where multiple journeys were made on the same route, as was common to Cold Lake, for example, only one was marked. The map is therefore used to demonstrate the extent of SIL involvement, and not to exemplify intensity.

Anecdotal accounts from several sources referred to travels to and from Churchill by canoe and by dogteam, but could not be mapped. Had this study occurred fifteen or twenty years ago, the extensive travels of the older residents would have been more readily mapped.

5.3.3 Fishing

In terms of the location of fishing activity, the mapping of this study represents commercial activity on Southern Indian Lake with more precision and over a wider area than any previous research. Its relation to these other findings will be discussed in an upcoming section of this chapter. Other commercial fishing activity has been identified (Appendix B, Table B4), but not mapped. It shows the considerable effort which has gone into the inland fishery, particularly since impoundment of the main lake.

However, domestic activity is not well represented. No locational information for domestic fishing of Southern Indian Lake was collected. A small sample of lakes was identified inland (37 lakes by 21 individuals), with an additional undetermined number that were fished domestically as well as commercially. Overall, this tends to understate the degree of historic use, particularly with the main lake being overlooked.

5.3.4 Plant harvests near SIL

The mapping of the harvest of firewood, timbers, and berries represents only current activity immediately surrounding the community. These activities are all essential parts of the bush life, but were not recorded on a wider basis. These harvests are considerable and vital to life at the trapline or fish camp, on a seasonal or daily basis.

The mapped locations should be understood as generalized sites. When identified by more than one respondent, a location received only

one map identifier, which was to represent the sum of activity in the general area. These areas are generally well-known within the community, and are broadly rather than specifically used.

The locations of construction logs were limited in number and range. The relatively low use of logs in SIL presently for housing is a factor influencing the number of sites identified. The relative scarcity of trees of adequate height and diameter is in part responsible for both the number and range of sites. Range is further restricted by the need for water access.

Firewood is used throughout the community, particularly in winter. Anecdotal accounts suggest that with electric heat, firewood is used much less than prior to relocation of the townsite. This is corroborated by other research (Waldram 1983). Some households use no firewood whatsoever, others are largely dependent on it for heat. A mixture of dry and green wood is used, with some households having a preference for one or the other. Birch, pine, and spruce are typically used.

The habitat preferred by particular berries is varied, and the sites identified are indicative of this fact. Raspberries, strawberries, blueberries, bilberries, currants, gooseberries, and mossberries are harvested near the community. Nearly all of the mapped information was provided by men. Due to the relatively greater involvement of women in berry harvesting, these sites may underrepresent the available locations utilized. Male involvement in berrypicking varies from none to active engagement. Generally, males

are involved in the transportation aspect regardless of their own involvement, and have a general familiarity with locations for various types of berries.

Of importance in interpreting the locational data is an awareness of ecological succession. A supply of dry firewood, raspberries, and blueberries is dependent upon fire in the recent past (3-20 years). On the other hand, mossberries and currants prefer more open and mature stands in which to grow. Therefore, the radius of travel to harvest sites is of more significance in the longer term than the particular sites identified, which will change over time. Protection of supply comes not from the protection of individual sites, but of a zone in which access may be assured. Paradoxically, this is an area where fire will be most rigidly suppressed, especially where it is not on an island.

Harvest of medicinal plants was not mapped, though their use is to some degree commonplace in SIL. Some, particularly younger, respondents felt that the nursing station supplants any need for traditional healing. However, herbal cures are most readily available when in the bush, and continue to be used there, and in the community. Their harvest in the community locale was not marked for two reasons. First, the arboreal species utilized were seen as too ubiquitous to map. Second, because of lake impoundment and water drawdown, respondents universally stated that aquatic medicinal plants were no longer available on Southern Indian Lake. Harvest of these species takes place at inland locations outside of the flooding.

In summation, the location of harvested resources serves to define the nature of land use. The maps and compiled information on fishing, wildlife, and the harvest of berries, timber, and firewood indicate a portion of the community use of resources. The information excepting fishing represents current ongoing activity. With inclusion of the continuing ongoing importance of the Southern Indian Lake fishery (Baker 1990), a picture of the significant status of harvest activity begins to emerge.

The land use patterns which emerge identify the manner in which the resource area is occupied by the people of SIL. Extensive and intensive travel is undertaken in harvesting for both commercial and subsistence purposes. Both engage almost the totality of the 35,000 km² area defined by the RTL section, and in part go beyond it. Resource harvesting and subsistence activity are central and integrative within the community economic and cultural life (Usher and Weinstein, in press). Use and occupancy overlap, and are properly understood in conjunction. The ability to live in the bush is made possible by the resources in it.

5.4 HARVESTING TRENDS, CHANGES, AND ADAPTATIONS

5.4.1 Trends in trapping

Trapping remains a vital part of the SIL economy. Province-wide figures for 1987/88 placed the value of the SIL trappers' sales as the largest for the province for a single community. Total community revenue from trapping declined somewhat in 1988/89, largely due to decreases in the number of active trappers and number of furs sold.

Over the one year, the average value per pelt sold declined by only \$1.37 for the SIL section.

Trapping activity responds to external physical effects. In the case of SIL, the region was not highly affected by the widespread fires of 1989. Fire was mentioned in four cases, but was not generally seen as a community-wide limit to trapping. The relatively new presence of the South Bay road was also seen as a negative influence on trapline production. Poaching, hunting from the road, vandalism, and general division of the trapline were seen as influences from the road. Cut lines and diamond drilling were not seen to create any difficulties for trapping while activity was occurring.

General trends in the location and intensity of trapping effort have already been considered. A more land-intensive style of trapping has evolved with trapline registration, and a correspondingly more circular trapping route, to generalize.

Other local trends were consistently identified in the interviews, with trends in available populations of marten and muskrat being noted by almost all. For marten, migration (and therefore availability) was the theory proposed by respondents to account for increased numbers of marten sold. The northern (Seal River) traplines were reputed to contain marten at a time when more southerly portions of the region did not. Marten were therefore simply unavailable to most trappers. Migration, right up into the 1980's, brought marten to a large percentage of SIL traplines. Conservation Officers' annual reports from 1954/55 and 1956/57 mentioned the migration of marten in northern

traps. The annual report of 1959/60 suggested a marten translocation program to enhance their propagation. Therefore, the migration theory proposed in interviews seems to be corroborated by these reports.

Other factors such as price might be involved to a degree, but the DNR fur sales records (Table 1) indicate a marked increase too dramatic to be attributable solely to the change in price. Pre-impoundment marten catches were on average only 3.4% of those since flooding. From 1952 to 1961, average marten prices ranged from \$6 to \$13; from 1981 to 1989 between \$39 and \$90 (DNR records). In constant dollar terms, \$9 in 1955 would equate with \$41 in 1989 constant dollars. Therefore, the earlier period average price would be nearly equal to (compared to \$39) or, at minimum (compared to \$90), 45% of contemporary prices. With earlier sales averaging only 3.4% of the post-impoundment period, price can be seen as a secondary, if active, variable next to that of availability through migration.

The decrease in sales of muskrat to 15.6% of earlier sales was described in interviews. The majority of respondents attributed this trend principally to the effects of habitat loss through lake impoundment, and to winter drawdown in the operation of the lake as a reservoir. These effects are logical, yet are more difficult to disentangle from general trends in trapping harvest encountered throughout the North. There has been a recent general decline in price for furs and subsequent decline in harvest. Rising capital costs and decreasing returns have made trapping a less economic and appealing endeavour.

The Manitoba Fur Fact Book lists major variables that affect fur harvest: price, weather, availability of other employment, environmental disturbance, population fluctuation, operating costs, and number of participants (Johnson 1989). Any of these factors might contribute to altered harvest. Nonetheless, several statistics should rule out price as the general active influence over the changed SIL muskrat harvest.

In 1956/57 (a median year for pre-impoundment muskrat harvest in Table 1) the value of muskrat was 25% of the total value of furs sold by SIL trappers. In 1987/88 the value for SIL muskrat was 1.4% of the total. For the province as a whole, muskrat contributed 19% to the total value of all furs sold province-wide for 1987/88. Or in other words, whereas the catch of muskrat remains high provincially (third behind beaver and marten and 63% of the total number of pelts sold), sales of muskrat have declined markedly at SIL (from 73% of pelts sold in 1956/57 to 17% in 1987/88).

Therefore, with trapping activity at SIL remaining high, and price not deterring the rest of the province from catching muskrat, availability seems a plausible explanation to the trend, caused through environmental alteration. Muskrat are sensitive to declines in water levels, and habitat has been slow to redevelop within the impounded Southern Indian Lake.

This somewhat intuitive approach can be given more objective focus. Splitting of the traplines into "flooded" and "unflooded" blocks allows the effects of flooding on muskrat production to be seen. The

grouping of traplines largely followed that of Webb (1974), with minor alterations. Trapline #3 was added to the "affected" group since it is significantly inundated, and trapline #15 was deleted, as it has been divided among three other lines. Webb's classification of "affected" lines did not include those along the dewatered Lower Churchill River: thus, the use of the terms "flooded" and "unflooded" here.

Declines in average muskrat production occurred in both zones: 1441.2 pre-impoundment to 772.3 post-impoundment in the unflooded traplines (Appendix B, Tables B12 and B14); 2842.8 pre-impoundment to 539.0 post-impoundment in the flooded traplines (Appendix B, Tables B11 and B13). The decrease is much more marked in the flooded traplines. A contingency table was created using total numbers of muskrats produced: unflooded and flooded zones, pre- and post-impoundment (Table 7). χ^2 for these values equals 1867.4 [$\chi^2(.005,1) = 7.8815$]. This statistic definitively proves that the change in production of muskrat pelts is not independent of flooding.

TABLE 7
EFFECTS OF FLOODING ON MUSKRAT PRODUCTION, SIL

	NUMBER OF MUSKRATS SOLD		TOTALS
	Pre- Impoundment	Post- Impoundment	
29 unflooded traplines	17,294 {E=1,9017.4}	4,634 {E=2,910.6}	21,928
21 flooded traplines	34,114 {E=32,390.6}	3,234 {E=4,957.4}	37,348
TOTALS	51,408	7,868	59,276

$\chi^2 = 1867.2$	$[\chi^2 (.005, 1 \text{ df}) = 7.8815]$
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5.4.2 Hunting

As mentioned previously, hunting remains integral to the community way of life. Participation remains high, even among those engaged in some other form of self-employment or wage labour. All of the 36 who contributed map biographies hunt moose, though some of the hunting is opportunistic rather than deliberate.

