

"DUAL ALLEGIANCE" IN THE MACKENZIE DELTA, N.W.T. -
ASPECTS OF THE EVOLUTION AND CONTEMPORARY
SPATIAL STRUCTURE OF A NORTHERN COMMUNITY

by

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ABSTRACT

In the first part of the thesis, historical analysis shows that agents of cultural contact - the trading company and mission churches - focussed the activities of native Eskimo and Indian peoples upon the Mackenzie Delta. Centrifugal forces exerted by whaling in the Beaufort Sea and the Klondike Gold Rush were short-lived and resulted in the more rapid acculturation of native peoples involved in them who eventually drifted back towards the Mackenzie Delta. The intensification of trapping after 1920 and the growth of a pattern of settlements confirmed the importance of the Mackenzie Delta in the ecological regimes of Eskimos, Indians and the white trappers who migrated there at this time, and favoured the emergence of a Delta Community.

In the second part of the thesis, an objective hierarchical grouping procedure is used to identify characteristic groups of trappers in

terms of the species they trap. Groups specializing in more distant species associated with each settlement virtually disappeared between 1931 and 1951 and the spring muskrat harvest in the Mackenzie Delta became the dominant activity of most trappers. In 1950, trapping camps were evenly distributed throughout the Mackenzie Delta and the take of muskrat generally greater in the northeast. After the building of the new planned settlement of Inuvik the numbers of trapping camps diminished and the regional trend of the muskrat harvest shifted as the takes in the vicinity of the new town decreased.

For the mid-sixties, a grouping procedure used to dichotomize "serious" and "part-time" trappers shows that a large proportion of the latter maintained trapping camps. Analysis of employment in Inuvik also shows a divided commitment to land and town. High income and high status jobs were occupied predominantly by white transient workers since they required skills and levels of educational achieve-

ment possessed by few native people. Though native people of Metis origin showed some success in employment, most Eskimos and Indians occupied more menial jobs. A comparison of employment in government and non-government sectors indicates that native involvement in the latter was growing, many native people in both sectors shifted jobs frequently, or between jobs and land-based activities. The town economy like the land economy showed signs of adaptation to the dual allegiance felt by native people to land and town.

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PREFACE

In 1965 the writer was engaged by the Northern Coordination and Research Centre of the Department of Northern Affairs and National Resources¹ to prepare a preliminary survey of the economic geography of the Mackenzie Delta, N.W.T. This was to be a contribution towards a long term, multi-disciplinary project - the Mackenzie Delta Research Project - directed towards the analysis of social and economic change in this part of northern Canada. The first season spent in the field resulted in an inventory of current resource uses (Wolforth, [1966]), and in an awareness on the writer's part that the processes at work in the Mackenzie Delta could not be understood outside their historical context. Even a cursory

¹ This later became the Northern Science Research Group of the Department of Indian Affairs and Northern Development.

analysis revealed that the Delta¹ has great cultural diversity resulting from processes of contact spanning more than a century between three major ethnic groups. There was evidence however that out of these processes there had emerged a community of Delta people in which differences due to ethnic or cultural origin were relatively unimportant (Slobodin, 1962: 37-38; Smith [1966] : 18-28).

It was apparent also that like many other northern communities, that of the Mackenzie Delta was being shaken by changes more radical than any which had affected it to date. In the previous two decades, the major stimulus to change had come from the construction of the new town of Inuvik which was designed in many ways to be a showplace of what Canada could do in the difficult northern environment (Baird, 1960; Pritchard, 1962; Sullivan, 1960). However, an initial pre-occupation with engineering problems concerned with

¹ This is the local, popular term for the area and will be used for brevity in the present study.

the construction of modern, fully serviced buildings on permafrost (Cooper, 1967) had often obscured pressing problems of a social nature resulting from the large-scale movement of native¹ people into the new town as permanent residents or as squatters. When the major construction work was finished these problems came to the fore and were described in a number of studies (Boek and Boek, 1960; Lotz, 1962) which demonstrated the concern of the federal department, and formed the major impetus for the Mackenzie Delta Research Project.

The signs of social pathology with which they dealt were of course most intense in the settlement itself where the native population frequently seemed bemused and disoriented by the pace of change, and the major emphasis of the Project was place there also (Mailhot, 1968; Ervin, 1968; Lubart, 1970). It

¹ The term "native" is used here in the neutral sense of someone who lives in the area. It will be defined later with more precision together with other terms of a potentially perjorative nature.

was clear that those who had moved into the new settlement had not done so simply as urban immigrants like those in many parts of the less developed world (cf. Breese, 1966: 73-100). In the first place their orientation towards the town was not accompanied by a complete break with the land with which many still maintained strong ties, either by continuing some land-based activities themselves or by entering into social or economic interaction with those that did. In the second place, they came with a variety of prior experiences of what the settlement had to offer derived from a long and complex history of contact with the outside world. They were thus not directly analogous with, say, Eskimos moving into Baker Lake (Vallee, 1967) or even Frobisher Bay (Honigmann and Honigmann, 1965), where the contact experience preceding the movement into a settlement had been less intense and less complex.

These two aspects of the movement towards the town provided the major focus for the present study

which is directed towards a number of related questions, namely:

- (i) What patterns of points of contact with the external culture emerged during the area's history?
- (ii) What relationships did the indigenous people form with these points of contact?
- (iii) What changes in the use of territory took place as these relationships intensified?
- (iv) What are the effects on both the land and the urban economies of people who maintain ties with both?

It will be seen that these are essentially questions about nodal relations, and therefore central to geographical interest. Nystuen and Dacey (1961) suggest a definition of these relations which is useful. "Nodal regions," they write, "are defined by evaluating the external contacts of small areal units. Each of these areal units is assigned to that place with which it has dominant association. Usually, this will be a nearby city, and this city is defined as the central place or nodal point for the

unit areas assigned to it. The aggregation of these unit areas, in turn, is called the nodal region."

In the Lower Mackenzie area, the "areal units" in question are those territories used by the land-based people at different times. The "nodal centres" are the points of contact with the external culture with which they have entered into transaction. The questions listed above then are concerned with, first, the patterns of nodal centres at different times, and second, the patterns of nodal regions associated with them. The last question is more particularly concerned with the present interaction between nodal region and nodal centre, and the effects of a shifting emphasis from the one to the other.

These questions arise from the writer's previous interest expressed in an analysis of the journey to work in Vancouver, B.C. (Wolforth, 1965). Though this work was directed towards a functional analysis of existing patterns, it led to an awareness that changes in the structure of nodal centres are

paralleled by changes in the structure of the nodal regions with which they are associated, and that these are interdependent processes. The Mackenzie Delta was an unusual but interesting place to examine nodal centres and regions for a number of reasons. It was clear that over a fairly long history of over 100 years that quite different patterns of nodal centres existed at different times, though it was not clear what the precise patterns were in all cases, nor what the influence of the nodal centres had been.

Also, the recent establishment of the new town did not simply result in the Delta people ceasing to trap in order to take up wage employment, but rather in their abandoning one system of resource utilization in favour of another in which wage employment could be accommodated to a greater or lesser extent. In the Honigmanns' (1965:77) useful terminology, many people showed a dual allegiance to the land and to the town which was reflected in their shifting

between them, neither completely giving up the one nor totally accepting the other. The origins and present spatial implications of this divided allegiance form the principal focus of this study.

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The gestation period for this work has been long and difficult, but made more tolerable by the assistance, advice, support and encouragement of the following people.

I owe a large debt to my colleagues in the Mackenzie Delta Research Project who were always ready to share data and discuss problems of mutual interest. I learned much about the methods of other disciplines from Dr. P.F. Cooper, Mr. A.M. Ervin, Dr. J.M. Lubart, Mlle. Jose Mailhot, and Mr. D.G. Smith with whom I worked in the field at various times. In addition, the permanent staff of the Northern Science Research Group in Ottawa did much to create an atmosphere in which fruitful collaboration was possible, especially the Group's chief, Mr. A.J. (Moose) Kerr. I am especially grateful to Dr. P.J. Usher who though not directly

involved with the project contributed much to its development with his knowledgeable advice, and to my own thinking in particular.

In an area such as the Mackenzie Delta one shares the field with scholars richer in experience and insights than oneself: I count myself fortunate to have been able to seek the advice of Dr.

J.J. Honigmann and Dr. R. Slobodin and to try to emulate their examples. Mr. R.M. Hill and Mr. J. Ostrick at the Inuvik Research Laboratory do much to make such fruitful associations possible.

The people of the Delta have suffered researchers patiently for some years and I should like to thank the following people in particular for taking the time to teach me: Mrs. Sarah Ross, Mr. L. Sittinchinli and Rev. J. Sittinchinli in Aklavik; Mr. F. Firth, Mr. W. Firth, Mr. A. Kunnizi, Mr. B. Kunnizi, Mr. P. Thompson, Mr. J. Thompson and Rev. D. Wootten in Fort McPherson; Mr. W. Clarke and Mr. L. Cardinal in Arctic Red River; Mr. Owen Allen,

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For making available documentary material I am indebted to the ever-helpful staff of the Public Archives of Canada, to the Anglican Church of Canada, to the Department of Indian Affairs and Northern Development, to the Scott Polar Research Institute, and to the Governor and Committee of the Hudson's Bay Company.

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INTRODUCTION

1. The Growth of Settlements in the North

One of the most important changes to have taken place in northern Canada in recent years has been the movement of native peoples into the settlements. In most areas this has been accompanied by a diminishing interest in land-based activities which had become established over many years, including trapping and a range of ancillary occupations such as hunting, fishing, whaling and sealing which defined the way of life of most northern people. Though these were not all necessarily traditional activities and rarely if ever conducted in traditional ways, they nonetheless represented a continuity with the past which has now been broken for a growing number of people. The virtual abandonment of the old way of life was brought about in part by a general decline in the value of the fur trade associated with changing fashions, and

competition from synthetics. At the same time the settlements themselves have come to offer a greater range of opportunities and services and the native northerner has sought refuge in them from a land which no longer affords him a living.

Until quite recently, most of the settlements shown prominently on the maps of northern Canada were in fact little more than outposts of an alien culture. For the most part they consisted of minute clusters of buildings tenuously connected to the outside world and housing representatives of those institutions which had been most influential in defining the channels of contact with native peoples; namely, the Hudson's Bay Company, the Church, and the R.C.M. Police. The native people themselves still made their living on the land and visited the settlements from time to time to sell furs, buy provisions, get medical attention or attend religious services. It is true that schools were to be found in some of the larger centres where a number of native children lived for most of the year

in hostels, but few adults did so while trapping remained a profitable activity and the settlements themselves offered few if any competing opportunities.

Today, this has largely changed. Some professional trappers still exist in the North, but an increasing number of native northerners make their living in the settlements. This has imposed a strain on the administration and the people alike, for few settlements have a broad enough economic base to absorb a large number of residents, and few native people have until recently possessed the skills which are required to live successfully in an urban environment. The result has been the creation by the Federal, and later the Territorial governments, of a large number of service and maintenance jobs to absorb as many people as possible into wage employment. Even this action however has not avoided burgeoning demands made upon social assistance of all kinds and the appearance of a generation which often expresses its lack of adaptation in anomic or, in terms of the dominant values, pathological behaviour.

Problems abound and have been the subject of a number of studies concerned with Eskimo town dwellers in particular. Some of these have analyzed changing patterns of social organization (Honigmann and Honigmann, 1965), of economic role (Vallee, 1967), or of values and personality (Lubart, 1969). Others have been directed specifically towards identifiable and indeed well recognized problems of social deviance such as excessive drinking or juvenile delinquency (Clairmont, 1963).

2. The Concept of "Dual Allegiance"

What emerges clearly from these studies is a typology of native peoples expressed in terms of the degree to which they have adapted to the urban environment and which includes the bush dweller at one end of the scale and the town dweller at the other. Fried (1964) has suggested a gradient of native peoples based on their degree of acceptance of "town-living" rather than "bush-living" with those who have taken up full-time

wage employment at one end, those who make their living by trapping at the other, and in the middle, those who shift between working for wages half-heartedly and trapping half-heartedly. Honigmann and Honigmann (1965) have examined this gradient as it exists in Frobisher Bay and have suggested that it exhibits what they have called a "dual allegiance" (ibid.: 77) to the bush and to the settlement.

"Dual allegiance to land and town," they wrote, "constitutes a characteristic of Frobisher Bay culture about which Eskimos are quite self-conscious and protective. Allegiance to the land is strong enough to make them resist what threatens the continuity of hunting. Where some families have chosen careers in town, others remain primarily fixed in hunting and trapping careers. Others seem undecided or, unable to keep a job in town, shift back and forth."

In a seminal study of the Eskimos of Baker Lake, Vallee (1967) drew a distinction which suggests the same dichotomy between what he termed the nunamuit and the kabloonamiut - the land based people and those who had adopted white ways in the settlement.¹

¹ According to Vallee, the term nunamuit is used locally to denote those Eskimos who live on the land. The term Kabloonamiut (kabloona=white man) is a neologism, but has now enjoyed wide currency in the literature.

He saw moreover a connection between this dichotomy and the emergent class system which seems to lie at the root of the problems experienced by many northern settlements, for the kabloonamiut, he suggested (ibid.: 144), enjoy a more privileged position than the nunamiut. Not only are their roles defined in terms of the statuses of the dominant outside culture both by themselves and by the nunamiut, but more wealth now accrues to the successful wage-earner than to the successful trapper. It is apparent that the settlement-bush polarization, if not universal, at least exists in enough northern areas to make it a concept of some generality for, besides the writers mentioned, it has also been referred to by Saario and Kessel (1966) and in the Mackenzie Delta, by Smith [1967] and Ervin (1968).

However, the processes of social adaptation which take place in the settlement represent only one aspect of the transformation of a hunting and trapping to an urban society. Another equally important

aspect concerns the spatial transformation which takes place on the land as a dispersed pattern of resource utilization is gradually abandoned. The dual allegiance to land and town is expressed in ecological as well as social terms, and the influence of the settlement has ramifications throughout the system. Even the bush Eskimo or Indian no longer hunts and traps in the same way that he did before that influence existed, but rather has adapted his practices to the changing situation, and for the Eskimo or Indian who is caught up in the process of relinquishing a life in the bush for one in the town, the ecological adaptation is even more profound. The response to new opportunities is not immediate and does not consist in simply quitting the one in favour of the other, but rather in creating a composite way of life which draws from both. Often in fact it seems that it is possible to become "locked in" a particular ecological pattern not through choice or because it is a necessary way station to the achievement of a

pre-determined goal, but because it was generated by the exigencies of the preceding pattern.

Thus the growth of the settlements has not simply resulted in native northerners abandoning the land in order to take up wage employment and an urban way of life. Certainly "push" factors have been in operation to make life on the land less attractive and the settlements have exerted a strong "pull" in terms of both material opportunities and amenities (cf. Breese, 1966: 80), but the result of these forces has been that many have simply abandoned one pattern of land-based activities in favour of another. In this way the effect of the settlement is not felt only in its internal social morphology but also in the changing spatial structure of its hinterland.

3. The Purpose and Organization of the Study

The present study has two different but related tasks which are directed towards the understanding of these effects. The first of these concerns the

part which has been played by agents of the external culture in the convergence of initially distinct ethnic groups towards what has been identified as a Delta Community. (Slobodin, 1962: 37-38; Smith [1967]: 18-28). The second concerns the changes which that community is experiencing at the present time as the result of the intensification of external contact which has accompanied the urbanization of the Canadian North. In particular, it will attempt to show that:

1. Agents of the external culture have provided the catalyst for cultural convergence which has resulted in the emergence of a Delta Community, by calling for ecological adjustments which have focussed the activities of initially separate ethnic communities upon the Mackenzie Delta, and in doing so have widened the possibilities for interaction between them; and
2. The effect of the establishment of the new town of Inuvik has not been to draw people off the land entirely, but instead to break down the nodalities associated with trapping patterns based on the older Delta settlements and identified with particular ethnic groups; and to replace them by a spatial organization in which allegiance to both land and town is possible.

Since these are separate but related hypotheses they will be dealt with in two parts, the scope and method of which are different.

PART ONE: THE EVOLUTION OF THE DELTA COMMUNITY

Part One will trace the evolution of the Delta Community as it has been influenced by contact with a series of agents of the external culture. In the research which contributed to this Part, the usual methods of historiographic enquiry were used, for though historical work had appeared on certain aspects of the Delta, there is no comprehensive study which could be used as a source. This is not a gap in the literature which the present study presumes to fill since its purpose is the more limited one of documenting the appearance of nodal centres associated with contact with the external culture, and determining as far as is possible the extent to which these were associated with the emergence of new ecological regimes. Detailed written records exist for the Delta since 1840, and less comprehensive records since 1789,

though all are not generally available. The major documentary sources consulted include: the records of the Hudson's Bay Company both in Ottawa at the Public Archives of Canada and in London at Beaver House; the records of the Church Missionary Society at the Public Archives and of the Anglican Church of Canada at Church House in Toronto; and records of the various government departments charged with the responsibility of the administration of the Northwest Territories in the Public Archives and in the file registry of the Northern Administration Branch of the Department of Indian Affairs and Northern Development.¹ Fortunately for the researcher, there are many Delta residents who have long and accurate memories and much useful data on developments during the present century was gathered also from personal interview and checked wherever possible with documentary sources. Much of the field season in 1966 and again in 1968 was directed towards this end.

¹ The abbreviations for documentary sources cited are given in the bibliography.

PART TWO: THE CHANGING NODAL STRUCTURE OF THE DELTA COMMUNITY

Part Two will examine the changes in the spatial structure of the Delta Community as they reflect the concept of dual allegiance associated with an increased pace of urbanization. These will be considered in two aspects the first concerning the changes on the land and the second the changes in the settlement, the complementary components of the relationship between nodal centre and nodal region. Since the major dichotomy in the area between trapping on the one hand and wage employment on the other these have been chosen as the most appropriate indices to measure change. The analysis in Part Two therefore falls into two sections, the first concerned with trapping patterns and the second with wage employment.

After 1929, data was available on the quantities of furs taken by trappers from General Hunting Licence

returns, and later from Fur Traders's Record Books.¹

In addition during the decade of the fifties, trappers in the Delta were required to register trapping areas and to declare the number of muskrat they had taken from their areas. Data therefore exists which permits a comprehensive view of where trapping effort was being directed, from which could be inferred ecological patterns over a fairly long period. This data was analyzed using standard statistical techniques of trend surface analysis (Chorley and Haggett, 1965) and grouping procedures (Berry, 1967) to yield a picture of the changing spatial structure of the nodal regions associated with the settlements in general, and with Inuvik in particular.

The second section will be devoted to a consideration of the degree of absorption of native people

¹ Trappers were required by law to record the number of all species they had taken during each season in the first instance, and traders to record all species taken by them in trade in the second. Both data sources are held by the Game Branch of the Government of the Northwest Territories, to whom I am indebted for having access to them.

wage employment. Part of the field activities in 1965 and again in 1968 were directed towards making a detailed census of employment in Inuvik. This has been used to analyze the nature and extent of the involvement of native people in wage employment, and since the surveys were undertaken three years apart, of the processes involved in their assimilation into this important sector of settlement living. Quantitative work in this area was supplemented by interviews with employers which attempted to discern attitudes to native employment.

4. Methodological Context

The "Ecological" Approach

The approach taken by the present study is "ecological" in that its major concern is for the spatial arrangement of groups of people as this reflects the relationships among them, and between them and the territory they occupy. However, the term "ecology", and "human ecology" in particular,

has had wide currency in a number of contexts (Bates, 1953) and a more precise definition of the study's frame of reference is desirable. In essence, ecology is a "pervasive point of view rather than a special subject matter" (ibid.) which attempts to consider the objects it studies as components of a "system" operating within an "environment" (MacMillan and Gonzalez, 1965). The differences between the approaches which are subsumed under the heading of human ecology reside in the different definitions which are given to these terms and in particular to the latter. For some the "environment" is equated with climatic physiographic or biotic conditions, and for others it is defined as the universe of all elements the changes in which bring about corresponding changes in the smaller set of elements defined as the system under investigation (Harvey, 1969: 458).

The "Man-Land" View of Human Ecology

One of the most consistent views of human ecology is that which sees it as a study of the relationships between man and land, a fact leading more than one

writer to suggest that geography and human ecology are one and the same thing (Barrows, 1923; Eyre and Jones, 1966). In anthropology the ecological interest has been expressed in studies concerned with relationships which exist between primitive groups and their environment through the mediation of a material culture. An ecological theme, in this sense of the term, may be discerned in, for example, Forde's Habitat, Economy and Society (1934), Evans-Pritchard's (1940) study of the Nuer, Brookfield and Brown's (1963) study of the Chimbu or, to take a northern example, Spencer's (1959) study of the North Alaskan Eskimo. In all these works, the environment is considered in its physical aspects alone, or in the same sense the term was used by the geographical school of environmental determinism. A variation on this approach, as exemplified in the massive collection of essays appearing in Man's Role in Changing the Face of the Earth (Thomas, 1956), has been to consider the effect of man's activities upon the physical

world, an approach which can be especially important in areas like the North where the physical realm is in subtle and delicate balance, and where industrial man's activities have a great potential for catastrophe (McTaggart-Cowan, 1969).

Ecological work in the man land tradition has been especially fruitful in northern research, particularly that which has been concerned with indigenous groups in close contact with the land. Margaret Lantis' (1954) plea for more work in human ecology has now been met by a growing corpus of literature which both suggests the framework for examining ecological processes and provides the data to do so. Spencer's (1959) study of the Eskimos of the North Alaskan slope is a valuable contribution to our knowledge of the ecological relationships between two Eskimo groups, and work conducted as part of Project Chariot in western Alaska, particularly by Saario and Kessel (1966), and Foote and Williamson (1966), provide a detailed analysis of the relationships between Eskimo

groups undergoing rapid and radical change and their associated patterns of resource availability and utilization. Several studies of this type have espoused a "systems" approach (Foote and Greer-Wootten, 1968) and have provided detailed quantitative information on the relationships between resources and resource utilization systems (Freeman, 1967; Usher, 1970). In places where the contacts with the land are weaker however such as the Mackenzie Delta, the relationships between man and man may seem more important than those between man and the land.

The "Spatial" System View of Human Ecology

An alternative view of human ecology is that which sees it as the study of the ways in which social systems arrange themselves in space and it is this view with which the present study conforms more closely. This tradition of human ecology had its origins in the school of sociology of the University of Chicago in the 1920's, was largely preoccupied with human communities in the city, and had as a

major objective "to discover the principles and factors involved in the changing patterns of spatial arrangement of population and institutions resulting from the interplay of living beings in a continuously changing culture" (McKenzie, 1931). Some confusion may have arisen out of different uses accorded the term "community" in the biological and social sciences (Bates, 1953), but from the work of the human ecologists emerged a consistent definition of a group of human beings or institutions tied by a set of relationships in such a way that a change in one of those relationships necessarily affected the whole. In these terms then the concept is analogous to the "social boundary system" of Murdoch (1949: 79-90) or to the "role-complete group" of Belshaw (1970: 81) in that all are bounded, adaptive, systems (McMillan and Gonzalez, 1965). Much of the early work of the Chicago school had the ambitious objective of comprehending the complex workings of entire metropolitan areas as functioning social organisms (Park and Burgess, 1925)

usually in terms of a number of concepts with strong overtones of social Darwinism (Reissman, 1964: ch. 5). On the other hand, some had the more limited objective of defining the boundaries and internal structure of more manageable human communities. For example, Roderick McKenzie as one of the early proponents of the field suggested (1934) that work on the ecology of the community is either concerned with the spatial distribution of "biosocial phenomena", or the determination of the boundaries of "communal organisms". Certainly by the time a retrenchment was forced upon human ecology by criticisms arising out of its inability to take subtle cultural factors into account (Firey, 1950), a great deal of work was concerned with such closely circumscribed topics as social area analysis, migration and mobility, and the journey to work (Reissman, 1964: 112). It is at this point that this other tradition of human ecology and some branches of human geography intersect, for they share above all an interest in the relationships between the structures

of human systems and their spatial expression (Ackerman, 1963).

Classification in Ecology

Classification forms an important part of ecological work. Since ecology is primarily concerned with the behaviour of aggregates but its data may be derived from the attributes of individuals (Dogan and Rokkan, 1969: 4), it is generally necessary to group individuals into appropriate classes. Many systems of classification are usually possible, but that which has most relevance to the problem at hand is selected. "Problems and their answers," Brown (1963: 171) reminds us, "are so closely linked to the categories and nomenclature adopted by the investigator that all these elements develop concurrently." Thus a classification of regions, to take a familiar geographical example, is only useful when the purpose of the classification has been clearly established. Though classifications do exist in geography, as in other disciplines, which have been produced for no

purpose other than organizing the data, these have generally not assisted in the formulation of new hypotheses (Harvey, 1969: 326). Like measurement and definition, "classification may be regarded as a means of searching reality for hypotheses or for structuring reality to test hypotheses" (ibid.).

Classification may proceed from above by "logical division" or "deductive classification", or from below by "grouping" or "inductive classification" (ibid.: 334). Both procedures are common in ecological analysis in both the physical and social sciences, though the latter is more suitable for problems where the variation among the attributes of the elements to be classified is continuous, and it is therefore desirable to classify the elements in terms of the greatest similarity of their attributes, considered together. The classes that emerge from this procedure are polythetic (Sokal and Sneath, 1963: 14) in that "a particular class of elements so classified will share many features in common, but no element in the class needs

to possess all the features used to identify the class." (Harvey, 1969: 338).

Classifications of this kind are particularly suited to ecological problems in which both elements and attributes are numerous. In addition it avoids the fallacy of classification from a priori definitions pointed out by Sokal and Sneath (1963: 7), which assumes but does not demonstrate the existence of a "natural" group identified by means of a characteristic attribute observed in a few of its members, and then assigns other elements to the group by virtue of their possessing that attribute. Inductive classification, on the other hand makes no assumptions but allows groups to be generated by whatever procedure has been used. Though both deductive and inductive classifications are hierarchical, the latter results in an hierarchy with more levels since all elements appear as unique units at one end of the hierarchy, and are only combined into one set at the other end through a number of steps. It has been suggested that groupings of

this kind are "completely objective and present a more realistic picture with the inter-relationship and almost continuous variation of the groupings readily appreciated." (Kershaw, 1964: 145).

The Emergence of Ecological Groups in the Mackenzie Delta

One of the more consistent characteristics of the history of the Mackenzie Delta area has been the emergence at different times of groups organized to follow different ecological regimes. In the early stages of this history these groups were generally identified with the major ethnic divisions, but the lines became blurred with the passage of time. The first part of this study will be concerned in a qualitative, discursive way with the emergence of these groups particularly as they have been associated with the settlements as nodal centres. The second part, for which quantitative data was available, will describe analysis directed towards the precise definition of groups in terms of the trapping behaviour

of their members.

The Mackenzie Delta is ringed by a number of areas producing certain species in abundance particularly white fox and marten, while the Delta area itself is rich in beaver and mink as well as the ubiquitous muskrat. Trapping effort directed exclusively or significantly towards any of these species consequently suggests an allegiance to a particular area as well as to a seasonal pattern of activities. Thus by analyzing the trapping returns of individuals it is possible to determine by inference what their areal allegiances have been, and by grouping individuals in terms of these returns, what patterns of areal allegiances have predominated at different times. The working hypothesis for this analysis was that urbanization was not accompanied by people leaving the land altogether, but rather in the shifting of their activities from the more distant to the closer trapping areas in which less investment of capital equipment was required, and

where trapping could be combined with participation in the life of the settlements.

From a geographical point of view, the more distant specialist trapping areas could be regarded as nodal regions centered upon particular settlements to which trappers returned to trade their furs. Thus one part of the analysis will be to demonstrate the association between particular trapping regimes (and by inference areas utilized) and settlements. The changing emphasis from more distant to closer areas if it can be demonstrated, will thus be seen as a breaking down of the nodalities based upon these settlements and their replacement by a single, more restricted nodal region bounded by the Delta itself.

The Methodological Approach of the Present Study

Though the present work has a concern for the ways in which native northerners have used resources, its primary interest will be in the spatial ramifications of the resource utilization pattern as it has changed through time, and would thus seem to fall

more properly into the "spatial" tradition of human ecology. It will be argued that in general terms the influence of northern settlements has been to restructure the ecology into a nodal configuration so that formerly existing patterns based upon the distribution of resources and traditionally sanctioned modes of exploiting them have been superceded by those based upon the urban centres. The settlements have in fact become the organizers of "effective space" in Friedman's (1965) terminology in both the social and economic aspects of life which are now channeled through them. If the community may be seen as a bounded, adaptive system, as has been suggested, then the establishment and growth of the settlements is an influence which has transformed the state of that system and its spatial expression.

The effect of urbanization in the North has been twofold. On the one hand as native northerners have taken up residence within the settlements they have become incorporated into an emerging social structure

stratified according to the degree of acculturation to outside values exhibited by its members. On the other hand it has changed the structure of native communities and their resource utilization patterns through the totality of responses made to new opportunities, even by those who have not physically moved into the settlements. In its precontact state the North was occupied by distinct communities existing within well defined territorial boundaries (cf. Barth, 1969: 15-20). Though there were of course great cultural similarities between these communities, the versatility shown in the face of environmental differences (Lantis, 1954) led to ethnographic distinctions between Eskimo groups which have been well recognized, and between Eskimo and Indian groups these distinctions were even more profound. Though there is some evidence for the existence of linkages through precontact trade¹, the serial use of resources or

¹ Though not common, trade did exist particularly between groups emphasizing caribou and those emphasizing sea mammals. For example, in Alaska the inland nunamiut regularly traded with the coastal tareumiut at a number of recognized points (Foote, 1965).

territory¹ and other forms of symbiosis, each community in effect constituted a closed system (McMillan and Gonzalez, 1965; Chin, 1961). From a geographical point of view, since social boundary systems were coterminous with territorial boundaries, the North could well be conceived as a mosaic of regions each made distinctive and internally homogeneous by the fact that it was occupied by a group of people pursuing a way of life discernibly different from that of its neighbours. These differences were most intense of course where they coincided with the major ethnic division between Indian and Eskimo.

As the influence of the settlement has ramified outwards, it has resulted in the convergence of behaviour towards common objectives, associated with participation in the fur trade primarily, but also with religion, education and other institutionalized

¹ This again was not common but did exist. Rasmussen (1927) cites the example of the umingmaktormiut and kiluhiktormiut using the same sealing grounds at different times.

forms of interaction with the outside culture. The processes of convergence have taken place at the individual level as native northerners have shifted their allegiance with increasing frequency from the traditional community to the settlement in more and more spheres of activity. At the macro-structural scale the result of this shifting allegiance has been the incorporation of a set of closed systems into the wider system defined by the world economy. From the geographical viewpoint it has been the transformation of a uniform into a functional regionalization (Berry, 1968).

5. The Place, the People and the Time

1. The Place

The study is set in the physiographically complex delta of the Mackenzie and Peel Rivers (Mackay, 1963) known as the Mackenzie Delta. This flat, marshy region laced with a complicated pattern of distributaries occupies an area of about 4,700 square miles

(ibid.: 98) between the Richardson Mountains in the west and the Caribou Hills in the east. The area straddles the tree line and is thus close to the tundra and coniferous forest biotic zones and to areas traditionally occupied by Eskimo and Indian people. This makes it particularly suitable for the present study since it is one of the few parts of the North where the two major ethnic groups have been in contact and have both been drawn into the world economic system. It is also suitable in that, due to its greater accessibility to the south by way of the Mackenzie River and Bering Sea routes, it has been linked to this outside system for a much longer period than many other parts of the North. Contacts have in fact existed for one hundred and thirty years between whites, Indians and Eskimos and have been expressed during that time in complex, interdigitating social and ecological patterns from which has emerged today's community of great ethnic and cultural variety.

2. The People

Though the evolution of this community will be described in detail in the following chapters it may be helpful at this stage to identify the main ethnic groups which have contributed to it if only to define the terminology which will be used. This is a task which is fraught with some difficulty since many terms are either misleading or have come to have a perjorative connotation. In the former category, for example, the term "Euro-Canadian" which the Honigmanns (1965) found suitable in Frobisher Bay could obviously not be applied to the stalwart Orkney men who came with the Hudson's Bay Company to the Mackenzie Delta twenty-seven years before the existence of Canada as a political entity. On the other hand, the term "white man" has overtones of racism though not in the North where it is used as a neutral descriptive term, in which sense it will also be used in the present work. Similarly, the term "native" or "native northerner" will be also used in its non-derogatory sense of the people born in the area or living in

the area a sufficiently long time to regards it as their permanent home (cf. Graburn, 1966). In the early stages of course this can only refer to people of Eskimo and Indian origin but in the Delta's later history would include several of other ethnic groups.

In the present Delta Community the following ethnic stocks are represented:

(i) The Kutchin (Osgood, 1934, 1936; McKennan, 1935; Jenness, 1955: 399-404) are an Athapaskan people whose territory had traditionally extended westwards from the Mackenzie Delta to the central Yukon Valley in Alaska. Of the eight or nine communities into which they have been subdivided those which have played the major role in the history of the Mackenzie Delta have been the Mackenzie Flats (Nakotcho) and Peel River (Tetlit), though the Upper Porcupine (Tukkuth) and Rat (Vunta) also traded into the early trading posts associated with the Mackenzie Delta (Slobodin, 1962). Most of the Indians of the Mackenzie Delta at the present time however are of Peel River or Mackenzie

Flats origin though they recognize kinship ties with those on the other side of the Richardson Mountains and visit the settlement of Old Crow to see relatives. The early explorers of the Mackenzie River called the Mackenzie Flats and Peel River Kutchin "Loucheux" (louches yeux) (Hooper, 1853: 269) and this is the name by which people of this group refer today both to themselves and to their language. Technically members of this group comprise all those who are legally included in the terms of treaty and consequently listed on so-called band lists.

(ii) The Eskimo to be found today in the Mackenzie Delta are of complex origin. Mackenzie (1904) found evidence of Eskimo occupance in the lower course of the river which now bears his name, but Eskimos were not actually encountered here by white men until Franklin (1828) and later Richardson (1851) visited the area. The Mackenzie Eskimo of this period were oriented towards the west and would be subdivided on the basis of location into five distinct groups

between Shingle Point and Cape Bathurst (Usher, 1970b). Though some Eskimo people of the original stock are to be found in the Tuktoyaktuk area few remain in the Delta due to the effects of disastrous epidemics which came in with the whalers at the turn of the century. The majority of Eskimos living in the Delta at the present time trace their origin rather to Alaskan Eskimo than to Mackenzie Eskimo stock though prolonged contact with whaling crews has resulted in a large proportion of people with mixed blood. As with the Loucheux, however a technical definition of the term Eskimo is possible, namely as any person legally designated as such by the possession of a disc number and the inclusion on a so-called disc list.

(iii) The "whites" of the Mackenzie Delta are similarly of complex origins, though most would fall into one of two major categories. The "old-timers" are trappers who have lived in the area many years, have married Indian or Eskimo women and raised families there. Their cultural orientations are somewhere

between those of other whites and of many non-whites with whom they have shared a consistent style of life for many years. A much larger category of whites today could be called "transients" though some who have lived in the area for several years now, would no doubt resent the title. Nonetheless members of this group can be differentiated from the "old-timers" by the fact that many of their cultural ties are still with the "outside",¹ a term which they would use with greater frequency than members of other groups. Though some no doubt have developed a strong commitment to the North and have come to regard it as their permanent home, there are also many who have a "time-serving"

¹ The use of the term "outside" is illuminating. Though generally used more often by the transient group than by others, it is having increasing currency even among native northerners. It is used to describe those areas of Canada and the rest of the world beyond the North and for Mackenzie Delta residents the "outside" begins at Edmonton. Lotz (1970: 22-25) has an interesting discussion of the implications of the term for the perception of the North by its residents.

attitude to residence there.

(iv) The last major groups consists of Metis, or people of mixed blood. Though many people who call themselves Eskimo or Indian fall into this category it is generally applied only to those who are not legally recognized as such, that is, to non-treaty Indian and unlisted Eskimos (Slobodin, 1966: 5). For many people however the term has an historical connotation which recognizes descent from some of the early white residents of the area rather than from a more recent union and it is doubtful whether the offspring of a recent white-Indian marriage, say, would be referred to as a Metis. The people who would be referred to as such themselves fall into a number of subgroups including a few descendents of the "original" Red River Metis, and those of local unions between Indians and fur traders, Indians and missionaries, and Eskimos and members of whaling crews. Since the whaling crews themselves were of diverse racial stocks including Polynesian "kanakas" and negroes, the

descendants of these unions are very mixed racially.

In the following chapters the meaning attached to the above terms will either be clear from the context in which they appear or will be explicitly defined.

3. The Time

The period considered in the study terminates with the last season of fieldwork, the summer of 1968. In many respects this was a significant date since it appeared that the area together with the rest of northern Canada was on the threshold of even more radical change. The Prudhoe Bay oil discovery was announced earlier that year and stimulated a rush to file drilling permits in the Mackenzie Delta (Vancouver Sun, Aug. 19, 1968). The flurry of activity which accompanied drilling at Tununuk in the northern part of the Delta, at Tuktoyaktuk on the coast, and at Eskimo Lakes, produced a feeling of business optimism in Inuvik which resulted in local and outside entrepreneurs investing in increased facilities

of many kinds. For the first time the settlement was losing some of the aspect of a planned government town and developing a more mixed economy. The degree to which this change of direction would affect local people would be hard to predict.

