JUST LIKE PEOPLE GET LOST:

A Retrospective Assessment
of the Impacts of the Faro Mining Development
on the Land Use of the Ross River Indian People.

A Report to the Ross River Dena Council

by Martin S. Weinstein
June 1992

The cover photograph is a photocopy of a satellite image of the Faro mining area taken on 7 July 1985. The image is a false colour representation, in which red indicates areas covered by healthy vegetation. Blue areas indicate rock out-crops and barrens.

The Faro mine pit, waste rock dumps, and tailings pond are shown in the middle-left area of the photograph. The town of Faro can be seen in the lower middle of the image, just above the Pelly River. Mye Mountain is the central geographic feature, with Blind Creek and the Swim Lakes to the east of the Mountain.

The data for this image was collected by the Landsat Multi-Spectral Sensor for the Canada Centre for Remote Sensing. It was enhanced by the Yukon Centre for Remote Sensing, which owns the image. The photograph is used here with the permission of the Yukon Centre for Remote Sensing. Additional duplication of the image requires the permission of the Yukon Centre.

"Now no one goes there. The mine tore up half the mountain now. People from that country try other areas, could not find anything as good.

After that, just like people get lost, don't know where to go. They tried back in there, up that way. Not as good as down there no more. So people don't get good living like long time ago."

(Arthur John)

"It is a remarkable fact that in these out-of-the-way countries, where one would expect to find game in every favourable spot, the wild animals are extremely local in their distribution. Cariboo certainly travel great distances, but they have their summer and winter ranges, and leave certain districts untraversed, although apparently offering equal inducement in the way of food with the country through which they take their course in their migrations. ... It is for these reasons that a stranger without local knowledge stands such an uncertain chance of finding game; and may easily waste a month or two in climbing mountains totally unfrequented by animals, when an Indian familiar with the country from childhood, will make a straight line to the well-known haunts of the game he wishes to hunt." (Pike 1896: 79-80)

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ACKNOWLEDGEMENTS

First and foremost, appreciations are due to the Ross River elders and other family members for sharing information about their lives and their experience on the land. Arthur John and Peter Ladue are owed a particular thanks. Arthur and Peter along with Chief Clifford McLeod (who is not yet an elder) acted as an informal research committee, quietly correcting the study's steering when inappropriate ideas were directing it too far off course. Trips to the mine development area with Peter Ladue and Clifford McLeod were extraordinarily helpful for understanding the things that people were saying; the trips helped to transform the vagueness of ideas and conjecture into images of land and people on the land. Arthur John's knowledge and understandings have benefited this report enormously. The clarity, directness, and humour of the interviews with Arthur were rare experiences and benefited me personally far beyond the needs for study information.

Doris Bob was a partner in the research, conducting the survey interviews, assisting during the open-ended interviews, and making many small and some larger corrections to the course of the research to keep it on track on a day to day basis. A special thanks is due to Doris for her steadfast efforts.

Dorothy McGowan and Doris operated as another research committee, this one more technical than the 'elders' committee'. Many of the interview ideas were first tested during discussions with Dorothy and Doris. The discussions which we held during days when there were no interview opportunities helped immensely in filling in details about land use that would otherwise been missed, and contributed many insights to understanding. Dorothy had the burdensome task of guiding the research through the tangled shoals of complicated genealogies.

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Representatives of several government agencies also made contributions to the research. The discussions and presentations to the inter-departmental committee chaired by Kirstie Simpson of Northern Affairs helped clarify thinking about certain concepts. The suggestions made by committee members about sources of information about the history of the mining development were particularly helpful.

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The satellite photo on the cover of this report was provided by the Yukon Centre for Remote Sensing, which owns the data that was used to print the image. The help of Lauren Crooks, Yukon GIS/Remote Sensing Co-ordinator, and Christine Hutton, Remote Sensing Scientist CCRS, in securing the use of this image is much valued.

Officials at Curragh Resources provided maps of the mine development area; and showed me around the old and new mining areas.

The maps and diagram for this report were prepared by Brigitte Clark and David Scott of SOFOR Infographics, Victoria, B.C.

The data from the questionnaire survey were compiled and processed by Tony Bullock and Peter Mazzocchi of TP Custom Software, Comox, B.C.

It should go without saying that the errors in this text are my own.

CHAPTER 1

INTRODUCTION

A world-class lead-zinc mine was developed on the slopes of Mount Mye, in the south-eastern Yukon, during the late 1960s. Except for stoppages during labour disputes and operational shut-downs and a 4-year closure during the deep recession of the early 1980s, the mine has been continuously extracting ore and producing lead and zinc concentrates since its opening.

Throughout the mine's operation, superlatives have been commonly used to describe the development. At different stages the mine has been listed as: "the Yukon's largest mining project; "Canada's greatest producer of lead"; "one of largest [open pit mines] in the world" (Macpherson 1978: 113); "the backbone of the Yukon economy" (Coates and Morrison 1988: 275); "the largest silver producer [as a by-product of the lead-zinc extraction] in the Yukon" (Canada 1981: 12); and, in 1989, "the world's largest lead-zinc mine" (Canada 1989: viii).

The mine, which is currently owned by Curragh Resources Corporation, has under gone a series of ownership changes. The project was initiated by the Anvil Mining Company, which was a joint venture between the Cyprus Mines Corporation of Los Angeles, owners of 60% of the company, and Dynasty Explorations Limited, which owned the rest. Dynasty and Anvil Mining formally merged in 1975 into the Cyprus Anvil Mining Company, with Cyprus Mines Corporation the majority shareholder (Macpherson 1978). Cyprus-Anvil was purchased by Hudson's Bay Oil and Gas

during the major corporate take-overs of the early 1980s. The new owners were, in turn, absorbed into Dome Petroleum as a minor part of a larger transaction. Dome subsequently declared bankruptcy. As lead-zinc commodity prices dropped, the cash-strapped owners did not have financial resilience to wait-out the decline in mineral prices. The mine was closed in 1981 (Coates and Morrison 1988). Curragh Resources acquired the rights to the Anvil Mine and other mineral and infrastructure assets in the area in November 1985 and re-opened the mine in June 1986 (Canada 1987). The period of active mining has been limited to the tenure of two owners, Cyprus Anvil and Curragh.

The Faro Mine[1] complex occupies the Rose Creek and Van Gorda Creek watersheds, on the southern and western slopes of Mount Mye (Fig. 1). Plans for future expansion may extend the operation eastward to include lead-zinc deposits in the Blind Creek drainage area. The operation consists of several open-pit mine sites, a mill, the supporting town of Faro (the second largest settlement in Yukon, after Whitehorse), and related works. The mine's infrastructure in the immediate area includes a network of haul and service roads, a water reservoir, waste dumps, and a tailings pond. The larger region, surrounding Mount Mye, is littered with the scars of past mineral exploration works - cut lines, trenching, abandoned camps, waste dumps, roads, runways and so on.

Transportation and energy infrastructure built during the late 1960s to facilitate the mine have had a major consequence throughout the southern Yukon. A new road transportation

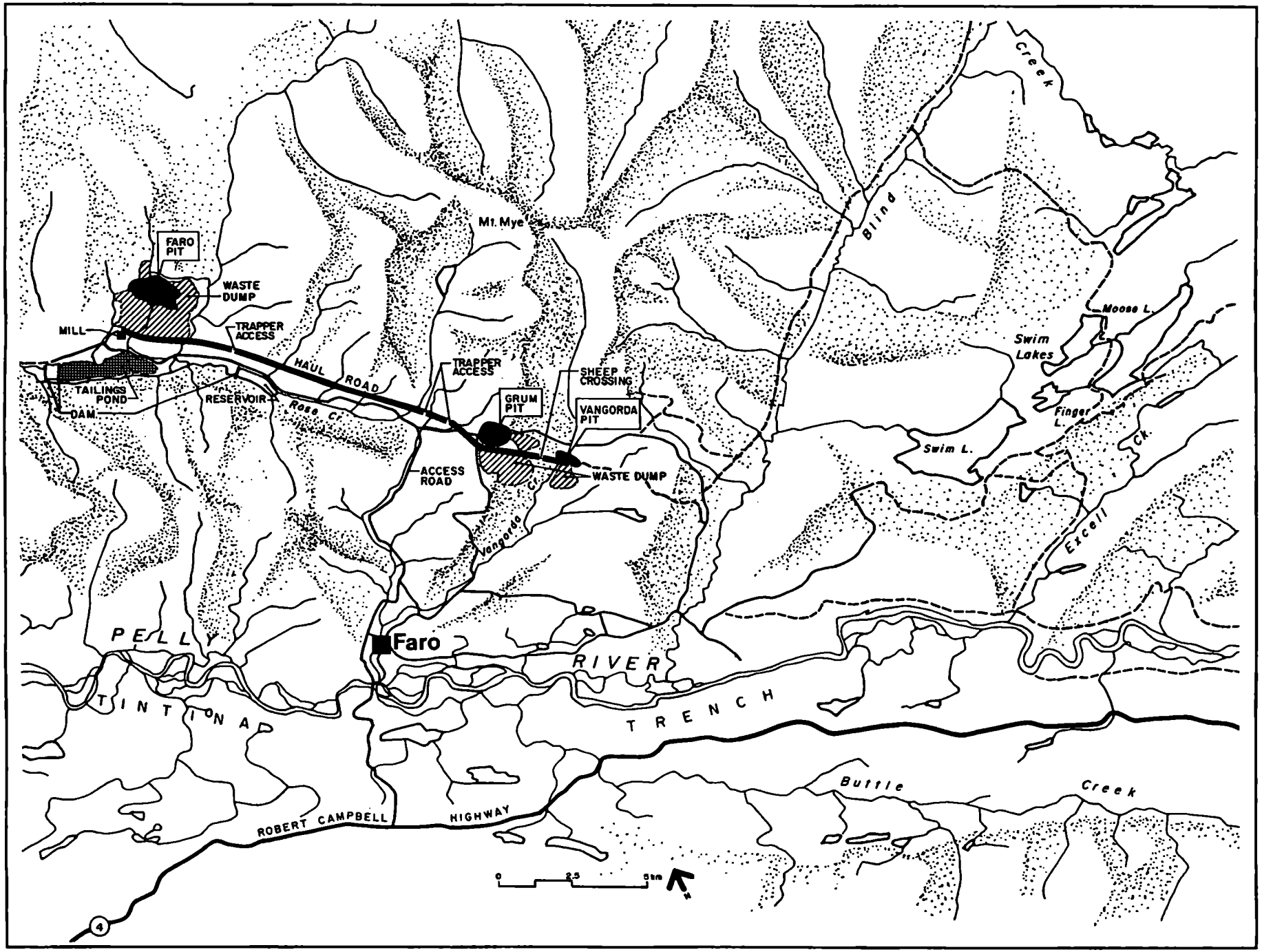
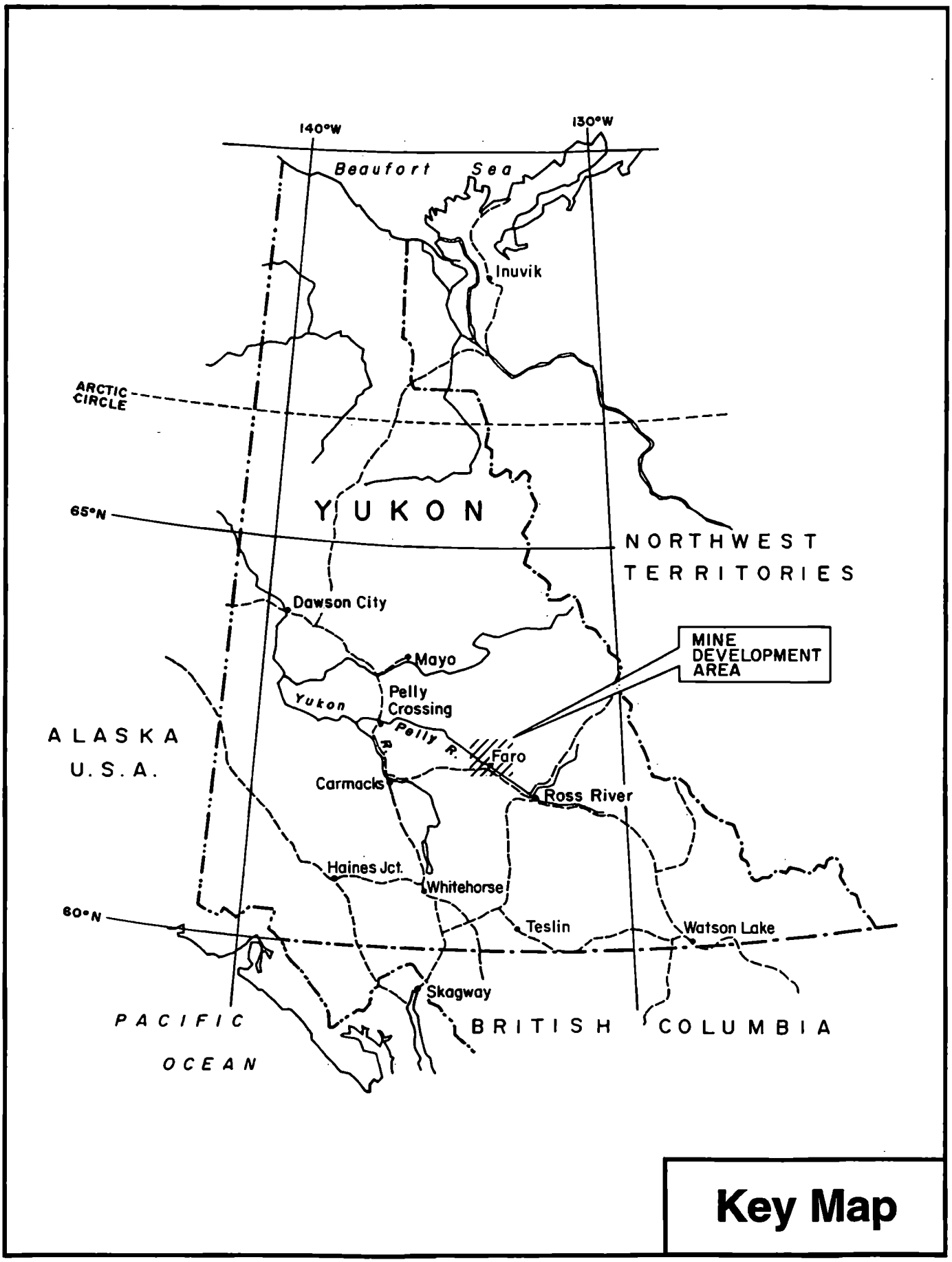


Figure 1 The Faro Mine Complex (from Steffen, Robertson & Kirsten Engineers 1991 & Curragh Resources Ltd. 1989)


140°W
130°W
Beaufort Sea
Inuvik
ARCTIC CIRCLE
YUKON
65°N
NORTHWEST TERRITORIES
Dawson City
MINE DEVELOPMENT AREA
Mayo
Yukon
Pelly Crossing
Pelly R.
ALASKA U.S.A.
Faro
Carmacks
Ross River
Haines Jct.
Whitehorse
60°N
Teslin
Watson Lake
Skagway
PACIFIC OCEAN
BRITISH COLUMBIA

Key Map

understanding of the existing problems is also necessary to guide the identification of a suitable mix of mitigative and compensatory measures.

There are several other, less specific reasons for conducting this study. First, an understanding of the nature of past impacts from industrial scale resource development experienced by native hunting/ trapping economies in the Yukon would be useful for the implementation of impact assessment and compensation/ mitigation measures of the Yukon land claim agreement. Appropriate remedies need to be guided by peoples' actual experiences.

Second, this research is also intended as a contribution to the development of impact assessment as a science. One of the major impediments to progress in impact assessment is the lack of information about the actual effects of development. Pre-development predictions, and the assumptions and hypotheses about the effects of development, all too often remain untested. Consequently, the methods that would allow for more accurate predictions do not evolve. In the present case it is not possible to evaluate the predictions because there were none. The effects of the Faro development on Indian land use were not assessed prior to the development. This is not an unusual situation. To our knowledge, there have been no studies in Canada which relate the development and operation of a mine, mill and town to the direct experience of the aboriginal people on whose traditional lands the mine was constructed. This lack of understanding is not limited to the mining sector. Monitoring of the social impacts of developments has been extremely rare in Canada. The

improvement of impact assessment's ability to predict requires more knowledge about the experience and response of affected groups of people.

Before proceeding it is important to make a disclaimer about what this research does not address. This study is not intended as a full retrospective socio-economic impact assessment (SIA) of the Faro development. Such an assessment has not yet been done and the present study is not a replacement for the outstanding needs for such an investigation. The impacts we investigated were limited to land and resource use effects. Nonetheless, as is now understood, land use is central to the economic and social well-being of northern native communities. The information and conclusions from this study would certainly be part of a retrospective SIA, but the scope of socio-economic assessment is considerably broader than land and resource use. For example, it is widely recognized (but not well documented) that the connection of Ross River to the highway system and the village's change from almost-exclusively Indian to a mixed-ethnic population during the early phase of the development resulted in extensive, intensely experienced social impacts to the Indian community (Miller 1972; Sharp 1973, 1977).

Retrospective Impact Assessment

This study is an attempt at a retrospective assessment of impacts to the Ross River Band's land use due to the mining development. An assessment of past impacts requires two types of information. The first is "baseline" data that provides information about the phenomena prior to the change events. The second is a

time-series of information which monitors and documents the changes. Neither type of information has been collected. No environmental or socio-economic impact assessments were done prior to the development of the Cyprus Anvil/Faro mine complex; and there has been no monitoring of changes to the land use of band members.

When the mine was planned and developed in the late 1960s the apparent lack of concern on the part of government officials and business people about possible conflicts with the land and resource use of native people was not unusual[2]. No environmental or socio-economic impact assessments of the development were done because none were required at the time. Consideration about the effects of the mine on Indians were limited to the possibilities of the development providing employment (Sharp 1973, 1977; Macpherson 1978; Coates and Morrison 1988). Generally, non-native public attitudes about the effects of the mine at that time did not include concerns for aboriginal rights, the Indian economy, or Indian communities. And the attitudes were equally silent about environmental issues.

Changes in Attitudes About Native Land Use

What were the conditions that permitted development to proceed without consideration for conflicts with Indian land use? At best the blame can be laid on ignorance of the significance of the land to Indian culture and economics. At worst blame can be laid on racism. Somewhere between the two lies the ethnocentric convictions that the replacement of hunting, trapping, and fishing as the means for making a living by wage-labour and commercial

system was constructed, linking the mine-site and, as well, Ross River into the continental highway system. A bridge crossing to the north-shore of the Pelly was constructed to link the mine and new town to the highway. Roads and railways in southern Yukon were upgraded to handle the extra weight of trucks loaded with lead-zinc concentrates. Electrical transmission lines were built to bring power to the complex; and a hydro-electric development was constructed on the Yukon River near Whitehorse.

THE CONFLICT

The Faro Mine was development on the traditional lands of the Ross River Kaska Indians. Development of the mine, mill and town took place without consultation with the Ross River Indian people. The impacts of the mine's operation on Ross River Dena families were not formally acknowledged until 1990, when an offer was made by the current mine owner, Curragh Resources, to address the problems. Curragh indicated its willingness to begin serious discussions with the Ross River Dena Council about the impacts and the steps that can be taken to rectify them.

THE STUDY

This study was conducted to provide information about the nature of impacts to land use experienced by the aboriginal inhabitants of the development area. Both parties in these discussions, Curragh and the Ross River Dena Council, cannot arrive at a satisfactory resolution without a clear understanding of the impacts experienced by the affected families. A clear

trade represents an inevitable and universal step in human progress. In this view, bringing a mine development to the "door-step" of an Indian band represents an opportunity to modernize and share in the benefits of progress. Concerns about land use conflicts did not have to be addressed because hunting, fishing and trapping were not considered to be legitimate or significant economic endeavours. The expectation was that they would be gladly replaced when wage labour opportunities were available. There have been major changes in these attitudes since the 1960s which have placed Indian land use and rights as one of the major issues in Canada during 1990s.

The mine development began during the dying days of the period of Canadian history when the north was considered an economic frontier and store-house of untold resource treasures for southern Canadians. The prevalent non-native attitude of the time was that Indians who had not signed treaties had no aboriginal rights to the lands they and their ancestors had historically occupied and on which they had made their living. Native organizations attempted to pressure governments to enter into negotiations about unextinguished aboriginal title, but governments and business interests felt legally free to ignore native use.

More broadly, the attitudes of government and the settler populations that they represented conformed to the notions of progress which historically had been the intellectual justification for non-native settlement of North American, namely that agricultural and technological use of land and resources were superior economic uses and could morally (and legally) displace

other users who did not have specified and recognized legal rights. Native people across North America have viewed such attitudes as the self-interested and ethnocentric rationalizations for the displacements they historically experienced from European colonizers.

Attitudes about the significance of environmental impacts have changed over the intervening years. A greater understanding of the dynamics, limitations and fragility of the environment, particularly in the north, has led to legal and regulatory requirements for developers to attempt to predict the environmental consequences of their proposals before development.

There also have been major changes in the way that the native interest in land has been viewed, both by the non-native public and the courts. Following the split decision of the Supreme Court of Canada on the existence of Nisga'a aboriginal title to their traditional lands (Calder vs. Attorney-General of British Columbia) in 1973[3], the minority Liberal government entered into a policy of settling native claims to lands "where treaties had not already extinguished aboriginal title" (Berger 1981: 248). Since the time of that historic legal decision the non-native public has been increasingly sensitized to the significance of land and its use to northern native peoples. The participation of Yukon and Northwest Territories native people in inquiries into the construction of pipelines for the transportation of northern natural gas to southern markets made significant contributions to the growing public awareness (e.g. Berger 1977; Lysyk et al. 1977; Mair 1980). In recent years the courts have repeatedly affirmed

the aboriginal right to hunt and fish (e.g. R vs. Sparrow, [1990] 3 C.N.L.R. 160 (S.C.C.). Yukon Indians have been involved in the negotiations of lands claims for almost 2 decades. The overall structure of the settlement has been agreed to recently. Land and resource use issues, including the assessment of development impacts, have been among the most significant issues under discussion.

Indian Land Use and Impact Assessment

The use and occupancy of land by aboriginal peoples has only recently become a consideration in the development of natural resources. In the past, resource developments proceeded with a number of assumptions about the significance of land to native communities The first, already mentioned above, was that the land was not significantly occupied or used. The key word is, of course, "significantly". Hunting, fishing, and gathering were not considered economic activities unless production was geared to a market. True economic activities were considered to be the production of commodities, such as furs, for sale. That attitude still prevails. Among many resource managers and government planners trapping has been given the serious attention deserved by an economic activity, whereas hunting and fishing for household use, which have historically been the basis for native life in the north, have not.

The second assumption has been that land and resource harvesting would loose their importance in modern native societies. The assumption tied attitudes about progress together with the notion of replacement. In this view as native communities

modernized they would replace resource harvesting with wage labour or business enterprise, and fishing and hunting would become recreational activities. This paradigm of social change is modeled on the historic pattern followed by European society from the industrial revolution to the present. Economics based on household production were largely replaced by wage labour and business enterprise. The model derives from historical change within agricultural societies. It does not take into account the difference between those societies and hunting cultures.[4] In societies based on hunting, harvesting activities are not just the means to make a living. Land use and animal harvesting are also critical elements of satisfaction and meaning in life. Ideas of how life should be lived are fundamentally tied to being on the land. Modern native experience has not conformed to these assumptions about replacement. Rather, in northern native communities wage earners typically combine employment and resource harvesting through strategic land use and time management decisions.

Two models of social impact assessment have been developed for northern native communities (Usher and Weinstein 1991). The assumptions discussed above are the rationale of the modernization/ acculturation model. They imply an essential similarity between the SIAs required for northern native and other Canadian communities. If the logic is followed to its completion, land use and resource harvesting considerations only need to be addressed as recreational impacts. The other model, which for want of a more formal name can be called subsistence[5]/adaptation, assumes that land and resource use on

the traditional lands of the native group in question is a primary value for these societies. The value is economic in part, but goes beyond the returns from food and fur production to issues of meaning and satisfaction in life. The model also assumes that "modernization" for northern native groups includes the adaptation of subsistence to village residence and wage employment. The latter model of SIAs have been largely initiated by native organizations which felt that their concerns about resource development impacts were not being addressed by studies based on the modernization/acculturation paradigm (e.g. Usher et al. 1979; UBCIC 1980; Dimitrov and Weinstein 1984). The present study is guided by the assumptions of the subsistence /adaptation model.

Impact assessment as a science is in its infancy. Impact assessments are usually understood as a prediction of the effects of a development project. Evaluations of the success of the predictions, after the development, have typically not been considered part of the process. This has been a major impediment to progress in impact assessment. Assumptions and hypotheses about the effects of development have typically gone untested. Consequently, the methods that would allow for more accurate predictions do not evolve.

Science progresses cyclically through hypothesis testing, modification of models and hypotheses, and retesting. This process should be as true for impact assessment, as a science, as it is for biology or physics (Beanlands and Duinker 1983; Usher and Weinstein 1991). If SIA is to operate as a science, its various

stages should include: 1. **baseline profiling** (description of the system prior to alteration); 2. **prediction of impacts**; and 3. **evaluation of significance** prior to the event. During and after the event 4. **monitoring the changes** provides information for 5. **evaluating the predictive ability** of the original impact assessment model. Finally, the evaluation allows 6. **changes to the impact hypotheses** and the original SIA model that are used for the next stage of assessment (Fig. 2).

The development of SIA assessment as a science requires more knowledge about the responses of the affected groups of people. The missing step typically has been monitoring the impacts on the affected communities. Environmental impact assessments (EIA) and SIAs are costly, but modern Canadian resource developments require that development effects be considered. Monitoring programs can be equally or perhaps more costly, but the motivation to fund and conduct them generally does not have the enthusiasm of the initial development plan. And the legal requirements for monitoring have been much weaker and more informal than those for the initial assessments. Consequently, there is a major lack of detailed information about the actual effects of development projects. This is particularly true for impacts on native land use.

Research Design

The basic requirement for this study was an historical reconstruction of Indian land and resource use of the Anvil Range portion of the Ross River Band's traditional territory during the middle and late 20th century, and an ability to attribute changes

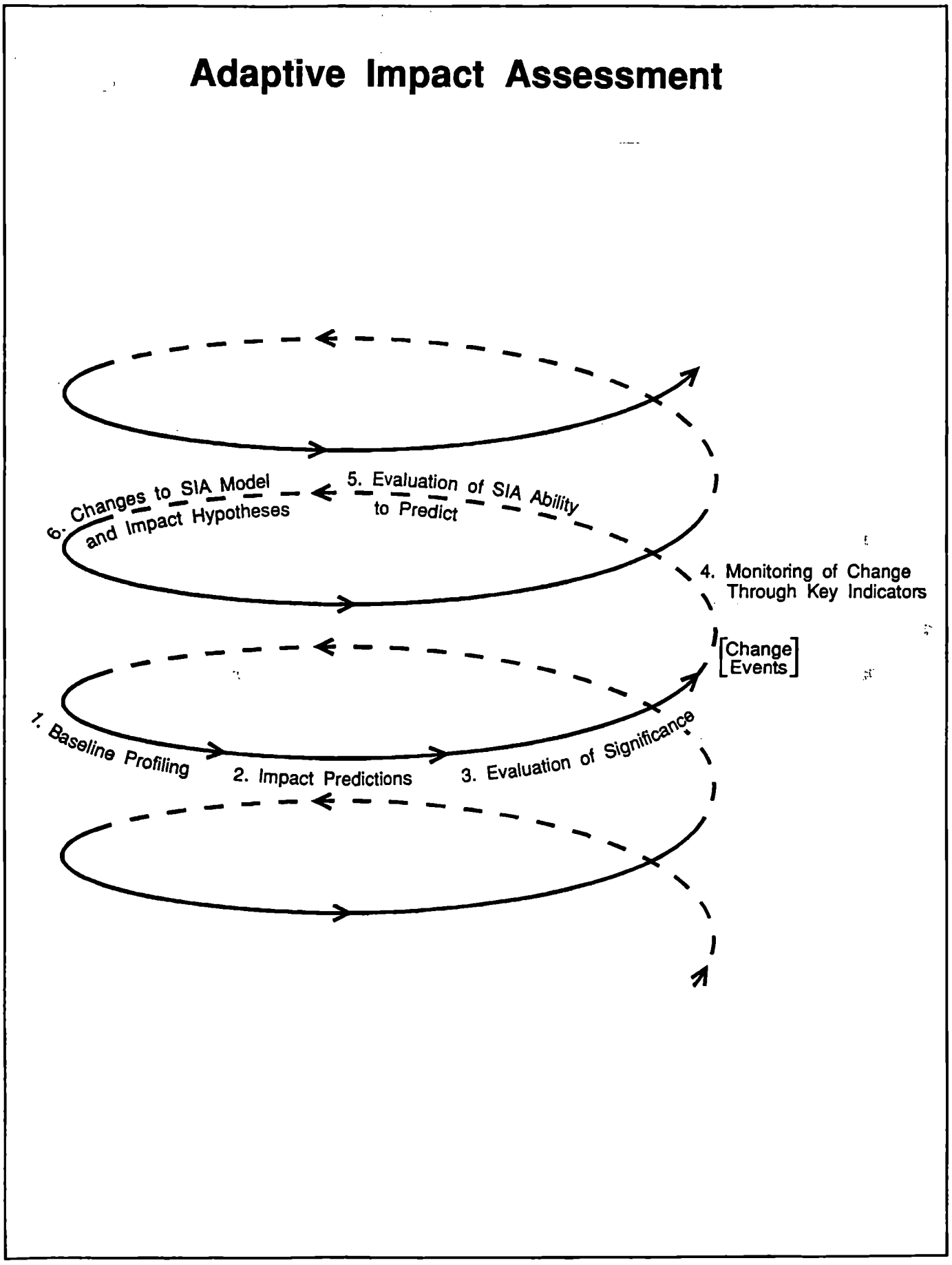


Figure 2 Adaptive Impact Assessment

to the mining development. Land and resource use, in this sense, include both the economic and social aspects of the subsistence economy, combining the production and distribution of foods and materials with the social institutions which organize and regulate the Ross River subsistence economy (such as the systems of land tenure, mutual aid, inter-generational transfer of knowledge and skills, etc.).

The study necessarily relied on re-call information. The methods used rely on the abilities of people who were affected by the direct land and resource effects of the mining development to remember changes to their land use. The reliance on memory as a source of data is not unusual in native impact assessment, especially those dealing with land use. Other sources of information are inherently incomplete. There are 3 possible sources of information about native land use: the memories of living users; government administrative files; and the direct experience of professional observers through participant observation. For this study only the first was available.

In the rare instances where participant observer accounts are available they tend to be limited in time and place and to one or a few family groups.

Information in government files about Indian land use is typically of limited value. Two types of information may be available. There are often irregular and anecdotal accounts which, with the passage of time, may have significant historical value, depending on the sensitivity of the observer. The more regular source of information comes from commercial harvest records. In

many jurisdictions there have been attempts to collect systematic geographic information after the creation of exclusive commercial tenures (such as traplines or commercial fishing area licenses). It is misleading, however, to consider these kinds of records as accurate information about use without verifying them with the users, because native decisions about which lands to harvest do not necessarily follow the fixed rules of government tenures (Weinstein 1975; Levson and Kabzems 1981). Choices about where to harvest are essentially informal social decisions. They are guided by traditional rules of tenure and perhaps by government restrictions, but they are modified by assessments about animal populations, family needs and relations with other people at the time the decisions are made. In addition, of course, such records only contain information about domestic harvests by inference.

In the case of the Ross River Band there is an added complication which makes the administrative records even less useful for our purposes. Yukon traplines were first registered in 1951 (McCandless 1985). At the onset of registration Ross River Indians registered individual trapping areas. During the late 1950s, however, band members requested that the traplines be re-registered as grouped traplines. The band's traplines were grouped into 3 group traplines and ultimately grouped into a single band trapline. As a result, fur harvest records cannot be attributed to particular regions of the band's territory.

Studies have shown northern native peoples' ability to recall land and resource use in the distant past with considerable accuracy (e.g. Arima 1976). However, there are two inherent

limitation to this kind of recall-based reconstruction. The first is the availability of living people who can accurately recall events, which in some instances took place decades ago. And the second is time for people to do the remembering. In some cases, time is also a consideration for respondents having the confidence to recall painful memories and discuss them with outside interviewers.

One further problem is the ability to attribute changes in land and resource use to a single effect. There were a large variety of influences on the subsistence economy during this period of time. Land use changes in the Yukon have been very intense since the end of World War II due to such influences as village settlement, changes in the economics of the fur trade, changes in institutional wildlife and fish management arrangements, changes in the availability of seasonal employment compatible with harvesting activities, changes in social programs, and so on. Any evaluation of land and resource use changes and impacts needs to take these influences into account. The methods used for this research take a broad perspective of Indian social change and adaptation.

ENDNOTES

(1)There is a problem with terminology. The mine has been going through significant changes which raise questions about what the development should properly be called.

For most of its working life, mining took place in the so-called Anvil open-pit. During this period the mine was most often referred to as the Anvil Mine or the Cyprus Anvil Mine. With the depletion of the original deposit, mining activity has moved to other deposits, all of which are expected to be relatively short-lived. For the purposes of this report, which is concerned with the complex as a whole and the period of time from early exploration to the early 1990s, the development will be referred to as the Faro Mine.

(2)Although there may have been concerns at a personal level, we have come across no written materials discussing possible land use conflicts or impacts, let alone programs to mitigate the effects of the development.

(3)Three of the judges agreed that the Nisga'a retained aboriginal title to their lands, 3 found that title had been extinguished, and the seventh justice found against the Nisga'a case on a legal technicality - that the law at the time required the government's permission before bringing a suit against them.

(4) For broad discussions of historic and contemporary hunting societies see, for example, Lee and DeVore 1968 or Sahlins 1972.

(5)The term subsistence has had an uncomfortable history. It has a pejorative tone, implying no social benefits beyond economic survival. Subsistence also has a specific and legal use in neighbouring Alaska, where it been used to overcome any special native rights to animal harvesting.

Nonetheless, the term has long and recognized use among social scientists studying northern native land and resource use (e.g. Berkes 1988). It is used in this report to mean a system of land and resource use. It is used here, recognizing the discomforts and problems, because there is no other term for the system as a whole. The subsistence economy includes food production (hunting, fishing, and plant gathering); fur production; the use of natural materials as tools, for structural purposes; and non-food resources; the distribution and consumption of these resources; and the set of social relations, specific to native communities, through which the production, distribution, and consumption of these resources are organized.

CHAPTER 2

ASSESSING EFFECTS ON INDIAN LAND USE

The objectives of this research were to describe the changes that took place in Ross River Dena land use on areas affected by the mining development and to attribute which changes were due to the impacts of the development. The approach taken was to define the significance of the area for the band's hunting economy prior to the development; and then to evaluate the way that its use and importance changed subsequently.

This approach inherently requires a long-term view of land use and a means to separate "before" and "after". The mine development was a major change event to the local environment. The implication of the study's concern is that at a particular time a change took place. The methods rely on before and after descriptions which are hinged on the change event. These assumptions lead to the questions: what was the critical event and when did it occur; and what is the duration of the "before" and the "after" periods which are relevant to the goals of the research? These, indeed, were the starting questions. Following discussions with elders from the families who had traditionally wintered in the impact area, however, important changes were made to these assumptions. And these changes, in turn, affected decisions about appropriate research methods.

When considering the mine's effects on land use, there is not a single change event but a continuum of events. The

historical development spans from the first stages of exploration to the recent re-development of the complex. Perhaps the more appropriate way to look at the impacts is as a series of stages. The mine and town development in the late 1960s was, of course, a critical event for the development and the impacts. It was preceded by a period of mineral exploration which was pulsed during the earliest phase but increased in intensity and duration as the project neared the start-up decisions. An operation period followed the developmental phase. The current phase might best be described as re-development; and the final phase, after the mineral deposits have been depleted, as abandonment.

Our discussions with the elders also indicated that it would be inappropriate to look on the community and its responses to the development simplistically. The mine development represented an historical convergence. The effects of the development need to be considered within the complex of forces that were occurring at the time. Indians throughout northern Canada went through a critical time in their histories during the same period that the Faro mineral exploration and mine development took place. Many groups were in an economic crisis during the period from the end of World War II to the early 1970s due to a precipitous drop in the value of furs and an abandonment of seasonal, service sector employment opportunities which had been associated with the fur trade. Many changes took place within Indian communities during this time, some from government programs and others from peoples' own initiatives to deal with the economic problems.

METHODS

Sources of Information

These complexities and the lack of available pre-development "base-line" and post-development "monitoring" information on Indian land use limit the possible methods. This research relies on previous studies and on the memories of living band members. Since the time spans such a large interval, there are inherent limitations on the information available to us through interviews. Present day elders, who are the primary source of our information, were youths or middle-aged during the early stages of the development. The elders of that day are no longer living. Gone with them is the record of their experience. And many of the youths and middle-aged people, who would be elders today, are also deceased.

Who Was Affected?

The area of impact represents a portion of the south-west corner of the band's traditional lands. The geography of Indian land use is focused by a combination of habitat ecology, cultural rules for access, and the history of social relations between family groups. This results in a differential land use geography. The normative rules specify that all people can use any of the band's land. In operation, the combination of ecology, culture, and history result in particular individuals and family groups having recognized authority over different regions of the band's territory. While the effects of a local development have a broad consequence on the band as a political and cultural entity, specific family groups are likely to have had a more intense effect

on their land use.

Taking this into account, the band developed a list of the family groups that were likely to have had their harvesting activities affected by the development. This list was further fleshed out to include spouses, children, and the families of siblings. The list identified the people who were most likely using the Faro development area at the time of mineral exploration and mine/town construction.

Following our earliest interviews with elders from this group, it became clear that limiting impact considerations to the older generation would not provide a full indication of impacts. The Ross River tradition is for younger family members to learn their harvesting and outdoor skills on family use areas, and to continue the family land use traditions. Changes in land use during adult life result from marriage or from joining friends on their areas. The motivation to join other groups often results from a combination of social factors and local declines in animal populations. Nonetheless, different family groups within the band are associated with particular land areas. During our conversations the question of how the impacts to lands in the Faro area were experienced by the younger adults was raised. That is, during the 1970s and 1980s have younger band members followed the traditions of concentrating their land use on traditional family areas; and, if this is the case, are there any differences between members of the families who traditionally concentrated their harvesting in the Blind, Van Gorda, and Anvil Creek drainages and people 'from' other areas?

Full genealogies were constructed to identify younger as well as the older family members to attempt to test this hypothesis. A caution is required at this point. There is a temptation to identify two groups of people within the band, members of families affected by the development and members of unaffected families. To some extent the methods used for distinguishing between various families are prone to this temptation. From our interviews, however, even at the earliest stages, it was made clear to us that significant parts of the affected areas have had a broad use throughout the band. The use and importance of these areas were not limited to particular family groups. It was also made clear that the band's traditions did not limit people to particular areas. People could hunt where they wanted, but social conventions were generally followed. This logic says that there is properly no such thing as an "unaffected family group". Nonetheless, certain families are recognized within the band as being associated with these lands and having management authority or stewardship responsibilities, according to band traditions, to these areas. What can be distinguished is family groups whose harvesting was concentrated in the affected areas and other groups whose harvesting was concentrated on other parts of the band's traditional territory.

The methods concentrated on living members of families associated with the lands on which the development took place. However, the methods also surveyed the band broadly about the use of these lands during the last 10 years.

Mapped Interviews

The research program relied on a combination of key informant interview and survey techniques. People with the greatest experience in the affected area were identified by band administrators. Elders from this group provided critical guidance to the research effort. They operated as an informal advisory council for the research effort. Among other things, they explained the significance of the area to the band's system of resource use and identified the nature of the impacts. They also described the pre-development history of the area and explained the relationship between animal ecology and the band's land use.

The research design specified in the original proposal called for year by year mapping of the land use of people who regularly used the area. After testing, this method was found to be unfeasible and unsuitable for several reasons. First, the people most affected by the intense exploration phase and the construction and early mining phases of the development are no longer living. Second, it was not possible to construct a "before and after" land use scenario for the key elders. As parents with young dependants during the fur trade and employment crisis of the 1950s and 1960s they could not make an adequate living at Ross River after the Taylor and Drury trading post closed. A number of families, including those of the oldest living members of the families from the affected area, moved to other Yukon centres and only became re-established as Ross River residents in the late 1960s. And third, the construction of temporally precise land use maps takes a considerable period of time and patience. The effort

requires ample free-time on the part of the interviewee. It also requires a commitment to use significant amounts of available time for the construction of land use maps. This level of precision may be possible over a long, relaxed period, but it was not possible within the limitations of the current research,

The key informant mapping program carried out was more open-ended and exploratory than described in the original proposal. Land use at different periods was mapped to build a composite picture of changes to the use of the area during the second half of the 20th century. To gain an understanding of the significance of the area and the nature of the impacts, mapped interviews were also conducted with people who have persisted in the use of the affected lands.

Questionnaire Survey

A mapped questionnaire survey was also conducted with a sample of adult band members. A copy of the questionnaire is included as appendix 1. The survey was aimed at broadly documenting recent land use of the affected lands by band members. A map of the band's territory was divided into 22 zones (Fig. 3). A variety of harvesting questions were asked of a stratified sample of band members divided along regional family affiliation. Adult band members were split into three groups: members of families from the affected areas through birth; family members through marriage; and members of families from other parts of the band's territory.

The sample was stratified according to the intensity of peoples' harvesting activities in the recent past. Adult band

members were classified by knowledgeable people into four categories: intensive harvesters - people whose main livelihood comes from hunting, fishing, and trapping; regular harvesters - people who frequently hunt, fish, or trap, but who have other commitments on their time, such as employment; occasional harvesters - people who go on the land periodically, but irregularly through the year; and infrequent harvesters - people who may hunt or fish several times a year. The objective of the sampling was to interview as many intensive and regular harvesters as possible and to obtain random samples of 50% of the occasional harvesters; and 25% of the infrequent harvesters. Table 1 compares the intended sample with the results of our sampling programme.

People were asked to list the broad geographic zones they conducted various land use activities in during 1990-91 and the 1980s. They were also asked which zones they considered as belonging to their family group. The data were coded onto a computer database, aggregated, and compiled on zonal land use maps.

There are inherent limitations of this kind of land use documentation method. Sampling is not an ideal method for geographic research. Because there is no mean or average to land use, it is not possible to extrapolate from samples to the entire population. Geographic studies which rely on sampling are simply least case indicators of land use. They cannot be taken as average or representative or as definitive statements. All geographic studies of native land use have inherently relied on

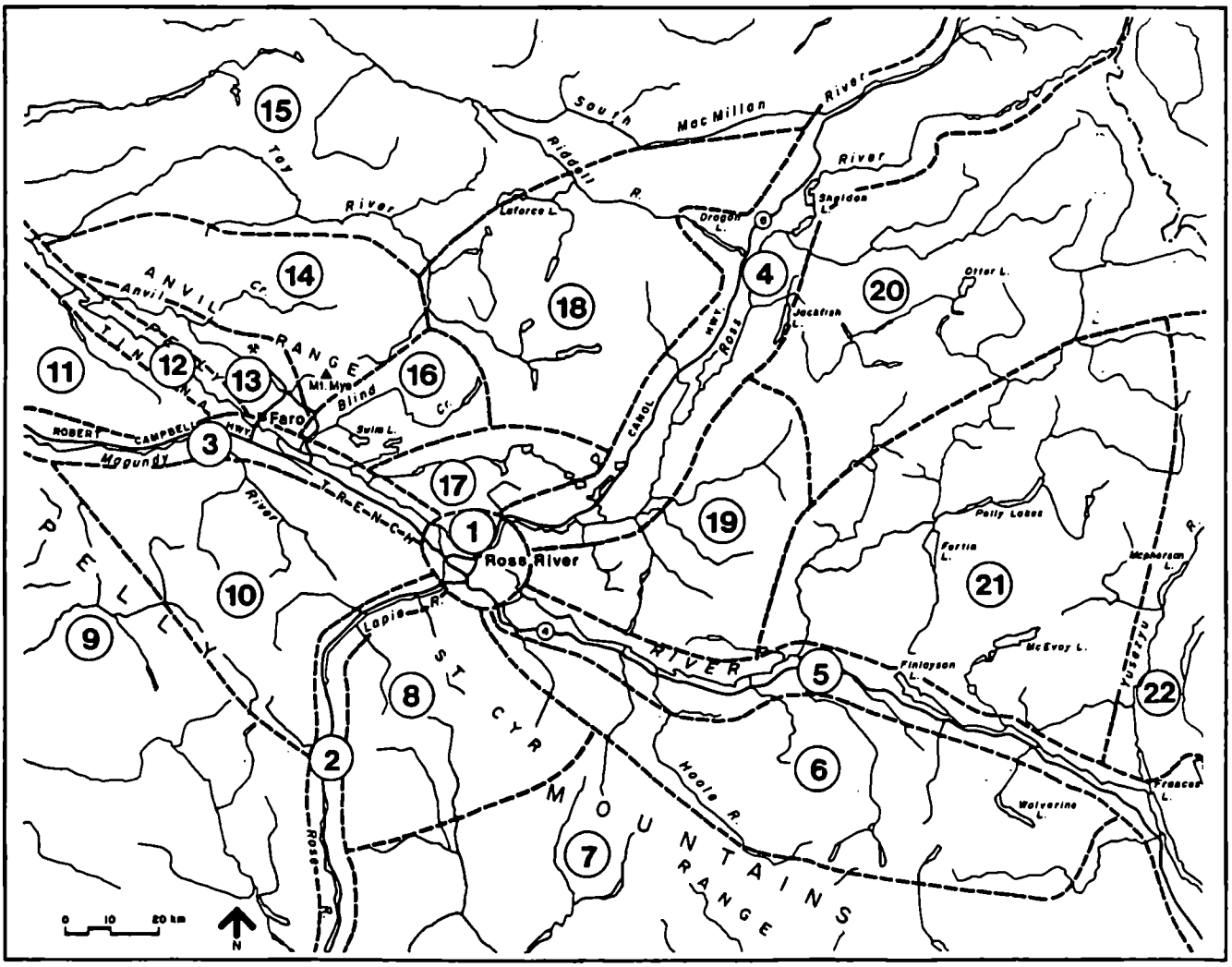


Figure 3 Land use zones used for the questionnaire survey

Table 1. Sample Results of the Land Use Questionnaire Survey.

GROUP[1]	POPULATION	INTERVIEWS	SAMPLE
AB-1	6	5	83%
AB-2	13	11	85%
AB-3	33	17	52%
AB-4	56	11	20%
AM-1	3	2	67%
AM-2	4	3	75%
AM-3	5	2	40%
AM-4	4	0	0%
OA-1	13	8	62%
OA-2	15	10	67%
OA-3	14	8	57%
OA-4	16	5	31%
TOTAL	182	82	45%

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1. AB stands for members of affected area families by birth; AM stands for members of affected area families by marriage; and OA stands for members of families whose 'home areas' are within other regions of the band's territory. The numbers stand for the 4 harvesting intensity categories: intensive, regular, occasional, and infrequent.

sampling techniques simply because none of the studies has ever achieved a 100% sample size. The zoned geographic questionnaire results were intended as an indicator of the regional geography of the band's recent land use.

Land Use Maps from Earlier Research

The study also made use of relevant land use information from previous research. During the early 1980s the band conducted a land use study as part of an impact assessment of a mine proposal in the MacMillan Pass area (Dimitrov and Weinstein 1984). The band's MacMillan Pass study selected a broad land use focus because the impact assessments conducted by other agencies ignored the importance of the band's subsistence economy and its land base (see for example Salisbury and La Rusic 1981; Reid, Crowther and Partners Limited 1982).

The research has left the band with a valuable map legacy which is particularly relevant for the current study. People were asked to make maps of their land use prior to the Cyprus Anvil development and after. The mine development was chosen as a marker in the band's history because it signified a change in the character of the region and the village from predominantly Indian to mixed settler-Indian. The maps include the land use records of people who have since died, including members of the families from the affected lands.

A problem with this map resource is its sheer size and the complexity of handling the data. The MacMillan Pass study simply hand aggregated land use according to harvesting categories. At the time of the original research there was no readily available

technology to handle the amount of graphic data that the interviews generated. The advent of computerized Geographic Information System (GIS) technology now makes it possible to machine sort and aggregate the map data. However, the labour, time, and costs required for what is a very formidable task was beyond the scope of the present project. Rather than a full analysis of several hundred land use and occupancy maps, we culled the maps and selected approximately 30 - the limit that could be reasonably aggregated and dis-aggregated by hand.

The maps were selected, according to temporal and social criteria, so that they could be used for comparative purposes (Table 2). One of the complications of standard land use and occupancy methodology is the irregular time coverage that results. The time period being mapped is personal. People are asked to map the land that they have used during their adult lives. Consequently, the time period of individual maps varies with the age of the interviewee. (See Freeman 1976; Brody 1981; Dimitrov and Weinstein 1984 for descriptions of land use and occupancy methodology.) The maps of an elder would show land use during most of the century, while the map of a young adult might be limited to the last 5 years. When combined, these types of maps show a group's land use within living memory.

The use of a time marker, such as the Cyrus Anvil development used for the MacMillan Pass study, is an aid in re-structuring the maps according to universal time. The 'before' maps show the geography of use prior to the development and the

Table 2. Sample of MacMillan Pass Study Land Use and Occupancy Maps.

	Universal Time	# Maps
1. ELDERS FROM FARO COUNTRY		
	1920-47 to 1966	6
	1967-1982	3
2. MIDDLE AGED HARVESTER SAMPLE		
Members of Faro area families	1953-64 to 1966	3
Members of other families		4
Members of Faro area families	1967-1982	3
Members of other families		4
3. YOUNG HARVESTER SAMPLE		
Members of Faro area families	1967-1982	4
Members of other families		4

'after' maps show land use from the late 1960s until the maps were drawn in the early 1980s.