The interviews provided some information regarding changes in hunting areas and species distribution over time. The hunting of caribou is a dramatic example. Informants indicated that in earlier years, caribou were a mainstay, along with fish and moose. Estimates for caribou consumption by the community made by Conservation Officers

for the period 1953-60 averaged about 300 animals per year (Appendix B, Table B5). However, an alteration in the migratory pattern of the Kaminuriak herd meant that caribou were basically unavailable to SIL for approximately 25 years. The mid-1980's saw the return of caribou to Southern Indian Lake for three consecutive winters. Considerable hunting interest ensued. When the caribou were again not present in any numbers in the SIL region in the winter of 1989/90, lengthy travels were made in attempts to locate them. The furthest travels in recent years (Figure 5) west and east of Tadoule Lake were caribou hunting trips up to 410 km one-way from SIL.

Caribou are well-known for inconsistency in migration. The modern community values the change in diet, the link with the past which caribou represent in consumption, and will pursue caribou considerable distances. Travel north beyond the RTL perimeter is common by a significant proportion of hunters: approximately 230 km one-way from SIL to Tadoule. The presence of a winter road to Tadoule Lake every second winter makes access considerably easier, if not without risks. Where chances of successful harvest exist, it would seem that SIL hunters would continue to pursue caribou.

Other significant changes in hunting activity can be attributed directly to habitat loss due to flooding. These changes are therefore limited to Southern Indian Lake and other flooded zones, though this remains an area closely tied to SIL commercial activity. The hunting of geese, ducks, and moose has been most directly affected. It should be noted that the shoreline regions of Southern Indian Lake have

almost entirely been excluded in the marking of areas significant to harvest (Figure 6).

The presence of a flooded zone of trees or of sheer banks due to slumping causes considerable difficulty in spotting, shooting, and retrieving moose. The absence of established aquatic macrophyte communities for moose browse further contributes to the lack of appropriate summer moose habitat, and therefore to opportunities for hunting. Loss of casual moose hunting opportunities by natives was predicted by LWCNRSB research (Webb 1974).

The overlap of identified preferred moose and waterfowl areas (Figure 6) shows that similar habitat is used by both moose and waterfowl. Habitat loss is a crucial mutual problem in the flooded zone for these species. The destruction of breeding and feeding areas has contributed to the virtual extirpation of local populations. Research through the LWCNRSB suggested that 10.5% of Southern Indian Lake shoreline was marsh which would be flooded. This was identified as a significant issue for wildlife, particularly waterfowl and moose. It was predicted that waterfowl production would be reduced until marshes were re-established (Webb 1974). Causation of this scenario within the SIL region is made difficult to ascertain by the coincidental effects of the Churchill River Diversion and much-reduced flights of ducks into northern Manitoba (P. Rakowski, Canadian Wildlife Service, personal communication, 1991). Currently, once the ice is off inland lakes and ponds, geese and most species of ducks are rarely encountered on Southern Indian Lake, where they arrive first due to current-generated areas of open water. Prior to flooding, a

number of areas were renowned for their waterfowl populations (Waldram 1983).

Sightings of geese on Southern Indian Lake by the Canadian Wildlife Service were made in June of 1969 between Sturgeon Narrows and Long Point, though no systematic work was done on this lake (Raveling 1977). The main lake was seen by the LWCNRSB as important to more species as a staging rather than a breeding area for waterfowl, though thirteen species were identified as nesting on the main lake. In an aerial survey in September 1973, 2,519 ducks, geese, and swans were sighted on the main lake (Webb 1974). This contrasts significantly with present fall waterfowl hunting opportunities on Southern Indian Lake.

One respondent encapsulated the sense of the loss of livelihood through flooding in describing Southern Indian Lake as "just like a dead body"; another that there was "nothing in the country since diversion." The map of current significant wildlife areas demonstrates that hunting is pursued with considerable interest. A portion of this activity which previously (and more conveniently) took place along the shores of the main lake has now been displaced further inland. The associated costs of this displacement no doubt have led to a lower availability of both moose and waterfowl for community members.

5.4.3 Changes in fishing

Commercial fishing has been fundamental to the community economy since its inception, and remains so, in spite of environmental and social changes wrought through the Churchill River Diversion (Baker 1990).

This study documents changes in the location of commercial fishing activity on Southern Indian Lake with more precision³ and over a wider area than any previous research. It demonstrates:

1. a shift from traditional areas to a lower number of preferred post-impoundment sites
2. a movement of the winter fishery, particularly, away from its roots in the Sturgeon Narrows and Jam Island area
3. low correspondence to date between pre- and post-impoundment sites
4. the diminution of formerly lucrative pickerel fisheries (Opachuana Lake, Waddie Bay, etc.) as preferred and consistent fishing sites.

These indicated trends confirm the results of previous work and go beyond them in exhibiting the geographic distribution of fishing effort. The pursuit of fish north of Sand Point has been previously discussed. Changes in locations fished between Long Point and Sand Point have likewise been noted (Bodaly et al. 1984; Peristy 1989). However, the importance of other regions of the fishery as identified by the mapping (Opachuana, Bacon Bay, and Camp 3 areas) has been overlooked. Previous research on the fishery has dealt almost entirely with the main body of the lake north of Long Point. It would seem that there were other areas of some historic importance, as evidenced by location of identified preferred sites (Figure 7) and of fish camps (Appendix A, Map A5).

³ The raw data was mapped quite precisely at a scale of 1:50,000.

The decline in the quantity and the quality of the whitefish catch following lake impoundment and diversion has been well documented (Bodaly et al. 1983a, 1983b, 1984; Peristy 1989). The current study figures representing recalled fish harvest, pre- and post-impoundment, make an interesting comparison with earlier findings regarding catch and effort. For comparison, only one year's pre-impoundment data was available: averaging 20 kg/net/night in winter 1972/73 and 23.2 kg/net/night in summer 1973 (Table 8).

The recalled mean (92.5 kg/net/night) falls within the recorded high winter catch of 1972/73 (98.6 kg/net/night). The recall median (62.4 kg/net/night) matches the winter first week average catch (63.2 kg/net/night). The median may be a more useful figure, given that the mean is skewed by three significantly higher values. What seems to be missing in the recall is adequate recognition of some of the poorer periods of fishing.

A comparison of the recalled mean (92.5 kg/net/night) with the one-year recorded mean (23.2 kg/net/night) is problematic. At first glance, the recalled and dockside survey figures seem to correlate poorly. However, several factors must be considered. The first is that of the question itself. To expect an average figure from a lifetime of fishing (for some, 30 years) in one recalled figure is unrealistic. Second, there will likely be a tendency to remember the better average catches. Third, there may be a bias concerning 'the good old days' prior to inundation. And fourth, only one year's data is available for comparison.

TABLE 8
SIL FISHERIES CATCH PER UNIT EFFORT STATISTICS

SOURCE	CATCH PER UNIT EFFORT
(Weagle and Baxter 1973)	
WINTER 1972/73	
average	20 kg/net/night
high recorded delivery	98.6 kg/net/night
first week average	63.2 kg/net/night
low	6.4 kg/net/night
SUMMER 1973	
Loon Narrows	23.2 kg/net/night
<hr/>	
(Bodaly et al. 1983)	
SUMMER 1980 average	11.6 kg/net/night
SUMMER 1981 average	7.5 kg/net/night
(Bodaly 1983)	
WINTER 1980/81 average	4.2 kg/net/night
(Bodaly et al. 1984)	
SUMMER 1979	15.5 kg/net/night
SUMMER 1980	10.3 kg/net/night
SUMMER 1981	7.5 kg/net/night
MANITOBA HYDRO 1980	9 kg/net/night
(Peristy 1989)	
SUMMER 1987	9.6 kg/net/night

For post-impoundment fishing, the figures match more closely. This would be expected where honest responses are given, given the relatively recent date of diversion. The figures derived from recalled harvests (mean 12.2 kg/net/night, median 10.2 kg/net/night) are in the middle of the range of values established by dockside interviews of participants (Table 8).

All of these catch per unit of effort statistics confirm a decline in the productivity of the fishery. The figures say less about the type of effort involved; the effort is assumed to be represented by the standardized net. However, a fisherman's effort to set that standard net has risen. Increases in effort expended are reflected in increases in distance travelled and gas required, numbers of nets set per fisherman, average horsepower of outboard motors, and the frequency of net relocation (Waldram 1983). These factors of effort are compounded by the uncertainty which surrounds the viability of the current Southern Indian Lake commercial fishery.

In summary, the changes in fishing distribution and effort described in the research are similar to that of earlier research, and extend the range of significant areas of the earlier fishery. The catch per unit of effort statistics are an important internal indicator of the usefulness of the biography technique. The post-impoundment data are an excellent match with data from a range of years and sources. The pre-impoundment data are within a reasonable and demonstrated range, and give an impression of general validity. A temptation to conclude that the pre-impoundment figures are necessarily biased must be avoided, given the existence of only one year of comparative data. A bias towards 'the good old days' may in fact exist to some degree, but it remains within the range of recorded catches. Fishing remains vital to the community economy, both commercially and domestically.

5.4.4 Extensive travel

The pattern of distant travel shown in Figure 5 represents travel by canoe, boat, dogteam, and snowmobile. Travel for employment and for social reasons is now largely done by road. Trading for furs is now done in Leaf Rapids on an irregular basis or in Thompson at established sales twice a year, with travel done by road or by air.

Travel by the means for which mapping was done is now restricted largely to hunting and trapping, with some recreational component. Caribou hunting has instigated the furthest recent travels, whereas trapping, trading, or employment purposes directed the furthest travels in earlier times.

5.4.5 Changes in time spent in bush

The proffered reasons for spending less time in the bush (Table 3) seem relevant to the issue, if not comprehensive. They vary from a concern for family responsibilities, to low prices for furs and fish, to the attraction of the conveniences of town life. There is a conspicuous lack of any explicit reference to the flood, although travel difficulties and reduced opportunity refer to it indirectly.

Taken together they begin to suggest the appeal of town life for a family-centred culture, where the family component of bush life has been much reduced. Likewise, social opportunities are enhanced in the community. Visiting, and for some, partying seem to be strong attractions not explicitly mentioned.