At the same time the findings of the Carrothers Commission on the development of government in the Northwest Territories (Canada, 1966) were beginning to have effects as the Territorial Government assumed a greater responsibility for the administration of the area. In Inuvik the results of this were to be found in the growth of Territorial authority and the appearance of civil servants with a Yellowknife rather than an Ottawa orientation. Though these were in 1968 not widespread effects, they seemed to herald a time of growing commitment to the North of people who had come there from "outside" as permanent residents. At the same time, there appeared to be a growing self-awareness on the part of native people which was

evidenced by the stirrings among some teenagers of incipient "Red Power". It seemed to be a time when new definitions would be given to old ascriptions and when change was evident on many fronts.

PART ONE:

THE EVOLUTION OF THE
DELTA COMMUNITY

CHAPTER I

THE EARLY FUR TRADE

1. Introduction

Though the Mackenzie Delta was first explored in the late eighteenth century, trading establishments did not enter the area until 1840. As in other parts of the North, one contact agent was soon followed by others, though in a different order than that which occurred in the Eastern Arctic. In the Mackenzie Delta and adjacent areas, the Hudson's Bay Company was followed during the nineteenth century by missionaries of both the Anglican and Roman Catholic faiths and by whalers from the Pacific Coast ports of the United States. In this chapter it will be argued that the impact of the traders was to channel the activities of the indigenous people of the area through a number of contact points. Though the location, function and relative importance of these was to change from time to time, they were

concentrated in the Mackenzie Delta and adjacent parts of the Lower Peel Valley and Arctic Coast due to the greater accessibility to the South enjoyed by these areas.

Williamson (1969) has argued that the effect of the fur trade in the North was to establish regional identities associated with access routes to southern Canada. This was undoubtedly the case in the Mackenzie Delta where the Mackenzie River, and to a smaller extent, the Bering Sea route, were early established as strong lines of communication between the area and the outside world. Williamson (ibid.) further contends that in most places:

"...there was a tendency towards the circumscription of internal trade orientation according to regular trading habit. The trading posts were established at accessible locations in close touch with dialectal sub-groups where trading prospects looked good. Though still nomadic within their traditional range, the hunting families tended to remain in the area of the trading post with which their on-going credit-debt relationships had been developed. Thus the traditional dialectal group tendency towards exclusiveness was to some extent reinforced."

Though this was true in the case of early trade with the Peel River Kutchin, the rapid involvement in trade of other Kutchin groups and, more important, of the coastal Eskimo, soon led to the breakdown of pre-trade cultural affiliations and ecological patterns, and the appearance of new ones in which the Mackenzie Delta featured as an important common territorial component.

Contact in the Mackenzie Delta and adjacent areas was not a simple bi-polar process as it was in other parts of the North. Not only did southern institutions have diverse and sometimes conflicting objectives which interacted with each other in complicated ways, but their clients did not exhibit a uniform culture. Initially the major division between the Kutchin and the Eskimo peoples was roughly coincident with the tree line, but as time went on new groupings and cultural affiliations emerged which were superimposed upon, and sometimes cut across the larger ethnic systems. These

were fostered by two factors principally. First, the difficulty of maintaining a large number of trading posts focussed activity on the few which existed and tended to break down nomadic patterns which had previously been very extensive into relatively distinct hinterlands each centered upon a trading post. Second, the trading activity itself was not adopted in a homogenous way and resulted in distinctions arising between those who were drawn into the fur trade to a greater or a lesser extent.

2. Exploration and the Fur Trade

The first trading post in the area was established in 1840 on the lower reaches of the Peel River, at which time the Mackenzie Delta was still peripheral to the trading system which had encompassed most of British North America. Historically, the fur trade had diffused from the two centres of Hudson Bay and the St. Lawrence Valley, the one through the agency of the Hudson's Bay Company and the other through that of the loosely knitted

group of merchants known as the Northwest Company.

The strategy of the latter in encircling and cutting off the sources of supply of its older-established competitor, inevitably channeled its activities from the head of Lake Superior across the height of land to the Saskatchewan and the Athabasca drainage basins. The institution of the "wintering partner" (Innis, 1956: 242) allowed the Northwest Company to penetrate deep into the interior of the country from where it posed a constant threat to the Hudson's Bay Company.

It is against this backdrop of competition between the two companies from 1787 until 1821, that the first exploratory penetration of the Mackenzie drainage basin took place. As early as 1775 Joseph Frobisher, a wintering partner of the Northwest Company, had met a party of Indians on the Churchill River on their way to trade with the Hudson's Bay Company at Fort Churchill, and had persuaded them to trade with him instead (Mackenzie, 1904: xxxiv). His success in this venture persuaded other traders of the Saskatchewan River to

tap the more northerly fur trade themselves, including Peter Pond whose successful efforts in the winter of 1778-79 established the Northwest Company even more firmly in the area.

It was Pond's trading post at Fort Chipewyan in fact that became the base for Mackenzie's journey to the Arctic Ocean in 1789 which represented the first contact of a white man with the Mackenzie Delta. The journey was of more general significance in that it opened up a new rich fur area and marked a turning point in the struggle between the Northwest Company and the Hudson's Bay Company (Stager, 1965), though in 1789 Mackenzie himself was far from sanguine about his discovery. Hoping until the last minute that the river would lead him to the Pacific Ocean, he recognized on July 10th at Point Separation that it could only lead to the Arctic Ocean and would therefore have but limited commercial value. The fact that his journey of 1793 was successful in charting a route to the Pacific was probably a factor in delaying the entry of the fur trade

to the Lower Mackenzie area. In any case such a trade would have placed a severe strain upon the transportation technology of even the Northwest Company.

The Mackenzie Delta at the Time of First Contact

Mackenzie's description of the Delta provides the baseline on which future change took place. It established that the area below Point Separation, over which Mackenzie travelled, was probably not important for either the Indians or the Eskimos. Indeed the attitude of Mackenzie's guides (Mackenzie, 1904: 254) and the fact that he had no evidence of Eskimo occupance suggested that the Upper Delta was a "No Man's Land" which both avoided. As a partial explanation of this situation, the image of the Eskimo as a fierce and belligerent people was postulated, a fact which was to affect the future direction taken by both the fur trade and by missionary activity. In the Lower Delta, Mackenzie's observations, though partial, indicated some signs of Eskimo occupance but these were not extensive.

Since Mackenzie did not in fact encounter Eskimos on this journey his conclusions about them are based on what he heard from his Indian guides and from the examination of a number of encampments (ibid.: 259). Discussion regarding his route (Bredin, 1962; Stager, 1965) are relevant here only insofar as they throw light upon the locations of encampments. The first one observed by Mackenzie, Stager (1965) suggests, was thirty or more miles downstream from the Oniak Channel on the Main Channel, and its location seemed to Mackenzie to be determined by its suitability for fishing. He wrote in his journal:

"They must have been here for a considerable time, though it does not appear that they have erected any huts. A great number of poles, however, were seen fixed in the river, to which they had attached their nets, and there seemed to be an excellent fishery." (Mackenzie, 1904: 259-62).

Later in the same day he landed a second time to examine three huts which he again assumed were those of Eskimos, and once more there seemed to be evidence that these relatively permanent structures marked a

suitable fishing area, since what Mackenzie took to be fish drying racks were present (ibid.: 260).

A third encampment was discovered at the south-east tip of the island which marked the terminus of Mackenzie's downstream journey, named Whale Island by him and probably the Garry Island of modern maps (Bredin, 1962; Mackay, 1963; Stager, 1965). This final encampment was an older one consisting of five or six huts which had evidently not been occupied for many years (Mackenzie, 1904: 271). On the return journey up the East Channel, neither Eskimos nor further encampments were encountered even at Campbell River which marked the terminus of a convenient portage from Eskimo Lakes to the Delta (Mackay, 1963: 7; Stager, 1965). Thus, although Mackenzie's expectations of encountering Eskimos were not in fact met, his journey does indicate that the Delta was certainly occupied by Eskimos north of the tree line, that encampments were relatively numerous and relatively permanent and that they were used exclusively or mainly as fishing camps. Mackenzie's

expedition successfully mapped out the northern fur fields and provided for a rapid increase of trade (Innis, 1956: 20).

In 1799, the massacre of Duncan Livingston's expedition by a party of Eskimos at Arctic Red River (Wentzel, 1832: 78-79) discouraged the extension of trade to these people for almost half a century and conditioned the views held by whites of them during that time (Stager, 1967). Though the northern fur producing areas appeared to be promising, the efforts of the traders were directed towards more southern areas in the decades following the explorations of Mackenzie and Livingston. Consolidation of the fur trade in the Mackenzie basin did occur and by 1821, the date of amalgamation of the Hudson's Bay Company and the Northwest Company, the potential of the Far North was soon to be realised. In that year, W.F. Wentzel remarked of the Lower Mackenzie: "From all parts of the country that I have attempted to describe herein, beaver and other peltries have been obtained while I

was in Mackenzie's river, a convincing proof of how worthy they are of notice in a commercial point of view." (PAC, MG 19, A2).

3. The Fur Trade and the Peel River Kutchin

The Establishment of Peel's River Post (Fort McPherson)

The fur trade finally penetrated the Mackenzie Delta with the establishment in 1840 of Peel's River Post. Peel's River had been known as a potential fur producing area since its discovery by Franklin in 1827, and attempts had been made to establish a post there. For example, Peter Warren Dease had been instructed by the Governor and Council of the Northern Department of the Hudson's Bay Company to take the first steps towards doing so as early as 1828 (Stewart, 1955: 167) and was able to report in 1829 that the "lower squint eyes", the only Indians occupying the Peel River drainage area, were not able to trade consistently with the existing post at Fort Good Hope since it was too far

from their hunting grounds. The Peel River Indians were in fact peripheral to the trading systems associated with both the Yukon and the Mackenzie rivers, although they had slight contact with both. Franklin (1828) reports for example that "mountain Indians" arrived at Herschel Island at the same time as himself with articles of Russian manufacture, and Thomas Simpson had also seen Russian goods in the area in 1836 (Simpson, 1843: 103).

In 1838, a more definite attempt was made to draw the Indians towards the Mackenzie system when Sir George Simpson wrote to Murdoch Macpherson, then in charge of the Mackenzie District:

"For some time past I have been of the opinion that a new post might with every prospect of advantage be established on Peel's River and I shall be glad if you will turn your attention to that object. It might not be safe to ascend the Mackenzie so as to mount Peel's River from its outlet as by that route we should come into collision with the large bodies of Esquimaux that usually encamp at the outlets of those rivers during the summer, but from the general character of the country which is so much intersected by streams and lakes, that a water communication intercepted by occasional portages, may be had in almost any direction." (cited by Stewart, 1955: 169).

In 1839, Peter Warren Dease and Thomas Simpson explored Peel's River and reported an abundance of fur, and the following year the post was established by John Bell and Andrew Isbister as the first to be established exclusively for trade with the Indians of this area. That these Indians, the Kutchin, eagerly awaited the arrival of the traders is further evidence suggesting a prior contact with trade goods. Not only was the trading party met by an escort on the Mackenzie, but a small group awaited its arrival on the Peel (HBC, B/157/a/1). Although the first trading encounter was disappointing from the Company's point of view, "consisting principally of badly dressed leather and musquash" (*ibid.*), the Indians of the Rat River gave assurance of having caches of fine fur in the mountains which they would bring in later visits.

Indians Trading at the Fort

Of the distinct Kutchin groups generally recognized and named in the Introduction to this study, trade was

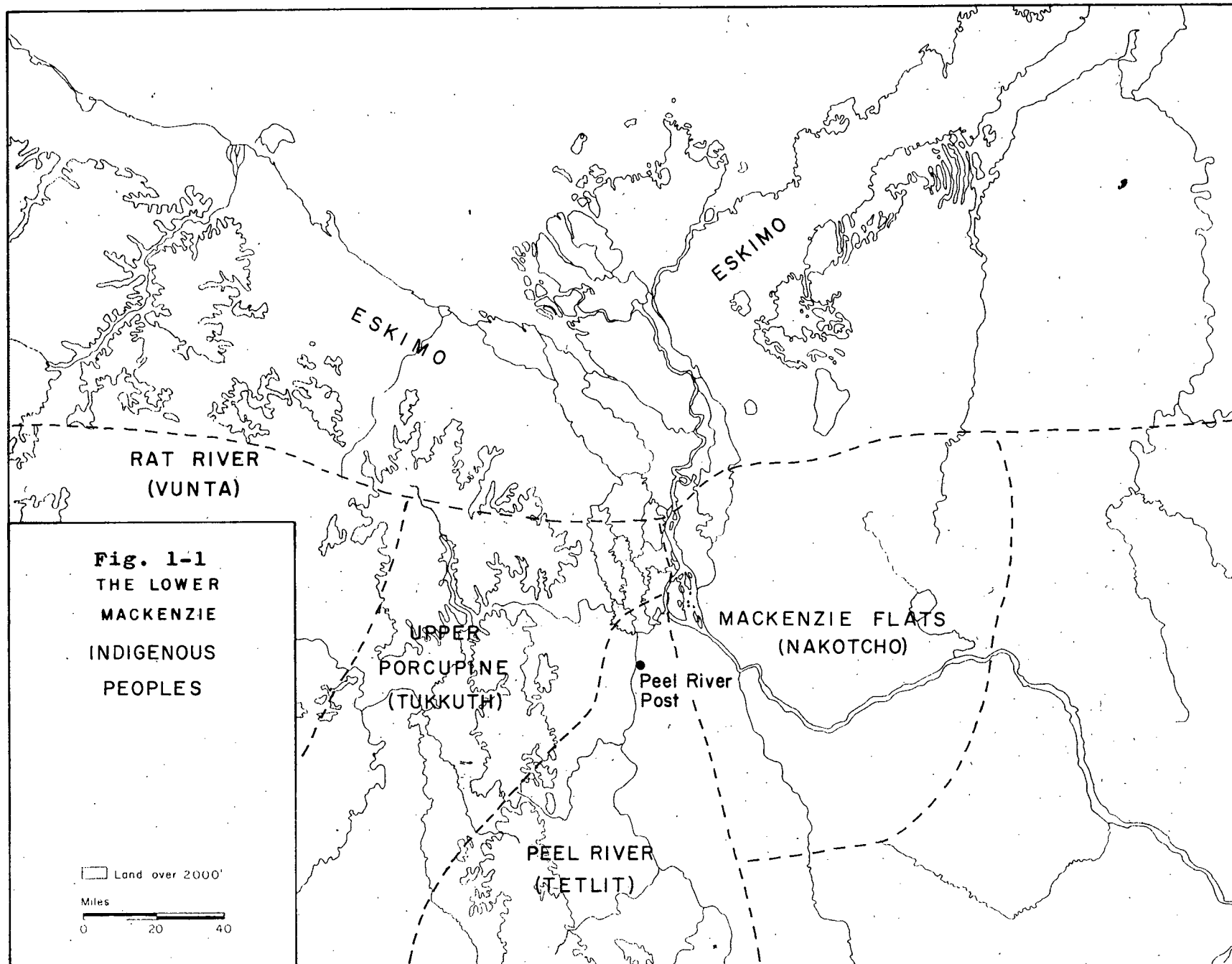
first established only with those of the Mackenzie Flats (Nakotcho) and the Peel River (Tetlit). The "Rat Indians" who visited the fort also at an early stage were probably not the Vunta but rather Tukkuth Kutchin from the Porcupine River. Also in the fall of 1840 it was recorded that there arrived at the fort "a strange Indian who inhabits the mountains beyond the source of the Peel" who was given a gratuity in return for the promise that he would bring back his relatives the following year (HBC, B/157/a/1). Later extension of the trade involved other Kutchin groups which led Osgood (1934) to distinguish a total of six on the basis of trade. These were: (i) the Peel River (Tetlit) occupying the Peel Plateau and southern Richardson Mountains; (ii) the Mackenzie Flats Kutchin (Nakotcho) occupying the Upper Mackenzie Delta; (iii) the Upper Porcupine Kutchin (Tukkuth) including more recently those of Old Crow Flats and of the Rat and Bell Rivers; (iv) the Tutchone Kutchin of the Ogilvie Range and southern Eagle Plains; (v) the Old

Crow River Kutchin; and (vi) the Yukon Flats and Chandelar River Kutchin (Fig. 1-1).

Soon after the fort had been established on a low bank some one and one-half miles above the present site of Fort McPherson, which from the beginning was recognized as being subject to flooding (HBC, B/157/a/1), the Company's traders saw little of their indigenous clients until the following spring. Bell heard rumours that the majority had returned to their winter hunting ground in the mountains at the headwaters of the Peel, but apart from a few starving and destitute families who arrived at the fort just before Christmas, he had no direct contact. "Not a single Loucheux have I seen during the whole winter," he wrote in his journal, "except the starving families that were here on the 23rd." (HBC, B/157/a/1).

Early Attempts to Extend the Line of Forts

One of the results of the poor contact with the local Kutchin was that the fort ran seriously short of food. This was in fact to be a recurrent problem



in the winters to come and one which caused hardship as well as anxiety. It was also a factor in the eventual spread of the fur trade system across the mountains in the establishment of satellite posts closer to the sources of meat. Only three years after the setting up of Peel's River Post, Bell made the first attempt to determine the possibility of opening a post on the western side of the mountains, where it was by this time clear that the Kutchin spent their winters in a relative abundance of game. After the first of his journeys across the mountains Bell concluded that:

"An establishment at the place in the midst of an extensive country rich in Beaver and large animals would no doubt be a valuable acquisition, but in my opinion it is altogether impossible to succeed in establishing it from this place (Peel River) owing to the difficulty of transporting the necessary goods for carrying on the trade through a long chain of high and rough mountains utterly destitute of wood, and frequently of water." (HBC, B/157/a/1).

During the early years of the fort's life, these attempts to find a suitable water route across the

mountains continued, first by Bell and later by Prudeau, Lewis and Boucher. The conceptual jump of establishing not a water route like those of the entire summer transportation network of the Company, but a winter land route had yet to be made. As Stefansson (1958: 192) points out, until the eventual establishment of La Pierre House,¹ no post had been set up which was not supplied by boat in the summer months. Thus the later expedition of Prudeau, Lewis and Boucher followed the water route of the Rat River but was abandoned by its guide and had to return (HBC, B/157/a/1). During this time, however, trade with the more distant Indians across the mountains was established via Peel River middlemen. For example, in 1843, Grand Blanc, the leader of the "musquash Indians"² was advanced one hundred "Made Beaver", chiefly in beads, ammunition, and tobacco for the purpose of trading with these more distant groups. Trade through middlemen was very irregular and unreliable however.

¹ Also Lapierre House and Lapierre's House.

² From the context of references to this group they were probably Tukkuth-Kutchin of the Old Crow Flats.

With the setting up of La Pierre House in 1845, Bell was able to continue across the portage in 1846 to intercept the Yukon drainage, and the following year Alexander Murray followed the same route to establish Fort Yukon at the junction of the Yukon and the Porcupine Rivers (Stager, 1962). Through this tenuous chain of forts supplied from Peel's River, the Company attempted to control the hunting patterns of Indians ranging over a territory extending from the Upper Mackenzie Delta to the middle Yukon, not always with success. Alexander Murray's Fort Yukon at the end of the chain was of course the most difficult to supply with trade goods and although it was preferred that the more distant posts would supply their food from local sources, both Fort Yukon and La Pierre House were forced to use their stores of pemmican when game was inadequate (PAC, MG 19, A2). At the Peel's River Post an attempt was made to keep cattle in the 1840's, but this was abandoned after a bull calf had drowned in the river, and the remaining two animals were taken

over the mountains to La Pierre House.

Difficulties of both supplying these more distant posts, as well as shipping furs out, were immense.

Muskrat was refused at Fort Yukon with deleterious effects on trade, and marten and fox had to be sent out in 60- to 84- pound bales on Yukon sleds as far as the Peel River, where they then had to be made up into larger packs for transportation up the Mackenzie (Innis, 1956: 298). According to Innis (ibid: 324):

"The complaints of A. H. Murray as to his difficulties in competing with the Russians at Fort Yukon further illustrate the problem of control in distant areas. Requisitions for commodities in great demand, such as guns and beads, could be filled only after a long period of time had elapsed ... Resort to questionable methods of trade was essential."

These problems resulted eventually in a retrenchment as the original Fort Yukon closed in 1869, its successor on the British side of the border Rampart House and La Pierre House in 1893.

4. The Early Association of the Kutchin with
Fort McPherson and the Lower Peel

Of the three Kutchin groups who traded at Fort McPherson as the Peel River Post was soon called in its first decade, those from the Porcupine River (Tukkuth) and the Mackenzie River (Nakotcho) seem to have frequented the fort sooner than those from the Peel River itself (Tetlit-Kutchin). As Slobodin notes (1962: 21) the winter hunting grounds of the latter were a long distance from the fort, and the technology of both hunting and transportation precluded much summer travel. In addition, it took some time for needs to be created which would make visits to the fort essential since the commodities offered in trade were few in quantity and, at least in the early years of trade, not immediately related to the needs of the people. Essentially they consisted of decorative items such as beads, cloth items such as blankets, and guns and tools (PAC, MG 19, D 12).

Though some of these had an obvious appeal to the people the acceptance of others required a learning process which took some time. The Hudson's Bay Company generally did not favour trade in liquor (cf. Rich, 1960) and even tobacco was not immediately accepted (Slobodin, 1962: 22). Nonetheless, the early history of the fort indicates that though the Peel River Kutchin visited fairly infrequently, a pattern of visitation emerged during the period from 1840 to 1870 which linked them more closely to the Lower Peel. Their early association with the fur trade was supported by the fact that at least some members of the band visited the Lower Peel to fish and hunt muskrat even before the fort was established and that this practice continued during its early years.

Though the home territory of the Peel River Kutchin was undoubtedly in the mountains there is clear evidence that some at least came downriver in canoes after breakup, fished and hunted muskrat and rabbits in the Lower Peel and returned upriver at freezeup.

Thus, in May 1842, it was reported that a party of "Peel's Indians from Fond du Lac" had camped about the fort and later went off below to hunt muskrat (HBC, B/157/1/a). They returned briefly in June complaining significantly, that the muskrat were not as plentiful as in previous years, and then were not seen again until they passed the fort on their way upriver in November (ibid.). The same pattern was repeated the following year, as John Bell noted that the Indian had gone down to hunt muskrat "as they usually did" (ibid.). As a fur of relatively low value, muskrat was not favoured by the trader, and by the end of the decade, Augustus Peer recorded that the Indians had gone to the Lower Peel to hunt muskrat, though given "no encouragement to do so." (PAC, MG 19, D 12). When muskrat were refused at Fort Yukon the Rat Indians travelled across to trade them at Fort McPherson (ibid.).

The returns for the first three decades of the fort's operation indicate that attempts to discourage the hunting of muskrat might have resulted in smaller

Table 1-1Fur Returns for Fort McPherson, 1850, 1860 and 1870

Fur	1850	1860	1870
Bear	6	14	11
Beaver (lbs castors)	12	60	50
(Pelts)	362	959	550
Fox (Blue)	-	1	5
(Cross)	35	68	167
(Red)	28	75	140
(Silver)	12	23	41
(White)	-	193	176
Lynx	14	16	1
Marten	392	1,635	647
Mink	8	58	46
Muskrat	11,991	2,070	2,740
Wolf	2	-	1
Wolverine	1	-	-
Otter	2	-	1

Source: HBC, B/157/d/1-24.

amounts of this species being taken into trade (Table 1-1). The data however is suggestive only, since the ammounts traded in intervening years were not available. As more needs for trade goods were created among the Kutchin (cf. Slobodin, 1962: 22) it is likely that the low relative value of muskrat eventually led to the Indians favouring the more valuable beaver and marten. In 1848 the muskrat pelt

was valued at about six pence, the beaver at nine pence and the marten at about ten shillings (PAC, MG 19, D 12). Besides drawing attention to the early importance of the muskrat, the returns for Fort McPherson also throw some doubt on the notion that it was ever a meat post (Slobodin, 1962: 22; Bissett, 1967: 34), especially in light of the fact that supplies of meat were never assured. On the contrary, it seems that though the Kutchin visited the fort infrequently and almost always in the spring and late fall, when they did so they traded vigorously and in the more valuable fur species.

The exact numbers of Indians visiting the fort in its first decade are not known though the detailed nature of the journals kept at this time reveals a fairly accurate picture of when visits occurred and the probable origin of the visitors in each case (Tables 1-2 and 1-3). The distinction was usually made between the "Rat Indians" (Tukkuth-Kutchin), "Mackenzie Indians" (Nakotcho-Kutchin), and those

Table 1-2

Recorded Indian Visits to Fort McPherson, 1840-1851

<u>Date</u> ¹	<u>Reference to a Visit</u>	<u>Source</u>	<u>Inferred Group</u> ²
June 15, 1840	"A party of Loucheux"	B 157/a/1	Mackenzie (M) ²
July 26	"a party of Rat Indians"	"	Rat (R) ³
Sept. 18	"some Indians from the upper part of the river"	"	Peel (P) ⁴
Sept. 30	"Indians from Liard's Lake"	"	(?)
Oct. 5	"three Indians from Red River"	"	M
Oct. 19	"ten men and boys of the Rat Indians"	"	R
Oct. 30	"Loucheux from the Red River"	"	M
Nov. 9	"two Loucheux from Fond du Lac"	"	P
Mar. 12, 1841	"three Loucheux from the camp of the Rat Indians across the mountain"	"	R
Mar. 18	"small party from the Red River"	"	M
Mar. 27	"Loucheux from across the mountains"	"	R (?)
Mar. 31	"a party of Loucheux"	"	(?)
Apr. 1	"two Loucheux from Mackenzie's River"	"	M
<hr/> Break in Record <hr/>			
Apr. 15, 1842	"Indians from Mackenzie's River"	"	M
May 1	"six families from across the mountains"	"	R
May 20	"Peel's Indians from Fond du Lac"	"	P
June 1*	"Indians from Upper Peel"	"	P
June 11	"Indians arrived"	"	(?)
June 13*	"Indian returned from mouth of Peel"	"	P

Table 1-2 (continued)

Date	Reference to a Visit	Source	Inferred Group
Nov. 12	"Indians from below"	B 157/a/1	P (?)
Nov. 15	"some Mackenzie River Indians"	"	M
May 15,* 1843	"Chief's brother"	"	P
June 6*	"Indians...gone down to hunt rats"	"	P (?)
June 26	"Musquash Indians...from across the mountains"	"	R
Nov. 16*	"Indians who have been below returned"	"	P (?)
<hr/> Break in Record <hr/>			
Oct. 16, 1847	"Small parties of families"	MG 19, D 12	(?)
Oct. 17	"two Indians"	"	(?)
Oct. 22	" 'Bear Hunter' from Lapierre House"	"	R (?)
Oct. 26	" 'Letter Carrier' from his Youcon quarters"	"	R (?)
Nov. 2	"Fond du Lac Indians in"	"	P
Nov. 11	"party of Indians from Mackenzie River"	"	M
Nov. 16	"two of Grand Blanc's brothers"	"	R
Apr. 27, 1848	"a party of starving Indians"	"	(?)
May 4	"ten Peel Indians"	"	P
June 2*	"brigade of 19 canoes"	"	P
June 29*	"few Indians from Mackenzie's River"	"	M
July 11	"nine Rat Indians"	"	R
July 25	"party from Fond du Lac"	"	P
July 30	"twenty-two Rat Indians"	"	R
Jan. 9, 1849	"large party of Peel River Indians"	"	P
Apr. 24	"some Indians from Mackenzie River"	"	M
Apr. 25	"Rat Indians"	"	R
May 15	"three Fond du Lac men"	"	P
May 20*	"band of Loucheux"	"	P (?)

Table 1-2 (continued)

Date	Reference to a Visit	Source	Inferred Group
June 2*	"Fond du Lac Indians in 2 ⁴ canoes"	MG 19, D 12	P
June 16	"Indians from above including one of the Gens du Roche"	"	P
July 5	"Grand Blanc with some of his men"	"	R
July 6*	"Rat Indians"	"	R
June 22, 1850	"two Mackenzie River Indians"	"	M
June 26	"Indians from across the mountains"	"	R
Nov. 9	"twenty Fond du Lac Indians"	"	P
May 7,* 1851	"several Indians"	"	P (?)
May 8	"several Mackenzie River Indians"	"	M
June 3*	"almost all Indians off to hunt rats"	"	(?)
July 4	"party of Indians from Mackenzie River"	"	M
Dec. 19	"ten Indians with marten"	"	(?)

¹ An asterisk indicates a reference to muskrat hunting.

² The Nakotcho of Osgood (1932).

³ Either the Tukkuth (Osgood, 1932) or the Vunta (McClellan, 1950).

⁴ The Tetlit of Osgood (1932).

Table 1-3

Indian Visits to Fort McPherson, 1840-1850

Date					Date				
Band					Band				
P	R	M	O		P	R	M	O	
1840	J				1847	O			***
	F					N	**	*	*
	M					D			
	A				1848	J			
	M					F			
	J	*				M			
	J	*				A			*
	A					M	*		
	S	*		*		J	*		*
	O	*	**			J	*	*	
	N	*				A	*		
	D					S			
1841	J					O			
	F					N			
	M	*	*	*	1849	J	*		
	A		*			F			
1842	M		*			M		*	*
	A	*				A	*		
	M	*				M		*	*
	J	**				J	**		*
	J					J		**	
	A					A			
	S					S			
	O		*			O			
	N	*				N			
1843	D					D			
	J				1850	J			
	F					F			
	M	*	*			M			
	A					A			
	M					M		*	
	J					J			
	J					J	*		
	A					A			
	S					S			
	O					O			
	N	*				N	*		
	D								

An asterisk indicates a recorded Indian visit
(P=Peel River Kutchin, R=Red Indians, M=Mackenzie
Indians, O=Not known)

from the Upper Peel (The Peel River Kutchin, or Tetlit Kutchin). The latter were also called the Fond du Lac Indians from a point up the Peel River, the exact location of which can no longer be identified (Slobodin, 1962: 17). Visits from members of all three groups were fairly common though the Peel River Kutchin more frequently appeared in large groups especially in the spring. There are practically no records of members of any group visiting the fort between December and February, the one major exception being in January 1849 when a large party of Peel River Kutchin camped there (PAC, MG 19, D 12). July and August were also times when visits were fairly infrequent for the reason noted above.

After 1850 the trade had become stabilized to the extent that, apart from losses due to epidemics, the number of people trading at Fort McPherson and La Pierre House remained constant at about one hundred (Table 1-4). The forts lost the precariousness they had suffered during the 1840's due to lack of meat and with the

Table 1-4Indians' Debts¹ at Fort McPherson and La Pierre House,
1851-1870

Year	Peel	Mackenzie	Rat	Total	Source
1851				93	PAC, MG 19, D 12
1854	38	54	21	113	B 157/d/6/29
1855				104	B 157/d/7/28-29
1857				117	B 157/d/8/14
1859				112	B 157/d/10/11
1862	75		35	110	B 157/d/13/12
1863				99	B 157/d/14/21
1864				112	B 157/d/15/7
1865				55 ²	B 157/d/18/20
1868				75	B 157/d/28-29
1869				95 ³	B 157/d/23/9
1870				97	B 157/d/24/19

¹ The debt system was used from the beginning on the Peel River. Indian hunters were encouraged to establish a debt to the Company by accepting goods against the next season's furs traded. In this way they were constantly obligated to the fur trade company. It was a system which worked to the advantage of both parties until the proliferation of trading companies led to its abuse.

² Sixteen Mackenzie River Kutchin traded at Fort Anderson but returned to the Peel River when Fort Anderson closed in 1866. The numbers also fell in this year due to the death of 29 people of scarlet fever.

³ In addition, seven Eskimos were listed, the first record of Eskimo debts at Fort McPherson.

additions of the Eskimo trade to that of the Peel, Mackenzie and Rat Kutchin the continuity of trade was assured. As the hostility between the Kutchin and Eskimos also decreased, a further inhibition was removed for both peoples to trade on the Peel River.

5. The Extension of the Fur Trade to the Eskimos

The first contacts made with the Eskimos were probably through Kutchin middlemen. As early as 1847, Grand Blanc, identified as the leader of the Rat Indians undertook to barter furs with the Eskimos (PAC, MG 19, D 12), though in fact his agreement to come into the fort the following spring was broken (ibid.) and thus it is not known whether trading contact was made at this time. In 1849, contact was made by a Mackenzie River Kutchin with a party of six Eskimos camping at what is recorded as their "usual rendezvous" on the other side of the Mackenzie River from the mouth of the Peel. Though the Eskimos were not considered to be as unfriendly with the Mackenzie

River Kutchin (Nakotcho) as with those of the Peel River, conversations took place "out of arrow range" and the Eskimos expressed the view that the white trader had given arms to the Kutchin to kill them. The attitude of the Hudson's Bay Company factor is interesting since though prepared to reason with them he also recorded in his journal, "... if I find them inclined to be civil, well and good, but if on the contrary they should be inclined to mischief, I shall think it proper and fit to fire on them." (ibid.).

In the following year in fact some Kutchin accompanied by two Company employees traded with a group of Eskimos at Point Separation but soon fell to blows and then to shooting with the result that four Eskimos were killed. Thus the initial contacts made with the Eskimos were not propitious and the following spring it was recorded that no encounters were made with them (ibid.). Later in the year however some Indians were sent to look for Eskimos and returned with the report that they had discovered a party of

seven in the foothills of the Richardson Mountains and that their reception had been friendly. When Peers himself set off to find them, however, he found only their abandoned "curiously constructed houses", but expressed the view that he was "anxious to see these people and endeavour to establish peace between them and the Indians." (ibid.)

In Peer's eyes the reconciliation of the Eskimos and Indians was essential for the continued survival of the fur trade in the area for hostility between the two people was undoubtedly discouraging both from visiting the fort. According to Richardson's (1851: 215) account: "It is probable ... that the Eskimos had a purpose of opening a trade directly with the white people; but this, being so obviously contrary to the interests of the Kutchin, was likely to meet with all the opposition they could offer, and hence their firing on the Eskimos without parley."

The first direct contact between whites and Eskimos was made in 1851 on two separate occasions and on the

Eskimos' own initiative. The first was at La Pierre House, where four Eskimos brought four fox skins to trade - a small offering, but as Peers remarked, "everything must have a beginning." (PAC, MG 19, D 12). The second was made later in the summer when a group of Eskimos visited the Peel River post and were reported to be "much taken up with everything" since this was the first time they had seen white mens' houses. This meeting was not altogether an auspicious one since they stole a small boat before departing (ibid.).

These early contacts resulted in the Hudson's Bay Company adopting a more positive attitude towards the development of the Eskimo trade which included the issuing of a number of directives dealing with such matters as the special treatment to be given to Eskimos, the preparation of furs and the promotion of good relations with the Indians (Stager, 1967). This policy resulted in more Eskimos being drawn in to trade at Fort McPherson and eventually to the establishment of Fort Anderson exclusively for the Eskimo trade

between 1861 and 1866 (Stager, 1967). This latter development was greeted by the Eskimos with enthusiasm and it was reported that: "They are exceedingly well pleased at having a fort established for them at this place, and they said they would do wonders in the way of hunting furs and that they would bring us the whole." (HBC, B/6/a/1: 4). Though the post probably intercepted the indirect trade which the Eskimos had with Russian traders, and also reduced the middleman's role of the Kutchin, it was not a success. It was intended that returns from Fort Anderson would go out via the Beaufort Sea and the Mackenzie Delta and that, consequently, contact would be made each season with all Eskimos living in the area (HBC 6/a/1: 3). Fort Anderson was not well located to focus the entire Eskimo trade of the area, however, and the Mackenzie Eskimos, who remained aloof from those of the Anderson River, continued to trade at Fort McPherson (Stager, 1967).

6. Conclusions

During the first thirty years of the fur trade in the Mackenzie Delta area contact had been made with a number of Kutchin groups and, less extensively, with the Eskimos. During this time three spatial patterns of trade had prevailed roughly in sequence. These were:

- (i) Trade based upon one central post (Peel's River) either directly with the nearer groups, or indirectly, through middlemen, with those farther away.
- (ii) Trade through the satellite posts of La Pierre House and Fort Yukon in Kutchin territory to the west, and Fort Anderson to the east.
- (iii) Trade based upon one central post again, but in which the role of the middleman had disappeared and all client hunters traded in person.

In the first stage the middlemen (like Grand Blanc) evidently strove to maintain their profitable role

against some odds. The more distant Indians with whom they conducted trade evidently learned soon that the white man's goods could be obtained more cheaply at the white man's trading post. By the same token it was evidently in the company's interests also to have direct contacts rather than through middlemen, since it enabled more control to be exercised over the species offered in trade. The attempt to establish direct control through satellite posts was not successful however either because the posts were difficult to supply with the Company's existing transportation technology (for example, Fort Yukon), or because they were not in easy locations for indigenous people to visit (like Fort Anderson). However, the experiment with satellite posts accustomed a great number of Indian and Eskimo people to trade goods which could only be obtained relatively cheaply, once the satellite posts collapsed, by visiting the original mother post on the Peel River.