The maps were selected to do a number of different things. First, available maps of elders from the Faro area, including a number of people now deceased, were selected. Unfortunately, this part of the data-set is lacking the "after" maps for most of the elders. Drawing land use and occupancy maps can be tedious. Sometimes the researchers' needs are not adequate justification for people to repeat the mapping process. Second, a group of middle-aged harvesters representing families from the Faro area and other areas were selected. This sample provides maps that show land use 4 to 14 years prior to the development and 15 years after the development. It comes the closest to providing the kind of 'before' and 'after' perspective required to isolate the effects of the development. Finally, a groups of young harvesters was selected to give an indication of the land use of people who became adult after the mine was developed. The use of this data is limited by the small size of the sample. A valid comparison cannot be made with 3 or 4 maps alone. Rather, the intention is to use the data in combination with other information to re-construct the story of impacts on the Faro lands.

Other Materials and Records

In addition to the above research materials, we reviewed selected unpublished records, reports, and publications for information about both Ross River Indian land use and the development of the Faro mining complex. Discussions were held with Yukon and federal government officials about the relevance

of their administrative records for providing information about the band's land use.

The Yukon Archives includes a remarkable diary in their collections. Joe Ladue, the patriarch of one of the families from the affected area who died in a tragic car accident in the 1970s, kept a daily record of his hunting group's activities and harvests over a 2-year period during the 1930s. The diary provides a unique record and tantalizing glimpses into the annual rhythm of travel and work in mid-century.

Records of the registration of Ross River traplines and the creation of the band's grouped-trapline systems were also reviewed for information about land use during the 1950s and 1960s.

CHAPTER 3

MINE DEVELOPMENT

A brief description of the history of the Faro development is necessary to set the stage for the examination of impacts on land use. As mentioned above, the development has progressed through a number of stages. During the 1950s, the area was prospected along with other parts of the Yukon for potential economic mineral resources. During the 1960s prospecting and exploration of the identified deposits intensified and the mine and townsite were developed. The 1970s was a period of routine mine operation. The 1980s saw the operation suspended for a period of 4 years due to economic conditions and, as well, a succession of ownership transfers. With the 1990s, the current phase, the original Anvil Creek deposit has been depleted and mineral extraction has changed to other, less extensive mineralizations.

Each of these stages produced different changes to the environment on the slopes of Mount Mye and surrounding region. These changes are not well documented, especially those at the earliest stages of the development. The description that follows is more of a guide to imagination than an account of environmental impact. Its usefulness is in providing a context for the discussions of land use impacts in later sections.

Prior to the exploration period, the Mount Mye region had not experienced any industrial development, road building, or even cut lines according to the records available to us. Some minor gold panning may have taken place prior to and during the

Klondike gold rush, but resource use was largely limited to Indian hunting, fishing, and trapping and the use of plant and mineral resources which accompanies that way of life. That was as true in mid-20th century as it was during the turn of the century.

THE EXPLORATION PERIOD

The first identification of lead-zinc deposits in the Mount Mye area took place after World War II. In 1953 Al Kulan, prospecting on the slopes of the mountain, staked the first claim in the area on Vangorda Creek. "He was drawn to the area by Indians of the Ross River Band, who told him about a rusty creek bank, which he staked after observing a lead-zinc mineral outcrop" (Macpherson 1978:116).

At the time of the early prospecting, the only commercial facilities in the region were trading posts catering primarily to Indian families. The Taylor and Drury trading post at Ross River was established in 1905 and remained open until the early 1950s. The area had experienced some degree of change during the War as a result of the construction of the Canol Pipeline and a road link to the new Alaska Highway. The effects of several thousand soldiers and construction workers, however intense, were relatively short lived. The construction period spanned 2 years, and the pipeline was soon abandoned. The road link into Ross River (the South Canol Road) was maintained until 1950, re-opened in 1951 for salvaging the pipeline and remained closed until 1962, when it was re-opened to service the new mining industry (Sharp n.d.; 1973).

Mineral exploration and development in the north during the early post War years was stimulated by the political climate of the time. The European recovery and the strategic concerns of the Cold War created a demand for metals. The newly created transportation infrastructure aided access and exploration into the Yukon.

During the period from 1953-55, after the first promising mineralizations were staked on the slopes of Mount Mye, the exploration continued. The claim was used to option funds for "a million-dollar geophysical and geochemical exploration programme" (Macpherson 1978:116). Nearly 10 million tons of 9% lead-zinc with traces of copper, silver and gold were identified from the exploration during this period (Aho 1966). Further exploration in the area led to the discovery of 2 small sulphide bodies. Kulan staked 24 claims on the massive Anvil deposit in 1956, but lacked the finances for exploration. The claims were allowed to lapse. (The claims were re-staked by another syndicate in 1963, but were then allowed to lapse again).

There was little serious interest in the development of a mine at the time. Base metals represented low value and the costs of development were expected to be high because of the lack of infrastructure and the distances of the ore from smelters and markets.

The post War resource boom had lasted until the mid-1950s. After 1956 a series of recessions set in, which lasted nearly a decade. This was a period of greater global competition, as other deposits were brought into production, and of increased

protectionism. The uncertain economic times resulted in a slow down in spending on resource exploration and development (Zaslow 1988). The difficult economic times resulted in a decrease in the pace of exploration on the slopes of Mount Mye during the late 1950s (Macpherson 1978).

During 1959 the newly returned Diefenbaker government launched the "Roads to Resources" program to provide road networks to encourage natural resource development (Zaslow 1978). This period saw the re-opening of the South Canol Road, the construction of a new road from Ross River to Watson Lake, and the road to the Cantung tungsten mine (Aho 1962).

Kerr Addison, who had taken over Kulan's option from Prospector Airways resumed prospecting in the area in 1961-62.

During the mid-1960s, both the pace and extent of exploration greatly expanded. The market for base metals had improved and a dramatic new find resulting from Kerr Addison's drilling at Swim Lakes identified an estimated 10 million ton orebody consisting of 10% lead-zinc (Aho 1966; Macpherson 1978). The new market climate, increasing amounts of identified ore in the region, and the promising geological reports stimulated the founding of Dynasty Explorations by Aaro Aho and his associates in 1964 (Macpherson 1978).

1964 can be considered the start of the exploration which led to mine development. An increased amount of funding came available through Dynasty, which was used for rigorous and innovative geophysical testing. Dynasty and others conducted

further exploration at Swim Lakes, VanGorda Creek, and Rose Creek, principally using airborne geophysical and geochemical surveys. Dynasty staked an additional 800 claims by the fall of 1964 and conducted some rotary drilling. Further staking went on through the winter (Macpherson 1978).

In spring of 1965 Dynasty and Cyprus Mines of Los Angles formed a joint venture, which was the source for additional exploratory funding. Rotary drilling and geochemical studies indicated a large tonnage of high grade lead and zinc. "The joint venture then launched 'saturation' exploration over 100 square miles of Yukon Territory in the vicinity of the Faro deposits" (Macpherson 1978). The exploration program added 2 helicopters for a regional magnetic-electromagnetic survey of the entire Anvil Range. Drilling continued to further define the deposits and provide information on their size and grade. A rough road, gravel airstrip, and a large camp for over 100 people and facilities for the 2 helicopters were constructed. "Materials were barged down and ferried across the Pelly River to prepare for winter camp" (Macpherson 1978:117).

The early results left an atmosphere of excitement in the mining and financial quarters. An additional 1800 claims were staked by October 1965 - adding to the original 800 -- bringing 130,000 acres into the holdings (Fig. 4).

> "...In late 1965, the potential of the area became known. Rumours about the Anvil find triggered the biggest staking rush in the Yukon's history since the Klondike. More than twenty companies and many individuals flew in by helicopter at an expense of approximately half a million dollars, to stake claims in

> weather conditions of fifty and sixty below zero. Of the 15,708 claims staked in the Yukon during 1966, nearly 10,000 were in the Faro area. ... Over the next few years huge blocks of land were held for drilling exploration and speculative resale, while Anvil conducted an intensive exploration programme." (Macpherson 1978:p.117,119)

The degree of excitement that accompanied the development can be felt from the publication released by the company in 1970:

> "...[1965] was a very busy season. Activities included rotary and diamond drilling, geophysical exploration, and widespread airborne magnetic-electromagnetic surveys and geological and geochemical reconnaissance of the entire Anvil range with two helicopters. The camp, with an exhilarating air of excitement, was bursting with 117 people, 22 tents, two helicopters, a double cook tent running three shifts, and people sleeping on the floors. Cats, Bombardiers and other vehicles rumbled through at all hours, more drills were being brought in, a rough access road and 3800-foot air strip were built, and mountains of supplies were freighted in while the nights darkened, frosts turned the leaves to flame, and snows dusted the peaks. By late October a total of 2400 claims had been staked.
>
> As preliminary results of exploration became known, a major staking rush developed in November. Although little documented and relatively unpublicized, the Dynasty staking rush, as it became called, was the largest in the Yukon since the Klondike. Some 20 companies and many individuals surrounded and interconnected the widespread Dynasty holdings. During the winter months about 10,000 claims were staked under severe weather conditions by hundreds of stakers using a fleet of helicopters, at a total expense of some half a million dollars. Intense speculative activity followed and over the next three years about two million dollars were spent in technical surveys and drilling of ground staked during the rush." (Anon. 1970:8-9)

Seismic cut lines proliferated near the minesite and in other

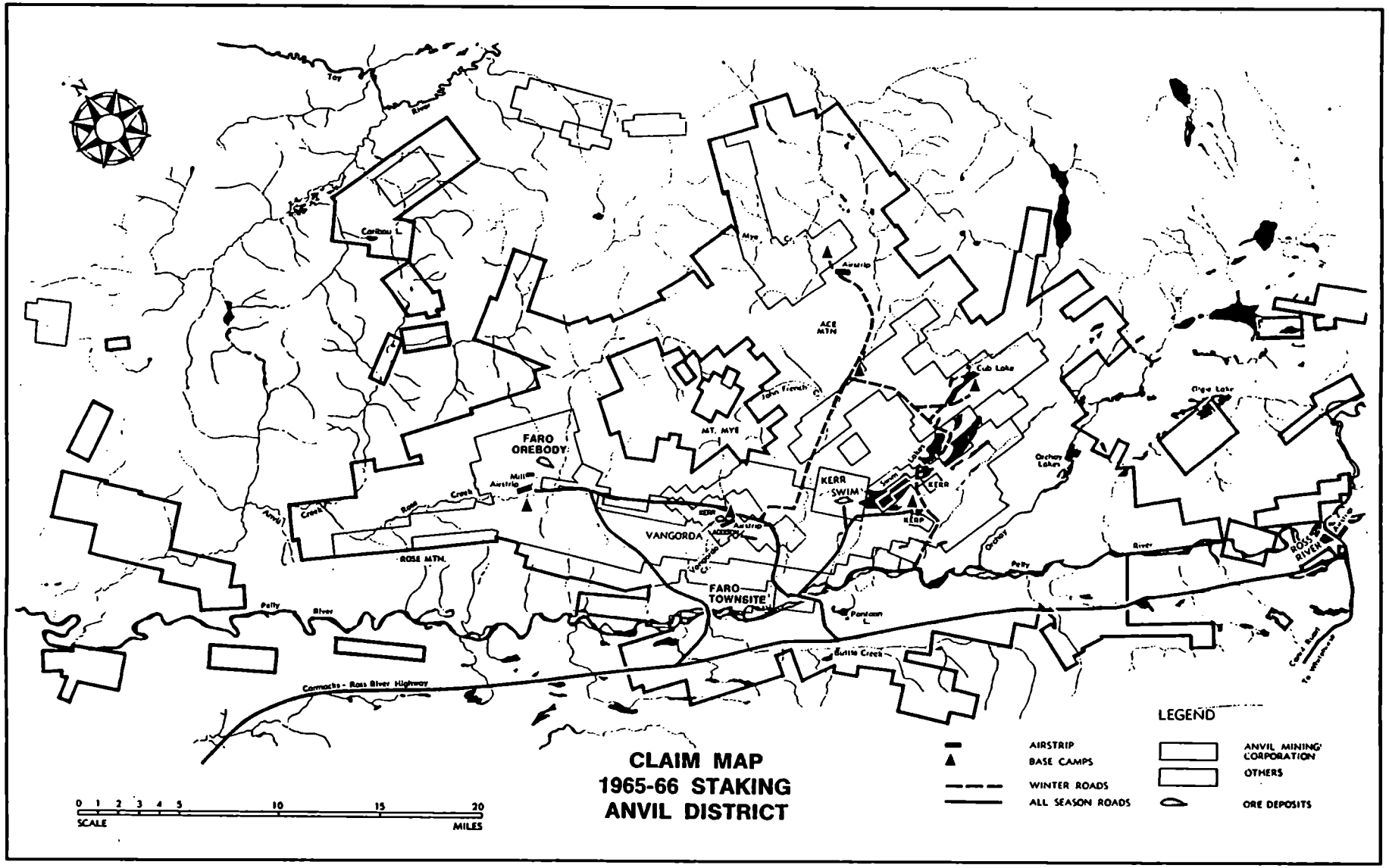


Figure 4 Claims staked during the 1965 - 66 staking rush (from Northern Resource & Land Use Policy Study, 1978)

areas. In 1966 intensive diamond drilling of the Anvil deposit was underway, mapping the deposit in 3-dimensions prior to creation of a full-scale mine development plan.

During the winter of 1966-67 a 2800 foot shaft was dug into the Faro orebody and 315 tons of sample were extracted for testing. By end of 1967 over 40,000 feet of drilling had taken place in the ore body (Anon. 1970).

Mineral exploration continued in the area following the construction of the town and mine complex. The Grum deposit, on the VanGorda Plateau, was discovered by a joint venture of Kerr Addison Mines and AEX Minerals in 1973 as part of the continuing regional mineral explorations. An underground sampling and test drilling program was carried out in 1975 and 1976 (Curragh 1989).

A complete picture of the extent of drilling and other regional explorations is difficult to construct from the fragmentary accounts which are publicly available.

Many regional changes accompanied the active exploration. The federal government allocated approximately $.5 million in 1965 for the construction of a road between Carmacks and Ross River. Additional funds were made available to Anvil in 1966 for tote road construction.

The changes, however, were not limited to the Faro region. The South Canol Road and its junction with a navigable river had left Ross River as a convenient and relatively accessible travel and staging depot. The mid-1960s saw Ross River's rapid transformation from an Indian village, with service facilities limited

to fur trade post standards, to a regional centre in the southeast Yukon. The village population increased by about one-third during the summers of 1964 and 1965, adding about 100 white males to the 200 Indian community residents (Sharp n.d.; Sharp 1973).

Employment opportunities also increased for Indians, drawing back a number of the families which had left in the 1950s. From 1965 to 1969, 5 exploration companies based in Ross River conducted summer surveys along the Tintina Trench. Indians were hired as line cutters and as assistant prospectors. Two mining analysis firms also operated out of Ross River during the summers, hiring a few local people (Macpherson 1978). In 1965 a Territorial road maintenance crew was established at Ross River. The new staff arrived with their families, further expanding the village population and providing an additional source of seasonal employment for whites and Indians.

By 1966 Ross River had become a boom-town. The decision to fully develop the mine and construct a company town had been made. Ross River was the staging and transportation centre for the development, as well as a bed-room community for workers during the construction. An airstrip was constructed, various government offices were established, and an RCMP detachment was established (Sharp n.d.; Sharp 1973).

Between 1966 and 1975 the village saw an influx of outsiders and businesses to service the mine and the increased population. The day school was constructed in 1966, putting an end to the program of sending Ross River Indian children to residential

schools. In the following year business enterprises in the village greatly expanded. The village could claim a bar, motel, cafe, garage, trailer court, charter air company, a second store and a band owned saw mill in 1967. "Each business was either owned or managed by white entrepreneurs who had entered the community since 1966" (Macpherson 1978:129).

DEVELOPMENT

In 1966 the nature of the project underwent a transformation, from geological exploration to the planning and design of a modern mining complex, capable of ore extraction and transport to overseas smelters. Negotiation began with the federal government for financial assistance for power and communications, transportation to a Pacific port, and the construction of a townsite for mine labour.

Cyprus Mines Corporation, which had a 60% share of the Anvil properties, publicly announced its decision in March 1967 to proceed with the development, conditional on sales contracts, financing, and satisfactory agreements with the federal government over infrastructure funding.

> "...the government by this time had already maintained access roads and installed a ferry at the Pelly River to enable the company to proceed with operations. The all-weather gravel road from Ross River to Carmacks was also under construction, to be completed in 1968; this road would link the mine with Whitehorse during the construction period...." (Macpherson 1978:123)

The Anvil Agreement was signed with the federal government in

August 1967. The overall objectives specified Territorial social and economic goals, in keeping with policies of northern development prevalent at the time (Zaslow 1988):

> "Her majesty wishes to encourage and support the proposed mining development in order to expand the economic activity of the Yukon Territory and to provide employment opportunities for Canadians, particularly those resident in the ... Territory." (quoted in Macpherson 1978:123)

A planning study recommended construction of a new town near the deposit capable of housing a work force of 1000 people. The plan suggested that the town operate as a regional residential centre for a mining labour force. This plan called for the town to be potentially expandable to 3,600 if other mines developed in the region.

The federal government contributed to the development by taking responsibility for infrastructure, including construction of a power station, the road between Carmacks and Ross River, and 2/3 of the cost of the bridge across the Pelly River. The government also assisted in the development of a new town. "Lots [in the new town] were to be sold to the mine at a price which reflected the cost of developing these services" (Macpherson 1978:124). Anvil agreed to the costs of the mine and associated facilities and to the building of a nursing station, single men's housing, the down payment of CHMC mortgages for residential development and to the construction of recreational facilities. "Ultimately, lot development and services in the townsite were shared by the territorial government and Cyprus Anvil. The cost of housing was borne solely by Cyprus Anvil" (Macpherson 1978:

125.)

In the spring and summer of 1967 construction began on a 500 person work camp and the mine complex (Anon. 1970). The work force, which had been largely hired from the south, was housed in pre-fab dwellings at the construction site. Ross River, however, was used as a bedroom community by married men who left their families in the town and returned on weekends (Macpherson 1978). Overburden began to be stripped from the deposit in October 1967. In 1968 Anvil was granted leases for the area of the mill site, the open pit mine and the tailings disposal area. And in the fall of that year construction started on the townsite.

Between 1967 and 1969, 6.5 million cubic yards of waste rock were removed from the deposit; and a winter water supply dam, a concentrator and associated facilities, a 1200 person town, a 540 foot bridge on the Pelly, a 30 kilometer access road, a 160 kilometer road between Carmacks and Ross River, increased hydro-generating capacity at Whitehorse, a 230 mile transmission line, multichannel VHF communications, bulk loading facilities at Skagway, and new facilities for the White Pass Railway were all constructed (Anon. 1970). Fifty houses were under construction in June 1969 when a lightning fire flared up on the mountain 3 kilometers northwest of the townsite. The fire spread down the slope and destroyed the newly constructed town. Re-construction began immediately (Macpherson 1978).

Also in 1968, intensified interest in mineral exploration led to the re-opening of the North Canol Road. With the construction

of the Robert Campbell Highway to Watson Lake, Ross River was transformed from an isolated Indian settlement to a cross roads town in an active mining frontier.

MINE OPERATION

The first shipment of lead-zinc concentrates to tidewater at Skagway, Alaska, in December 1969, signified that the new mine was in operation. The first families had moved into Faro in September of that year. Faro was an instant town complete with a shopping centre, bar, and hotel. Approximately 200 families lived in apartments and 200 single men shared mine bunkhouses (Macpherson 1978).

By 1973 Cyprus Anvil was renting 259 family residences and 174 single dwelling units to company employees. The town had gained a nursing station, a recreational centre, a kindergarten to grade 12 school, a movie theater, a post office, a liquor store, two service stations, police and fire protection, water, sewer, garbage collection, street maintenance and snow removal. Thirty-one additional family housing units were added in 1974. And in 1975 construction was started on 150 single-employee units and a 45 unit mobile home park, bringing accommodations up to housing for 485 employees.

As mentioned above, the mine was in nearly continuous operation until the 4 year closure during the severe 1980s recession. Changes to the environment on the slopes of Mount Mye included a network of roads and trails which had been built for the exploration and further developed for the mine and town

construction. Prior to the completion of the Pelly Bridge, the river was crossed by cable ferry at the mouth of Blind Creek. Many of the older roads in the network cross the southern slopes of Mount Mye and converge at the mouth of Blind Creek because of the ferry crossing. Other changes include the scars of cut lines and mineral exploration excavations throughout the region; and abandoned camps and litter at some major exploration sites, such as Swim Lakes. Some of the prospecting in the area had used a bulldozer trenching technique to cut away shallow overburden (Aho 1962). The badly eroded scars resulting from this method can still be seen in the Swim Lakes area and on one of the northern ridges of Mount Mye. Of course the largest changes resulted from the excavation of the Anvil pit on the western slopes of Mount Mye, the deposit of over burden, the construction of the massive tailings ponds and the water reservoir on Rose Creek, and the creation of the town of Faro (see cover satellite photograph). A new local social geography had emerged around the mountain overlaying the less visible Indian social geography which is the subject of the following chapters.

CONTAMINATION AND PERCEPTIONS OF ENVIRONMENTAL QUALITY

In addition to the physical transformations of the environment and the addition of a new human population, there have been changes to the quality of water on waterways draining the mine pits and tailings. Regulations under the various water licenses were intended to ensure that the company made efforts to keep pollution and the introduction of toxic substances within

"acceptable standards". The standards are based on toxicological and epidemiological knowledge and are intended to minimize effects on the environment and animal and plant populations and on humans.

Our concern in this study is specifically Indian land use. Among the different types of knowledge which go into land use decisions are perceptions about the quality of the environment. Perceptions differ from the understandings of technical professionals, although they may be influenced by them. Perceptions use community and personal knowledge to evaluate direct and second-hand experience and news that may come from the media or more indirectly. The water and food quality standards of northern hunting peoples are far stricter than urban or agricultural populations, when choice is available. Most of the Ross River territory remains pristine wilderness except for various road corridors and several mine developments. When choices of areas to harvest are available, people's perception of environmental and water quality and, in turn, the quality of the meat from animals produced are critical factors in decision making. To some extent perceptions may be influenced by information about how well the company's routine operation conforms to water quality standards, but other factors tend to out-weigh the technical information. Information about catastrophic failure events and the appearance of the environment have a great influence on people's perception of the health of the animals they are considering as food. The importance of perceptions in land use decisions have a tendency for making continued use in the

face of industrial development relatively fragile. Belief in the relevance of drinking water standards to human health are based on trust of professional authority. This works fairly well for urban populations with common cultural experience. The Indian experience has a less comfortable history. The experience of some elders and other band members of not having their experience of problems with piped drinking and washing water validated or confirmed by white professionals and officials results in a broad mistrust of the ability of technical professionals to identify problems.

The Faro project has had a history of problems with its tailing pond. From 1969 to 1975 at least a half-dozen leaks in the tailings impoundment system were monitored. There were seepages of high pH effluent, contaminated with elevated levels of lead, zinc and arsenic, into Rose Creek.

In addition to the early routine operation problems there have been a number of major failures of the tailings pond, resulting in large releases of effluent into Rose Creek. On March 1975 two dikes failed allowing 54 million gallons of tailings laden water to flow into Rose Creek. The discharge deposited tailings downstream for a distance of 15 kilometers. Charges were laid by DIAND and the Environmental Protection Service. The company pleaded guilty to one of the charges and was fined the current maximum daily fine of $5,000; this was reduced to $4,500 on appeal.

Another episode occurred over a several month period in mid-winter of 1976, when highly toxic levels of cyanide were released into Rose Creek. Charges resulted in a fine of $49,000.

The Deputy Magistrate issued a scathing judgment in which he found the company irresponsible for continuing the operation after they had been informed about the problems and risks. He also found the protective measures required at the time by government inadequate for the risks of dealing with highly toxic reagents, such as sodium cyanide (Macpherson 1978). Fisheries officials considered that this spill resulted in "the waters of Rose and lower Anvil Creek being toxic to [fish downstream to] the Pelly River".[1]

In December 1979 there was another breach of the tailings pond, resulting in a spill of 2.5 to 4 million gallons of effluent toxic to fish.

The most recent incident took place in December 1988, the result of human error. Twelve hundred kilograms of sodium cyanide were released into the tailings pond when an employee allowed a tank in the mill to overflow. The solution was released into the tailings pond to avoid a hazard to workers in the plant. There was great concern about the potential downstream consequences of this quantity of cyanide if it passed through the tailing pond following the normal 2-3 week retention period. The mill went through a temporary partial (50%) shut down. Water flows into the ponds were reduced to increase the retention time; and the solution was neutralized in the tailings pond area with hydrogen peroxide, a technology which had not been locally used before. The DFO voiced concern that the downstream reaches of Rose Creek/Anvil Creek which had been recolonized by a variety of fish species since the previous spills were placed at serious

risk by the current episode.[2]

MINE RE-DEVELOPMENT

The routine operation of the mine complex during the previous two decades posed little significant change to the area. The development had already taken place. Habitat and productive capacity of the region had been altered. Human use, Indian and non-native, went through a variety of changes, but had likely stabilized. The major change events during this period resulted primarily from the sporadic accidents.

Mines, however, are not based on resources which can regenerate. During the early 1990s the last of the Anvil deposit was being extracted. The mine operation began to switch to the smaller deposits to the east. The Grum and VanGorda deposits, on VanGorda Plateau, above the town site, were brought into operation as open-pit mines.[3]

Putting the new deposits into operation required significant re-sculpturing of the central Vangorda Plateau. A heavy-duty haul road, capable of handling the large tonnage ore trucks, was constructed across the face of the plateau to the existing mill, adjacent to the old Anvil pit (Fig. 1). The over-burden was removed from the pits. A new road was constructed to the plateau to provide access to the site. Various accessory structures were built on the eastern side of the plateau, including a water treatment plant designed to control acid rock drainage problems, a power line, shop and office facilities, and a fuel and lubrication depot (Curragh 1989).

ENDNOTES

(1)Letter: John Burdek, Fisheries and Oceans District Supervisor to Jerry Whitley, Water Resources - 19 Dec. 1988.

(2)Ibid.

(3)The Grum, VanGorda and Swim mineral deposits and claims to other properties had been purchased by Cyprus Anvil Mining Corporation from Kerr Addison in 1979. Additional drilling on the Grum deposit had been done between 1980 and 1982, and from 1987-89. The VanGorda deposit was also re-explored by test drilling in 1979 and between 1987 and 1988 (Curragh 1989).

CHAPTER 4

AN ORIENTATION TO INDIAN LAND USE HISTORY

The development of the Faro mine complex represents an historical convergence. There are actually two histories throughout Canada: a settlers' history, which deals with non-native settlement and the economic development and land transformation which has made that settlement possible; and an Indian history of long-term land occupancy and adaptation to the local environments as given. The most recent episode of native history deals with changes due to contact with the settler culture. We have described an aspect of settler history of the Faro area above and now need to focus on Yukon Indian history, and more specifically the history of the Ross River people on the lands affected by the Faro development.

Canada experienced buoyant economic times following World War II due in part to increased market demands for raw materials resulting from re-construction and from the strategic needs of the Cold War. The southern Yukon had been made more accessible by the wartime construction of the Alaska Highway. Minerals were in demand and various governments looked optimistically at the empty map of northern Canada as the indicator of a vast store house of undiscovered mineral wealth. Canada was emerging into its own variant of manifest destiny, but on a northern axis rather than the American western version of the previous century.

Yukon Indians were on their own historical course of change. There had been two major contact events for Indians

prior to the War.

19TH CENTURY FUR TRADE

Involvement with the fur trade began during the mid-19th century with the entrance of the Hudson Bay Company onto the scene. Robert Campbell traveled up the Liard River and then down the Pelly before establishing trading posts at Frances Lake in 1842, Pelly Banks in 1945, and at Fort Selkirk, on the Yukon across from the mouth of the Pelly, in 1848 (Dimitrov and Weinstein 1984). Although direct contact took place in the 1840s, there was ample evidence that the trade had been conducted for some time through Indian middle-men (likely Tlingit and possibly a trade network of Tlingit and Tahltan trading through the Russian American Company or through the Hudson Bay at Fort Simpson at the mouth of the Nass River). The fur trade resulted in shifts in land use and the Indian economy to accommodate an increased focus on fur bearing mammals. The trade also resulted in increased contacts with Indian middle-men which led to new social linkages. The limited information that we have of those times suggests that dislocations were minimal. The trade catered specifically to the Indian economy: Indians were both producers of the trade commodities and consumers of the manufactured goods that the traders imported.

KLONDIKE

The second event was the Klondike gold rush. The effects of the gold rush on Indian life have not yet been researched in

detail. The present consensus appears to be that, other than a number of individuals and families who became involved in the rush and the groups whose lands were directly affected by the mining, construction, and the huge influx of outsiders, Indians stood aside during the gold rush. Competition undoubtedly resulted from the increased demand on fish and wildlife, but the Ross River people were distant enough from the main activity to be largely sheltered, except for contact with the Klondikers who had taken the overland route up the Liard and down the Pelly to the Yukon River and with prospectors who sampled the Pelly and its tributaries for possible gold riches. Still, the Klondike must have been a major shock to all Indian groups since they went from a position of masters-in-their-own-houses to outsiders peering in the windows of excitement.

One new pattern emerged, however, from the surge in transportation. The demand for labour increased. Seasonal employment came available, doing such things as cutting cordwood for the steamboats. This was a valuable addition to the Indian economy, since it was not disruptive to the seasonal harvesting round. Most of the employment opportunities were during the ice-free months, which had traditionally been a period of leisure, during which harvesting was limited to immediate needs. The nature of the work allowed families to set fish nets and locally hunt small game and the occasional big game animal.

As the Klondike collapsed, fur returned as the major economic commodity of the Yukon. Indian life, however, did not return to pre-contact conditions. There had been significant

changes. The Klondike left a legacy of trade, transport and commerce. The Yukon had become known for its wildlife resources as well as mineral wealth. Some of the outsiders who had come under the influence of the Klondike remained; and others came and stayed at a later date, lured by the myth of the Yukon. Indians accommodated and adapted to the increased demand on game and fur resources and benefited from the availability of seasonal employment.[1]

World War II brought significant change to the doorstep of Indians in the southern Yukon. The construction of the Alaska Highway and the Canol Pipeline and Road brought their own damages through epidemic disease and the dislocations produced by thousands of men and the vigor and intensity at which the work proceeded (Cruikshank 1977). However, the long-term significance of these projects was in their creation of a direct and efficient highway connection to southern Canada. They "opened" the areas of the Canadian north to the west of the Mackenzie Mountains. But these effects were not fully felt for sometime after the War. Rather, after the construction phase much of the affected area reverted to the rhythms of its previous isolation.

20TH CENTURY FUR TRADE

Among the changes to Indian life brought about through involvement with the fur trade was the requirement for a cash flow. As manufactured items came available Indians in the Yukon, as elsewhere in the north, experimented with their utility. By the 20th century store-bought clothing, metal tools and supplies,

firearms and steel traps and wire snares, and carbohydrate food staples had become part of Indian life. As the century progressed some people experimented with gasoline outboard motors and river boats. The seasonal round of harvests was altered so that a greater emphasis could be placed on commodity production. There was a corresponding greater reliance on efficient seasonal harvesting so that caches of preserved foods could be prepared to release more time in winter for trapping. The sale of furs and seasonal work (often associated with the transportation needs of the fur trade) supplied the cash requirements.

For the Ross River people this pattern of life worked well enough through most of the first half of the century that at least one family had enough spare cash during the 1930s to invest in a gas engine and boat.[2] The prices of furs through the first 4 decades were sufficient for the mixed life-style of hunting, trapping, fishing and seasonal employment to be the general rule for Indian life through much of the Yukon. Prices fluctuated somewhat from year to year, but even during the heat of the severe depression of the 1930s the demand for furs only abated briefly (Fig. 5). During World War II fur prices climbed to unprecedented heights.

The Fur Trade Crash

Shortly after the War, however, fashion went through a major shift and most of the more valuable furs plunged in value. The demand for furs remained low for several decades, only recovering in the mid-1970s. This resulted in a period of

economic crisis among Canadian native hunting peoples which lasted for nearly a generation.

In the Yukon trapping persisted, although the shock of the abrupt decline following historically high prices acted as a deterrent during the immediate post-War years (Fig. 6). The value of furs trapped in the territory, however, and the income of people who persisted, remained low through the 1950s and 1960s (Fig. 7). The data in figures 6 and 7 are Yukon-wide values and consequently combine native and non-native harvests. Many of the non-native trappers who were induced into the Yukon trade by the extraordinary high war-time prices found other sources of income during the most difficult years; in many cases outside of the territory. The post-war data during the fur-trade depression represents harvests of Indian trappers and those of the more established Yukon white settlers.

The Closure of Trading Posts

Besides the immediate economic dislocation of the trappers, the crash had other consequences which were deeply felt by Indians throughout the Yukon. One after the other the fur trade posts were closed. And with the closure of the posts went the available services for Indian communities and a critical focus of Indian social life. The posts had functioned as stores, post offices, government centres (often through the post offices services), and commodity markets. They had also become the social pivot in the seasonal round of harvest and travel. After the trapping season people traveled to one or more posts for trade and the purchase of supplies. But the posts were more

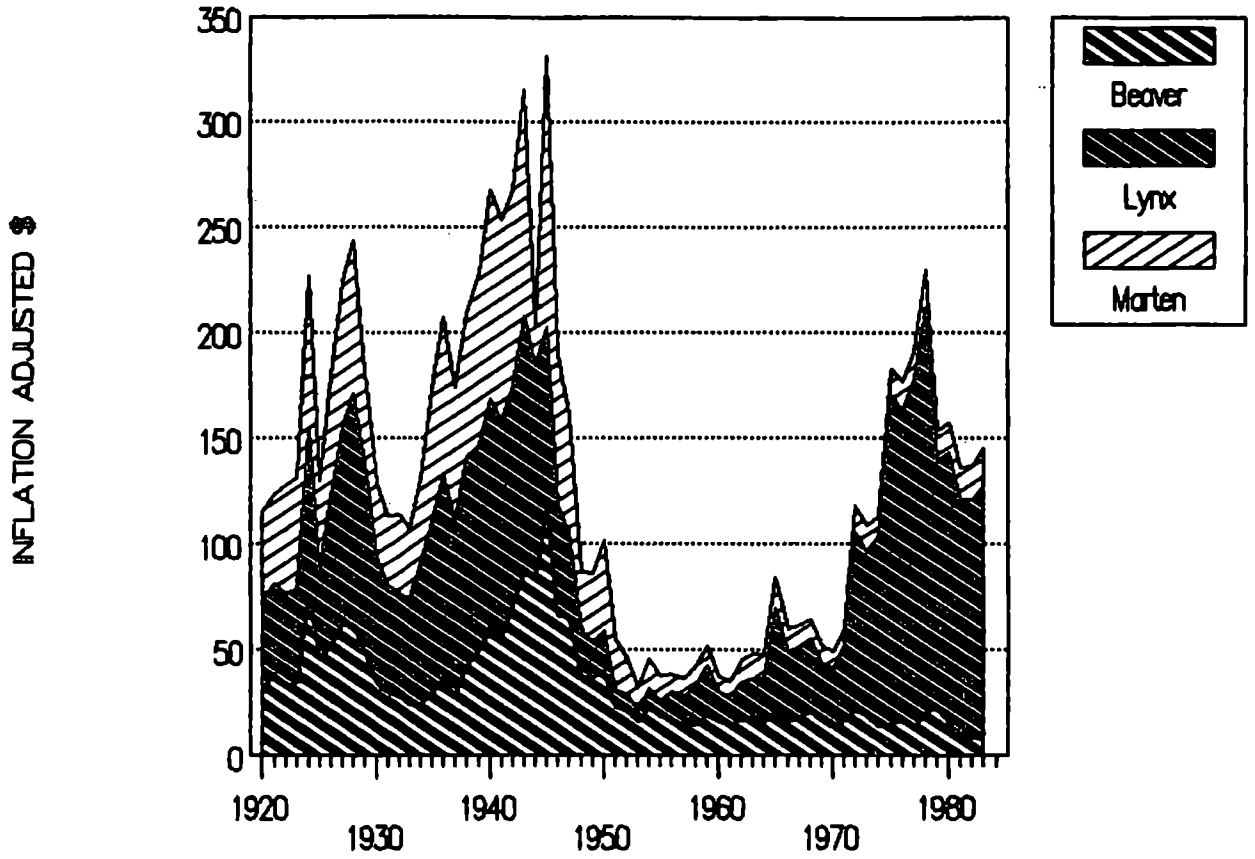


Fig. 5. Trends in Pelt Prices of Selected Furs, 1920-83.
Dollar values are in constant Canadian dollars, adjusted for inflation ($1 = C$1971). Based on Canada-wide fur sales. (Data from Novak et al. 1987.)

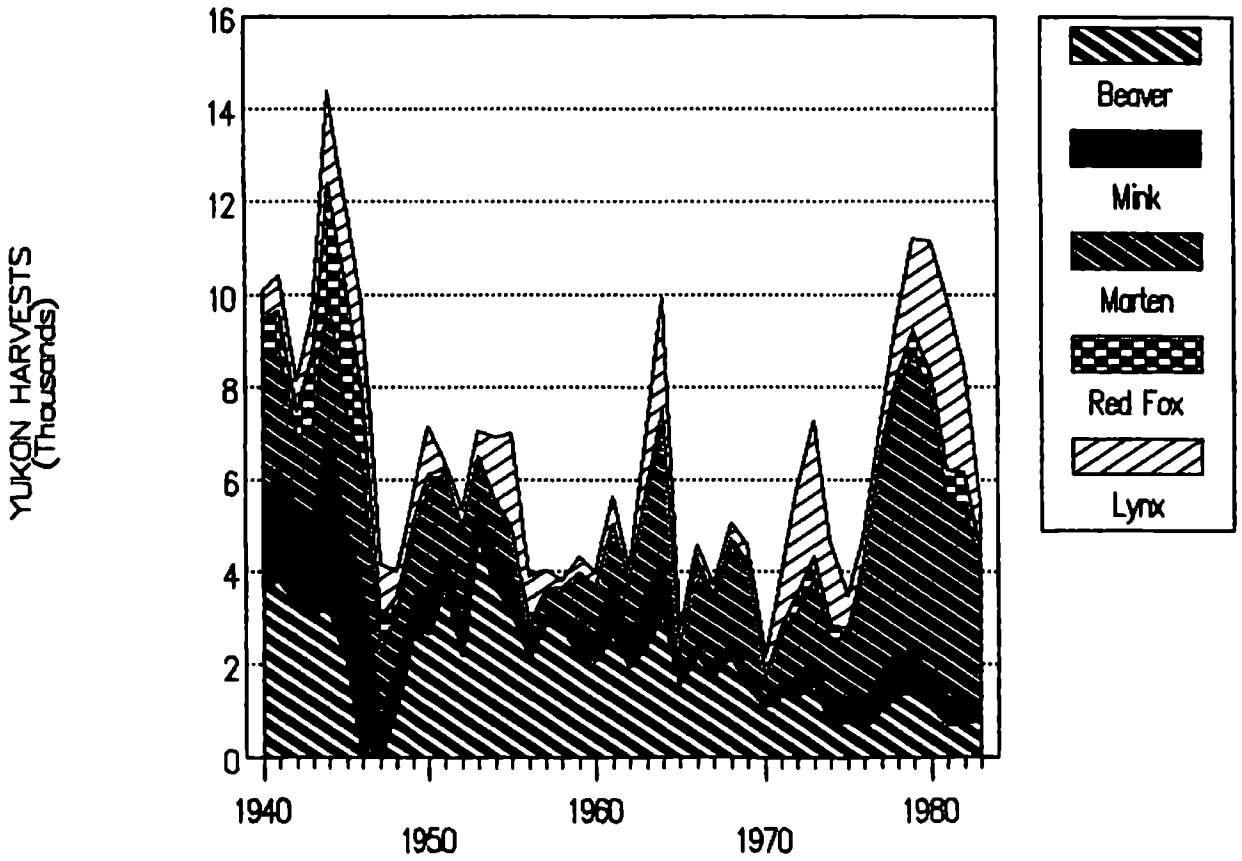


Fig. 6. Trends in Yukon Harvests of Selected Fur Species, 1940-83.
(Data from Novak et al. 1987.)

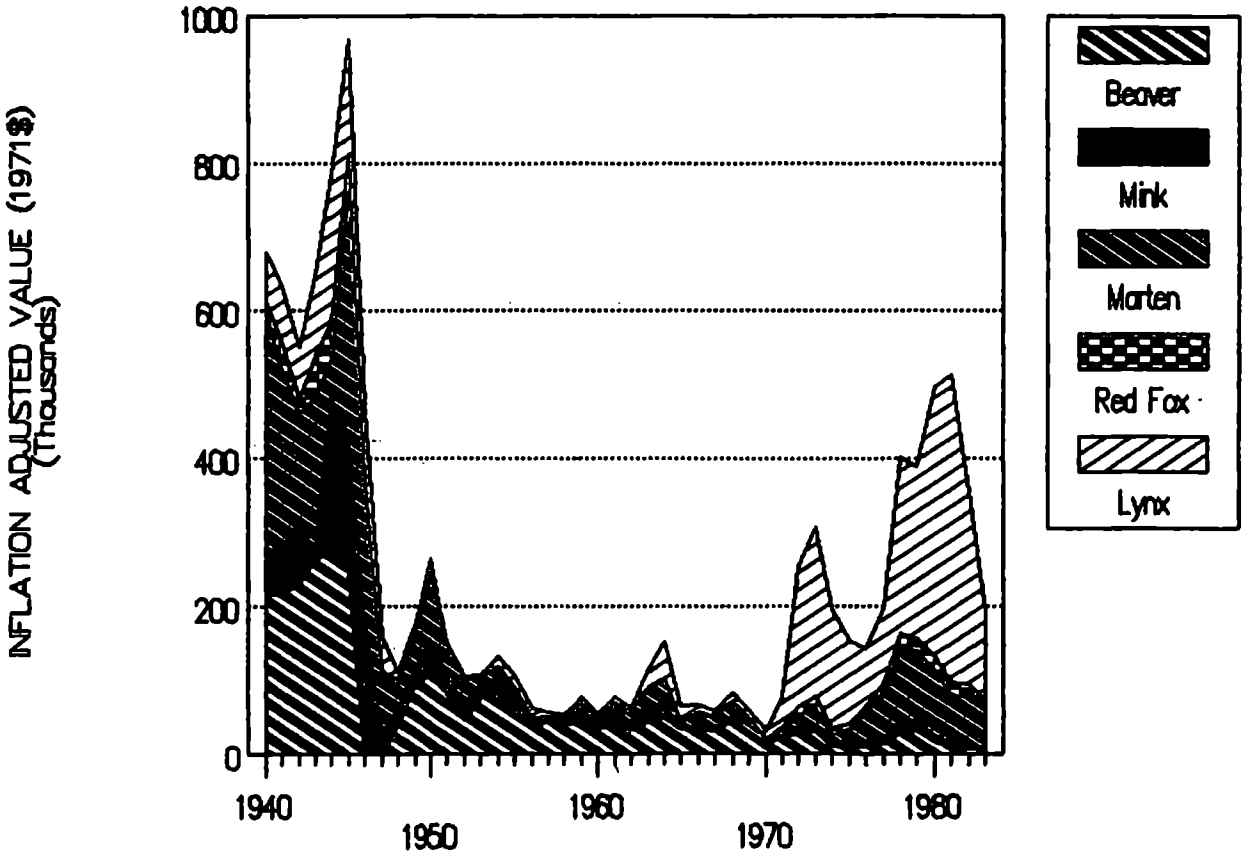


Fig. 7. Trends in the Inflation Adjusted Value of Yukon Harvests of Selected Furs, 1940-83.

Pelt prices are based on Canada-wide averages, adjusted for inflation ($1 = C$1971). (Data from Novak et al. 1987.)

than that. They represented summer villages where families and friends gathered annually for social exchanges which ranged from good times and prolonged visiting to making decisions about marriage mates.

The trading post encampments and villages were also the seat of economic and wildlife management decision making in Indian life. The gatherings with people from distant parts of the bands' territories were opportunities to exchange geographic information about the status of animal populations. Projections to population conditions in various areas of the territory after the season's young-of-the-year had grown was one of the factors in different families land use decisions. Through the exchange of information the community would decide which areas would be left fallow to recover their animal populations and which would be in productive use during the coming season. Wildlife management decision making operated from the bottom-up, through consensus building, although the opinion of older and more experienced people was very highly regarded. Nonetheless, within Athapaskan social traditions authority does not tend to be delegated. The ultimate voice in decision was the family group.

Wildlife population assessments was one on the factors which went into land use decisions. The other was social. An informal system of land tenure operates in Athapaskan traditions, as mentioned above. Different family groups are associated with different regions of a band's territory. Summer meetings often involved invitations to join friends and more-distant relations on their hunting and trapping areas.

The regularity and rhythm of this way of life was affected enormously by the post closures. Some of the groups, such as the Selkirk Band, lost all of the nearby trading posts and had to totally relocate. At the same time employment opportunities tied to the transportation of goods and furs between the posts and Whitehorse disappeared. This resulted in many families moving to the new economic hubs, the Alaska Highway towns.

The Ross River Band was one of the fortunate few; the exception to the closing of remote trading posts in the Yukon. The Taylor and Drury trading post at Ross River remained open even after the other trading posts which had opened on the band's territory during the period of very high fur prices closed. Taylor and Drury pulled out in the mid-1950s, but the post continued to be operated by local settlers.

Trapline Registration

The other significant event that needs to be mentioned as a consequence of the crash, as a prelude to a more detailed discussions of Ross River Indian history during this pre-impact mining development impact period, is the registration of Yukon traplines. Several jurisdictions in Canada, one of them Yukon, began to create a licensed system of exclusive use trapping areas as fur prices were plummeting. During the wartime period of high prices the resource had suffered from over-harvesting. There were even fears that animals now at unprecedented levels of abundance, such as the beaver, would join the list of extinct or near-extinct species along with the passenger pigeon and Steller's seacow and the bison and sea otter. Within Canada fur over-

harvesting has occurred in different locations as a result of high fur prices inducing itinerant trappers to locate in areas of abundant fur, trap the areas out, and move on to other areas. The system of registered traplines, pioneered in British Columbia in 1926, gradually became government wildlife management officials' preferred method to control non-sustainable harvesting. The systems, however, created their own problems. Registered traplines ignored existing native systems of management and they introduced a method through which an important part of the land base for Indian economies could be lost to communities (cf. Weinstein 1979; Brody 1981; McCandless 1985; Pearse and Weinstein 1988).

The discussions about creating a registered trapline system in Yukon began in the early 1940s, but registration was only initiated in 1951. Four hundred and twelve traplines were registered in that year. An additional 17 were added by 1954 (McCandless 1985). The double mis-fortune in the timing for Yukon trapline registration was the imposition of a $10 annual trapline registration fee. With the loss of both seasonal employment opportunities and fur markets a $10 fee was a significant penalty added to the struggle to make a living. One of the few analyses available about cash income in native communities during this difficult period indicates that access to cash was so limited that the meager family allowance payments was a principal source of cash (Honigmann 1951).[3] "In 1959, a year after the fur market hit rock bottom ... only one hundred and ninety registered traplines remained" (McCandless 1985:147).

Looking at a present day map of Yukon traplines, two large areas stand out. Most of Yukon is covered by a mesh-work of traplines registered to individuals. Two blocks of group traplines cover the far north and south-east parts of the territory: one belongs to Old Crow and the other to the Ross River Kaska Dena. In Ross River, community elders foresaw the consequence of individual registration. During the mid-1950s, after individuals had registered personal traplines, community leaders persuaded territorial wildlife officials to re-combine them into 3 grouped areas. At a later date, during the 1960s, the 3 blocks were combined into a single grouped-trapline covering most of the territory used by the Ross River Indian People during the mid-20th century.

THE ROSS RIVER KASKA DENA AND THE MOUNT MYE REGION

Northern hunting peoples make seasonal use of fish and wildlife resources and the lands on which they are available. Prior to village settlement and the advent of motorized transportation this required a seasonal cycle of movement and residency.

For the Ross River People there was a dispersal in mid-summer to salmon fishing and preservation sites. After the fishery the groups moved onto higher elevations to hunt small and big game animals, to pick berries, and put up caches of dried meats so attention in early winter could be turned to fur mammals. Winter harvesting activities also included a mixture of small and big game hunting and fishing for a re-supply of fresh meat. After

the fall dried meat hunt, smaller family groups dispersed to trapping areas. Fine fur animals - fox, lynx, marten, mink and other others - were trapped through the winter. As the days became longer, prior to the melt, the families would gather again at fishing lakes. The men would travel to areas known for their abundant beaver and muskrat for intensive harvesting. The women and children would remain at the lakeside camps, supplying their own food needs from the spring fishery and local small game hunting. Following the spring harvest, groups from different regions of the band's territory would converge on the summer gathering site, which also was the location of the trading post. Summers would be spent socializing around the site, with food needs supplied primarily though the local hunting and fishing of young people.

> "During the summer people gathered at Ross River to *play*. For dances and story-telling and gambling. The younger people had the job of going out and getting meat." (Arthur John)

In August, before the salmon migration and after animals had fattened from summer feeding, people would again depart for the salmon fishery and the dry meat hunt.

Mye Mountain Area Seasonal Round

The family groups which used the Mount Mye core area traveled from the Ross River summer meeting grounds, rafting down the Pelly River to Blind Creek, after the summer visiting period. During the early part of the century this group consisted of about 6 families, with young and grown children. The group would work together on Blind Creek building salmon traps and

drying a store of salmon. The preserved salmon would be bundled together and marked with different colours, to identify who the fish belonged to, before being stored in the caches.