Significantly greater opportunity for employment exists in the current townsite. Prior to the move and accompanying modernization, job opportunities were few. The new infrastructure -- roads, water, sewage -- requires maintenance workers. The store converted to a locally-run co-operative at the same time. A fish plant exists since 1989, creating several seasonal jobs. Other seasonal construction opportunities are available.

Employment is available for only a small portion of the employable workforce. Its influence on overall time spent in the bush is not therefore comprehensive. Furthermore, many of those employed use their wages to finance their capital requirements (snowmobile, boat, motor, nets, rifles, etc.) for part-time bush involvement or to finance the activity of relatives on a shares basis.

Overall, the reduced time spent in the bush reflects a decreased satisfaction resulting from the difficulty of making a living from the bush (fishing, hunting, and trapping). Flooded conditions, low fur prices, lowered fish catches, and increased costs and effort have resulted in decreased appeal of the bush life. Family, other wage employment, the convenience of modern living conditions, and the social opportunities of life in town have heightened the draw of SIL itself.

5.4.6 Adaptive resource allocation

The community continues to adapt to regional changes in the allocation of resources. For instance, the inland fishery was considerably expanded with the availability of a compensation program designed to

offset reduced catches on the main lake. Lakes are fished as available and feasible according to the changing structure of the compensation package, fish grades, and prices.

The presence of active mineral claims in the area (Figure 10) may result in considerable changes. If the ownership profile can serve as an indicator (Appendix B, Table B6), some of the claims may have potential for future development. It would be purely speculative to attempt a hypothetical assessment of a mine in an unknown location, but the overall effects would be relatively major. The impact of a road through the area alone would be considerable. The current study does not contain adequate information to discuss the effects of the Ruttan mine and the town of Leaf Rapids, which border the SIL RTL section.

The re-allocation in the 1980's of Big Sand Lake from commercial fishing to tourism, at the instigation of the South Indian Lake Fishermen's Association was a new direction in response to changing conditions. It was seen that employment and potential profits could be of greater benefit to the community than the existing commercial fishing enterprises. Currently, the lodge and outcamp facilities are owned in majority by a community group and by the Fishermen's Association. The long-term economic viability of Big Sand Lodge has yet to be demonstrated, but it is an example of an adaptive allocation of the resource in changing times and circumstances.

The map showing tourism operations in the region (Figure 10) shows a pattern which has changed somewhat in the recent past. Big Sand Lake

Lodge and other much smaller SIL tourism ventures are an addition to a larger network of allocations to tourism use (mostly outcamps) of resources in the SIL area. The opportunity and perhaps necessity of controlling local resource use has been recognized within the community.

5.5 VITALITY AND IMPORTANCE OF RESOURCE-BASED ACTIVITY

SIL has a reputation in the North as a traditional community. Insofar as this involves a lifestyle of hunting, fishing, and trapping, the results of this study tend to confirm this assessment. Participation in traditional subsistence and commercial resource pursuits remains high.

The content of the previous sections of this discussion chapter has been descriptive of SIL historic land use and occupancy, defining travels and the location of significant resources. Previous discussion also established changes and adaptations of resource harvesting. This section will look at the meaning of this activity to community members, as expressed in the maps of past and current use and as given by individuals' own assessments of its importance.

The economic returns of both fishing and trapping remain important to the community economy and culture. Domestic harvesting of fish, meat, wood, and medicinal plants remains commonplace. Community members defined their own sense of the importance of bush life in personal, economic, and cultural terms. Subsistence can be understood as a system of human relations centred around production, consumption, and distribution of country food and materials. But the affirmation of

social relations is also involved, as well as the concern for material well-being (Usher and Weinstein, in press).

In the face of this involvement, a degree of uncertainty remains in a community sense of the future of bush life. Part of this uncertainty revolves around the economics of participation; part of it lies in the lack of control of what are perceived to be community resources. Necessarily, concerns regarding bush life and harvesting extend to community social relations. Definite doubts were raised regarding the future of the community itself, although suggestions were raised for future alternatives.

5.5.1 Mapped involvement

The community continues in the use of its traditional resources. The maps of this study have served to define historic land use and occupancy. In all cases, current activity is described as at least a component of the map. Portions of the travel marked on the pre-RTL map form part of the travel routes of trappers in the present. Two maps (prime wildlife areas, plant harvest) represent only current involvement. Furthermore, the map of other interests in land shows a recent allocation of traditional skills and resources to the tourism industry, away from commercial fishing.

In some ways, the mapped involvement of individuals is characterized by the map of toponyms (Figure 9). Space (unstructured territory) becomes place (a value centre) through the continual attachment of meaning to our surroundings (Tuan 1977). The naming of places summarizes this involvement in a formal, repeatable, and

transferable manner between generations. Armitage (1989) mentioned the country being permeated with meaning for contemporary Innu, with history encoded in geographic features and old camp sites. Naming is an important human activity, defining places of value, use, and in a non-legal sense, ownership. The map here included only those names around the main lake, but could readily have been extended to the wider area of use.

For reasons which have already been stated, the maps in general tend to understate both the extent and intensity of use. Nonetheless, they portray the considerable involvement of the community with its resource base. The area is known in minute detail, travelled, and named. The maps demonstrate activity which is ongoing and for which participation remains high. The value of furs sold by SIL trappers relative to other communities confirms the impression of high and active engagement created by the maps. Thus, the vitality of the involvement has been identified.

5.5.2 Importance of bush life

The bush life is a component of the community economy, though arguably an important one. Other limited options remain open to individuals within SIL in making a livelihood. A smaller number of wage positions in town are occupied by local persons than the number of persons currently involved in bush life. Waldram (1983) estimated 25 full-time wage positions at SIL in 1981, which is likely an underestimation. A count of current opportunities brings the current estimate to approximately 68 (Appendix B, Table B9). It must be

further recognized that subsistence as well as commercial harvesting activity forms an essential component of the community economy.

Likewise, resource harvesting and formal employment are not necessarily mutually exclusive.

In evaluating the stated motivations of individuals for their participation, the responses were classed as personal, economic, or cultural. Reluctance to mention cultural or spiritual reasons in the interview context may account to some degree for the relatively low total of the cultural class of responses.

To some degree, the classing of responses is misleading. It may be of some value in establishing the complexity of the issue. But the classes are interrelated. One respondent pointed out the importance of fish and moosemeat to his own happiness and contentment. In other words, economic, personal, and cultural motivations interact. Participants are involved for a complex of reasons, all of which combine in the individual, and which are expressed in the community economy. Thus, it is cultural values as well as economic ones, which sustain the bush life. In the community economy, the subsistence and commercial sectors overlap and reinforce one another (Brody 1981). In the mixed village economy, where economic and traditional motivations are active, individual involvement in the bush life is rooted in the culture and in the economics of the activity, and is necessarily personal.

Life in the bush also brings relief from the problems and stresses of the community (Armitage 1989). It is a generally-held view in SIL

that alcohol abuse or other social disorders rarely occur in the bush. It is a place to engage in productive activity, and to demonstrate skills traditionally held in respect.

5.5.3 Future of bush life and community

The bush life figures in a community perception of its future. The range of opinion included the extremes -- from unchanged, to a view that no game would exist on which to base such a life (Table 5). The largest class of scored responses (10 of 29) saw adaptations to the bush life of the past which would enable its continuance in some altered form. As with trapping and fishing, themselves adaptations of traditional pursuits to economic opportunities, the current life must adapt to meet the needs and conditions of the future. The cultural connection is maintained inextricably in the activity for its participants. The majority of respondents (16 of 29) envision some viable lifestyle based in the bush in which community members will take part.

The second largest class of scored responses (7 of 29) saw no future for or no future interest in the continuance of such a life. The lack of interest of today's children was most often cited. Some of this may be apocalyptic thinking. However, some of this is undoubtedly correct, and based on differing economic expectations of a generation raised in a relatively modern community.

It was suggested by several respondents that the lack of control of the area's resources was a serious limiting factor. 'Developments are always coming up and there is no control over the future.' It was

suggested that 'local control could manage the area without destroying it.' There is expectedly a universal preference for local control in the sampled response.

Another aspect of interest was that bush activity was seen by at least five respondents as not primarily economic. "Everything you do in the bush is of value regardless of making any money." Even current trapping activity was seen to be largely uneconomic, though certain participants do rather well. Nonetheless, its participants continue to prefer to engage in it. This is an extension of the idea of the mutual engagement of mainstream and subsistence economic activity.

But, as Armitage maintained, participation by natives in the informal economy has shut them out of the class of "real work" (Armitage 1989). The endurance of the domestic economy has demonstrated the strength of the culture which practises it, though it has remained largely unrecognized outside the North.

A sense of the community's overall future was more in doubt. A general sense of decline or malaise seemed to pervade even those responses which were constructive or hopeful in tone.

On the one hand was a negative assessment of the community potential. The future was seen in one chilling analogy, "like a steel door" about to close anytime. In contrast, the speaker's knowledge was that of her grandmother, in continuity with that which had come before. The rate of change since the early 1970's has been dramatic.

Pressures due to population growth, reduced natural resources, and unfavourable social conditions were other negative social assessments.

On the other hand were a smaller number of constructive responses to the future community direction. Education, leadership, separate band status, and addictions counselling were proposed as elements within a community improvement scenario. In terms of the use of surrounding resources, Big Sand Lodge was mentioned by one participant as a model for development. The reallocation of the resource, though not without obstacles and controversy, brings pride and a sense of accomplishment to the whole community. Furthermore, a connection with bush life remains a valued one overall, and may take traditional or adapted forms. Working at the lodge can provide rewards for the traditional bush knowledge held by community members. As an option, this development is an adaptive allocation of what is seen as a community resource.

In summary, cultural values are central to the continued existence of bush life; bush harvesting sustains the social relations of the culture. Economic factors are not the only, or in many cases, the principal motivation. The persistence of traditional values has been noted in other situations (Berger 1988), and is operative in the case of SIL. It seems likely that both a sense of the valued lifestyle and of the value of the land base itself will continue to operate in the future. Access to a healthy resource base seems essential to the future well-being of SIL. Adaptations will be made in the manner of individual involvement with resource harvesting, but it seems likely that this connection will be maintained, if in altered form.