Thus the collapse of the satellite posts

encouraged a much greater number of both Indians and Eskimos to visit the Peel River than had done so before, and thus increased the nodal function of the Peel River Post over a wide area. The major exception to this was the case of the Kutchin who found themselves on the U.S. side of the Alaska boundary in 1867 and thus within the purview of the more accessible American traders. Even among these, however, loyalty to the Hudson's Bay Company was strong enough to draw them to the Peel River Post from time to time.

The effect of the concentration upon the Lower Peel River increased the importance of the Mackenzie Delta. Though there is good evidence that the upper part of the Delta was occupied in the spring by at least some of the Kutchin, it is clear that the visits to the fort reinforced its importance. Though muskrat pelts were not welcomed by the traders the propensity to go down into the Delta for spring "ratting" increased in this period among the Kutchin. Similarly, the Eskimos who came up to the fort to trade were also

perforce drawn more closely into the Delta. What this amounted to in simple terms was the expansion of the area of territorial overlap of both peoples in the Upper Delta in the spring so that this area became much less a "No Man's Land" than in Mackenzie's time.

To return to the hypothesis of Williamson (1969) mentioned at the beginning of this chapter, it seems clear that though the fur trade had not yet established a strong regional identity in the Mackenzie Delta it had started a tendency in that direction. The ecological niche shared by the Kutchin and the Eskimo had widened though the contacts between them were still fraught with hostility. Unlike some other northern trading posts, that on the Peel River had drawn several dialectal sub-groups into its sphere for reasons that have been outlined above. Consequently far from reinforcing the tendencies towards exclusiveness, as Williamson (ibid.) has suggested, it tended to break them down and to initiate some small degree of convergence. This convergence was to be increased when

other agents of contact widened the areas of common interest.

CHAPTER II

MISSIONARIES, WHALERS, STAMPEDERS AND POLICE

1. Introduction

As in other parts of the North, the trading company opened the way for other agents of contact, particularly missionaries of both the Anglican and the Roman Catholic faiths. The fact that the Mackenzie Delta was more accessible than many other parts of the North both via the Mackenzie River and the Bering Sea route, opened it also to other sources of influence. While the interior of Alaska was attracting the attention of mineral prospectors, whaling ships were edging along the north coast in search of Bowhead whale and were to reach the vicinity of the Mackenzie Delta in the late 1880's. The famous gold strike in the Klondike increased the interest in prospecting and many of the stampeders to the gold fields followed the

arduous but now well established route down the Mackenzie and then across the Rat-Bell Portage to the Yukon. Both whaling and the Gold Rush focussed the attention of the Canadian Government on the Northwest and resulted in the appearance in the Yukon and the Arctic Coast of the Royal Northwest Mounted Police.

The intensification of contact with the outside culture and economy had a number of effects upon the Mackenzie Delta. The activity of the missionaries at first tended to further the processes of cultural convergence started by the fur trade. As proselytization increased both Indian and Eskimo people visited the mission post established at Fort McPherson with greater frequency. Rather than reinforcing this process, the Gold Rush and the whaling boom initiated some divergence. The Peel River Kutchin were attracted temporarily towards the Yukon side of the Richardson Mountain divide by the activity on the Klondike. At the same time, Eskimo visits to the Lower Peel became

less frequent as they drifted towards Herschel Island where the whalers established their winter quarters. In the long term view both events in fact increased the possibilities for convergence when Kutchin and Eskimo came into close contact again in the Delta. Residence in the Yukon broke down some of the cohesiveness of the Kutchin and made their closer involvement in trapping more possible. The decimation of the original Mackenzie Eskimos by disease allowed a wave of more acculturated Alaskan Eskimos to enter the Delta, and these were also more readily absorbed into the trapping economy.

2. The Coming of the Missionaries

Missionary activity began in the area in 1860 and as in other parts of the North was strongly dependent upon the transportation network developed by the Hudson's Bay Company, a fact which was recognized by traders and missionaries alike. Of the bishop of

the Athabasca-Mackenzie Vicariate, Douchaussois noted (1937: 9): "Without the good graces of the Comapany he will be helpless: he will not be able to procure for himself even the necessaries of life."

Generally the attitude of the traders towards the missionaries was not encouraging, though some slight preference was often given by the Presbyterian Company factors to the Anglican over the Catholic missionaries. As late as 1876, however, Chief Commissioner Grahame wrote to Hardisty: "Should any boat arrive at Portage La Loche not employed by the Company, but carrying passengers, priests, missionaries or freight intended for McKenzie's River, you will decline furnishing transportation for them beyond that point or assistance in any way whatsoever." (Innis, 1956: 371).

Generally the Company officials regarded religion as a distraction from trapping and a factor which caused the Indians to congregate around the forts when there was no good economic reason for them to do so.

Thus missionary activity was often carried out in face of an uncooperative attitude on the part of the trading company. Similarly, the attitude of the two major mission groups to each other was one of outright hostility, for the missionaries were of different nationality and language as well as of a different religious tradition. Protestant mission activity was directed by the Church Missionary Society with its headquarters in London, and Catholic by the Oblate Fathers from their mother house in Belgium. Thus there was little common ground between the missionaries in the field or between the missionaries and the Company.

Anglican interest in the area began in 1857 when Rev. James Hunter prepared to visit trading posts down the Mackenzie River as far as the Arctic Coast the following year in an attempt to "outflank" the Catholic missionaries who, it was noted, would be "driven into the sea" if they attempted to go beyond Fort Simpson (CMS, C.1/0, Nov. 4, 1857). He was encouraged in the

effort by the fact that, "all the gentlemen of the District with one exception are Protestants and the majority of the men, and they are all anxious, and even zealous for the establishment of Protestant missions throughout the District." As a consequence, this was considered to be the "most promising field for missionary activity in the whole of the country." (CMS, C.1/0, July 31, 1858).

In fact the attitude of the Company was rather ambivalent and Sir George Simpson, though assuring that assistance would be given to Hunter, was concerned that mission posts should not be expected to depend upon the trading posts. "As it is proposed to have schools and collect the Indians about the mission," he noted in a letter to Bernard Ross, the Chief Trader at Norway House, "I further informed the Bishop that we should positively object to its being placed (at) Fort Simpson or any of the Company's posts, and recommended that a site should be selected in the vicinity of some good fishery." (CMS, C.1/0, June, 1858).

At the same time as rather grudging assistance was being given to the Anglican missionaries, it was not being denied to those of the alternative persuasion so that the same brigade which took Hunter north, also carried four priests and a friar "with full permission from the authorities to go all through establishing missions and to remain to carry them on." (CMS, C.1/M, June 10, 1858). The result was the rather unseemly race down the Mackenzie which culminated in both mission groups reaching Fort McPherson at about the same time. At points along the river mass baptisms were carried on by Anglicans and Catholics alike with an effect that can hardly have been lasting. "No possible good can result to the benighted heathen of these regions," recorded a Company trader, "by a system of proselytization being carried out between the two sects, indeed positive injury may result from it." (CMS, C.1/O, Aug. 23, 1858).

Fr. Grollier arrived at Fort McPherson in September,

1860 and baptized a number of Indians and also some Eskimos who were gathered there. Though he is variously reported to have reconciled the two peoples (Douchaussois, 1937: 291; Morice, 1910: 332; Lécuyer, n.d.), this seems unlikely in view of the short time he spent at the fort, the few Eskimos with whom he made contact and the fact that hostilities between the two peoples continued well after his visit. To this time, however, many Catholic Kutchin give credit to the priests for bringing peace to the area, just as many Anglican Kutchin give credit to the ministers (Slobodin, 1962:25). It seems more likely that when easier relations were established between the two peoples it was the result of their both being drawn together by the fur trade rather than to the efforts of either of the proselytizing sects.

In the summer of 1861, Fr. Grollier returned to Fort McPherson overtaking the Anglican missionary, Rev. W.W. Kirkby at Fort Norman, but was prevented from staying long by a severe attack of asthma (Lécuyer, n.d.).

The results of this fairly trivial occurrence may have been quite profound, for Grollier's infirmity led to this particular area being abandoned to the Anglicans, who through the agency of Rev, Robert MacDonald, made Fort McPherson an important centre for Indians throughout the Upper Peel and the Yukon. Kirkby's reception was a favourable one and he was greeted by the Protestant Hudson's Bay Company people and by about 140 Indians and 37 Eskimos, some of whom he had encountered at Point Separation on the journey (CMS, C.1/0, June 17, 1861). The subsequent failure of Fr. Seguin to make converts in the Yukon in the face of a vigorous mission by the Rev. Robert MacDonald discouraged the Oblates from continuing in the area and though visits were paid to Fort McPherson in the springs of 1864, 1865 and 1866, the Anglican faith was by this time too strongly entrenched for a permanent Catholic mission to be established there.

This was significant for a number of reasons.

The virtual abandonment of this area to the Anglicans

placed the latter in a favourable position for the eventual extension of mission activity to the Eskimos. A major contributing factor to the relative strength of the Anglican church was undoubtedly the personality of the Rev. Robert MacDonald whose missionary activity out of Fort McPherson and into the Yukon gave the fort a central significance for Indians who ranged over a wide area and brought them to the Lower Peel River for religious festivals as well as for trade. The mission thus increased the fort's potential as a unifying force. Finally, the exclusion of the Catholics from Fort McPherson led to the establishment of an alternative mission at Arctic Red River, and the polarization of the Kutchin of the Mackenzie Delta area along religious lines which have persisted to the present time.

3. Missionary Activity Among the Eskimo and Kutchin

The effect of missionary activity was twofold. Not only did it result in an increased pace of acculturation among native peoples, but it strengthened

the nodal functions of a number of points of contact between both the Kutchin and the Eskimo and the external world. While it had never been in the interests of the trading company to teach their indigenous clients to read and write, it was very much in the interests of the missionaries to do so. MacDonald's translation of the Tukuth language and Petitot's of the dialect of the Mackenzie Eskimos contributed strongly to the degree to which both peoples were opened to the influences of the outside world (cf. Jenness, 1964: 15). At the same time, the establishment of mission posts at the fur trade forts, or indeed at completely new locations encouraged them to gather for religious services at certain times of the year, often with profound effects upon previously established hunting patterns. For example, the necessity for Christianized Kutchin to attend Christmas services in Fort McPherson effectively reduced their winter hunting grounds. The activities of the missionaries also had the effect of replacing old

patterns of leadership and social cohesion, as catechists came somewhat to assume the role previously occupied by shamans, sometimes in the same person (Slobodin, 1962: 26).

Given the relative exclusion of the Catholic missionaries from the Lower Mackenzie and the Arctic Coast, the Anglican missionaries had the strongest influence, though Catholicism was dominant at other points up the Mackenzie River. This applied particularly to mission work among the Eskimos with the exception of that of Er. Emile Petitot whose influence was very strong, though he was only with the Mackenzie Eskimos for a short time. Petitot was however somewhat of a maverick in his own church and later mission effort among the Eskimos was dominated by two Anglican clergymen, Rev. (later Bishop) W.C. Bompas and Rev. I.O. Stringer. In the Peel River area and in fact throughout the Yukon drainage area, Rev. (later Archdeacon) Robert MacDonald stood head and shoulders above other missionaries. In the south-eastern part of

the Delta, Catholicism was re-established when the mission was eventually abandoned officially at Fort McPherson and opened at Arctic Red River. Because of the separation of the two missionizing sects, and the importance of the personalities of the missionaries, missionary activity among the Eskimos and the Kutchin may be dealt with separately after 1860. The year 1895 marks a convenient turning point for it saw both the permanent establishment of an Anglican mission to the Eskimos at Herschel Island and Kittigazuit, and of a Catholic mission at Arctic Red River. Both events occurred however when other agents of acculturation were becoming more dominant than the church.

(a) The Eskimos (1860-1895)

Early missionary activity among the Eskimos was discouraged by their reputation for hostility to the white man. Thus on Hunter's first expedition down the Mackenzie he considered that it would only have been possible to have gone to the Arctic Coast with a large armed party since the Eskimos he noted were

"a very treacherous and bloodthirsty race and... continually at war with the Loucheux." (CMS C.1/0, Nov. 30, 1858). Kirkby's encounter with Eskimos at Point Separation was fairly peaceful and he was offered muktuk in return for tobacco. When demands for more tobacco were not complied with by the missionary, however, the Eskimos became more quarrelsome and he was compelled to seek his escape (CMS C.1/0, June 15, 1861). At Fort McPherson, the few Eskimos present attended divine service though not apparently with much understanding. Kirkby noted however that they were fond of singing and appeared to have a good ear for music and, despite his difficulties at Point Separation, he considered them a fine race of people and probably superior to the Indians in intelligence (CMS, C.1/0, June 17, 1861).

In the early years of Rev. Robert MacDonald's mission, contacts with the Eskimos increased mainly due to the increasing frequency of their visits to the fort. Christianity does not appear to have

impinged on them as strongly at this stage as it did on the Kutchin. One reason for this was the difficulty of conversing with them, for though those who frequented the fort spoke a fur trade "jargon" with both whites and Indian, those from further afield spoke only the Eskimo language (CMS C.1/O, May 31, 1866; Feb. 24, 1868). MacDonald was to become well known for his Tukuth lexicography, but he never fully mastered the Eskimo tongue. Consequently, no strong efforts were made to preselytize the Eskimo until the arrival of Rev. W.C. (later Bishop) Bompas in 1870.

Bompas had early expressed the wish to carry out mission work among the Eskimos (CMS, C.1/O, Jan. 7, 1870) and made a brief visit to the coast in 1871 during which he noted some salient characteristics of their way of life at that time (CMS, C.1/O, 1871). The annual visits to the fort had now become well established and were incorporated into the yearly cycle of most families. After the spring fishing and the visit to Fort McPherson to trade, the Eskimos

returned to the coast to hunt seal, some sea otter and walrus, the meat of which they cached until the following winter. Whales and caribou were also hunted along the coast during the summer months and fish nets were set on the rivers for whitefish, inconnu and jackfish, while muskrat were taken by the Eskimos as they passed through the Delta on their way to the fort. Though fox and bear skins and some whale oil were traded for tobacco, and iron pots and kettles, the Mackenzie Eskimos were by no means strongly dependent upon trade at this time, though Bompas expressed the fear that liquor from the United States traders in Alaska might bring about the degeneration of the Eskimos in the Delta area. There was sufficient interest in trade by this time for the Eskimos to want a trading post established halfway between the Coast and Fort McPherson, a wish which was not to be fulfilled until the establishment of Aklavik half a century later. Though Bompas' trip established the first direct contact between the missionaries and the

Eskimos in the home territory of the latter, the effort was not followed up and future contacts continued to take place mainly at Fort McPherson.

Bompas' early approach to the Eskimos was to bear fruit when he achieved a position of authority and was thus able to promote the mission to the Eskimos with greater force. This was not to occur however for twenty years. In 1881, as Bishop of Athabasca, he noted that since the Eskimos were now friendly and several good interpreters were available, the time was ripe for appointing a missionary exclusively responsible for works among them (CMS C.1/0, May 9, 1881). The growing fears of American influence in the area increased Bompas' desire to have a missionary in the field but though the Canadian Government now offered for the first time to pay one half of a teacher's salary, the Church Missionary Society was not in a position to make an appointment (CMS C.1/0, Oct. 8, 1880). Bompas' attitude to mission work was that he should provide a force for economic change in

bettering the material conditions of indigenous peoples. "If we could introduce schooling, or farming or even a steamer on this magnificent river," he noted, "it might elevate somewhat the character of the land in respect to civilization." (CMS, C.1/0, Nov. 28, 1881).

An appointment was finally made in the person of Rev. I.O. Stringer who first visited the coast in the summer of 1892. When it was discovered that he was not a trader he was not encouraged to stay by the Eskimos and moved on to Herschel Island where American whalers were already having an impact on the Eskimo families gathered there (CMS C.1/0, Nov. 1, 1893). Stringer was aided by the fact that Eskimos now gathered in quite large numbers during the summer either at traditional gathering places - one of which, at the mouth of the Mackenzie, had a good sized log meeting house which he used as a church - or increasingly at whaling stations (CMS C.1/0, June 1894). At Herschel Island in 1894, Stringer described the

village of half underground huts built of poles covered with sod and snow which now clustered close to the ships and the presence of Eskimos from the west who had never visited Fort McPherson. Radical change was evidently underway and Stringer recorded with some anxiety: "Influences are bearing in, which will make (missionary) work far more difficult in the years to come ... I fully believe that a few years will see the salvation or the ruin of the Eskimos." (CMS C.1/0, June 1894).

In the following two years a permanent mission was established among the Eskimos at Kittigazuit, where a new building was erected, and at Herschel Island, where one building was purchased and another put up by the American Whaling Company at its own expense (CMS C.1/0, 1896). Though Herschel Island had been described as "the world's last jumping-off place, where no law existed and no writs ran" (Whittaker, 1937: 235), there is some evidence that the whalers welcomed the missionaries as a civilizing force. By 1896 however

the breakdown of the Eskimo social life which had accompanied the coming of the whalers had reached major proportions and the acculturative influence of the missionaries was probably subordinate, at least in its practical effects, to that of the whalers. Large numbers of Eskimos now gathered at Herschel Island during the summer, where they worked or hunted for the whaling ships, while the winters were spent in idleness (CMS C.1/O, Feb. 1 1897). Jenness (1964: 15) suggests that the role of the missionary was to "strengthen and restore their spiritual equilibrium, which had been profoundly shaken when the world of their ancestors crumbled under the impact of white civilization." The missionaries made their strongest contacts with the Eskimos of the Mackenzie Delta just when that equilibrium was most disturbed.

(b) The Kutchin (1860-1895)

For some years after 1860, Anglicans and Catholics continued to compete for the souls of the Kutchin. Fr. Seguin continued to visit the Peel River area

during the springs of 1863, 1864 and 1866 but without being able to establish a permanent mission there due to the hold established by the Anglicans. This hold was considerably strengthened when Rev. Robert MacDonald arrived in the area in the fall of 1866 (CMS C.1/0, Sept. 11; cf. Slobodin, 1962: 25).

MacDonald was remarkable in that he travelled widely along the network of posts established by the Hudson's Bay Company so that his influence was felt among the Kutchin of the Lower Yukon. Though some attempts were made by MacDonald to convert the Kutchin of the Mackenzie River (Nugoochonjyet)¹ from Roman Catholicism (CMS C.1/0, Nov. 11, 1867), these did not meet with success. Hence while religion tended to draw together the Kutchin of the Peel and the Yukon Rivers, it separated them from those of the Lower Mackenzie and Arctic Red Rivers. In 1868 this division was widened when the Oblates established a small mission house first at the mouth of the Arctic Red River (CMS C.1/M, Oct. 28, 1868) and later at Tretchigwarat, six miles

¹ The term is MacDonald's. These are the Nakotcho mentioned earlier.

downstream (Lécuyer, n.d.) to serve the Mackenzie River people. Religious scruples did not, however, prevent Mackenzie River Catholics from passing through Fort McPherson on their way to the mountains, and even attending Anglican church services there (CMS C.1/0, July 8, 1876).

Another source of concern to MacDonald was the gradual encroachment of American traders in the west. After the purchase of Alaska, United States trading companies sent ships to the mouth of the Yukon River with the intention of establishing trading posts along the river (CMS C.1/M, Oct. 28, 1868) which might have drawn the Kutchin further away from the influence not only of the Hudson's Bay Company but also of the missionaries. This concern was intensified when the Hudson's Bay Company decided in 1869 to abandon Fort Yukon since it was now believed to be on United States Territory. The Church Missionary Society was given possession of the fort under the condition that the Hudson's Bay Company could resume control should

surveys prove it to be in British Territory after all, but the unfavourable reaction to the United States traders Parrott and Co. and Hutchinson, Kohl and Co. resulted in the Indians withdrawing to the east. When the Hudson's Bay Company proposed setting up a new post at the Rat (Porcupine) River on British (by this time Canadian) territory the mission post was also moved there.

MacDonald travelled widely through the Canadian part of the Yukon during the 1870's, preaching and holding school at La Pierre House, Rampart House and Fort Yukon as well as at Fort McPherson. The fact that he was partly of Cree descent, and soon after his arrival married a Kutchin woman, increased his influence with the Indians of this very large area. Thus, when an attempt was made by Fr. Giroux to establish a permanent Catholic mission at Fort McPherson in 1890 (Douchaussois, 1937: 334; Lécuyer, n.d.), it did not meet with much success. In 1891 Frs. Grouard and Lefèbre joined the mission, the latter with the

responsibility of ministering to the Eskimos, and in the winters of 1892 and 1893, Giroux toured the camps of the Peel River Kutchin in an attempt to gain converts and to learn the Tukuth language (Lécuyer, n.d.).

However, antagonism between the Catholic missionaries on the one hand and the Hudson's Bay Company factor and Protestant Kutchin on the other led to the abandonment in 1895 of the Peel River Mission in favour of a permanent mission at Arctic Red River (Hench, 1961; Lécuyer, n.d.).

The significance of this lies in the fact that the Anglicans placed more emphasis on native catechists than did the Catholics, so that with the departure of the latter, the catechists came to fill an important role among the Peel River Kutchin. According to Slobodin (1962: 26): "All the catechists, with one possible exception, were group leaders independently and prior to their Church activity; that is, they were men who, in social groups larger than the family but smaller than the band gathering, were likely to direct

economic or ceremonial activity."

The Anglican mission thus played quite a significant role in confirming established patterns of leadership among the Peel River Kutchin. More important for the evolving spatial structure of the area however was that the presence of two missions brought about the appearance of two distinct nodal centres, one for the eastern and one for the western Kutchin. By 1876, when the mission house was rebuilt and construction started on a church (CMS, C.1/0, Feb. 4, 1878), Fort McPherson was clearly the main centre for the Peel River Kutchin. Though Indians still gathered at Rampart House and La Pierre House (CMS, C.1/0, Jan 25, 1876), the religious festivals attracted the largest numbers to Fort McPherson. In addition, some children now remained at the fort to attend school, 15 doing so in 1876 (CMS, C.1/0, Sept. 27, 1876). In 1877, MacDonald's brother Kenneth left the service of the Church Missionary Society to become Hudson's Bay Company factor at

Rampart House, and MacDonald himself suggested that the large size of the district prevented him from visiting all those in his charge and that unless another missionary were appointed, it would be impossible to cover the entire area (CMS, C.1/0, Feb. 4, 1878; Feb. 6, 1879). His journeys to the Yukon did in fact become less frequent after that time, and christianized Kutchin increasingly came to the mission post. At Arctic Red River, also, an established centre was beginning to appear about the Roman Catholic mission. The Hudson's Bay Company had maintained a summer fishery here for some time (CMS, C.1/0, Sept. 27, 1867), and in 1902 established a trading outpost so that now there was little reason for the eastern Kutchin to visit Fort McPherson.

4. The Impact of the Gold Rush and of Whaling

In the latter part of the nineteenth century two developments took place which led to a more active interest on the part of the Canadian Government in

the Western Arctic. These were the appearance of American whaling ships along the Canadian section of the Beaufort Sea coast, and the Yukon Gold Rush. The former affected the coastal Eskimos most strongly by introducing new diseases and new patterns of life, while at the same time causing a fairly major immigration of Alaskan Eskimos. The latter affected the Red River Kutchin in shifting the focus of attention from Fort McPherson to the Klondike and by introducing new forces of radical culture change which resulted in the emergence of a sub-culture of Dawson City Kutchin. As far as external influences were concerned, both the Gold Rush and Whaling led to the appearance for the first time in this area of direct agents of the Federal Government in the form of officers of the Royal Northwest (later, Royal Canadian) Mounted Police.

(a) The Gold Rush

During the Klondike Gold Rush of 1898-99 and the years following, the Mackenzie River provided a favoured though tough route to the gold fields. From

Fort McPherson, prospectors travelled up into the Wind and Rat Rivers until rapids impeded their further progress by scow. At these points, called Wind City and Destruction City respectively, they broke up their scows and waited until freeze-up permitted easier land travel across the mountains. The hardships suffered were often intense and large numbers died of scurvy and of exposure, though many succeeded in making their way across to the Yukon with the aid of guides from the Peel River Kutchin. During the winter of 1898-99 it was estimated by one informant that as many as 600 people camped at Fort McPherson and another 200 had smaller camps in the mountains. Such large incursions of people from the south had an undoubted effect upon the Kutchin with whom they came into contact introducing them to a number of innovations including, reputedly, money (Slobodin, 1962: 30). The most important effect of the Gold Rush however was to cause a shift in emphasis from Fort McPherson to Dawson City which lasted three decades. Those

Peel River Kutchin who accompanied the prospectors as guides stayed on the other side of the mountains to hunt, encouraged by the inflated prices to be received for meat in Dawson City and by the possibilities of picking up discarded gear from failed miners. In time they were joined by other members of the band until by 1901 most of the Peel River Kutchin looked to Dawson City rather than to Fort McPherson.

This change in orientation from the Peel to the Yukon continued until about 1910 when the gold mining industry was rationalized and Dawson City lost its boom character. Its effects on the Peel River people have been described in detail by Slobodin (1962:30-35), in particular the emergence of the generation of people he termed the "Dawson Boys" (Slobodin, 1963). These consisted of men who worked in Dawson City for a time and acquired there an urban sophistication which remained with them even after they drifted back to the Peel River, setting them apart from the less

strongly acculturated younger generation born after the return from the Yukon. In addition to new attitudes they also brought back to the Peel River a number of innovations, including breech-loading rifles and canvas tents.

During the absence of the Peel River Kutchin, a vacuum was created in the Upper Delta which was reflected in greatly reduced trade for Fort McPherson and the closing of Rampart House and La Pierre House in 1893 (Stewart, 1955: 240). Though some attempt was made by the Hudson's Bay Company factor John Firth to stimulate trade with the Eskimos, the whaling ships on the coast provided a strong inducement for them to stay away from Fort McPherson. In 1902, a large party of Eskimos did go up to Fort McPherson where many contracted measles from Indians visiting from the Dawson City side. The resulting epidemic on the coast considerably reduced the number of the original Mackenzie Eskimos particularly, and provided another reason for Eskimo visits to the Peel River to become

less frequent. In all, between 1905 and 1910 the Upper Delta and the Lower Peel River were largely deserted by the Eskimos and Peel River Kutchin alike.

The Catholic Mackenzie River Kutchins were less affected by the Gold Rush since, after the abandonment in 1893 of the mission at Fort McPherson in favour of Arctic Red River, their orientation was now entirely towards the east. Arctic Red River was however a base for Catholic missionary work among the Eskimos, who were visited by Fr. Giroux in 1899, and in towards the gold fields for which Mgr. Grouard and Fr. Le Creff departed in 1900 with two local guides (Lécuyer, n.d.). The Arctic Red River people themselves were still primarily occupied with hunting and trapping the Lower Mackenzie and in 1901 a permanent trading post was established by Hyslop and Nagle, a fact which caused some consternation to the missionaries and the Hudson's Bay Company factor alike (Lécuyer, n.d.), and which confirmed the orientation of the Mackenzie River people towards Arctic Red River.

(b) Whaling

Whaling had been active on the north Alaska coast since the middle of the nineteenth century and directed principally towards the Bowhead whale which provided both whale oil and baleen. As rising prices for such products during the late 1880's encouraged a deeper penetration of these waters, some ships wintered as far east as Herschel Island. When the U.S. revenue cutter Thetis was sent there in 1889 to determine the island's position with respect to the Canadian-U.S. border, a number of whaling ships were already in the vicinity including the Grampus and the Mary D. Hume at Herschel Island itself (Stockton, 1890; cf. Currie, 1964: 2). Continually rising prices especially for baleen on the one hand and the suitability as a harbour of Pauline Cove on the south side of the island on the other hand, made this a favoured place for whalers to gather during the 1890's. By 1893 the baleen from a single whale was worth \$8,000 to \$10,000 and the oil yield in addition \$100 per ton (Foote, 1964), and no

fewer than fifteen ships spent the winter on Herschel Island (CMS, C.140, June, 1894; Jenness, 1964: 13).

In all, 170 ships are estimated to have wintered east of Point Barrow between the years 1889 and 1914 (Foote, 1964), with considerable effect upon the indigenous population.

The most important of these was the depletion of the population by diseases to which the Mackenzie Eskimos had very weak immunity. The worst ravage of diseases imported by the whalers had been felt in Alaska between 1850 and 1885, during which time the Eskimo population of the north coast had been halved (Foote, 1964), and these effects were continued in the Canadian part of the coast after 1889. In addition, the measles epidemic brought in from the Yukon also took a heavy toll among the Mackenzie Eskimos and created a vacuum which was filled by an increasing number of Alaskan immigrants. According to Usher's (1970) estimates, the total native population between Demarcation Point and Baillie Island was over 350, of whom 250 were

Mackenzie Eskimos (called "Kogmollicks") and 100 Alaskan immigrants. While the Mackenzie Eskimos remained along the coast the Alaskans drifted into the Delta to take up trapping.

Of almost equal importance to changes in demography were those which were induced in ecological patterns and nodes of life. Uninterested at first in trading with the Eskimos, the whalers were eventually compelled to do so by the practice of wintering in the Arctic which made them dependent upon Eskimo hunters for meat. The commodities offered in trade were not only cheaper than those available from the fur traders but of much greater variety. Firearms were first offered in trade after 1863 and liquor after 1870 (Foote, 1964), as well as a number of food items which had not been offered to the Eskimo before (Stevenson, 1968a). In 1891, Eskimos went up to Fort McPherson with many exotic items gained in trade with the whalers and an unsuccessful attempt was made by John Firth, the Hudson's Bay Company factor, to persuade the Americans

not to trade in exchange for mailing privileges via the Company's facilities (Stewart, 1955: 262). In addition a combined effort was made by Firth, Stringer, Archdeacon MacDonald and J.S. Camsell to have the whaling captains restrict the indiscriminate circulation of liquor with some effect after 1895 (Stevenson, 1968b). However, the whaling ships continued to attract potential clients from the established trading companies, not only among the Eskimo but also, less frequently, the Indian people. As early as 1889, Indians from the vicinity of Rampart House were at Barter Island (Stockton, 1890) and in 1896 of La Pierre House at Herschel Island (Stewart, 1955: 262).

In return for trade goods, the Eskimos provided the whaling ships with meat and with driftwood for winter fuel and, as a consequence, suffered the complete disruption of pre-existing ecological patterns. Both caribou herds and marine mammals were seriously depleted to provide for the needs of the whales and, at the same time, the material culture of the Eskimos

was profoundly altered as the rifle came into common use and the whaleboats replaced the umiak and the kayak. In 1906, the price of baleen fell drastically to 40 cents per lb. (Stevenson, 1969; Currie, 1964: 2) where it had sold for \$1.53 per lb. in 1863 (Foote, 1964), and the whaling ships began to leave the Beaufort Sea for good. According to Jenness (1964: 14):

The whalers who had accompanied or followed up the early nineteenth century explorers had killed off most of the whales in the waters of Canada's Eastern and Western Arctic, had unconcernedly decimated the Eskimo inhabitants of both regions, and had destroyed their independence by replacing with manufactured goods the tools and weapons, the stone cooking-vessels and the skin boats that they could make from local materials with their own hands. Now at the century's end, having shattered the aboriginal economy, the whalers were departing, and the Eskimos no longer possessing their ancient skills or food resources, had to build their economy on a new base or perish.

(c) The Police

Both the Gold Rush in the Yukon and the whaling boom along the Arctic Coast resulted in the appearance of the Royal Northwest Mounted Police to maintain Canadian sovereignty. In the Yukon the major concern

had been to prevent the lawlessness associated with Gold Rush towns in Alaska spreading to Canadian territory. In the Beaufort Sea area as elsewhere in the Arctic it was to confirm Canadian right to areas which might otherwise be disputed. Thus in 1903, the Neptune expedition was launched in the east (Jenness, 1964: 18) and police posts established at Fort McPherson and Herschel Island in the west. That sovereignty was the main issue in these events is indicated in fears expressed by Sir Wilfrid Laurier concerning the risks of the United States establishing posts in the Arctic, like that "at the mouth of the Mackenzie River" and eventually laying claim to these areas (PAC, MG 27, II, B 1, vol.2: 72). There is a local tradition in the Mackenzie Delta that continuing hostility between the Indian and Eskimos prompted John Firth to appeal for police assistance (cf. Rasmussen, 1927: 301), but this is not likely to have been other than a minor consideration.

In the summer of 1903, Inspector Charles

Constantine of Klondike fame (cf. Berton, 1963: 27) travelled down the Mackenzie to set up the police post at Fort McPherson accompanied by Sergeant Fitzgerald and Corporal Sutherland, who were to proceed to the Herschel Island post, "to collect duty and prevent the demoralization of the Eskimo" (Longstreth, 1933: 242). In fact, their duties were far from clear in the early stages and they frequently operated on bluff rather than clearly defined authority (Godsell, 1942; Stevenson, 1969). Certainly the major antagonist was clear to the officers in the field as Sutherland wrote from Herschel Island: "It is a beastly business and I wish I were out of it. But I've tried not to shirk my duty so far, but suppose I must stick it out to show these Yankees that there is a law or two even in the Arctic." (Longstreth, 1927: 265).

Ways of dealing with the American whalers were impeded however by the lack of authority, as Constantine's successor Inspector Howard repeatedly reminded his superiors (RNWMP, 1906, 1907).

The presence of the police in the Arctic was significant for a number of reasons. In the wider context it signalled the beginning of a government role in the area while at the same time defining that role in static terms. It was accompanied however by the creation of an administrative structure in the Northwest Territories Amendment Act of 1905 which provided for the appointment of a Commissioner and a Council of four members (Rea, 1968: 34; Jenness, 1964: 21), though as Jenness properly observes, the appointment of a senior police officer, Lt. Col. Frederik White, to the position of Commissioner did not suggest an attitude of creative development. The Act nonetheless laid the foundations for future political development. Beyond some assistance towards the paying of teachers' salaries, however, (PAC, RG 18, A 2) little official contribution was made towards the social development of the Arctic. On the other hand, at the local level the police frequently contributed towards the welfare of indigenous people by supporting those in need and by

protecting them for some of the worst effects of commercial exploitation.

§. Changes in Ecology and Nodality (1840-1912)

When the fur trade began in 1840, the Mackenzie Delta was peripheral to the pre-contact ecological systems of both the Mackenzie Eskimos and the Peel River Kutchin. Though there is evidence that numbers of both groups occupied its northern and southern sections for limited times each year, the focus of activities was elsewhere. The Kutchin lived for most of the year in the mountains between the Peel and the Yukon drainage basins, where tradition points to the northern Ogilvie and western Richardson Mountains as the major winter hunting grounds (Slobodin, 1962: 16). Eskimo territory on the other hand comprised the Arctic littoral from Demarcation Point to Cape Bathurst with some movement into the Eskimo Lakes and Anderson River areas (Richardson, 1851: 215). The Delta was used by both people for fishing during

the summer months and the Kutchin hunted muskrat in the Lower Peel and probably the Upper Delta. However, there is enough evidence of hostility between the two peoples (Whympers, 1869: 225; Richardson, 1851: 215; Mackenzie, 1904: 254) to give credence to the concept of a "No Man's Land" which comprised the greater part of the central Delta and was shunned by both peoples (Slobodin, 1962: 18). Eskimos ventured as far upstream as Separation Point, and perhaps Arctic Red River, to fish during the summer maintaining a cautious distance from the Mackenzie River Kutchin, but with the Peel River Kutchin their contacts were few and invariably bellicose.

While outside agencies did not draw both peoples immediately together, they did have the effect of making peaceful contacts more common especially after 1865, when Eskimos began to visit Fort McPherson in large numbers to trade. Though the effect which the fur trade had upon the Eskimo is not entirely sure it seems very probable that the necessity of visiting Fort

McPherson drew them more deeply and frequently into the Mackenzie Delta, where they congregated at fishing camps, one of which was probably the present site of Aklavik, for several weeks. At the same time the Peel River Kutchin also moved down to the upper part of the Delta to fish and to hunt muskrat between their spring and late summer visits to the fort. The religious missions which increased in importance during the 1870's and 1880's, and the fact that one sect prevailed, provided additional opportunities for convergence.

The Gold Rush and the whaling boom had the effect of drawing both people away from the Delta during the crucial summer months so that fewer meetings of Eskimo and Kutchin took place between 1902 and 1912. While the Kutchin did not frequent the Peel River during this period, the Eskimos were engaged along the coast in support activities for the whaling ships or simply congregated aimlessly at the whaling depots. During this time the original Mackenzie Eskimos declined drastically in numbers so that when a movement back

into the Delta eventually took place it involved largely different actors. For the most part the relatively unsophisticated Mackenzie Eskimo had been replaced by more highly acculturated, commercially oriented Eskimos who had followed the whaling ships eastward from Alaska.

By 1912, the centre of gravity for both the Peel River Kutchin and the Eskimo who now inhabited this area was shifting back towards the Delta. With the working out of the richer Klondike gravels, the Kutchin came to re-focus their activities upon Fort McPherson and though their way of life still rested primarily upon the resources of the mountains and was to do so until the early 1920's, the social organization of the Kutchin could now be much more closely identified with the institutions of the settlement. Similarly, with the decline of whaling and the disappearance of most of the whaler-traders, the Eskimos too were drawn through the Delta again to trade their furs at Fort McPherson. Residence in Dawson City and contact with

the whaling ships had created a set of more complex needs for each people that bound them irrevocably to the fur trade. Fort McPherson formed the nodal centre in which some of these needs were met about which both the Eskimo and the Kutchin organized their trapping activity in the decade which followed.