Following the salmon fishery people would walk the trails up the slopes of Mount Mye to hunt, dry, and cache whistlers (hoary marmot) and gopher (arctic ground squirrel). Whistlers and gopher were primary resource species for the hunting economy because they were easily snared. The use of efficient traditional harvesting techniques (such as snaring) reduced the costs of an annual hunting outfit, which was particularly important when the groups lacked the surplus funds to purchase quantities of ammunition.

The groups remained on the mountain until the moose rut began, at which time the hunting groups would move their camps down to moose hunting areas near the treeline to hunt and prepare a supply of dry moose meat.

After caching the dry meat, people walked back to Ross River to purchase their winter's stock of groceries and other supplies. New rafts were constructed for the trip back to Mount Mye. On returning families would disperse to their winter trapping areas on the mountain slopes and along the streams. Main winter camps were located in sheltered sites which had good supplies of firewood nearby. Trapping concentrated on fine furs, the predatory mammals, during the early parts of the season. A number of short visits might be made to the post through the winter to sell furs and get supplies and for Christmas festivities. After the fox season closed in late winter, the groups re-

converged on Swim Lakes area to trap lynx and to fish.

> "When dry meat was getting low they would come down to get fish. Catch fish through the ice. Lots of good fishing in that place; that's what people lived on long time ago." (Arthur John)

After the days got longer and the melt started to put a crust on the snow, the women and children would be left at Swim Lakes to hunt and fish and prepare a stock of dried fish for the summer. The men traveled by dog team to Sheldon Lake or the other northern rivers and lakes to shoot beaver during the spring beaver hunt. At this time of year dog teams could move rapidly on the frozen snow surface. Under good travel conditions It would take 2 days to travel between Swim Lakes and Sheldon Lake. Beaver hunting continued until the end of May, when the men would travel back to rejoin their families at Swim Lakes. After the men returned, the group traveled to Ross River to trade furs and enjoy the summer festivities.

Mye Mountain and the valleys of the creeks and streams draining its slopes was a core area for a large group of Ross River families. It provided all the food necessities of life - caribou, moose, whistler, gopher and fish - in abundance and was widely known for that. The trail up the Mountain from Blind Creek was worn deep from generations of use by the families who harvested in that area.

The Ross River Trading Post Village

Ross River was a preferred meeting ground for people from a wide area, including local families, families from Lower Post, from Carmacks and as distant as Fort Norman in the North West

Territories. Down-river groups would follow the trails with pack dogs. People from the up-river country - from Pelly Banks or Lower Post people would build moose skin boats or rafts and float down the river. People from the NWT would walk through the Mackenzie Mountains and then build moosehide boats. When everyone had arrived the shore was often thick with tents.

The first trading post at the confluence of the Ross and Pelly Rivers was built by an independent trader, Tom Smith, at the turn of the century. The post was purchased by Taylor and Drury a few years later. Ross River was a strategic locations since it was the navigational limit of the Pelly (Dimitrov and Weinstein 1984). The post was operated by Taylor and Drury until 1949 (Miller 1972), but was afterward taken over by local settlers. The period of Taylor and Drury's operation is remembered with fondness. The company was considered to have been more concerned about the welfare of Indian people than the people who followed.

According to the Ross River Dena Kaska tradition, the junction of the two rivers was a place of peace. It was a place that people from other areas came to avoid conflicts within their groups of origin. It had a kind of reputation as a place that people could find a more peaceful existence.

> "This is how people came to this country. They made friends here, found mates or mates for their children. They did not want to go back to their home areas because people were still fighting." (Arthur John)

The present day Ross River band consists of people from several different regions of the Ross River territory, plus the

descendants of people who came from other areas and stayed. The band's core family areas consist of Mye Mountain, Pelly Banks, and the Wolverine Lake and Grass Lake country. The Lapie River area, to the south, might be considered as another core area. It has been used for the salmon fishery and drymeat hunt, but has less extensive use then the other area out of concern for the historical aggressiveness of the Teslin People who have used that country. In the past Teslin People had a reputation for killing people, so Ross River People have historically avoided this edge of their territory.

As mentioned above, the Ross River post was the single exception to the general closure of fur trading posts throughout the southern and central Yukon during the late 1950s and early 1950s. The previous decades had seen the development of a complex of posts and transportation networks along the Yukon, Pelly, and MacMillan Rivers. People, at the time, had a choice of which post to visit and where to spend their summer. Besides the posts at Ross River and Pelly Banks, at various times 3 posts operated on the Macmillan River, one on Sheldon Lake on the upper Ross, another at Frances Lake, another at Pelly Lakes, one at Teslin, a small post at Rose Point under the shadow of Rose Mountain, as well as the more established trading posts at Carmacks and Fort Selkirk.

Different posts competed using higher fur prices, lower priced and better varieties of consumer goods, and favourable debt relations when trappers appeared at the beginning of the season for a 'grub stake'. Ross River was a popular choice, but

the complex of rivers made the other posts easily accessible. The rivers provided a relatively easy method for travel to downstream posts when the water was open. Families constructed rafts for one-way trips and then walked the trails with pack dogs back to their salmon fisheries, or joined other groups at their usual fishery location. In some, instances families or groups would join together and the 'visits' would last one or more hunting-trapping season. Some of the families on the western edge of the Ross River territory spent their summers on the Yukon River, at Carmacks and Fort Selkirk, traveling up the Pelly to their home territory.[4] The ample availability of summer employment on the Yukon River, cutting cordwood for the steamboats, was a significant attraction to travel to the more distant posts. In many instances people would travel to several summer encampments for visiting.

White trappers had been competitors in the early part of the century, resulting in serious animal population declines on the upper Pelly (Cruikshank 1974). However, by the middle 1940s Indians were again the exclusive fur harvesters in the region (Rand 1945:4).

The band was thrown into immediate upheaval by the arrival of 3000 men into the area for the construction of the Canol Pipeline between 1942-44. Ross River Indians experienced epidemics and deaths from new diseases, declines in game and fish, and exposure to alcoholism and sexual abuse (Cruikshank 1977; Dimitrov and Weinstein 1984). However, the men and trucks left as quickly as they had arrived.

Ross River Indian life returned, relatively un-disrupted, to previous economic patterns until the onset of decline in the values of fur and associated post-War changes. One major change, however, had been the development of government social welfare programs, such as Family Allowance, Old Age Pensions, and welfare programs. These programs were largely administrated through the mail, making access to a post office a new consideration in the round of travel, particularly after other sources of cash became scarce in rural Yukon.

Ross River became a band village with the closing of the posts at Pelly Lakes in 1952. Families from the Pelly Lakes country and Pelly Banks moved their trading focus to Ross River, where Tom Connolly, a local settler, had taken over the old Taylor and Drury post. Ross River and the lands that comprised its immediate hinterland became the focus of harvesting activities for a greater proportion of the band's family groups. People from more distant areas which were no longer serviced by trading posts were invited and encouraged, according to Indian tradition, to switch their primary harvesting to closer areas known for their abundant fish and game, such as Blind Creek and Mye Mountain.

The 1950s proved to be a difficult time to make a living in the Ross River country, as it was throughout the Yukon. Many young couples with dependent children left for the new highway communities like Watson Lake, which promised a greater availability of jobs. The elders and their younger children and some of their older ones remained. Many of the present-elders from the Mye Mountain country were among the young adults

involved in the exodus. Their parents and siblings, most of whom have since died, were the ones who remained.

Even with the disastrous drop in fur prices people could survive on the availability of bush foods. Hunting success depended on two factors: the productivity of animal populations and peoples' detailed knowledge of the local environment and animal behaviour. The subarctic Indian hunting economy, however, requires several resource fall-backs or alternatives due to animals populations changes (some of which are cyclic and regular) and less predictable change events. The economy's resource alternatives represent the resilience that allows the continuity of human life in the harsh subarctic environment over long periods of time.

The Ross River economy is subject to less variance than many others because of the abundance of ungulates and the large amounts of meat that a single kill represents. The availability and productivity of moose, caribou, and to a lesser extent sheep is one of the main reasons that the band has remained one of the more traditional Indian bands in the Yukon even in the face of severe dislocations and resource impacts. Band members faced starvation conditions, however, during one winter in the late 1950s when all of the other difficulties were compounded by low snow falls. Deep snow brings ungulates down from northern areas and higher elevations to the Pelly bottom lands, concentrating moose and caribou and allowing for efficient winter harvesting. For a number of family groups that had struggled to remain in Ross River this was the final straw. In the spring they too had joined the exodus.

ENDNOTES

(1)Interestingly, even with the increased demand on animals as a food resource there is no Yukon Indian tradition of mass starvation because of a failure in animal populations during the 20th century as there is for eastern areas of the Canadian north.

(2)The Diary of Joe Ladue, 1936-37. Yukon Archives. MS0016; folder 4.

(3) Honigmann's work indicated that for the Inuit of Great Whale River, on the Hudson Bay Coast of Quebec, the most important source of cash income during the early post-War years was from family allowance payments (Honigmann 1951).

(4)Diary of Joe Ladue. Ibid.

CHAPTER 5

THE CULTURAL ECOLOGY OF THE FARO AREA

Arthur John's analogy about the damages and changes to the Mye Mountain environment which begins this report speaks at a very deep level about the tools that Ross River people use for make a living from the land and the disorientation which resulted from the experience of loss of familiar order. The Kaska's most important harvesting tool is knowledge. Some of this knowledge comes from personal experience. The rest has resulted from the experience of past Ross River people on the same lands, passed down from generation to generation. The traditional means of transmission differs from school educational learning methods. Information is passed, in social kinship settings, through the repeated telling of stories. The transmitted knowledge is not abstracted; the story format roots the knowledge within social and environmental contexts. And the context is the history of the Kaska, the ancestors of the tellers and the listeners, on the same land making their living from the plants and animals of that land.

Ridington (1990), based on his work with the Beaver Indians of northern B. C., derived an important understanding about knowledge. He distinguishes between two very different types of knowledge. In his scheme, "knowing something" is distinguished from "knowing about something". The former is tied to power or empowerment, the means to make effective use of knowledge in life. Much of contemporary western education relies on abstracted learning, such as from learning from a book or being told about

something and never or rarely applying the knowledge in a life situation. The difference is between understanding and knowing - understanding how an ax is used to shape a canoe paddle, never having done it, and knowing the feel of the proper wood for paddles, where to find it and when, and being practiced in the details and subtleties of converting a tree into a tool for efficient propulsion.

> "[Indian] technology should be seen as a system of knowledge rather than an inventory of objects. ... The essence of hunting and gathering adaptive strategy is to retain, and be able to act upon, information about possible relationships between people and the natural environment." (Ridington 1990:86)

To outsiders northern Indian homelands ring with wilderness. For the people from that country, each step of the trail is full of meaning, both personal/family and cultural/spiritual. Personal knowledge tells how people can obtain their needs from the land under ordinary conditions. The combination of personal knowledge and the legacy of historical cultural knowledge tells what kind of rare events are possible, due to weather and climatic shifts and to animals population changes. The cultural memory stores information about what people did to survive in various difficult situations. Cultural memory represents the Indian archive of appropriate and effective behaviour under different situations. The emotions expressed by Arthur John are for many losses - the loss of a means to make a living, the loss of useful knowledge, the loss of heritage and the loss of something personal that is both good and beautiful.

In this chapter we need to examine in more detail the Mye

Mountain region as a human environment. The first section describes the basics of Ross River knowledge about animal habitat and movements. (The second section describes the distribution of dwelling places and travel routes in the Mye Mountain country.) The discussion about habitat has the appearance of animal ecology, but it really is not. The goals of the science of biology are abstractions and theory, the understanding of ideal systems and how they operate. The power of science results from work done on the general, on the theory, using deductive logic to predict what will happen in particular circumstances. In the north the observation base for scientific biological knowledge tends to be very limited. It is rare when there have been sufficient observations to have an understanding of such things as natural variability and historical change of animal range and populations.[1] Nonetheless northern science speaks with considerable authority.

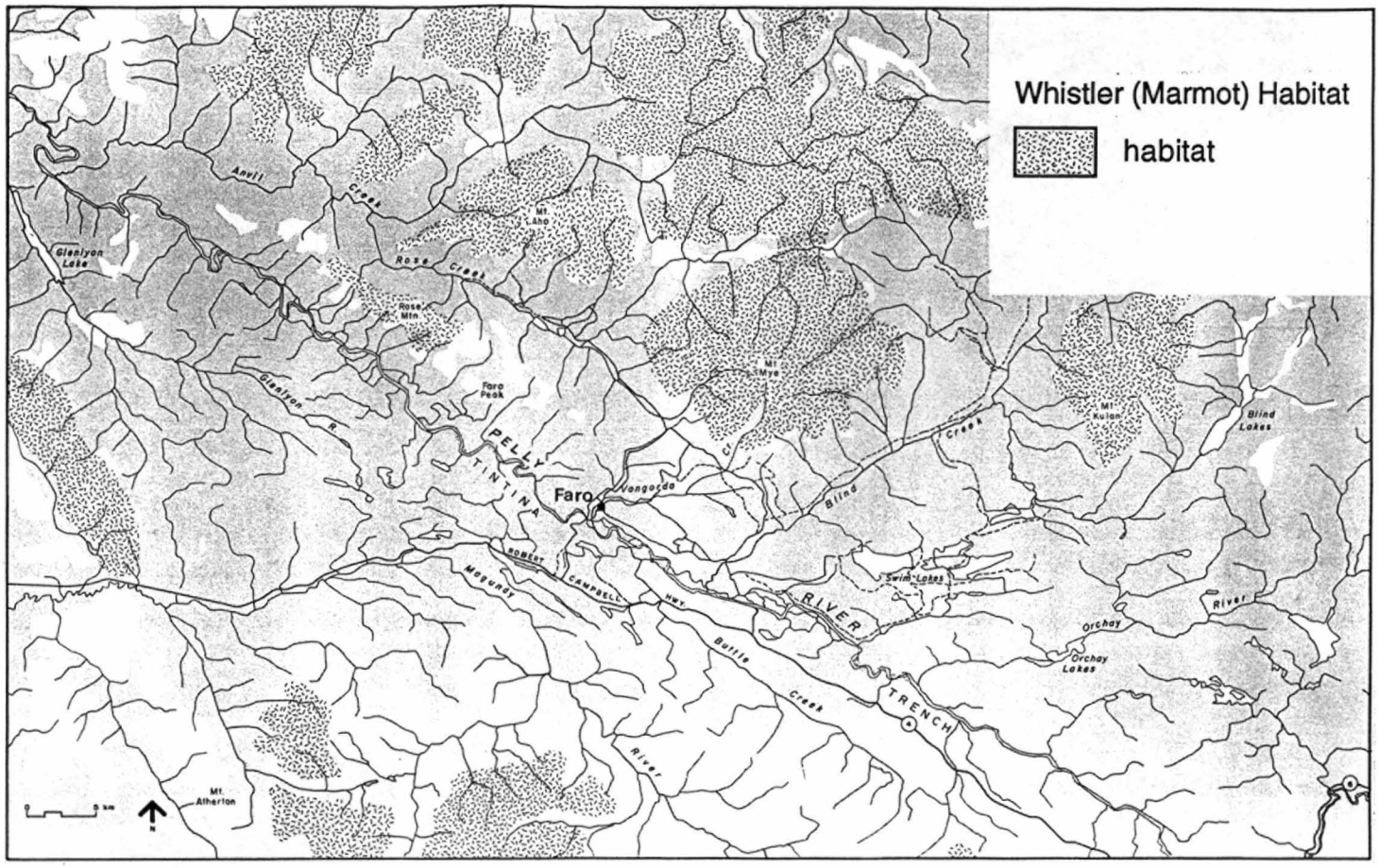
Kaska science is different because it comes from repeated, or perhaps constant, observation. It is also personal and particular. Northern Indians may view the generalized knowledge of professional biologists with tolerance, but they have great discomfort in putting on the authority of abstraction themselves. This is not the result of modesty. A very large knowledge and experience base results in large arrays of exceptions. Generalities and abstractions are uncomfortable because they are constantly challenged by exceptions. It is often not possible to distinguish between natural variability and trends that lead to historic change. The way that knowledge is assembled within Indian traditions is not through the formulation of abstract concepts and

theoretical constructions, but through history and myth. And both are rooted in the local landscape. The first section of this chapter has the appearance of conventional biological information because it speaks through abstraction and generalization. It is not the way that most Kaskas would tell the story.

A SELECTION OF KASKA KNOWLEDGE ABOUT ANIMAL HABITAT AND ECOLOGY IN THE MYE MOUNTAIN REGION

Mye Mountain or K'asba zela' (=Ptarmigan Mountain) has a special place in Kaska lore. It has been widely known for its abundance of the most important resource species for the subsistence economy. The ecology of the Kaska lands requires that people move around to make a living because the critical animal resource species are rarely found in the same location. Mye Mountain is one of the rare places where, as the elders say, "there is everything" - moose, caribou, gophers, whistlers, fresh water fish and salmon.

Figure 8 is a sketch of one hunting groups's knowledge of the region's animal habitat for some of the dry-meat hunt resource species. Some important species are not included on the map simply because they are ubiquitous. Gophers can be anywhere, at low elevations and slopes. They occur in large colonies and, in the past, knowledge of the locations of colonies was critical for fulfilling food needs during the, at times, difficult spring hunting season (McDonnell 1975). Other small game animals, snowshoe hare, grouse, and ptarmigan, which may be hunted at the same time, are also not included on the map because of their broad distribution.



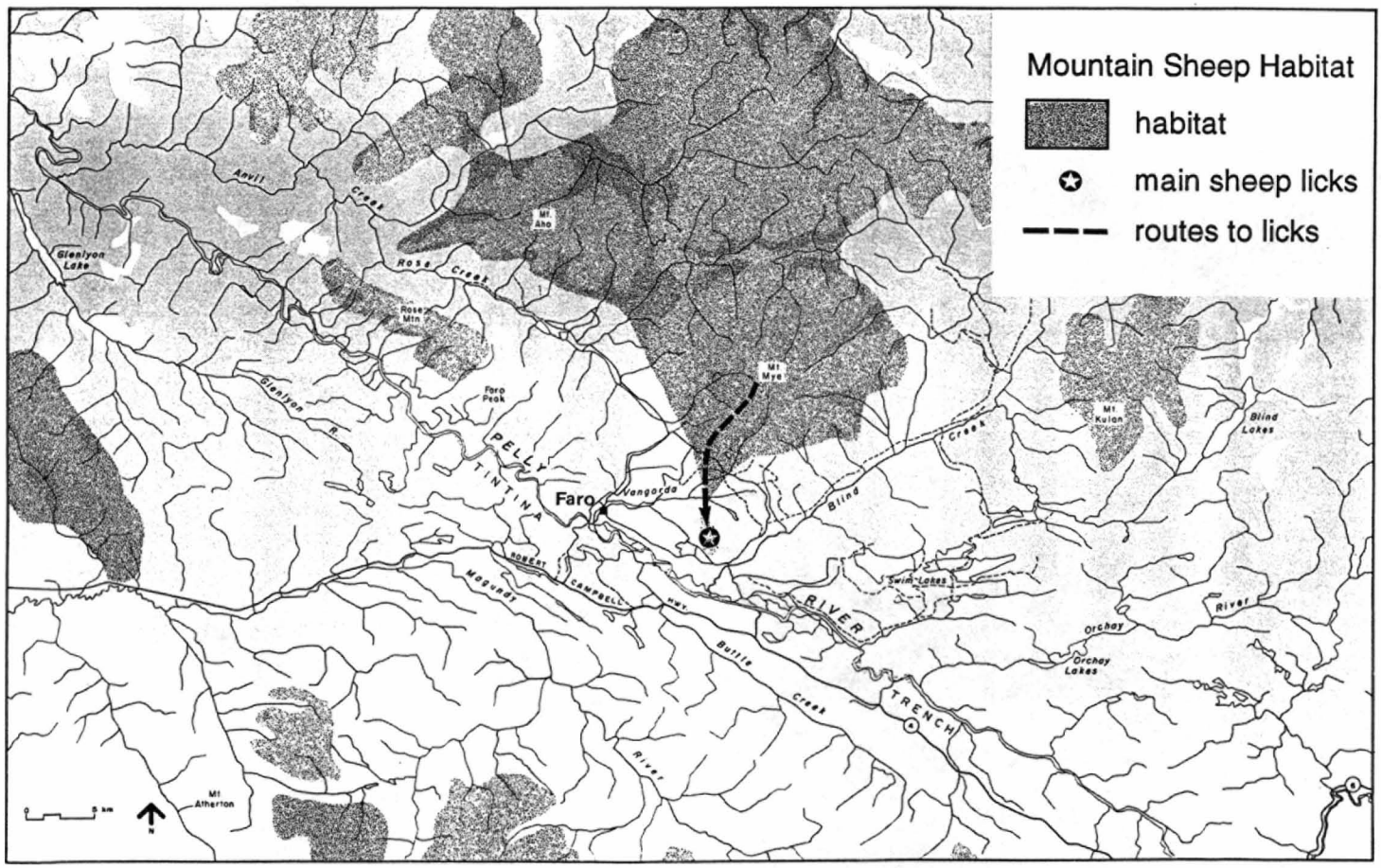
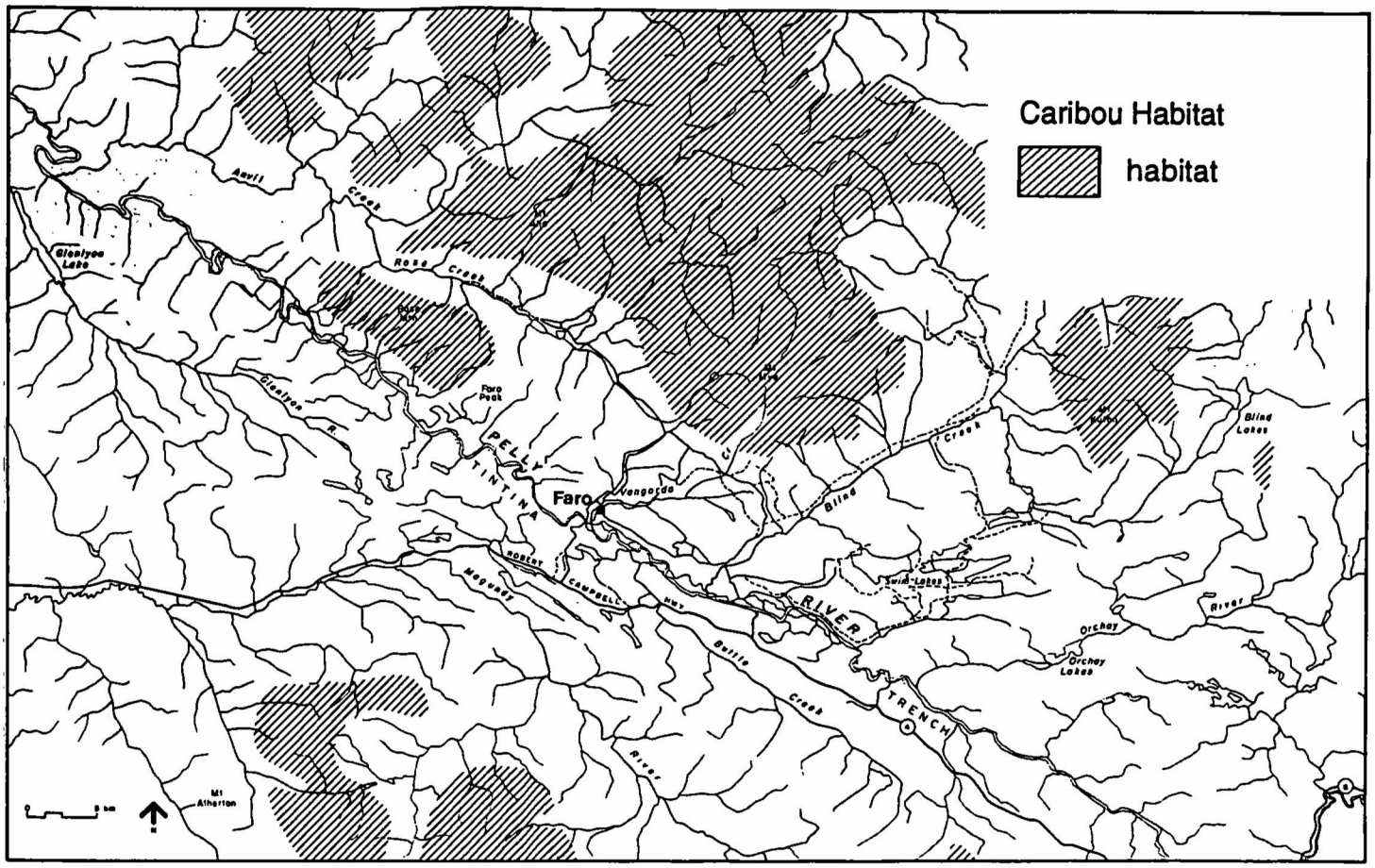


Figure 8 Kaska knowledge of Mye Mountain region animal habitat



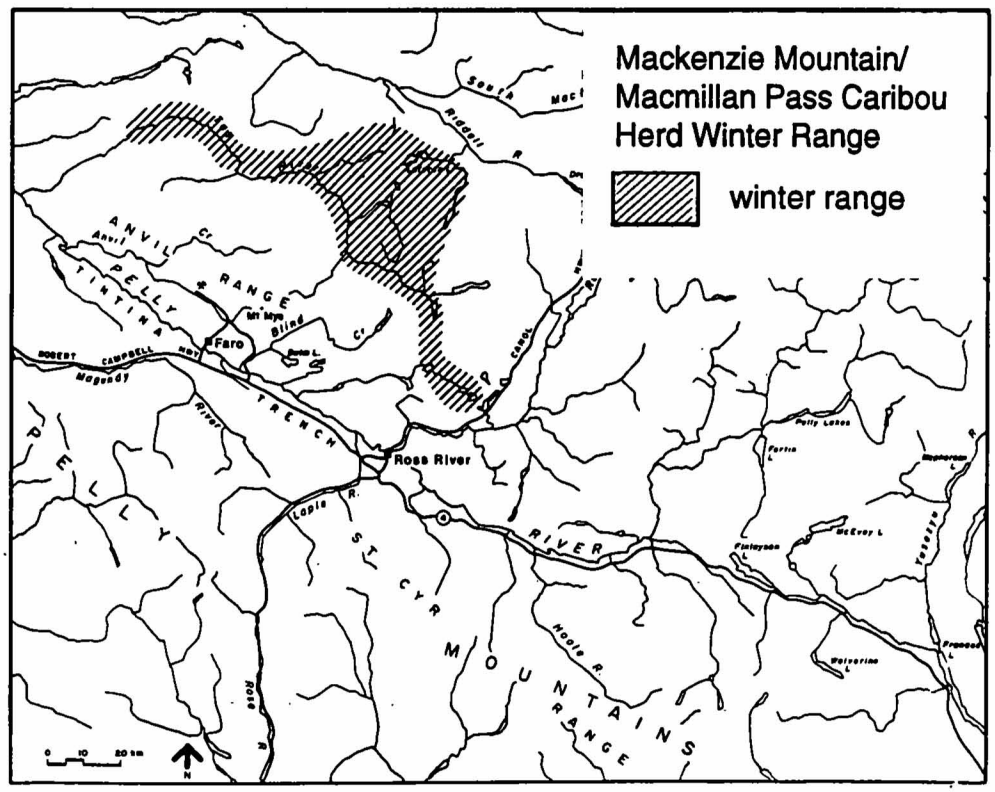


Figure 8 (cont.) Kaska knowledge of Mye Mountain region animal habitat

The range of moose is also not indicated on the map for similar reasons. They can be found anywhere - in the flat lands, down by lakes. However, in August they wander into the mountains to feed on certain kinds of plants. They move up to the timberline, below the alpine zone. Later in the fall, when the rut begins, they move back to the flat country. Following the rut they return to the higher elevations until mid-winter, around Christmas. As the snow gets deeper, as winter progresses, they move to the valley bottoms of the larger rivers valley, like the Pelly and the Ross. They stay close to the rivers for much of the winter. Distances of more than 1 mile from the rivers have deep snow, so they concentrate within this narrow zone.

Whistlers are limited to higher elevation areas, on mountain slopes. These, and moose, are the animals that induced the hunting groups into the alpine and near-alpine zones at this time of year. Sheep are also found in this zone, but they are only hunted as a delicacy. Sheep meat is not preserved; it is only eaten fresh. Consequently few sheep are involved in the fall harvest.

The animals involved in this hunt are those which can provide a relatively large and efficiently harvested supply of meat and those that can be preserved for later use with minimal risk of spoilage. The Kaska have developed refined preservation and storage techniques for whistler, gopher and the other ungulates. One method for preserving gopher is to partially dry whole animals and then store about 20 in a moose stomach. Individually hung gophers spoil easily, but remain well preserved when stored

in moose stomachs. The technique for curing and storage of whistler is different. Whistler are skinned, deboned and then dried. Because of the high fat content they are only partly dried, but the meat stores well nonetheless.

Sheep move to salt licks in the spring as soon as the snow melts. They remain around licks until lambing time and then return to the mountains for grazing. They move back to the licks in the fall. In the summer, sheep wander across to different mountains, sampling various grazing areas. They can be found within forested areas in summer as they move between the mountains. The rut takes place in early winter, before Christmas. After the rut, they move onto the larger and more wind-blown mountains for the superior grazing possibilities these provide and the better chance of finding adequate fodder to carry them through the winter.

A large sheep lick is shown on the map, adjacent to Blind Creek. This lick is presently under a government wildlife protection plan because the traditional paths the sheep have used to move between Mye Mountain and the lick crosses the new open-pit area.[2] There are also smaller licks scattered throughout the area which have not been shown on the map. Sheep are relatively rare in this region.

The Mye Mountain area has two types of caribou, a resident population of local animals which summers on local mountains and migratory herds which summer in the Mackenzie Mountains and winter in the Pelly drainage area. Herds of caribou from the Macmillan Pass area migrate southward in winter. They break into

two groups, one wintering near Campbell River and the other in the Tay River lowlands to the north of Mye Mountain. Resident caribou from each of the larger mountains mix with the Macmillan Pass herds on the wintering grounds. Migration begins at Macmillan Pass in August, which is the basis for the sports hunt and the Indian fall hunt in the North Canol Road area. The caribou move out of the northern mountains into the Tay Valley to avoid the deep snow further north. Movement is not the mass herd migration seen in some areas of the north. Rather, the animals move in small bunches or small herds of up to a hundred.

In the past the herd caribou have also wintered around Tenas Creek, but during the last 10 years they have not been using the area. Some people who switched to this area to avoid the disturbances around Mye Mountain feel that the change in behaviour may be due to disturbance caused by cat-trails in the Tenas Creek area.

DWELLING PLACES AND TRAILS

As with other northern native groups, Ross River footprints have very likely covered the entire landscape (see e.g. Brice-Bennett 1977; Brody 1981). A network of primary routes were used for travel between camps, but the search for game and tracking required extensive treks wherever game went. Similarly, cabins were constructed at sites that provided all of the requirements for longer term residency, such as shelter, a good supply of wood and access to good harvesting sites and areas. Particular trails and cabins were seasonally used according to the

current harvesting - Blind Creek during the salmon fishery, Swim Lakes during the spring fishery, and so on. Each family group had a complex of cabins and tent sites that they occupied seasonally as they followed the harvesting round. The cabins and harvesting areas were recognized within the band, according to the Kaska tradition of land tenure, as belonging to particular family groups.

Trails

Figure 9 shows the distribution of the principle walking trails and cabin sites in the Mye Mountain region. The trails shown on the map are limited to those which were in regular use. There are many other trails, which have more occasional use. These have not been mapped because there are simply too many. Some of these are opportunistic hunting trails, which come into use as people encounter and track game. What is shown are regular travel routes - the infrastructure of the economy in this part of the Band's territory.

Similarly, only cabins are shown on the map, not the multitude of longer-term and shorter-term tent sites.

The location of cabins and other seasonal residences are indicators of land use geography. Cabins were built to provide shelter during winter trapping season. They were situated for easy access to trapping areas. Generally, cabins operated as family bases. They were built in comfortable locations for the families when the men went out for longer periods making the rounds on their trapline, setting and checking traps. The trapping cabins would be occupied until March when the fine-fur

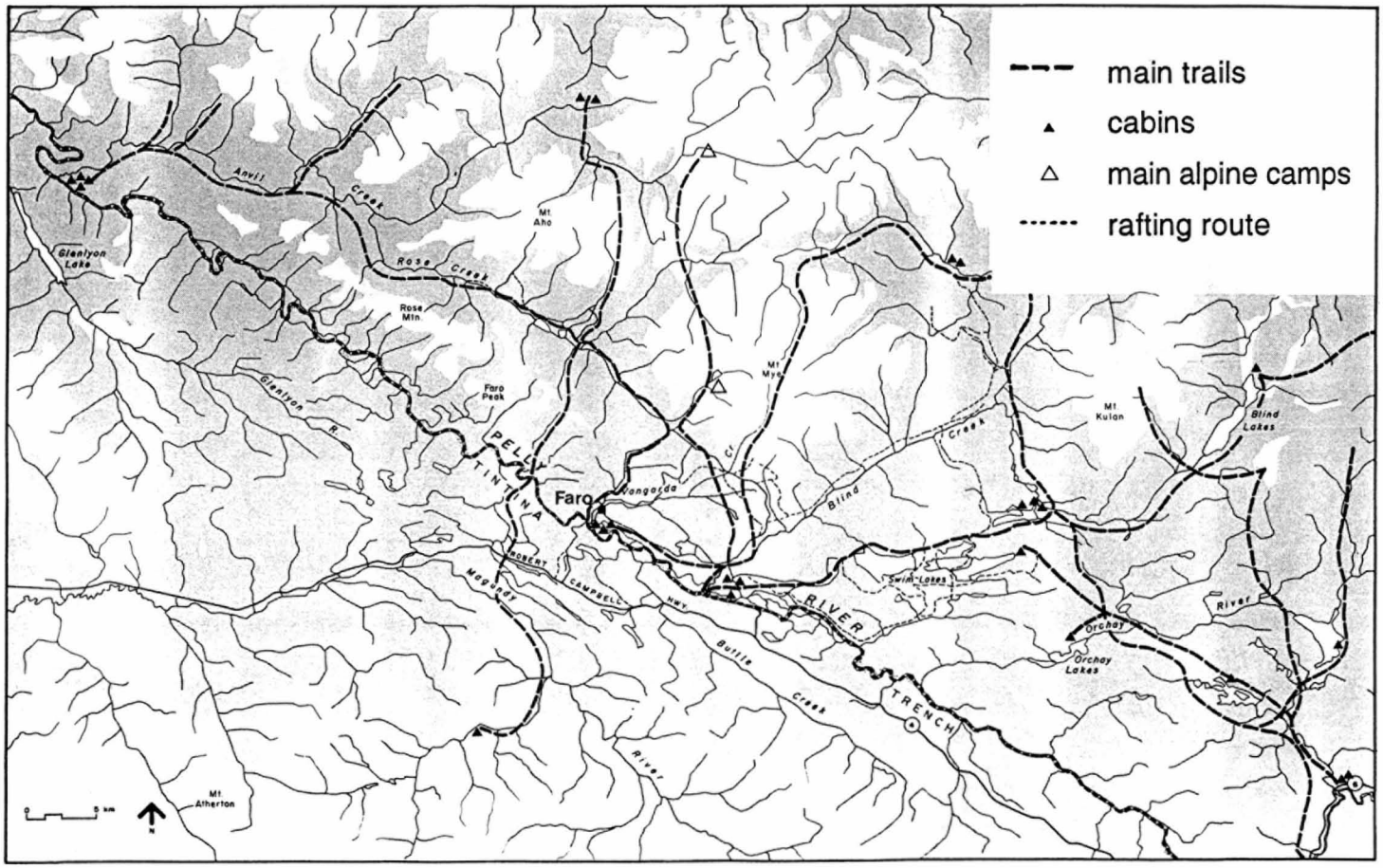


Figure 9 Cabins and main trails in the Mye Mountain region

season was finished, after which families in this area moved to Swim Lake for the late winter and spring fishery.

Much of early and Mid-winter trapping focused on stream sides and valley bottom areas, such as the Pelly, Blind Creek, Rose Creek and Anvil Creek. However, the upper Anvil River Valley, the area between the mountains, was not used much for trapping. The areas between the mountain are not good winter habitat for lynx. Rather, the area is important mountain sheep and caribou habitat.

Each part of the territory had its own role in the geography of the seasonal round. In some cases there were over-laps in seasonal and resource use, but in others the locations were only used once a year. Some of the cabin sites were also locations for the salmon fishery (Fig. 10).

Trapping Cabin Sites and Main Dry-Meat Hunt Camps

There were 3 groups of cabins on the Pelly River in the Faro area: one at the present Faro bridge site, another at the mouth of Blind Creek, and the third at Fish Hook - just upriver from the mouth of Anvil Creek. All of these were residential sites for the salmon fishery and for winter trapping and were used as departure points for the dry-meat hunt. There was a degree of over-lap and flexibility in the use of these sites; some people had cabins at more than one location and varied their use of the cabins from season to season.

The present Faro bridge location was a traditional Ross River residential location for many generations. At the time of the Faro fire there were 3 cabins (belonging to Joe Ladue, Joe Etzel,

and Arthur John) at the crossing. The cabins were burnt in the fire along with the newly constructed town. Lydia Glada, Gordon Etzel and Arthur John rebuilt cabins at this location afterwards.[3]

The cabin complex at Blind Creek was an important salmon fishery site because of the productivity of the Creek as a salmon spawning stream. In the early days salmon were caught in traps, but more recent fishing relied on nets. The uplands in the area were also productive berry picking areas. After the salmon fishery, the trails leading from lower Blind Creek were followed into Mye Mountain for the drymeat hunt. One of the cabins at Blind Creek, which belonged to Jack Sterriah, is still standing. The others have since decayed. One of the other cabins belonged to Old Man Jules who originally came from the NWT.

Fish Hook represented the home base of the Ladue family. There are still 4 cabins at this location, belonging to Arthur John, Peter Ladue, Jack Ladue, and Joe Ladue. Fish Hook was occupied for a large part of the year. The location was a base-camp for the salmon fishery, for operating the traplines, and for the drymeat hunt. It represented the residential base from which the families who harvested the lower Anvil Creek country carried out their activities.

The Swim Lake encampment used tents in mid-century. There had been a complex of 3 cabins at Swim Lake, which originally belonged to Sue Bill and Selkirk Billy, but they were destroyed during a fire.

Other cabins, used principally during the trapping season, were located on trails throughout the region. A cabin at Blind

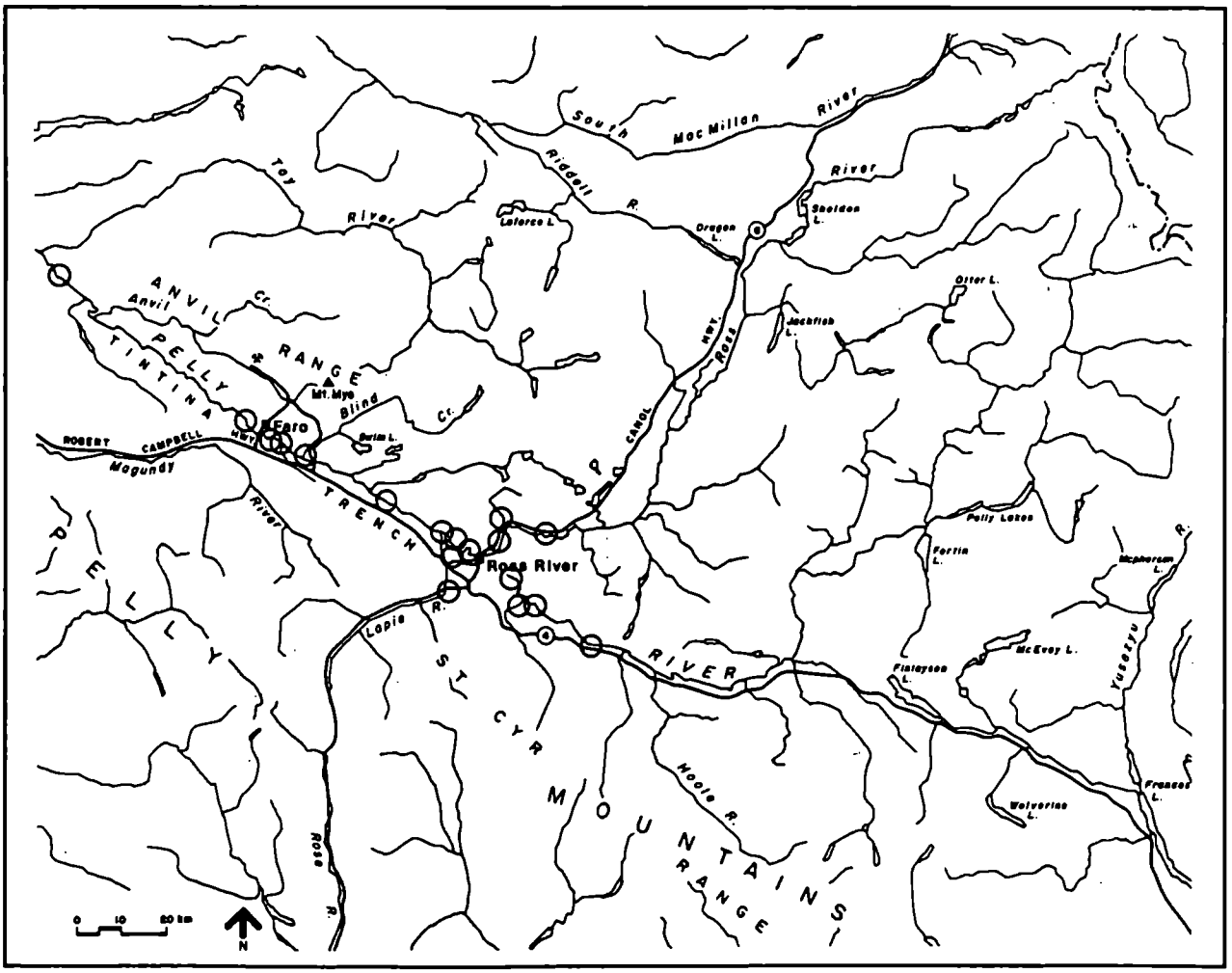


Figure 10 Ross River salmon camps

Creek Lake belonged to Joe Ladue. It is still standing, but the roof has fallen in. Three cabins at Tay Lake belonged to Jack Ollie, Arthur John, and Jack Sterriah. Two cabins at Poison Lake (south of Tay Lake) belonged to Jack Sterriah and Long-hair John. Another cabin on a lake near Tenas Creek belonged to Duck Johnnie (who was killed in a fire in the mid-1970s.) Another cabin near Tenas Creek was built by Old Johnnie, Duck Johnnie's father.

Some of the cabins, closer the mountains were also in use during the dry-meat hunt. Long-hair John and Jack Sterriah built cabins on the northeast slope of Mount Mye. Joe Ladue and Pat Pelly had cabins on the west slopes of Ktl Jhet, the mountain to the north of Mye Mountain. A trail from this location goes to the south side of the Pelly, to Sue Bill's trapping and drymeat hunt cabin. This cabin was used year-round for hunting, trapping and fishing. Several sites on Mye Mountain and Ktl Jhet were in regular use as main alpine camps for the dry-meat hunt (Fig. 9).

Other cabins in the area, not shown on the map, were located on or near the trails to the South MacMillan River area. Several trading posts were located on this area, at Moose Creek, Tummel River, and Russell Creek, prior to the fur trade collapse, when they too closed. There was a commerce and trade by Ross River people north to posts in the headwaters of the Macmillan River. At times people would travel to Russell Post by dog team to trade, especially if they were trapping beaver in the northern areas. Jack Ollie had a cabin at Laforce Lake, on the trail to

Russell Post and Mac Peter had a cabin on the South Macmillan.

Salmon Camps

The Band's salmon fishing camps have historically been concentrated on the Pelly River between Fish Hook and Hoole Canyon, with a few camps located on the Lapie and Ross Rivers, near their junctions with the Pelly (Fig. 10).

Travel throughout the territory in the past was mostly by walking. Very few Ross River people had permanent boats. Rafts and moose-hide boats where constructed for down-stream travel as required. Dogs were extensively used as pack animals and, during the times of year that snow conditions permitted, to pull sleds. Walking is still a primary means of access to harvesting sites. Many of the old trails are still in use. However, motor vehicles - trucks or in some cases boats - provide the means for travel between the village and the entrance to a trail. The greater efficiency allows a larger area to be accessed from a village residential base than was the case in the past.

Many of the old salmon camp locations remain in use. Walk-in trails run from the Campbell and Canol Highways to the riverside camps.

The camp closest to the village is a community fishing location used primarily by wage earners and older band members, who have less opportunity for travel to more distant locations. This site is in use every year from mid-July to the end of the month. The fishery ends when the salmon quality deteriorates and the fish are no longer considered edible. This is a non-residential site. Salmon are netted and cleaned, but preservation

takes place in the village through smoking, drying, or freezing.

Other sites near the village are family salmon fishery locations. One of the locations on the Ross River was the site of a salmon trap fishery in the past, as was Hoole Canyon, on the Pelly. The Ketza River mouth is the site of several fish camps.

An important fish camp on the Pelly just west of the village was lost in the early 1970s after a local settler applied for and received an extension for a grazing lease. The trail was fenced off and the people who traditionally used the site felt resentful, but uncomfortable about attempting to take any action toward reclaiming the fishery because of the negative climate to Indian rights at the time. The camp was used by many of the families from the Blind Creek and Mye Mountain country. The loss of this location was, in a sense, a double blow for people trying to relocate their salmon fishery after the effects of mine development. The site was recognized among the Ross River people for its productivity. Nets had to be checked 3 times a day. Families took turns using the site, with two families using the camp at a time, sometimes larger groups fished.

The salmon fishing site at Lapie River canyon was a gaffing station in the past, but is now used for a net fishery. The fishery location at the mouth of the Lapie River is not actively used at present. People who traditionally used this site are elderly or deceased and many of their children are using other sites or are no longer active harvesters. One of these groups now fishes at the mouth of Grew Creek, closer to their cabin.

The fishery at Blind Creek was used extensively in the past by Hoole McLeod and family, Joe Ladue and family, Sid Atkinson and family, Oldman Jules and family, Arthur John and family, Jack Ladue and family, Jack Sterriah and family, Alec Shorty and family, Jack Ollie and family, and Skumballah Jack. The site has been largely abandoned as a fishery due to the degree of intrusion and disturbance. Families with ties to this country irregularly monitor the area's utility as a fishery through irregular visits over the years.

Some fishing still takes place at the Faro Bridge site, particularly by the elders from that country who have cabins at the location. However, there is a continuing degree of nervousness about the use of the site. Generally, when people hear about mining activities being initiated they avoid fishing in downstream waters. There is a fear of health problems resulting from consumption of fish contaminated with toxic substances used in the mining operation. However, the area is not abandoned, in the sense of "to go away from without intending to return"[4]. People have deep ties to place. Monitoring of changes at various sites which have been left because of intrusion takes place simply because people return to try the fishing or the berry picking or the hunting, simply because they miss the place.

The salmon fishery site furthest downriver is no longer in use due primarily to its remoteness. In the past it was an important regional site. A trading post was located nearby at 'Old Rose'. In the past it was used by families from the Faro country and a number of families now based in Carmacks.

ENDNOTES

(1)An understanding of natural variability is particularly critical for environmental impact assessment. Without an understanding of the extent of changes that are possible under undisturbed circumstances it is not possible to distinguish many development induced change from natural variation.

(2)The sheep protection plan is somewhat contentious within the band, even though the Council was involved in its development. The plan represents a kind of double jeopardy for hunters who have traditionally used the area for its convenient seasonal access to sheep. The plan was instituted as a mitigation measure for the damages of the mine re-development on the sheep and sheep habitat. Part of the plan calls for non-hunting zone for both native and non-native hunters on the small hill which houses the salt licks. For hunters who have traditionally used the area, the development has resulted in destruction to the land and to animal habitat; and they are then asked to give up their rights to hunt the animals. Looked at from the point of preservation the plan makes sense; looked at from the point of the effected people the plan represents a double loss.

(3)The band has recently had a cabin building program which rebuilt cabins at the Bridge site in 1991.

(4)Oxford Paperback Dictionary, 1988 edition.

CHAPTER 6

THE EARLY EFFECTS OF THE FARO MINING DEVELOPMENT

INTRODUCTION

The remainder of the report concentrates on the impacts of the mining development on Ross River Indian land use. There are a number of structural problems to the determination of what can legitimately be said about the impacts. In assessing impacts over such a long period of time, the question of how to distinguish the effects of the development from other influences needs to be addressed. There is no question that life in the village in the 1980s or the 1990s has changed significantly for all people. Some of the changes are due to the "indirect effects" of the mine, such as the village growth with its displacement of Ross River Indians from "masters-in-their-own-house" to an "ethnic population" - marginalization in the language of social science. Other changes have been due to education, transportation, employment, social welfare programs, and so on. These shifts have been felt by all people, not just those groups who have experienced the direct effects on the mine's construction and operation on the lands they generally use. To indicate effects on land use the methods need to account for changes not directly related to the mine development.

EXPLORATION PERIOD CHANGES AND IMPACTS

As indicated in Chapter 4, the early period of mineral exploration around Mye Mountain was a time of crisis for the Band,

along with other traditional native groups in Yukon and other areas of the Canadian north. The Taylor and Drury post at Ross River shifted ownership after the fur trade collapsed. Prices increased at the store due to a combination of post-War inflation and the increased costs to the new owners. The combination of low fur prices, the poor prospect of seasonal employment and the high costs of store bought foods and manufactured items made life in Ross River difficult. Many people stopped trapping seriously and sought alternative livelihoods, which meant moving to other areas. This was particularly true for younger families. Many families who had followed the seasonal round with their parents and grandparents moved to highway towns where employment was easy to find.