5.6 VALIDITY OF DATA

The mapping of travel routes showed a high degree of consistency which is demonstrated by the common routes established on the communal travel maps. The mutual reinforcement of individually-obtained data suggests a significant degree of validity. Furthermore, throughout the interviews, a high degree of familiarity with the terrain and its detail was repeatedly observed. This intimate degree of knowledge was also shown in the siting of camps; one individual alone marked 105 camps. When registered on a composite map, the locations correspond well within a reasonable margin for drawing error.

Quantitative checks arose in the course of this discussion for the recalled commercial whitefish data and for changes in the sales of marten and muskrat. The list of inland lakes commercially fished provided by informants was compared with DNR records. In most cases, the data proved to be entirely valid. In the case of pre-impoundment recalled fishing catches, the mean catch remained within the catches documented, if above the mean recorded at dockside.

Key informants provided an evaluation of compiled data in January, 1991, as to their accuracy, representativeness, and completeness. Amendments were made to the list of inland commercial lakes and to the map of toponyms around Southern Indian Lake. Contributions were made to the discussion considering the overlapping of harvesting areas between communities, to an understanding of hunting travel, to the theory of marten migration, and to the interpretation of pre-impoundment fishing catches.

General confidence in the study data would seem well supported.

Chapter VI

CONCLUSIONS AND RECOMMENDATIONS

6.1 CONCLUSIONS

This study documents the historic and contemporary occupancy of the SIL region, and the use of the resources of the land by the community. The data of the study also demonstrate changes to harvesting activity within the context of changing environmental and social conditions.

The study conclusively determines that the region is not 'wilderness' in a conventional sense, but 'home.' The territory is occupied and intimately known through continuing intensive and extensive use. The resource-harvesting life requires "healthy country," in which resources remain available, to support the culture which continues to value it.

Specifically, a number of conclusions can be reached from an evaluation of the study data:

1. Changed patterns of use of resources have emerged over time through both social and ecological influences.
 - a) Fishing of Southern Indian Lake has been dramatically affected by river diversion and lake impoundment. There is a low correspondence to date between pre- and post-impoundment

preferred fishing sites. A shift in the location of preferred sites and a reduction in the number of consistent sites was demonstrated. Fish catches per unit of effort have declined substantially since impoundment. There has been a diminution of formerly lucrative pickerel fisheries. Other preferred areas of some historic importance have been identified through the research. Commercial fishing of inland lakes has increased since diversion due to compensation programs intended to offset the loss of productivity of the main lake.

- b) Trapping has been affected by trapline registration, by animal migration, by ecological disturbance, and by declining fur prices. The drop in muskrat production experienced is not independent of flooding and diversion.
- c) Time spent in the bush has declined through a perception of decreased satisfaction resulting from declining economic return, reduced family involvement, and from the conveniences and social opportunities of the modern community.
- d) Participation in hunting activity remains high. Caribou have been available to the community intermittently over the period of living memory. Caribou were formerly a primary input of the subsistence diet. They are of considerable value to the present community, judging by the distances travelled to hunt caribou. Both waterfowl and moose hunting opportunities have declined around Southern Indian Lake due in part to shoreline flooding and bank slumping. Local

habitat loss is a significant factor for both of these species.

- e) Extensive travel beyond the RTL perimeter continues, although the purpose of the travel has shifted towards hunting from trading, employment, and trapping.
- f) Adaptive reallocation of resources from commercial fishing to SIL-owned tourism enterprises has occurred in the recent past, and can be seen as a model for development.

2. The bush life in both commercial and subsistence forms has continuing vitality within the community. Domestic harvesting of meat, fish, wood, and medicinal plants remains commonplace. Cultural values continue to sustain participation in bush life, and for many it remains a preferred lifestyle. The bush life is one component of the community economy, though an important one. It retains strong personal, cultural, and economic significance, each of which interrelate.
3. The bush life figures in a community perception of its future. The majority of respondents envision a viable lifestyle continuing the use of the resources of the land, if in an altered manner. However, in the face of current and projected involvement, a degree of uncertainty remains. This uncertainty revolves around the reduced economics of participation and possible changing cultural values of younger community members.
4. The value of the land base is apparent. There is no bush life without the presence of, and access to, the resources of the bush. Another factor contributing to uncertainty is the lack

of formal control of area resources. The need for some measure of control has been recognized within the community.

6.2 RECOMMENDATIONS

1. This study documents only a portion of the contemporary and historic land use by the SIL community. In particular, domestic fishing harvest and many species of animals hunted are unrepresented in the study results. Women's harvesting activities were largely unrepresented, and no map biographies of women were produced. Place names within the resource area beyond those surrounding the main lake were not mapped. Further research is recommended that would alleviate these shortcomings. Additional research could also evaluate the total significance of domestic harvesting of all types to the community economy. While the economic aspect of subsistence harvesting does not encompass its total worth or meaning to the community, failure to account for it leaves a false picture of the community economy and of the social relations of the culture.
2. The study has demonstrated the vitality and importance of the bush life to the SIL community culture and economy. It is recommended that moves be made to formalize and stabilize the affective tie between the community and its land base. The community toponyms surrounding Southern Indian Lake which were mapped should be accepted by the Canadian Permanent Committee on Geographical Names in recognition of their standing.

Increased responsibility and control should be delegated to the community to promote the long-term viability of the resource base. A form of co-management structure with the Province might be appropriate. The structure might be sectoral (fisheries, wildlife, etc.), but it should in part consider all development initiatives within the SIL resource area.

3. This research has been carried out at a time when negotiations for compensation to the community have been ongoing with Manitoba Hydro, and with the provincial government in attendance. The negotiations have taken thirteen years since diversion and impoundment to occur, and have been protracted at that. The particular political circumstances of SIL -- largely status Indian residents, yet not a band with reserve lands; highly affected by the Churchill River Diversion, yet not signatory to the Northern Flood Agreement -- no doubt have contributed to the delay.

In light of these ongoing negotiations and this current study, two recommendations can be made:

- a) There has been a general understatement of activity by study methods, and partial documentation of community uses of resources. These facts must be considered in the use of all data from this report.
- b) The study has demonstrated and defined long-term occupancy and use of the area by the community. Some recognition of these facts should be realized within the context of these negotiations. In the light of the effects of the flooding

and of the importance of subsistence and commercial harvesting to the community, it is recommended that the Province extend to SIL similar rights to those contained in Article 15 of the Northern Flood Agreement (Appendix B, Table B15). This would grant SIL residents first priority to all the wildlife resources within their resource area. It is recommended that the other sections of Article 15 likewise be extended to SIL, including a form of Wildlife Advisory Planning Board. It would not be necessary, and indeed might not be possible, that this be pursued within the auspices of the Northern Flood Agreement.