CHAPTER III

CONVERGENCE UPON THE MACKENZIE DELTA (1912-1929)

1. Introduction

The period from 1912 to 1929 saw a shift in the hunting patterns of both the Kutchin and Eskimo peoples towards the Mackenzie Delta itself. In part, this was the result of an intensification of interest in the fur trade generally which accompanied a sharp rise in the prices received for all furs, and particularly for muskrat. Thus white fox sold for \$50.00 in Fort McPherson in 1919 compared with \$2.50 only four years earlier, marten for \$55.00 compared with \$2.50, and mink for \$20.00 compared with \$1.00 (PAC, RG 18, F1). Though the price of muskrat did not rise as drastically, from some 40 cents in 1914 to \$1.50 in 1920 (Slobodin, 1962: 36), muskrat may be taken in great quantities at break-up with a relatively small expenditure of effort. It was this

consideration more than any other which made the Mackenzie Delta, the area in which muskrat are especially prolific, attractive to both the Kutchin and Eskimo people. However, the drift of population into the Delta was also connected with the movement away from other areas described in the previous chapter and associated with the decline of whaling along the coast and of gold-mining in the Yukon.

In 1912, though the Eskimo and Kutchin did not form two homogeneous cohesive groups, there were few who were not bound to a greater or lesser extent to the fur trade. Most had in fact become dependent upon a wide range of trade goods so that, though they still lived "on the land" in the literal sense, they did so only with hunting and trapping equipment, clothing and even some food provided by the trading companies. Thus they tended to be quite responsive to new opportunities presented by changes in the price structure of the fur trade. The period from 1912 to 1929 saw the dependence upon trapping become even

greater as the number of trading companies and posts increased, especially in the Delta and along the coast. In the past, the forts had been occupied by only three institutions at most - the Hudson's Bay Company, the church and, more recently, the police - and their populations had been entirely white or Metis in ethnic origin. During the nineteen twenties as the number of trading posts increased and other southern institutions became more apparent, they came to more closely resemble settlements than merely trading or mission posts. In the latter part of the period some Indian and Eskimo people could even be regarded as permanent residents. These two developments - the convergence upon the Delta and the growth of settlements per se - were accompanied by the emergence of the "Delta Community" in which ethnic differences were subsumed by common interests in trade and an orientation towards settlement life.

Though the two aspects of the proliferation of trading posts and the convergence of native peoples

upon the Delta are obviously related, they will be dealt with separately in this chapter. First will be considered the changes which took place in the economic infrastructure of the area, particularly the growth in the number of trading locations. The gross movements of the Kutchin and Eskimo people and the changes which occurred in their seasonal pattern of activities which paralleled this growth in infrastructure will be considered second.

2. Trading Locations in the Delta

Fort McPherson and Aklavik

The shift of trapping activity towards the Delta was paralleled by a corresponding shift in trading activity. Though both Kutchin and Eskimo trappers still traded at Fort McPherson, alternative trading locations were beginning to emerge. The most important of these was Aklavik which was established as a trading post in 1912 and by the early 1920's had become a settlement with a number of trading

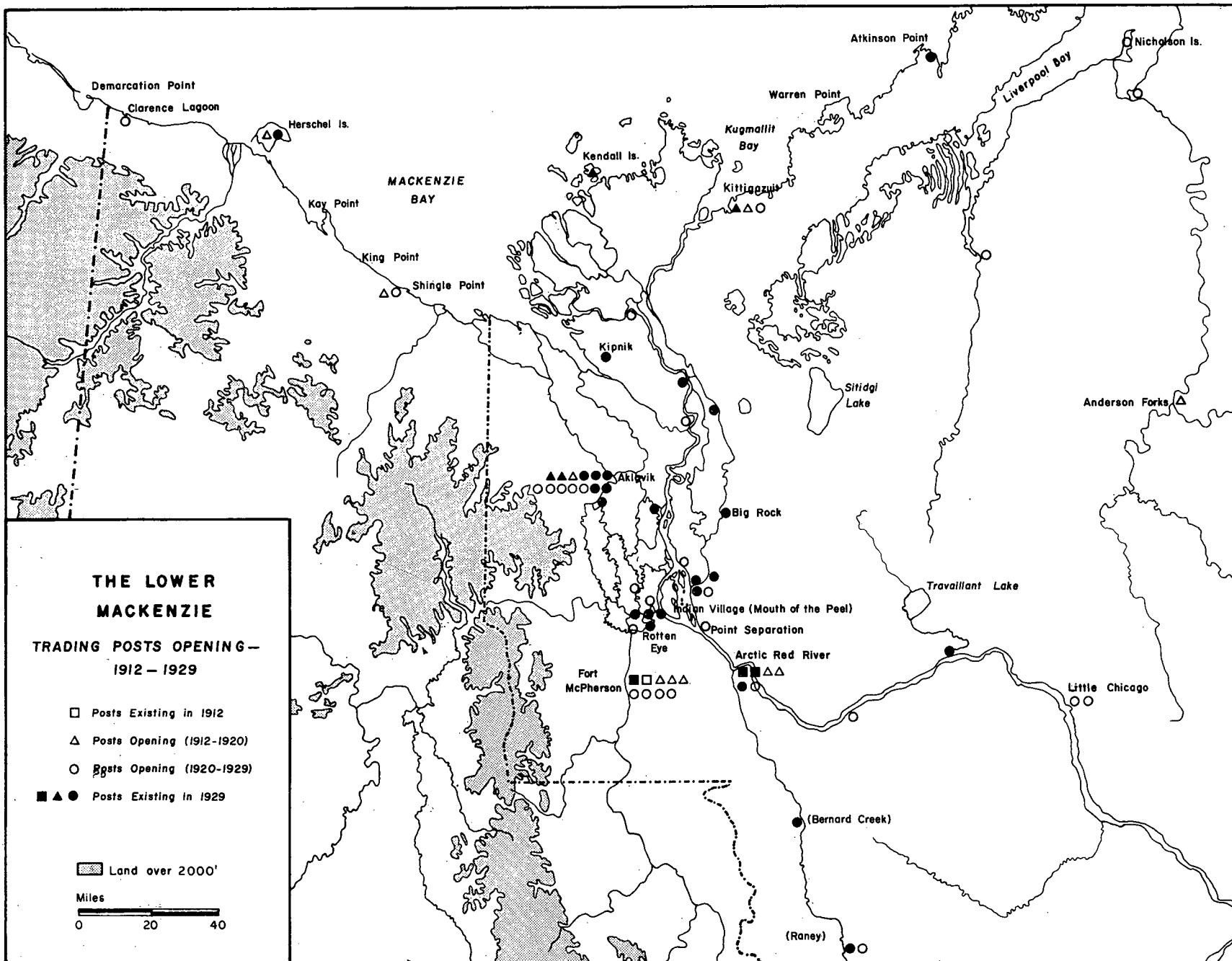
companies and other southern institutions. Its major importance arose from its central location in the Delta and the significance this gave it as the principal point for the trade in muskrat. Also since it soon contained a variety of institutions and became a more frequently visited point, its function differed significantly from that of Fort McPherson.

Though both Indians and Eskimos gathered in large numbers to trade at Fort McPherson in June and July and occasionally at other times of the year also, during its eighty-year history it had never been other than an alien outpost. Its population had been almost exclusively white or Metis and the institutions it contained existed solely to serve a clientele which was not permanently in residence, but which merely passed through at certain specified times of the year in order to satisfy a number of wants. These characteristics were reflected in its internal morphology which was dominated by the Hudson's Bay Company and the Anglican church. At the beginning of the period

under review Fort McPherson contained stores of the Hudson's Bay Company and Northern Trading Company, the church buildings, police barracks, twenty residences including the mission and thirteen other buildings and a permanent population of 112 (ACR, Fort McPherson, 1914, 1915).

From 1912 to 1920, other trading posts were established in addition to those two in existence at the beginning. The Scogate Mercantile Company opened a store in 1914 bringing in supplies from Dawson City (PAC, RG 18, A1), Lamson and Hubbard in 1919, using the Mackenzie River route (ACR, Fort McPherson, 1919), and three others in the latter part of the period (Fig. 3-1; Appendix A). Fort McPherson was however soon overtaken by Aklavik in size, number of trading posts and quantities of furs entering into trade and by 1929 all the new posts had been abandoned leaving only the Hudson's Bay Company remaining. In addition, soon after Aklavik's establishment it assumed some of the other roles previously enjoyed by

Fig. 3-1 Trading Posts Established in the Lower Mackenzie Area, 1912 to 1929



Fort McPherson.

The Origin and Growth of Aklavik

Aklavik had its beginnings in 1915 when Northern Traders and later the Hudson's Bay Company placed a post at Pokiak Point or Shingnek (Big Point) opposite the present site (Toronto Star Weekly, Feb. 19, 1927). The posts were directed towards the Eskimo trade principally which had tended to fall to the whaler-traders from West Coast ports who now plied the Arctic Coast. Due to the cheaper transportation via Bering Strait lower prices could be maintained by the whaler-traders at Herschel Island than by their competitors at Fort McPherson and Arctic Red River. For example, flour was \$6 to \$8 per hundred pounds at Herschel Island and \$18 at McPherson (ibid.). The new posts further down in the Delta were intended to draw some of the Eskimo trade back to western Canadian business interests. With the increase in the importance of the trade in muskrats they assumed new significance as the nuclei for the growth of a new Delta settlement.

As early as 1915 it was recorded that the Hudson's Bay Company post had attracted a large gathering of Eskimos in December when the whaler-traders had gone south again. After some early difficulties experienced in docking river steamers at Pokiak Point, both the Hudson's Bay Company and the Northern Trading Company (the successor to Northern Traders) moved to the present site in 1921 (ibid.) which had by this time been given the name of Aklavik (Place of the Brown Bear).

During the 1920's a number of other trading posts also located at Aklavik (Fig. 3-1; Appendix A) many of which were short-lived. Some represented large companies such as the Hudson's Bay Company, Northern Trading Company, H. Liebes and Company and Lamson-Hubbard, while others were operated by small, independent, and sometimes itinerant traders. H. Liebes and Company, the San Francisco fur wholesaler was supplied by Capt. C.T. Pedersen via Bering Strait (NANR, NALB, 540-3, vol. 3) but all others were supplied

by the Mackenzie system by transportation under the control of either the Hudson's Bay Company or the Northern Trading Company. The Lamson-Hubbard Company maintained a post from 1921 (PAC, RG 18, F1) which was supplied independently until the company and its subsidiary, the Alberta and Arctic Transportation Company, were purchased by the Hudson's Bay Company in 1924 (NANR, NASF, 386, 389; Innis, 1956: 372). Improvements in transport facilities and intense competition between the trading companies encouraged prices to fall to the level of those of Herschel Island and Aklavik successfully attracted the Eskimo trade as well as some of that of Peel River people who were drifting back to the Delta. It was clear that not only did the Hudson's Bay Company no longer enjoy a monopoly, but that Aklavik had assumed a dominant position as a trading location.

In other ways also Aklavik was developing rapidly as a settlement. In 1920 it was recommended that since Aklavik was "now frequented more than any other

in the sub-district by the natives" a police post should be set up there (PAC, RG 18, A1). In 1922, the police headquarters was in fact transferred from Fort McPherson (NANR, NALB, 540-3, vol. 1), construction was started on the buildings for the Anglican mission (ACR, Aklavik, 1922), and the first post office of the western Arctic established (ibid.). A survey party laid out the townsite in the summer of 1922 and the following year construction began on a hospital which would "embody ideas and materials such as are economic and can be supplied from the Arctic." (ACR, Aklavik, 1923). By the mid-twenties, Aklavik was already established as the major centre of the region with a number of facilities which had not existed to date elsewhere.

By the mid-twenties it was described as the Canadian capital of the Western Arctic with the characteristics as follows:

"The Hudson's Bay Company, the Northern Trader's Company and one or more independent traders have permanent establishments; the Royal Canadian

Mounted Police have an important post of four men with a non-commissioned officer in charge. They also handle the postoffice.

A duly qualified physician, who ministers to all and sundry as occasion demands, forms part of the police establishment. A government saw-mill is also under their management. Court, presided over by an Alberta judge, sits once a year. There are missions of the Anglican and Roman Catholic churches, with schools and hospitals. There is a radio station managed by men of the Signal Service of the Militia Department which sends and receives to and through stations at Simpson and Smith to Edmonton, and also to Dawson and Mayo in the Yukon. (Toronto Star Weekly, Feb. 19, 1927).

Though Fort McPherson retained its position as a trading post for a while against competition from Aklavik, the latter assumed a dominant position especially in the important muskrat trade some time after 1925 (Fig. 3-2).

The significance of early Aklavik as a centre of frontier society has been noted elsewhere (Slobodin, 1962: 37). Some of the pathological aspects of urban life were becoming apparent at all of the settlements as new social problems appeared. In Fort McPherson it was noted that "with the advent of the new trading firm (Northern Trading Company) has crept in a gambling epidemic among natives and whites" (ACR, Fort

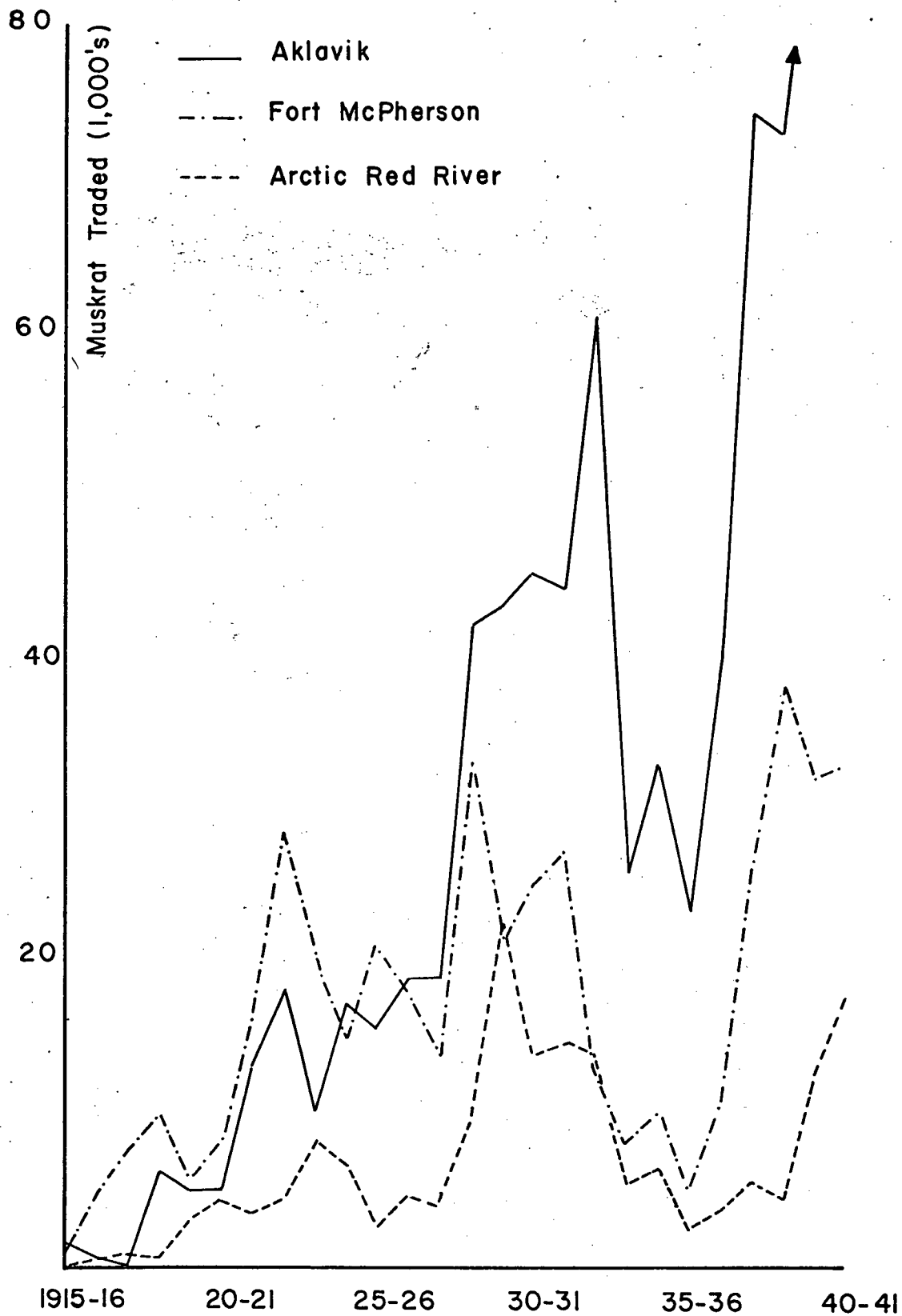


Fig. 3-2 Muskrat Traded at the Hudson's Bay Company in Mackenzie Delta Settlements, 1915-16 to 1940-41

McPherson, 1920). The annual arrival of the steam-boats Northland Trade and Distributor had generally created an opportunity for inebriation among the whites, but liquor was now having a wide circulation among Eskimo and Indian populations also. These tendencies were most strongly marked in Aklavik, to a large extent due to the unaccustomed affluence brought about by the trapping boom. Rasmussen (1927: 294-295) commented on the materialism of the Mackenzie Delta Eskimos compared with those he had met in the eastern Arctic and there is no doubt that many of the Eskimos in particular were rich by any standards. Of the forty-five Eskimo families who traded into Aklavik in 1923, most were reported to own schooners valued at between \$2,000 and \$7,000 each and some had bank accounts in Seattle (NANR, NASF, 429, 3943).

Posts Outside the Major Settlements

Besides the posts established at Fort McPherson and Aklavik a number of others located in the Delta

and along the coast. Though the established companies had set up outposts at times to tap the trade of more distant areas, this marked the first time that independent trading companies existed in abundance. The resulting competition was most intense and was encouraged by the increased mobility of the individual trapper. Many of the Eskimos in particular had purchased whaleboats and schooners from the proceeds of trapping and were therefore able to exercise considerable choice as to where they should trade their furs (Hargrave, 1965). By 1924, the fleet of vessels owned by Eskimos in the Delta area numbered thirty-five schooners and twenty-eight whaleboats valued at \$128,000 and all of which had been purchased within the preceding five years (Innis, 1956). The trading posts themselves were very transitory and in many cases simply represented the fact that a particular trapper had decided to supplement his income from trapping by taking out a license to trade, as everyone other than Eskimo, Indian or Metis residents of the

Northwest Territories were required to do after the enactment of the Northwest Game Act in 1917.

Arctic Red River saw the opening of several posts at which the eastern branch of the Kutchin traded but it did not assume the importance of Fort McPherson. The Hudson's Bay Company had a post here by 1912 and the Northern Trading Company purchased the Hislop and Nagle post the following year (Innis, 1956: 366). When the Scogate Mercantile Company opened a post at Fort McPherson in 1914, they also opened one in Arctic Red River (PAC, RG 18, A1, vol. 227). The Roman Catholic Mission traded there after 1927, and a small trader after 1928 (Usher, 1970). However, Arctic Red River was not as well frequented as either Fort McPherson or Aklavik for festive occasions (NANR, NALB, 540-3, vol. 1), especially after the depletion of the local Kutchin by influenza in 1928 (NANR, NALB, 540-3, vol. 3). Trading figures for the Hudson's Bay Company indicate that Arctic Red River did not share in the muskrat boom except very

briefly in the late 'twenties (Fig. 3-1).

The major proliferation of posts outside Aklavik tookplace along the coast during the early 'twenties and in the Delta in the late 'twenties. The coastal posts were fairly widely distributed with traders at Clarence Lagoon, Herschel Island, Shingle Point, Kendall Island, Kittigazuit, Atkinson Point, McKinley Bay, Liverpool Bay, Nicholson Island and Maitland Point (Fig. 3-2), though posts opened more frequently on the coast east of the Delta in the latter part of the period. The posts in the Delta were more numerous in the south and especially along the Peel River and the upper part of the east channel, though A.W.P. Eckhardt maintained his post at Kipnik in the Lower Delta until 1930 when he moved to Aklavik (NANR, NASF, 462, 5653).

The small traders using eccentrically located posts were often ill-equipped and carried a small range of trade goods, like the DeSteffany brothers who made their way from Baillie Island to Atkinson

Point near starvation (NANR, NALB, 540-3, vol. 1), but as Innis (1956: 369) reported, were able to compete at least for a time with larger, well-established companies because of the mobility of the Eskimo population. The small traders were supplied from a number of sources but usually either from the Hudson's Bay Company, the Northern Trading Company, or Capt. Pedersen, although some supplied themselves from Edmonton wholesalers. For example, in 1923, H. Warner in Aklavik, Williams and Ostergaard at Liverpool Bay, and the DeSteffany brothers on the Anderson River and at Pearce Point were all supplied from Edmonton, P. Wyant at Baillie Island by Capt. C.T. Pedersen, and J. Dillon near Kittigazuit by the Northern Trading Company in Aklavik (NANR, NASF, 429, 3943). Those traders with their own schooners formed a separate group since they did not rely upon middlemen and could go wherever the trading conditions seemed most favourable.

3. The Coastal Trading Vessels

As the whaling boom ended in 1906, many of the whalers were refitted as trading ships and continued to visit the Beaufort Sea. To an extent this represented a change in emphasis in an existing function rather than the adoption of a new function, since most of the whaling ships had carried quantities of trade goods as ballast. In the winter of 1914, there were eight trading ships in the area, the Belvedere, the North Star, the Polar Bear and the Anna Olga frozen in U.S. waters west of Herschel Island, the Alice Stofen, the Teddy Bear and the Argo on a trading trip in the east, and the Rosie H. wintering at Baillie Island (PAC, RG 18, A1, vol. 227). A development was taking place in the east however which would draw most of these vessels on trading ventures east of Pearce Point, leaving only the Herman of Capt. C.T. Pedersen in the Mackenzie Bay area. This development was the opening up of the Coronation Gulf area for trade, after the

discovery of the Coronation Gulf Eskimos.

Though at one time the Coronation Gulf people had been in contact with the Mackenzie Eskimos, links between the two groups had been severed by the westward movement of the latter towards the whalers. The first white trader to make contact had been C. Klengenberg (Klengenberg, 1932), who wintered the Olga on the southwest coast of Victoria Island in 1905. Capt. H. Mogg followed in 1907 and Capt. J. Bernard in 1910, 1912 and 1913 after which time the Canadian Arctic Expedition was launched to study the Coronation Gulf Eskimos in depth. Since white fox trapping had been encouraged by J. Bernard, other trading vessels were attracted eastwards to trade with Eskimos who were still relatively innocent of the fur trade (PAC, RG 18, B2). Thus in the summer of 1915, there arrived at Baillie Island the Ruby with supplies for the Hudson's Bay Company post, Capt. F. Wolki's Gladiator, Capt. Lane's Polar Bear, both trading out of Seattle, Capt.

A. Allen's El Sueno out of Nome, and the Hudson's Bay Company's McPherson out of Herschel Island (PAC, RG 18, B2). In addition, the Church Missionary Society vessel Atkoon arrived en route to Bernard Harbour where it was intended to open a mission (Webster, 1966).

In 1919, the Herman was the only vessel in the western area (NANR, NALB, 540-3, vol. 3) from which Capt. C.T. Pedersen traded at several points along the coast with the Mackenzie Eskimos, and on occasions with the Peel River Kutchin (Slobodin, 1962: 34). The movement of Alaskan Eskimos into the Delta itself which had occurred since the departure of the whalers and the subsequent scarcity of game, was reflected in the large number of muskrat received by Pedersen in trade (Table 3-1). In the 1920's, Pedersen traded from the Nanook and the new 900 ton schooner Patterson (Larsen, 1967: 14, 95), though a question arose at this time concerning the propriety of a U.S. ship trading in Canadian waters (NANR,

NASF, 429, 393, 1923). Other ships in the area included the Maid of Orleans outfitted by Capt. C. Kløngenberg in Vancouver, which supplied his post at Rymer Point, and the Anna Olga of Capt. M. Andreasson (NANR, NASF, 429, 3943, 1923; Larsen, 1967: 17-20). Pedersen continued to take the lion's share of the trade in the Mackenzie Delta area and to outfit other traders (Innis, 1956: 369) until the assets of his Canalaska Trading Company were purchased by the Hudson's Bay Company in the late 1930's.

Table 3-1

Furs Traded by Capt. C.T. Pedersen (1918-1922)

Species	1918-1919	1919-1920	1920-1921	1921-1922
Beaver	13	62	2	-
Marten	2	219	105	15
Muskrat	90	10,747	1,009	721
White Fox	179	1,868	30	2,187
Lynx	10	13	-	-
Polar Bear	7	76	7	92
Foxes	18	141	31	91

Source: NANR, NASF, 427, 3943.

pages 149-156 omitted in
page numbering

4. Competition Between the Traders

The increase in trading posts during the 1920's evidently required regulation not only because it was difficult to collect duty from itinerant traders but also because there seemed to be a desire on the part of government to protect the interests of native people who although often benefitting from intense competition could also be exploited by unscrupulous traders. The practice of "tripping" which consisted of a trader moving from camp to camp was especially criticized by the established companies since it undermined the debt system. By selling their furs immediately to itinerant traders they could avoid visiting the trading post where they may have had a debt (NANR, NASF, 452, 5066). As a consequence, the established traders were often compelled to maintain "runners" to visit the camps also. In an attempt to impose some control, the Northern Advisory Board proposed to prohibit transient trading by aliens and

permit it for British subjects only at increased fee (ibid.). This proposal would have been acceptable to the old-established companies since it would have effectively barred not just itinerant traders but small traders generally (Edmonton Journal, Feb. 11, 1926). The Minister apparently felt however that a more just solution would be to compel all posts to be licensed and to grant licenses only to those posts which were operated the year round (NANR, NALB, 540-3, vol. 2). The result was the passing of an order-in-council which required that: "no trading post ... shall be established or maintained in any part of the Northwest Territories, unless the establishment of such post has been authorized by the Commissioner." (P.C. 1146, Ottawa, July 19, 1926).

The proliferation of trading posts and the expansion of trade generally was a function of improved communication. In 1920-21 the fall in prices which had occurred in the southern fur markets was not known by trappers in the Delta who consequently

suffered heavy losses. However repetition of this was not likely after the Royal Canadian Corps of Signals set up a chain of radio stations linking the Mackenzie District and the Yukon Territory after 1923 (Zaslow, 1957: 204-205). It was now possible for fur prices in the Delta to be immediately responsive to the economic climate and therefore for much of the risk to be taken out of the fur trade. At the end of the decade air travel also had become more important in the region and in 1929, Commercial Airways was awarded a contract to carry mail between McMurray and Aklavik so that Aklavik now received eight mail deliveries each winter instead of two by dog team (ibid.: 210).

More important yet was the improvement in water transportation which occurred on the Mackenzie system and the fact that for a while it was not controlled by one company alone (Innis, 1956: 341-379). The Distributor was built by Lamson and Hubbard in 1920 for the Mackenzie River and acquired the following

year by the Alberta and Arctic Transportation Company (NANR, NASF, 379, 35; Innis, 1956:345). The Northland Trader was operated by the Northern Trading Company until it sank in 1924, after which the company contracted with the Alberta and Arctic Transportation Company to carry freight (ibid.: 366). This company was purchased by the Hudson's Bay Company in 1924 (Zaslow, 1957: 171) who thus regained control over transportation, but it was never again able to exercise the control through its subsidiary as it had during the nineteenth century when it controlled transportation directly. In 1924, the Alberta and Arctic Transportation Company operated the Distributor from Fort Smith to Aklavik and return twice, the Liard River from Fort Liard to Aklavik and return once (ibid.: 345, footnote 10). In addition, the supply route via Bering Strait was kept open by the Hudson's Bay Company's Lady Kindersley until it was lost in 1924 (Larsen, 1967: 23), and by Pedersen and others until the 1930's. The overland route from Dawson

City was also used from time to time by itinerant trapper-traders and as mentioned above by the Scogate Mercantile Company (PAC, RG 18, A1, vol. 227).

The diffusion of trading posts and the improvement of transportation facilities formed the backdrop against which rather complex changes were taking place in the distribution and seasonal activities of both the Kutchin and Eskimo people. These changes were partly the cause and partly the result of the growth in infrastructure in the Delta and they were connected among themselves. For the sake of convenience, however they will be considered as two fairly distinct phases involving the Kutchin and the Eskimo people.

5. Changes in the Seasonal Movements of the Kutchin People¹

The first of these phases involved the radical

¹ The following reconstruction is based in part on conversations with elderly Delta residents whose assistance the writer is pleased to acknowledge with gratitude. In particular he would like to thank Mr. Lazarus Sittinchinli and Mrs. Sarah Ross in Aklavik; Mr. Jimmy Thompson, Mr. Peter Thompson, Mr. Fred Firth, Mr. William Firth, Mr. Andrew Kunnizi and Mr. Ben Kunnizi in Fort McPherson and Mr. Baptiste Pascal, Mr. Kenneth Peelooluk, Mr. Tom Kalinek and Mr. Owen Allen in Inuvik.

change which occurred in the seasonal movements of the Peel River Kutchin between 1912 and 1923. It will be recalled from the previous chapter that the decline of gold-mining in the Yukon had seen a reorientation of the band's activities back towards the Peel River. In 1912, the centre of activity was still in the Richardson and Ogilvie Mountains where the band spent the greater part of each year, though they now traded in Fort McPherson and occupied the upper Delta as they had sporadically since at least 1840. By 1923, it had shifted to the south as a greater part of each year was spent in the Delta itself and incursions into the mountains shortened in both distance and duration. During the transitional period two separate sub-groups of the Peel River Kutchin could be recognized.

The Mountain People.

Though the return to the Peel River from the Yukon had marked a resumption of the pattern of going up the river before freeze-up and down after

break-up (Slobodin, 1962: 36), some modifications were beginning to appear. For many of the band the departure to the mountains was postponed so that they could spend Christmas and New Year at Fort McPherson before setting off in early January. The moose-skin boats by which they would return after break-up were then constructed in the mountains rather than being sailed upstream as in the past. Though the band stayed in the mountains for a year and a half, between January 1919 and June 1920 (ACR, Fort McPherson, 1920; PAC, RG 18, F1), the more usual pattern was to stay away from the Lower Peel only for six months. Thus during the early 1920's each June saw the arrival at Fort McPherson of a large party of Peel River Kutchin (ACR, Fort McPherson, 1921, 1922, 1923). After a brief stay at Fort McPherson the party would then go down to fish camps in the Delta not to return until November when they would stay in the vicinity of the Lower Peel until the following New Year took

them back to the mountains. This pattern of activity however was incompatible with an intensive effort at ratting in the Upper Delta since the best time for this was in the spring either just before or just after break-up. Consequently the last moose-skin boat came down in June 1923 (Slobodin, 1962: 36), and its occupants significantly hurried off to their ratting camps (ACR, Fort McPherson, 1923). The mountain regime was thus broken and apart from a brief revival of upriver trapping in the 1940's never resumed.

The Delta People

During the latter part of the nineteenth century a number of families of the Peel River Kutchin had taken to hunting beaver in the Upper Delta during the winter (Slobodin, 1962: 28-29). These people were then better able to accommodate to a pattern which allowed for the maximum time spent in the Delta during the crucial ratting period from April to mid-June. For these the winter was spent trapping

the Upper Delta for beaver, mink and lynx with occasional excursions to fish under the ice as far north as the site of Aklavik and into the Richardson Mountains to hunt caribou. These people would then converge on Fort McPherson with the Old Crow flats people who since the closing of La Pierre House now traded here also, before going down to the Delta for the spring ratting. They would then return to Fort McPherson to trade in June at which time it would be thronging not only with the Peel River people both from the Delta and the Upper Peel, but also with Eskimos from the coast or the middle Delta. After about a month most of the Kutchin would go to their fish camps on the Lower Peel to return to the fort in August and September to trade dried fish. Since the majority of time was spent by these people in the Delta they built permanent cabins compared with the other members of the band who spent only the summer months in the Delta and lived in skin tents.

Convergence and its Consequences

By 1923 then the majority of the Kutchin people followed a pattern of activity which allowed for a fairly extensive time in the Upper Delta during the spring and summer months. Among other things, this was reflected in a change in the fur trade, in particular by a gradual rise in the quantities of muskrat entering into trade at Fort McPherson and other trading posts (Fig. 3-2). It was also reflected in more frequent and less hostile meetings between Kutchin and Eskimo people who now occupied adjoining and occasionally interdigitating territories for part of each year. It also became not uncommon for Kutchin people to travel to the coast during the summer to work at the mission at Herschel Island and later Shingle Point and to trade meat for dry goods and rifles with the trading ships, especially with Pedersen's. Here again, friendly contacts were made with the Eskimos in what might have been regarded as their home territory.

In the eastern part of the Delta, the eastern branch of the Kutchin who generally traded into Arctic Red River had also been drawn down into the Delta as indicated by the location of known trapping camps at the time and by the quantities of muskrat entering into trade (Fig. 3-2). By 1923, large numbers of them are known to have been in the Delta in the spring as far downstream as the head of the Aklavik channel where they too must have come into contact with Eskimo trappers. (ACR, Fort McPherson, 1923).

6. Changes in Eskimo Distribution

Like the Kutchin the Eskimo too could be divided into two fairly distinct groups at the beginning of the period under review. The whaling boom had attracted a large number of Eskimos from Alaska to the Beaufort Sea coast, especially to Herschel Island. By 1912 the scarcity of game along the

coast and the departure of the whaling ships was encouraging a dispersal but this had not yet reached its maximum proportions. The Mackenzie Delta was occupied by the remnants of the Mackenzie Eskimos now seriously depleted by the disease which had been brought in to the area by the whalers and by the Kutchin from the Yukon.

The Delta Eskimos

These Delta Eskimos occupied the central and western portions as far up as the head of the Husky Channel. Here they occupied permanent, conical, sod covered buildings described by Birkett-Smith (1959: 22) as typical of the Mackenzie Eskimos. Like the Delta Kutchin they trapped the Delta during the winter months for beaver, marten, lynx and mink. Since big game is not abundant in the Delta, rabbits and muskrat formed an important source of food and the occasional moose would also be taken. After the spring ratting, families would travel to Fort McPherson, or those in the eastern part to Arctic

Red River, to trade before going down to the coast for the summer. Thus the Eskimos are recorded as having left Fort McPherson for the coast in early July of 1914, 1915, 1916 and 1917 (ACR, Fort McPherson, 1914-1917). At the coast they engaged in domestic rather than commercial whaling at Kittigazuit and Shingle Point, and also visited the trading ships at Herschel Island. By the early part of the period a larger number of Alaskan Eskimos began to move into the Delta also, so that as early as 1917 it was reported that twenty-five non-Canadian trappers and hunters were in the Delta and were already responsible for taking two-thirds of the fur in the area (NANR, NALB, 540-3, vol. 3).

The Coastal Eskimos

With the withdrawal of the whalers it was no longer in the interests of the captains of vessels to have the coastal Eskimos congregate in a few locations as they had during the whaling days, but rather to disperse along the coast where they could

more efficiently trap white fox. Thus Eskimo families now tended to break into small groups dispersed along the coast as far to the east as Pearce Point (Hargrave, 1965). Those that did congregate at one point awaiting the arrival of the trading vessels which had now replaced the whalers suffered considerable hardship if the ships did not arrive, so great was their dependence upon them. For example, in the summer of 1913, 200 Eskimos waited on Herschel Island for trading ships which did not appear, and consequently were short of food and supplies (PAC, RG 18, A1). During the following winter only seven families remained on Herschel Island, the remainder either going into the Delta to trap (ibid.) or camping on the ice around the ships frozen into U.S. waters (ibid.). By 1920 the once flourishing Eskimo settlement at Herschel Island which had come into being with the whalers and been maintained by the trading ships had virtually ceased to exist. The Anglican mission which had been in operation since 1896 closed in 1920

and moved to Shingle Point (ACR, Fort McPherson, 1920), though the Hudson's Bay Company trading post remained until 1938 and the police post until after 1964, though only during the summer months (PAC, RG 18, F1; Currie, 1964). Shingle Point also was occupied mainly in the summer months and hardly at all during the winter, as indicated by school attendance records kept there (NANR, NASF, 6334, 478).

The withdrawal from the west coast during the winter months can be ascribed to two main factors. Game had been depleted by the demands of the whalers and so meat was scarce in the neighbourhood of Herschel Island (PAC, RG 18, A1, vol. 227). Though the emphasis had now shifted to trapping, white fox were not numerous in 1914 (ibid.) and in the period from 1919 to 1922 (PAC, RG 18, F1, vol. 12). In contrast, the mink resources of the Delta were reported to be high and with its greater variety of food resources, the Delta was in any case a more secure place to be. The still abundant muskrat

provided a more reliable source of income for trapper and trader alike, especially since the season had been extended to the more realistic date of June 15th (PAC, RG 18, F1, vol. 12). Thus just as the mountain Kutchin moved into the southern portion of the Delta, so the coastal Eskimos moved into the north.