People who moved to Watson Lake and elsewhere frequently found jobs associated with the mining industry. Arthur John moved his family to Watson Lake by dog team after the ownership of the post shifted to a local settler, who was felt to be taking advantage of Indians. Prices at the store increased to levels where people could not buy basic needs. The store owner was also a local outfitter who hired Indians as guides. The experience with guiding left some people feeling that they could not both guide and provide their families with meat. Much of the earnings went to pay for store foods used by the families when the men were guiding. Arthur John moved to Watson Lake along with 5 other Ross River area families. It only took him a week to find a job for the summer; work was available reconstructing and maintaining the Alaska Highway. The highway towns were also

nodes for geological exploration which was in full sway during the early 1950s. People who took up residence in places like Watson Lake consequently had opportunities to learn basic prospecting skills. In addition, their bush knowledge was highly valued by professional prospectors.

Although the young adults sought employment outside of the traditional area, their parents and some or all of their siblings stayed, continuing the round of hunting, fishing, trapping, and local seasonal employment. Present-day elders, like Arthur John and Peter Ladue, emigrated to highway towns, but Joe Ladue, Peter's father, and his brother Jack continued to hunt, fish, and trap in the Mye Mountain-Anvil Creek area, as did Hoole McLeod, Jack Sterriah and others.

The System of Land Use Tenure

The Ross River lands are not a 'commons' in the general sense that that word is used - open to use by anyone within a defined group. In this sense the Yukon Territory operates as a hunting and fishing commons for Yukon residents. Any resident can obtain a license which enables them to hunt or fish in any area of the Territory where these activities are permitted.

The Kaska or Athapaskan system of land and harvesting access is difficult to define because of its inherent flexibility. To outsiders, the flexibility often gives it an appearance of being open and without rules. Consequently the lands under traditional tenure are often considered by the same outsiders as a commons. The basic principles of the Kaska system rest on the notion of sharing and ensuring, primarily, that the needs of the community

are met and, secondarily, that the needs of other people who want to harvest in the area are taken care of if there is a harvestable surplus beyond the requirements for conservation.

The traditional use area was informally divided into smaller units which varied according to the type of harvesting activity. The rules for access and land use were based on social affiliation, again with only informally defined limits. The core ethic of sharing, extended from access to economic resources - the resources required for a reasonable livelihood - to family relations. People visiting or traveling through the area were potential in-laws or, if it was a family group, their children were potential spouses for resident children.

From a resource point of view, sharing was based on the management system. Providing your family's needs might require harvesting beyond annually sustainable rates. This was often the case for fur resources on the Ross River lands. The lands were not particularly productive for fur animals. Winter trapping often cleaned out most of the fur animal population in the area, requiring that the land be left fallow for a number of years to re-cover its former fur abundance. In these cases families relied on invitations from friends and relatives to join their group on their trapline. Part of the Indian system of resource management was an assessment of animal abundance to determine if family lands could support more people. In those cases other families were invited. Consequently, resource management was both economic and social.

The control over land tenure was seriously challenged

during the registration of traplines. The registration program did not take into account the existing Indian system and its rules. It was imposed as though no management or tenure existed. In fact that was how it was seen by the non-native officials who created and administered the system. Some of the band's elders quickly saw the program's threats. On the one hand, there was the possibility of loss of the use of traditional lands. And on the other, the traditional flexibility of the Indian management and tenure system whose primary concerns was the welfare of the group as a whole was threatened. Old Jules, the elder who was originally from the NWT, felt that if each person was limited to a small trapping area, the result would be a depletion of fur bearing animals. Trapping of a small area, year after year, would result in over use. The elders recognized that renewability for large family groups required a large, undivided territory and the flexibility that Indian organization allowed. The registered trapline system created a formal arrangement of individual property rights. In operation it meant that once an area was trapped out, people could no longer go to someone else's area. Creation of formal property rights is intended to limit access, but Indian tradition is based on sharing and mutual aid. Trapline registration works against these traditions through the creation of exclusivity. If a person wants use, they have to provide benefits to the holder of the rights.

The people for whom the Mye Mountain/Anvil Creek/Blind

Creek areas were primary resource lands at the time of the development included the direct descendants of the earlier generation of people from that country. These included Selkirk Billy, Aklack, Billy Atkinson, Long Hair John, Gumbala, Nahlier, Pat Johnnie (Peter Ladue's maternal grandfather), and Sue Bill (Jack Ladue's first wife's father) and their spouses. The group also included people who married into these families or who were invited to join these groups.

In addition, band families whose primary lands were in other regions of the territory were invited or encouraged to use this area from time to time. Blind Creek, in particular, had a wide use within the band and beyond. It was widely reputed for its productive salmon fishery. All band members fished there from time to time, as did people whose descendants now live in Carmacks. Since this fishery precedes the drymeat hunt, people involved in the fishery would carry on with the seasonal harvest by walking the well defined trails up the slopes of Mye Mountain.

During the period prior to the mine construction, Joe Ladue, Hoole McLeod, Jack Sterriah, Old Man Jules and Jack Ollie's wife and some of their family members regularly trapped in the affected areas.

The Prospecting Phase

The prospecting and mineral exploration that took place during the 1950s and the early 1960s were largely compatible with the Indian economy of the time. They provided needed seasonal employment opportunities for people who stayed in the Ross River area and, at times, for people who had shifted their primary base

to the highway communities.

The early exploration did not stop people from hunting and trapping. The work was treated as part of the seasonal round. Family camps were established near the areas the men were working. Foods consisted of a mixture of store bought items and meat from local hunting and fishing. After the work was completed, the group would continue trapping.

The cut lines and tote roads also represented benefits for the harvest economy, since they provided improved access at a time when Ross River Indians were the exclusive harvesters in the area. Many of the new roads and access routes followed the well used Indian trails.[1] The first road system into the Faro country began near the mouth of Blind Creek, at the cable-ferry. Before the Pelly Bridge was built, all vehicular traffic passed through the Creek mouth area and across the VanGorda Plateau. The improved routes were quickly incorporated into the Indian travel system.

As the mine exploration and development intensified, some of the families which had moved away returned to Ross River. Fur prices remained low. If anything, they were worth less in the early 1960s than they had been in the 1950s due to the increase in prices of store bought goods. However, seasonal employment was available from prospecting. The returned families joined the others in winter hunting and trapping.

However, some significant changes had taken place. The village location was moved during the early 1960s (1960-1963). The old village was located on the north side of the Pelly, at its

confluence with the Ross River. The construction and re-opening of the South Canol Road left the village isolated on the north shore of the river, with only a suspension foot bridge connection. The move to the southside of the river was promoted by the Department of Indian Affairs as a mean of providing easier access to services. People continued to live in wall tents at the new site until a program for log housing was supplied by the Department. By the early 1960s most people had settled into houses in Ross River. A few people continued to live in the bush on a year round basis. A new village plan located the Indian village on the eastside of the Canol Road; and the land on the westside was surveyed as a planned new village site for settlers, businesses and services.

With the change to regular village residency, the seasonal round of movement for hunting, fishing, and trapping altered significantly. The village became the residential base from which people traveled to harvesting lands for varying periods of time (cf. Brody 1981; Dimitrov and Weinstein 1984). Rather than being a seasonal node for visiting and trade, the village became a centre from which people traveled to harvest and to which people returned after a hunting or trapping trip. Land use patterns shifted dramatically. Lands that could be efficiently accessed became more regularly used. Roads and good trails became important considerations for which areas remained actively in use. People still remained in bush camps for long periods of time, during the dry meat hunt, the salmon fishery, and for trapping, but there was an increased tendency to return to the village after

the activity.

People could make a living, even with the low fur prices because of the relative abundance of game in the area. Indians were generally poor, but had supplies of quality meat on their tables. Caribou were abundant and migrated close to the village in winter. There were years, however, that people knew hunger, particularly when winter snows were light and the ungulates remained dispersed on the higher elevation lands.

During the early stages of the exploration people continued to walk the trails between the village and the main camps, but as the exploration intensified and more vehicular traffic started to travel the roads people began to arrange or 'hitch' rides. Few, if any people, had their own vehicles at this time, although a few people had experimented with vehicle ownership in the 1940s, during the construction of the Canol Road.

Family life on the land had also undergone significant changes as children began to attend residential school in the early 1950s. The period that school-aged children joined their family groups on the land was limited to summer vacations. With the construction of a school in Ross River, which signaled the end for residential schooling, family life in the bush during the most active harvesting seasons effectively came to an end. Mothers of school aged children had to remain in the village. Fall and winter camps were no longer based on family units for some groups.

The families who were attracted to return to Ross River by the increased employment possibilities and the possibilities of new housing and improved access made a living through prospecting in

summer and hunting, fishing, and trapping the rest of the year. They re-joined their families at the seasonal harvesting round, sharing food and harvests, according to traditional custom.

Peter Ladue and his family hunted and trapped primarily with his father's, Joe Ladue's, group. The Orchay Lakes and Swim Lakes area were important locations for summer hunting and for fishing, because of the fish and game in the area and the ease of access from the village.

They hunted for drymeat and fished in the late summer and fall to preserve a stock of food, for the trapping season. Salmon fishing took place at the mouth of Blind Creek, on the Pelly at Fish Hook, and near the location of the present Faro Bridge. After the salmon fishery, the families walked the trails with pack dogs and camped at timberline. Mye Mountain continued as a focus for the drymeat hunt because of its closeness to the village, its productivity for the primary animals harvested during this hunt, and because the mountains relatively gentle slopes provided easy access to the tree line and alpine habitats. During some years, however, the group also hunted on Tay Mountain (just to the north of the family's main camp at Fish Hook), on the Glen Lyon Mountains (on the southside of the Pelly across from Fish Hook), or in the South Canol area. Decisions about where to go depended on an assessment of game in the area and on where the group had gone for other seasonal harvesting activities.

The other family groups from the Blind Creek/Mye Mountain country, of course, also continued their use. As children returned from residential schools and got married and started to

raise their own families, they rejoined their parents' hunting groups.

The return of the families coincided with the intensification of exploration and village development. To some degree, at this stage, the disturbances were seen as the price that was paid for employment opportunities and other benefits. Ross River Indians were experimenting with something new; the consequences, which are clear now from experience, were not available at the time. Many people have good memories of the mine exploration period. Improved road access provided better travel conditions. There was employment cutting lines and staking, working on the ferry, and prospecting.

The impacts to land use commenced as access began to be restricted, ostensibly for safety reasons, during the exploration which followed the initial staking. When exploration was limited and there were only a few prospecting parties, this was more annoying than a major problem. This was especially true when Indians were members of the work crews. As Dynasty Explorations' efforts began to get more serious and as the staking rush followed, however, the degree of disturbance was greatly intensified. Elders were told by company officials that they could no longer trap in the area; that it had become private property. When younger family members who were working on site tried to pursue the conflict, the restrictions were explained as industry regulations for public safety.

During the exploration at Swim Lakes the survey parties

actively discouraged families from camping and fishing:

> "Ever since the mine started, people have been discouraged from going into the [Swim Lakes] area because of the dangers of blasting. People don't want to go there. It's like they take it away all the best hunting grounds. In all of these lakes different types of fish spawn in the creeks. People could simply go and scoop them up in their hands. People don't do that anymore. There are still fish there, but we can't go back there anymore. Greyling and suckers and jackfish were scooped with hands. There are other fish there too, but have to use fish nets for them. Scoop in hands during spawning period in spring, and in August for greyling, when young fish enter the streams at low water time to feed on mosquitoes.
>
> Swim Lake had lots of greyling and suckers. Dried suckers are a delicacy. Eat them as a snack like potato chips.
>
> Ever since the mine started people don't go into the Swim Lakes in summer because of the blasting, but some boys go in winter to trap." (Arthur John)

The effects greatly intensified during the summer of 1965, as Dynasty's exploration program was in full sway and the publicity of the mineral potential of the area became widely known. The staking rush and testing changed the seasonal cycle of effects. The area began to buzz year-round.

Indian residency and use of an area varies seasonally, and in some cases areas in regular use are not visited year after year because of the rotational system of resource management. The early stages of mineral exploration has a similar pattern of land use and is attractive precisely for this reason and the benefits it provides. However, mine development is based on another pattern of residency, one more similar to permanent settlement.[2]

During the early stages of the development Indians were seen by the outsiders as significant figures. They had desirable skills, a high degree of self-sufficiency in the bush, and they were the main human population in the area. As development progressed and the work force increased and the work became progressively technical, Indians became more marginal. The area took on the attributes of white settlement. For many of the new settlers, Indian behaviour confirmed all the prevailing stereotypes. In village and town they were seen as dependents - living on hand-outs; cabins were seen as hovels; and so on. Encountering people in town on binges confirmed the attitudes of Indian as derelicts. When encountered in the bush, Indians were seen as shadow figures doing strange and, at times, incomprehensible things. Unexpected encounters of Indian family groups walking with pack dogs into the mountains likely challenged the strongly held stereotypes carried into the country by the strangers. To the outsiders, Indian land use patterns, with its inherent mobility and flexibility, only served to confirm the prevailing attitudes of the time about hunting and trapping not being a 'real' economic activity.

On the other hand, for the Indian population many of the whites were a faceless and inter-changeable mass. The Indian pattern of land use meant the land was only seasonally occupied, and at times left fallow for a number of years. The exploration and later mine development resulted in a constant occupation of the VanGorda Plateau, once it began in earnest, but the people involved in the work constantly changed. The constant turnover

of personnel resulted not in new neighbours but Whites - a faceless human category.

The presence of a permanent body of strangers on the harvesting homelands is an inherent conflict. Indian land use is based on social linkages, commonly understood rules of conduct, and the controls afforded by social sanctions. None of these operate for strangers, unless they have had some degree of socialization into Indian life. Friendships are a beginning. But the constant turnovers that result in faceless masses prevent even this.

Indian land use relies on basic knowledge, monitoring of recent conditions, and social controls. It makes no sense to manage animal populations rotationally if someone else can harvest the lands during the years they are left fallow. This did not develop as a major problems for fur resources during the exploration and development of Faro because the area's trapping rights were held collectively by the band. These restrictions, however, did not include wildlife food resources and freshwater fish.

The Ross River Indian system of land use also relied on trust. Cabins were left unlocked and unattended, with equipment and supplies, in some cases for long periods of time. Caches of food and equipment were strategically located on the travel routes. Traps and snares were set on the trapline and left for the next visit. Trails and roads built into the country provide access indiscriminately for Indians and for the non-socialized 'others'. At the very least, this resulted in disturbance and at the most, in theft of furs, supplies, and equipment. In more recent years wanton vandalism has been added to the list.

ENDNOTES

(1)Gage (1990) provides a particularly graphic description of how the selection of the North Canol Road routing followed the Indian trail.

(2)The difference between mine development and settlement is the temporary nature of the community, limited by the life of the mineral deposits. Some change in these patterns, however, may result from the maintenance of the mining communities, after local deposits have been depleted, as residential settlements for fly-in mining operations. This indeed may be the fate of Faro.

CHAPTER 7
EFFECTS OF THE FARO MINING DEVELOPMENT: CONSTRUCTION AND OPERATION

The scale and nature of the effects changed radically as the mine complex entered the construction stage. The area became an industrial zone, with constant activity, as the pit was excavated, the associated works and the mill constructed, the townsite cleared, and the infrastructure installed. Heavy and light vehicles moved back and forth along the new road network, extending from the ferry crossing near the confluence of Blind Creek with the Pelly to the Anvil Pit and tailings pond areas.

Some of the younger members of the Ross River families from the Blind Creek-Anvil Creek country who had gained experience with heavy equipment operation worked on the construction. Others continued less-skilled labouring jobs, as they came available.

IMPACTS ON ROSS RIVER VILLAGE LIFE

The pressures of changes to life in the village of Ross River was mentioned above. From 1966 to 1975 there was an influx of outsiders and businesses to service the mine and the increased regional population which resulted from the mine's operation.

It had been expected by government and other planners that the opening of the mine would signal an end for Ross River as a community. However, in 1970 when Faro and the Anvil mine were ready for operation:

> "[only] fifteen White families with interests in the mine and two Indian families moved from Ross River to

> Faro. The major exodus from the community which had been anticipated by all levels of government did not materialize. A large number of jobs had been preferentially allocated to Indians, under the stipulation of a Federal government agreement with Anvil Mines, but they were never taken up to any significant degree" (Sharp 1973:39).

Ross River was seen by many of the newcomers as a desirable place to live. The result was the transformations of the village discussed above, with its resultant pressures on Indian life

Commentators who were on the scene at the time present a two-sided picture of the quality of life for band members at the earliest phases of the development. With one breath:

> "'The Ross River Indian Band is the last self sufficient group and, economically the most traditional in the Yukon.'[1] This implies that concomitant with economic conservatism, this band has retained more of it's traditional cultural integrity that other bands in the Yukon. ... This band is mainly dependent upon traditional subsistence methods and native foods. The traditional social structure is almost intact, however, band council orientation [toward self-government] is beginning to take effect particularly among the young. The people are still semi-nomadic in the summer months and most are still strongly drawn to life in the bush." (Miller 1972:1)

And almost with the next breath the Indian side of the village is described as presenting:

> "a depressing image of extreme poverty and deprivation to the newcomer which makes credible the stories of the whites in the community who repeatedly tell you that "they are all on welfare," which I found out was not to be the case. On summer nights in the eerie twilight, the constant howling of the many dogs, the shooting of guns into the sky by the ever present drunks in the village makes for a nightmarish experience in this 'slum in the wilderness'." (Miller 1972:7)

The descriptions of the two sides of life in Ross River are likely very apt. They fit the descriptions of other subsistence-oriented Indian communities around this period which had suffered the stresses of resource development impacts (see e.g. Brody 1981).

The strains of village transformation into a mixed ethnic centre, the impacts of mine development, and the dislocations of the new life patterns resulted in severe social problems. The band experience increased "drinking, open conflicts, violence, sexual exploitation, and ... the disintegration of some marriages" (Sharp n.d.:27). The internal problems were exacerbated by the influx of large numbers of transient white male labourers during the construction period. Many of the mine construction workers carried stereotypic images of Indians as victims and powerless. These attitudes combined with a freedom from social sanctions resulted in Ross River Indians being viewed as recreational objects. Women were seen as sexual objects and the men, when drunk, were seen as objects for abuse and violence. Raids by the construction workers to abduct women from the village were not uncommon. The band had faced this earlier, during the influx of thousands of military personnel for the construction of the Canol Pipeline. At that time it was easier for women and children to hide in the bush until the raiders left the area. One of the women interviewed for this study described having to take a shotgun to a truck load of mine construction workers who had grabbed her mother and were pushing her into the vehicle. Sharp (1977) and Miller (1972) both vividly describe the sexual exploitation and beatings of Indians by whites at the local bar.

Sharp concluded that the village changes and impacts had left the Indian people as the losers:

> "...not only in fights, but in the whole scheme of things. The climate of drunkenness, beatings, sexual exploitation and frustration at being incapable of altering these conditions, led Indian people into more frequent acts of violence among themselves." (Sharp 1977:59)

The ethnically mixed village resulted in a change of power from Indians being relatively self-sufficient to Indians as victims. Many of the whites who settled in the village brought urban ideas, values and behaviour. The newcomers also carried the stereotypic images of Indians prevalent in Yukon and many other areas of Canada during the time. Even the Indian children were involved in the disempowerment. At the new day school that the children of Anvil workers also attended, Indian children were the majority population. The parents of non-native children, however, demanded a southern school curriculum and were instrumental in getting the school principal, who was sympathetic to the differing needs of the Indian children, dismissed (Miller 1972).

CHANGES TO THE PATTERNS OF BUSH LIFE

Although detailed information is lacking, some revealing data are available which serve as valuable indicators of the rapid changes to the pattern of Ross River Indian life between 1967 and 1974 (Table 3). In addition to this period being a time of great stress, it was also a time of active experimentation. A new world had virtually been dropped into the Ross River homeland, which included opportunities as well as inherent dangers. The recent

Table 3. Indicators of Changes to Ross River Indian Life During the Development of the Faro Mining Complex (data from McDonnell 1975).

Housing		Transportation		Households in the Bush Sept. - Dec.		Household Incomes	
1967							
Tents	11	Dogteams	21	Bushcamp	13	$120-250/mo	12
Houses	18	Cars	0	Town	16	less	17
		Snowmobiles	1				
	29				29		29
1974							
Tents	1	Dogteams	5	Bushcamp	3	$120-250/mo	30
Houses	32	Cars	10	Town	30	less	3
	33				33		33

past had been a particularly difficult period -- cash had been scarce and, at times, so too was food.

The prevalent attitude among social scientists, at the time, was that northern Indian communities would "modernize", given the opportunity. This concept of modernization represented a non-return voyage into the lifestyle and cultural values of Euro-Canadian society. This was equally the vision of progressive social change held by policy makers, that hinterland development represented opportunities for Indians to leave the ways of the past and become wage labourers and townsmen. The agreement signed between DIAND and the Anvil Mining Corporation regarding quotas for a native work force were an aspect of this policy. The abject failure of the agreement, as described by Miller (1972) and Macpherson (1978), are an indication of both a misunderstanding of the nature of the problem the communities were facing and a lack of thought about the implementation of a preferred employment program.

The opportunities were seen differently by the native people. Rather than blanket replacement of one way of life and tradition with another, people attempted to find what would fit with the aspects of Indian life that were valued. Jobs at the mine were tried and quickly abandoned by most people as unattractive for many reasons, including the scheduling, discrimination, working conditions, etc. Other types of employment, particularly seasonal and part-time work, were in demand.

The general changes in Ross River included both increased

income and increased ties to the village. The subsistence economy was modified by the reduced mobility which resulted from village settlement. As discussed above, the development of a day school in Ross River in 1966 was a key influence in changing land use patterns.

> "Prior to 1966, Indian people were highly mobile within the Ross River region. Their mobility reflected a pattern of living which was primarily dependent upon hunting and trapping. The arrival of a day school compelled these people to remain in the settlement so that their children could attend the school while staying at home." (Sharp 1973:57)

Summer holidays became an important focus of family life in the bush (Miller 1972). With kids out of school, families could move to bush camps for an extended period. The result was a shift in the timing of harvests as people struggled to make changes that would accommodate both village and bush life.

The economics of bushcamp life changed because of the increased costs for transportation. The use of camps close to the village and accessible from the road system increased. The new road complex meant that travel between village and camps could be much quicker. People could stay in touch with friends and families throughout the winter. If a person wanted to visit or party it was a relatively simple matter to find a ride. "In 1967 there were no Indian people in Ross River who owned vehicles although many hired the taxi to go to camps out of town" (Sharp n.d.:16). People who could not afford to pay the high rates charged by the local taxi continued to walk or solicited rides from the more sympathetic whites, such as the Catholic priest. By 1974

Ross River Indians owned 10 vehicles. There was a greatly increased use and dependency on the roads.

Younger men with dependents were constantly concerned about the situation of their families left behind in the village. Typically, mothers with school aged children remained in the village. Women with teenaged children could accompany their husbands for periods of time, leaving the younger children in the care of the older. Maintenance of a household in the village, however, was a source of constant anxiety for men in the bush. This resulted in frequent visits to the village to check on the general welfare of the families and that there was sufficient firewood to keep the houses heated.

The problems faced by band members in pursuing their hunting, fishing, and trapping economy from a fixed base was not unusual. It was the same set of problems faced by Indians throughout subarctic Canada during the 1960s and 1970s and to the present time. What was unusual was the band's available access into all regions of their traditional lands. The requirements for oil and mineral transportation left a crucifix of roads on the territory with the village at the hub, providing a road system throughout most regions of the territory. Connector roads and trails and cut lines constructed for more detailed mineral exploration in some regions of the territory allowed even better access, especially for people who could invest in trucks or skidoos or secure the services of others who had.

MORTALITIES

The combination of roads, the stresses of village life, the dislocation of some family groups from their traditional lands, and the rapid transformation into a marginal minority combined with the ready availability of alcohol was a deadly combination. Alcohol had been a part of fur trade life since its early days. But the pattern of drinking was limited to trips to the post during the summer. Spirits were never available in unlimited quantities. This changed with the mine development. Public facilities for the purchase of alcohol became available in the region with the influx of mine construction workers. Alcohol was available at more than one outlet in Ross River and at Faro. As all of the stresses to life in Ross River developed, extended periods of binge drinking became the rule. When people returned from a job with cash, alcohol would be bought and shared with friends and relatives until the money was spent. If someone else returned with money the binge would carry on. Drinking was a frequent reason for job loss (Miller 1972).

Deaths from a variety of alcohol related causes, mostly accidents, began to occur in 1966.[2] The problems began slowly, but became chronic during the early 1970s (Fig. 11). There was a single death in 1966 and then no further alcohol related deaths occurred until 1970. From that time to the present, death from alcohol-related causes has been a regular event for the Indian population. There has been one or more deaths from drinking almost every year between 1970 and 1989 (the last year that complete statistics were available). Alcohol-related deaths

resulted from exposure and freezing, automobile accidents, house fires, suicides, and other causes. The early 1970s were a particularly tragic period due to the number of deaths. The rate of alcohol-related deaths declined somewhat during the late 1970s, but re-emerged during the late 1980s in a series of tragic deaths.[3]

An informal analysis of the sex and ages of the people who died from alcohol related causes during this period shows that most were men between 20 and 50. Males in their twenties were at greatest risk.

What is particularly relevant for this research project is the high incidence of deaths of members of families from the Faro/Mye Mountain/Blind Creek/Swim Lakes part of the band's territory. 82% of the fatalities were identified by informed band representatives as members of families from the affected areas. This may be less of an indicator of impact than it at first appears. A majority of adult band members have a membership in those families through birth or marriage. Nonetheless, the proportion of alcohol-related deaths within this group following the mine development is startlingly high.

The Problems Mortalities Pose for Retrospective Impact Assessment

These deaths have had a very significant effect on our ability to retrospectively assess the impacts of the mining development. As discussed above, the method used for retrospective assessment is inherently depend on peoples' memories. Each death reduces the potential for understanding. In the most extreme case, if impacts are so severe that all of the

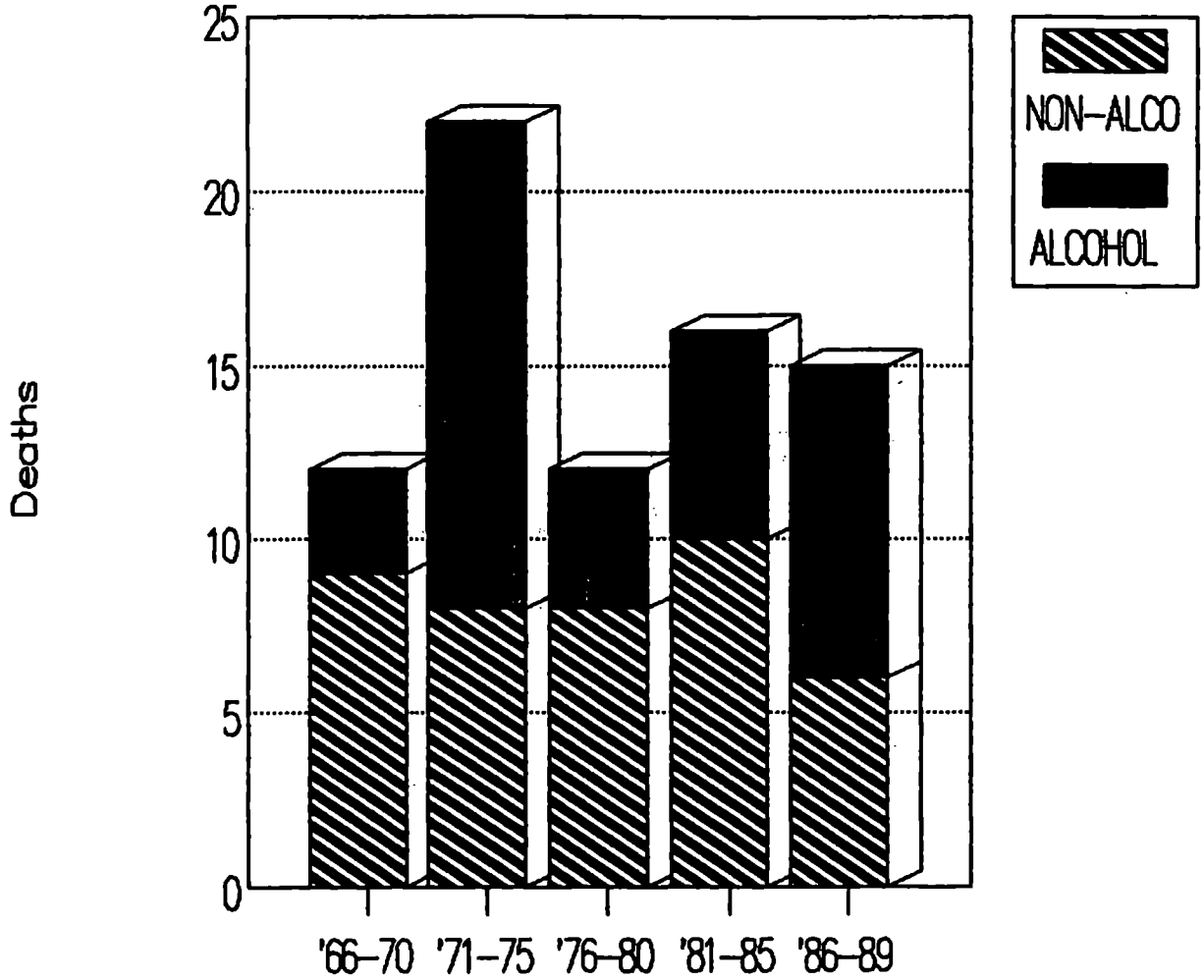


Fig. 11. Deaths of Ross River Indians 1966-89 from Alcohol Related Causes and from Other Causes.
(Data from Ross River Band records.)

people died it would not be possible to talk about the details of the effects other than the deaths themselves.

In the present case a substantial number of the most significantly affected people, the Faro country elders and middle-aged people, have died since the inception of the development, some from alcohol related injuries and some from the passage of time and old age. These deaths include the elders who remained in Ross River when family members departed for the highway communities during the 1950s and the younger members of their families who remained with them. These people represented the most stable and constant core of land users in the Mount Mye area. Miller (1972) estimated that during 1970 the elders were the most persistent trappers, spending an average of 4.5 months in trapping camps compared to an average of 1.5 months for the younger men. In his definition, the younger men were between 18 and 40, which made them between 40 and 60 years at the time of the current research project.

The oldest living members of the families from the Faro region of the band's territory consist of people who returned to Ross River when jobs came available in the 1960s, coincident with or because of the mining development. Other living members of this group were people who were employees for much of this period; whose land use was limited to hunting, fishing, and trapping during holidays and time off. Still others were severely affected by alcohol which reduced both their land-based activities and their ability to recall to the degree required for a thorough documentation of land use impacts. All of these people hunted,

fished, and trapped on the affected lands. However, the people who most regularly and intensively used these lands have since died. Their witness of the effects to their own land use is buried with them.

In lieu of direct testimony we relied on land use and occupancy maps that some of the deceased people made in the early 1980s for the Macmillan Pass impact assessment project and on general descriptions of impacts from living relatives. The following sections describe the nature of impacts to land use from the mining development and basic changes in land use patterns during the late 20th century by both Faro region families and other band families.

THE NATURE OF THE IMPACTS ON LAND USE

The degree and, to a lesser extent, the nature of the impacts to land use changed dramatically as the mine entered the construction and operation phase. During the exploration the disturbances were sporadic and irregular. With the mining development, areas of the VanGorda Plateau were fully occupied by another group of resource users. The upper Rose and Anvil valleys were reshaped and the creeks received discharges of adulterated water. A large human population now considered the plateau and valleys around Mye Mountain home, at least for the duration of their tenure as mine employees. Faro was promoted as a tourist destination, on the edge of scenic wilderness and productive sports hunting and fishing areas. The vision of the Mine development area as a recreational centre for residents and

visitors is clearly seen in a map (Fig. 12) accompanying a tourist brochure produced by the Town of Faro (Anon. n.d.).

The types of impacts to land use experienced by band members can be grouped into a number of broad categories. These include: problems of access to harvesting areas; changes in the quality of the resource; competition from other users of the same resource; changes to resource abundance; changes to people's ability to harvest the resources; and disturbance to cultural and economic life.

Access Problems

When the mining operation began Indians experienced restrictions on their access to traditional harvesting areas. People traveling to their camps and trails were stopped and told the area was closed due to the mining operation and safety considerations. In some cases they were warned of danger due to blasting, in still others they were told that the water was no longer safe to drink. It was never clear to the people who experienced the restrictions the extent that this was company or government policy and the extent that it was simply mine employees acting on their own initiative. The restrictions may have been justified by safety considerations, but the authoritarian manner with which the prohibitions were conveyed left a nagging suspicion that the real motive was the alienation of local lands to the newcomers.

> "Company found all kinds of excuses to keep people out."
> (Arthur John)

Town residents had an interest in securing the local lands for

their own uses; Indians harvesters were likely seen by some of the newcomers as undesirable interlopers on Faro lands. In any event, neither government nor the company had asked the traditional users' permission or sought consultation about restricting use.

The resentment persists. The tenacious few who continue to use the development areas as their core hunting and trapping lands are indignant about "no hunting" or "no shooting" signs on the mine roads. The signs are felt as continuing pressure to push Indians off the land. They are also seen as insults directed at Indians. There is no indication at whom they are directed; the traditional harvesters of these lands feel that recent legal decisions validate their rights to hunt according to their own traditions. At the heart of the perceived insult is the implication that Indians do not know proper rules of firearm and hunting safety.

Changes in Resource Abundance

People noticed a decline in the populations of some small mammals after the mine had been in operation for a number of years. There was a relative abundance of marten and fox for the first few years after the mine was constructed. Then they began to decline. People also noted local reductions in the populations of lynx, wolves and wolverine.

There were decreases of big and small game populations on lands more accessible from Faro, as well. The former highly productive Mye Mountain hunting lands were no longer an attractive area because of a combination of reduced animal populations due to increased harvesting and to the disturbance of the animals.

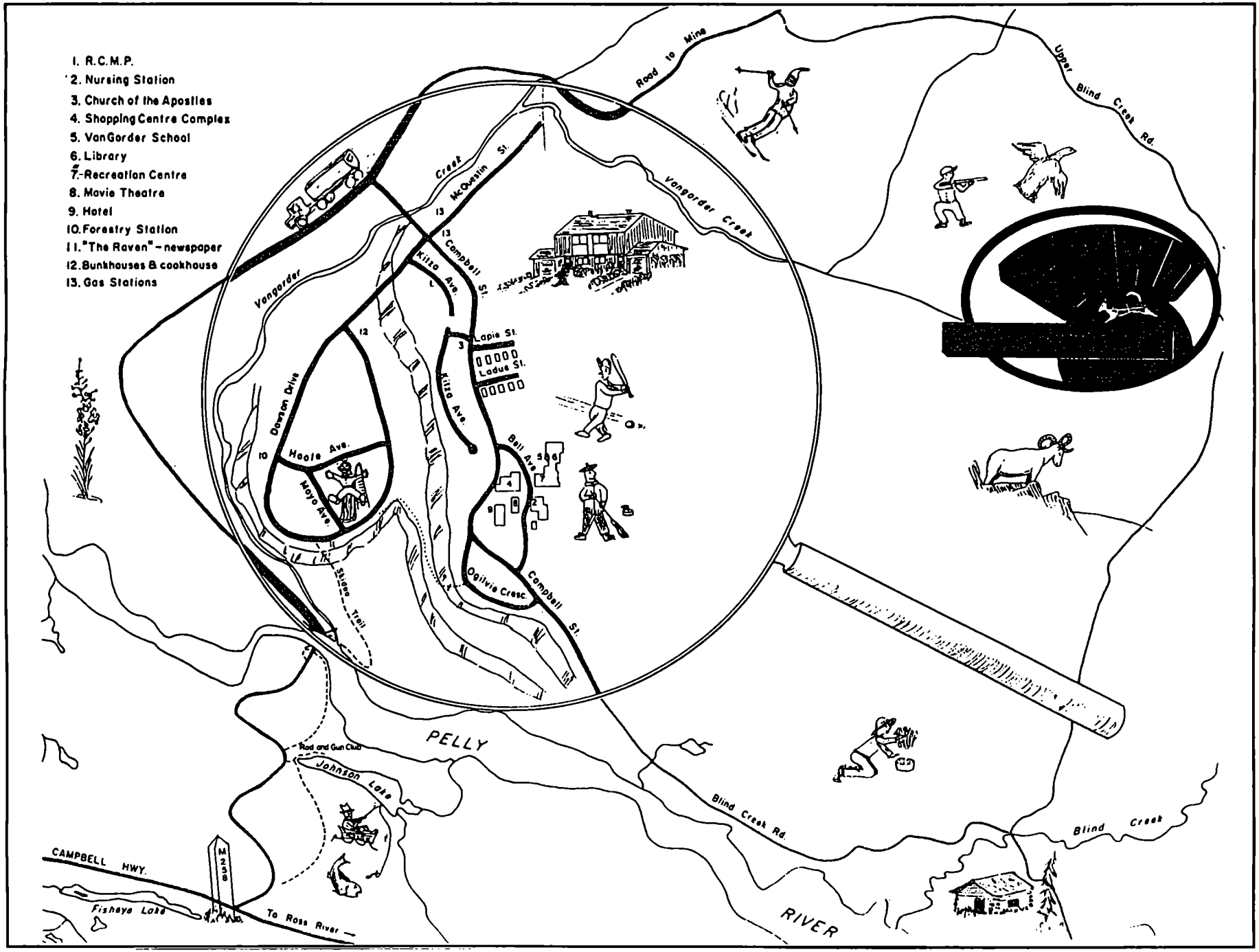


Figure 12 Vision of the VanGorda Plateau as a recreational area for Faro residents and tourists (from Anon. n.d.)

Although some of the alpine animals, such as marmots are not hunted for food by non-natives, they are sensitive to disturbance and will move to less disturbed grounds if they have the chance.

Predatory fish species, such as lake trout and greyling, are favoured by both Indian harvesters and non-native sports fishers. People who had used the Swim Lakes as a spring residential base because of its productive fishery, watched the fish become depleted to the point where it was no longer an efficient provider of food.

Promoting Resource Competition

Good road access attracts both Indian subsistence harvesters and sports hunters and fishermen. The network of roads, trails and cutlines throughout the lower elevation lands ringing Mye Mountain has opened the country to all users. Hunting and fishing have been promoted by the Territorial government and the Faro council as recreational opportunities (see e.g. Anon. n.d.). This is a resource use which is fundamentally in conflict with Indian subsistence economics. There is a resentment of well-equipped people who obviously have large disposable incomes competing with local Indians for whom local fish and wildlife are economic resources.

At the time that a large white population was settled in the middle of the Faro region families' harvesting areas (and provided with a network of roads and trail for access throughout the entire area) there was no thought about competition over fish and wildlife on the part of government and corporate planners. This was a period when the extent of Indian rights to fish and wildlife

harvesting had not yet been decided by the courts. Indians were convinced that there was a conflict, but it was difficult to convince officials.

Attitudes about hunting and fishing at the time were dominated by Euro-Canadian cultural traditions. Within this tradition fish and wildlife were either recreational resources or commodities which were harvested for sale. Fish and wildlife were not considered as economic resources for native subsistence economies in part because subsistence was viewed thorough the eyes of the "modernization/replacement" model of social change. Subsistence was not considered an economic activity in its own right, but as something people were forced to do until something better could be provided through northern development and job creation. The single exception was fur. Furs, because they were tied to commodity production and cash generation, were treated as an economic resource within the Territory and geographically allocated through exclusive use traplines. Consequently, no competition existed with the new Faro residents or visitors for furs because Ross River Indians were legally the exclusive fur harvesters in the region. Problems to Ross River trappers came from other sources (which are discussed further below).

Perception of Resource Quality

There has been a continuing nervousness about the tailings pond as a source of contaminants. Some people feel that the local population declines of fur mammals were due to direct exposure to toxic substances in the tailings pond or the carnivores picking up high levels of contaminants through transmissions along the food

chain.

The concern about toxic substances influences decisions about where to hunt for food animals. A few people continue as trappers in the Faro development area, but there are serious concerns about the consumption of animals or fish which may have been exposed to the tailings area or its outflow. The history of tailings spills and leakages into Anvil Creek makes fish and wildlife in this area, or animals which might have spent time feeding in this area, suspect. Indian hunters routinely gather information about the environment. Daily personal experience and centuries of cultural experience inform people about "normal" animal behaviour and physical condition. Watching moose swim or walk through the tailings pond and then killing a skinny moose during a season when it should have been fat leads to a suspicion that the animal nutritional state resulted from exposure to toxic substances. The fear that family members may become similarly exposed from eating animals with high concentrations of contaminants results in a more general concern about the safety of wild meat from the area.

Ability to Harvest and Disturbance

Disturbance is a very important factor in land use decisions. Perceptions of quality and the relative abundance of animals are only two of the considerations that go into land use decision making. The ability to harvest is linked to disturbance, since harvesting depends on the use of knowledge, cultural traditions, and personal experience; and disturbance limits the efficacy of these tools to predict animal movement and behaviour. Ultimately,

these questions are linked to larger questions, such as meaning or purpose in life. Ross River Indians do not simply harvest animals for food and furs. Eating wild meat and obtaining money from the sale of furs are part of the reason people use the land, but beyond their utilitarian function hunting, fishing, and trapping are a way-of-life and an expression of Indianness.

Indian harvesting differs from recreational hunting or fishing in its concern for success and relative efficiency. According to Indian tradition there is little point in going after scarce game or hunting or fishing in areas with low likelihoods of success. Indian techniques rely on the ability to predict the presence of game and animal behaviour. The knowledge is based on cultural and family understandings, which are modified by personal experience.

Disturbance does a number of things to Indian harvesting methods. The location and behaviour of fish and game become modified; the animals move away to less disturbed areas, or if they remain, they learn new ways to avoid the increased risks. They may become more wary and skittish or avoid former habitats, change travel routes, etc.[4] Hunters who persist in disturbed areas are required, in turn, to learn the new animal behaviour patterns. Most hunters do not persist because an important part of Indian bush life is simply being at home. A common response to disturbance is avoidance, going somewhere else where it is more peaceful and people feel in control of their own lives. The increase of white outsiders has made many people feel like museum or tourist exhibits when they try to continue harvesting traditions.

Few people use the salmon camps at the mouth of Blind Creek anymore. The location was disrupted at the early stage of mine development by river barges. Even after the bridge was completed, the need for barges and the Blind Creek river crossing eliminated, the use of the site remains limited because of its exposure to the curiosity of Faro villagers.

People who persist at trapping in the affected area have experienced all degrees of problems, from recreational skidooers running over traps they have not seen, to curious townspeople disturbing trap sets, to the poaching of furs.

At its most fundamental, there is a cultural conflict about human relations to land and animals. Each cultures' traditions has different rules for behaviour on the land and to the animals which are based on beliefs about these relations. And each group finds important aspects of the behaviour of the other offensive. Primary to the rules of proper Kaska behaviour is respect for animals according to Kaska principles. Among the codes is the ethic of minimizing intrusion - blending in, as much as possible, into the environment - and not wasting any usable part of a kill. Encountering outsiders on your homeland areas who do not follow the proper behaviour codes is an extremely powerful type of disturbance. The encounters speak of loss of control over homeland, and when Indians encounter noise or disorder in the bush or wasted meat it signifies a lack of respect not just for the animals but also for Indian values and world view.

ENDNOTES

(1) A statement attributed to an unidentified Indian Affairs official in Whitehorse during the summer of 1970, quoted by Miller (1972:1).

(2)See Helen Etzel's testimony before the Alaska Highway Pipeline Inquiry, pp. 2658-2735: 10 June 1977.

(3)An attempt was made to compare the Ross River Indian mortality figures with statistics for similar Indian groups in Yukon. If the Ross River accidental or alcohol-related deaths can be shown to be significantly higher than other rural Indian bands in Yukon, it would be a reasonable conclusions that the deaths are related to the transformations that took place during mine development and operation.

To do a proper assessment of deaths due to development related impacts requires being able to determine the extent of mortalities that occurred due to the general social changes that were happening in Yukon during the same period. This requires the use of comparable statistics for groups who were going through the same process, but were not affected by a massive resource development, such as the Carmacks-Little Salmon Band or the Selkirk Band.

However, the only Yukon Indian mortality data we were able to locate (from Medical Services Branch, Health and Welfare Canada) was for the territory as a whole and only went back as far as the middle 1970s. Because of a lack of available data for other bands, a comparison could not be done.

(4)There is a large range of response to disturbance in animals. Some animals are more conservative than others, resisting change even when experiencing major habitat transformation. For example, Mye Mountain sheep have continued following their traditionally used trail through the new VanGorda mine pit area.

CHAPTER 8

THE RESPONSE TO IMPACTS: 1967 TO 1982

INTRODUCTION

The development of the mining complex on the core hunting, trapping and salmon fishing lands of a segment of band families represented a massive intrusion done without any consultation or concern about impacts to the livelihood of these families. In fact, as discussed earlier, insult was added to injury through the promotion of the area as a recreational fishing and hunting ground for both Faro residents and tourists.

The last chapter examined the kinds of impacts to land use experienced by the band. Much of this discussion has been quite abstract. Generalization is necessary to create the patterns which result in explanation and understanding of phenomena such as social impacts. However, the unit that social impacts are actually experienced is the individual or family level. And this is also the level that response to impacts occur.

At their most extreme, the direct impacts destroyed camping and harvesting areas and altered the trail and access system to adjacent lands. The mine roads and tailings areas took up the bottom of Rose Creek valley. The camp and harvesting areas in the valley were no longer available. Families used to camping in this area returned to a scene of devastation on habitually used lands. The loss was (and still remains) heart-felt.

Also heart-felt was the loss of family members whose deaths can be indirectly attributed to the development. Several of these deaths happened on the VanGorda Plateau in winter, when two men

from a Blind Creek trapping group decided to go drinking during a grocery shopping trip into Faro. Their skidoo got stuck, they were not able to clear it or walk back to camp, and they froze to death.

The response to impacts are as varied as the effects which people experienced. The land is full of personal memories and cultural meaning. People's decisions about where to go hunting or trapping are in part economic assessments and in part based on feelings. Tragic deaths result in deeply felt associations with particular areas; the environmental chaos from the excavation of the open-pit mine, the dumping of over-burden and the deposition of tailings on land steeped in family and cultural history has also resulted in deep emotions from a sense of dispossession.

Land use responses to the impacts have varied, at their most extreme, from abandonment to qualified persistence. Personal abandonment has been as rare as, or perhaps more rare than, persistence. At the extreme of persistence, one elder continues to trap and hunt on the VanGorda Plateau and the upper Rose and Anvil Creek areas. At times other family members join him. A younger member of another of the area's families continues to trap the Plateau around lower Blind Creek. At the other extreme, when many other members of Mye Mountain/Blind Creek area families are casually asked if they still use the area's lands the response is no - they now go somewhere else for hunting, trapping, salmon fishing or berry picking. When the idea of abandonment is explored in greater depth, however, the result is something closer to environmental monitoring than abandonment. While this group

no longer uses the affected lands for their regular harvesting areas, they make irregular trips to check the state of the environment and the animal populations.

This chapter and the next explore the collective land use response to impacts. As with any examination at the population level, the approach is abstract and analytical. It is, however, when information from the entire band is combined that the extent of the impacts to land use can be understood. The current chapter examines the land use maps prepared for the Macmillan Pass Study for what they say about local land use changes in the Faro area prior to 1982, the date when the maps were prepared. Chapter 9 discusses the results of the questionnaire survey about the regional land use of the band's territory during the 1980s and early 1990s.

WHAT LAND USE AND OCCUPANCY MAPS TELL ABOUT REGIONAL LAND USE

As described above, the land use and occupancy maps done for the Macmillan Pass impact study in 1982 have left a large legacy of information about the band's land use during much of the 20th century. The mapped data was only given a cursory use during the Macmillan Pass study. There is a great depth of information in the maps, including a testimony of land use by people no longer living.

Methods

Approximately 30 maps were selected from the data-set according to the criteria explained in Chapter 2. The maps presented in this section are composites of the land use of 3-6

people. To record land use, each person drew a polygon enclosing the area they used for a type of harvesting (hunting, fishing, trapping, and gathering) during the designated period (before the mining development and after the development). Polygons representing a category of use were aggregated. The data was grouped by time according to the criteria explained in Chapter 2 and according to regional family affiliations. The social groups consist of people who are members of families whose 'home territory' is located in the mine development region and people whose 'home country' is located in other regions of the band's territory. For example, the hunting areas indicated on maps of non-Faro region family members prior to the mine development were extracted and combined on a single map. Main camp areas have been included on each map, since they generally indicate a focus for land use activity.

The data was aggregated according to peoples' ages to give a sense of land use during a limited period of time. The maps represent land use between the time when the person began hunting as an adult (taken here, somewhat arbitrarily, as 18 years of age) and the designated limit of the sample period (either the beginning of mine development or the year the mapping was conducted). Data maps were aggregated into an elders group, a middle-aged group, and a young harvesters group. The post-development maps indicate use between 1967 and 1982. Using our assumption that the maps' land use begins at age 18, the before-development maps cover two periods of time: elders' maps show use between 1920 and 1966, and the middle-aged harvester's maps

show use between 1953 and 1966 (see Table 1).

There are inherent limitations posed by the land use and occupancy method of land use mapping. The method emphasizes the limits of greatest geographic use of the individual or family group which drew the data map. The aggregated maps show the combined areas of greatest use of 3 to 6 individuals or family groups. The data maps and the aggregate maps lack detailed information about the intensity of use or the relative importance of areas. A sense of relative importance can be inferred, however, from two features on these maps: the concentration of main camps in an area; and the number of people in the sample who indicated using the area. An abundance of main camps in an area is a good indicator of extended periods of use.