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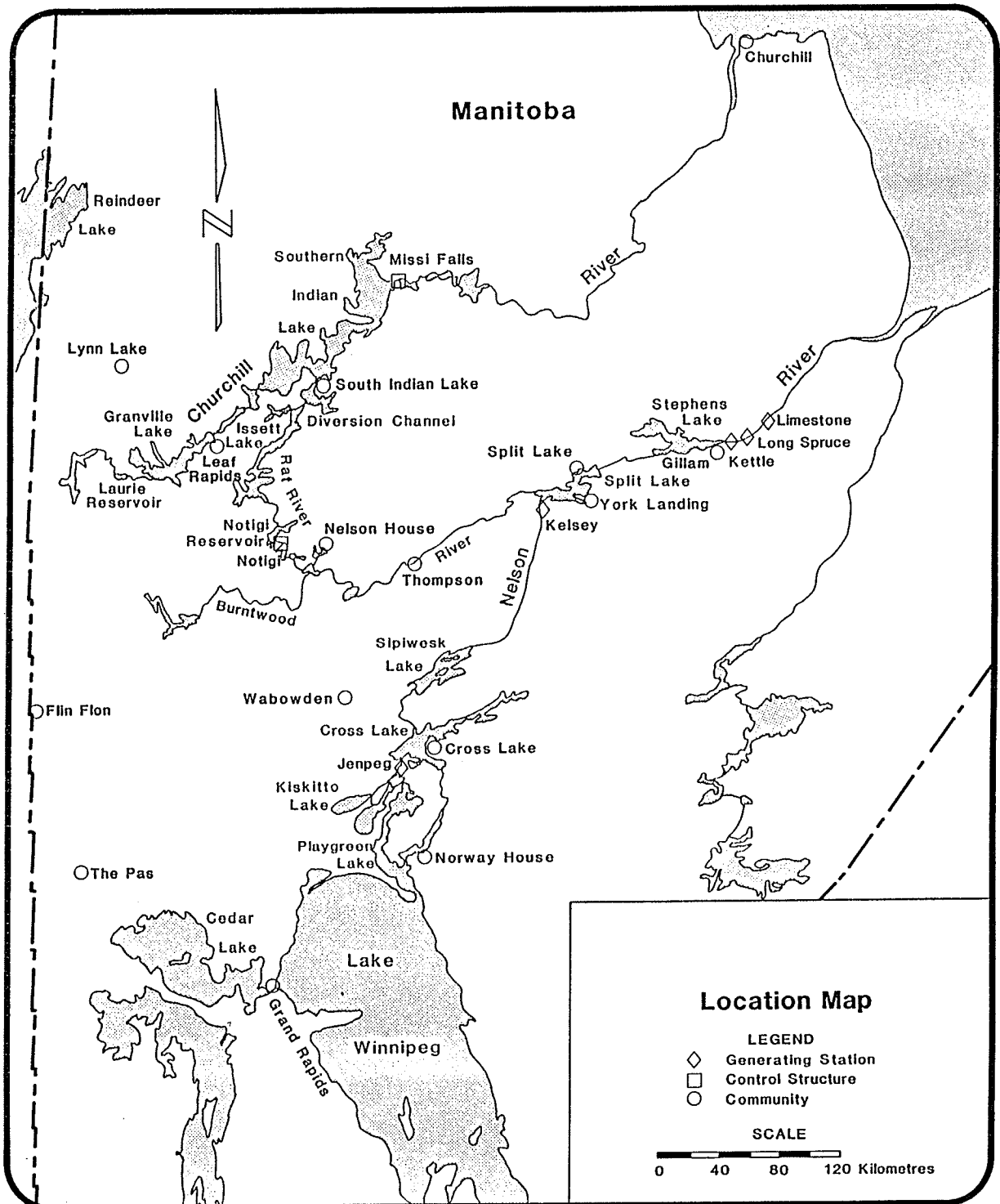
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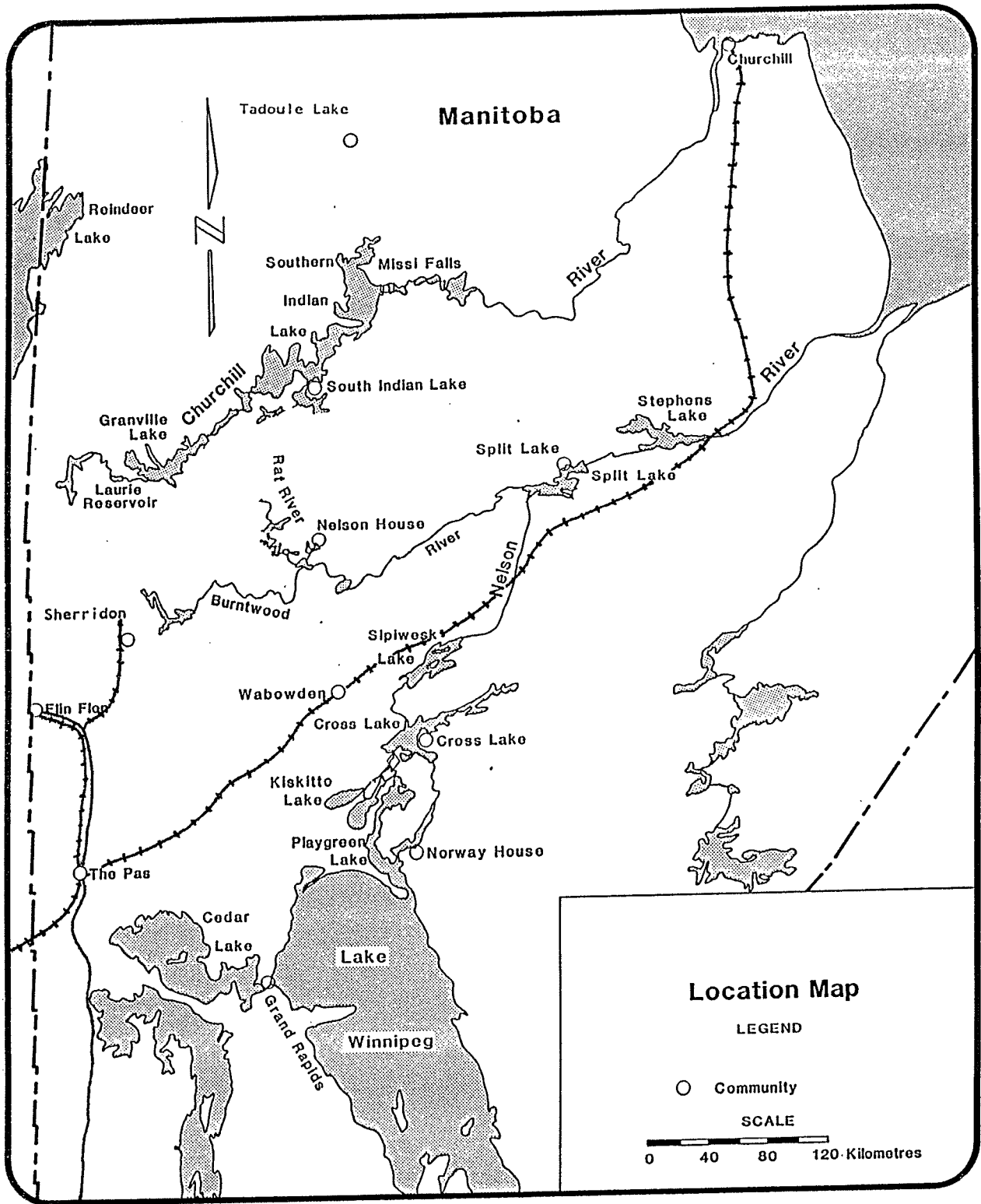
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Appendix A

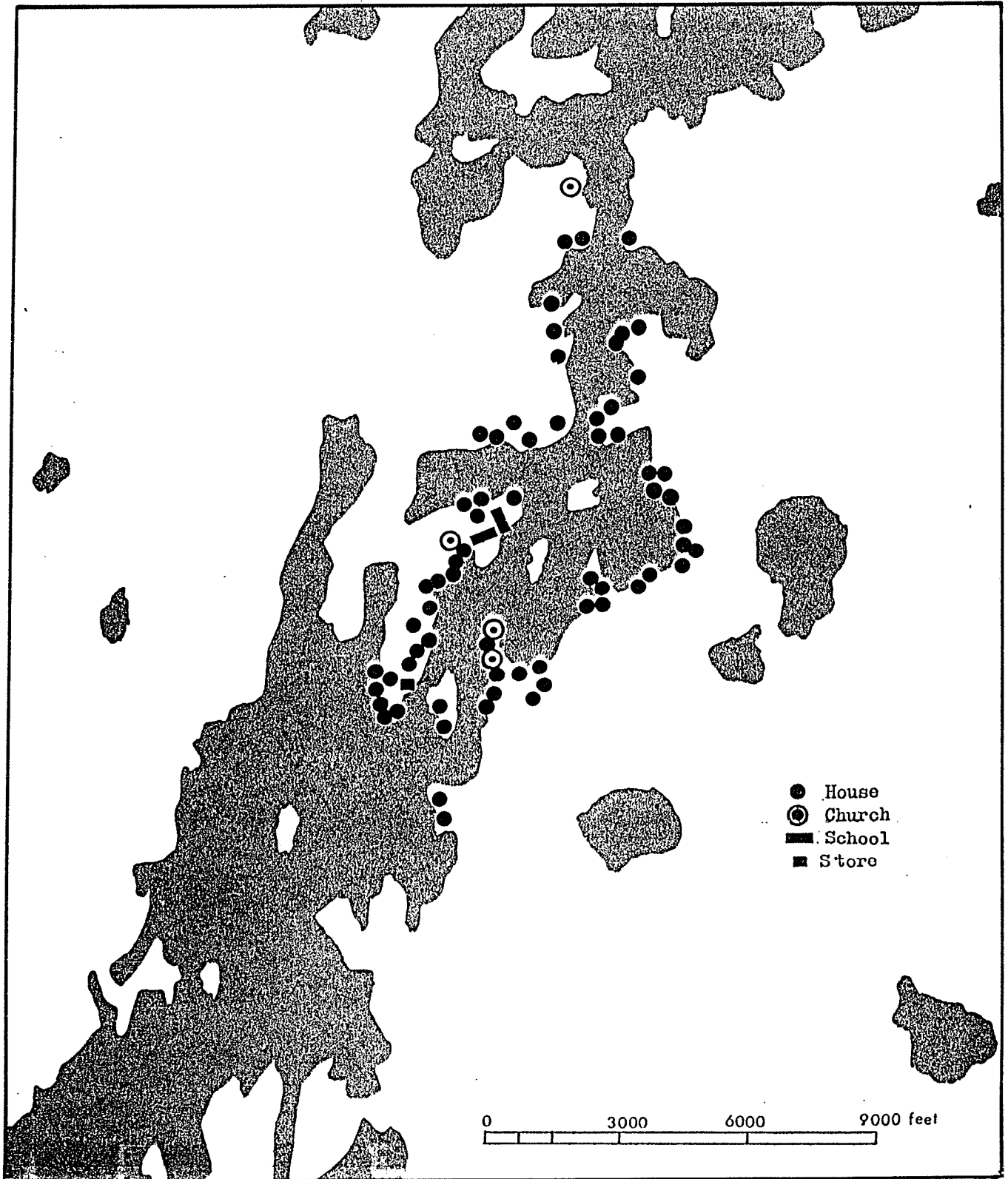
MAPS



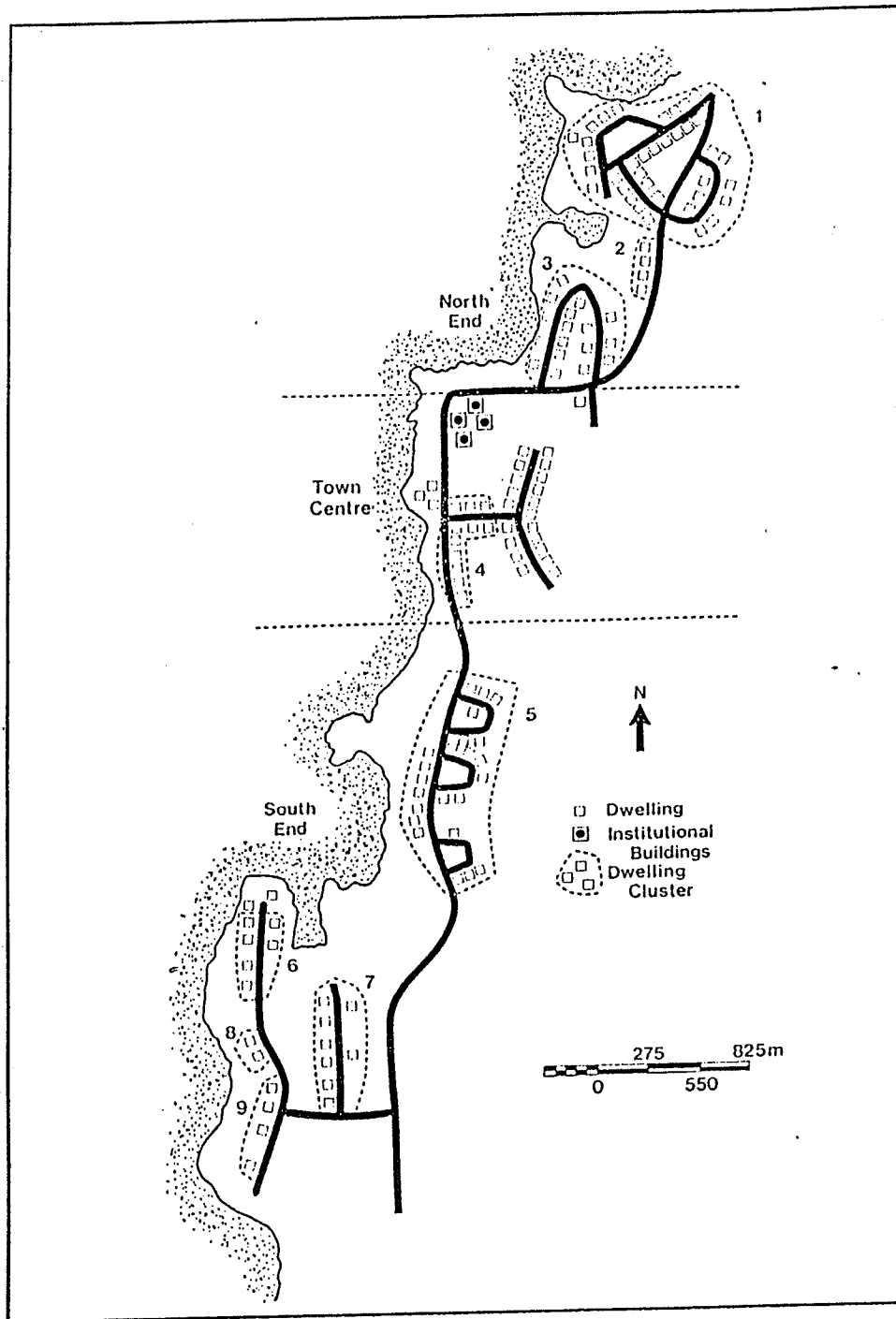
Map A1: Location of South Indian Lake
 source: Federal Ecological Monitoring Program