7. The White Trappers

High fur prices encouraged an influx of white trappers into the Mackenzie Delta as well as those of Indian or Eskimo origin. By 1921 the ten white trappers in the Delta and adjoining parts of the coast were reported to be doing well (ibid.) though some concern was being expressed that the police at Fort McPherson should be empowered to prevent improperly equipped trappers from proceeding further (PAC, RG 18, F1. vol. 8). This revived a suggestion which had been made earlier that the native people should be protected against indigent white men becoming "beachcombers and squaw men" and a charge on

the indigenous community (PAC, RG 18, B2). This concern, combined with fears that the discovery of oil at Norman Wells would result in a rush of oil prospectors to the North, was to lead to the eventual passing of the Entry Ordinance in 1921 which stated that "no person may enter the Provisional District of Mackenzie, NWT, without first having satisfied the RCMP officer at (several specified locations) that he is not likely to become a public charge." (NWT Council Minutes, March 18, 1921). In general, however the experienced white trappers who entered the region brought with them new skills and practices which generally enhanced the quality of trapping, as did the Alaskan Eskimos and the remaining "Dawson Boys" (Slobodin, 1963) returning to the Peel River from the Yukon.

Police reports indicate that the problem persisted however since a number of white trappers came downriver in canoes in the summer of 1922 and started trapping in the Delta though evidently quite ill-

equipped (PAC, RG 18, F1, vol. 12; NANR, NALB, 540-3, vol. 1). In 1924 it was reported that the white trappers had not done well and that those in the Delta had hardly been able to pay for their outfits (NANR, NALB, 540-3, vol. 1). The increasing number of white trappers and the complaints their presence elicited from native trappers was evidently a factor in the establishment in 1926 of a number of game preserves, including the Peel River Preserve which were closed to white trappers (PC, 1146, July 19, 1926).

8. The Delta in 1929

The 1920's had seen a major change in the Mackenzie Delta. In 1912, at the time of the establishment of the trading post at Aklavik, the Delta had been peripheral to the activities of the Kutchin and the Eskimo people, and only a small number of each group had lived there during the greater part of the year. By 1929, the Delta was the focal area for the Kutchin almost without exception and for many Eskimos of both

local and Alaskan origin. The areas which had once been focal were themselves peripheral. This radical change has been ascribed to a number of factors. The Kutchin people had returned to the Peel River after their decade in the Yukon and were attracted down towards the Delta by the high prices received for muskrat. Similarly, the vacuum which had been created for the Eskimo by the departure of the whalers was also filled by the fur boom as they too were drawn into the Delta. The focussing of activities upon the Delta had resulted in more frequent contacts between Eskimo and Kutchin peoples, and in a convergence of their material cultures and value systems so that by 1929 a specifically "Delta community" could be recognized. Aklavik was a key factor in this convergence since it provided the prime meeting place for Indians, Eskimos, whites and Metis. Where at Fort McPherson there had been only two major agents of acculturation and these had usually been in consensus, at Aklavik the churches, trading companies and

government agencies presented a much more multifaceted impression of "outside" society. The settlement in its pluralistic character, resembled those of the world outside the North more than any other northern settlement had done to date.

The pace of acculturation to outside values had become increasingly rapid during the 1920's. In part, of course, this had been the result of a growing materialism brought about by rising fur prices and the proliferation of goods offered for sale in the trading posts. In the nineteenth century, the Hudson's Bay Company at Fort McPherson had offered a limited range of goods - guns, ammunition, traps and blankets - in exchange for furs. In the 1920's, Kitto (1930: 68) reported:

...the igloos have given place to comfortable winter dwellings of logs or rough lumber, in many cases finished with wall board and dressed lumber. White flour, sugar, butter, jam, canned fruit and other luxuries are included now in their diet. Long winter evenings are passed pleasantly listening to good music provided by expensive gramophones and radio sets. Up-to-date sewing machines make the lot of women easier.

In part also it had been the result of improved and more frequent communications, including the aircraft and to conscious efforts by the government to equip the native person for some kind of role in the wider society. In 1929 the view was expressed by a Deputy Minister that:

"...the Department (of the Interior) also feels that something should be done in the way of education of the Eskimo children. The white race is now mixing with them freely and the natives must have some measure of education to enable them to better carry on their commercial pursuits with them."
(NANR, NASF, 6334, 478).

The Church of England maintained schools at Fort McPherson and at Aklavik and after 1929 at Shingle Point, and received a small subsidy from the government for doing so (cf. Jenness, 1964: 42). At the eve of the world depression the economic and social orders of the Kutchin and Eskimo people were intertwined with the world economy. Both Kutchin and Eskimo peoples had been

influenced by the boom after the First World War, the recession in 1922 and the gradual climb in prices during the 1920's. Both were to be affected even more by the economic vicissitudes of the 1930's and 1940's.

CHAPTER IV

THE ESTABLISHMENT OF A SETTLEMENT PATTERN (1929-1960)

1. Introduction

It is significant that the world depression beginning in 1929 should have had local ramifications in the Mackenzie Delta, for this region was now inextricably bound to the world economy. Though the trappers of the Mackenzie Delta were better able than those of other parts of the North to withstand the slump in fur prices which occurred throughout the Arctic during the early thirties (Jenness, 1964: 50), the change in direction of the fur trade had a number of indirect effects. First, the more marginal trading posts closed down and the trading function became concentrated more in the established settlements. Second, and in part because of this, the settlements increased their power as the organizers of activity in the region as the social as well as economic

activities of native peoples were increasingly focussed upon them and the more traditional meeting places of both the Eskimos and the Kutchin lost their former significance. If in the years between 1912 and 1929 the Mackenzie Delta had emerged as a relatively homogeneous culture region, in which settlements had played an important but not dominant role, then after 1929 their growing dominance was to lead to a transformation of the region's spatial structure into a more nodal configuration.

Initially a primitive hierarchy¹ emerged as shown by the sharing of lowest order function of trading among all the settlements on the one hand and the appearance of some higher order central functions at Aklavik on the other. Then as trading hinterlands emerged, the spatial patterning of human activity became increasingly structured by the settlements in

¹ An excellent though now out of date bibliography of Central Place studies was prepared by Berry and Pred (1967). A more recent review of urban hierarchies is to be found in Berry and Horton (1970: 169-249).

that community interests were recognized on the basis of loyalty to and affiliation with a particular settlement as well as to an ethnic group. At the same time, the settlements themselves became larger and more complex and showed signs of the social polarization which was to loom larger in more recent times.

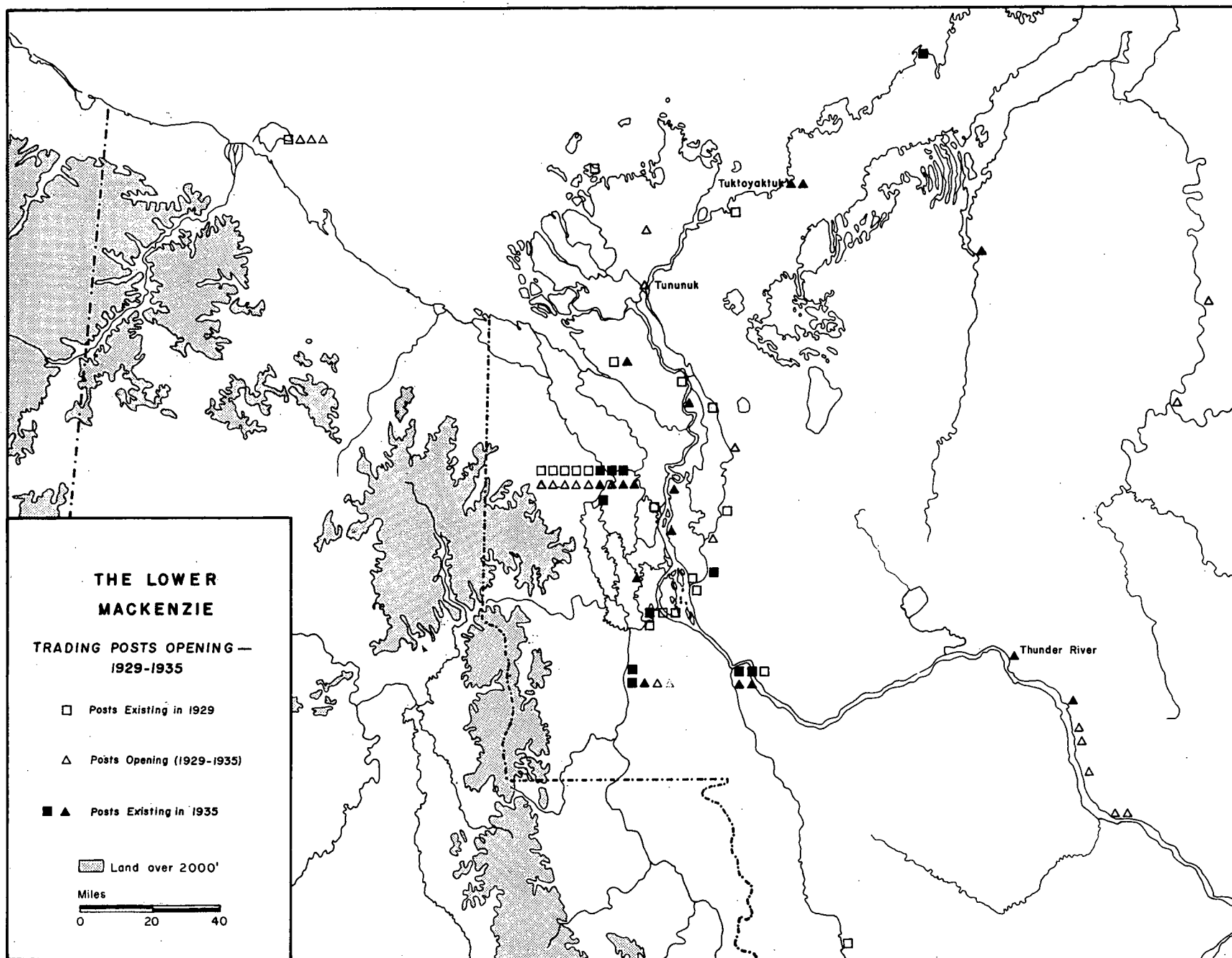
The establishment of Inuvik in the latter part of the period represented the arrest rather than the culmination of the emergence of a settlement hierarchy in that its dominant role and attractive force overshadowed that of the smaller settlements which were drained of population and economic activity alike. At the same time, the disappearance of trapping as a viable activity eliminated the validity of the hierarchy based upon central functions and established the settlements as much more self-contained and atomistic centres. The processes under review can thus be seen as occurring within two distinct phases both of which, in their separate ways, contributed to the strengthening of the settlement milieu. These were:

- (i) the emergence of a settlement hierarchy, and
- (ii) the dominance of Inuvik.

The Emergence of a Settlement Hierarchy

The Great Depression, with which the preceding chapter closed, had the effect of eliminating the more marginal traders in eccentric locations and of encouraging concentration of the trading function in established settlements (Fig. 4-1). The result was that these came to fill more the role of urban centres strictu sensu than they had in the past, in that social and economic activities came to be increasingly structured by their presence. As the movements of Eskimo, Indian, Metis and white residents of the Delta were channelled through the settlements, the transactions conducted there came to dominate the use of the resources of the Delta and surrounding areas. Where in the past trapping had been a part, albeit an important one, of the domestic economy, it now became its primary generator. Where in the past the

Fig. 4-1 Trading Posts Established in the Lower Mackenzie Area, 1929 to 1935



visit to the trading post had been an adjunct to the land-based economy as a means of gaining equipment and food with which to conduct activities on the land with greater efficiency, it now became its most important component.

As the settlements came to assume greater importance, at the same time they became both more diverse in function and complex in morphology and social structure. To the trading function was added a number of others, each associated with one particular centre. After 1930 Fort McPherson, Arctic Red River and Aklavik were joined by Reindeer Station and Tuktoyaktuk, while Herschel Island, Shingle Point and Kittigazuit in the north, and Indian Village at the mouth of the Peel River continued only as intermittently occupied "native" villages which never regained any importance they may have once had. Functional specialization appeared as Aklavik came increasingly to be the major fur entrepot and administrative centre, Fort McPherson and Arctic Red River satellite trading posts catering

to an exclusively Indian clientele and with diminishing administrative functions, Reindeer Station and the supply base for the Canadian reindeer herd, and Tuktoyaktuk the transshipment point between river and coastwise traffic.

The results of these developments in the settlement pattern were twofold. In the first place, the addition of functions other than that of trading which had been the preserve of whites and Metis now made it feasible for the hitherto land-based Eskimo and Indian to take up residence and employment on a limited scale in the settlements. This fact was to lead to the dichotomous society which is found in settlements at present and to the dual allegiance to land and town which characterize the Eskimo and Indian settlement dweller and which has been a theme of this study. In the second place it allowed all settlements to share the trading function for an immediate and limited hinterland, while Aklavik took on a few functions which were administered to the area as a whole. Thus in 1929,

though still most important as a fur trade post, Aklavik was to increase its role as broker between the smaller settlements and the world outside as the number of southern based institutions located there continued to proliferate.

The Dominance of Inuvik

This process was arrested by the establishment of Inuvik at a time when rapidly declining fur prices removed the economic underpinnings of the smaller settlements and hastened the retreat from the land. Rather than simply assuming Aklavik's position at the head of the hierarchy, Inuvik became the focus of a relatively massive migration off the land and out of the smaller settlements as the emphasis of the local economy shifted from trapping, hunting and fishing to wage employment.

This was to have effects both within the centre and in the hinterland. Studies of urban evolution are usually by their nature concerned more with the central places than with the regions they serve,

though the gradual establishment, and in this case the elimination of a settlement hierarchy, undoubtedly calls for radical readjustments in the spatial organization of the regions served as well as in the central places and the relationships between them. Both are two sides of the same coin and will be considered in Part Two. This chapter will be limited to a consideration of the establishment of Inuvik in an attempt to show how it differed qualitatively from the establishment of all preceding settlements in the region.

2. Centrifugal and Centripetal Forces (1929-1955)

The growing dominance of the settlements took place against a background of changes in the fur economy and in the demography of the Mackenzie Delta. The period saw both a growth in the economy of the area and the planting of the seeds of its collapse. While the quantity of furs traded and the prices received for them continued to rise in general and the

population grew apace, no diversification of the economy took place. Even at best, the fur economy provides an unstable base for economic growth due to wild fluctuations in price which occur as the result of the vagaries of nature on the one hand and fashion on the other. For example, in 1935 a large muskrat pelt sold for 70 cents, in 1939 for \$1.10, in 1945 for \$4.50, in 1947 for \$3.00 (Slobodin, 1962) and in 1965 back to 70 cents (Wolforth, [1966]).

Thus the fur economy exerted both a centrifugal and a centripetal force with respect to the settlements. On the one hand, the settlements attracted people not only as a place to trade, but also in which to seek security in times of hardship. On the other hand, as they became more alien in character, they repelled the native trapper so that he removed himself and his family to more distant trapping areas which many still associated with the pre-trapping period but which, paradoxically, also produced the most valuable fur species.

In 1931 there were 1,182 people living in the Lower Mackenzie area with a geographical and ethnic distribution shown in Table 4-1.¹ At this time indigenous people undoubtedly predominated for of the total population, 48 per cent was recorded as Indian and 40 per cent as Eskimo. Whites were a fairly small minority in the peripheral areas since they comprised only five per cent of the population of Arctic Red River and district, two per cent of that of Fort McPherson and district, two per cent of that of Banks Island, and five per cent of that of Baillie Island, Pearce Point and district. On the other hand, whites composed a fairly sizable minority in the central area of Aklavik and district.

¹ It is unclear from the source from which this table is derived whether Metis are included in the "white" category. It is very probable that they were since this was common practice at the time.

Table 4-1Population of the Lower Mackenzie 1931

	Total	Indian	Eskimo	White
Aklavik and District	411	180	140	91
Arctic Red River	148	132	-	16
Baillie Island, Pearce Pt.	214	-	191	23
Banks Island	51	-	49	2
Fort McPherson	268	255	-	13
Herschel Island	94	-	94	-

Source: Minutes, NWT Council: 1899.

The gradual movement towards the east which had been discernible during the 1920's was accelerated during the 1930's as more white trappers moved into the Delta and Eskimo trappers left for the coast in order to keep ahead of them (NANR, NALB, 540-3, vol. 2). Even by 1929 it was recorded that a few Eskimos from the Mackenzie Delta were trapping for white fox at Baillie Island where the majority were recent migrants from Alaska (ibid.). The movement was a selective one however for not only was it limited to Eskimos, but also to those who were able to invest a considerable sum in provisions and trapping equipment. It was estimated in the early 1930's that the cost of

purchasing a complete winter outfit for fox trapping, including provisions, clothing, gasoline and coal was in the neighbourhood of \$5,000 to \$6,000 (NANR, NASF, 378, 12). Consequently, only the relatively wealthy Eskimos who owned schooners were able to undertake the costs of trapping fox along the coast, the best examples being those who travelled as far as Banks Island. The less wealthy tended in times of hardship to revert to living off the land by hunting caribou in the winter and going to the coast for sealing in the spring.

Usher (1970: 47 et. seq.) suggests that by the 1930's three distinct Eskimo groups had emerged: the Delta people, mainly of Alaskan stock, the Tuktoyaktuk-Herschel Island people, of the old Mackenzie Eskimo stock, and an eastern group composed of Alaskan Eskimos and the offspring of unions between whalers and Mackenzie Eskimo women. Since this latter group had both seal hunting and caribou hunting skills and had adopted trapping with enthusiasm, they were most

influential in extending trapping towards the east until the fall of white fox prices in the mid-thirties led to retrenchment. During the time of their ascendancy however they formed in comparison with the Delta and the Tuktoyaktuk-Herschel Island Eskimos, a distinctive trapping elite (ibid.: 49).

During the early 1930's, a major fissure appeared in the Delta Community between the well-equipped bona fide trappers who were able to ride the times of relatively poor yield or low prices, and those who lived off the land and trapped only insofar as their poorer equipment permitted. The coastal group still gathered at a number of temporary meeting places during most of the year, including Kidluit Bay, Pullen Island, Kendall Island, Shingle Point, King Point, Head Point, between Herschel Island and the Firth River, Toker Point, Atkinson Point, Seal Bay, Baillie Island and Horton River. When white fox prices became depressed in the mid-thirties, this dispersed pattern broke down as large numbers of people moved back into

the Delta where, even though muskrat did not provide the large cash incomes which white fox had, all the things necessary for subsistence were present. The Delta seems to have formed a refuge in a sense, where people could at least subsist all through the year when fine furs were not bringing in adequate cash. The fissure still remained even in times of poor prices since the more prosperous, by retaining large dog teams and equipment, kept their freedom of movement, even though the schooners fell into disuse (Jenness, 1964: 51).

The Kutchin had not benefitted as much from the rising prices of the 1920's and so a comparable wealthy group had not emerged. However, the revival of up-river trapping which took place in the 1940's among the Peel River people was analogous to the Eskimo drift along the coast in the earlier decade. Slobodin (1962: 39) records that in 1945 over thirty families and a number of men without their families were trapping for marten all winter in the Upper Peel for the first

time since 1923. Although a greater capital investment was undoubtedly required for marten trapping than for spring ratting, the Kutchin in 1945 started from a lower base than that of the Eskimos in 1935, and often had as their goal simply getting ahead of the debt system (ibid.: 39-40). The social results of the revival of upriver trapping were significant, for according to Slobodin (ibid.: 39):

...to the older and middle generations, and even to some of the young, the upriver mountain country is still the proper country of the Peel River Kutchin. The nineteenth century attitude of disdain for the 'rat-eaters', the Indians and half-breeds who remained near Fort McPherson has not been completely extinguished. ...The upriver country retains much symbolic value as the country par excellence of the 'real Indians'.

For the Indian people then the recognition of the Upper Peel as being superior to the Delta and accessible only to the superior trapper - the "real" Indian - provided a countervailing force to the pull of the settlements during the 1930's and 1940's.

At the same time, government relief which might have formed a centripetal force at this time as it did

later was kept to a minimum. During the 1930's the federal government maintained the view that relief should be left to the trading companies, though some was in fact administered by the RCMP in cases of dire need. The official opinion was that expressed in the following directive: "In dealing with applications for permits to establish posts in outlying districts, the Department has stipulated that the applicants must assume full responsibility for the welfare of the natives who trade with them and the destitute natives must be maintained without expense to the Department." (Jennes, 1964: 54). In the Delta specifically, the administration of relief became the responsibility of Dr. Urquhart, the Department's Medical Officer, who was advised not to administer aid unless absolutely necessary since it was not desirable to "lessen the responsibility of the native towards the aged and helpless brethren and encourage him to congregate in the settlements and away from the hunting and trapping areas." (NANR, NASF, 378, 18). It was recognized that

indigent whites might also need assistance, but this too was only to be given in order to assist their passage out of the Territories.

The spirit was one of optimism however even though relief was required at times. Certainly the Mackenzie Delta trappers were consistently better off than those in other parts of northern Canada. After the fall in prices which took place during the Great Depression, fur prices generally rose during the later 1930's and 1940's with only temporary setbacks, and thus confirmed the majority of Eskimo, Indian, Metis and white residents both in the trapping economy and in a certain attitude of mind which was characterized by the acceptance of risk as normal. Usually the returns from good years were sufficient to carry most people over the bad years given the existence of a sharing ethic which led to the redistribution of material resources to the benefit of the temporarily disadvantaged as well as of the disabled, aged and infirm.

3. The Satellite Settlements

Until 1930, settlements owed their origins and locations to the exploitation of natural resources. For McPherson, Arctic Red River, Aklavik, Herschel Island and Shingle Point had been established either as trading posts or whaling depots and indigenous peoples had gathered at these points to carry out economic transactions with the white man. Missionaries and police alike established themselves as adjuncts to trading and whaling centres in order to regulate the activities of whites and natives and the interaction between them. After 1930 other settlements appeared which were not directly related to local resources, but which together with those already in existence contributed towards an evolving settlement hierarchy. At the same time the older established centres changed in function and in relative importance.

Reindeer Station

The attempt to introduce reindeer herding into the Mackenzie District has been described elsewhere

(e.g. Abrahamson, 1963), and is relevant to the present discussion only insofar as it throws light on the settlement forming process. When the herd was driven across from Alaska a temporary headquarters for its management was set up at Kittigazuit, but was moved in 1932 to a site on the eastern side of the Delta. The reasons given for choosing this particular location were that it was closer to both the winter and summer ranges, had a good supply of timber both for building and for fuel, was closer to Aklavik, and had a source of potable water (PAC, RG 22, A1, vol. 339). Until it closed in 1968, Reindeer Station (or Reindeer Depot as it was known earlier) contained only the homes of an administrator and the families of the herders, since the herders themselves lived close to the herd on the Reindeer Reserve for much of the year. Thus Reindeer Station was not intended to become, nor did it become until much later, a native settlement. Indeed, one of the hopes of the reindeer operation was that it would decelerate any tendency

for Eskimo people to move into the existing settlements by providing an additional source of food and clothing from a land-based activity (Jenness, 1964: 35). It was specifically noted in a meeting of the Northwest Territories Council in the early years of the reindeer operation that the existence of the herd should not be expected to lower the natives resourcefulness and independence, and that those receiving reindeer meat should be expected to work in return (Minutes, NWT Council: 795). Reindeer Station consisted only of a scattering of houses (Taylor, 1945) without benefit of a store until the Hudson's Bay Company established one in 1949, after which the settlement took on limited functions as a service centre for the eastern part of the Delta which persisted until the establishment of Inuvik.

Tuktoyaktuk

The wreck of the Hudson's Bay Company vessels Lady Kindersley in 1924 (Larsen, 1967: 23) and the Bay Chimo in 1931 (Lloyd, 1949, Ch. 10: 32) together

with the abandonment of the Arctic trade by Capt. C.T. Pedersen in 1938 finally closed the hazardous Bering Strait route which had been used intermittently since the whaling days. As an alternative route, the Hudson's Bay Company now developed a transshipment point at Tuktoyaktuk (formerly Port Brabant) to service coastal settlements via the Mackenzie system (IAND, NANR, 405/5/1, vol. 4). The opening of this port considerably increased the possibilities for Eskimos to be employed as longshoremen, but only on a limited seasonal basis. In 1944 a small shipyard was also in operation and about a dozen Eskimo families lived at Tuktoyaktuk in addition to the Hudson's Bay Company manager and two Catholic priests (Taylor, 1945). At this time both permanent huts and tents were clustered away from the Company's compound, some near the mission and some on the southern end of the promontory on which the settlement is located, a segregation of native and white housing which has persisted to the present time.

Fort McPherson

Fort McPherson was overshadowed during this period in every respect by Aklavik. Where the numbers of muskrat traded at Aklavik expanded greatly from 1934 to 1938 (Fig. 4-2), the numbers at Fort McPherson remained fairly constant and, at the same time, administrative and ecclesiastical functions which had been strong there had shifted to the newer settlement. The Indians who still regarded Fort McPherson as their point of contact with outside institutions also maintained a greater affinity for the land than those who had shifted their allegiance to Aklavik. Thus in the mid-thirties, the Anglican missionary regretted that since he was ordered by his bishop to remain in the settlement he was faced with the prospect of ministering to a mere fifteen Metis while the catechist had the spiritual needs of seventy-one Indians to look after in the camps (ACR, Ft. McPherson, 1935). At the same time he noted, significantly, that the Indians seemed more like "third class white people"

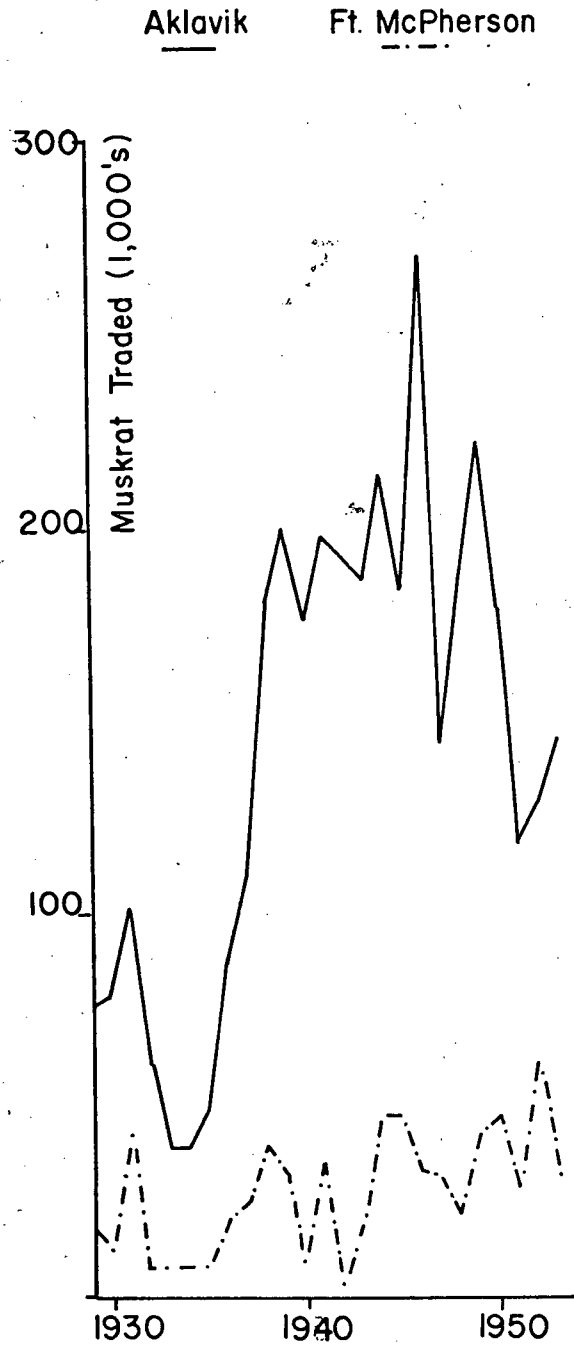


Fig. 4-2 Muskrat Traded at Aklavik and Fort McPherson, 1930 to 1950

and harboured the view that "the government has to look after them." (ibid.).

Like that of Tuktoyaktuk, the morphology of Fort McPherson showed strong signs of ethnic segregation although on rather more complex lines. The existence of a well established Metis group in addition to the Indian was reflected in the pattern of housing which existed in the 1930's and 1940's, in which Metis households clustered at the north end around the Hudson's Bay Company compound and the Indians, when in residence, at the south end close to the Anglican mission (Slobodin, 1962: 56; Taylor, 1945). In the 1940's a certain amount of rowdyism had appeared in the settlement causing the Anglican minister to petition for the re-establishment of the RCMP post which had closed in 1922 (Minutes, NWT Council: 3061). By 1947, fifteen Indian families lived permanently in Fort McPherson and operated trap-lines out of the settlement and two years later government recognized the continued existence of the

settlement by re-opening the RCMP post (IAND, NANR, 1000/118, vol. 1).

Arctic Red River

Of all the settlements, Arctic Red River seemed to have undergone least change during the period. More than the others it retained the characteristics of trading and mission post rather than attracting a native population. Thus in the 1940's, only three Indian families lived there permanently, though 200 or so visited for fishing during the summer (Taylor, 1945). Since Arctic Red River remained an exclusively Indian and exclusively Catholic centre it also showed no signs of the incipient pattern of segregation which was evident at some of the other settlements.

4. The Growth of Aklavik

Aklavik of course became the most complex of the settlements during the period both in its external relations and its internal morphology. It had developed stronger ties with the south both in the

form of regular steamboat schedules, and increasingly by aircraft. The expansion in freight carried by the Mackenzie River Transport Company which had accompanied the increase of mining in the Mackenzie District, continued during the 1930's (Robinson, 1945; Zaslow, 1957: 166), and the first airmail brought into Aklavik by the veteran northern pilot Punch Dickens in 1929 (Fleming, 1957: 245), initiated fairly regular air service (Rea, 1968: 216). Increased contact with the South gave Aklavik the lead over other settlements which was accentuated by the location of a number of governmental and other institutions there during the 1930's.

The most important of these were the two mission boarding schools, the first opened by the Catholic mission at the upstream end of the settlement in 1929 and the second moved by the Anglican mission from Shingle Point in 1936 and located at the downstream end. The immediate result of this move was that children were no longer sent out of the area to

school and thus the incentive to attend was stronger (cf. Jenness, 1964: 68). The boarding schools at this time became strong agents of acculturation both for the children who attended, and also for the parents who now stayed in the settlement for longer periods in order to visit their youngsters. This is not to suggest that education was now widely received, since of the 1,450 Indian and Eskimo children between the ages of 5 and 14 in the Mackenzie River basin, only 55 attended day school and 115 lived in the boarding schools in 1943-44 (ibid.: 69). Another factor which increased the attraction of Aklavik was the establishment of a hospital in 1937 (Fleming, 1957: 263) and of an "Industrial Home" in the following year (Jenness, 1964: 69). Thus during this period Aklavik became the home not only of a number of young people during their formative years, but also of the aged and infirm.

The morphology of the settlement remained linear, as trading posts extended from the point towards the

Anglican mission in one direction and the Catholic in the other. The increase in the number of such posts was the most significant development in Aklavik during this period as white traders not only moved in from the south but also from the coast when white fox prices slumped in the mid-thirties. In addition to the well established Hudson's Bay Company and Northern Traders Limited, there was a handful of so-called "free" traders most of whom set up business in the settlement for the first time in the early thirties (Fig. 4-1; Appendix A). In 1932, H.E. Pepper opened his store in the bush behind the now quite crowded levee, setting a new direction in the settlement's growth.

The 1930's represented the heyday of Aklavik as schooners came in from Banksland after breakup and Delta Eskimos came in to trade muskrat before setting off for summer whaling camps at Shingle Point, Whitefish Station and Kittigazuit. Though muskrat prices varied they were usually sufficiently high to

provide an adequate income given the fairly limited needs of the time and the minimal expenditure of effort required. This made the Delta attractive to Eskimos in Tuktoyaktuk as well as the Indians of the Peel, which added to the strong effect which Aklavik in particular had as a place of social and ethnic admixture. Gambling and high liquor consumption were both prevalent, and though Aklavik was still a village in size it possessed more varied and urban features than any other settlement in the area. Gambling was especially active after the spring muskrat hunt and there was jealousy reported between Indian and Eskimo trappers as to who played for the biggest stakes (IAND, NANR, 1000/119, vol. 1a). Many native trappers were used to handling very large sums of money at this time, as evidenced by the fact that \$11,000 credit was extended to one trapper by a free trader (IAND, NANR, 1000/19, vol. 1a), or that Bishop Breynat was offered \$35,000 in cash for the schooner Lady of Lourdes by another (Fr. Franche, pers.comm. July, 1968).

Though Taylor (1945) had no hesitation in classifying it as an "infantile" settlement, he nonetheless noted that it had the beginning of a town plan in the shape of a square and many fairly impressive buildings. As with other settlements, the housing of whites and natives showed a de facto segregation from the beginning (Taylor, 1945) which reflected a social stratification which was perhaps more strongly marked in Aklavik than in other settlements due to the greater number of white residents and, especially with the later arrival of government departments, their more official status (Slobodin, 1962: 37).

In summary, both the new and the old settlements began to exhibit certain common features during this period. Where in the past they had contained little more than the trading post, the mission and later the RCMP post, they now usually contained a few residences. Though these were not necessarily occupied by native people all during the year, their presence indicated that a larger number of native people spent long

enough in the settlement for them to consider it worth erecting a permanent home there. As might be expected this tendency was most strongly marked in the settlements containing the greatest number of outside institutions, like Aklavik, and least strongly at those which contained few such institutions, like Arctic Red River. In each case, there was a fairly strongly marked segregation of the residences of native and non-native persons, and also more subtly, those of Indians and Metis in Fort McPherson, or Indians and Eskimos in Aklavik. Some possibilities for employment had appeared, though on a very seasonal basis, and the only groups of native people living permanently in the settlements were children attending school, the sick in the hospitals, or the aged and infirm in the industrial homes.

The physical movement of native people off the land and into the settlement was to come much later. The incentives to live in the settlement were as yet slight and government still pursued an active policy,

especially in the administration of relief, of keeping indigenous people on the land. However, the 1930's and 1940's saw the appearance of many more reasons to visit the settlements, especially Aklavik. The decline of white fox prices in the mid-thirties caused a retreat into the Delta accompanied by the closing of more peripheral trading posts. This brought more people closer to the settlements and the presence of a growing number of institutions especially in Aklavik encouraged them to visit more often. In this period the settlement way of life, though not yet adopted, was certainly becoming more familiar.

5. The Establishment of Inuvik

The establishment of Inuvik represented a radical departure from the processes of settlement formation which had occurred before. The form of preceding settlements had been largely conditioned by the needs of the people they served. The missions and trading posts represented the most active southern institutions,

while the administrative function was usually represented only by the RCMP post. Inuvik, in contrast, came into being largely through decision-making processes which went on outside the North, and from the first it was a planned settlement in which facilities were designed to be similar to those in the South. While it can be argued that agents of the wider society were more influential in determining the location and morphology of even the older settlements, continuing mutual adjustments did take place between these agents and their indigenous clients. Thus, trading posts and mission stations were established and abandoned in response to ecological shifts which to a large extent were beyond the control of the agents concerned, and even detachments of the RCMP were relocated from time to time in order to better administer a population which was essentially migratory.

The importance of Inuvik lies in the fact that control was exercised almost exclusively from outside with the local society and economy responding to

events over which there was little or no local control. A period of greatly accelerated change was initiated by the building of Inuvik, above all by presenting an opportunity for native people to abandon a life on the land in favour of one in the settlement. The fact that Inuvik was built at a time when declining incomes from trapping made a life on the land less attractive added further force to its centripetal attraction. The evolution of Inuvik as an administrative centre is therefore of some interest since although wage employment was not a dominant consideration initially, it came to assume greater importance as the project got under way. Had Inuvik been planned as a centre of change rather than becoming one perforce, there is little doubt that its form and function would have evolved in different ways and would have done so more through a dialogue involving indigenous people than was the case.

By the early 1950's, the expansion of government facilities which had been experienced at Aklavik had

given rise to some problems. However adequate for the trading posts of the twenties, the site was patently inadequate for the burgeoning government sector of the fifties. By 1953, five government departments (Resources and Development, Transport, National Health and Welfare, National Defence and R.C.M.P.) were represented at Aklavik, and together their establishments accounted for 36.5 per cent of the settlement's total fixed investment (ACND, ND-68). In October of that year, the recently revived (Jenness, 1964: 192) Advisory Committee on Northern Development met to consider the problems which Aklavik's site might present for possible continued expansion. Foremost of these were possible sanitary problems arising from the settlement's inadequate sewage disposal facilities, which could only be brought into satisfactory condition through an estimated expenditure of some one million dollars (ACND, ND-68). Other problems however included the annual risk of flooding, the erosion of the upstream river bank, the general lack

of space and the lack of suitable materials for building roads and gravel pads for new construction. Some thought was given at this time to relocating Aklavik's total fixed investment of three million dollars to a more favourable site at an approximate estimated cost of one and one-third million dollars, and then providing services to the transposed buildings at the new location (ibid.).

In order to consider this possibility in greater depth, an Aklavik Sub-Committee of the Advisory Committee of Northern Development was set up in January 1954 and made several recommendations soon afterwards. It was suggested by this sub-committee that the work of relocation should be carried out in three stages under the auspices of the Department of Public Works. First, earthwork and concrete installations should be constructed at the new site when a suitable one had been found. Second, those buildings at Aklavik which were worth salvaging should be moved to the new site and the costs borne by the government departments

concerned, or in the case of buildings not owned by government departments, by the Department of Northern Affairs and National Resources. In addition, it was recommended that the Federal Government should also assist Aklavik residents to move and should make suitable arrangements for the transfer of land (ACND, ND-81). Two concepts were introduced at this stage which represented a new departure in the planning of northern settlements, and these were to remain constant throughout following developments. These were that the new settlements should be zoned and that the National Building Code should be enforced. The introduction of these concepts was a key element in producing the morphologically segregated settlement that Inuvik was to become.