There are also limitations imposed by the selection and aggregation method used for grouping the data. The sample size is too limited to be considered representative. As will be discussed below, many of the post-development maps from the most severely affected families are lacking in the data set. Some of this is due to death. In other cases, people were willing to draw maps of their land use prior to the development, but never completed post-development maps.

Land Use Before Development

Elders' Land Use (1920s to 1966)

As might be expected the land use of Faro region elders prior to the mine development spanned most of the band's traditional territory (Fig. 13). These maps represent land use of 6 elders over an approximately 46 year period, from the 1920s to

1966, since the elders whose maps were used for this composite were born between 1902 and 1929. Within the Faro impact region, the main camps were concentrated along the Pelly River, at the confluence of Blind Creek, on the slopes of Mount Mye, and on the shores of Swim Lakes. These elders, as described above, moved across the band's territory, but concentrated their more regular harvesting in the Anvil-Blind Creeks drainage areas. The fishing area map indicates more specific use. The importance of lower Blind Creek as a salmon fishery and Swim Lakes as a late winter fishery are clearly shown on the maps.

A comparable map of land use after development is lacking, since many of the key elders from the Faro region never completed a "post-development" land use map during the 1982 mapping program. This was also true for their middle-aged children. An explanation about the absence of post-development maps by this group is not available. However, it is likely that at least part of the reason was the demoralization resulting from experiencing the damages and changes to country steeped in personal and family history. The absence of post-development maps from this key group of people prevents the map set by itself from indicating impacts. The lack of these maps could be considered an impact or a response to the impacts of the mining development.

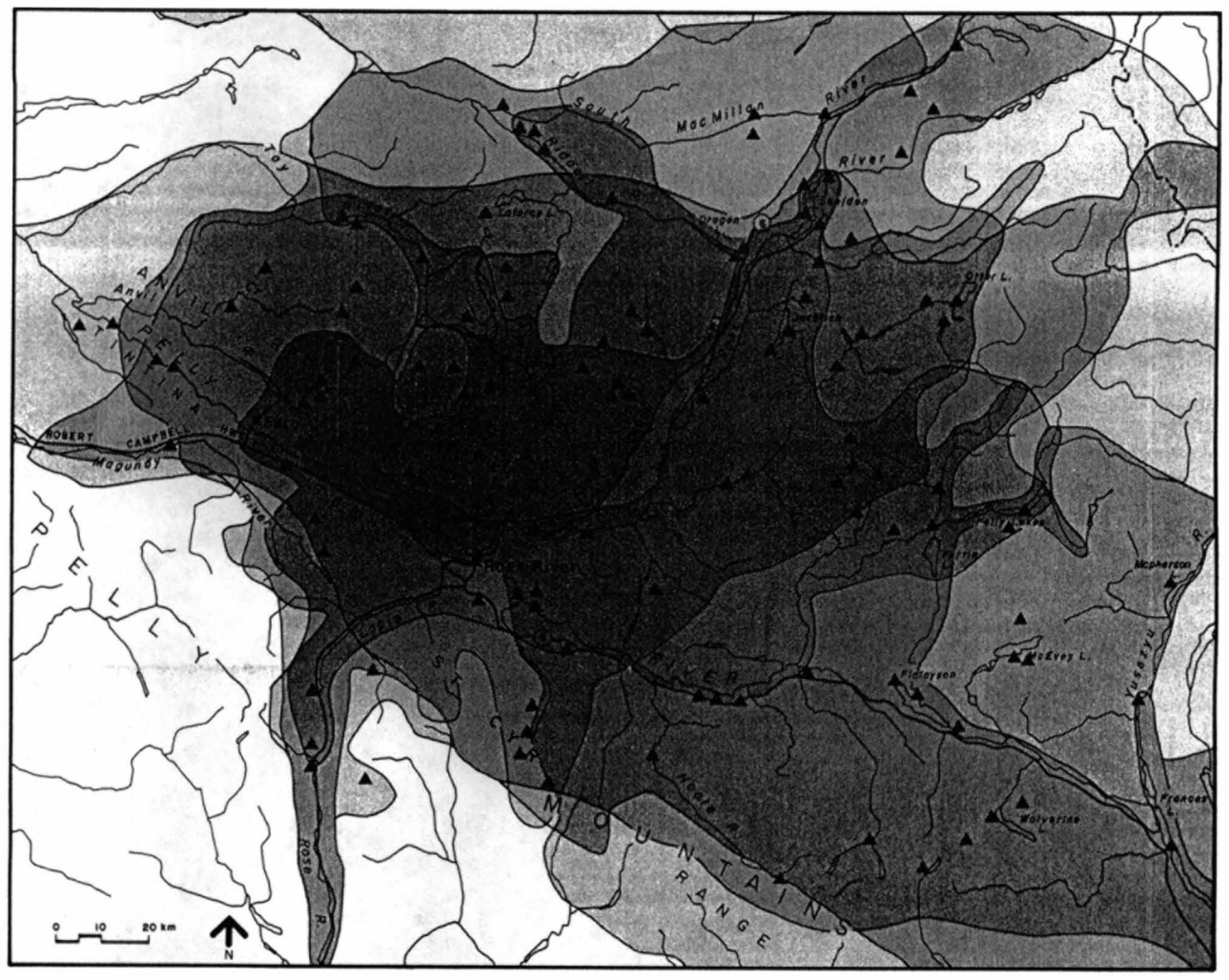
Another important group of maps is missing from the map set, namely those of the people who died from accidents during the 1970s. Many of the more active harvesters from the Faro country, who were among the group most affected by the mine

Figure 13

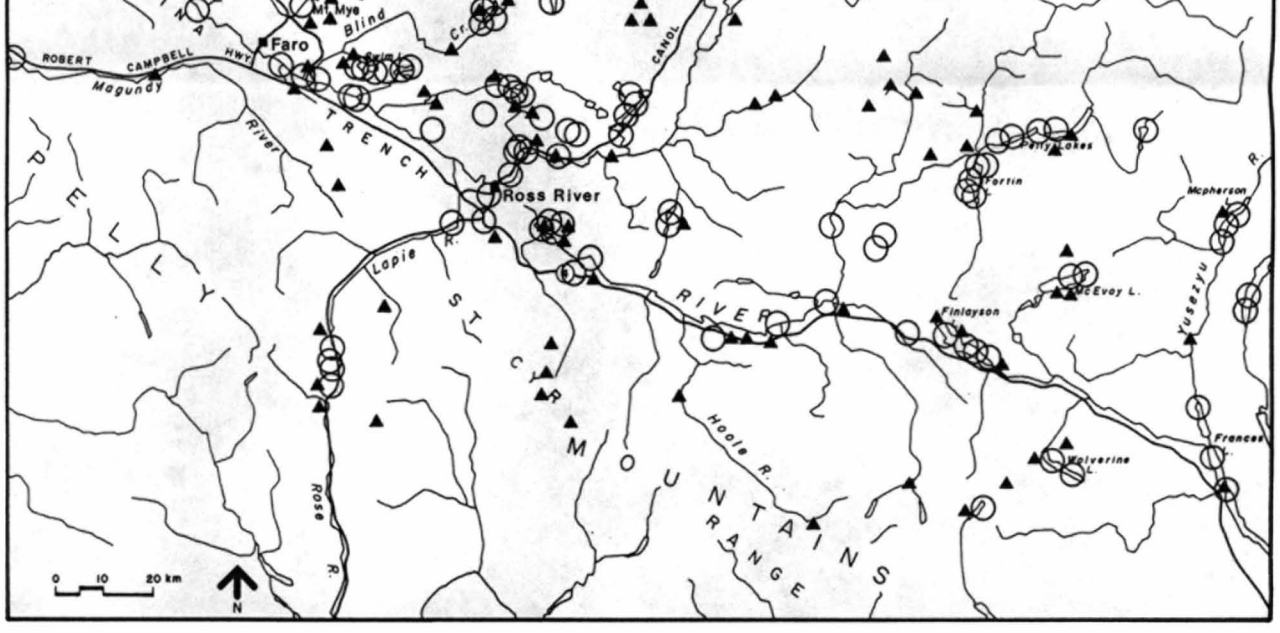
Land Use of
Selected Faro Region Elders
Before Mine Development

▲ main camps

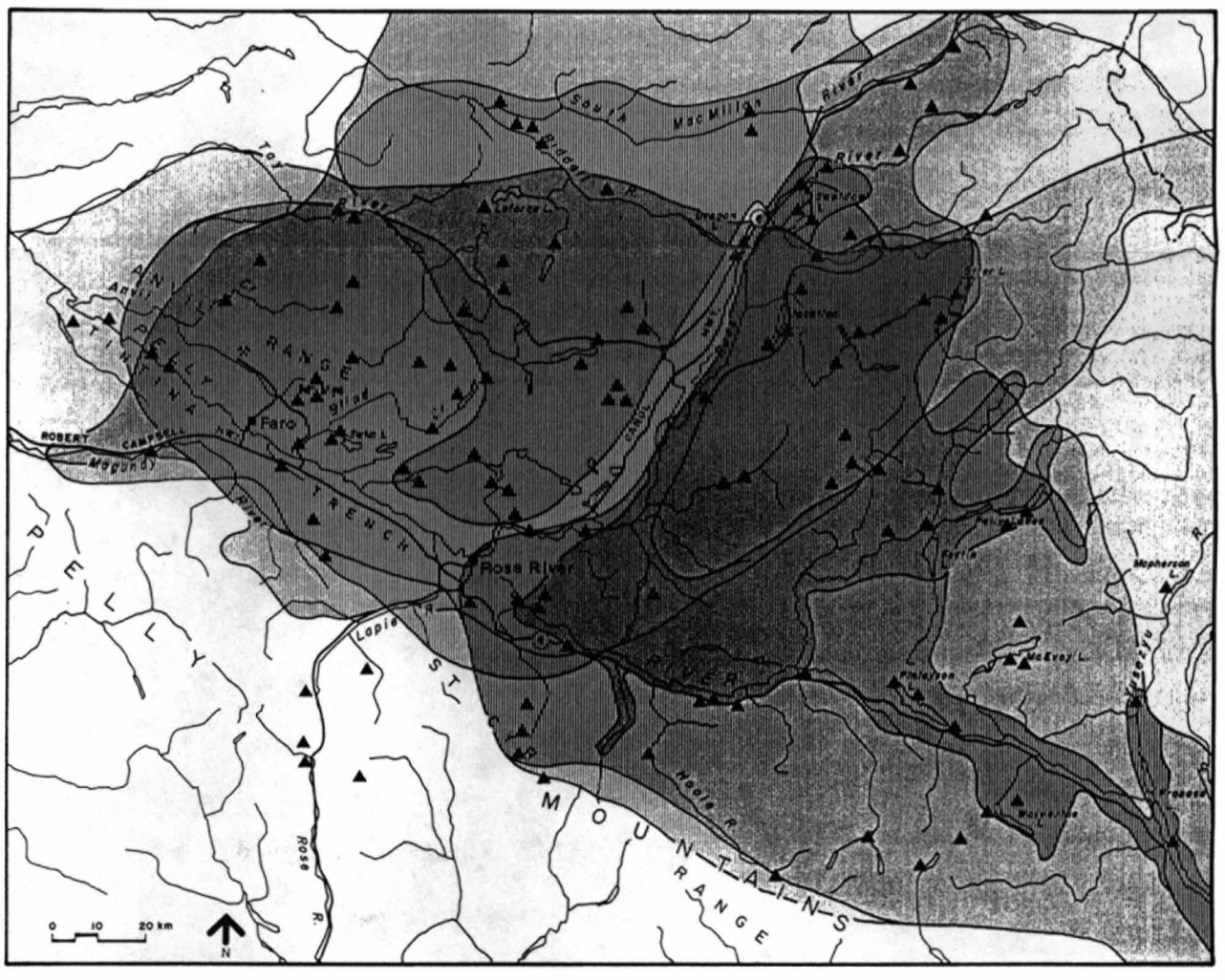
a) Hunting use areas



b) Fishing use areas



c) Trapping use areas



development - such as Joe Ladue, died from accidents before the 1982 mapping program and are consequently missing from the sample.

Middle-aged Harvesters' Land Use - Before Development (1953-66)

Figure 14 is a composite of the land use of the sample of 3 middle-aged members of Faro region families before the mine development. Following the reasoning explained above, these maps represent land use over a 13 year period, between 1953 and 1966. The extent of land use of the sample of middle-aged harvesters is obviously less than that of the sample of 6 elders whose maps were used for Fig. 13. The simplest explanation is the large difference in time represented by the two sets of maps.[1] Land use for sub-arctic Indian subsistence economies has some parallels with forestry land use. With commercial forestry, land is left to regenerate after harvesting. Other than visits for replanting and prescriptive silviculture treatments, a block or watershed may not be visited by foresters for several decades. A map of forest harvesting for a complete rotation period would show the entire tenure area in use; but a map of use over shorter periods would show only partial use. In the same way, a map of a single year's subsistence harvesting would show a small hunting and trapping area, and occupancy of a few camps and use of a few fishing areas. A 5-year use map would likely expand on the 1 year-use map, including larger areas, more fishing locations and an increased number of occupied camps. Longer term maps would likely expand from the core family areas, because of the increased chance of the harvesting group joining with in-laws and friends

on their core lands.

The historical changes experienced by the band during the 1950s and 1960s, however, were also involved in the differences between the two sets of maps. Trading posts at all locations other than Ross River were closed during this period. The present road structure began to assume importance in travel patterns and land use decisions beginning in the 1940s with the clearing of the Canol Road rights of way.

With regard to the Faro area, a similar main camp occupancy pattern is seen on these maps. Main camps were in use at Swim Lakes, on Blind Creek, on the slopes of Mye mountain, along the Pelly at Rose Mountain, and in the area of Faro. Salmon fisheries were in use along the Pelly, including at the location of the present Faro bridge and the mouth of Blind Creek. Lake fisheries were in use at Swim Lakes and Blind Creek Lake. Much of this group's trapping effort was centered on the VanGorda Plateau-Mye Mountain-Blind Creek area. Hunting took place in this area as well, but extended to other areas of the band's territory, including the upper Pelly River drainage and the North and South Canol Road areas.

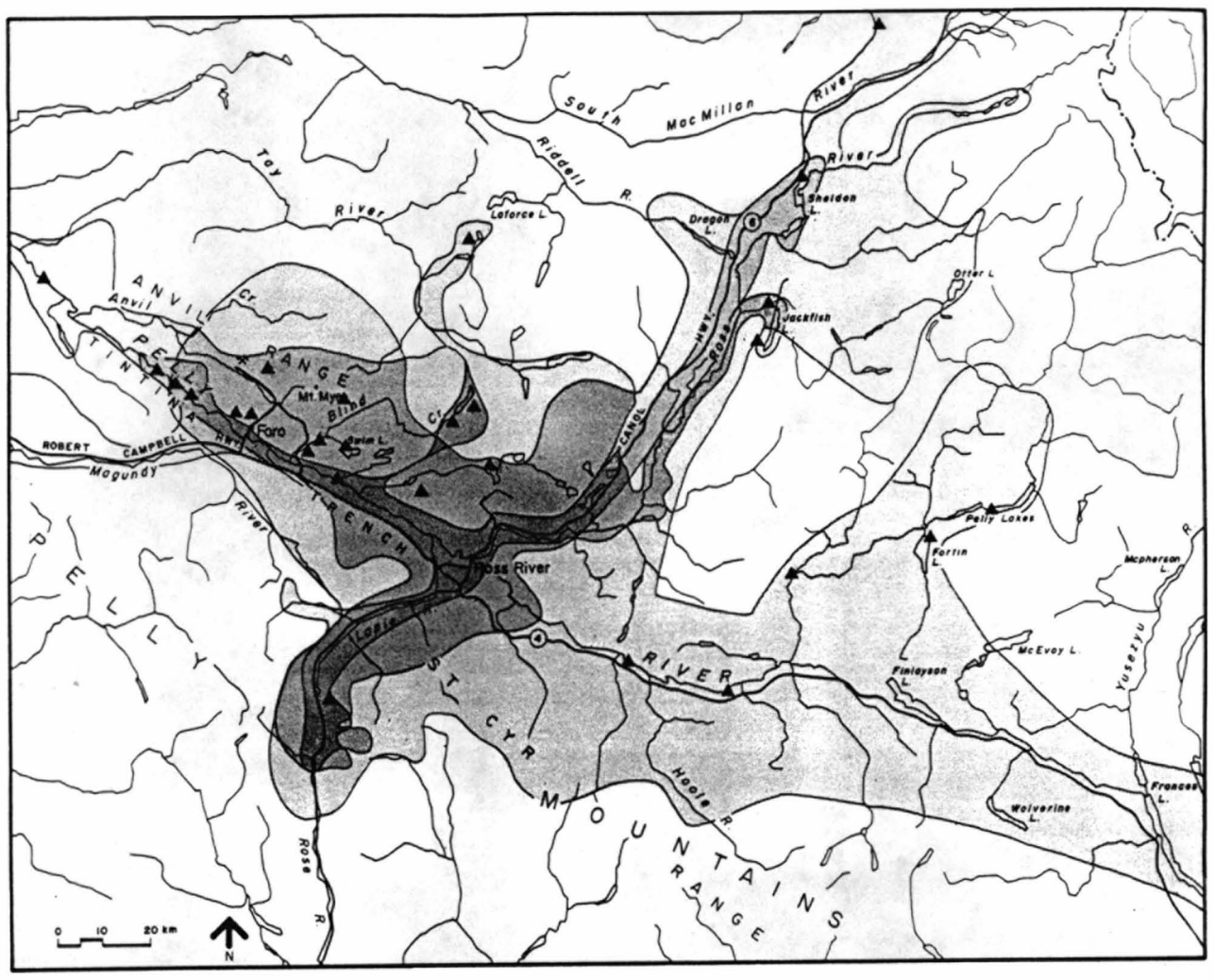
Figure 15 is a composite of the land use maps drawn by middle-aged members of families whose core lands lie outside of the Faro region. The time period represented by this map spans exactly the same period as Fig. 14, since the oldest people in both samples were born in 1935. This, sample, however, is somewhat larger: 4 harvesters, rather than the 3 for Fig. 14. The Mye Mountain/VanGorda Plateau area was in active use as a hunting

Figure 14

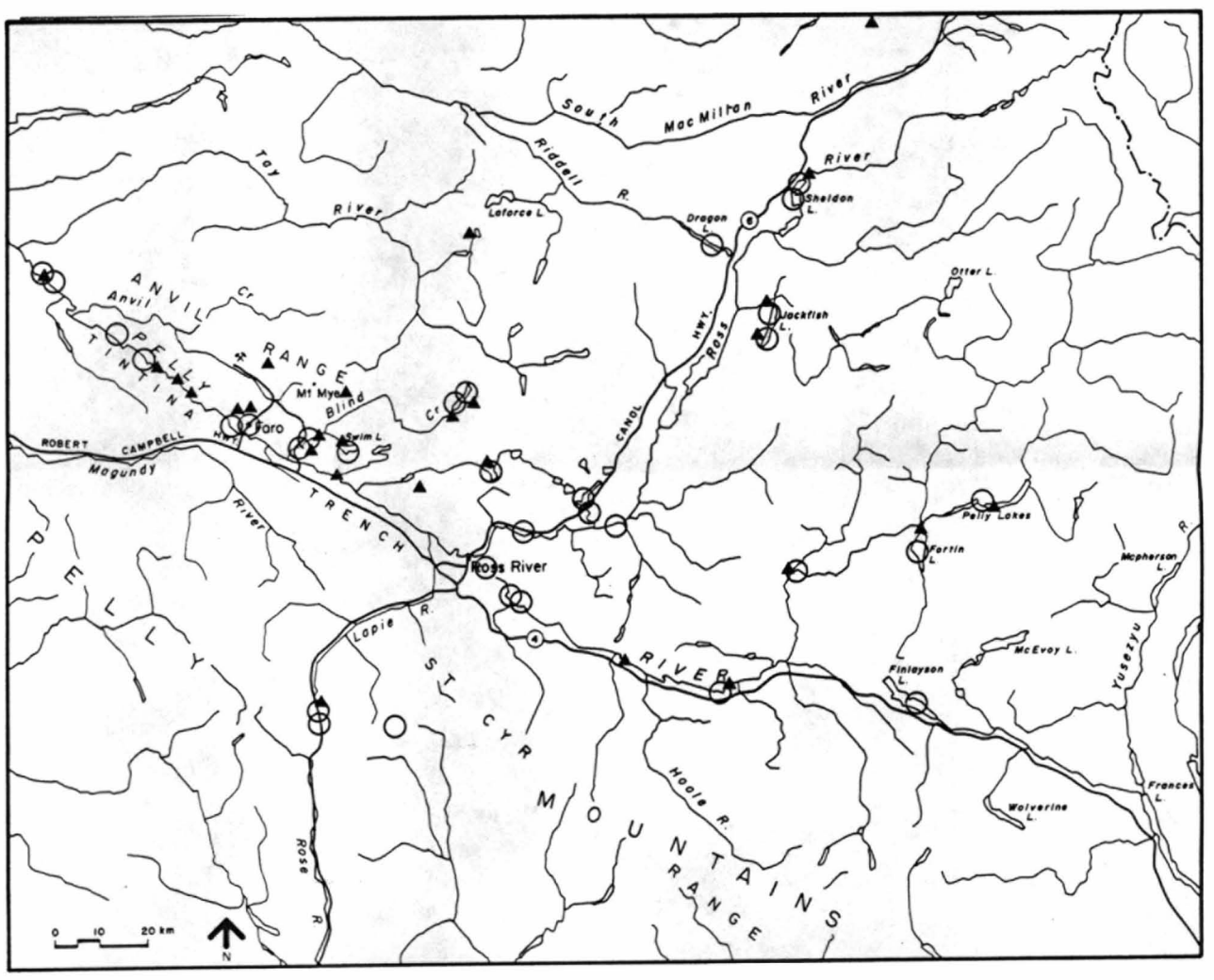
Land Use of Selected Faro Region Middle-aged Harvesters Before Mine Development

▲ main camps

a) Hunting use areas



b) Fishing use areas



c) Trapping use areas

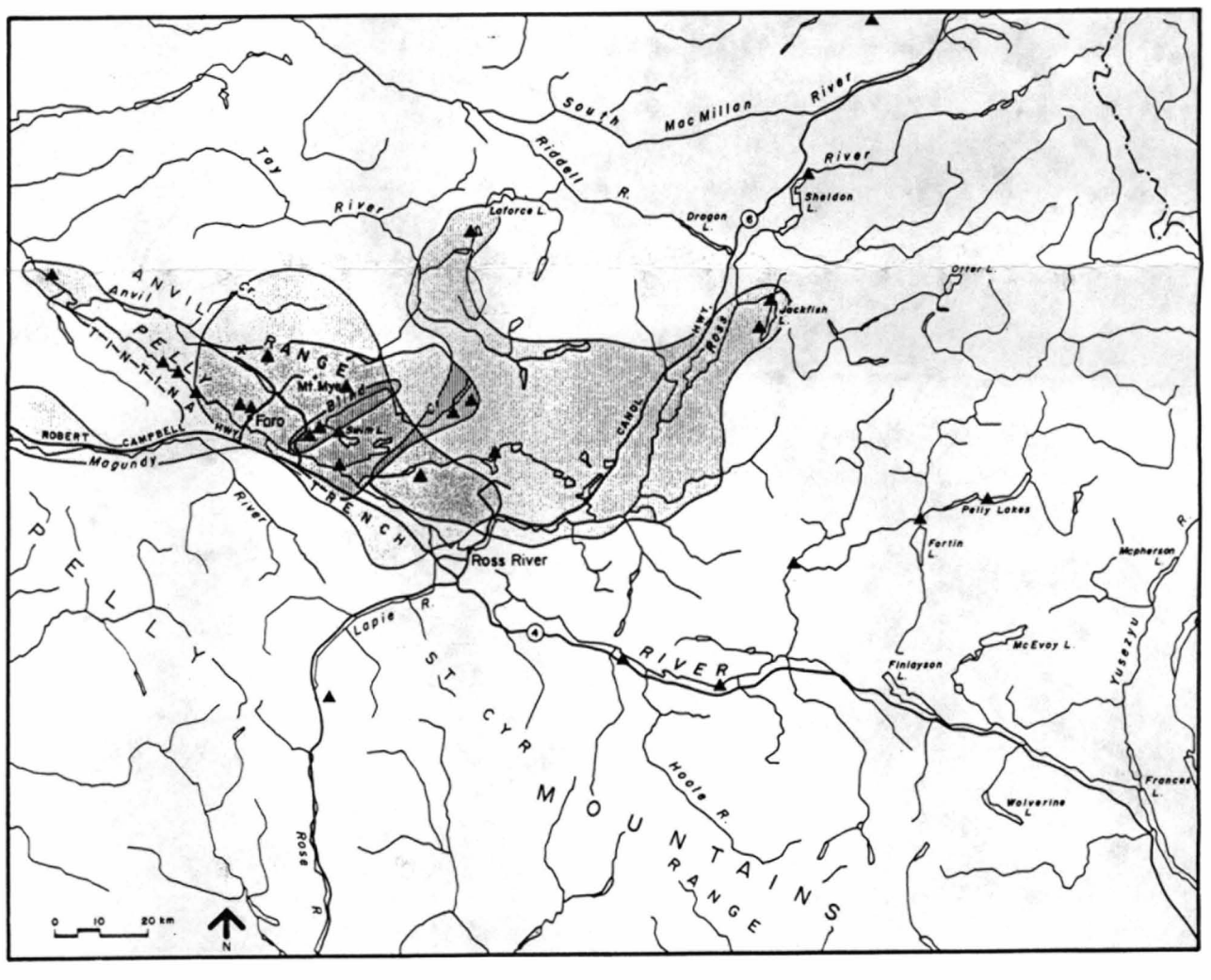
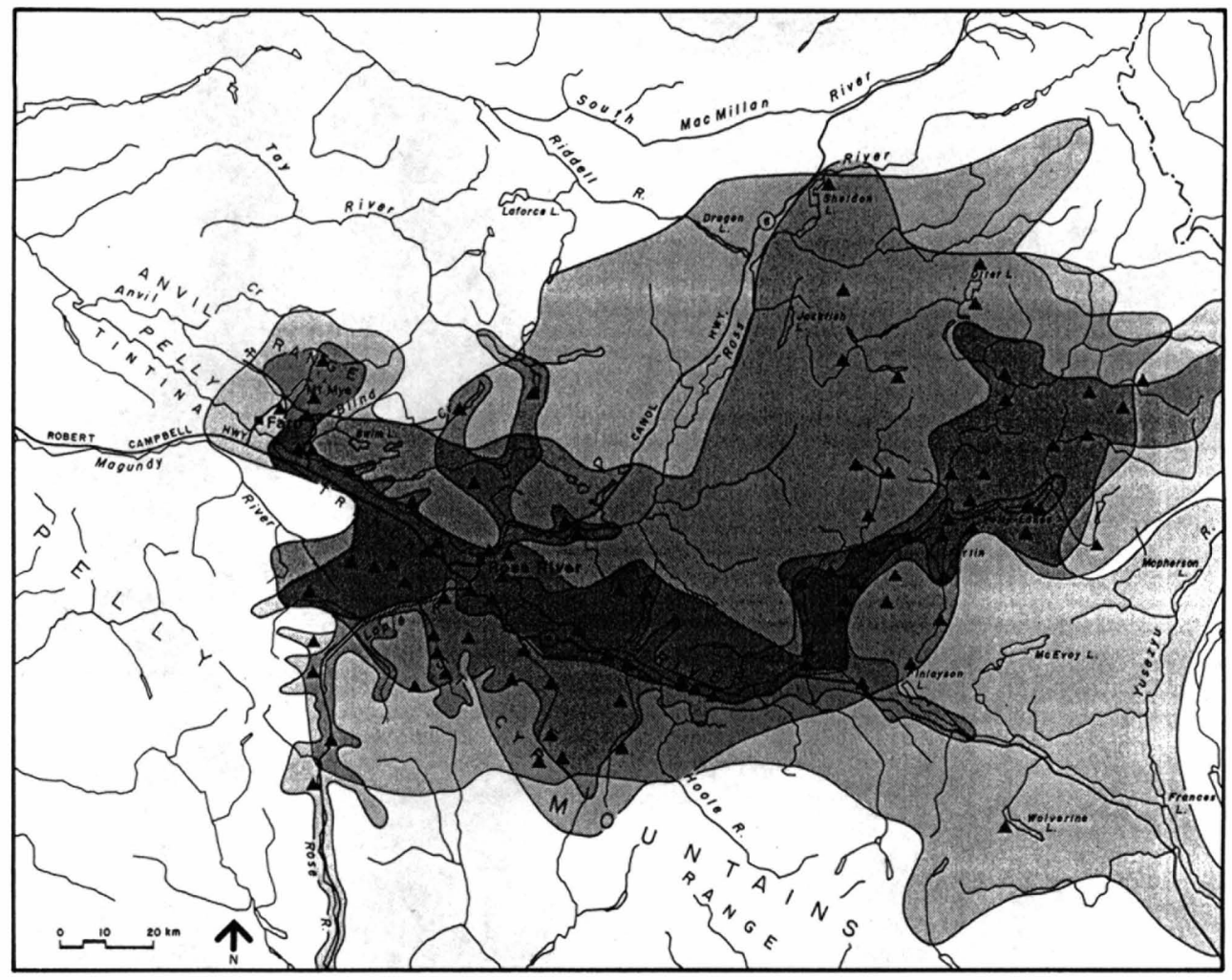


Figure 15

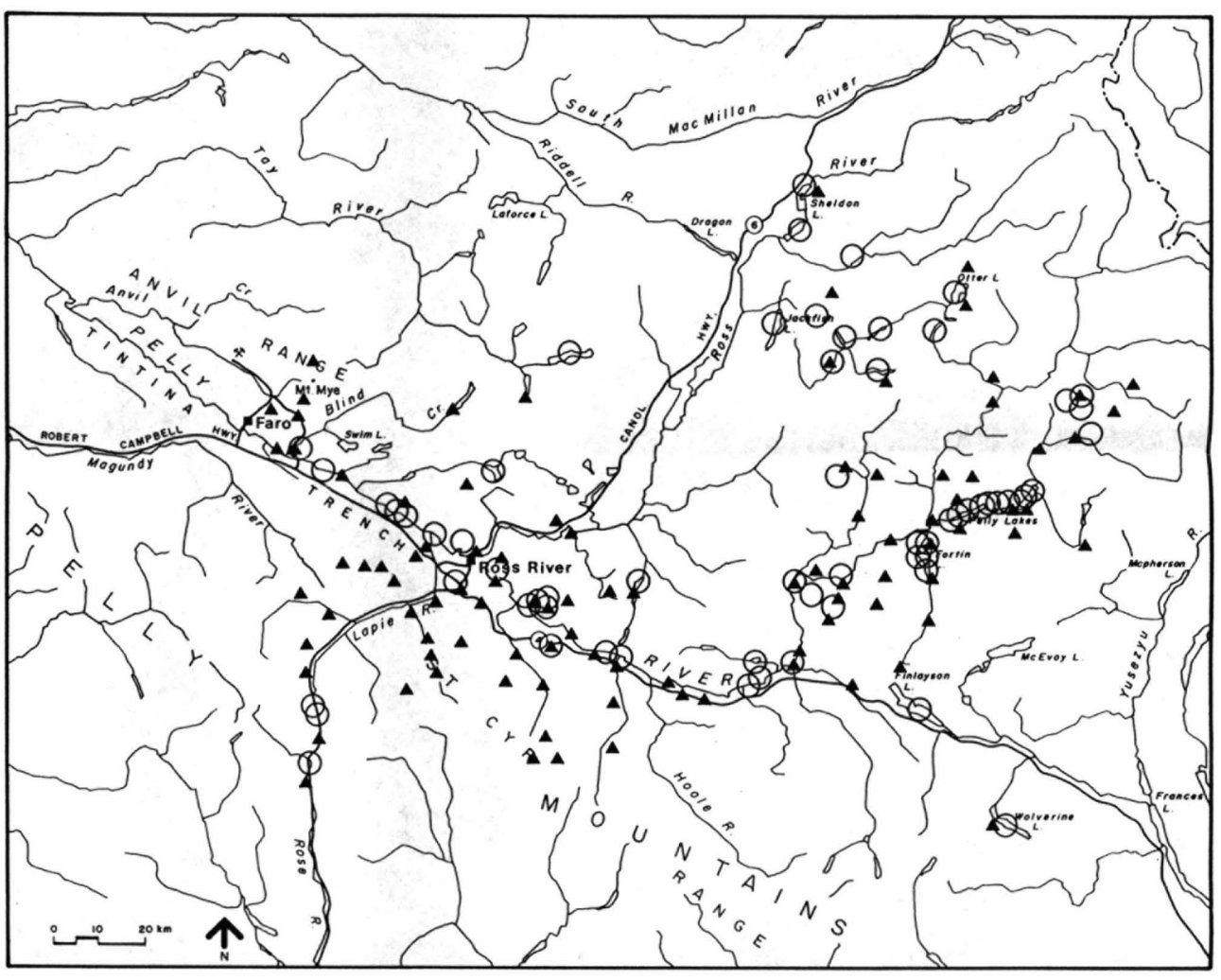
Land Use of Selected Other Region Middle-aged Harvesters Before Mine Development

▲ main camps

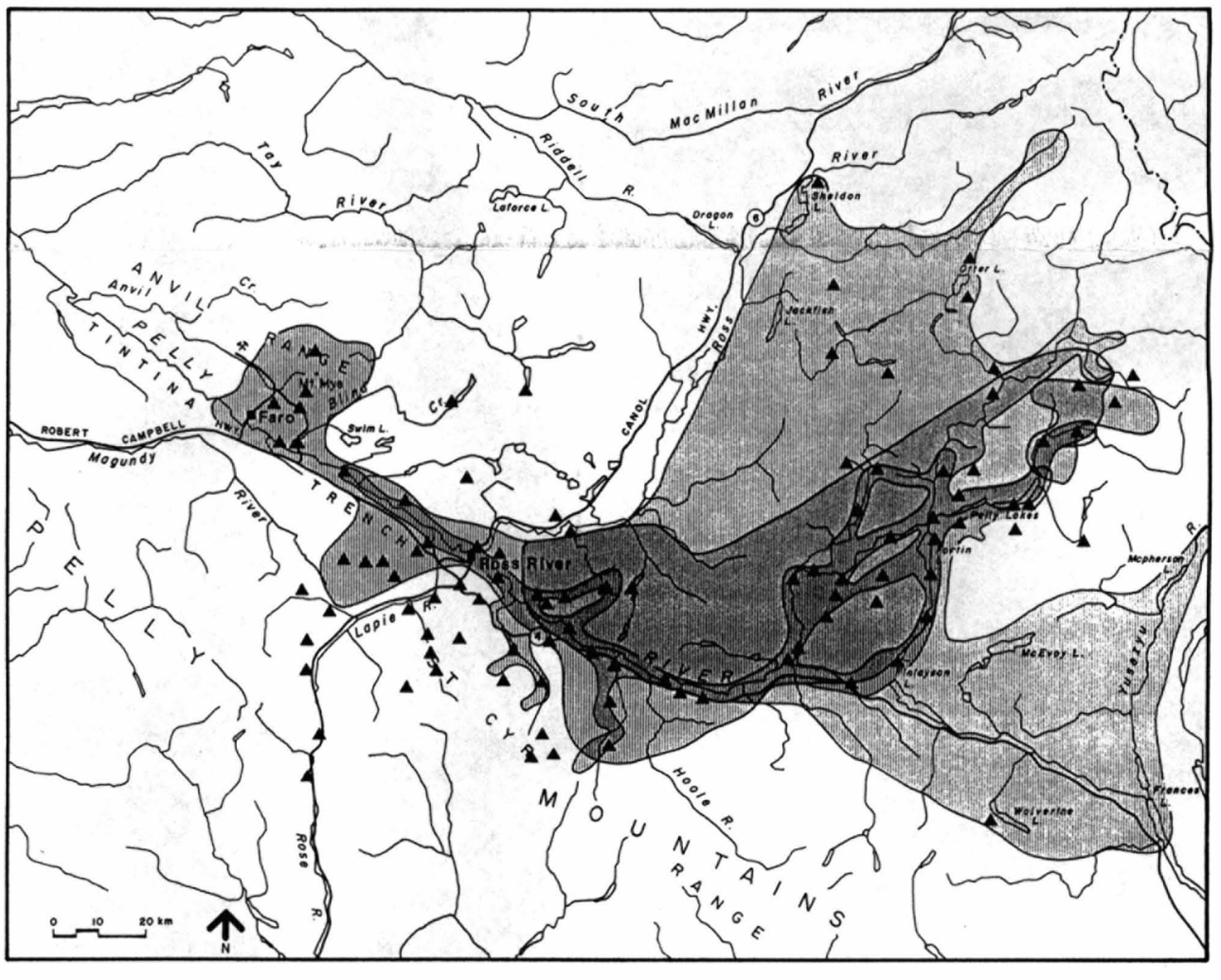
a) Hunting use areas



b) Fishing use areas



c) Trapping use areas



area by this group. However, fishing in the mine development zone was limited to the mouth of Blind Creek and the primary trapping efforts were focused on other areas of the band's territory, although one person in the sample was also involved in trapping the Faro/Mye Mountain/VanGorda Plateau/lower Blind Creek area of the mine development zone.

Land Use After Development

Middle-Aged Harvesters' Land Use (1967-82)

Figure 16 is a composite of the land use maps prepared by selected Faro Region middle-aged harvesters for their harvesting after the mine development. The period represented on the map spans between 1967 and 1982. The maps show a degree of persistence of use in the affected areas. However, the map indicates that this group of harvesters restricted their use of the VanGorda Plateau area to the eastern sections (from Blind Creek to Faro) and had largely abandoned the use of the Anvil Valley.

As discussed above, this type of map representation is not capable of providing information about intensity of use. For an area to be eligible for mapping it simply had to be used a single time. The camps provide a better idea of intensity of use. The distribution of camps on this map indicate the increased important of the road network for access to harvesting during this period. Most of the camps indicated were located adjacent to the Campbell and Canol Highways, or accessible through tote roads connecting to these highways. The two exceptions to this were the Pelly Lakes region and the camps on the upper Tay River. The camps used in the affected area by this selection of harvesters were

limited to locations in the lower Blind Creek and one on the south slopes of Rose Mountain. Swim Lakes were no longer being used by these harvesters as a residence or for fishing. The VanGorda Plateau, the Blind Creek Valley, and the upper Tay River drainage area further north were one of three trapping areas used during this period.

Figure 17 shows the land use of selected middle-aged harvesters from families whose core land areas lie outside of the Faro area. The mapped period spans the same time as for Figure 16 (1967 to 1982). The map shows less change in use of the affected area than for the representatives of the Faro area families. The environmental changes and disturbances may not have been felt as powerfully by people whose primary land affiliations were to other regions of the band's territory. Once again, the maps cannot inform about how often a given area was used during the 15 year period.

The traditional inducements to harvest in the Mount Mye area - good access into abundant game habitat - were expanded by the ferry connection and road network from the Blind Creek crossing of the Pelly to the lower slopes of Mount Mye. People persisted using the less disturbed areas as best they could, making use of the superior access supplied by the Blind Creek road network.

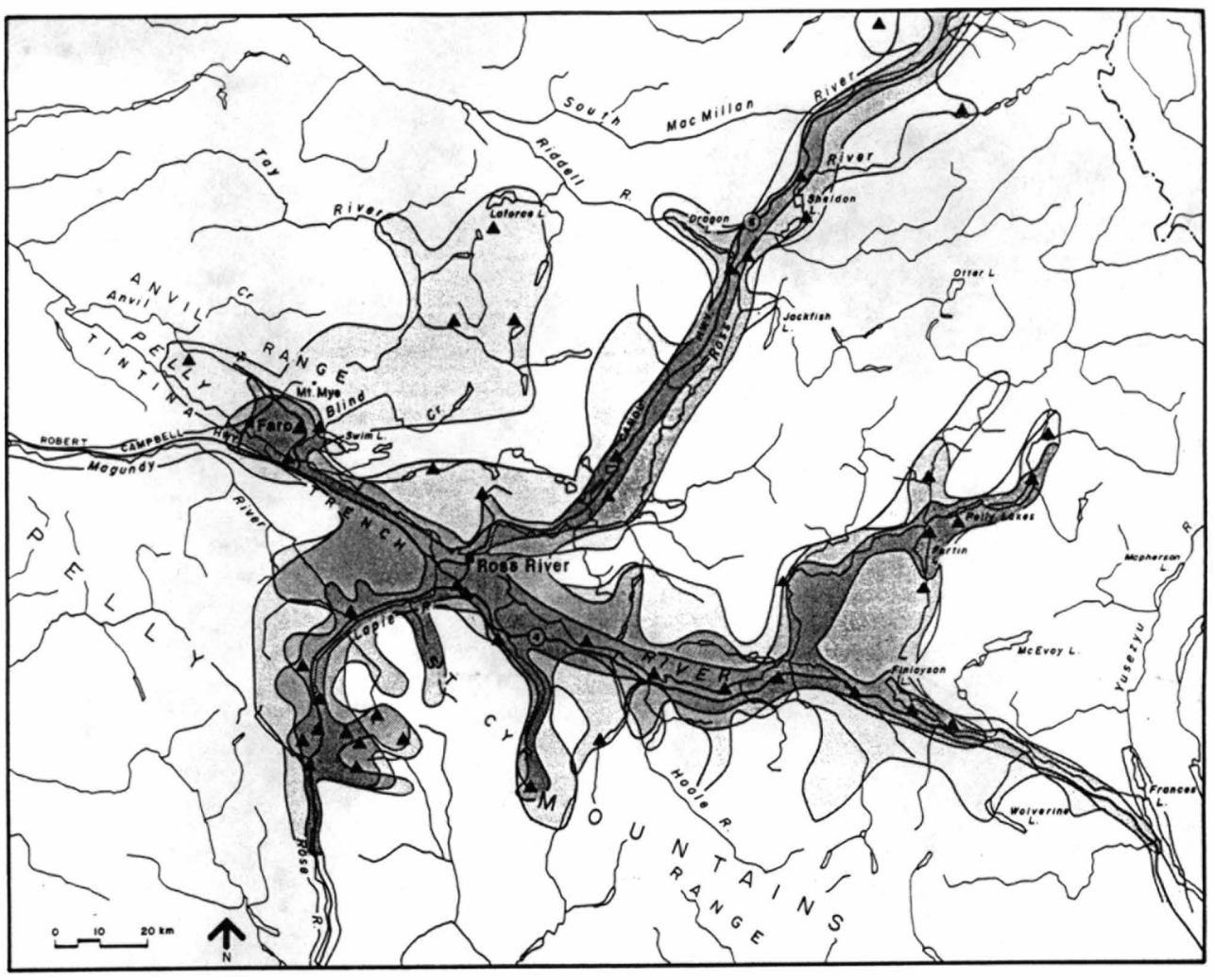
The band's land use tenure traditions specify that anyone can harvest in any area of the band's territory. In practice, however, people generally harvest in their families areas, unless

Figure 16

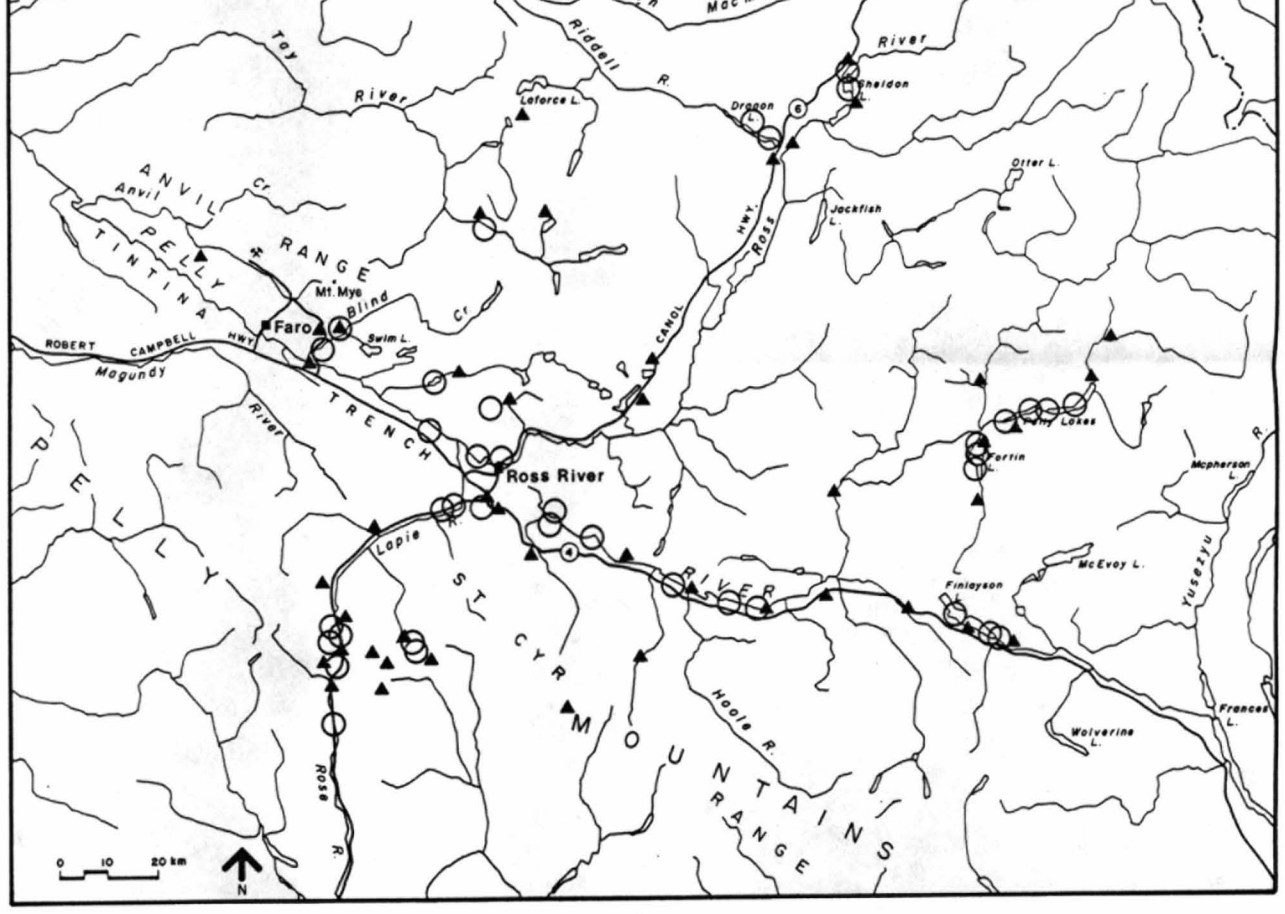
Land Use of Selected Faro Region Middle-aged Harvesters After Mine Development