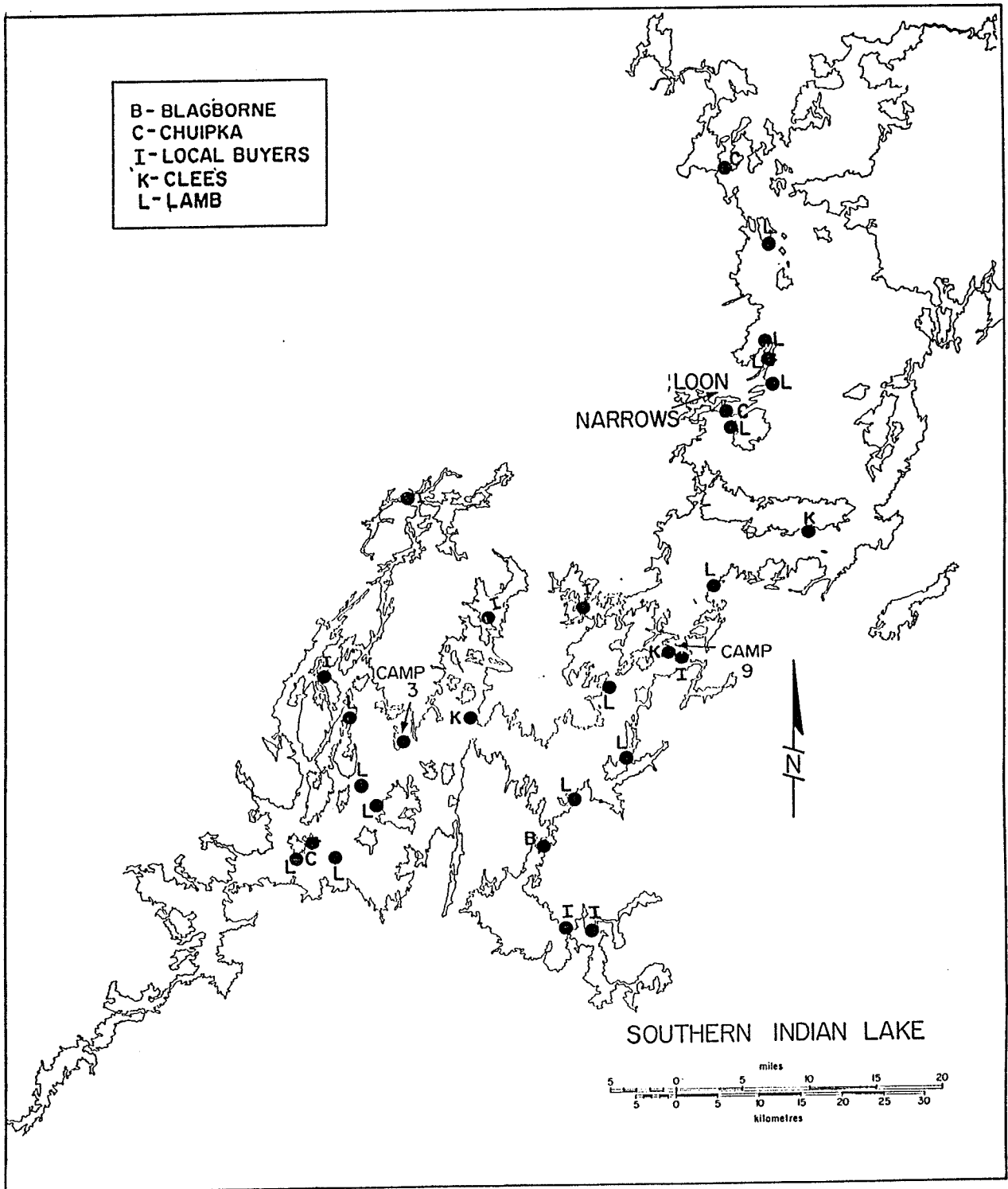
Map A2: South Indian Lake regional context
c.1930-1950



Map A3: Location of South Indian Lake townsite, c.1966
 source: Van Ginkel Associates (1967)



Map A4: Settlement pattern in the relocated SIL, c.1981
 source: Waldram (1987)



Map A5: Location and ownership of past and present commercial fish stations, c.1973
 source: Weagle and Baxter (1975)

Appendix B

TABLES

Table B1: Sources of income, SIL, 1965
 source: Van Ginkel Associates (1967)

Sources of Income, Indian & Metis, South Indian Lake, 1965.

<u>Source</u>	<u>Amount</u>	<u>% to Total Incomes</u>
I. From Economic Pursuits:		
a. Fishing	\$136,600	50.7
b. Hunting and trapping	66,955	24.9
c. Paid regular employment	12,509	4.6
d. Paid irregular "	7,462	2.8
e. Other	15,000	5.6
Total from economic pursuits	<u>\$238,526</u>	<u>88.6</u>
II. From Welfare Payments	\$ 2,830	1.0
III. Pensions	14,964	5.5
IV. Miscellaneous	<u>12,760</u>	<u>4.9</u>
Total from non-economic Sources	\$ <u>30,554</u>	<u>11.4</u>
Total Income	<u>\$269,080</u>	<u>100.0</u>
No. of Households	61.	-
Income per Household	\$ 4,411	-

Note: The accuracy of the income data is questionable as some respondents stated income figures which were actually gross income before business expenses such as wages and salaries paid to their employees, etc.

Table B2: Income-in-kind, SIL, c.1973
 source: Collinson (1975)

CALCULATIONS TO DETERMINE INCOME IN KIND*

50 moose @ 400 lbs. of meat ea.	
i.e. 20,000 lbs. @ \$1.50/lb.	= \$ 30,000
* (a conservative price allowance)	
<hr/>	
20 meals of waterfowl/family/year	
i.e. 20 X 70* X est. \$5/meal	= \$ 7,000
<hr/>	
Equivalent of 4 meals of fish/wk/family	
70 families X 4 meals X 52 wks.	
X \$2.50/meal	= \$ 36,400
<hr/>	
Equivalent of 10 cords of wood	
@ \$25/cord	
70 X 10 X 25	= \$ 17,500
<hr/>	
Value of hides processed locally and used for moccasins and jackets, etc. for use and/or sale	
est. (1) 15-20 moc/hide @ \$5/pr.	
50 X (15-20) X 5 = <u>\$5,000</u>	
est. (2) 2 hides/1 jacket & 5 prs.	
moc., 25 X \$100 (val. of Jact).	
+ \$5 X 5 (prs. moc.) 25 X \$125 =	
<u>\$3,125</u>	
est. combination (1) & (2)	= \$ 4,100
<hr/>	
Value of beaver, muskrat, etc. consumed on the traplines and the community 50 families	
X \$200/family	= \$ 10,000
<hr/>	
TOTAL	<u>\$105,000</u>

*
 A conservative estimate of 70 families has been used for these calculations.

Table B3: Northern Flood Agreement land exchange areas, SIL

Designation	Location	Area (acres)
* within the SIL RTL		
Nelson House Band		
1.5	Southern Indian Lake	2300
2.2	Gauer Lake	320
2.3	Torrance Lake	50
2.4	Chapman Lake	40
2.5	Cousins Lake	25
2.6	Uhlman Lake	40
		<hr/>
		2775
* near the SIL RTL		
Nelson House Band		
2.1	Baldock Lake	330
2.7	Jensen Lake	80
2.8	Barnes Lake	50
2.9	Roe Lake	25
2.11	Livingston Lake	30
3.7	Rusty Lake	10
4.6	Baldock Lake	1000
4.7	Gauer Lake	730
		<hr/>
		2255
Split Lake Band		
2.2	Pelletier Lake	40
2.7	Handle Lake	40
2.8	Kiask Lake	40
2.9	Wernham Lake	50
2.10	Christie Lake	30
2.11	Settee Lake	50
2.12	Thomas Lake	40
3.3	Caldwell Lake	40
		<hr/>
		330

Table B4: Inland lakes commercially fished, SIL

SOURCE: DNR, Fisheries Branch, November, 1990

Ashley	Enatik	Magrath	Proteau
Barlow	Fidler	Matoo	Rusty
Barrington	Float	McPherson	Sioux
Big Sand	Fraser	Meehawaneeneek	Thorsteinson
Buckland	Gauer	Melvin	Torrance
Chapman	Gimby	Moss	Trout
Chipewyan	Haraldson	Murdoch	Uhlman
Chiupka	Issett	Naykownapiskow	Uyumikaywatic
Clee	Jefferson	Melvin	Waddie
Cline	Jordan	Mulcahy	Walford
Cousins	Kasik	North Indian	Wesley
Dennison	LeClair	Numakoos	White Fox
Dickenson	Little Stony	Opachuanau	Wood
Dunsheath	MacBride	Partridge Breast	
Eagle	MacKerracher	Pine	