The provision of services was to be the responsibility of the Territorial Government although funded indirectly by the Federal Government. In detail, it was recommended that the senior government was to make an outright capital contribution equal to the

value of Aklavik's then inadequate summer water supply system, and a loan to the junior government to cover the extra costs of providing an adequate all year round system at the new location (ibid.). Electricity in Aklavik was at this time supplied by the privately owned Aklavik Power and Supply Company. At the new location, the Northwest Territories Power Commission was to investigate how electricity should be provided, taking into consideration the possibility of using the plant and equipment of this company.

At this early stage, Aklavik inhabitants had not been consulted on developments, since initiative had come entirely from Ottawa, and specifically from the Advisory Committee on Northern Development. However, a project manager was appointed to supervise the move in the field and to act as liaison with Aklavik residents through a local advisory committee. Opposition at the local level had thus had neither time nor the institutional structures to express itself, although some reservations had been expressed by other

government departments. In particular, opposition to relocation had been expressed by officials of the Department of National Defence who felt that the existing facilities of the Royal Canadian Navy could not be moved and would therefore have to be replaced at a higher cost than had originally been estimated (ACND, ND-91). Specifically, the thorny question of whether an all-weather air strip could be constructed at Aklavik was still an open one. Opinion in the Department of National Defence at the time seemed to lean towards the less costly alternative of constructing such a strip using gravel barged in from elsewhere in the Mackenzie Delta (Lt/Cdr L. Mann, pers.comm., July, 1965).

However, by this time the decision to relocate Aklavik had already been made at the cabinet level and in a meeting of December 3rd, 1953, approval had been given to the relocation proposal, provided that all federal construction at Aklavik be suspended, and that surveys for an alternative site be started the

following summer (IAND, NALB, 1000/119-1, vol. 1).

A few days after this meeting, a release was made to the press announcing the proposed move as follows:

"Aklavik is being moved for the good of its health.

Sanitary conditions are unsatisfactory. Water supply and sewage disposal are inadequate and are growing worse year by year." (ibid.).

The reasons for relocation were made more specific within the Department. For example, later in the month it was noted that depressed fur prices in preceding years made the need for rehabilitative training and new employment essential (ibid.). There was certainly some validity to this claim. Fur prices had indeed dropped radically from the relative bonanza days of the late forties. The local depression resulting from low fur prices had also been aggravated by an influenza epidemic at the height of the previous muskrat season which had resulted in many trappers not being able to pay off debts to the traders. The total debt of the seven traders then operating in the

Aklavik area was estimated in June 1952 to be in the order of \$42,000 (IAND, NALB, 1000/19, vol. 1a). In addition, some traders were themselves in debt to the fur dealers outside and were consequently not in a sound position to advance further loans to trappers. Thus the economic plight of the area was a serious one.

Yet the relocation of Aklavik could only provide a temporary amelioration of this condition unless it were accompanied by some more radical addition to the economic base of the area. Some employment would certainly become available during the process of relocation, but no consideration had been given at this time to providing a permanent employment base at the new location. However, the factor of employment was one which would receive increasing emphasis as plans progressed, particularly in discussions with Mackenzie Delta residents. For example, when the Minister of the new Department of Northern Affairs and National Resources visited Aklavik in the summer of 1953, he gave considerable stress to the hope that the

building of the new settlement would initiate a programme of employment for Indian and Eskimo people (Berton, 1956).

That this consideration should have received greater emphasis as relocation plans progressed may have been motivated by two factors. First, there is no doubt that as the proposal magnified in scale, hopes of providing employment received greater justification. Also, there is the possibility that an increasing awareness of the economic problems of the Northwest Territories made any proposal which promised to provide employment even on a short term basis very attractive to the executive level of government. As Jenness points out, the reorganization of government departments in 1950 which resulted in the establishment of the Department of Resources and Development with a specific responsibility for the administration of the Northwest Territories had marked the beginning of a more active federal role in this area (Jenness, 1964: 78 et passim).

However, although some attention had been given

to the pressing economic and social needs of the Mackenzie Delta, there is no evidence that these were seriously taken into account, at least in the early discussions of the relocation proposal. Some idea of the paramount criteria can be gained from the factors which were to be considered by the field team in its selection of a new site. These were its suitability for the construction of a permanent sewer and water supply system, its possible access to a deep water channel, its proximity to a suitable site for an all-weather air strip, its proximity to water supply sources and to sewage disposal facilities, and to supplies of sand and gravel for building. Also to be considered was its location with respect to a possible site for hydro-electric power development and to a possible source of coal¹ (IAND, NALB,

¹With regard to the last mentioned point, coal with a thermal value of 11,035 B.t.u.'s per lb. had been mined successfully at Moose Channel in the north-western part of the Delta for a number of years, and had supplied the limited needs of Reindeer Station and the Roman Catholic mission at Aklavik. However, this was rejected as a source of heating fuel at an early stage and never became a serious consideration in the choice of the new settlement location. Similarly, a proposal that the new settlement might replace Tuktoyaktuk as a trans-shipment point from river to seagoing vessels was also dropped at an early stage.

Finally, it was suggested that the field team might give consideration to selecting a site which would be suitable "from the economic and social point of view" but, significantly, this suggestion was made neither prominent nor specific (ibid.).

During 1954, the relocation project gathered momentum as field surveys were carried out and local people were brought more closely into developments. The site survey team arrived at Aklavik and a local advisory committee was organized, both on April 1, 1954 (ACND, ND-91). In the short season available, some urgency was necessary so that by August seven sites had been considered of which site E-3 on the eastern edge of the Delta was designated the most suitable. The selection of this site on the basis of largely engineering considerations carried a number of implications. First, since E-3 was so far from Aklavik - seventy miles by water - the physical relocation of existing buildings would be more costly than anticipated and although this still remained a

feature of the project, later events were to make it impractical. Estimated costs, for the entire project had escalated considerably from \$2,325,000 in 1953 (ACND, ND-68) to \$9,260,000 in 1955 (IAND, NALB, 1000/125, vol. 1) as the dimensions of the project came more sharply into focus. Second, since E-3 was in an area of relatively scarce natural resources, its selection showed either a disregard for or a conscious break with a hunting, trapping and fishing economy.

This latter point was by this time apparent to local residents among whom some opposition began to appear. By August 1955, when construction had started at E-3, it was noted by a prominent local resident that many people would not wish to leave the old settlement due to its proximity to good hunting and fishing areas (ibid.). To these locally expressed doubts, the administration seems to have adopted a less rigid view than is admitted locally at the present time. For example, the official policy at this

time was that it was not intended to compel anyone to move, but that for a number of residents who have no trapping areas or other adequate means of livelihood the new town would provide a welcome opportunity for earning a living or supplementing their incomes first during the construction period and later in government service, maintenance and operation of utilities and in other activities which might develop (ibid.).

From the earliest stages of discussion, it seems to have been generally recognized that Aklavik would continue to exist, even if in attenuated form, in face of attractions exerted by the new settlement. However, the belief was prevalent locally that plans for the new town involved the disappearance, or even destruction of the old. Around this belief much local opposition was focussed. Since the project had now acquired a certain urgency due to increasing costs (Rowley, 1955), local liaison became rather superficial leading to a number of misunderstandings. For example, as late as 1956 a prominent local

resident could claim that the move had been made without local consultation though there had been overtures in that direction (IAND, NALB, 1000/125, vol. 2). To objections that the new settlement would be too far from the caribou hunting areas of the Richardson Mountains and that it was a poor location for fishing, official replies again suggested that Aklavik should continue to exist as a centre for those who wished to make a living from the land. Specifically, it was maintained that the government was prepared to have a day school at Aklavik and to see a small community continue to exist there if there were people to whom it would be advantageous (ibid.).

However, it was assumed by government, and increasingly by native people, that Inuvik would dominate the region by channelling the younger people off the land and into wage employment, and go some way towards easing the local economic depression. Employment opportunities existed in great numbers while the town was in construction, but have only been

sustained subsequently by the creation of top heavy administrative structure. In general the occupations for which native people were trained were related to the construction phase rather than to the administrative phase. This undoubtedly made adjustment to wage employment a little more difficult for some people and delayed or prohibited the acquisition of skills which would have more lasting value within the local economy as it was later to develop.

In the first two summers of construction work, wage employment provided little more than a potential fillip to the lagging trapping economy. Working in Inuvik in the summer months did not necessarily conflict with making a living on the land, for many native people used the extra income from summer employment to repair and replenish trapping equipment and quit their construction jobs early enough in September to get in a supply of fish for the coming trapping season. For a larger number however the die was cast for wage employment or at least for a life

in the settlement. Much of the income from construction work was redistributed in poker games, the major form of entertainment, and dissipated in purchase of liquor, which could only be acquired by chartering aircraft to Aklavik, still at this time the site of the Territorial Liquor Commission store.

The establishment of Inuvik undoubtedly had profound effects on the economy of the Mackenzie Delta, which were reflected both in the changing economic complexion of the settlements, particularly Inuvik itself, and in the activities based upon the natural resources of the land. The reorganization of the region's spatial structure and the growing assimilation of native people into Inuvik's economy will be discussed in Part Two. It should be clear from the above discussion however that these were to take the form of a response to development over which there was little local control.

PART TWO:

**THE CHANGING NODAL STRUCTURE OF
THE DELTA COMMUNITY**

CHAPTER V

THE CHANGING SPATIAL ORGANIZATION OF
THE TRAPPING ECONOMY1. Introduction

The establishment of a pattern of settlements which culminated in the building of Inuvik opened up new opportunities in town living and called for readjustments in the spatial structure of resource utilization patterns. In the previous chapter these have been represented simply as centrifugal and centripetal forces. It is clear that trappers adjusted their pattern of activities to accommodate the growing influence of towns in much the same way that rural peasants in other parts of the world have responded to the pressures of urbanization (e.g. Wolf, 1966). However, where rural depopulation in agricultural areas leaves its mark in the form of patterns of land use which are discernible on the landscape, the changes which occur in a hunting and trapping

economy are not as clearly evident. They involve far reaching adjustments within a complex and closely knit system which ramify outwards and are to be discerned not so much in the landscape itself as in the more subtle patterns of economic, ecological and social relations.

The consideration of the history of the region to which Part One of this study has been devoted has shown that it is capable of supporting a number of alternative and competing ecologies. As well as having its own distinctive biotic community the Delta straddles the tree line and is therefore accessible to other different communities, each containing its own particular array of resources capable of entering into the local economies. Which of these have indeed been used, and in what system of priorities and seasonal preferences, has depended in large measure on the state of the economic environment, conditioned at least in the early stages by the cultural history of the people. In very general terms though it would

seem that an expanding economy associated with high fur prices has supported an extensive pattern of resource use with the Kutchin exploiting the headwaters of the Peel and the Eskimo spreading out into the coastal tundra areas, while falling fur prices have usually been accompanied by a retreat of both peoples into the Delta itself, where the greater range of resources may be used to support life with less expenditure of either effort or capital resources.

Which distribution is favoured is reflected in large measure in the fur species entering into trade. This is so in more recent times in particular when furs traded have formed fairly reliable indicators of the prevailing ecological systems and have the additional advantage that they are quantifiable. Each trapper may in fact be identified by the number and type of fur species that he presents in trade and these in turn give some clue concerning the area to which he had directed most of his effort, as well as the nature and extent of that effort. In other words,

the array of furs traded by a trapper in any one year constitutes a characteristic trapping profile representing in quantitative terms the behaviour of that trapper during the year. Though of course the profile is an abbreviated one and leaves out many important aspects of behaviour, including the getting of resources not entering into trade and, in recent times, part-time employment in activities not related to the land, these may often be subsumed in trapping activities. The aggregate of profiles thus becomes a convenient, short-hand way of expressing the performance of the Delta Community in any one year.

The existence of detailed records of fur takes makes it possible to examine with some precision the changes in that performance which accompanied urbanization in the area. Two sources of data are used in this chapter to carry out two different modes of analysis on related topics. The first is directed towards the classification of trappers in terms of

their trapping profiles over a period of three decades in order to determine the changes that have occurred in the use of areas peripheral to the Mackenzie Delta itself. The second is directed towards the analysis of the spatial changes in the muskrat harvest of the Mackenzie Delta which took place during the most intense period of urbanization associated with the building of Inuvik. Neither analysis will be concerned directly with the nature of the subsistence cycles of the land-based Delta Community since this topic has been considered elsewhere (Smith [1967]; Bissett, 1967), but rather with the extent to which these provide an index of the influence of settlements and other acculturative factors.

"Specialist" and "Non-Specialist" Trapping.

Trappers may be divided into what might be called, for the want of a better term, "specialist" and "non-specialist" groups. The former require special equipment to hunt or trap species which generally are found outside the Delta, and their activities imply a

greater commitment to trapping than is implicit in those of the non-specialists. For example, the specialist trapper must engage in a range of activities which are intended to support his trapping by providing food for himself and his dog team, and maintaining and replenishing his equipment. Since this equipment cannot generally be used for other purposes, specialized trapping requires also a large capital outlay which may only be recovered by several years of sustained effort. In contrast, the "non-specialist" trapper takes species found within the Delta itself either with minimal equipment or with that which can double for other purposes. One of the factors which makes the shooting of muskrat in open water in the spring more popular than trapping them in the winter is that it requires only a rifle and a canoe, both of which are used for other activities.¹

¹ Throughout this chapter the term "trapper" is used for convenience to describe a person taking furs for sale. It must be acknowledged however that many "trappers" in fact gain most of their fur take by means other than trapping.

Trapping profiles then may be distinguished on the basis of whether they indicate maximum effort directed towards "non-specialist" or "specialist" activities. Because the species in the Lower Mackenzie area occur in abundance in well defined areas the exact nature of the trapping profile indicates the geographical area to which trapping attention has been directed. It thus becomes not only a short-hand description of the seasonal pattern of a particular trapper's activities but also the area that he has probably occupied. In particular, "specialist" trapping is directed towards one or two species which, because they are concentrated in distinct areas peripheral to the Delta proper are diagnostic of population distributions. These species are marten, white fox, beaver, mink, and to a smaller extent, coloured fox. Most trappers on the other hand spend at least part of each year hunting muskrat in the spring.

Throughout most of the known history of the Delta, the muskrat harvest has in some form or another been

important and muskrat hunting has featured prominently in the ecological regimes of most Delta people. What is important however is not this activity itself but how it has featured in combination with other activities. It is possible today to distinguish a very large group of individuals the greater part of whose income from furs is gained from a few brief weeks of shooting muskrat in the spring. In contrast to these the specialist trappers have ranged further afield than the Delta for fairly long periods, even though they have returned there in the spring to join the others in "ratting". At various times in the history of the Delta area the following groups have been distinguished:

- (i) The marten trappers of the Peel River people who have trapped the headwaters of the Caribou and Vittrekwa Rivers in the Richardson Mountains in combination with the winter caribou hunt.
- (ii) The marten trappers of Arctic Red River who have trapped the Travaillant Lake area.

- (iii) The beaver hunters of both the Arctic Red River and the Peel River people who have trapped the Upper Delta in the winter or hunted beaver there in the spring; and
- (iv) The white fox and marten trappers of Tuktoyaktuk.

These specialist groups also take muskrat in the spring months when the major winter trapping season is finished but this is not their major activity as it is with the non-specialist group.

At the present time specialist trapping may be directed towards one or two of the following species, the approximate areas of abundance of which are shown in Fig. 5-1:

(i) Marten

Though marten is found throughout the treed area it is rare in the Delta itself and especially abundant in three other areas. These are: the southern part of the Richardson Mountains in the headwaters of the Caribou and Vittrekwa Rivers; the Travaillant Lake

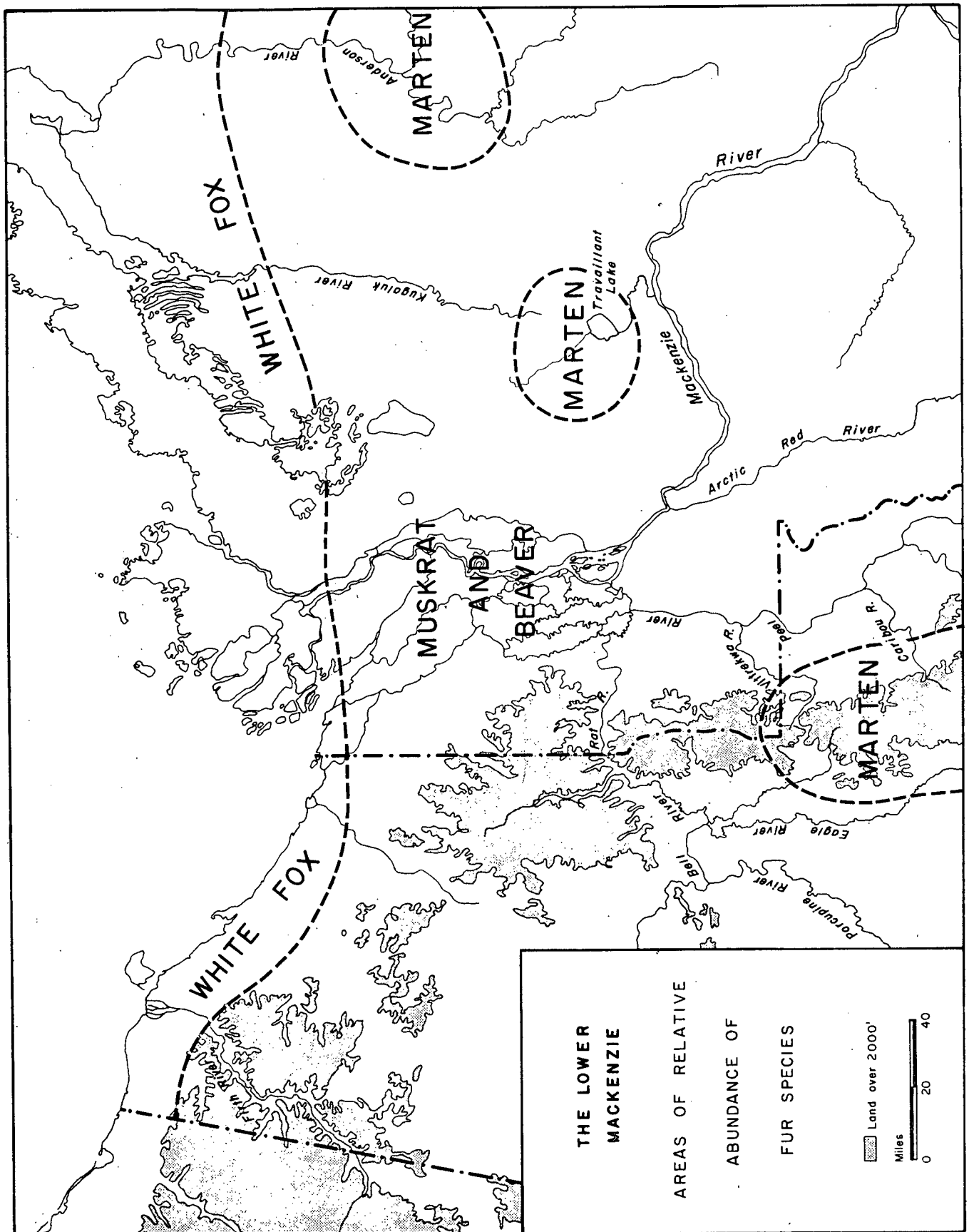


Fig. 5-1 Areas of Relative Abundance of "Diagnostic Species" in the Lower Mackenzie Area

area and south to the Mackenzie River; and the Anderson River area extending west to the Kugaluk River. Marten is taken during the winter months from December to March and since the areas of concentration are a long way from the settlements some expenditure of time and money is required to get to them. The Travaillant Lake area is accessible to Arctic Red River, and the Richardson Mountains to Fort McPherson by dog sled, but Delta trappers have chartered aircraft to get to the Anderson River. In all cases it is not possible for the trapper to commute to the Delta settlements.

(ii) White Fox

White fox is widespread in the coastal tundra areas, though over-trapping and seasonal fluctuations can result in local scarcity. They are taken from early in November from areas that are relatively accessible to Tuktoyaktuk people though not to those from the Delta.

(iii) Beaver

Beaver flourish in a wet habitat south of the tree-line and are found in the Upper Delta as bank dwellers. They may be taken either with traps set under the ice in the latter part of the winter or shot in winter and spring. The Mackenzie Delta was declared a beaver sanctuary between 1940 and 1958 and in this period the major unprohibited areas were along the Peel and Mackenzie Rivers. Beaver-prolific areas are more accessible to the Upper Delta settlements than to Inuvik and Aklavik.

(iv) Mink

Mink are also found in the Delta where they may be trapped in combination with muskrat. They require a larger size of trap however and consequently some expenditure on special equipment. The usual time for trapping mink is in the early part of the winter.

It is hypothesized in this chapter that one of the consequences of the growth of settlements in the Delta has been the erosion of specialist groups taking

these species as more people choose to live close to the urban centres. The preceding chapters have attempted to show that the specialist trapping activities have often been associated with particular settlements and that, at least insofar as those engaging in them have returned to one settlement to trade their furs and to participate in social activities, these may be regarded as nodal centres. It is further hypothesized that an additional result of the influence of settlements has been the breaking down of the nodal regions based upon the smaller settlements and this replacement by a structure in which first Aklavik and later Inuvik have dominated. These hypotheses were examined by grouping the trappers in terms of their trapping profiles in order to examine the extent to which characteristic groups have been associated with each settlement and how these have changed through time.

2. The Grouping Procedure

Trappers were grouped using a procedure suggested by Ward (1963) for forming from a universal set, hierarchical groups of mutually exclusive subsets, the members of each of which are most similar with respect to a specified array of variables.¹ In the geographical literature this method is analagous to those which have been used for both cluster analysis and for regionalization (Berry, 1967, 1968; Haggett and Chorley, 1969: 244). In the present example, the universal set consisted of all trappers trading furs into a given settlement in a given year, and the variables the number of fur species traded by each. The variables thus defined the trapping profile of each trapper (see above) and the purpose of the

¹ I am indebted to R. Whittaker for permitting me to use a computer programme adapted by him from one appearing in Veldman (1967: 308-319) to deal with this problem, and to M. Church for helping me to transpose data into a form suitable for the programme and for giving advice on its operation. See Appendix B.

analysis was to group trappers whose profiles were most similar. The analysis was thus seen as a means of identifying structural differences in the trapping practices of the population either of the entire Delta or of each settlement both in space and time.

The grouping procedure starts with a universal set (U) , $e_1, e_2, e_3 \dots, e_n$ of n subsets, where n is the number of trappers trading furs into a given settlement in a given year and $e_1, e_2, e_3 \dots, e_n$ are the trapping profiles of each trapper. That is, at the beginning there are as many subsets, or groups, as there are trappers and the greatest amount of information about the system is available. The purpose of the grouping is to reduce the number of subsets from n , through $(n-1)$, $(n-2)$, etc. to 1 so that the minimum loss of information occurs at each stage, where the loss of information is given by an objective function defined operationally as the sum of the squared deviations about the means of the number of species

appearing in the profiles. This "error sum of squares" is given by:

$$ESS = \sum_{i=1}^m (x_i - \bar{x}_i)^2$$

Where m = number of species entering into trade
 x_i = number of i th species offered in trade
 by individual trapper

Using this procedure it was possible to identify coherent groups of relatively internal homogeneity. Each union involved some loss of information reflected in the size of the ESS, so that the greater the difference between the two subsets united the greater was the acceleration of the ESS. Thus by plotting the increase in the ESS, it was possible to discern by major changes in slope the combining of two relatively unlike groups. To take a simple example, in the 1962-63 trapping season, thirty people traded furs into the settlement of Arctic Red River each with his own characteristic trapping profile. The hierarchical grouping of these profiles resulted in the ESS values shown in tabular form in Table 5^a and graphically in

Table 5-1

Loss in Information Resulting from the Hierarchical
Grouping of the "Trapping Profiles" of Trappers
Trading Furs into Arctic Red River, 1962-63

<u>Step</u>	<u>No. of Groups</u>	<u>ESS</u>
1 (17 and 18)	29	7.000
2	28	30.500
3	27	55.500
4	26	94.667
5	25	156.917
6	24	225.417
7	23	389.583
8	22	566.083
9	21	864.583
10	20	1173.916
11	19	1566.749
12	18	2046.249
13	17	2585.749
14	16	3146.249
15	15	3729.249
16	14	4597.582
17	13	5654.930
18	12	7069.094
19	11	9592.820
20	10	13067.250
21	9	16867.348
22	8	20966.758
23	7	26485.258
24	6	37501.109
25	5	52358.609
26	4	80000.500
27	3	114064.500
28	2	269197.812
29	1	867539.000

Fig. 5-2. At the first step the two most like trapping profiles were combined into one subset, reducing the total number of subsets by 1, and resulting in a loss of information reflected in an ESS of 7.0, obtained as follows:

	Species Traded		
	Beaver	Marten	Mink
Trapper No. 17	7	3	2
Trapper No. 18	8	0	0
Total	15	3	2
Mean	7.5	1.5	1
(Deviation for No.17) ²	0.25	2.25	1
(Deviation for No.18) ²	0.25	2.25	1
	0.5	+4.5	+2 = 7.0

The second step similarly resulted in a loss of information of 30.5, the third of 55.5, and so on. If the ESS is plotted against the number of steps (or remaining groups) accelerations in the curve indicate the combining of two relatively unlike subsets, as for example at point A in Fig. 5-2. Comparison with the data in this simple case in fact confirms that the dissimilarity in the subsets combined in the next step (27) may be related empirically to differences in the trapping patterns. The

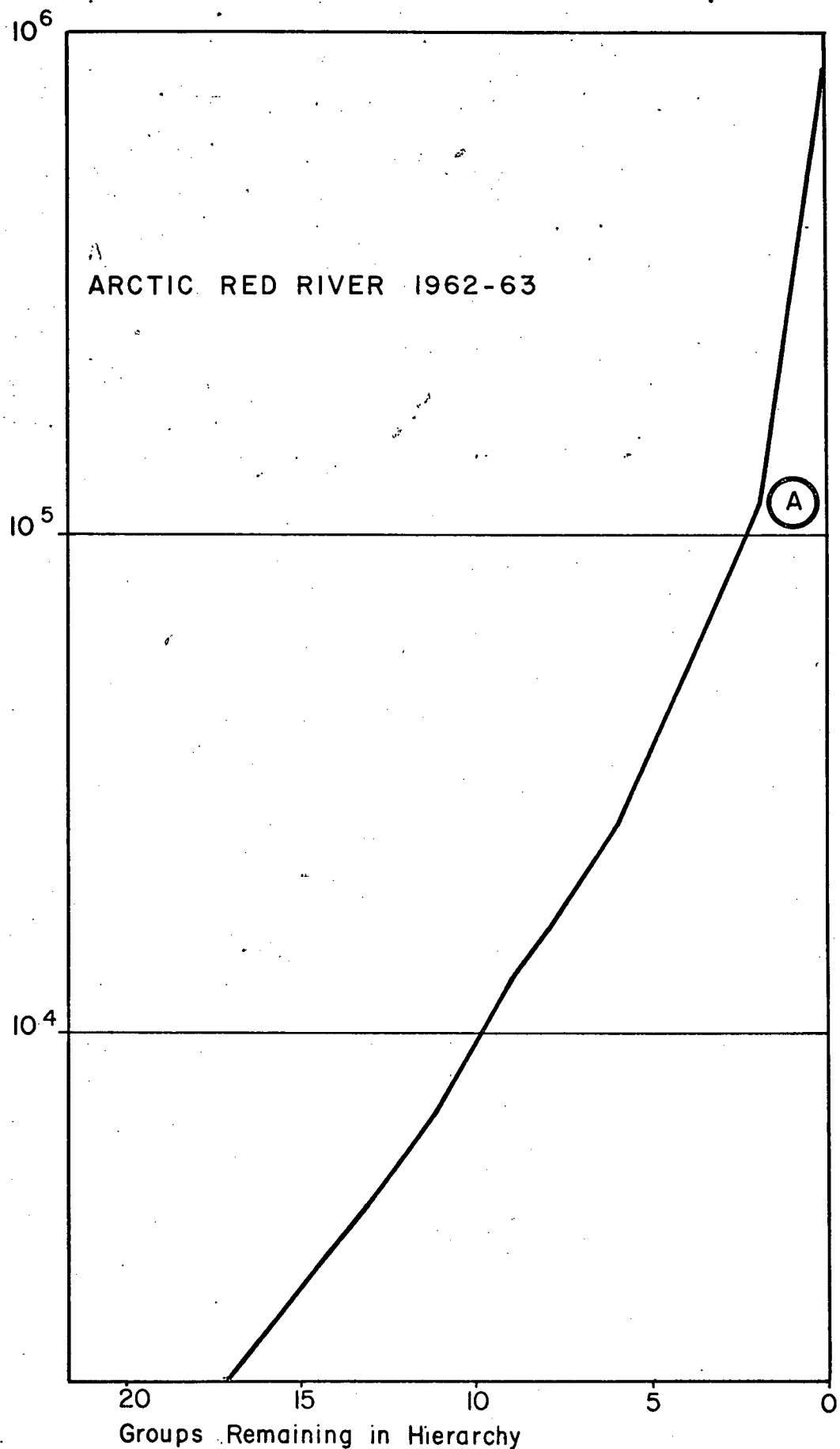


Fig. 5-2 Hierarchical Grouping of Trapping Profiles, Error Factor vs. Groups Remaining in the Hierarchy, Arctic Red River, 1962-1963.

generation of a tree diagram or dendrogram (McCammon, 1968; Cole and King, 1968: 585) also pointed to discontinuities as well as displaying the structure of the hierarchy graphically (Fig. 5-3). Thus, in the example under consideration, two major groups could be discerned (of Trappers 1 through 11, and 12 through 30), the smaller itself consisting of two subgroups (of Trappers 1 through 7, and 8 through 11).

Though in this illustrative example, a more rigorous examination of these subgroups was not warranted, even a cursory comparison with the data showed that they could be characterized as follows:

Group I. (Trappers 1 through 7)

This group consisted of trappers taking moderate amounts of muskrat together with some marten, mink and in a few cases, beaver.

Group 2. (Trappers 8 through 11)

This small group consisted of the "professionals" most of whose income was derived from quite substantial marten takes supplemented by muskrat. Parenthetically,

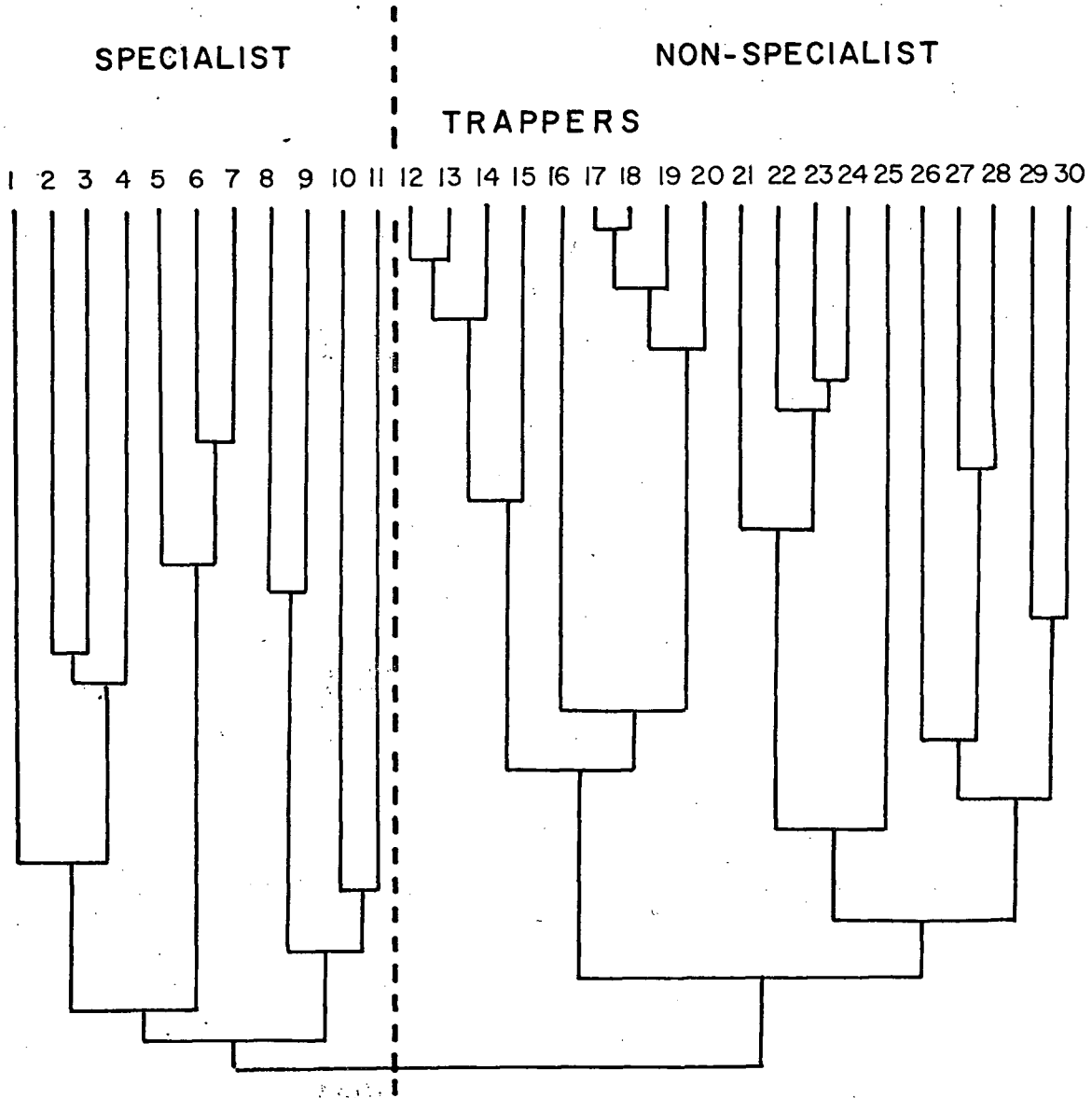


Fig. 5-3 Hierarchical Grouping of Trapping Profiles, Structure of the Hierarchy, Arctic Red River, 1962-63

3 of the 4 had trapping incomes of over \$1,800, a good sum for Arctic Red River in 1964 and rivalled by no one in the other two groups.

Group 3. (Trappers 12 through 30)

This largest group generally consisted of the "part-time" trappers, supplementing income from other sources with meagre takes of muskrat, with occasional mink, marten or beaver, though there were some anomalies which would be revealed by a finer grouping.

The hierarchical grouping method was thus seen to have a number of advantages for analyzing changes in trapping patterns in the Mackenzie Delta. While generalizing a great amount of data, it nonetheless enabled gross patterns to be retained in a way which facilitated comparisons from year to year, and from settlement to settlement. As heuristic devices, both ESS curves and tree-diagrams conveniently expressed the aggregation of trapping profiles of a large number of trappers while at the same time not losing sight of individual performances. The method therefore

permitted comparison with other empirically derived sources of data, including trapping camp locations and residence in settlements.

3. Changes in Trapping Profiles (1931-51)

The first part of the analysis was directed towards the Delta Community as a whole with the objective of determining whether characteristic trapping profiles could be associated with each settlement and if so whether these had changed in the decades preceding Inuvik's establishment. Three trapping seasons were selected for analysis the choice being in part determined by the availability of data. These were 1931-32, 1940-41 and 1950-51;¹ and the settlements appearing in the analysis at these dates were Aklavik,

¹ The number of individuals trading furs in 1950-51 exceeded the limit of subjects the computer programme was capable of handling. In this case only a random sample was selected weighted in the ratio of individuals trading furs into each settlement. The sample represented 76 per cent of the total number of trappers in the 1950-51 season.

Fort McPherson, Arctic Red River and, except for 1931-32, Tuktoyaktuk. During these years trappers from all settlements traded sizable quantities of muskrat, which tended to obscure differences in their trapping profiles which could be ascribed to other species. Consequently the analysis in this section was limited to the diagnostic species outlined in the first part of the chapter. The justification for this procedure should be clear from the foregoing pages.