▲ main camps

a) Hunting use areas



b) Fishing use areas



c) Trapping use areas

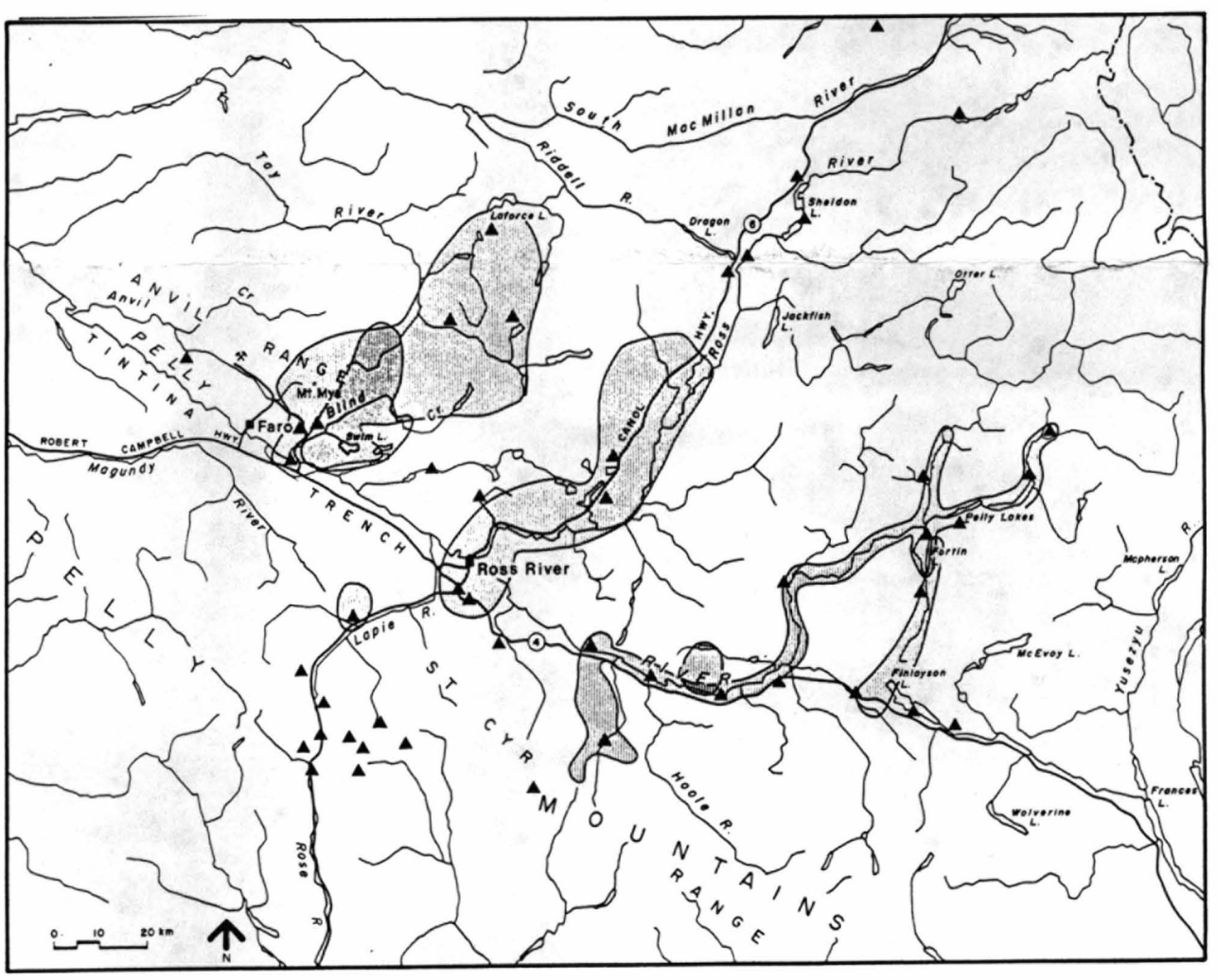
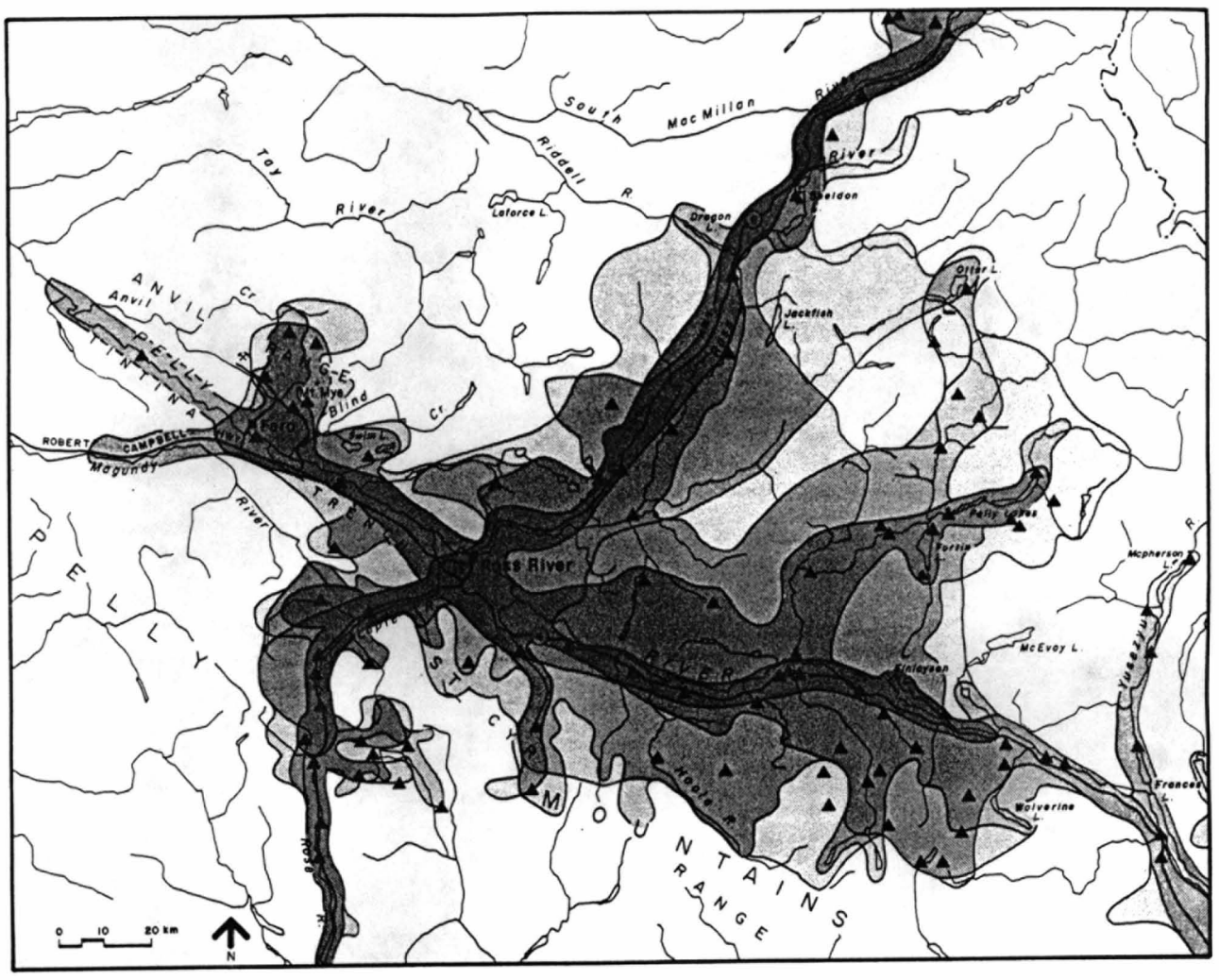


Figure 17

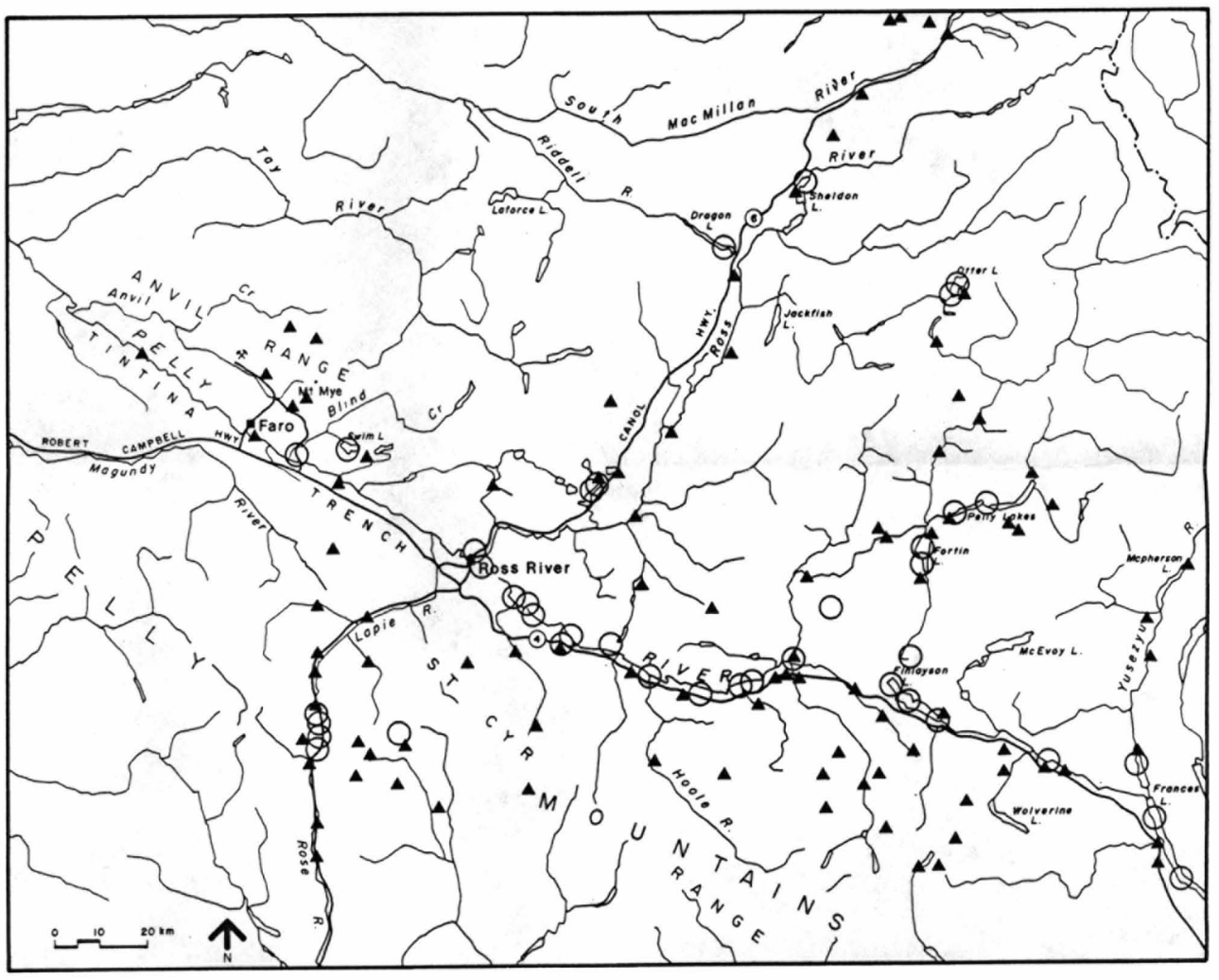
Land Use of Selected Other Region Middle-aged Harvesters After Mine Development

▲ main camps

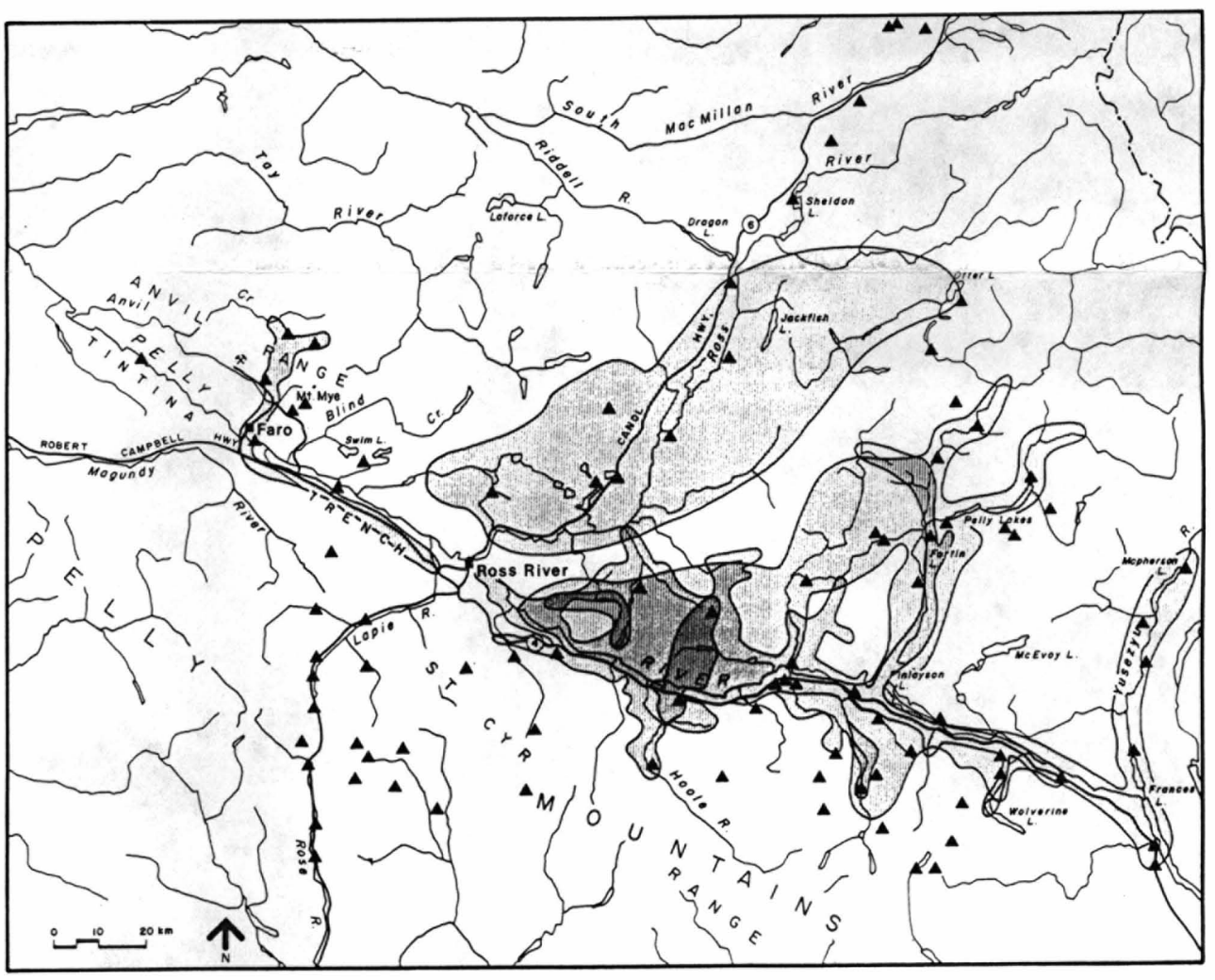
a) Hunting use areas



b) Fishing use areas



c) Trapping use areas



they accompany friends or relatives to their camps or harvesting areas. These maps clearly show that use of the affected areas was not limited to members of families recognized within the band as belonging to this region of the territory.

Young Harvesters Maps - After Development (1978-82)

Figures 18 and 19 show the land use of young harvesters. Figure 18 is an aggregate of land use maps of Faro Region family members and Figure 19 is an aggregate of maps of members of families whose core lands are in other regions of the band's territory. The figures represent land use during a 4 year period between 1978 and 1982. The land use shown by both groups has largely shifted to the east. These was no harvesting in the areas directly affected by the mine, the tailings pond, and the tailings pond outflow. Both groups indicated no trapping in the Faro area. The focus of fishing also shifted further east, except for some continued use of Swim Lakes and the mouth of Blind Creek. Again, the maps have no ability to indicate the intensity of use. The only use of the Faro area was hunting trips on the VanGorda Plateau, Blind Creek Valley, and Mye Mountain.

ENDNOTES

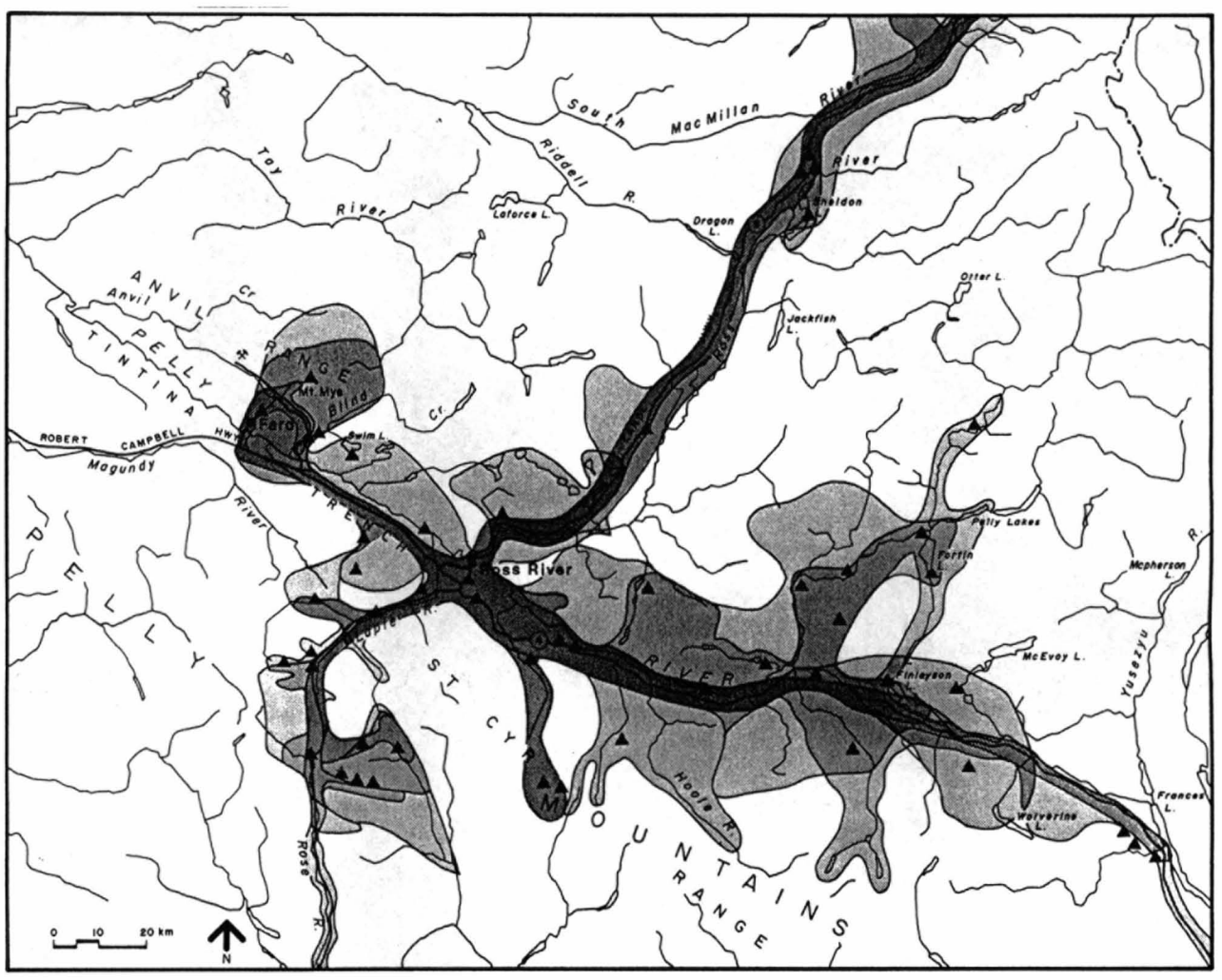
(1)The size of the map-samples selected for analysis (6 for the elders and 3 for the middle-aged harvesters) is also different. It was felt that given the few maps available from the elders' group, it would be better to include all rather than select a sample. Unfortunately, this tends to give a biased appearance to the maps when they are compared.

Figure 18

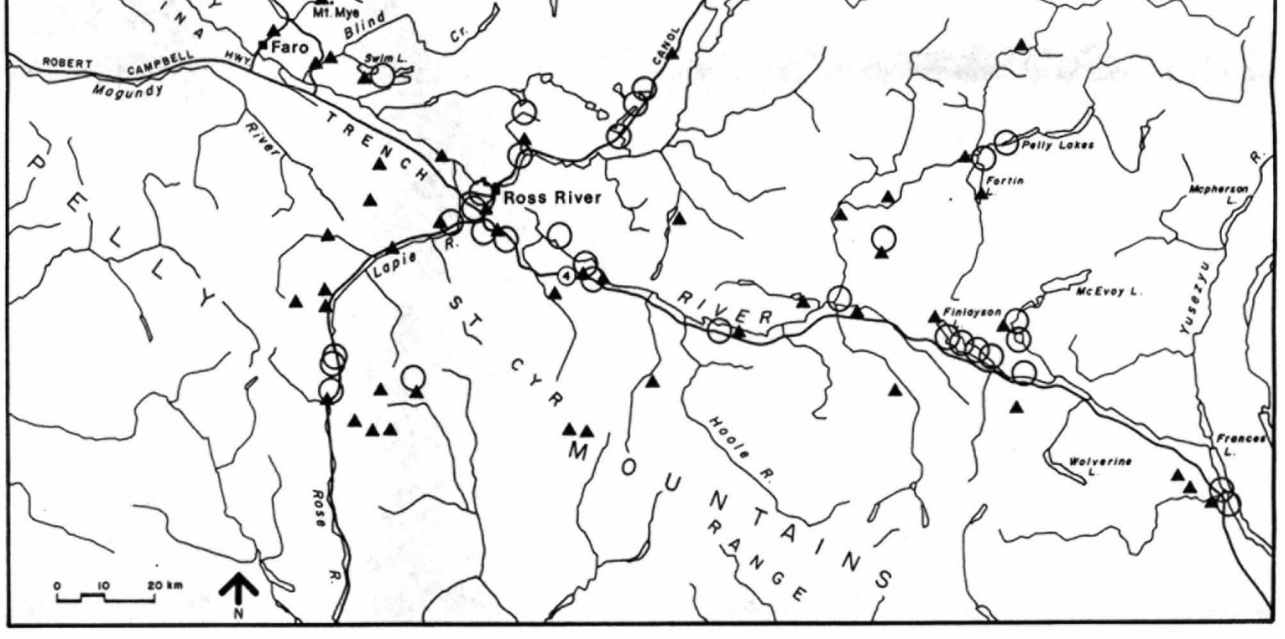
Land Use of Selected Faro Region Young Harvesters After Mine Development

▲ main camps

a) Hunting use areas



b) Fishing use areas



c) Trapping use areas

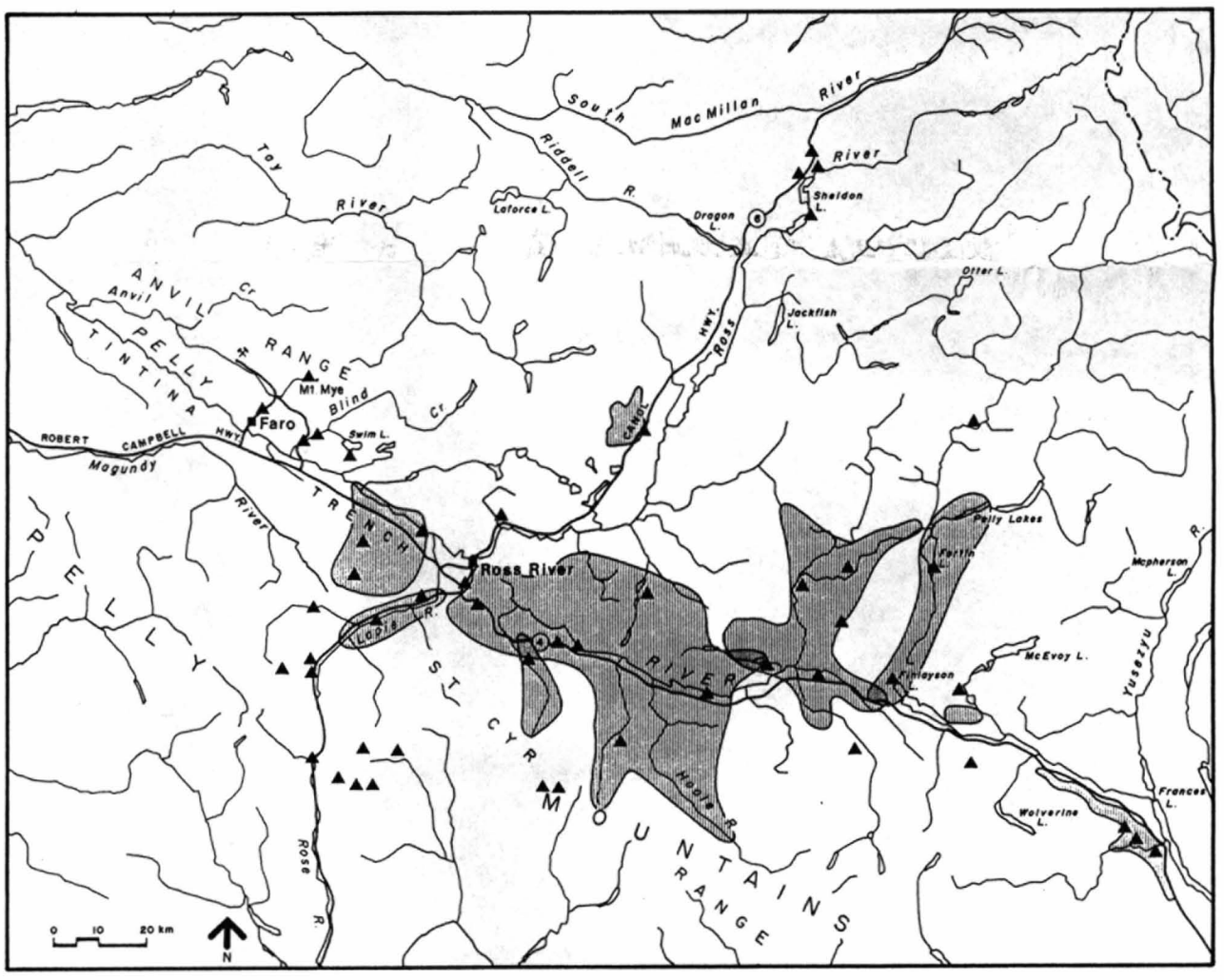
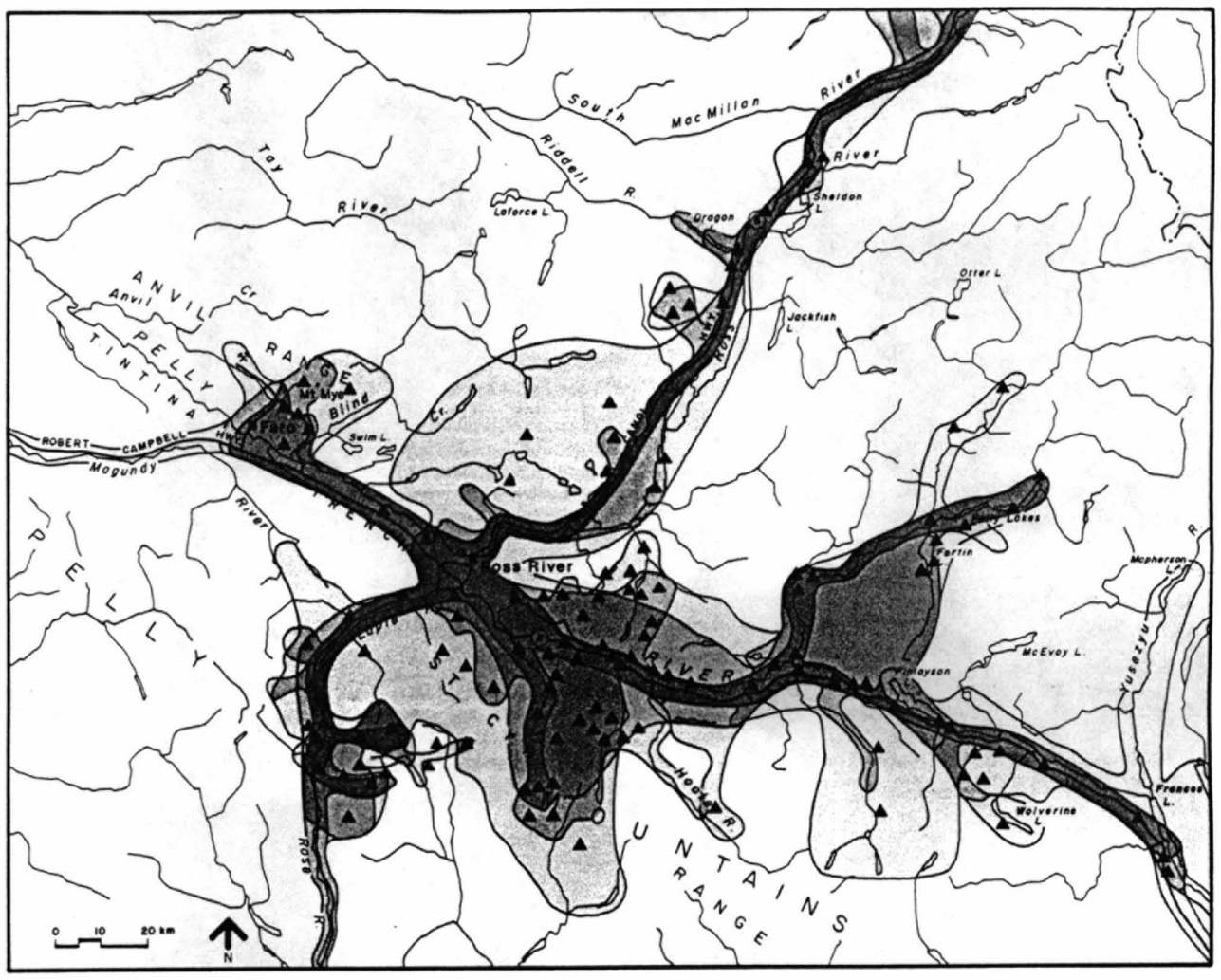


Figure 19

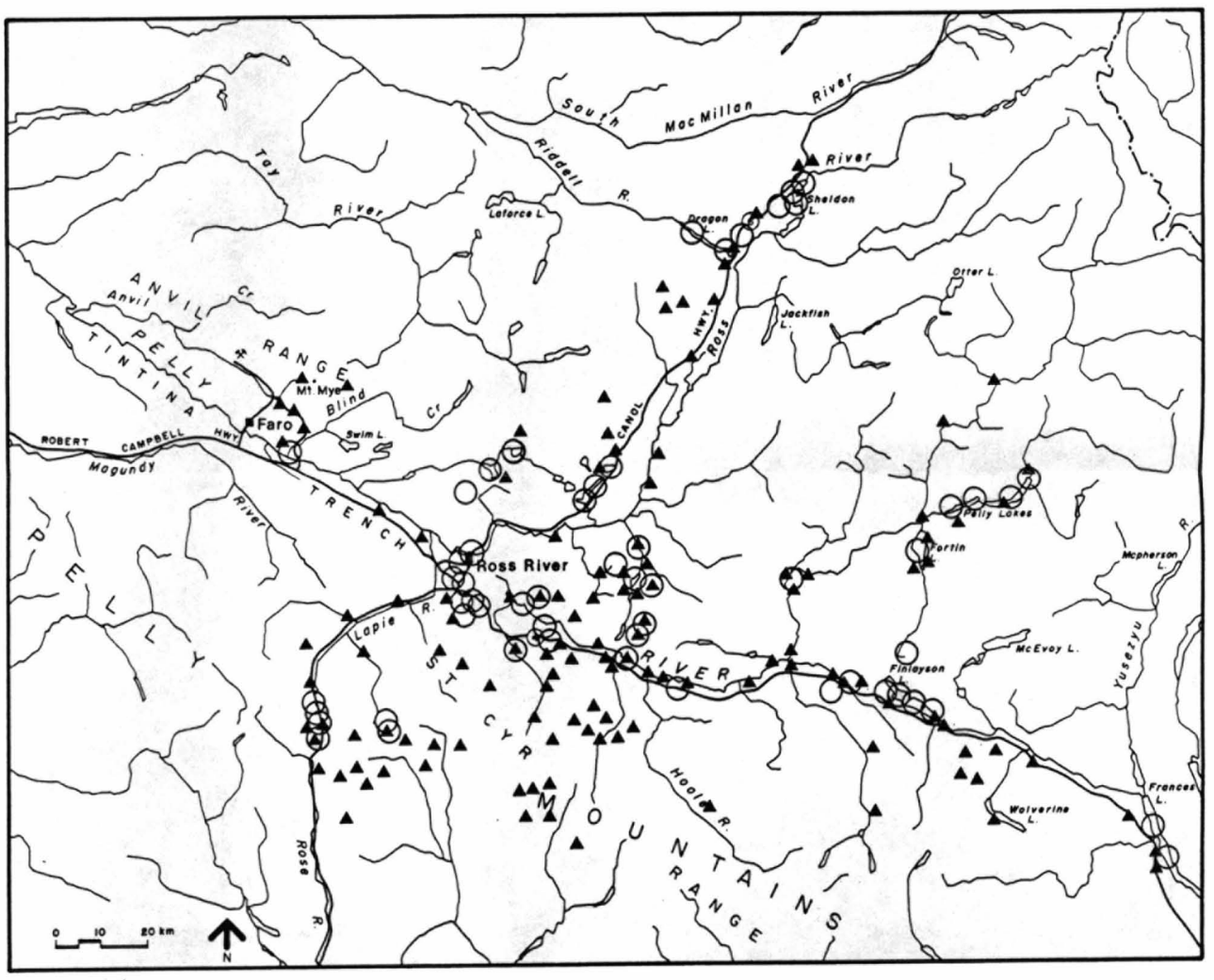
Land Use of Selected Other Region Young Harvesters After Mine Development

▲ main camps

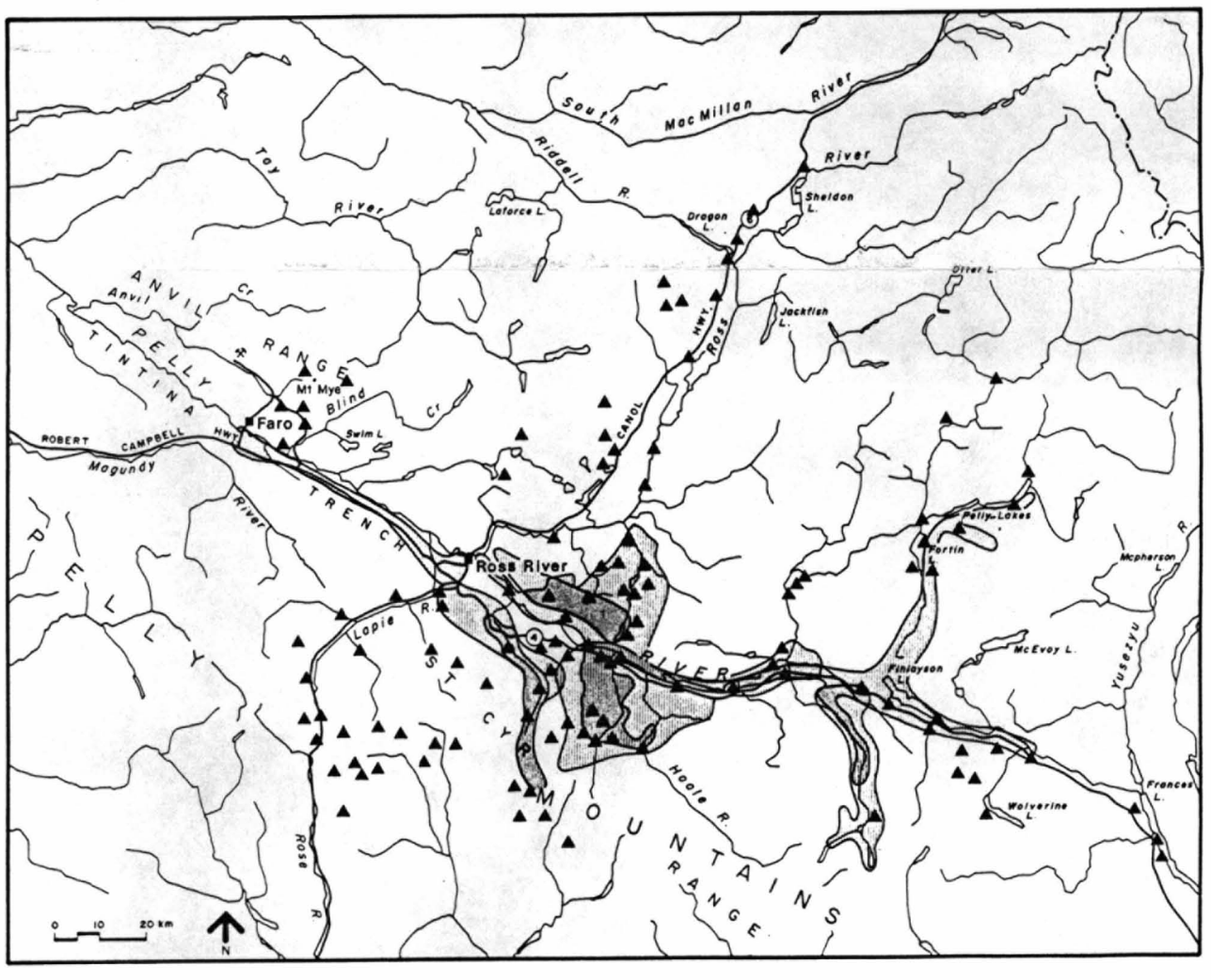
a) Hunting use areas



b) Fishing use areas



c) Trapping use areas



CHAPTER 9

THE RESPONSE TO IMPACTS: 1980s and 1990

INTRODUCTION

By themselves, the land use and occupancy maps discussed in Chapter 8 are inherently limited in their ability to provide adequate information about the response of Ross River harvesters to the impacts of the mining development. These maps, however, clearly indicate the long-term use of the area by different family groups prior to the construction of the mine. And they also indicate the continuing use of the area by Ross River Indians, who are members of different family groups, after the development into the early 1980s. The critical limitation in these maps is their inability to provide information about changes in the relative contribution of the affected area to the band's economic production of food and furs.

The band's heavy economic reliance on animal resource harvesting, as mentioned by Miller (1972) and others, was substantiated by the surveys conducted in the early 1980s (Dimitrov and Weinstein 1984). Resource harvesting was found to be the most important income sector for the band as a whole. Using imputed value-in-kind figures for food production,[1] it was estimated that resource harvesting was responsible for approximately 41% of band members' annual income.[2] Employment and transfer payments contributed 36% and 23%, respectively. The study found Ross River Indians to be poor compared to other Canadians and concluded that without the inclusion of the animal resource harvesting sector of the economy they would be considered deeply

impoverished by general Canadian standards.

The current chapter examines in more detail the use of the areas of the band's territory which have been affected by the Faro mining development and compares their use to other regions of the territory. In particular, the chapter attempts to provide answers to the kinds of questions posed by the land use and occupancy maps through quantitatively comparing the harvesting effort on affected lands with unaffected areas.

A REVIEW AND DISCUSSION OF THE SURVEY METHODS

As discussed in Chapter 2, the study used a survey to assess the geographic distribution of resource harvesting during the 1980s and in 1990. The survey's land use questions (Appendix 1) were based on a map which divided the Ross River territory into 22 zones (Fig. 3). Questions about harvesting geography during 1990 included the length of time people were hunting, fishing, or trapping in a particular area.[3]

No attempt was made to define geographic harvesting effort in detail through the questions asked about the 1980s. Rather, people were simply asked to distinguish areas which were used most often. Some people's land use over a decade results in visits to a majority of the map zones. The question was a simple device to distinguish the lands that a person with broad land use patterns harvested more regularly.

The survey was based on a stratified random sample of adults, as explained in Chapter 2. Surveys inevitably interview only a portion of the population, even if the intention is for

complete coverage. Usher et al. (1985) indicate that for harvest survey research random samples stratified according to the intensity of people's harvesting activities are capable of producing results that are more representative of the entire population than reconstructions based on non-stratified samples with a large proportion of respondents. The rationale is that many bands have relatively small core groups of intensive harvesters who produce a large portion of the annual harvests. Because of the tradition of sharing harvested foods, the activities of these people may be significant to much of a band's population. Modern harvest strategies for some native groups consists of the employed members of extended families supplying the technology and expenses for other family members who provide the family's wild meat. Missing some of these core hunters in harvest surveys can result in unrepresentative results.

Although the land use survey discussed in this chapter is not a harvest survey, there are enough similarities to justify the use of the stratified sample device. Some discussion of the differences between the two types of studies will help in understanding the limitation of the current survey. Harvest surveys are intended to arrive at estimates of a group's annual harvests from hunting, trapping, and fishing. Ultimately, it is the final number that is important. When a portion of the population has not been interviewed their most likely answers are projected from the other results and added to the total.

The objective of the current survey is quite different from harvest surveys. The intention of the current survey is to help

understand what kinds of harvesting activities have been taking place in the areas affected by the mining development. A simple estimate of harvest numbers in the area would be an inappropriate answer to this question, since the initial interviews indicated that a large proportion of the people from this country have gone elsewhere for their serious harvesting. Consequently, simply documenting harvests in the area or the problems encountered by the few people who have persisted would not be adequate: it would result in a misleading understanding of the impacts.

Projection of geographic survey results to entire populations in the same way as is done with harvest surveys is not possible. Because of the complexities of native tenure systems and land use decision making (Table 4) there is no way of arriving at a representative land use. Consequently, the results cannot be proportionally projected to the people who were not surveyed.

The intention of the land use survey, in any event, is essentially comparative. There have been so many changes in the lives of Ross River Band members since the construction of the mine and Faro that some way of separating out responses to other types of impacts needed to be included in the design.

Comparison was built into the survey through dividing the sample into social groups: members of families whose 'homelands' include the Faro country and members of families whose 'homelands' do not include the Faro country. In the discussion which follows it is critical to keep in mind that the band's customary rules which govern access for land use are based on

Table 4. Considerations that go into Land Use Decisions.

-Physical access
-Social access - cultural and institutional arrangements
-Cash availability to finance outfit and travel
-Animal productivity
-History
-Food quality/perceptions of risk
-Disturbance/intrusion
-Labour and the organization of labour
-Cost/benefit evaluation
-Knowledge

Knowledge about animals, land and harvesting includes:

-broad knowledge [time and space both broad] - animal behaviour; hunting, fishing, trapping and gathering techniques:

-local knowledge [space local and time broad]- trails, terrain, habitat, shelter, firewood; tenure; history

-local knowledge [space broad and time local] - conditions throughout the territory, used for comparative, evaluative decision making.

-local knowledge [both time and space local] - current conditions of land, habitat, animal populations, disturbance, etc.

principles of generosity and sharing, rather than exclusivity. The rules are informal. There are structures and devices for inviting people and there may not be comparable structures for saying no. Indeed, the normative ethic of "everyone can go anywhere they want" even denies the existence of a hierarchy which can exclude people. Although the 2 groups selected for the survey are real, they are not intended to imply that the "other family" group lacks use or interest in the Faro area. The maps in Chapter 8 clearly indicate that the area has been in use by both groups. Rather, there is a sliding scale of affects, since all band members are linked though family and friendship bonds. In the past, people were wide ranging, although they used their home areas most intensively. From our interviews the pattern remains true, with the exception that contemporary land use decisions are heavily influenced by access and travel routes.

HOMELANDS

The survey asked people to locate their core, family areas within the 22 zones into which the Ross River territory was divided. The results are revealing about the importance of the affected lands. People indicated that their family lands were located within all survey zones except for 2 at the far southern limits of the band's territory (Fig. 20). Two core regions, however, standout as family geographic centers: the upper Pelly River-Pelly Lakes-Campbell Creek area, in the east, and the Mye Mountain-Blind Creek-Swim Lakes region, on the west.

There are actually 4-5 different regional family groups

Proportion of interviewees in the group who cited zones as containing family areas

- 0%
- 1 - 5%
- 6 - 10%
- 11 - 20%
- >20% (22 - 42%)

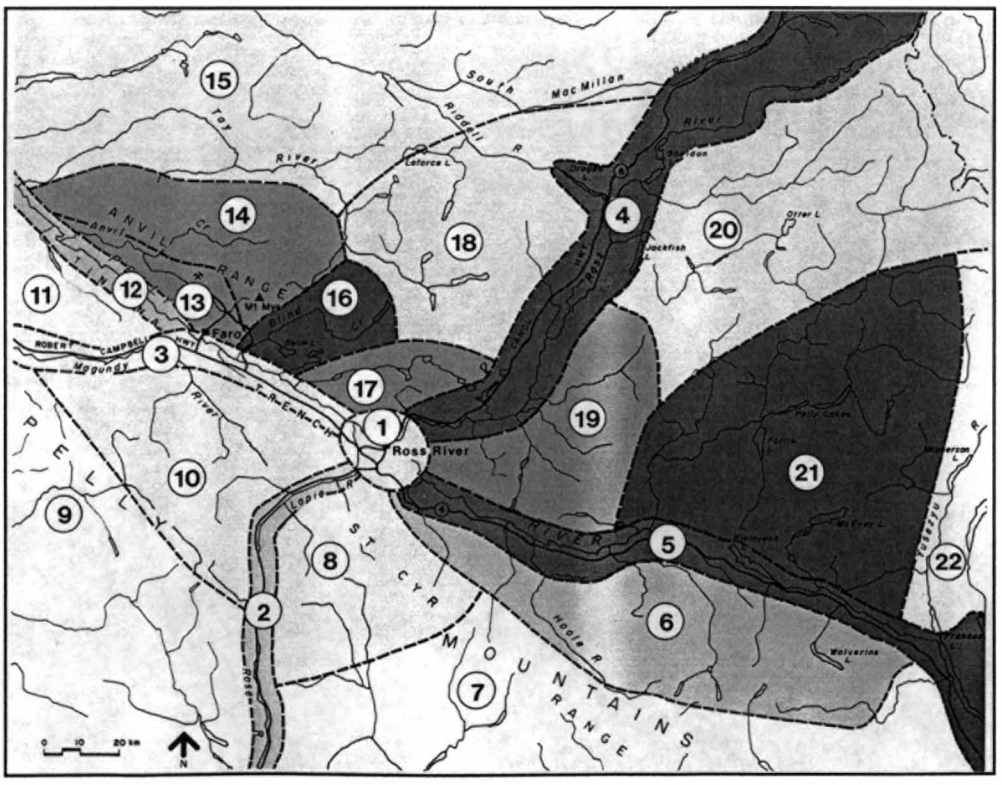


Figure 20 Proportion of interviewees who cited zones as containing family areas

within the band. All or most of these groups have multiple family linkages through marriage and consequently have historically shared each others' lands. However, there is both an environmental and a customary social divide around the Ross River Valley (Fig. 21). The eastern group are people whose family focus was around Pelly Banks, Campbell Creek and Frances Lakes. The western group are people whose activities tended to focus around Mount Mye, Blind Creek, and the Swim Lakes.

The maps are useful indicators of trends, rather than definitive statements about boundaries. As discussed above, Kaska traditions do not include such things as exclusive boundaries. The culture of sub-arctic Indians, generally, has proven so resilient because survival in this difficult environment has required a fundamental and an inherent flexibility.

The zones which contain the family areas of the "other" group are more tightly concentrated than the "Faro area" group. There are several reasons for this difference. One of these may be an artifact of the selection criteria used to split the sample into 2 social groups. If either parent came from a Faro area family, the person was considered a member of that group. To be classified as a member of the "other area family" group, both parents had to come from "other" areas. Consequently, some of the "Faro area" group have one parent from other regions, whereas none of the "other areas" group had parents who came from the Faro area. This results in a greater degree of geographic spill-over in the former group. We can also expect that some of the difference is due to the mine development. As

parents responded to the impacts and moved their main camps away from the development area into other accessible lands, their younger children can be expected to include the areas they grew up on as their "family" zones. The available data confirm this to some extent. There is a consistency in the most frequently cited family zones between elders and younger members of the "other" group (Table 5). Whereas, among the "Faro area" group there appears to have been a shift away from the development areas toward the road corridors.

Figure 21 confirms the validity of the 2 groups that we have selected for a comparison of land use effects. Once again, this exercise is not a comparison between affected and unaffected people. Every band member's land use has been affected by the development according to the customary rules of access. Consequently, there are no unaffected people. There is only a question of the degree or extent of effect.