Table B5: Estimated SIL caribou consumption, 1950's

SOURCE: Conservation Officers' Annual Reports, SIL

1952/53	485
1954/55	260
1955/56	415
1956/57	321
1958/59	208
1959/60	300
1960/61	131
mean	= 302

Table B6: Mineral claims and ownership, SIL, Sept., 1990

Map sheet	Registrant	Claim #	Size (ha)	Expiry
64F	Rene Lebrasseur	P7252E	256	21 Oct 90
		P7251E	256	21 Oct 90
64G	Granges Exploration	P5244E	96	31 Jul 91
		P5245E	112	31 Jul 91
		P5246E	224	31 Jul 91
64H	Douglas Forster	P8534E	64	13 Mar 91
		P8537E	64	13 Mar 91
		P8538E	64	13 Mar 91
		P8535E	128	5 Apr 91
		P8513E	64	5 Apr 91
64B	Esso Minerals Canada	P6276E	192	19 Oct 91
		P6277E	240	19 Oct 91
		P6278E	256	19 Oct 91
	Esso Resources Canada	P6784E	250	21 Aug 91
		P6785E	210	21 Aug 91
		P6942E	256	15 May 91
		P6941E	144	15 May 91
		P6940E	128	15 May 91
		P6939E	240	15 May 91
		Sherritt Gordon	W47947	256
W47948	57		5 Aug 91	
P5779E	144		19 Jul 90	
CB11421	98		20 Jul 91	
CB9498	243		22 May 92	
Richard Joy	CB9499	179	22 May 92	
	P8196E	240	4 Mar 91	
	P8198E	240	4 Mar 91	
	P8194E	240	7 Apr 91	
	P8197E	240	7 Apr 91	
	P8404E	238	9 Jun 91	
	P8199E	145	9 Jun 91	
	P8195E	240	9 Jun 91	
	P8402E	240	9 Jun 91	
	Homestake Mining	P6915E	250	6 Aug 91
P7566E		250	6 Aug 91	
Asarco Exploration	P6584E	240	15 Mar 92	
	P6585E	240	15 Mar 92	
	P6586E	128	15 Mar 92	
	P6587E	192	15 Mar 92	
Hud. Bay Min. Smelt. HB Exploration	P7220E	240	9 Oct 93	
	P7206E	242	9 Oct 93	
	P7207E	216	9 Oct 93	
	P7208E	252	9 Oct 93	
	P7209E	242	9 Oct 93	
	P7210E	220	9 Oct 93	
	P7211E	112	9 Oct 93	
	P7204E	204	9 Oct 90	

	P7205E	160	9 Oct 90
	P7237E	224	9 Oct 90
	P7239E	256	9 Oct 90
	P7238E	256	9 Oct 90
Lynngold	P7301E	125	26 Aug 90
	P7303E	253	26 Aug 90
	P7304E	256	26 Aug 90
	P7305E	192	26 Aug 90
	P7307E	256	26 Aug 90
	P7308E	192	26 Aug 90
	P7309E	192	26 Aug 90
Manitoba Min. Resour.	P8711E	256	22 Jul 91
	P8714E	256	22 Jul 91
	P6942E	256	22 Jul 91
	P9297E	256	20 Feb 91
	P9298E	256	20 Feb 91
	P9299E	256	20 Feb 91
	P9301E	192	20 Feb 91
	P9302E	256	20 Feb 91
	P9303E	256	20 Feb 91
	P9304E	256	20 Feb 91
	P9305E	64	20 Feb 91
	P9306E	256	20 Feb 91
	P9307E	256	20 Feb 91
	P9312E	256	20 Feb 91
	P9300E	256	20 Feb 91
	P9308E	256	20 Feb 91
	P9311E	256	20 Feb 91

Table B7: Interview list with map contributions

DATE	#	MAP	DOMESTIC FISHING	COMMUNITY ORIGINS	HUNTING MAP	PRE-RTL MAP
17 Dec 89	1	*			*	*
11 June 90	2	*	*		*	
11 June 90	3			*		
10 June 90	4					
14 June 90	5	*			*	*
15 June 90	6			*		
18 June 90	7	*		*	*	*
18 June 90	8			*		
19 June 90	9	*	*		*	
19 June 90	10	*		*		*
20 June 90	11	*			*	*
20 June 90	12	*		*	*	*
21 June 90	13	*			*	
21 June 90	14	*		*	*	*
22 June 90	15			*		
25 June 90	16	*	*		*	
26 June 90	17	*	*		*	
26 June 90	18			*		
27 June 90	19	*	*		*	
27 June 90	20	*	*		*	
28 June 90	21			*		
28 June 90	22	*	*		*	
29 June 90	23					
29 June 90	24	*	*		*	
5 July 90	25	*			*	
5 July 90	26	*	*		*	
6 July 90	27	*	*		*	
9 July 90	28					
10 July 90	29	*	*		*	
10 July 90	30	*	*			
11 July 90	31	*			*	
11 July 90	32	*			*	
11 July 90	33	*	*		*	
13 July 90	34	*			*	
14 July 90	35	*	*		*	
14 July 90	36	*	*		*	
14 July 90	37	*	*		*	
15 July 90	38	*	*		*	
16 July 90	39	*	*		*	
16 July 90	40	*				
18 July 90	41	*			*	
18 July 90	42	*	*		*	*
19 July 90	43					
19 July 90	44	*	*			
19 July 90	45					
20 July 90	46	*			*	
20 July 90	47	*	*		*	*
		36	21	10	32	9

Table B8: "Comparative statement of Indian gratuities,
Nelson River Post, 1893",
with interview recognition

Name	Unknown SIL	Travelled SIL	Buried SIL
Able Spence		*	
Abraham Wood		*	
Andrew Francois		*	
Angus Dunky		*	
Amous Linkleter		*	
Angus Linkleter		*	
Able Bonner		*	
Adam Spence		*	
Albert Linlleter	*		
Alexander Hart	*		
Alexander Bonner	*		
Benjamin Hart	*		
Baptist Moose		*	*
Charles Chammick		*	
Charles Linkleter	*		
Carlush Spence		*	
Charles Hart		*	
David Flett	*		
Duncan Hart	*		
Edward Hart	*		
Edward Chammick	*		
Frederick Dodd	*		
Henry Hart	*		
Henry Spence		*	*
Isac Hunter		*	
John Hartie (chief)	*		
James Spence	*		
John Moose		*	
Joseph Moar	*		
Joseph Spence		*	*
Jacob Linkleter	*		
Joseph Hartie	*		
Moodie Chammick	*		
Mordoch Hart		*	
Mordoch McDonald		*	
Mordoch Spence		*	
Norman Spence	*		
Peter Moose	*		
Robert Linkleter		*	
Robertson Linkleter	*		
Sandie Hartie	*		
Samuel Linkleter		*	
William Spence		*	
William Moose		*	*
Willie Moose		*	*
Tomy Linkleter		*	
n = 46	21	25	5

Table B9: Estimate of positions filled by SIL residents,
Fall 1990

Store	10
Nursing Station	5
Airport	3
School	13
Daycare	4
Restaurant	3
Laundromat	1
Variety stores	3
Construction	3
Town maintenance	5
Council office	7
Constable	1
Fish plant	2
Garbage	2
Taxi	2
Ferry (4x1/2)	2
DNR	2
	<hr/>
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Table B10: Cree toponyms around Southern Indian Lake,
with translation

apischiwapasehk -- Small Narrows
 Atarine sepehis -- Atarine's Creek
 Baselihk -- Basel's place
 kaispawahkasik -- High Sand
 kapihtawahkak -- Sand halfway
 keskapiskowisepe -- High Rock Creek
 kesekeskichichisihk sakahikan -- Short Fingers Lake
 kinosew minischikos -- Fish Island
 kiputchineyaw -- Scarecrow Point
 maskowapaw -- Bear Narrows
 mihchikewiwasahk -- Pickeral Fin Bay
 mihkwapiskohk -- Red Rock
 minahikosepehisihk -- Big Tree Creek
 mistahiwapahk -- Main Narrows
 mistimihkwakan island -- Big Spoon Island
 mistatimwaskisinsakahikan -- Horseshoe Lake
 mistatihkamek bay -- Jumbo (Whitefish) Bay
 mosoministik -- Moose Island
 Murdo Moose neyaw -- Murdo Moose Point
 mwako ministik -- Loon Island
 namekosepehisihk -- Trout Creek
 namewwapaw -- Sturgeon Narrows
 onakayayame wasahaw -- Where the fish are spawning Bay
 onihchawikewinihk -- Where he was born
 opachuanau -- Fast-flowing Narrows
 opochawapenihk -- Muskrat hunched up
 oskiwan ministik -- Moose Nose Island
 pakichisihtakan -- Drop your load
 pakiskwawiwahk -- Ice Built-up Bay
 Samuel wasahaw -- Samuel's Bay
 sesepewapaw -- Duck Narrows
 wasekamawisakahikan -- Clear Lake
 wawakanakasehk -- Crooked Narrows