It is apparent from Fig. 5-4 that both in 1940-41 and in 1950-51 the majority of trappers traded substantial quantities of muskrat though some change was experienced between the beginning and the end of the decade. In particular, where in the earlier season the greater number of trappers had brought in over 1,000 muskrat in the later season this was not so. Then the majority of trappers brought in less than 400 muskrat, though in Aklavik there was still about the same number brought in

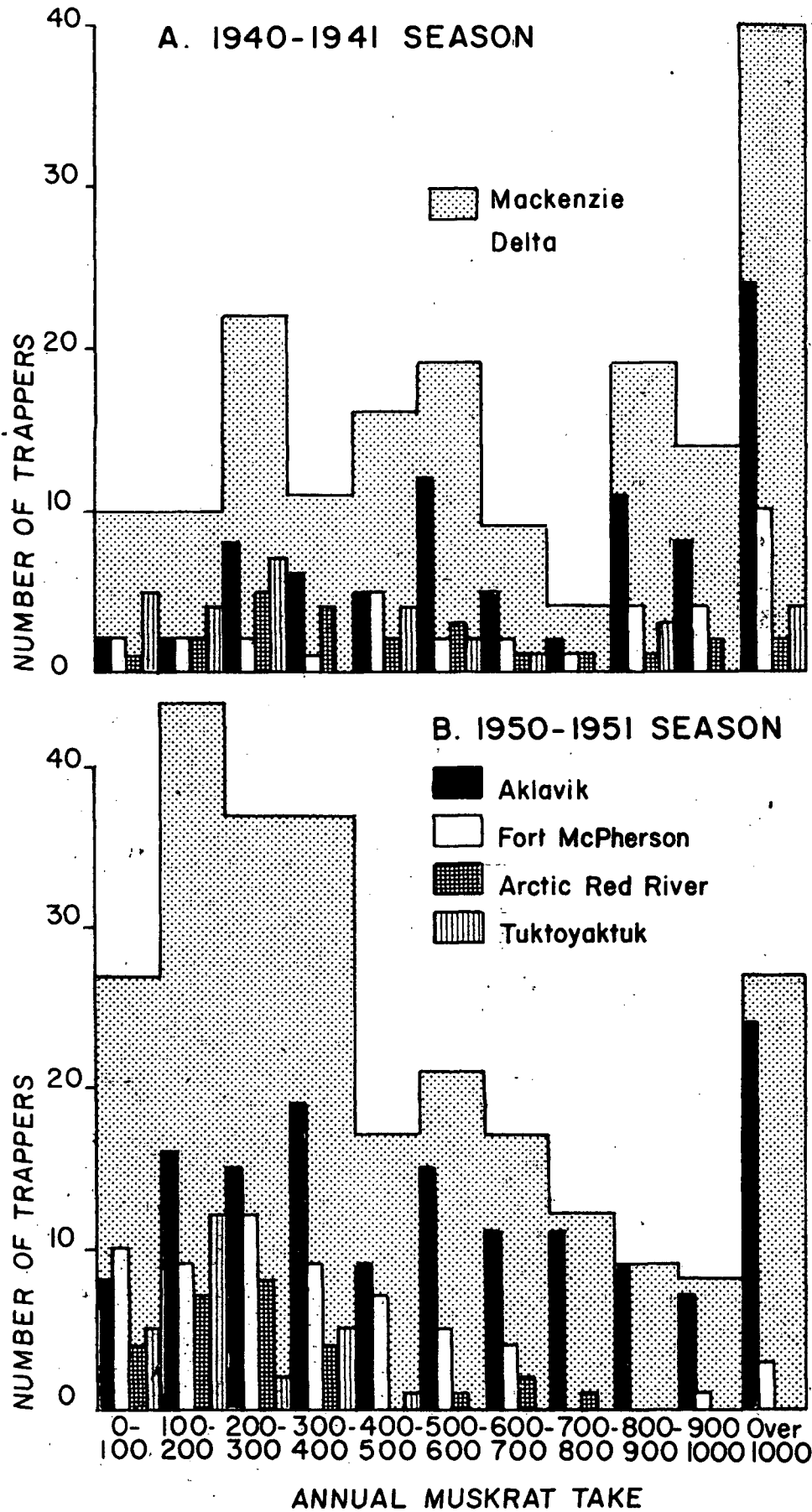


Fig. 5-4 Muskrat Takes from Mackenzie Delta Trappers, 1940-41 and 1950-51

large quantities. Part of the difference may be ascribed to the registration of trapping areas in the Delta which will be described in detail below but which militated against more vigorous ratting. Analysis of the diagnostic species was more informative.

For the three seasons analyzed, ESS curves accelerated with about fifteen groups remaining (Fig. 5-5 a, b and c) indicating that about this number of significantly different trapping patterns might be distinguished. The fact that the rate of acceleration was somewhat less for the 1931-32 season would suggest however that the differences were less clearly marked, due perhaps to the fact that only two settlements - Fort McPherson and Arctic Red River - entered significantly into the analysis. For this earlier season the distribution of trappers falling into separate groups suggested that the differences could be associated with the settlements. Table 5-2 shows this distribution at the fifth level

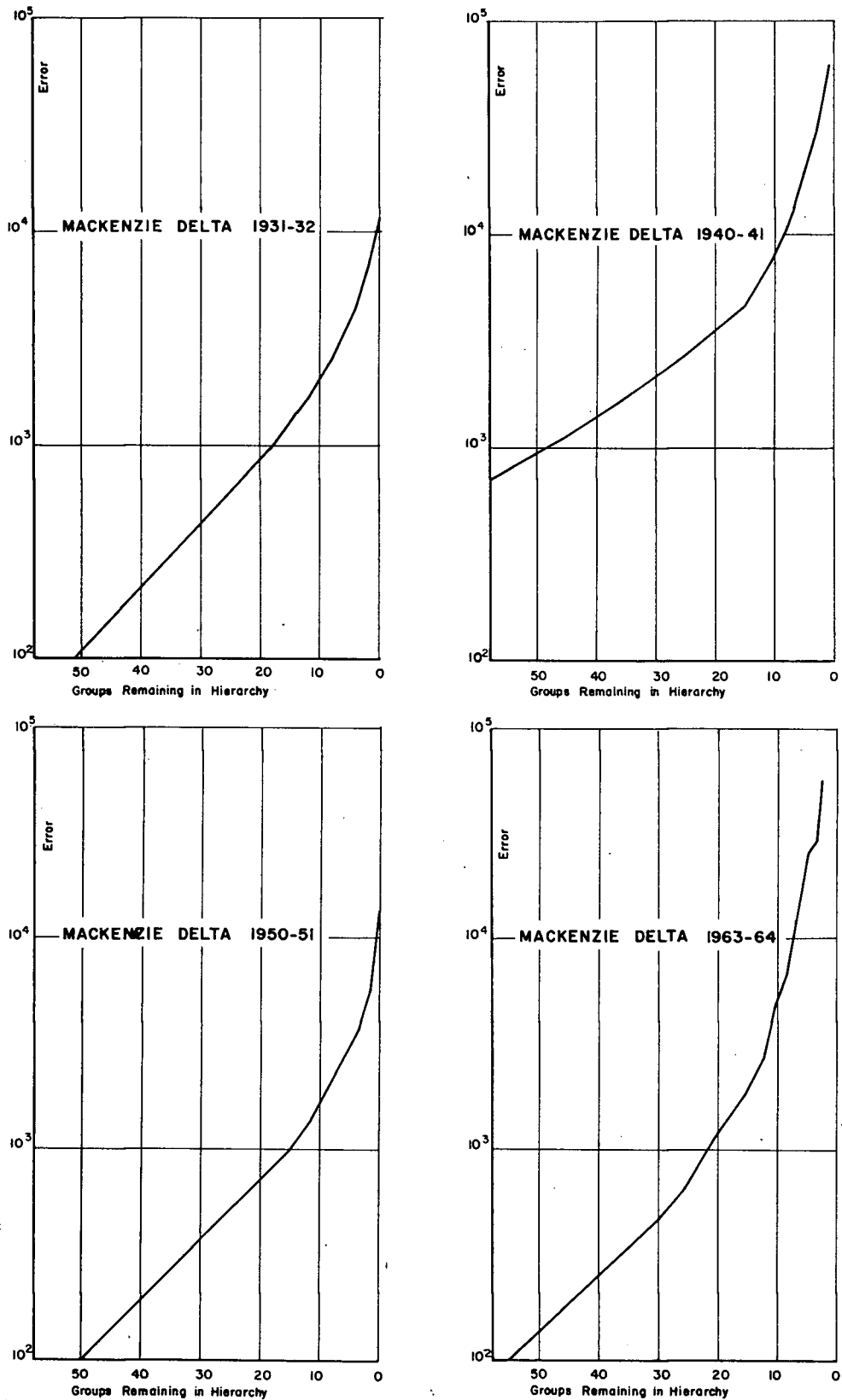


Fig. 5-5 Hierarchical Grouping of Trapping Profiles, Error Factor vs. Groups Remaining in the Hierarchy, Mackenzie Delta: (a) 1931-32; (b) 1940-41; (c) 1950-51; (d) 1963-64

of grouping - i.e. that level of hierarchy at which only five groups remained¹ - and consequently some unlike groups had been combined at this stage.

Table 5-2

Characteristic Groups at the Fifth Level of Grouping, Mackenzie Delta, 1931-32.

GROUP	DOMINANT SPECIES	TRAPPERS					
		Ak ¹		Ft.McP. ²		A.R.R. ³	
		No.	p.c.	No.	p.c.	No.	p.c.
1	BEAVER (+mink & marten)	-		11	24	9	36
2	MARTEN (+beaver & mink)	-		2	4	9	36
3	NONE ⁵	1	13	2	4	2	8
4	NONE	2	25	24	50	4	16
5	NONE	5	62	8	16	1	4
Ind. ⁴				1	2		

1. Aklavik. 2. Fort McPherson. 3. Arctic Red River.

4. Individuals not included in a group. 5. None of the "diagnostic species" and therefore muskrat by inference.

Trappers falling into Group 1 were characterized by trading fairly large numbers of beaver supplemented by a few marten or mink. Slobodin (1962: 28) notes that beaver hunting in the Delta has been traditionally of importance to Arctic Red River people but

¹ Groups consisting of only one individual were excluded.

was taken up by the Peel River people at the turn of the century. Since beaver is predominantly a Delta species, to engage in beaver hunting involves spending either the spring or winter in the Delta, and thus the Peel River trappers who take significant numbers of beavers probably do not go far into the Richardson Mountains in the winter (ibid.). For the Arctic Red River people, the absence of a distant winter hunting area makes beaver trapping more compatible with other activities. Significantly though, in 1931-32, a slightly larger number of the beaver trappers were centered on Fort McPherson than on Arctic Red River.

However, a larger number of Arctic Red River trappers fell into Group 2, characterized by significantly greater takes of marten, with beaver and mink in a secondary position. Though marten are found in the Delta itself, concentrations are found in the headwaters of the Vittrekwa and Caribou Rivers, the old winter grounds of the Peel River

people, and the Travaillant Lake area, which is accessible to the Arctic Red River people. It might be inferred from the fact that few Fort McPherson trappers could be characterized at this time as marten trappers that few were spending the winters upriver, and in fact the majority of Peel River people fell rather into a group which would seem to be associated with the Delta, since no particular species was outstanding in the array traded.

In 1940-41 the structure and composition of groups had changed somewhat as shown by Table 5-3. The majority of the individuals trading furs into Aklavik, Fort McPherson and Tuktoyaktuk fell into the two groups (1 and 4) in which no species predominated among those entering into the analysis. The specialist groups were Group 2 in which white fox predominated in combination with smaller quantities of coloured foxes; Group 3, in which coloured foxes predominated; Group 5, in which marten predominated accompanied in some cases by beaver; and

Table 5-3Characteristic Groups at the Sixth Level of Grouping,
Mackenzie Delta, 1940-41

GROUP	DOMINANT SPECIES	TRAPPERS							
		Ak.		Ft.McP.		ARR		Tuk. ¹	
		No.	p.c.	No.	p.c.	No.	p.c.	No.	p.c.
1	NONE	35	40	16	44	2	8	17	51
2	WHITE FOX (+coloured fox)	1	1	-		-		3	9
3	COLOURED FOX	1	1	-		-		7	22
4	NONE	40	45	15	42	3	12	4	12
5	MARTEN (+beaver)	5	6	3	8	6	25	-	
6	BEAVER	5	6	2	6	13	55	-	
Ind.		1	1					2	6

1. Tuktoyaktuk

Table 5-4Characteristic Groups at the Sixth Level of Grouping,
Mackenzie Delta (Random Sample), 1950-51

GROUP	DOMINANT SPECIES	TRAPPERS							
		Ak.		Ft.McP.		ARR		Tuk.	
		No.	p.c.	No.	p.c.	No.	p.c.	No.	p.c.
1	NONE	93	87	43	94	8	36	9	39
2	WHITE FOX	1	1	-		-		3	13
3	MARTEN	-		-		-		6	27
4	WHITE FOX (+marten)	-		-		-		2	9
5	MINK+COLOURED FOX	12	11	3	6	-		1	4
6	WHITE FOX	1	1	-		14	64	1	4
Ind.		-		-		-		1	4

Group 6, in which beaver alone predominated. By 1940-41 it is apparent that the interest in beaver hunting had shifted from the Fort McPherson trappers to those of Arctic Red River, and for most of these, represented an exclusive specialization. For the Fort McPherson people this may be associated with the fact that the declaration of the Delta as a beaver sanctuary in 1940 discouraged beaver hunting there, while the Arctic Red River beaver hunting areas were not affected. A few Tuktoyaktuk trappers specialised and produced either white fox in combination with coloured fox, or coloured fox alone. In addition, two individuals who did not constitute a group at the level of hierarchy shown in Table 5-3 produced large quantities of white fox.

By the 1950-51 trapping season the specialist groups were much reduced in numbers; the great majority of trappers fell into groups which were not characterized by any of the species entering into the analysis. This was especially true for those

centered on Aklavik and Fort McPherson, though a few fell into groups (e.g. Group 5) in which mink and coloured fox - essentially Delta species - constituted a specialism. The more peripheral settlements of Arctic Red River and Tuktoyaktuk did contain some trappers who fell into specialist groups. Group 6, into which the majority of the Arctic Red River trappers fell, was characterized by large beaver takes. Tuktoyaktuk trappers who specialized fell into one of three groups, Groups 2 and 4 in which white fox predominated, the latter in association with marten, and Group 3 in which marten predominated.

The analysis shows that for the three selected seasons preceding Inuvik's establishment, the specialist groups were associated with particular settlements. Of special interest is the fact that both Arctic Red River trappers and those from Tuktoyaktuk have fallen into groups characterized by significant marten takes. The major marten trapping area for the former is in the Travaillant Lake area, and for the latter in the

Anderson River area. The analysis would indicate that an increased interest in beaver hunting by the Arctic Red River people was accompanied by decreasing interest in marten. The traditional interest in marten trapping of the Peel River people was not shown in the analysis since the movement away from the marten-rich area of the Richardson Mountains had already taken place by the beginning of the thirties. A brief revival in upriver marten trapping was however reflected in the analysis for 1940-41 (cf. Slobodin, 1962: 39).

During the period of the analysis the specialist trapping activities associated with each of the settlements tended to become relatively less important as greater numbers of trappers fell into a group in which none of the diagnostic species was outstanding. Since muskrat was not included in this part of the analysis, it follows that those individuals would have gained the majority of their trapping income from muskrat, or that they trapped very little of anything. Both cases imply a closer association with the Delta and with

the settlements specifically than is implied by membership of a specialist group. Of the settlements the more peripheral ones of Arctic Red River and Tuktoyaktuk seem to have been best able to maintain some specialisms, in the former case directed towards beaver and marten, and in the latter towards white fox and marten. The fact that even in these settlements the specialist groups have become relatively less important, would seem to indicate that by the early fifties, the greater number of trappers had converged towards a Delta type of trapping pattern in which only muskrat stood out as a species traded in quantity.

4. Changes in the Muskrat Harvest

Registration of Trapping Areas

The muskrat had been of some importance to indigenous peoples at least since the beginnings of the fur trade. Its importance as a species entering into trade really began, however in the 1920's and was accelerated with the concentration of trappers in the Delta which became

particularly marked after 1946. At this time, a general decline in the average price received for white fox from \$20.00 in 1946 to \$3.50 in 1949 (NWT Council, Minutes, 3709) made trapping along the coast a much less attractive occupation. In contrast, the Delta's greater range of food resources provided the same measure of security that it had in the Depression. Though the average price received for a muskrat pelt fell also throughout the Northwest Territories from \$2.75 in 1946 to \$1.20 in 1949 (Canada, DBS, 1950) the fall was relatively less than that experienced by other species and the greater availability of muskrat in the Delta ensured the trapper there a larger potential income than elsewhere.

Immigrants to the Delta included Alaskan Eskimos who were attracted also by more favourable Canadian statutory payments prevailing at this time (LACO Hunt, pers. comm.), and some white and Indian trappers from elsewhere in the territories (Black, 1961). By 1948, there were in the Delta some 228 trappers, of whom

43 per cent were Eskimo, 31 per cent Indian, 13 per cent Metis and 13 per cent white (NWT Council, Minutes, 3557), and there is little doubt that the area was rather seriously overpopulated in terms of its limited resource base. The results of overpopulation were not felt, however while the market for muskrat remained relatively good and some additional sources of income were available, especially from the DEW line. The reliance upon a single species did present a situation of potential concern however.

Two principal methods are used to take muskrat. During the winter the muskrat lives in a den the entrance to which is below the ice, but maintains contact with the surface through "pushups" (Stevens, 1955). Traps set in these pushups during the winter yield a high quality fur but considerable effort is required to set and check traps. Consequently a more favoured method has been to shoot muskrat in the water after breakup. This method may be relied upon to produce much greater total yields though individual

pelts are often damaged with gunshot.

In the 1940's, recent immigrants to the Delta followed the practice of hunting muskrat throughout the area after breakup by following the floodwaters down to Aklavik (Black, 1961). This resulted in some disaffection among the older established Delta trappers who feared, probably with justification, that this practice would result in a serious depletion of the muskrat population. In 1946 the Mackenzie Delta Trappers Association was formed to protect the interests of the local trappers (NANR, NALB, 515, 7238). At the same time the Department of Mines and Resources engaged a biologist, Dr. Ian McTaggart-Cowan, to carry out a survey of the Delta's trapping potential and to make recommendations concerning the area's more effective management (ibid.). Of the two major management procedures considered, that of registering trapping areas was favoured over marsh management schemes due to the physical complexity of the Delta and the difficulties this would present for enforcing

game laws. Consequently in the summer of 1947 each trapper was invited to register an area which would then be for his own exclusive use.

This scheme met with the approval of the majority of trappers, though there was some dissension. The Peel River people, for example, saw trapping area registration as a limitation of their ratting activities to the less productive Upper Delta (Slobodin, 1962: 47), while the Tuktoyaktuk people resented what they considered as a usurpation of their resource base by newcomers from Alaska (NA & NR, NALB, 7282). However, the advantages of the scheme were apparent to most Delta trappers. The setting aside of an area for the exclusive use of one trapper encouraged him to carry out conservation measures (Black, 1961). Some lakes were left unharvested to replenish themselves naturally, and channels were dammed to prevent productive lakes from draining. Most important was the fact that trappers were once more encouraged to trap muskrat in the winter rather than hunt them at breakup and thus

to produce a better quality fur. In the 1950-51 season, the trapping population was dispersed over the Delta in the winter (Fig. 5-6) and the area was probably as efficiently trapped as at any other time in its history.

This situation was however to be shortlived. From a brief upturn to \$2.01 in 1950 the average price received for a muskrat pelt in the Northwest Territories declined steadily to about 60 cents in 1959 (Canada, DBS, 1960). It was thus no longer possible for a trapper to make an adequate living from the average registered area of between five and 84 square miles (Black, 1961). At the same time as the incomes from trapping declined so new opportunities in wage employment were offered by the construction of Inuvik after 1955. Trapping areas were gradually abandoned in the more distant locations, while those close to existing settlements or the E-3 construction site were retained only for part-time activities. By 1958-59 the system was abandoned altogether in favour of a

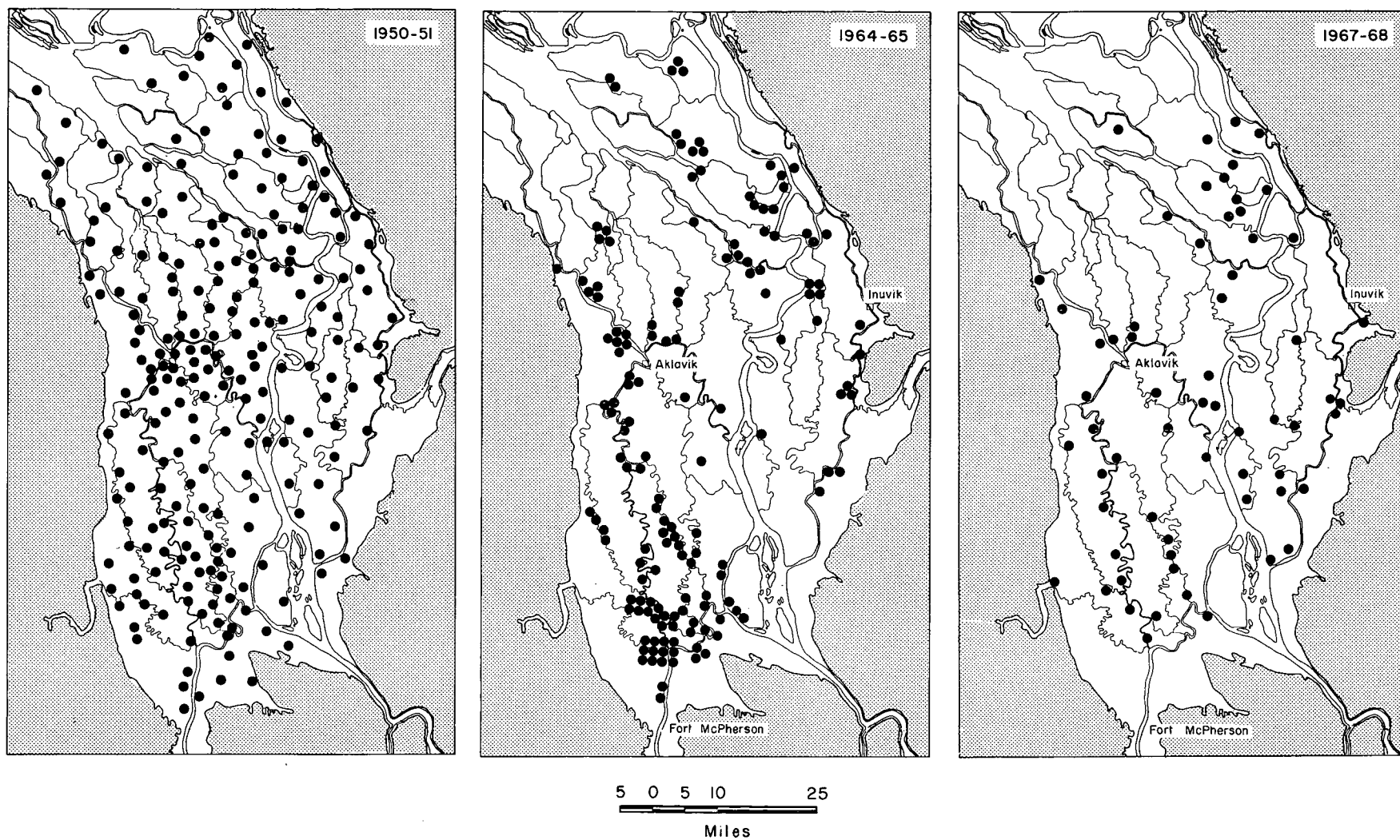


Fig. 5-6 Distribution of Winter and Spring Camps in the Mackenzie Delta; (a) 1950-51; (b) 1964-65; (c) 1967-68

group trapping area, though a few individuals did retain their own registered areas close to the settlements well into the sixties (Fig. 5-7). By 1959 however 35 per cent of the Aklavik trappers and 51 per cent of the Fort McPherson trappers had relinquished individual areas and joined the Mackenzie Delta group area (Black, 1961).

Spatial Changes in the Muskrat Harvest

During the ten year period of trapping area registration, trappers were required by the game laws to declare the number of muskrat taken from their areas in each trapping year. Though these declarations took the form of rough estimates, they lend themselves to the analysis of the spatial structure of trapping in the Delta during the period of greatest recent change. For the first part of the period, the returns were fairly complete and represented the major portion of the total muskrat harvest. After 1955, as registered trapping areas were abandoned, a greater proportion of the muskrat take failed to appear in the

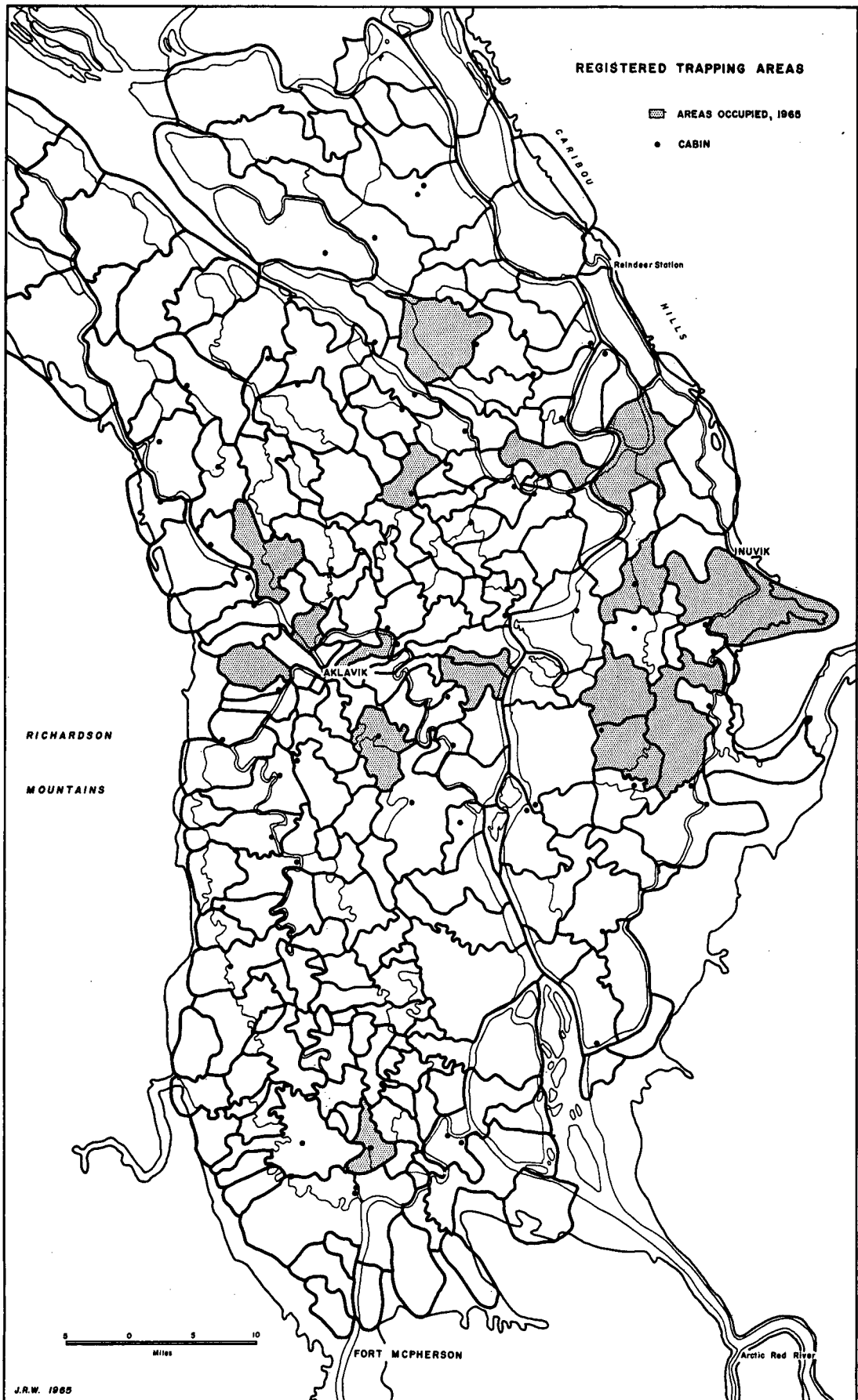


Fig. 5-7 Registered Trapping Areas in the Mackenzie Delta

returns for the registered areas and the data are therefore less reliable (Table 5-5).

Table 5-5

Muskrat Take Declared by Holders of Registered Trapping Areas, 1950-1958

Year	Total Muskrat Take ¹	Take from R.T.A.'s ²	Percent.
1949-50	282,242 ³	130,797	46
1950-51	217,679 ³	110,696	51
1951-52	150,708 ³	75,653	50
1952-53	170,223 ³	79,721	46
1953-54	186,292 ³	72,163	39
1954-55	241,864 ³	116,391	40
1955-56	140,211 ⁴	65,514	46
1956-57	66,127 ⁴	32,427	48
1957-58	46,161 ⁴	27,879	59

¹Fur Traders Record Books, Aklavik, Fort McPherson, Arctic Red River, Reindeer Station and Inuvik.

²Registered Trapping Area returns.

³Excluding Arctic Red River.

⁴Excluding Fort McPherson and Arctic Red River.

The following procedures were used to analyze the data. The numbers of muskrat taken in each registered area were first plotted as isarithmic surfaces for each of the eight years for which returns were available (Fig. 5-8 shows three of these). Returns were available for the whole Delta until 1955 after which some blocks of data were not available for the southern part. In all cases, zero values were ignored on the assumption that they represented data which had

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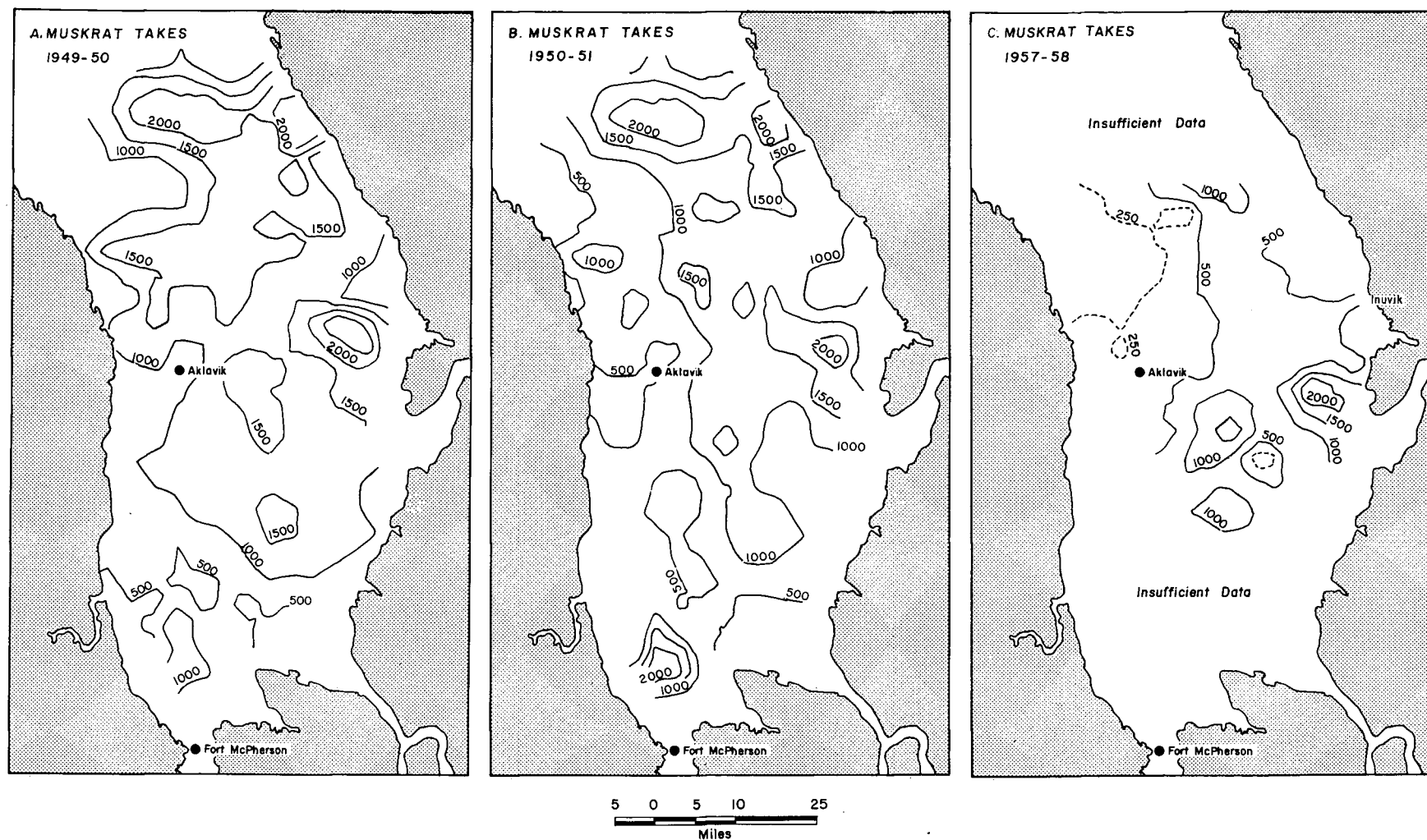


Fig. 5-8 Isarithmic Surfaces of Muskrat Taken from Registered Trapping Areas in the Mackenzie Delta, 1949-50, 1950-51 and 1957-58

either never been declared or had been subsequently lost, and would therefore introduce gaps which would not exist in reality.

Trend surfaces were next fitted to the isarithmic surfaces in order to determine their general structure, if any. The merits of applying trend surface analysis to continuous areal data have been argued by a number of writers, notably Chorley and Haggett (1965), Cole and C. King (1968: 375-379) and L. King (1969: 152-153). In particular it is seen as a means of damping local irregularities in order to give a clearer picture of regional trends, and to allow the separation of local residuals (Chorley and Haggett, 1965). In the present case, the analysis was used for both purposes though results were diagnostic rather than prescriptive. Levels of explanation were particularly low in the returns for 1951-52, 1952-53 and 1953-54 and these years were not analysed further. In the other years the linear equation did not explain a large proportion of the variability and the goodness of fit was not

greatly improved by the quadratic or cubic surfaces. Levels of significance did indicate however that the trends were "real" and therefore suggestive of some characteristics of the structure of the muskrat harvest from registered areas (Table 5-6).

In the earlier years the linear trend surface dips consistently towards the south west (Fig. 5-9a shows that for 1949-50) which would seem to conform with observations made in more general terms by biological research (e.g. Stevens, 1955; Hawley, 1968) and by the observations of Delta trappers that yields generally tend to be higher in the north eastern section of the Delta. Though analysis was not directed towards this point, the surfaces also bear superficial similarity to those of physiographic and biotic variables such as the height of levees above low water level (Mackay, 1963: 126) and tree coverage (ibid.: 167). The quadratic surfaces for 1949-50, 1950-51 and 1955-56 all show a peak to the north and west of the present location of Inuvik (Fig. 5-9b

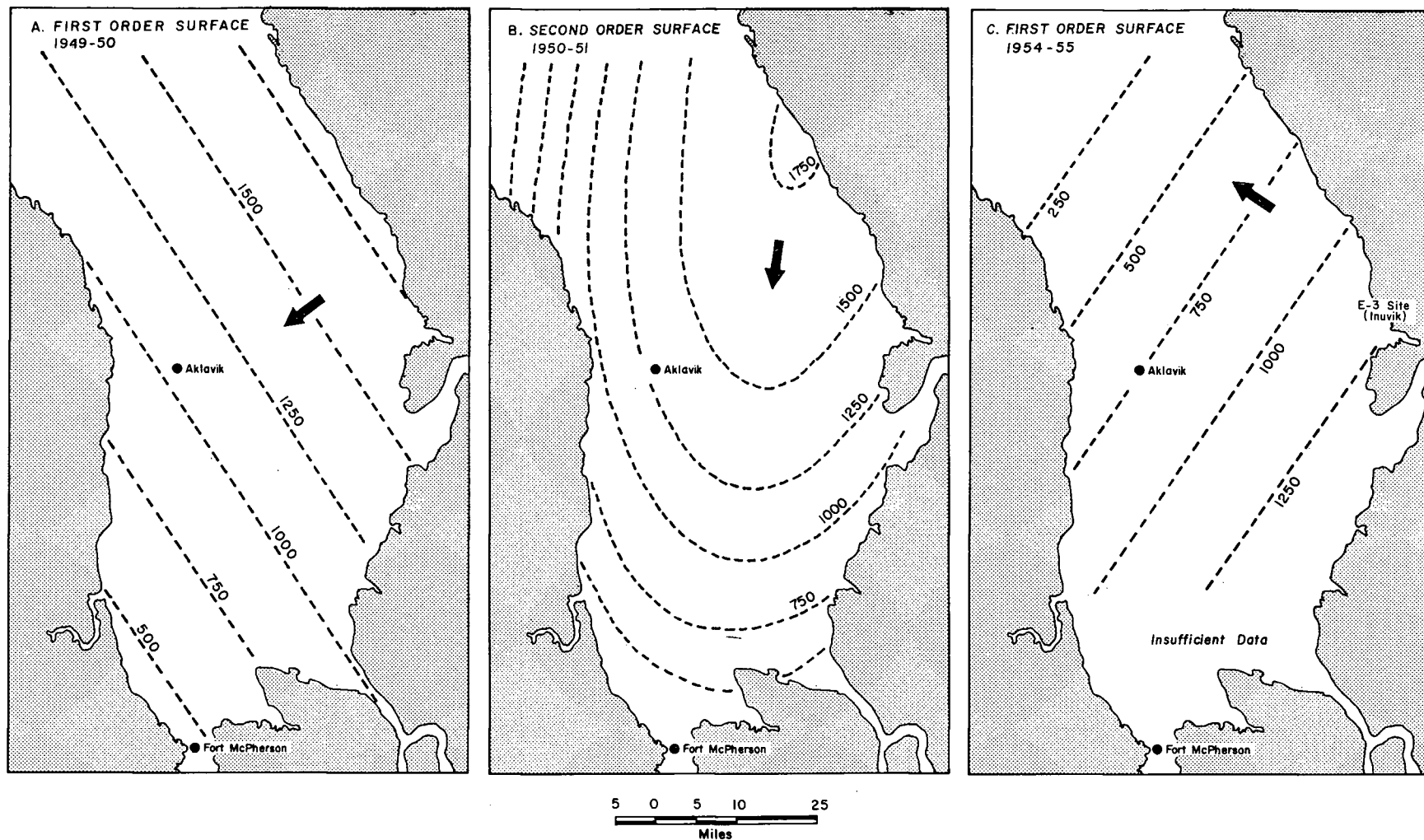


Fig. 5-9 Trend Surfaces of Muskrat Taken from Registered Trapping Areas in the Mackenzie Delta

Table 5-6

Trend Surface Analysis of Muskrat Takes from Registered
Trapping Areas

Year	Order of Surface	Coefft. of Determination	F. Ratio	Degrees of Freedom	Significance Level
1949-1950	1	.21	14.46	2 and 109	0.5
	2	.25	7.14	5 and 106	0.5
	3	.27	4.28	9 and 102	0.5
1950-1951	1	.12	7.24	2 and 111	0.5
	2	.15	3.71	5 and 108	0.5
	3	.19	2.67	9 and 104	2.5
1954-1955	1	.07	4.14	2 and 112	2.5
	2	.11	2.69	5 and 109	2.5
	3	.17	2.38	9 and 105	2.5
1955-1956	1	.17	7.39	2 and 73	0.5
	2	.22	3.94	5 and 70	0.5
	3	.25	2.49	9 and 66	2.5
1956-1957	1	.13	3.83	2 and 53	10.0
	2	.16	1.88	5 and 50	25.0
	3	.22	1.43	9 and 46	25.0
1957-1958	1	.21	5.14	2 and 39	2.5
	2	.22	2.07	5 and 36	10.0
	3	.38	2.19	9 and 32	10.0

shows that for 1949-50).