The maps indicate that the Faro area lands were one of 2 broad core family harvesting regions. One of these areas has been affected by a major mining development; the other has not. Both are areas with prime resource habitats. In the case of the Faro lands, the elders repeatedly said that "there was everything in that land." By "everything" they were indicating that the Faro area lands were rare within this area of the Yukon in providing such a broad mixture of the key animal resource species that family groups did not have to roam widely to find abundant animals at all seasons. The same may be true of the other core area, but elders from that country were not asked directly. Both

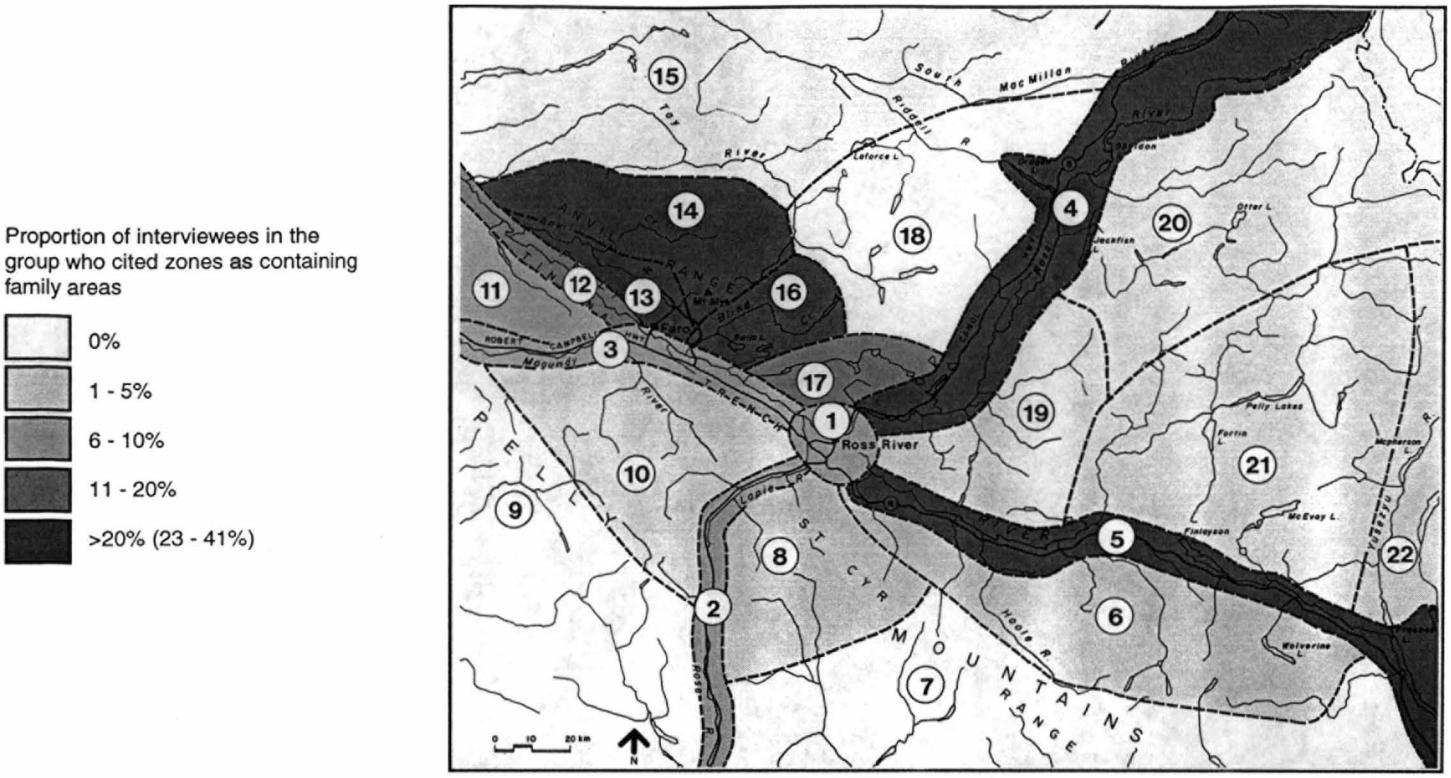


Figure 21 Distribution of family harvesting areas of different social groups

A. Mine development area families

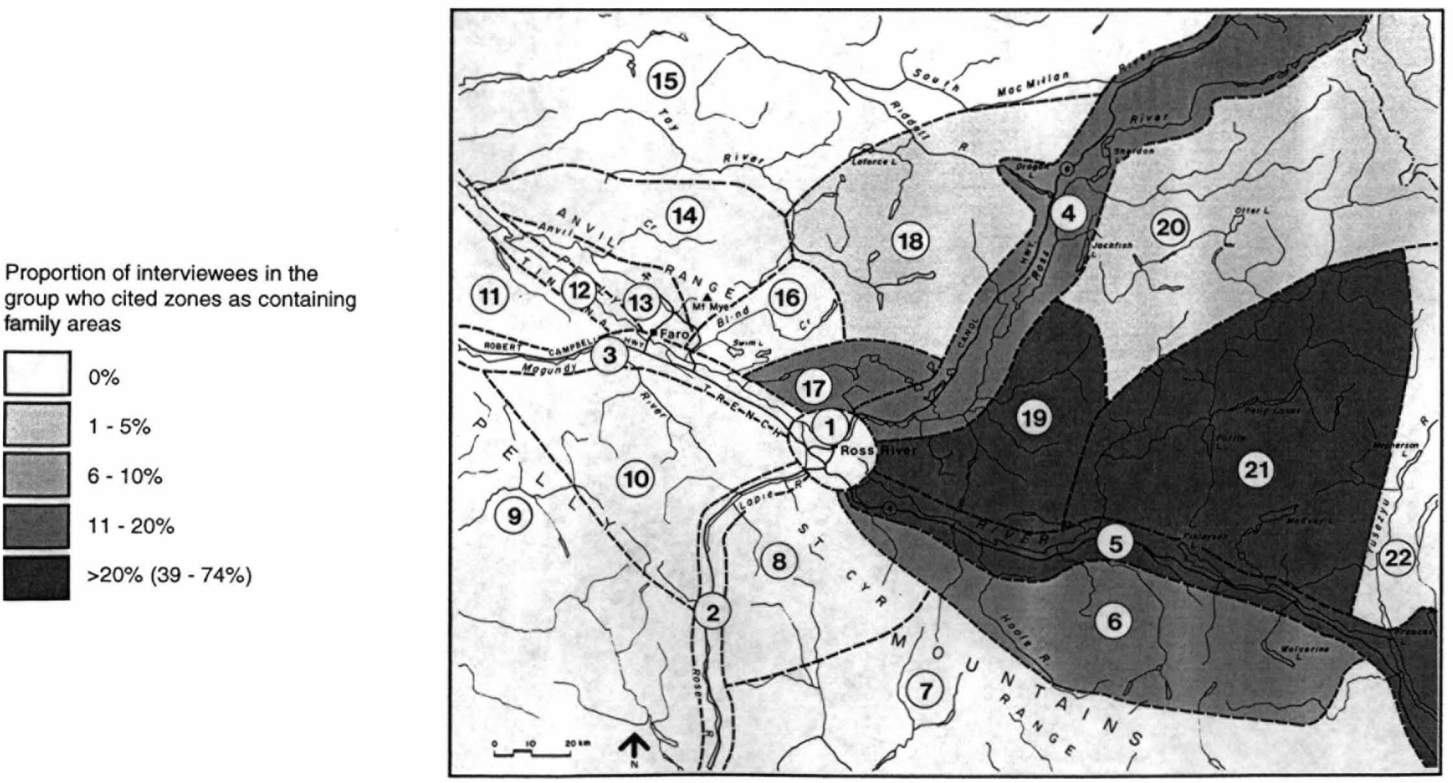
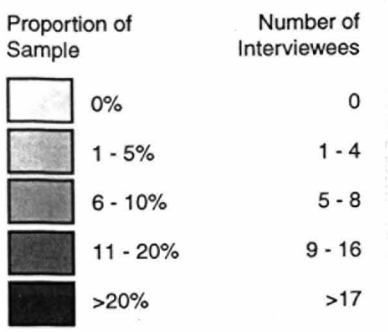


Figure 21 Distribution of family harvesting areas of different social groups

B. Families whose home areas are in other regions of the Band's territory



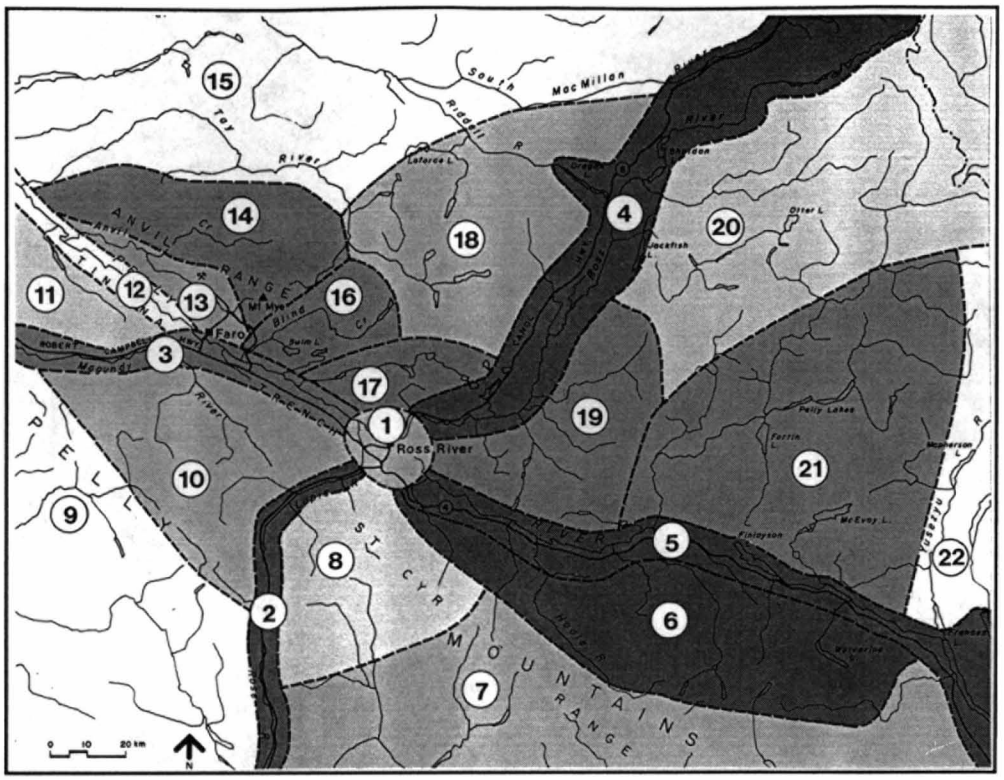
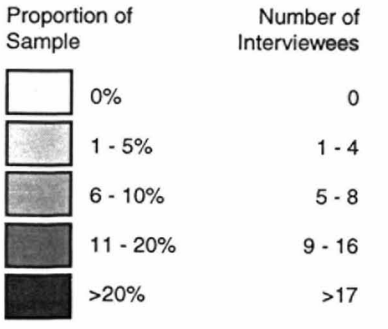


Figure 22 Proportion of total sample harvesting in study zones during 1990

A. Hunting



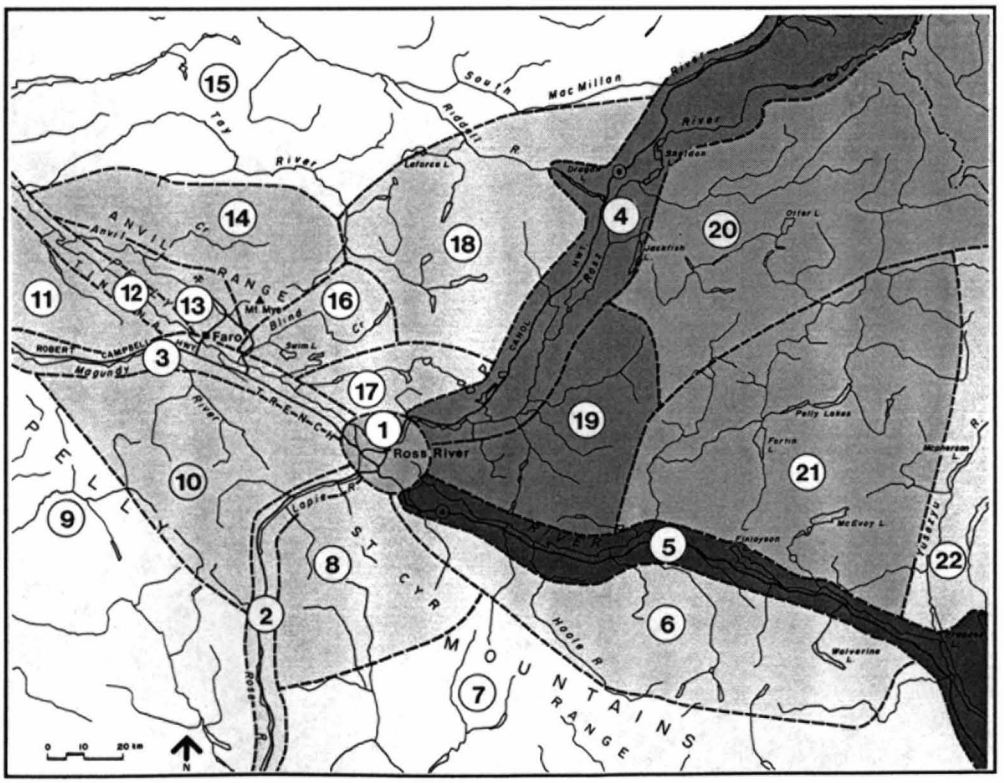
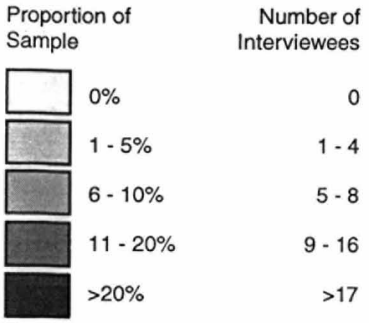


Figure 22 Proportion of total sample harvesting in study zones during 1990

B. Trapping



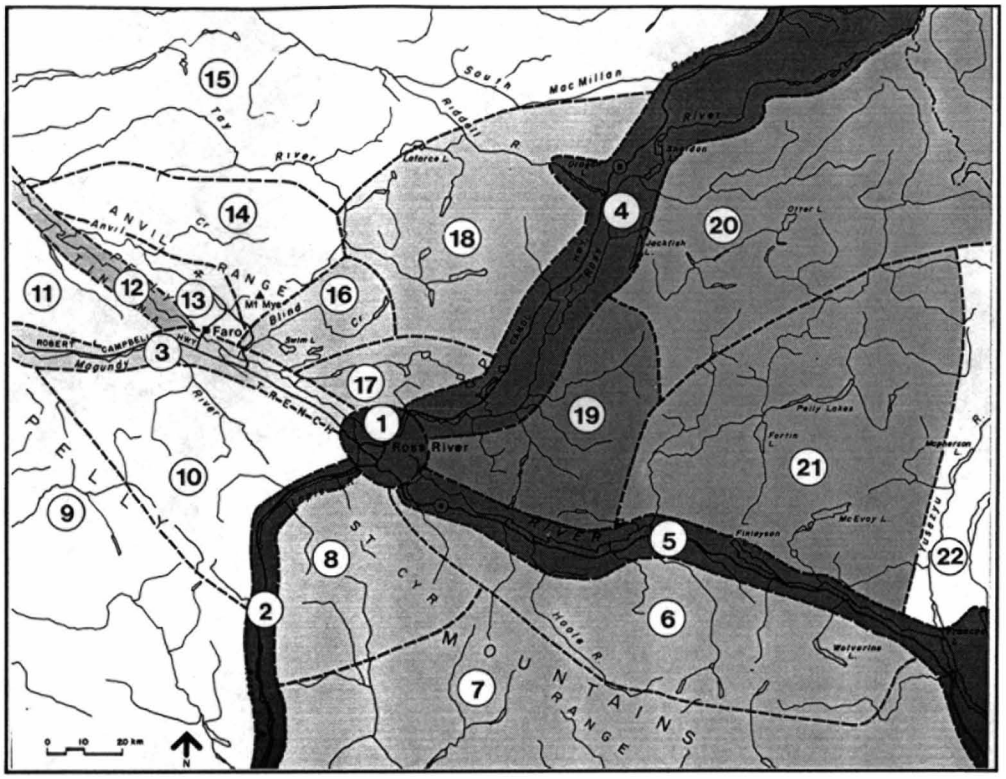
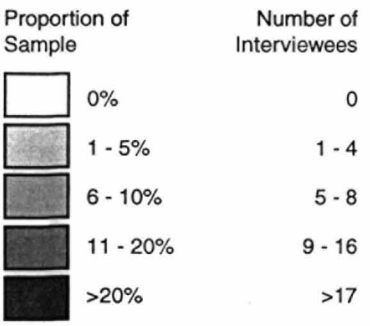


Figure 22 Proportion of total sample harvesting in study zones during 1990

C. Fishing



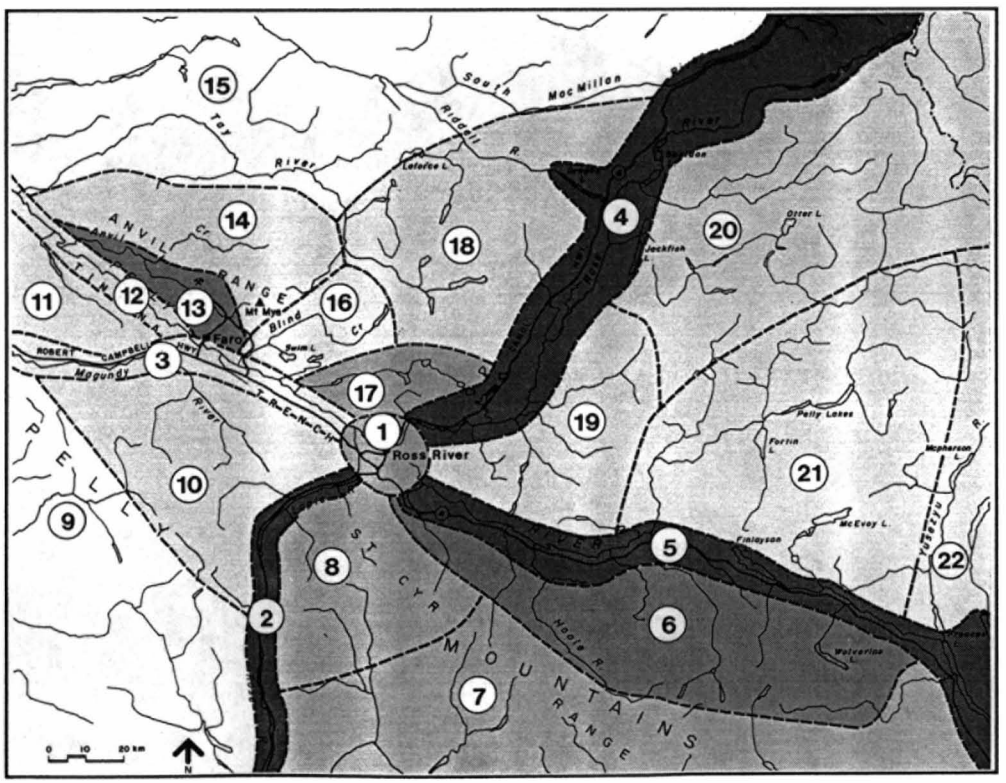


Figure 22 Proportion of total sample harvesting in study zones during 1990

D. Gathering

Table 5. A Comparison of Family Areas Most Frequently Cited by Younger Band Members with those of their Elders.
(Note: The table is limited to a comparison of zones cited by more than 3 elders as containing their family areas.)

MEMBERS OF FARO AREA FAMILIES			MEMBERS OF OTHER AREA FAMILIES		
	AGE GROUPS			AGE GROUPS	
	51+ years	18-30 years		51+ years	18-30 years
ZONES			ZONES		
13	7	3	5	7	10
14	7	1	21	5	7
16	7	6	19	4	4
4	5	8			
5	2	7[1]			

1.Data for citations of Zone 5 as a family area for "Faro area" family members have been included in this table even though they do not exactly fit the criteria of more than 3 citations from the 51+ age group. With the addition of this information the table includes all zones which had more than 3 citations as family areas by these age groups.

core areas have good road and trail access and are approximately equidistant from the village. One of the positive benefits from the mining development has been access; much of the region is now easily accessible.

RESULTS OF THE LAND USE SURVEY

1990-91 Land Use

Given all of these conditions, we would expect as heavy use of the Faro area if the development had not taken place as occurs in a comparable unaffected area, such as the upper Pelly. That indeed is the impression given from an examination of Figure 22-A, which shows the proportion of all people interviewed who used each of the zones for hunting during 1990.[4] The largest proportion of people hunted on lands adjacent to the North and South Canol roads and the eastern section of the Robert Campbell Highway and the lands immediately to the south of the Highway. The affected areas (study zones 13, 14, and 16) were hunted on by numbers of people comparable to those who had used the off-highway areas of the upper Pelly (study zones 19 and 21), with the exception of the mine and Faro township area (study zone 13). The proportion of people who trapped on the affected area in 1990 was similar to the number who trapped in the surrounding unaffected zones. None of the people we interviewed fished in the study zones directly affected by the mining development in 1990, although 2 people indicated that they had fished in the Blind Creek/Swim Lakes area (study zone 16).

The mine area and Faro townsite study zone stood out from

surrounding areas in relation to the number of people who had used the area for gathering. The fire which destroyed the Faro townsite in 1969 promoted an abundance of berry producing plants and left behind a reserve of fire-killed timber, which is particularly valued for its heating efficiency. These indeed were the resources gathered in Zone 13. Several people also gathered medicinal plants in the area, along with berries.

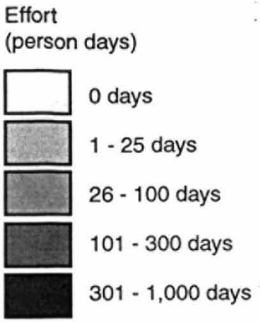
Overall, Figure 22 gives the impression of continuing use of the affected area which is not very different from the adjacent area, with a few exceptions: the lack of fishing in the mine, townsite and Anvil Creek areas; a larger number of people gathering in the mine/townsite area; and a smaller number of people hunting in the mine/townsite and Anvil Creek areas. The results are very similar to the impression given by the land use and occupancy maps. Both types of maps lack information about the intensity of use by individuals. In both cases, a single day's hunting or fishing would have qualified a person for mapping their use of an area. These maps become more useful with the addition of information about how long people were hunting, fishing or trapping.

The impression of continuing heavy use of the affected areas changes radically when figures for harvesting effort are included (Fig. 23). Harvesting effort in the effected zones were among the lowest of any of the study zones, with the exception of a relatively high trapping effort in study zones 13 and 14. Trapping continued at a relatively high level of effort within the most affected study zones due to the persistence and tenacity of

one elder and several younger members of families from the Faro country. (The question of who has been using the affected lands and the nature of their use is discussed in more detail below.) The figures indicate that effort for hunting, fishing, and trapping is greatest on lands adjacent to the North and South Canol Roads and the eastern section of the Robert Campbell Highway and on the upper Pelly and Upper Ross River drainage areas. The effort on these lands is similar to the distribution of harvester use (Fig. 22). That is, they are used by large numbers of the band's most active harvesters as their principal hunting, trapping and fishing lands.

By contrast, the lands affected by the mining development are still harvested on, but with the exception of several trappers (and with the possible exception of gathering activities, for which we have no effort data) the areas are only used for brief excursions. These results match the comments made during the interviews. Many people said they no longer use the affected areas, but when asked when they last hunted or fished in the area the answer sometimes seemed to contradict the early statements about use. When asked for an explanation, people said, often with some emotion, that those lands were family areas in which they had grown up or spent a significant part of their lives; that they continued to return to monitor the condition of the land and its harvesting potential. The results of the effort survey suggest it is these brief trips which generally have been indicated on the land use and occupancy maps and Figure 22.

Through combining all of the harvesting effort data a



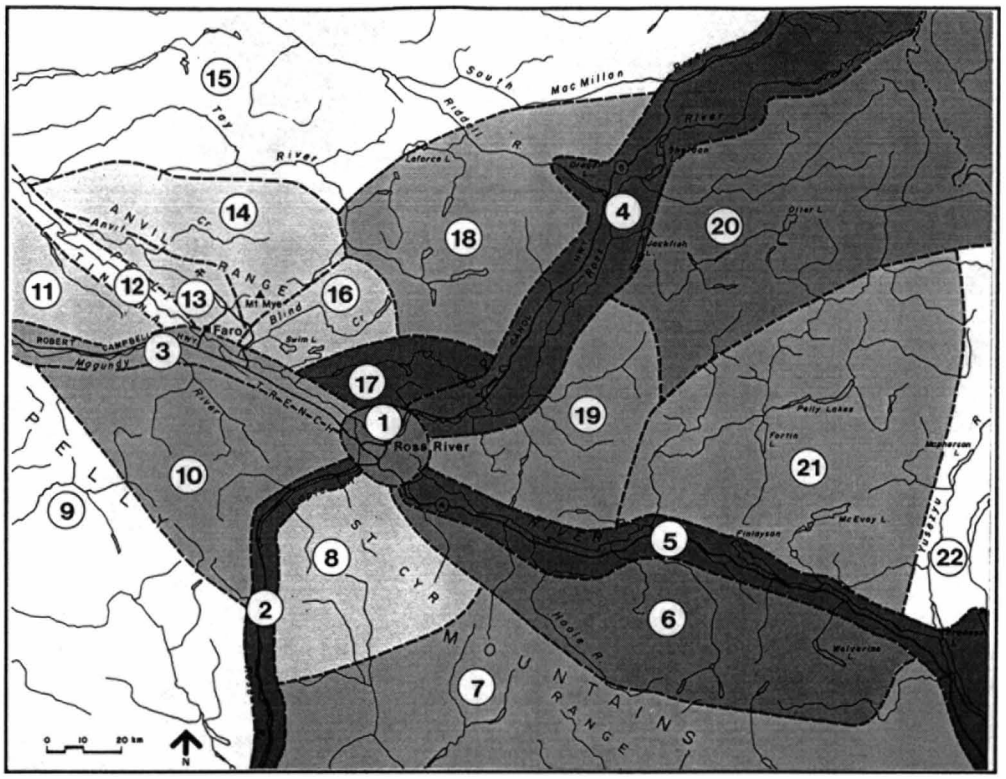
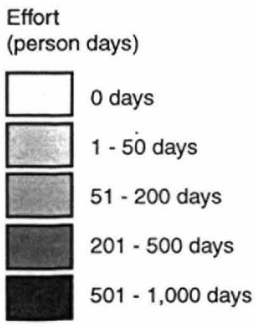


Figure 23 Total sample harvesting effort in 1990
A. Hunting



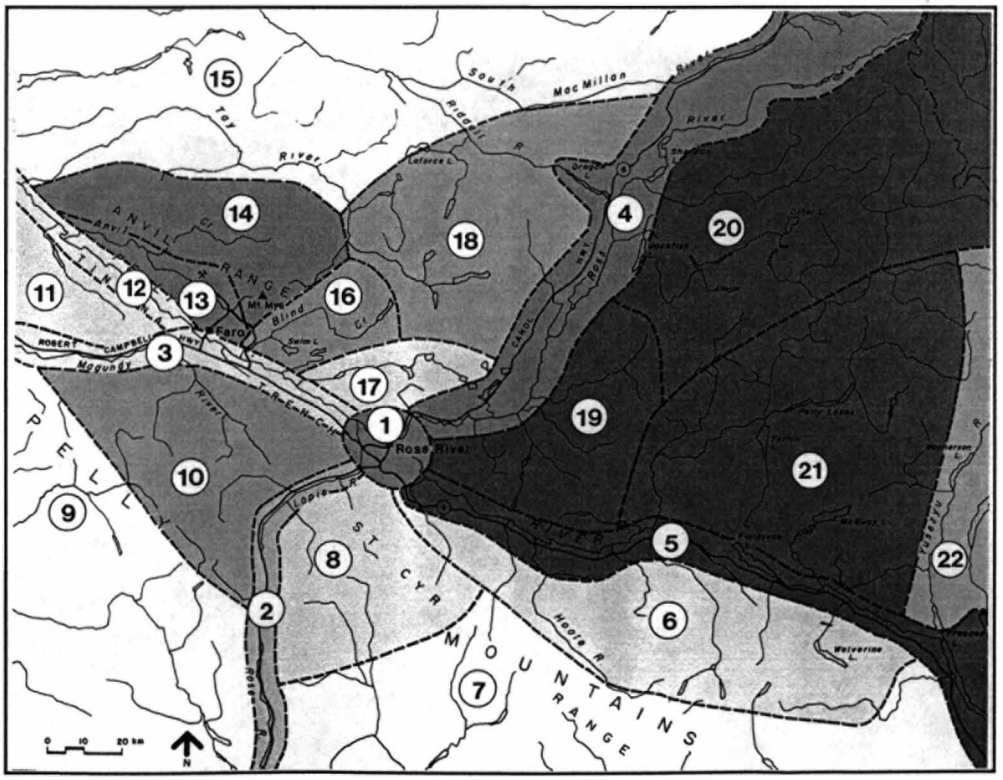


Figure 23 Total sample harvesting effort in 1990
B. Trapping

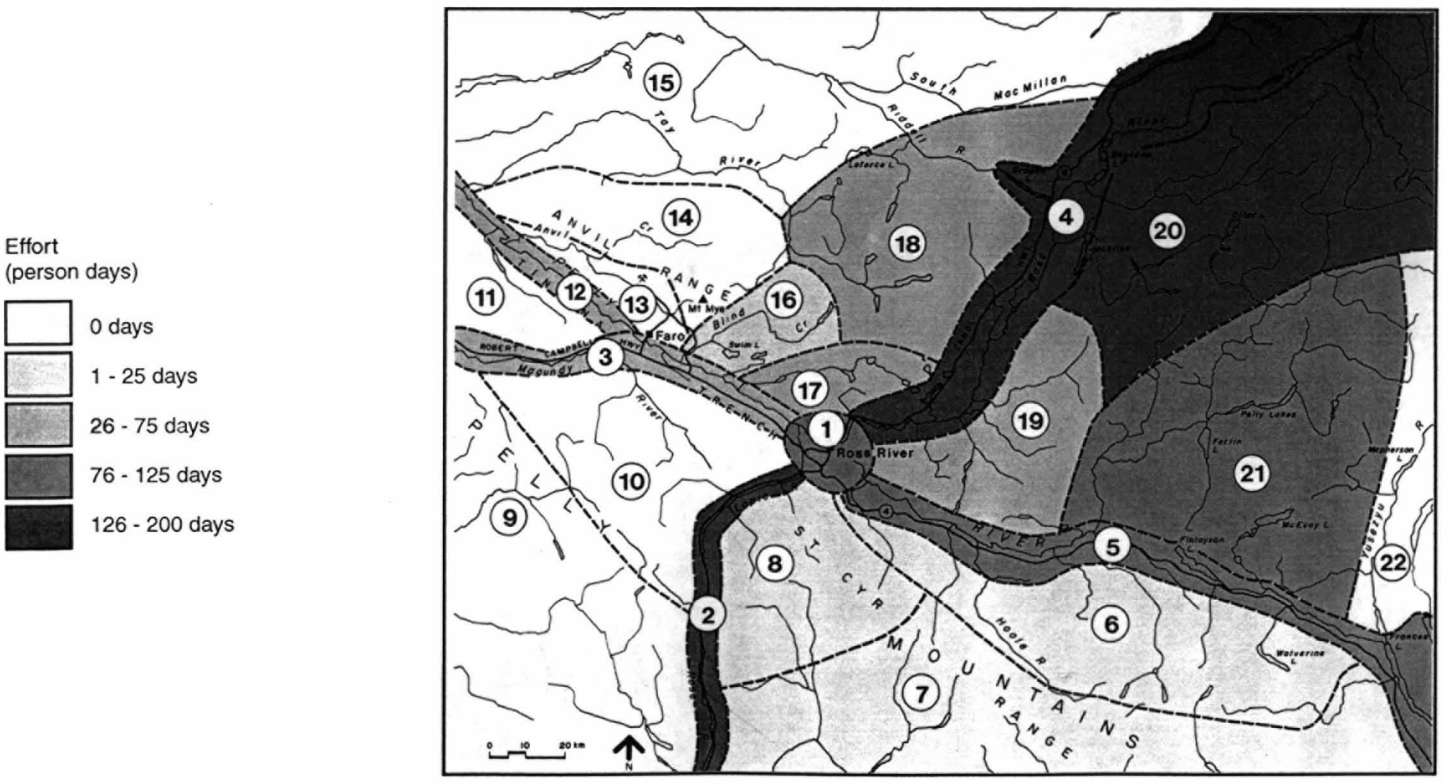


Figure 23 Total sample harvesting effort in 1990

C. Fishing

Effort
(person days

- 0 days
- 1 - 100 days
- 101 - 200 days
- 201 - 300 days
- 401 - 600 days
- 601 - 1,000 days
- >1,000 days (1513 - 1924 days)

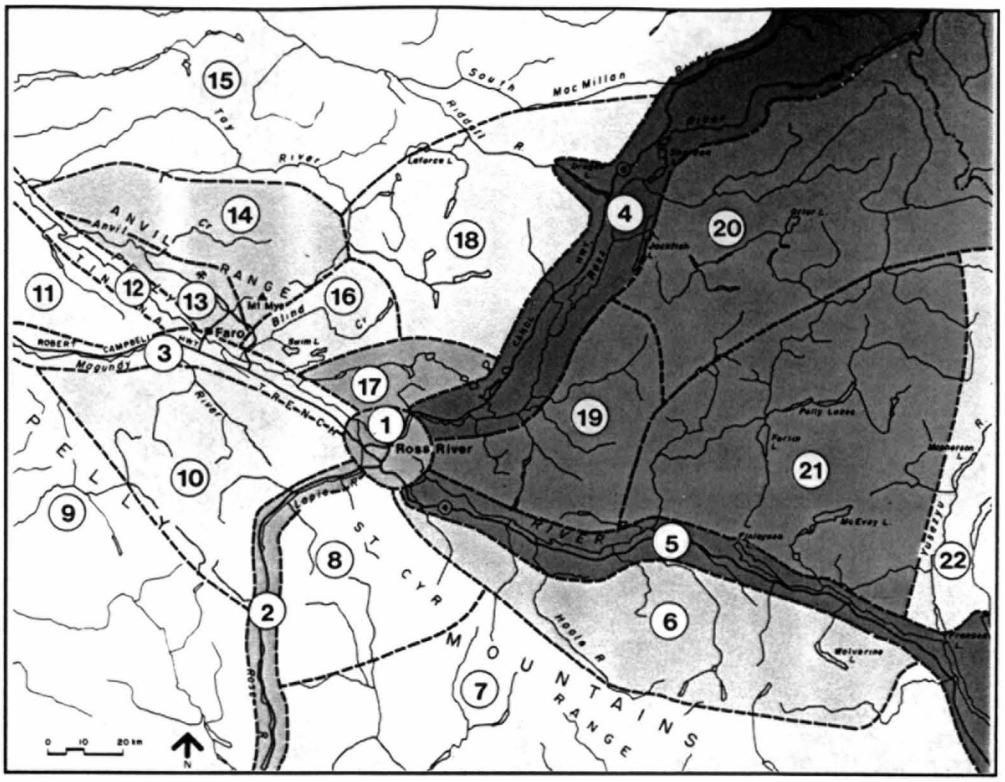


Figure 24 Total harvesting effort index, 1990

Effort
(person days

- 0 days
- 1 - 25 days
- 26 - 50 days
- 51 - 100 days
- 101 - 300 days
- 400 - 500 days
- 900 - 1,100 days

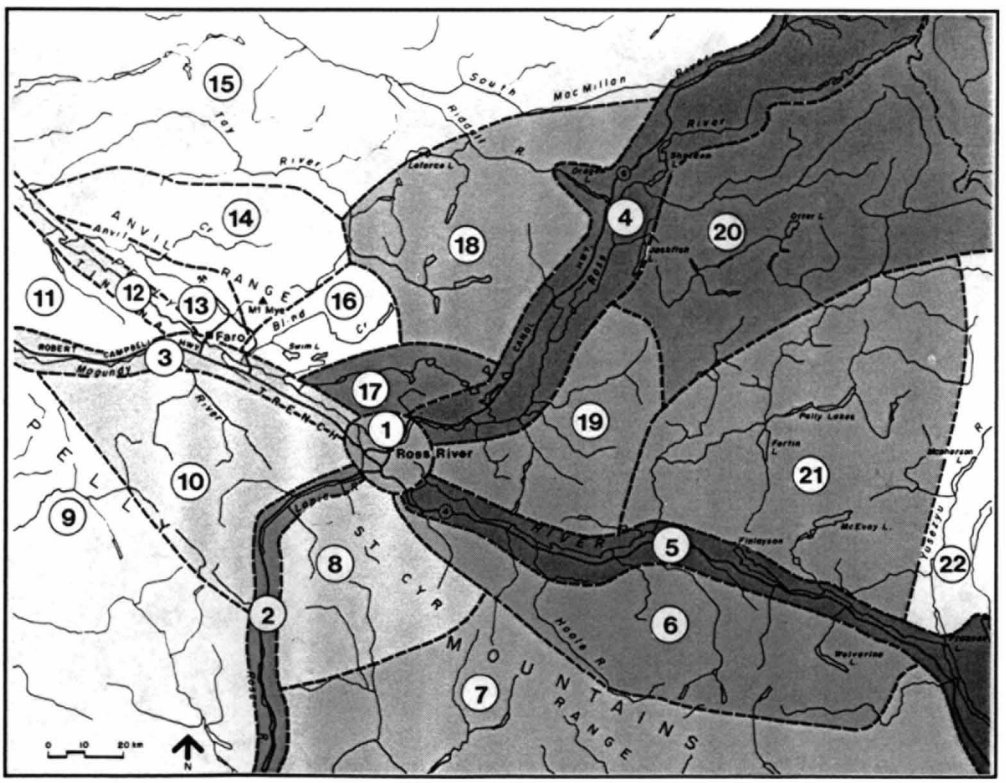


Figure 25 Food harvest effort index, 1990

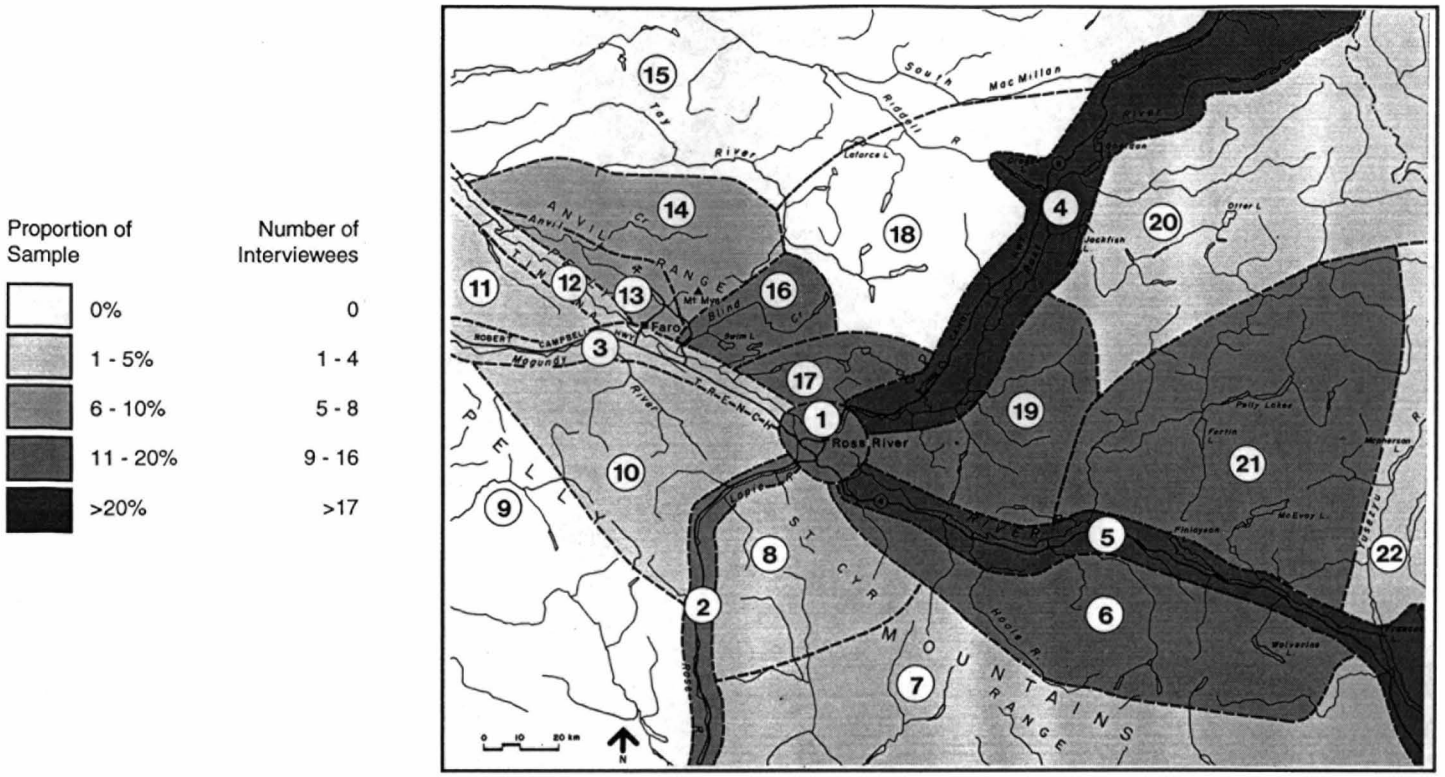


Figure 26 Proportion of sample using study zones as a primary harvest area during the 1980s

A. Hunting

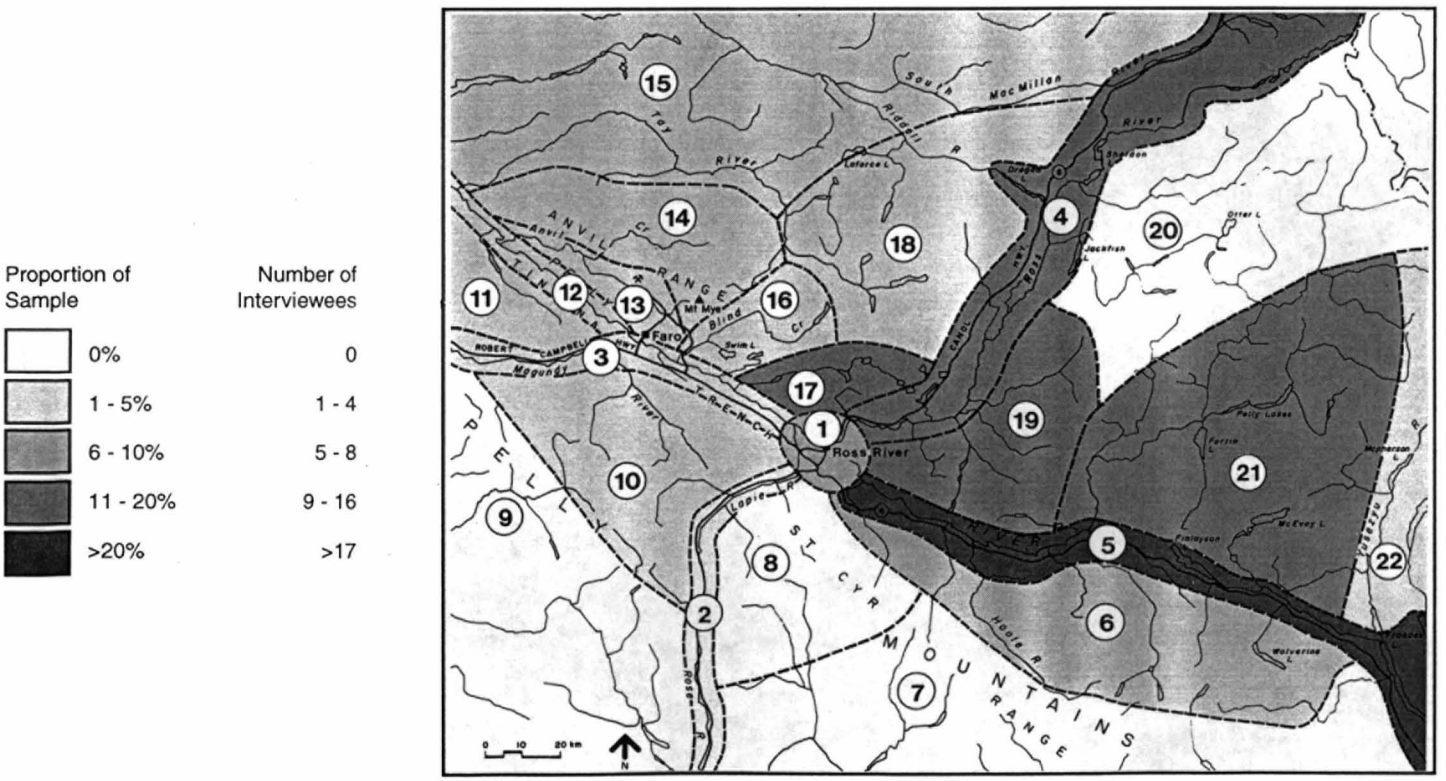
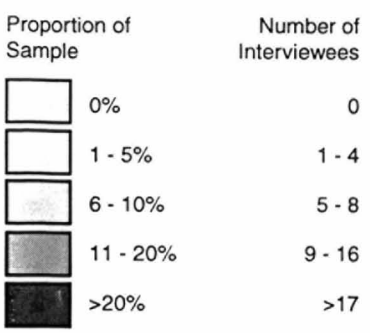


Figure 26 Proportion of sample using study zones as a primary harvest area during the 1980s

B. Trapping



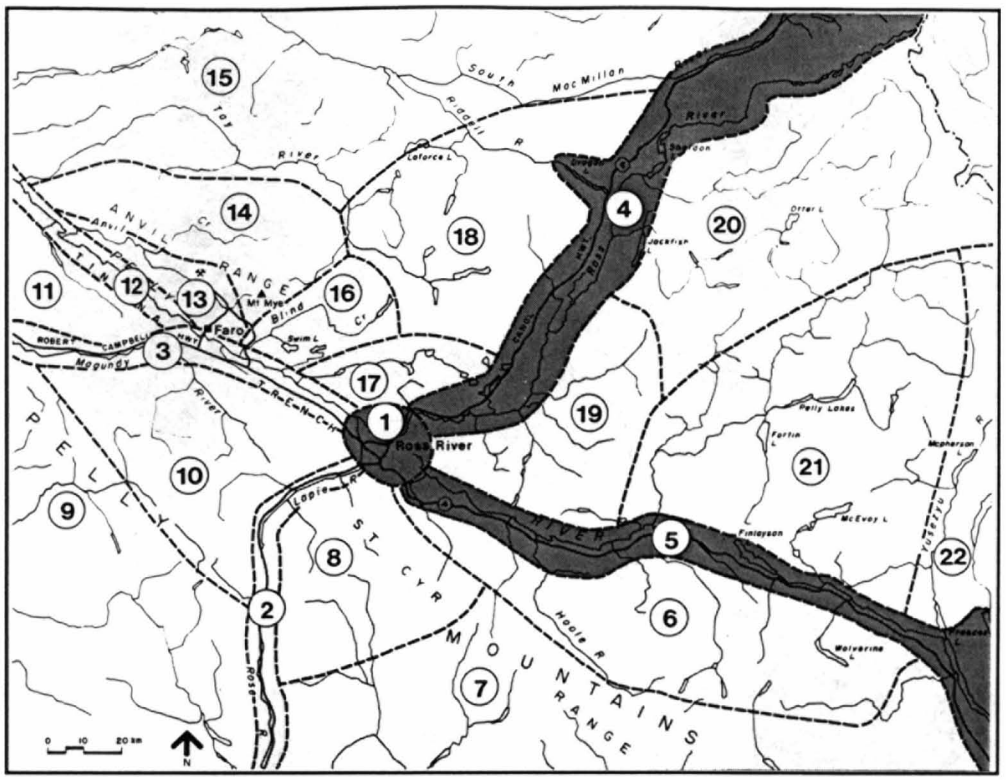
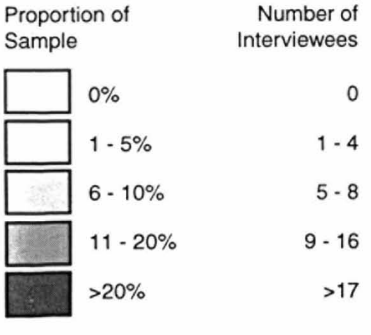


Figure 26 Proportion of sample using study zones as a primary harvest area during the 1980s

C. Fishing



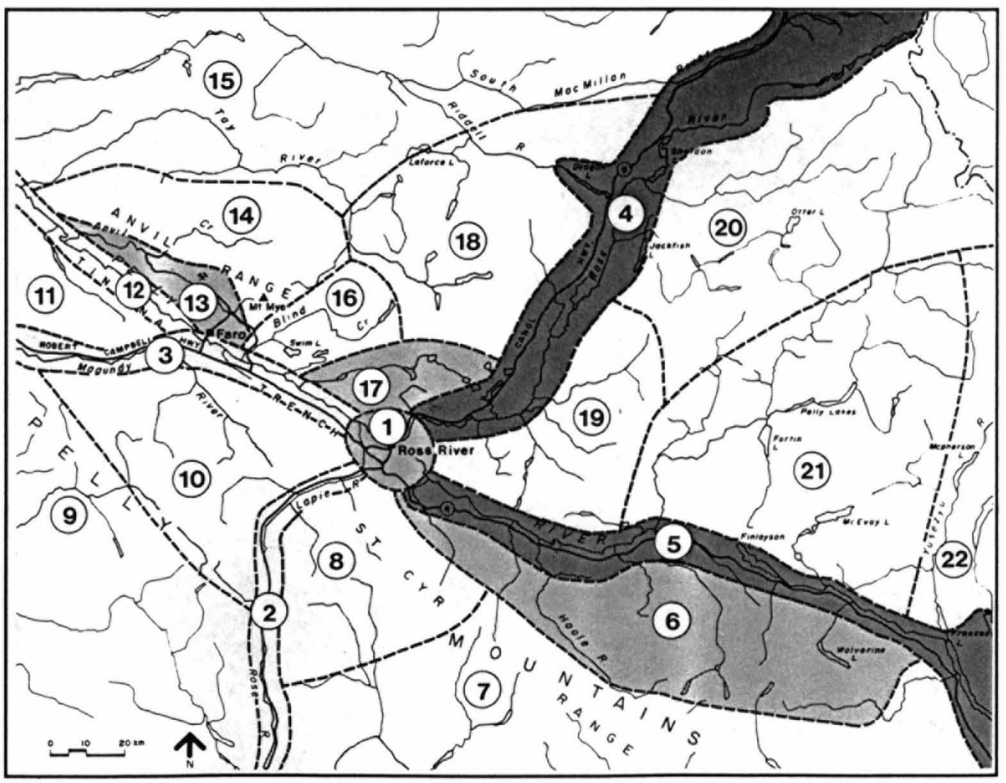


Figure 26 Proportion of sample using study zones as a primary harvest area during the 1980s

D. Gathering

comparative geographic index of total harvesting effort can be constructed (Fig. 24).[5] The index of total effort indicates the intense use of lands adjacent to the North Canol Road and the eastern sections of the Robert Campbell Highway as well as the lands in between. Although the lands affected by the mining development had significantly lower levels of use, this index indicates a higher degree of use than the adjacent study zones. The greater degree of use, however, results from trapping effort. An index created for food harvesting shows very clearly that, other than a few exploratory trips, all 3 study zones in the affected area were almost entirely abandoned as serious food harvesting areas by band members (Fig. 25).

How Representative is the 1990 Land Use Result?

Although a single year's land use and effort data is significant, without some basis for comparison to longer periods of time it is not possible to assess how representative the results are. There was no indication from our open-ended interviews that 1990 was an unusual year in terms of land use. However, different types of multi-year trends that a single year's data cannot take into account.

The survey asked some general questions about land use during the previous decade. The nature of these questions were quite general due to the long time period involved. Consequently, this data tends to have the similar types of limitations as the land use and occupancy maps. Namely, the 1980s data concentrates on presence or absence. When all land use is included in the analysis, rare or occasional uses become dominant.

The data for the 1980s indicates broader land use for the decade than for a single year (1990), as would be expected. The proportion of people who had harvested in various zones was significantly higher. For example, Figure 22A indicates that in 1990 only 4 zones were hunted in by more than 20% of the sample; the 1980s data raises this to 12 zones.[6] As might be expected, the responses for the 1980s show significantly large numbers of people who harvested in the affected zones. According to these results nearly 1/3 of our sample hunted in the affected zones during the 1980s.

Through the selective use of data, however, it is possible to create a comparative index which gives some idea of the relative intensity of use of the different study zones during the 1980s. The maps resulting from a comparison of the "most often" used or primary harvesting areas during the 1980s are very different from maps drawn from total use data. The results of the "primary use" zones demonstrate a land use pattern during the 1980s that is quite similar to that indicated by the 1990 data (Fig. 26). This is what might be expected. Figure 26 is still subject to the same limitations as the use information illustrated in Figure 22 with regard to effort.

However, by combining this information for similar intensity harvesters we can obtain an index of harvesting use of the affected lands during the 1980s (Table 6). This representation is still not able to provide a quantitative understanding of use comparable to the effort survey done for 1990. But it is quite revealing about the use of the affected areas over a relatively

Table 6. The Number of People who Indicated Use During the 1980s of the Study Zones Affected by the Mining Development.