Table B11: Pre-impoundment muskrat sales from flooded traplines,
SIL RTL

#	61/2	62/3	63/4	64/5	65/6	66/7	67/8	68/9	69/70	70/1	71/2	72/3
1	126	55	158	127	311	24	62	29	58	16	15	41
2	440	0	332	534	0	152	98	248	148	180	0	61
3	236	257	293	372	416	302	0	252	0	29	4	145
4	1155	399	751	359	1605	1134	597	645	458	456	169	190
5	207	68	76	85	53	131	240	81	186	26	36	11
6	243	185	222	110	360	154	0	0	0	20	0	0
9	39	119	58	23	112	118	0	0	91	25	92	140
10	0	54	2	59	28	0	0	0	26	0	0	0
18	0	273	57	158	2	103	65	50	0	0	0	0
19	0	21	0	2	0	22	0	0	0	0	0	0
22	0	15	52	5	250	120	214	151	21	73	2	0
23	0	96	30	16	78	65	25	17	0	0	0	126
24	0	0	55	0	226	22	281	0	96	0	0	0
25	0	25	1	126	107	57	92	0	0	130	75	32
29	21	91	116	271	170	337	55	111	26	56	0	0
33	63	48	102	107	485	174	139	75	117	91	127	19
34	293	326	171	805	701	325	151	0	71	45	27	47
35	35	31	197	140	895	720	334	88	53	65	52	12
43	109	26	169	102	0	98	0	0	0	40	254	47
52	208	40	0	227	0	0	0	0	0	0	3	51
54	163	51	196	662	1272	235	883	163	42	196	125	62
	3338	2180	3038	4290	7071	4293	3186	1910	1393	1448	981	986

n = 12 years
 Total = 34,114
 MEAN = 2,842.83

Table B12: Pre-impoundment muskrat sales from unflooded traplines,
SIL RTL

#	61/2	62/3	63/4	64/5	65/6	66/7	67/8	68/9	69/70	70/1	71/2	72/3
7	194	87	218	452	591	112	20	129	214	0	14	36
8	178	37	364	195	551	227	0	72	41	135	0	10
11	0	0	0	0	0	0	68	3	1	0	0	0
12	96	19	0	76	58	31	68	43	0	54	52	45
13	13	0	71	3	5	0	166	0	0	126	33	0
14	0	75	15	0	0	0	0	0	0	0	0	0
16	34	40	24	0	78	0	0	0	0	0	0	0
20	0	0	35	211	158	13	26	0	0	0	0	0
26	0	0	0	2	0	0	0	0	0	0	0	0
27	0	0	0	0	14	0	0	0	0	0	0	0
28	65	67	241	410	121	180	30	220	9	39	2	0
30	107	23	0	137	277	121	0	32	65	47	84	0
31	174	66	126	160	422	149	104	78	0	117	3	58
32	118	54	156	276	329	131	0	39	0	0	6	156
36	61	62	36	142	105	0	35	42	0	26	9	28
37	21	21	26	138	0	105	0	0	13	0	8	0
38	0	83	94	160	54	35	63	17	12	1	0	1
39	0	0	5	0	80	20	0	12	6	36	2	1
40	0	44	40	0	677	0	0	0	0	43	23	0
41	0	0	13	0	0	0	0	0	0	0	19	10
42	40	28	69	72	173	17	227	2	0	0	21	8
44	58	0	26	0	0	25	0	0	0	59	0	61
45	22	68	2	55	176	31	0	0	0	10	56	0
46	17	0	42	7	29	66	0	0	22	2	0	30
47	0	0	20	0	23	5	0	0	58	0	0	0
49	33	80	0	0	143	58	0	0	0	0	0	0
50	59	86	119	31	76	24	0	0	0	0	0	0
51	11	14	12	347	542	228	0	24	33	57	45	0
53	64	11	43	129	202	52	0	0	46	42	9	0
	1365	965	1797	3003	4884	1630	807	713	520	794	372	444

n = 12 years
TOTAL = 17,294
MEAN = 1,441.17

Table B13: Post-impoundment muskrat sales from flooded traplines,
SIL RTL

trapline #	77/78	78/79	79/80	83/84	87/88	88/89
1	10	0	1	0	0	0
2	224	20	0	50	0	0
3	36	38	70	28	0	3
4	70	11	13	24	2	0
5	123	16	2	92	1	72
6	0	0	11	0	7	7
9	67	37	61	20	0	0
10	2	7	0	69	0	0
18	0	25	0	17	98	0
19	0	0	0	0	0	0
22	19	118	111	1	0	0
23	21	0	0	0	0	0
24	89	0	10	26	1	89
25	0	5	1	0	0	0
29	0	44	75	1	0	0
33	4	8	0	0	0	0
34	59	55	112	55	47	131
35	83	19	23	1	0	0
43	68	21	12	113	5	2
52	128	51	63	24	0	0
54	30	18	106	140	0	0
	1033	493	671	661	161	215

n = 6 years
TOTAL = 3,234
MEAN = 539.0

Table B14: Post-impoundment muskrat sales from unflooded traplines,
SIL RTL

trapline #	77/78	78/79	79/80	83/84	87/88	88/89
7	209	78	185	360	0	0
8	141	29	71	59	0	0
11	2	2	8	39	0	0
12	9	0	11	7	0	0
13	7	0	0	0	24	2
14	51	16	4	0	0	0
16	0	5	0	0	0	0
20	0	11	16	0	0	0
26	45	10	0	0	5	0
27	0	4	0	0	118	0
28	0	30	157	5	0	155
30	147	77	329	2	52	0
31	43	111	33	52	94	48
32	63	151	30	185	209	140
36	29	21	0	0	0	61
37	0	0	0	0	0	1
38	27	117	132	0	3	0
39	0	0	0	35	0	0
40	0	0	0	0	5	0
41	0	0	0	0	0	0
42	0	0	0	44	0	0
44	91	1	0	0	0	0
45	24	1	35	0	0	0
46	0	20	0	32	0	0
47	0	2	0	0	19	0
49	0	0	13	10	0	0
50	7	0	0	4	10	0
51	0	45	0	0	0	0
53	70	0	118	16	0	0
	965	731	1142	850	539	407

n = 6 years
TOTAL = 4634
MEAN = 772.33

Table B15: Article 15, Northern Flood Agreement
Wildlife Resources Policy

15.1 Manitoba agrees to grant to the residents of the Reserves first priority to all the wildlife resources within their Trapline Zones, and in the rivers and lakes which were traditionally available to and used by them as a source of food supply, income-in-kind and income ("the Resource Area").

15.2 Because the Project has made and may hereafter make certain of the Resource Areas inaccessible for the foregoing purposes or has adversely affected the Resource Area to an undetermined extent, Manitoba undertakes to use its best efforts to make available new alternate Resource Areas to the extent that it is practical to do so.

15.3 Manitoba has encouraged and will continue to encourage the residents of Reserves to achieve the maximum degree of self sustenance in food supplies and to maximize the opportunity to earn income and income-in-kind from the wildlife resources and will therefore prohibit hunting, trapping and fishing in the Resource Area by any non-resident of the Reserve who does not have a present right at law to carry on these activities in the Resource Area provided that:

15.3.1 A controlled hunting, trapping, and/or fishing season may be permitted by reason of an overabundance of a species, and it is in the interests of the perpetuation of such an overabundant species to permit such a controlled season, and

15.3.2 Such controlled season is established following meaningful consultation with the appropriate representatives or body representing the interests of the residents affected.

15.4 Notwithstanding anything herein contained it is recognized that individuals who are permanently resident in or near a Resource Area may habitually hunt, trap and/or fish within the Resource Area and would expect that both themselves and their progeny should continue to be able to enjoy these benefits from the Resource Area, and therefore any prohibition against hunting, trapping and/or fishing within the Resource Area shall take into account these interests.

15.5 For the purposes of protecting the wildlife resources in the Resource Area, Manitoba agrees to establish and to pay the prior approved expenses of the Wildlife Advisory and Planning Board. The Board may consider and recommend on all matters affecting wildlife within the Resource Area including the following:

15.5.1 Monitoring the wildlife resources in the Resource Area;

15.5.2 Advising as to the overabundance of any species;

15.5.3 Advising as to the maximum kill of any overabundant species that may be permitted within the Resource Area;

15.5.4 Encouraging the annual harvest of wildlife resources in the Resource Area, to an extent and in a manner consistent with the perpetuation of adequate numbers of the species involved; and

15.5.5 Formulating and recommending the implementation of such works and programs as will be consistent with the protection of the wildlife in the Resource Area or with the continuation of harvesting of wildlife resources.

15.6 Manitoba agrees to appoint to the Wildlife Advisory and

Planning Board sufficient residents of the Reserves to ensure that they have majority representation, and to this end shall solicit and consider recommendations by the residents of Reserves on the appointments.

15.7 Manitoba agrees to provide training opportunities for residents of each Reserve to enable them to become qualified for employment as Conservation Officers, responsible for enforcing policies in effect from time to time concerning wildlife management in the Resource Area and Manitoba further agrees to appoint such qualified residents to meet the needs of enforcement.

15.8 The parties agree to facilitate and encourage the functions served by the community traplines, by reason of their contribution to the community in the form of:

15.8.1 A food supply and income supplement for elderly or infirm residents;

15.8.2 The opportunity for younger residents to learn and elder residents to teach the skills pertaining to the harvesting of wildlife resources, and

15.8.3 An opportunity for recreational activities.

15.9 Manitoba and/or Hydro agree to negotiate with appropriate representatives of each community to formulate and implement a program agreed upon, to achieve this objective.

Appendix C
INTERVIEW STRUCTURE

Date of interview
Name
Interview #
Date of birth
Place of birth

1. BEGINNINGS

- How long have people been here? Who are the first ones whose names you know? When was that? Who were the first to stay year-round?
- (For the aged, via interpreter) Try for recognition of the names from the Nelson River Post gratuities list from 1893.

2. TRAPLINES

- When did you start trapping? Where? With whom? How long were you out?
- Where did you go as a child?
- Locate traplines over time; locate travel routes. Does your family travel with you?
- Locate camps (defined as cabins or established camping places).
- Locate the current best sites for moose, caribou, rats, and waterfowl.
- Locate lakes fished for commercial or domestic purposes.
- Locate known gravesites.
- How do you manage fur on your line? has this changed over time, or from your father's methods?
- How do you deal with conflicts with other trappers?
- Is there a place which is of special significance to you? Where is it and why?
- Besides those from flooding, what sort of impacts have you experienced from changing times ("civilization") on your line within your lifetime?

3. EXTENSIVE TRAVEL

- Locate and describe furthest trips by dogteam, snowmobile, or canoe.
- Reasons, seasons, and duration.

4. FISHING ACTIVITY

- Net locations of best and most consistent spots, early and late (or pre- and post-impoundment).
- Spawning locations of whitefish and pickerel.
- Average catches before and after flooding (# of tubs/net/night).
- Have you ever caught sturgeon?
- Toponyms for main lake used consistently by community.

5. COMMUNITY HARVEST LOCATIONS

- Locate places near community where you pick berries.
- Locate harvest of firewood (green and dry).
- Locate timber harvest sites.
- Locate sites for picking medicinal plants.

6. O-PEE-PUN-NA-PWEE-WIN

- Why did people choose to stay here rather than in Nelson House?
- Do you like life in the bush? Why? What is important to you about it?
- Do you spend more, less, or about as much time in the bush as when you were younger? Why?
- Whose land is this?
- What do you think about life here now? What future do you see for the community?
- What future do you see for the bush life for the younger generation? What form will their involvement in the bush take? What will happen if trapping fails due to low prices or loss of market?

Figure C1: Questions used to structure interviews