AFFECTED STUDY ZONES	NUMBER OF PEOPLE CITING ANY HARVESTING USE OF ZONE				NUMBER OF PEOPLE CITING ZONE AS A PRIMARY HARVESTING AREA			
	ENTIRE SAMPLE							
	H[1]	T	F	G	H	T	F	G
13	27	6	4	19	5	2	1	10
14	27	5	0	12	6	3	0	3
16	24	4	7	7	9	2	2	3
	INTENSIVE HARVESTERS (INTENSITY GROUP 1)							
	H	T	F	G	H	T	F	G
13	4	0	2	3	1	0	0	2
14	4	0	0	0	0	0	0	0
16	5	0	2	1	0	0	0	0
	REGULAR HARVESTERS (INTENSITY GROUP 2)							
	H	T	F	G	H	T	F	G
13	9	3	1	6	2	2	0	5
14	11	3	0	8	3	3	0	3
16	12	2	3	2	6	1	1	1
	OCCASIONAL HARVESTERS (INTENSITY GROUP 3)							
	H	T	F	G	H	T	F	G
13	11	2	0	7	1	0	0	2
14	10	2	0	3	3	0	0	0
16	5	2	1	2	2	1	0	1
	INFREQUENT HARVESTERS (INTENSITY GROUP 4)							
	H	T	F	G	H	T	F	G
13	3	1	1	3	1	0	1	1
14	2	0	0	1	0	0	0	0
16	2	0	1	2	1	0	1	1

1.H=hunting; T=trapping; F=fishing; G=gathering

long period of time.

If we look first at total use (which can be considered harvesting "visits" -- i.e. everyone who indicated a use made, at the least, a brief visit for hunting or trapping or fishing or gathering), the affected study zones were visited by a relatively large number of the harvesters during the decade, primarily for hunting. Trapping visits were significantly less, as were fishing. Zone 13, which contains the townsite and mine works, was visited by quite a few people for gathering activities.

If we change our focus and only look at the people who said the affected zones were among the areas they used most often for harvesting activities, the perspective and conclusions about the use of these zones shifts. The numbers of people in this instance drops radically for nearly all of the regions and for nearly all of the harvesting activities. The major exception was gathering in Zone 13, the town and mine area. As discussed above, berry producing plants and fire-killed timber were relatively abundant because of the forest fire that burned much of the slopes in this area in the late 1960s.

The use of these areas was broken down further in Table 6 according to harvester intensity groups. Harvesting visits to all of the affected zones were at moderate levels, which is an indication that all groups continued to visit the area, at least to check-out the harvesting opportunities and to monitor the state of the environment. Again, the picture shifts dramatically when we only consider the people who included the areas in their primary harvesting lands. The major user group was the "regular"

harvesters (intensity category 2), who are a combination of part- and full-time employees who regularly harvest during free-time and holidays, elders who are semi-retired, but actively pursue some types of harvesting activities from the village as a base, and younger harvesters who spend varying amounts of time in the bush trapping and hunting. The area was nearly abandoned by the most intensive category of harvesters. Among the regular harvesters the numbers indicate a group of 2-6 harvesters who use the affected areas as primary harvest areas for hunting, trapping and gathering.

The areas have been largely abandoned for significant fish harvesting. A number of reasons for this were indicated during the interviews. The fish downstream from the town and mine works are suspect. There is concern about contamination from pollution, especially about tainting from substances which may produce health effects at low concentrations. Adjacent drainages have been avoided as fishery locations because of competition and risks of unacceptable levels of disturbance. The productive fisheries at Swim Lakes have declined because they were discovered by Faro residents. Setting up camps along waterways that are used by Faro town residents and tourists as recreational areas risks the embarrassments and discomforts of becoming a curious spectacle for sightseers. Given a choice, Indian harvesters will move elsewhere, simply because the significance of what people do in the bush has to do with being at home. This is fundamentally at odds with exposing yourself to the curiosity of outsiders.

Continuing Use and Replacement

The effort data for 1990 allows a more precise examination of the land use of people whose family areas include the mine development lands. How has this group responded to the environmental changes? To what extent have these people persisted in the use of this area? Where have the people who no longer use the area for serious economic harvesting gone?

The survey data confirms what people told us during the open-ended interviews. The areas affected by the mine development has been abandoned as a serious hunting and fishing location by people who consider the area as part of their homelands.

Only 3 people whose homelands were in the mine development region persisted in extended use of the affected zones during 1990, and that use was limited to trapping. This group consisted of an elder and his son-in-law and a young man in his twenties. The young man was given the trapping area by his grandfather - one of the band's most respected patriarchs - prior to his death. The primary trappers in the areas were the elder and the young man, who only trapped in this area. The elder's son-in-law joined him for a brief time and also trapped in another zone. The elder's trapping concentrates on the western slopes of Mye Mountain and the VanGorda Plateau. While the young man's primary trapping focus is the eastern areas, especially Blind Creek and the Swim Lakes. Both men did some hunting in the area and the young man did some fishing, but their primary food harvesting areas were in other locations.

Figure 27 examines the geographic distribution of the contemporary land use of the people in the survey sample whose family lands were located in the mine and town development areas (Zone 13). Other than the persistence of trapping effort in the area, the maps indicate that the primary harvest effort of this group of people has shifted to other accessible western areas of the band's territory, in particular to the lands adjacent to the North Canol Road.

The numbers and the figure substantiate what the representatives of this group told us during the open-ended interviews. With considerable reluctance, after experiencing the direct impacts in the mine development area and from concern about possible contamination of food produced in the area, people moved their main camps out of the affected areas. The numbers and maps are flat when it comes to feelings. The move to other areas was an economic necessity for people who continue to make a living from the bush. The ties to the Mye Mountain/Blind Creek areas are still powerfully felt by the people with historic family ties to that country.

The families who have switched their primary hunting focus to the North Canol Road have walked into another set of problems. The North Canol is one of the most intensively hunted areas of the Territory. Hunters from many parts of the Yukon travel to the North Canol for the fall moose and caribou sports hunt. If, or rather when, the extensive mineral deposits in the Macmillan Pass area are developed, the North Canol road will likely become a major industrial road for trucks carrying the ore to tide water.

ENDNOTES

(1)A dollar value for estimates of annual meat harvests was based on replacement costs. The value of harvested meat was imputed to be worth what it would cost to replace the wild meats with similar types of store-bought meat purchased in Ross River.

(2)Of the 40%, food production contributed 27.6%, fur sales 12.7% and craft sales (a significant portion of which uses local fur and skins) 0.7%.

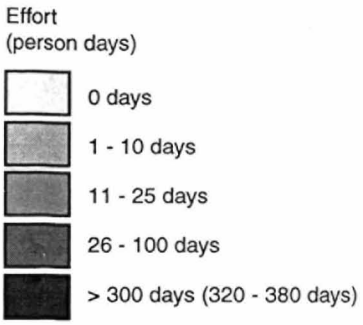
(3)A similar effort question about gathering was not included in the survey because of its complexity. Gathering is actually a complex of unrelated activities which includes berry and edible root picking, the collection of medicinal plants, the collection of bird eggs, and the collection of firewood. Some of these activities provide the focus for harvesting activities and some are usually conducted with other harvesting activities. The complexity would have made the questionnaire considerably longer if we had included a series on questions about the geography of gathering effort. To reduce "interview burden" and encourage a greater participation in the interview, a decision was made not to include more detailed questions about gathering effort in the questionnaire.

(4)The annual period used for the questionnaire survey extended from break-up 1990 to break-up 1991 (approximately from May 1990 to May 1991). For simplicity, this period is referred to as 1990 in the discussion.

(5)The figure is a representational index rather an actual measure of total harvesting effort, since the separation of harvesting activities used for the analysis is an artificial device. Northern native harvesting economies typically combine activities. In the real world hunting, fishing, trapping and gathering are a continuum. There is some specialization, but different harvesting activities are often done at the same time.

Hunting, fishing, trapping, and gathering were treated as separate activities in the questionnaire to create analyzable categories. The people being interviewed were at times puzzled by this, and requested additional information about what was being asked.

(6)Interestingly, the 1980s data shows hunting use of the 4 zones which had no hunting use indicated for 1990. The results reveal that regions at the outer limits of the band's lands may not be used every year, but they are in use when viewed over longer periods of time.



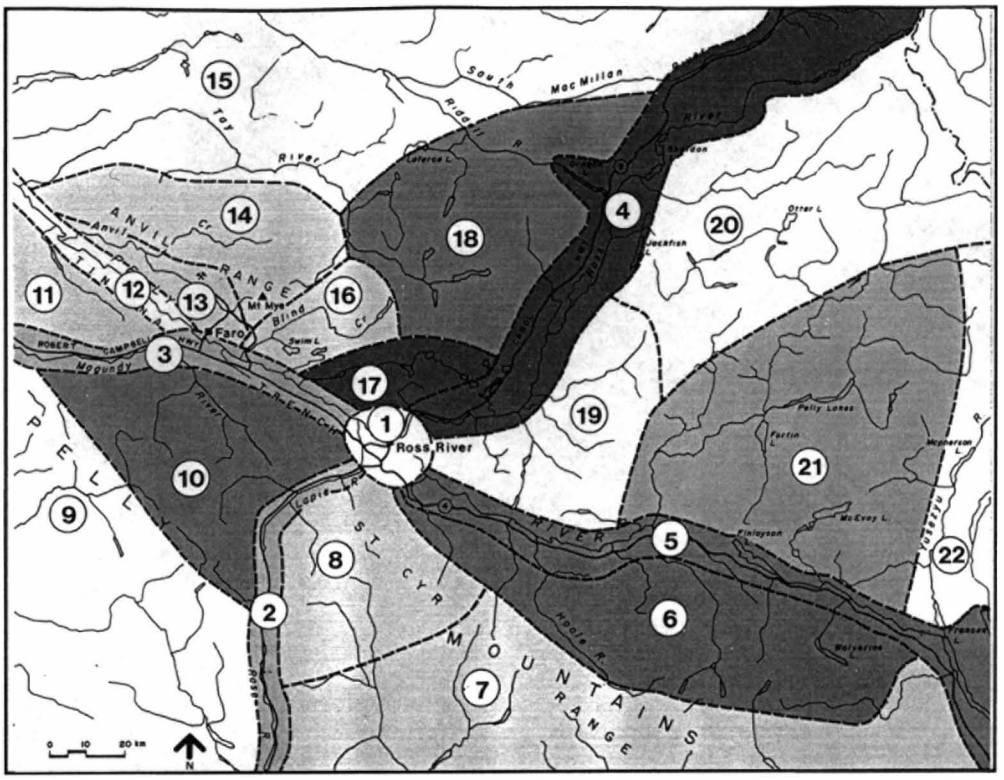
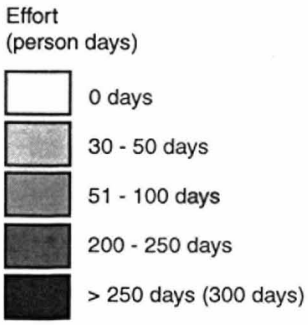


Figure 27 Distribution of 1990 harvest effort of people whose family areas were in the mine and townsite zone (study zone 13)

A. Hunting



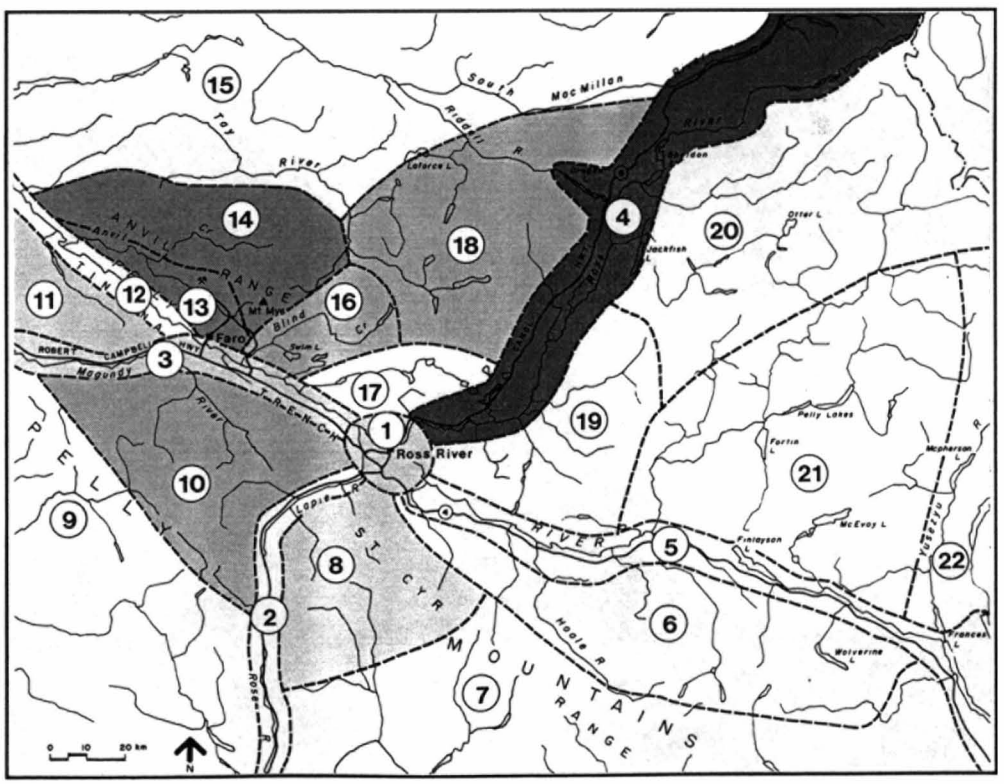
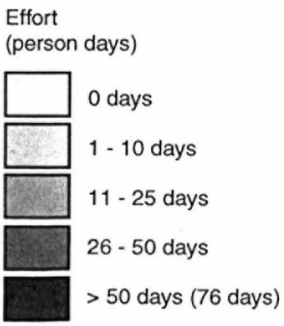


Figure 27 Distribution of 1990 harvest effort of people whose family areas were in the mine and townsite zone (study zone 13)

B. Trapping



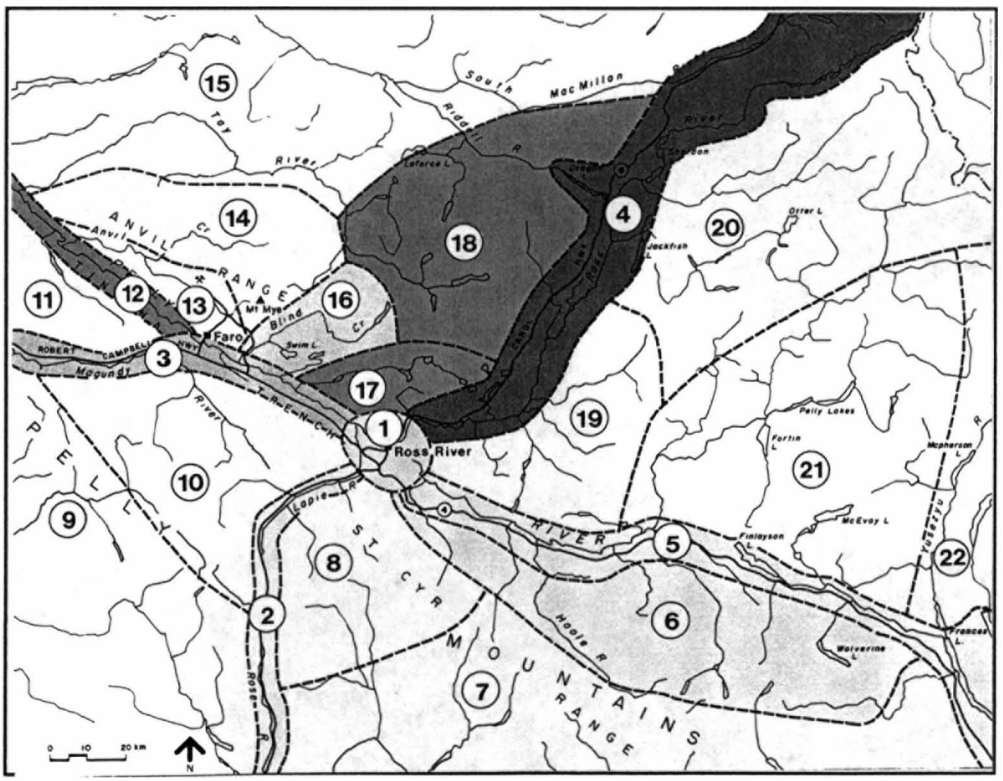


Figure 27 Distribution of 1990 harvest effort of people whose family areas were in the mine and townsite zone (study zone 13)

C. Fishing

CHAPTER 10

CONCLUSIONS AND RECOMMENDATIONS

A REVIEW

This study was conducted to provide an understanding of the impacts of the Faro mine development on Indian land use. No information of this sort was available before. The mining development was initiated during a time when standards for both environmental concern and aboriginal rights were considerably lower than they are presently. Impacts to Indian land use was not an issue during the early stages because the harvesting economy was not taken as a serious or legitimate economic activity. Rather, it was considered a necessary economic stopgap for native people on the road to modernization and a wage-labour lifestyle.

Attitudes about Indian land use and the development of northern lands during this period fit the historic patterns of colonial expansion throughout North America. According to these views, land should be used for the 'highest' economic return; unaltered, non-agricultural land and land without structures are wasteland; the aboriginal inhabitants who have not cultivated land or constructed durable engineered structures have no inherent rights to the lands they occupy; and people without property rights can be made to move when land in needed for a superior economic use. There have obviously been major changes in these attitudes, in both law and public opinion, since the start of the mine project.

Local impacts to Indian land use in the Faro area were also not issues because the significance of hunting, fishing, and trapping to northern Indian life were misunderstood. Research over the last 2 decades has established that subsistence is the core system of organization in the lives and culture of northern hunting peoples in Canada. It is not simply an economic activity - a means to obtain food and cash. For the Kaska, being on the land combines making a living, expressing a living/evolving culture and finding satisfaction in life. The connectedness with the environment, animals and other people, which the land provides, is all the more important during times of great social change and dislocation, as has often been brought out by native people at public hearings.

Indians faced with the development were expected to 'adapt and accommodate' or simply move off to hunt and trap some other area. Expectations of Indians moving on before the settlement frontier was based on ideas of an empty land -- Yukon as an amorphous wilderness. The map was a blank, except for streams and mountains and towns and roads. The wild, unsettled lands, appeared to have no social or political boundaries or rules to guide access. One part of the wilderness was considered as good as another for hunting and trapping. Consequently, if the Faro region was lost, other areas would do. The quotation from Warburton Pike, at the beginning of this report, is a vivid testimony to the sporadic distribution of occupied wildlife habitat and the importance of local knowledge for making a living from this land. Much of the analysis in this report has been directed

at re-shaping the blank map to provide information and knowledge for understanding the *quiet* land use conflicts which resulted from the Faro development.

The goal of the research was the reconstruction the band's use of the affected region during the middle and late years of the 20th century -- that is, before the development and after -- and the ability to attribute changes to the mining development. The goal has only been partly accomplished. In particular, the details of the impacts and dislocations at the earliest stages of the development are lacking.

Retrospective impact assessments rely on before and after data for reconstruction. In the present case, the available data were very limited. Not only had no baseline environmental or land use studies been conducted, but government administrative records provided no useful information. Even the single source of information about Indian land use generally present from government files, annual trapline fur records, was not available in this case. Fur records for Ross River represent the band's territory as a whole because of the grouping of traplines; this eliminates any possibility to attribute harvests to a particular region of the territory.

For the present study the only source of information was peoples' memories. Many of the people who were most deeply affected are no longer living; some died of old-age and some of alcohol-related accidents, which, because of the high proportion that occurred to Faro-area families, can be attributed as indirect

impacts of the development. Consequently, the testimony of these people to the effects were no longer available. Family members provided general outlines of the early impacts to land use. And present-day elders and others described the history and cultural ecology of the Faro region lands, and explained the nature of the impacts and peoples' responses to them.

The research surveyed the land use responses to impacts through an examination of land use data maps from an earlier study, and though a mapped questionnaire. The questionnaire survey concentrated on land use during the 1980s and the early 1990s. It focused in greatest detail on the most recent year.

The mine development took place during a time of crisis for the Ross River Indians, along with other traditional hunting peoples across northern Canada. The 1950s to the early 1970 represented a prolonged depression for these communities which lasted nearly a generation after the crash in the value of the fur economy. At the same time, trading posts in the Yukon, which had catered primarily to Indian clients, closed. The network of river transportation which supplied summer employment for Indians was abandoned, along with some of the communities they serviced. Cash to purchase the hardware, ammunition, and food staples which had become part of the modern hunting-trapping outfit was very scarce. Many of the band's present-day elders, who had responsibilities for young families at the time, had to temporarily emigrate to the new highway centers to secure a living. Their parents, now deceased, and some siblings, many of

whom are also deceased, remained.

The Mye Mountain/Blind Creek area of the band's traditional lands were one of two major core use areas. The nature of habitat and resources within the band's territory required seasonal relocations of the harvesting groups. Some groups had to walk considerable distances between seasonal harvesting areas. The Mye Mountain/Blind Creek area was a rare locale; the complete mix of animals and productive habitat required for the Kaska method of making a living from the land were contained within this limited space. Because of the abundance of the resources, the area was well known within the band. People from other regions were often invited and encouraged to join the Mye Mountain/Blind Creek harvesting groups.

There was a compatibility to the early stages of mineral exploration. Indians found seasonal work during a time when other sources of cash were scarce. Families could live nearby, and hunting for food could be carried out at the same time. There was limited disturbance and disruption to the environment.

As the exploration intensified, especially during the staking rush and the period of large-scale geophysical studies, the first major dislocations began to be felt. Game moved away from the disturbances. Animals became more wary and people's ability to predict behaviour, the central core of Indian hunting/trapping methods, declined.

As the plateau began to be reshaped with roads, camps, town, overburden, reservoirs and tailings pond the feeling of loss was profound. People attempted to persist in their harvesting.

Some aspects of the changes, such as the new road system on the western side of the VanGorda Plateau and the job opportunities, were valued. People who persisted, however, had to contend with harassment as well as changes to trails, habitat and animal behaviour. Access to some of the areas was prohibited for safety reasons, but Indians also felt that they were being told that the Faro region had been taken for settlement -- no longer appropriate for Indian use.

The changes to Ross River which accompanied the mine development affected all band members. The village changed fundamentally and very rapidly, from an isolated Indian community to a mixed-racial regional service centre. Indians became a marginalized minority, facing bigotry and discrimination. The shifts in family life on the land that resulted from the establishment of a day-school in Ross River added to the problems. The traumas that resulted were profound, leading to alcoholism, family breakdowns, and self-inflicted violence. People from other regions of the band's territory, however, had recourse to their familiar homelands as a sanctuary - as well as location for economic activities. The Faro region families watched themselves become outsiders as both village and homeland were transformed.

People persisted in the use of the Faro area for harvesting, but the intensity of use changed as harvesters encountered the impacts of the development: problems of restricted access and firearms use prohibitions; declines in local animal populations which resulted from disturbance, habitat loss and degradation, and increased competition from recreational hunters and fishers; fears

of health risks from consumption of wild meat exposed to toxic substances; and increased amounts of disturbance. Disturbance ranged from the simple curiosity of Faro residents, for whom the activities of Ross River Indians on the land were interesting anachronisms, to the malicious destruction of trapping sets, poaching of furs, theft of gear and vandalism of cabins.

The research has not focused on the detailed day by day and person by person experience with these impacts. This kind of documentation is possible for a few individuals over relatively brief periods of time. Other types of measurements are required for assessing impacts to populations over long periods. The survey methods used for this study concentrated directly on land use. The land use responses are expressions of cumulative impacts. Hunting, fishing, trapping and gathering are critical economic activities for the Ross River Band. Earlier research demonstrated that subsistence was the most important sector of the band's economy during the 1980s (Dimitrov and Weinstein 1984). The various factors that are part of the economic land use decision making of subsistence harvesters were listed in Table 4. The land use of the affected family groups results from experiencing the impacts and making assessments of the possibility for satisfying a complex of needs (economic, cultural and personal) in the area. The response results from filtering the experience of impacts through the mesh of the land use decision-making considerations.

The survey results indicated that the Faro region is the family homeland for a significant portion of band members. The

upper Pelly/Pelly Lakes region represents a comparable core homeland for many other band members. A comparison of the use of the two regions by their respective family members provides valuable insights into the land use effects of the development. Stated simply, people from the upper Pelly/Pelly Lakes region persist in the use of their traditional lands as primary harvesting areas. People from the Faro country have gone elsewhere for serious harvesting, with the exception of 2 or 3 people who continue to trap the lands around Mye Mountain.

Remarkably, the Faro area has not been abandoned. Many people, from a broad spectrum of band families, experiment with hunting and fishing in the area. The use is indicative of the area's importance. People repeatedly told the researchers that their personal and family ties to that country are too powerful to give it up. The visits represent informal community monitoring -- keeping an eye on the changes with the intention of reclaiming it when the conditions required for serious land use recover.

STANDARDS OF FAIRNESS

The Faro mine development has been the economic engine of the Yukon during much of the late 20th century. The benefits from the development have been enjoyed by people throughout Canada and beyond. There was an intention within the mine development agreement to provide benefits to native people through employment. This intention was never fulfilled; in any event,the target group was northern natives in general, not the people who traditionally relied on the development lands for their

livelihood.

Many attitudes and understandings have changed over the intervening years. In particular, standards for social fairness, the way we expect people to be treated within Canada, have become more definite. Native land claims are in the process of settlement. The rights of aboriginal people are slowly being defined by the courts within Canada, and globally by international forums. The question of what is due to the Ross River people because of impacts of the mining development on land use needs to be looked at from these standards.

In the past, native peoples were trapped by nation state definitions of property. According to those rules, property and property relations were created by the sovereign or the state. Use of land and resources before the ownership was assumed by the Crown was considered occupancy, rather than a property right. This interpretation led to the notion of aboriginal rights to resources being simply a right to continue using the resources. The numbered treaties signed in the 19th and early 20th century with Indians in Canada were consistent with this interpretation. They included a clause specifying rights to hunt, fish, and trap until lands were needed for settlement or other purposes. The trap is contained within the legal limitations of resource use (usufructuary) rights. When a person owns the resource or the land and other parties damage their property, they have a legal recourse to sue for compensation for lost value. Damages for usufruct rights, however, are not available because the rights are limited to take the resources as they are found.

These ideas, however, have not taken the native system of resource use or rights into account. They also have not taken the need to make a living and the broad significance of subsistence to native societies into account. Modern legal decisions and government policy in Canada have affirmed the need to settle land claims. Land claims settlement are considered the proper means to resolve these difficult questions about the relationship between native peoples and the settler population within Canada. Until settlements are concluded, the status of land and resource developments in areas of the country where treaties with aboriginal parties have not been signed are still legally uncertain. (That is, there have been a variety of legal judgments, but there have not been definitive decisions at the Supreme Court level.)

The evolving standards for resolving conflicts between aboriginal land and resource developments include the recommendations of the recent World Commission on Environment and Development (also known as the Bruntland Commission, after Gro Harlem Bruntland, the former Prime Minister of Norway and the Commission's Chairperson) and the United Nations Working Group on Indigenous Populations. The policy recommendations and thoughts of these groups provide a broad view of current standards of fairness with regard to resource development and the rights of aboriginal peoples, globally. The comments of the Bruntland Commission on tribal peoples and resource development are nearly a vignette of the experiences of the Ross River people:

"With the gradual advance of organized

development into remote regions, these groups are becoming less isolated. Many live in areas rich in valuable resources that planners and 'developers' want to exploit, and this exploitation disrupts the local environment so as to endanger the traditional ways of life. The legal and institutional changes that accompany organized development add to such pressures.

Growing interaction with the larger world is increasing the vulnerability of these groups, since they are often left out of the processes of economic development. Social discrimination, cultural barriers, and the exclusion of these people from national political processes makes these groups vulnerable and subject to exploitation. Many groups become dispossessed and marginalized, and their traditional practices disappear. They become victims of what could be described as cultural extinction.

These communities are the repositories of vast accumulations of traditional knowledge and experience that links humanity with its ancient origins. Their disappearance is a loss for the larger society which could learn a great deal from their traditional skills in sustainably managing very complex ecological systems. It is a terrible irony that as formal development reaches more deeply into rain forests, deserts, and other isolated environments, it tends to destroy the only cultures that have proved able to thrive in these environments.

The starting point for a just and humane policy for such groups is the recognition and protection of their traditional rights to land and the other resources that sustain their way of life -- rights they may define in terms that do not fit into standard legal systems. These groups' own institutions to regulate rights and obligations are crucial for maintaining the harmony with nature and the environmental awareness characteristic of the traditional way of life. Hence the recognition of traditional rights must go hand in hand with measures to protect the local institutions that enforce responsibility in resource use. And this recognition must give local communities a decisive voice in the decisions about resource use in their area.

> Protection of traditional rights should be accompanied by positive measures to enhance the well-being of the community in ways appropriate to the group's life-style." (World Commission on Environment and Development 1987:114-116)

Similarly, the United Nations Working Group on Indigenous Peoples was given the mandate to formulate "international standards which will govern States in their relations with indigenous peoples" (UNWGIP 1992:1). A recent "Draft Universal Declaration on the Rights of Indigenous Peoples" currently under consideration includes:

> Part III, 15. Indigenous peoples have the collective and individual right to own, control and use the lands and territories they have traditionally occupied or otherwise used. This includes the right to the full recognition of their own laws and customs, land-tenure systems and institutions for the management of resources, and the right to effective State measures to prevent any interference with or encroachment upon these rights.
>
> Part III, 16. *Indigenous peoples have the right to the restitution or, to the extent that this is not possible, to just and fair compensation for lands and territories which have been confiscated, occupied, used or damaged without their free and informed consent.* Unless otherwise freely agreed upon by the peoples concerned, compensation shall preferably take the form of lands and territories of equal quality, quantity and legal status at least equal to those which were lost. (emphasis added)

This draft declaration should not be taken as a binding document. It still has a long way to go before being tabled to the United Nations General Assembly in the Fall of 1993, according to current plans. Nonetheless, both of these documents are revealing about current standards of behaviour that are expected

when native lands and resources are in conflict with industrial developments.

Within the Yukon most or many of these questions are being addressed through lands claims negotiations. Part of the redress of the impacts may be negotiated within the land claim settlement. This is a matter, itself, to be determined through negotiation. For example, it may be desirable to include government responsibility for compensating the band, as a whole, for the impacts resulting from the development on village life within the land claim structure. There are, however, inherent risks from including the redress of project impacts under the land claim umbrella. So many items critical to the future of the band's relation as a First Nation within Canada ride on these negotiation that it would be easy for the specifics of redress for the Faro development to get lost or be traded for other benefits. These negotiations are also limited to government and the First Nations. Obviously another negotiation forum is required, which includes the band and the company, and, as required, the federal government.

There are other dangers of 'slippage' with the mine development. That is, the complexities of this project offer many opportunities for avoiding the real problems. For example, the Ross River impacts result from developments which were initiated in the past, have recently expanded, and may continue on to other deposits in the future. Should this kind of project be subject to current environmental and social regulatory standards or should the old ones apply? Arguments can be raised that current standards should not apply to developments initiated when

standards were not as rigorous. For example, that standards for mine abandonment should not be as rigorous as those currently required of new mine developments. A position like this may be convincing to people who live and work at a distance, but it has no appeal to the people who expect to live in the development area as many generations into the future as they have in the past. Rather, it would feel like a continuation of the way the affected people and land have been treated in the past.

The tone of both international documents derive from modern expectation of social justice and fairness. Because they presently are moral rather than legal, they require good-will to operate. But that is equally true for any complicated administrative process; the successful implementation of a land claim agreement will also require goodwill and cooperation. The tone of the international documents invites decision-makers, who have not already done so, to change how they think about native populations in relation to land and resources; to think about the needs of the communities from within; and to appreciate the role of subsistence and its land base to contemporary and future aboriginal societies.

MODELS FOR COMPENSATION AND OTHER RECOMMENDATIONS

There are obvious needs for compensation to the people who have experienced nearly a generation of impacts without any recognition of what they have endured. The dispossession of the band and area families from one of the two core regions of their traditional lands is an historically significant event which has

never reached public view. One of the reasons for this has been the public ignorance of the nature of the native harvesting economy. Another part is nested in prevailing attitudes about native-land relations which have been carried within the dominant settler society up to recent times.

There is a growing recognition that compensation is not just about benefits -- these are important, even critical in circumstances of real economic needs. At its heart, however, compensation is about respect and dignity (Dorsey 1991). When damages reduce peoples' self-reliance and their ability to make a living, there is an inherent loss in self-respect and personal dignity. Compensation benefits are the means which are commonly used to publicly express the recognition of loss and rights which have been aggrieved. Compensation in the form of cash benefits is a means of redress used for injuries sustained by workers on the job. It is also the means used to compensate for damage to property.

Many models of compensation are not really appropriate for the traditional harvesters of the Faro lands because the models are based on damages to individuals. Compensation for property loss or damage goes to the owner; employees who are injured on the job may be eligible for workers' compensation benefits. In the case of Faro, the damages were felt by an entire community/ society/Yukon First Nation, in which some individuals and families were more intensely affected than others.

The model for compensation which is often offered in the case of impacts of industrial development on hunter/trappers is

payment for damage to property such as traps, nets, cabins and equipment. An attempt at greater fairness may also offer payments for fur and animal losses where the harvesters can demonstrate that the same amount of effort resulted in smaller catches. These models, however, do not work in the present situation in which people attempted to harvest over a number of years and then assessed that, in their judgment as hunting, fishing, and trapping experts in their own right, the area would not supply their needs.

The present situation, because of the uncertain legal status of aboriginal land rights, does not fit under any of these models. Indians are neither employed workers nor, legally within the Canadian system of jurisprudence, land owners harvesting their own lands. Nonetheless, the needs still remain. And contemporary standards and the developing legal definitions of the rights require that they no longer be ignored.

The most appropriate model may be to take the notion of First Nation literally and look at models of compensation for losses between countries. Schneider-Sawiris (1973), for example, examined international models of environmental and trade compensation, which have similar types of legal problems to those discussed above. The guiding principles followed were to examine the broadest definitions of compensation. Webster's Dictionary defines compensation as "to be equivalent to" and "to make good for"; the Oxford Dictionary defines it as "to counterbalance" and "to make amends" (quoted by Schneider-Sawiris 1973). The analysis recommends compensation based on a general principle

that the affected country "should be placed in a position as if these negative effects had not occurred" (Schneider-Sawiris 1973:23).

There are several needs for compensation. The first and most critical are the needs of the elders from the Faro country. One persists in trapping that country with considerable difficulty; others have gone elsewhere for trapping as well as their other land uses. They are the oldest surviving members of families from the mine development area. In a more fair world, they would be beneficiaries instead of being dispossessed. And they would be able to pass on the benefits of their traditional lands to their sons and daughters. The needs of the elders, their families, and the band are both material and symbolic. At the simplest, the elders need a subsidy for such things as increased travel costs and decreased harvesting productivity. Under Kaska rules, the land would be passed onto children and would be open for use by all band members. Consequently, if this level of compensation were to take Indian tenure into account, subsidies should be available to the surviving elders, but it would take a form in which the benefits are transmittable to other generations and other families. The most appropriate form would likely be a compensation fund under which accrued interest can be drawn off to subsidize elders from the Faro area families into the future (i.e available for current elders and other family members as they become elders), on the one hand, and can be used for band harvesting works to benefit all band families, on the other. An

alternative to this might be the use of interest to subsidize travel and camp development of all band elders, now and in the future. One of the attractions of using the fund to finance family camps, under the guidance of the elders, is the benefit of strengthening traditional social linkages on the land. Structuring any arrangement obviously requires the participation and approval of the people concerned.

It is an irony that the mining development, which is the Yukon's major private sector employer, provides no benefits to the Original People from the area, many of whom are in need of income. The people from that country have sustained all of the disadvantages, and received none of the benefits. Early attempts at providing employment were notoriously unsuccessful (Sharp 1977; Macpherson 1978). Besides a compensation package, it is time to re-examine more appropriate ways for the mine development to provide employment to band members. One of the main reasons that Indians rejected the employment opportunities of the Faro development was the working conditions. An alternative to the employer-employee relation is a contractual relation, in which the band or a contractor are simply responsible for doing a designated piece of work to a set standard. Under this kind of arrangement the contractor could choose the kind of work they are willing to do, the working conditions, work schedule, etc.

The needs for symbolic recognition are just as, if not more, important, but less easily accomplished. Recognition is needed to re-build self-respect and turn people away from the path of self-

destruction (which remains evident in the band's recent violent death statistics seen in Fig. 11). Models are not as easily come by. Public declarations and ceremonies come to mind; and they are possibilities. Teaching the band's history and experience with the Faro development within the school curriculum as part of Yukon Indian history would be a start of re-educating the younger generation about another way to view the history of Canadian settlement. The creation of a joint environment management board for the mine development area, on which representatives of the area families have equal standing with other management officials, would go a long way to giving notice to the general public about the special rights of Ross River Indians to the area.

Certainly, the kind of adversarial disputes that have accompanied some compensation arrangements with Indian groups operate more as symbolic denial. For example, the Northern Flood Agreement, intended to compensate 5 Manitoba Cree bands for the impacts of Churchill-Nelson Hydro-electric development, has left the affected Indians feeling severely dis-empowered because of the long history of conflict over compensation claims (see e.g. Young 1992). Wrangles over individual claims and the appropriate dollar amount for compensation have the feeling of a symbolic denial of suffering, unless they are preceded by public recognition of damage and a large restitution to the group as a whole.

Other Recommendations

There are important lessons to be learned from the experiences of the Ross River people, which, if they are properly understood, should provide useful guidance for future developments on other parts of the Ross River lands and in other areas of the Yukon.

A critical lesson from the Faro impact experience is the short-term fragility of Indian land use. Over the long-term, land is not abandoned, except, perhaps, over successive generations. But there is a fragility to the Indian harvesting economy which makes it vulnerable to many types of development activities over the short-term. If the native economy is deemed a valued activity, there are important considerations that must be included in development planning. If this happens there is some hope of compatibility. If not, sub-arctic Indians will be pushed further and further to the limits of traditional economic life, as has happened to most other aboriginal groups in the Americas. Among these considerations are:

1. controlling the pollution which leads to abandonment of foods because of perceptions about toxic contamination;
2. controlling the linkages between resource development and the opening of Indian harvest areas to recreational hunters and fishermen and tourists; and
3. controlling the disturbance to life in the bush and to animal behaviour that results from the intrusion of non-socialized strangers.

The effects of resource developments are not limited to

environmental transformations. Industrial processes and, in some instances, the developments themselves[1] leave residues of materials which are hazardous to animal and human life at high enough concentrations. The substances actually have a dual risk for subsistence economies. Consumers of wild meat may experience health effects. But much of the experience in native communities has been the abandonment of harvesting areas or types of food resource animals that are perceived as possible health risks before any health symptoms appear (Weinstein and Penn 1987; Weinstein 1992). Native communities' methods for assessing food quality do not rely on chemical analysis. Rather, they depend on a combination of the evaluation of the health of the animals encountered (according to traditional methods), a similar type of evaluation of environmental health, and information from secondary sources. Secondary source information is very important, but the way it is used is generally different from how the professionals who provide it intend it to be used. Rather than paying attention to consumption guidelines for amounts of tainted meat or fish that can be safely consumed over a period of time, harvesters assess the animals as either tainted or untainted. If alternative resources or harvesting areas are available, people will switch. If there are no alternative harvesting areas or resources and high levels of concern, people may abandon harvesting.[2]

The new road systems open up the territory for use by mine workers and other settlers. In the past these uses have been considered relatively benign by planners. However, as more knowledge of the impacts of resource development on northern

natives has accumulated, these effects have been found to be, in some instances, more significant than the direct project impacts (e.g. Brody 1981).

Ross River is a particularly interesting example of these problems. Many of the people who were displaced by the Faro development relocated their camps to the North Canol Road, another road system built for resource development. The North and South Canol Roads have been among the most active big game hunting areas in Yukon (YTG 1988), attracting resident hunters from areas of the territory where game has been depleted.[3]

Wildlife management planning which seeks to solve the problems of game demand in the territory exclusively through providing more game is prone to failure from the Indian view, since it ignores the question of disturbance. Some of our discussions with Ross River Indians about their land use decisions indicated that lands accessible to Faro were rejected for trapping because of the simple fact of disturbance. Much of the motivation for going into the bush is being at home. Encounters with strangers in the bush, for Indians with these motivations, is comparable to coming across unannounced strangers using your kitchen and your bedroom.

Subsistence is a human system which uses natural resources and land. Management planning which has consequences on Indian harvesting needs to be guided by an understanding of subsistence as a human system fundamental to northern Indian life and fragile. Wildlife managers need to consider the social or human ramifications of management decisions. Traditional wildlife management has been managing hunters, rather than animals. For native societies, given the role of hunter, this has amounted to

attempts at managing human cultures. This has been the perception of native people and is the reason that aspects of game management have been resisted so powerfully and why the resentments persist so strongly. The restructuring of management under land claims implementation is an opportunity to change this and re-dress the conflicts of the past. This is only possible, however, if Board and Council members and professional managers, alike, gain fundamental understandings about the nature and role of subsistence in native societies.[4]

Finally, another lesson can be learned from the failure of the attempt to provide adequate access across the new haul road for area trappers. The mine re-development on the Vangorda Plateau has changed the nature of the road and trail system to Mye Mountain (Fig. 1). The haul road, when viewed from the downhill side, is a wall-like structure. Attempts were made to broach the wall with ramps and crossings at several locations (Steffer Robertson and Kirsten (B.C.) Inc. 1989; Curragh Resources Inc. 1990). From the perspective of the current principle user, however, the crossings did not do the job intended because of the way they were constructed. The slope of one crossing, intended as access to the skidoo trails to Mt. Mye and the upper Anvil and Rose Creek, is too steep for the main trapper in the area, a community elder. The re-development of the roads on the eastern slopes of the Plateau have cut the roads which Ross River harvesters have used for access Mye Mountain since the start of the mine development. A crossing was provided, but to a 4-wheel dive vehicle standard only. This means that people who want to hunt moose on Mye Mountain can no longer drive their 2-wheel

trucks to the start of the trails and that they then have to cart gear and moose and caribou meat across the haul road and down the Plateau.

In the documents cited above, there was a clear intention to consult with potentially affected band members. But the attempts at consultation were less than successful at providing useful remedial works. The flaw was one of incomplete communication. The need was recognized and a letter was sent out asking advice about the "best placement of crossings" (Curragh Resources Inc. 1990:27). It is not clear if there was a reply to the letter or if information was obtained about the needs for crossings.

Communication has been at a distance. The needs of Ross River people for continuance in the area have been unknown. Part of the intention of this report has been to provide a background to understanding of the Ross River system of land use so the nature of the needs are clearer. A regional environmental management council, with Indian harvesters, company, and possibly other parties represented, would be a useful means to avoid the recurrence of past communications problems in the future. The council could be structured similar to the wildlife management councils created under the land claim, except that the mandate would be the cooperative environmental management of an industrial resource use area. The council would act as a forum for both types of users to make their needs and plans known and cooperatively arrive at solutions for potentially solvable conflicts. The creation of councils of this type would be helpful at forestalling conflicts in other areas of the Yukon at the earliest stages of development planning.

ENDNOTES

(1)For example, the increased levels of methylmercury in fish which results from the creation of hydroelectric reservoirs.

(2) Another type of risk may result from people ignoring health warnings entirely. In many parts of Canada the experience of native people with sports users and game managers has left them deeply suspicious of motives for prohibitions. Game regulations have been experienced as a means to displace native users in favour of sports hunters and fishers. Watching sports fishermen continue to catch mercury contaminated fish which native fishers have been warned to eat in limited quantities only reinforces the convictions that the warnings are a clever method to displace the native fishery.

(3) Families which have moved their main harvesting areas to the North Canol are also at risk if the development of the mines at the end of the road, in the Macmillan Pass area, are developed and use the Canol Road to move the ore to market.

(4)For reviews of the structure and role of subsistence in Yukon and the NWT see Usher and Staples 1988 and Ames et al. 1989.

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APPENDIX 1

LAND USE QUESTIONNAIRE

ROSS RIVER DENA COUNCIL
1991

FARO MINE DEVELOPMENT LAND USE IMPACTS

SURVEY OF EFFECTS ON CURRENT ROSS RIVER LAND USE

PERSON INTERVIEWED _____ AGE _____

Which people do you usually hunt and trap with?
What is their relation to you?

HUNTING/TRAPPING PARTNERS	RELATION
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____

INTERVIEWER _____

INTERVIEW DATE _____

INTERVIEW NUMBER _____

I. LAND USE BREAK-UP 1990 TO BREAK-UP 1991

A. HUNTING

1. From break-up 1990 to break-up 1991 [approximately from May 1990 to May 1991] did you hunt? _____

2. If yes, in which zones on the map did you hunt?
   INTERVIEWER'S NOTE: If a single trip included hunting in several zones, indicate the zones on a single line, separated by commas, and circle the main zone or zones that the person hunted on this trip.)

3. Which season were you hunting in each zone?

4. How long were you hunting in each zone?
   INTERVIEWER'S NOTES:
   a. If the person was in the bush for periods longer than a day or weekend trip, indicate the number of weeks or months they hunted in each zone in the "Bush Residency" column.
   b. If the person hunted on single days or weekends, indicate how many day- or weekend-trips they hunted in each zone in the "Day or Weekend Trip" column. Make sure you also indicate which period of time (whether it is days or weekends) after the number.

5. Which kinds of animal or animals did you hunt for?
   INTERVIEWER'S NOTE: Use the animal initial code, if more than one. Indicate all types of animals hunted, including big game animals, small game animals, and waterfowl.)

HUNTING

Moose	MS
Caribou	CB
Sheep	SP
Gopher	GP
Ground hog, Whistler	WH
Rabbit	RB
Grouse	GR
Ptarmigan	PT
Geese	GS
Ducks	DK

I.A. ANSWER SHEET (Hunting 1990-1991)

MAP ZONES	SEASON	DAY OR WEEKEND TRIP (# days or weekends)	BUSH RESIDENCY (# days, weeks, or months)	ANIMALS

B. FISHING

1. From break-up 1990 to break-up 1991 [approximately from May 1990 to May 1991] did you fish? _____

2. If yes, in which zones on the map did you fish?

INTERVIEWER'S NOTE: If a single trip included fishing in several zones, indicate the zones on a single line, separated by commas, and circle the main zone or zones that the person fished on this trip.)

3. How days were you fishing in each zone?

4. What fishing method did you use?

(Use letter code)

Open water fishing	
Net	N
Fishing rod	R
Dip net	D
Snare	Sn
Gaff	G
Spear	Sp
Other methods (explain)	O
Under ice fishing	
Net	IN
Fishing rod	IR
Other methods (explain)	IO

5. Which kinds of fish did you get?

INTERVIEWER'S NOTE: Use the fish code.

Lake Whitefish	WF
Lake Trout	LT
Greyling	GL
Pike	PK
Sucker	SK
Brook Trout	BT
Burbot	BU
Cooney	IC
Round Whitefish	RW
King Salmon	KS

I.B. ANSWER SHEET (Fishing 1990-1991)

MAP ZONES	SEASON	FISHING EFFORT (# days)	FISHING METHOD	TYPES OF FISH

C. TRAPPING

1. From break-up 1990 to break-up 1991 [approximately from May 1990 to May 1991] did you trap? _____

2. If yes, in which zones on the map did you trap?
   INTERVIEWER'S NOTE: If a single trip included hunting in several zones, indicate the zones on a single line, separated by commas, and circle the main zone or zones that the person hunted on this trip.)

3. Which season were you trapping in each zone?
   INTERVIEWER'S NOTE: (fall, early winter, late winter, spring)

4. How long were you trapping in each zone?
   INTERVIEWER'S NOTES:
   a. If the person was in the bush for periods longer than a day or weekend trip, indicate the number of weeks or months they trapped in each zone in the "Bush Residency" column.
   b. If the person trapped on single days or weekends, indicate how many day- or weekend-trips they hunted in each zone in the "Day or Weekend Trip" column. Make sure you also indicate which period of time (whether it is days or weekends) after the number.

5. Which kinds of animal or animals did you trap?
   INTERVIEWER'S NOTE: Use the animal initial code.

Marten	MT
Lynx	LX
Fox	FX
Beaver	BV
Muskrat	RT
Mink	MK
Otter	OT
Squirrel	SQ
Wolf	WF
Wolverine	WL

I.A. ANSWER SHEET (Trapping 1990-1991)

MAP ZONES	SEASON	DAY OR WEEKEND TRIP (# days or weekends)	BUSH RESIDENCY (# days, weeks, or months)	ANIMALS

D. GATHERING

1. From break-up 1990 to break-up 1991 [approximately May 1990 to May 1991] did you pick berries, plants, roots, or other plant material for your personal use, including fire wood? _____

2. If yes, in which zones on the map did you collect plant materials?

INTERVIEW'S NOTE: If a single trip included collecting in several zones, indicate the zones on a single line, separated by commas, and circle the main zone or zones the person collected plants on this trip.)

3. Which kinds of plant materials did you collect?

INTERVIEWER'S NOTE: (Use the plant initial code.

Berries	BER
Edible Roots	ERT
Bark	BK
Medicinal Plants	MPL
Wood	WD

MAP ZONES	PLANT MATERIALS

II. LAND USE SUMMARY 1980S

A. HUNTING

1. During the 1980s which zones did you hunt? _____

2. If yes, which zones did you hunt for big game animals, small game animals, and waterfowl during the 1980s?

MAP ZONES

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

2. Circle the numbers for the zones which you used most often during this period.

3. Which zones include the areas which belong to your family?

_____

_____

B. FISHING

1. During the 1980s did you fish? ----------

2. If yes, which zones did you fish in during the 1980s?

MAP ZONES

_____

_____

_____

_____

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_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

2. Circle the numbers for the zones which you used most often during this period.

C. TRAPPING

1. During the 1980s did you trap? _____

2. If yes, which zones did you trap in during the 1980s?

MAP ZONES

_____

_____

_____

_____

_____

_____

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_____

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_____

2. Circle the numbers for the zones which you used most often during this period.

D. PICKING BERRIES AND COLLECTING PLANT MATERIALS

1. During the 1980s did you pick berries, collect roots, bark or other plant materials, or collect firewood? _____

2. If yes, which zones did collect these materials in during the 1980s?

MAP ZONES

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

2. Circle the numbers for the zones which you used most often during this period.