After 1955, the dip of the surface was changed to the south east indicating generally higher muskrat takes from registered areas in the upper part of the Delta furthest from the E-3 construction site. So many people were abandoning registered areas at this time, however that the figures are of doubtful value since they no longer represent the majority of the harvest. They do perhaps suggest a lessening of interest in trapping in the registered areas closest where the new town was being built consistent with the fact that many were taking advantage of opportunities for employment in construction.

Residuals to the trend surfaces also indicate the possible effects of the construction of Inuvik. In both 1949-50 and 1950-51 the positive residuals to the linear trend surface formed a ridge running down the centre of the Delta from north to south (Fig. 5-10a and b). After 1955 an east-west trough began to open up roughly between Aklavik and Inuvik indicating that

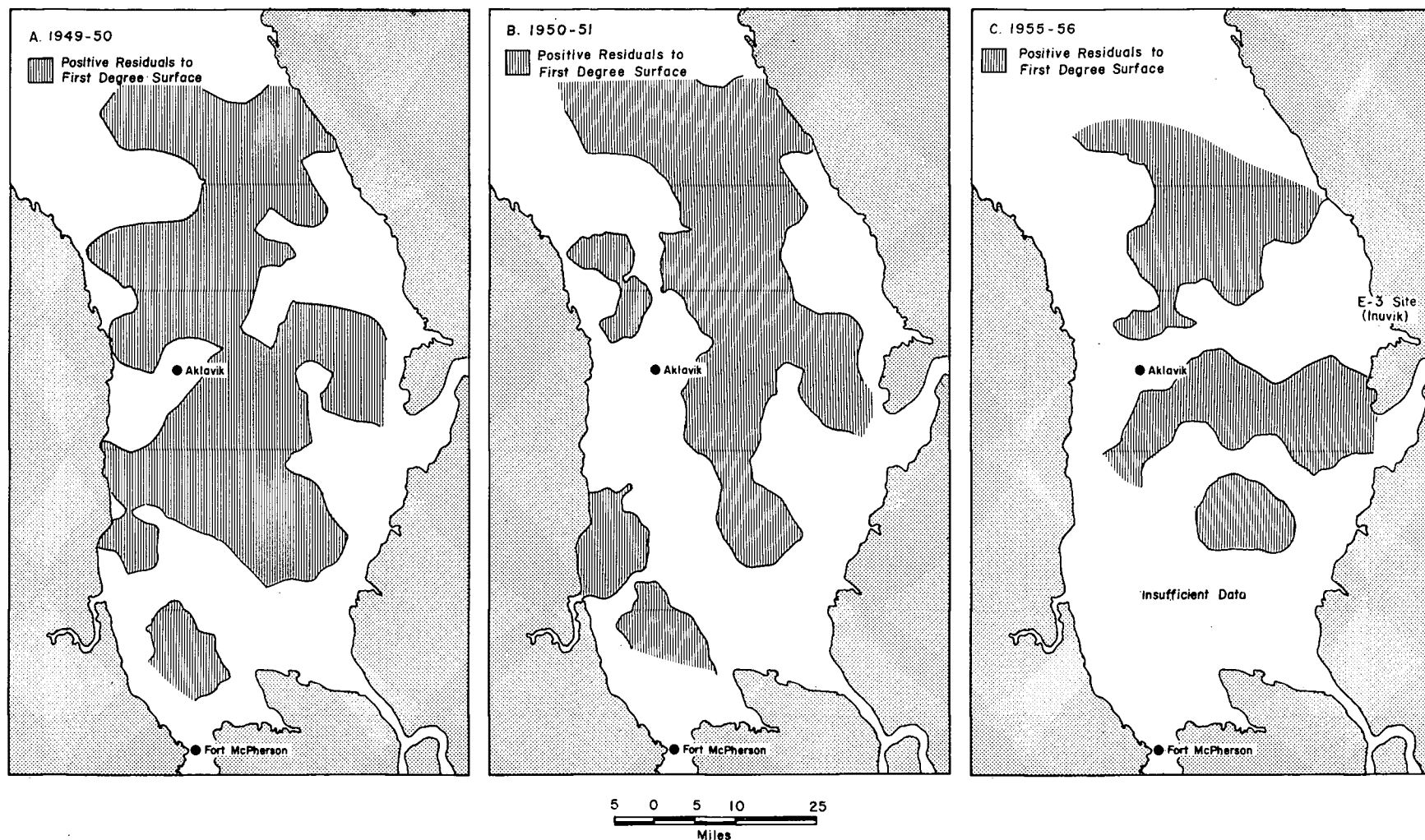


Fig. 5-10 Residuals to Linear Trend Surfaces of Muskrat Taken from Registered Trapping Areas in the Mackenzie Delta, 1949-50, 1950-51, 1955-56

takes from registered areas were less than would be predicted by the linear trend surface in this area. (Fig. 5-10c). However, given the low level of explanation offered by the trend surface these observations are tentative.

5. Trapping Profiles in the Mid-Sixties

Change between 1951 and 1964 was reflected in other ways also. Though there was a greater number of people trading furs¹ in the mid-sixties, few of these could now be regarded as professional trappers, and even those that could generally had trapping incomes too low to sustain life at an adequate level without some supplement from other sources. One third of those trading furs in Delta settlements in the 1963-64 season, for example, received less than \$100

¹ Data for this part of the analysis were taken from returns recorded in the Fur Trader Record Books.

and only fifteen had incomes greater than \$2,000 (Wolforth [1966]: 13; Fig. 5-11). For most Delta residents, trapping had become a part-time activity often carried on out of the settlement as a source of "pocket money" to augment income from wage employment, social assistance, and such statutory payments as old age pensions and family allowances. The convergence upon the Delta, and particularly upon the settlements, which had been in process since the 1920's was now largely complete and was reflected above all in the extreme attenuation of the number of trappers carrying on specialist activities.

As with the data for earlier years the trapping profile for the 1963-64 season was analysed excluding muskrat takes initially. The analysis of the sample² of individuals trading furs in the 1963-64 season

² The number of individuals trading furs in 1963-64 exceeded the limit of subjects the computer programme was capable of handling. A random sample was selected weighted in the ratio of individuals trading furs into each settlement. The sample represented 44 per cent of the total number of trappers in the 1963-64 season.

INCOME FROM TRADING FURS

1963-1964

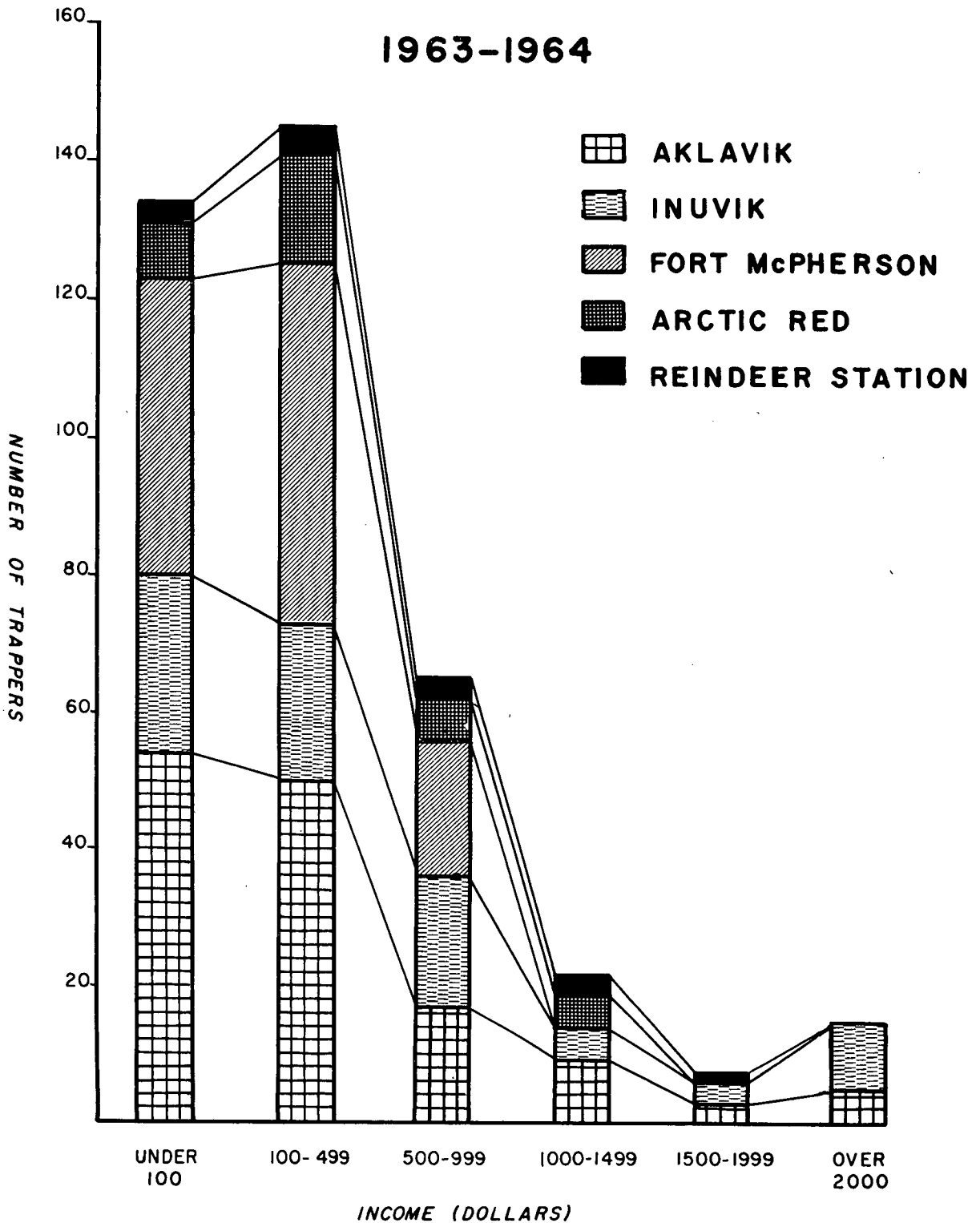


Fig. 5-11 Incomes from Trapping, 1963-64

Table 5-7

Characteristic Groups at the Sixth Level of Grouping,
Mackenzie Delta, 1963-64

GROUP	DOMINANT SPECIES	TRAPPERS									
		In. ¹		Ak.		Ft.McP.		ARR		Tuk.	
		No.	p.c.	No.	p.c.	No.	p.c.	No.	p.c.	No.	p.c.
1	NONE	26	65	44	69	39	72	7	47	17	77
2	MINK	13	33	16	25	9	16	-		-	
3	MINK	-		2	3	-		-		-	
4	MARTEN	-		1	2	-		2	13	2	9
5	MARTEN+ MINK	1	2	-		6	12	6	40	-	
6	WHITE FOX	-		-		-		-		2	9
Ind.		-		1	2	-		-		1	5

1. Inuvik (inc. Reindeer Station)

resulted in an ESS curve which, like those of the previous analyzes, accelerated most rapidly with about fifteen groups remaining (Fig. 5-5d). At the sixth level of the hierarchy, the majority of trappers fell into the non-specialist group even in the more peripheral settlements. Of the specialist groups the largest (Group 2) was one in which mink appeared more prominently than other species indicating an orientation towards the Delta. Even for this group the quantities of mink traded were small and only two trappers from Aklavik (in Group 3) were distinguished by large mink takes. The remaining specialist

groups showed a strong emphasis on marten trapping (Group 4), a weaker emphasis on marten trapping in combination with mink (Group 5), and an emphasis on white fox (Group 6). The association between certain trapping specialities and certain settlements which was noted for previous years was still present though in vestigial form. Of the sample analyzed only two of the 22 trappers (9 per cent) from Tuktoyaktuk could be distinguished as specialist white fox trappers and two as marten trappers. In Arctic Red River eight out of fifteen trappers (53 per cent) in the sample could be regarded as marten trappers though only two of these trapped marten in larger quantities.

Where in previous seasons for a trapper not to have belonged to a specialist group generally indicated that his major trapping interest was in muskrat, this was not necessarily true in the 1963-64 seasons. As might be expected from the low trapping incomes, even muskrat takes were low for a great number of people (Fig. 5-12). Thus membership in the non-specialist group indicated

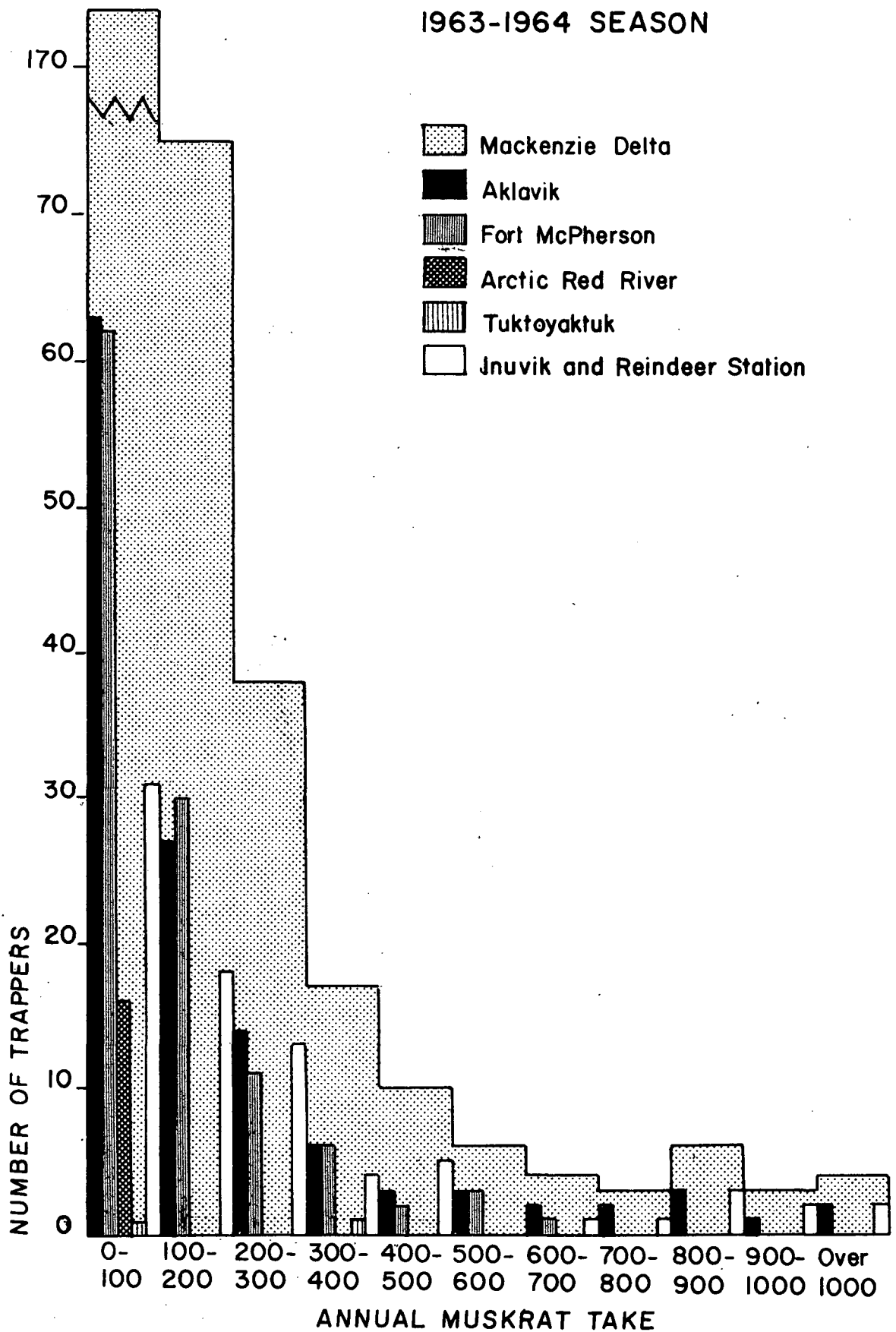


Fig. 5-12 Muskrat Takes from Mackenzie Delta Trappers, 1963-64

for many an absence of any trapping interest at all. This was especially so in Arctic Red River and Tuktoyaktuk where, unlike the previous seasons analyzed, muskrat had largely ceased to feature in the array of species trapped.

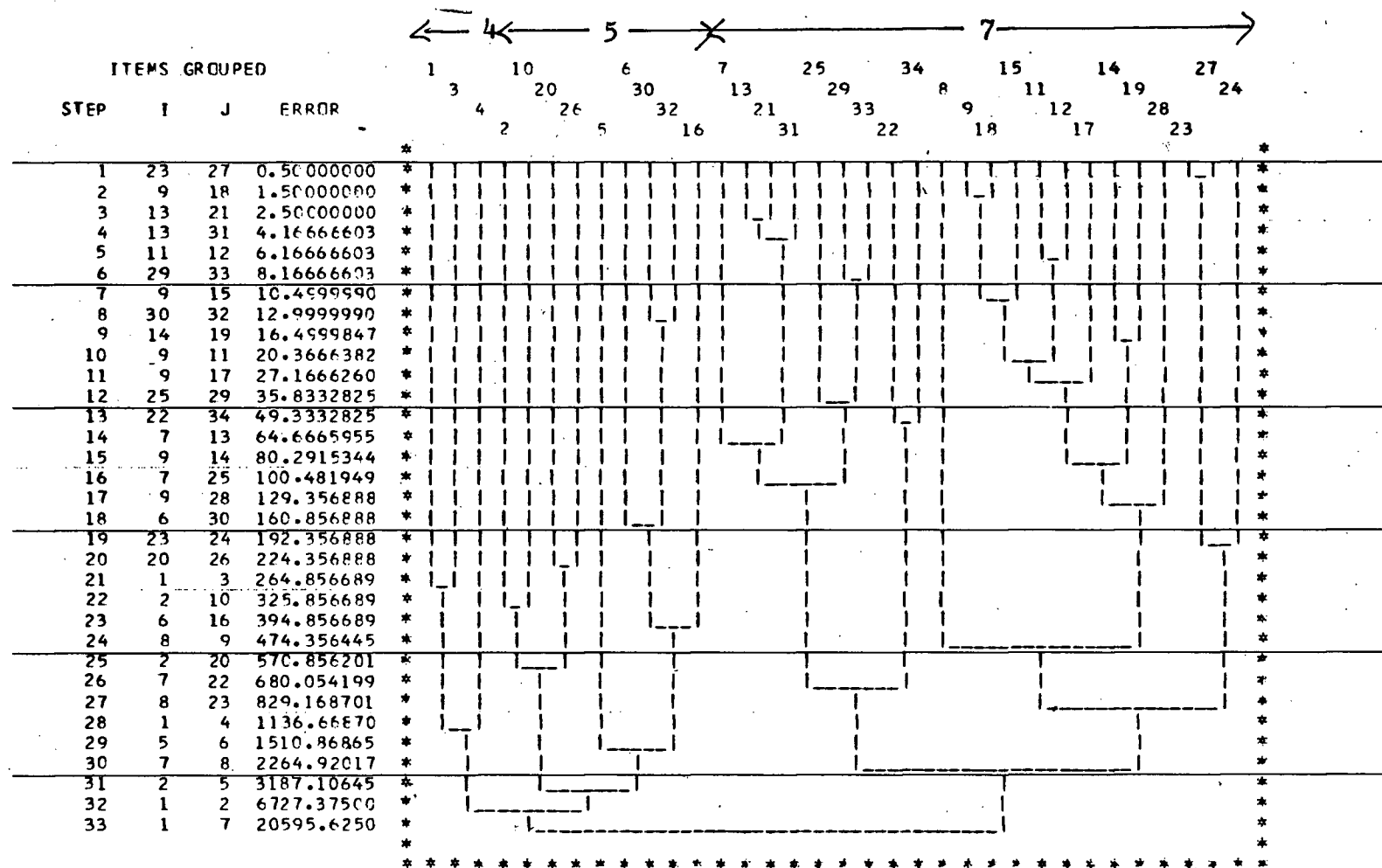
The conclusion to be drawn from this is that where in previous seasons a withdrawal from specialist trapping indicated a bias towards the Delta, and especially towards the muskrat harvest, by the mid-sixties it indicated instead a withdrawal from trapping altogether towards some alternative occupation. The extent to which alternative occupations were represented by wage employment will be considered in the following chapter.

Since the sample for the 1963-64 season was relatively small, the profiles of all trappers in each settlement were also analyzed and fitted into the taxonomy which had emerged from the gross analysis of the Delta as a whole. Thus in Arctic Red River there were found to be three trappers of the total of 33 falling into a group identified in the gross analysis as specialist marten trappers (Group 4) and nine with a weaker bias towards marten

trapping (in Group 5). The structure of the hierarchy for Arctic Red River (Fig. 5-13) indicated, by the fact that branching occurred at higher levels for the specialist than for the non-specialist group, that the former had more heterogeneous trapping profiles. Similarly in Tuktoyaktuk there were found to be eight specialist white fox trappers (in Group 6) and nine marten trappers (in Group 4) both also showing greater heterogeneity than the non-specialist group (Fig. 5-14). Therefore, in the peripheral settlements where trapping specialisms were still quite entrenched, the differences in performance among the specialists varied widely.

In Aklavik there were 31 trappers showing slightly higher takes of mink (Group 2) in addition to two who showed very high takes (Group 3). Also a further small group of three specialist marten trappers which had not appeared in the analysis of the Delta as a whole was revealed by the finer grained analysis and significantly all three members of the group were known to have trapped in the Anderson River area. In Fort McPherson

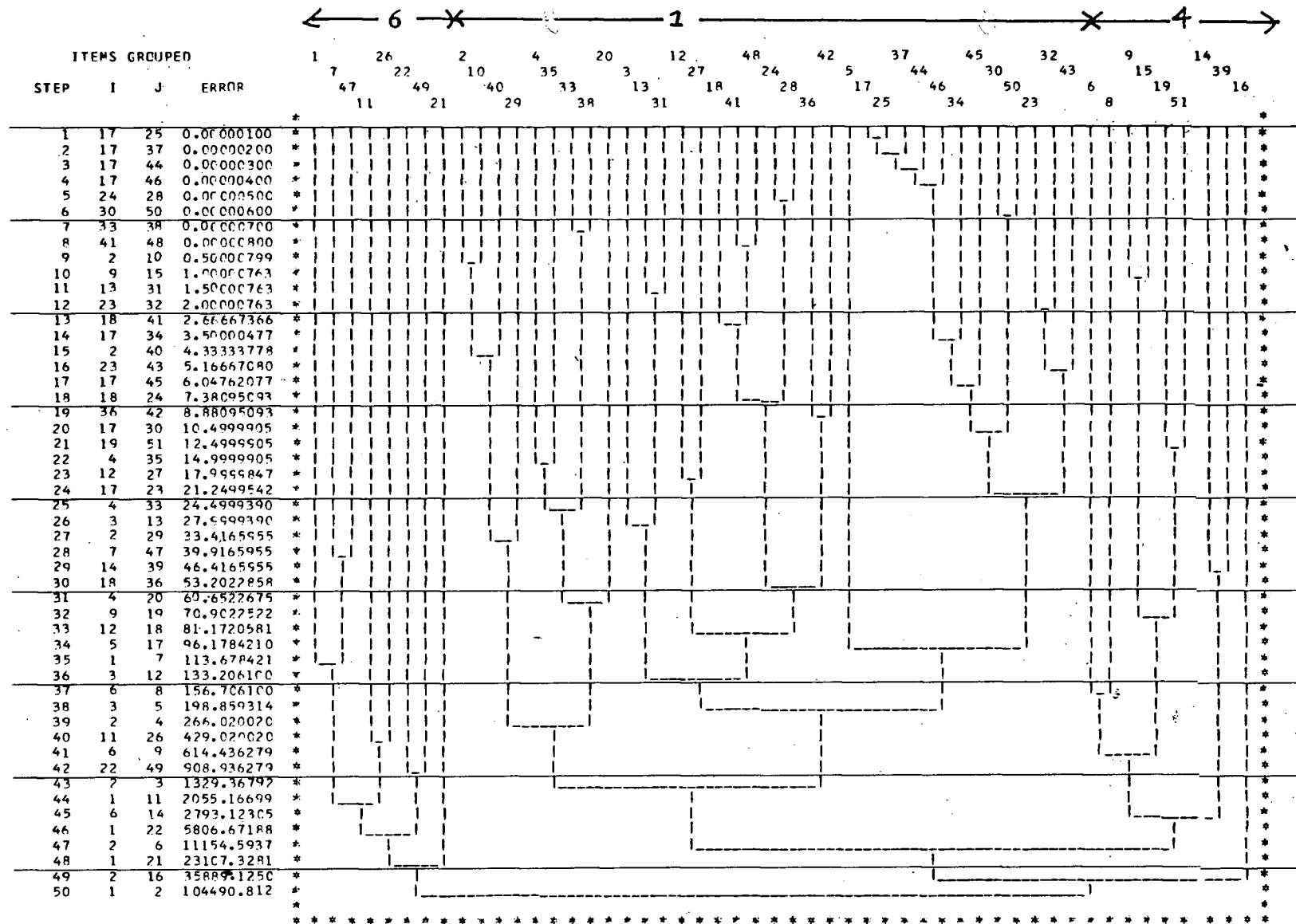
Groups from Gross Analysis



STRUCTURE OF THE HIERARCHY, ARCTIC RED RIVER 1963-64

Fig. 5-13 Hierarchical Grouping of Trapping Profiles,
Structure of the Hierarchy, Arctic Red
River, 1963-1964

Groups from Gross Analysis



STRUCTURE OF THE HIERARCHY, TUKTOYAKTUK 1963-64

Fig. 5-14 Hierarchical Grouping of Trapping Profiles, Structure of the Hierarchy, Tuktoyaktuk, 1963-1964

there were found to be fifteen trappers with a slight emphasis on mink (in Group 2) and twelve with a slight emphasis on marten (Group 5). In Inuvik and Reindeer Station, thirty-one of the trappers showed a weak emphasis on mink.

Table 5-8

Characteristic Specialist Trapping Groups, by Settlement, 1963-64

<u>Settlement</u>	<u>No. in Group</u>	<u>Percentage</u>
Arctic Red River		
(i) Marten trappers	3	9
(ii) Trappers with a bias to marten	9	26
Tuktoyaktuk		
(i) White fox trappers	8	16
(ii) Marten trappers	9	18
Aklavik		
(i) Mink trappers	2	1
(ii) Trappers with bias to mink	31	22
(iii) Marten trappers	3	2
Fort McPherson		
(i) Trappers with bias to mink	15	12
(ii) Trappers with bias to marten	12	10
Inuvik and Reindeer Station		
(i) Trappers with bias to mink	31	32

Clearly by the 1963-64 season even in the peripheral settlements the interest in trapping species from the more distant trapping areas had diminished considerably.

6. Trapping Camp Locations and Trapping Profiles

Given the declining importance of the trapping of species common outside the Delta shown in Table 5-8, muskrat assumes much greater importance as an indicator of interest in trapping in the sixties than in previous decades. Consequently muskrat was now included in the analysis of fur takes for the 1964-65 season in order to distinguish what might be termed serious trappers from those who held a general hunting licence to trap or hunt as a weekend sport. The term "serious" and "part-time" are of course relative though the concepts would be well recognized by Delta residents. Though an arbitrary distinction might be made between the two classes - in terms of income, say - the hierarchical grouping procedure allowed a more objective measure. The trapping profiles of all trappers in the three larger settlements of Inuvik,¹ Fort McPherson and Aklavik were grouped including all species and the composition

¹Including Reindeer Station.

of the groups analyzed at the level of grouping at which the greatest acceleration of the ESS curve was experienced. It was assumed that the dichotomization of trappers into "serious" and "part-time" would be indicated at this stage, at which the most unlike groups were being combined. The most rapid acceleration took place at the fourth¹ level for Inuvik and Fort McPherson, and the second for Aklavik.

Table 5-9

Grouping of "Serious" and "Part-time" Trappers in Mackenzie Delta Settlements, 1964-65

SETTLEMENT	TRAPPERS	
	"Serious"	"Part-time"
Inuvik	53 (3 Groups)	58 (1 Group)
Aklavik	22 (1 Group)	129 (1 Group)
Fort McPherson	51 (3 Groups)	71 (1 Group)

It has been suggested that one of the characteristics of trapping in the sixties in the Mackenzie Delta is that it is strongly associated with the settlements. While in the past trapping, and

¹ Excluding groups consisting of one individual.

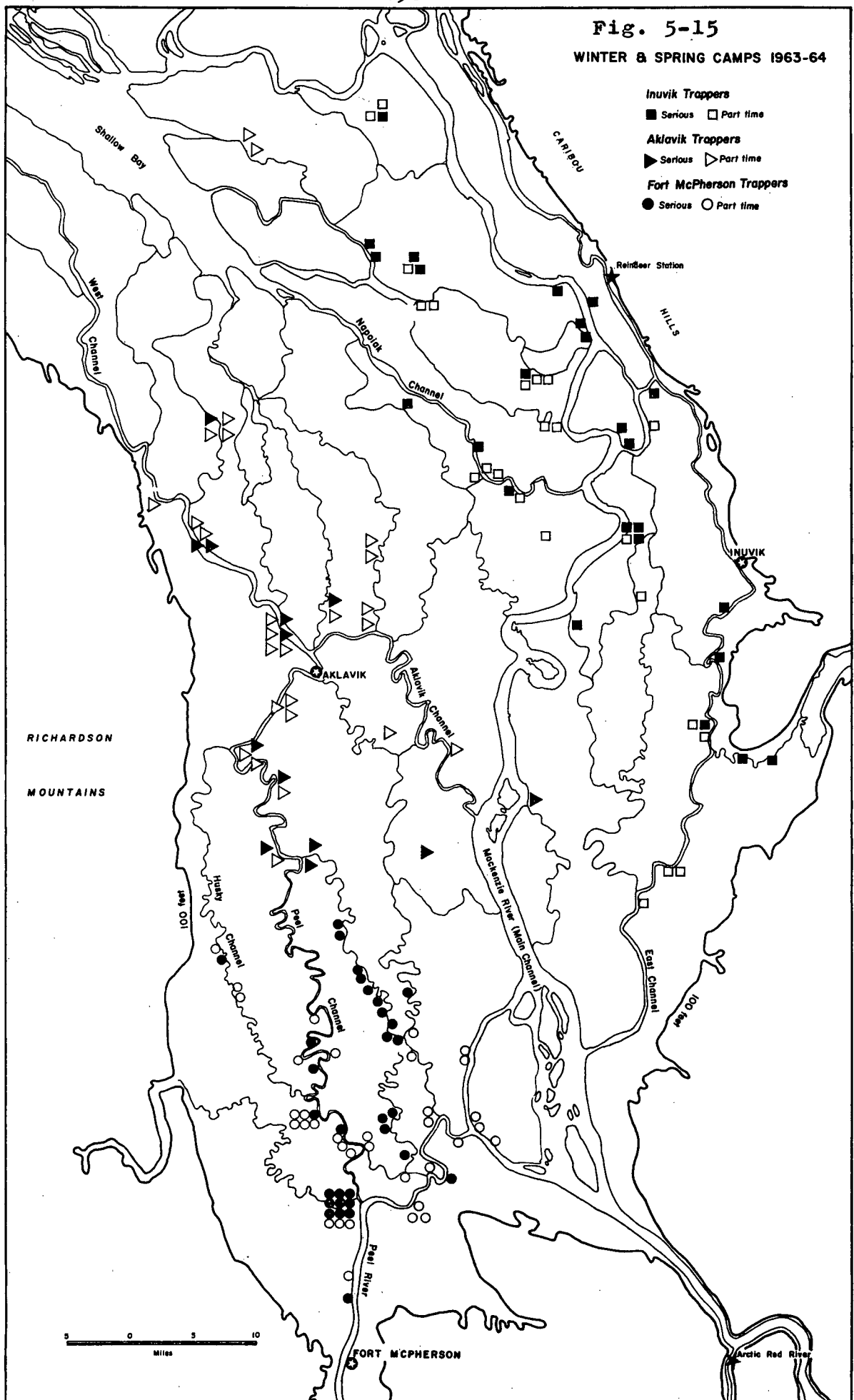
especially what has been identified as speciality trapping, involved maintaining a winter or spring camp often at some distance from the Delta settlements, this was not necessarily true in the 1960's. In order to examine the extent to which "serious" trapping was carried out from the settlements, the locations of all winter and spring camps were obtained for the 1964-65 season and plotted on a map of the Delta (Fig. 5-15).¹ Those camps occupied by trappers classified as "serious" were next identified and found to comprise a large proportion of the total. Of the "serious" Inuvik trappers, 45 per cent maintained camps, 50 per cent of those of Aklavik and 71 per cent of those of Fort McPherson.² In other words, about one half of the trappers of Inuvik and Aklavik who

¹ These were obtained by personal communication with their occupants in many cases and checked with the Game Offices at Aklavik and Fort McPherson.

² A few of the Ft. McPherson people had camps on the Peel River and are consequently not shown on Fig. 5-15.

Fig. 5-15

WINTER & SPRING CAMPS 1963-64



produced more substantial muskrat takes nonetheless did their trapping or hunting out of the settlement. That the proportion was much less for Fort McPherson may be ascribed either to the fact that the "old ways" had lasted there longer, as shown also in the previous analysis by the persistence of specialist trappers, or to the fact that the settlement is further from the better muskrat hunting areas of the Delta.

7. Conclusions

This chapter has attempted to infer from the species which trappers have offered in trade the areas which they have utilized and the ways in which these have changed over a period of some three decades. Since the Mackenzie Delta is an area of some diversity in which a number of different ecological regimes may be supported it is possible to differentiate between trappers on the basis of the array of species they trap. This is not so for many other parts of the North, where trappers engage in a uniform pattern of

trapping activity and may only be differentiated in terms of the enthusiasm and success with which they pursue it. In the Mackenzie Delta it is possible to distinguish trappers on the basis of whether they trap the Delta itself close to the settlements with minimal equipment and therefore produce an array of species in which muskrat predominates, or whether they trap more distant areas with more specialized equipment and therefore produce an array which is characterized by other more valuable fur species.

The analysis has shown that on the basis of the array of species trapped summarized as what has been termed a trapping profile, groups of specialized trappers have been characteristically associated with particular settlements. For example, beaver trapping was associated slightly with Arctic Red River in 1931-32 and much more strongly in 1940-41; marten trapping with Arctic Red River and Tuktoyaktuk in all years; and white fox trapping with Tuktoyaktuk in 1940-41 and slightly in 1950-51. Since it was known

that these species are abundant in particular areas, the settlements in which specialist trapping groups were significant could be associated with these areas. Thus during the period in question the resource utilization pattern could be conceptualized as a nodal one in which certain areas were tributary to certain settlements. It is clear however that during the period from 1931-32 to 1950-51 this nodal structure became weaker as more trappers abandoned trapping specialisms requiring them to go to more distant areas and converged upon the Delta.

In Fort McPherson and Aklavik, both easily accessible to the Delta and less accessible to more specialized trapping areas, most trappers fell into groups that were characterized by large quantities of muskrat, either appearing alone or in combination with other Delta species such as mink.

While in the early part of the period most trappers even from the more peripheral settlements produced substantial numbers of muskrat, inferring that

it was common for them to converge upon the Delta for spring "ratting", this was not so in the later part of the period. The registration of trapping areas in the Delta tended to stabilize the muskrat harvest for a while, but the construction of Inuvik was evidently a disruptive force. Many people abandoned their trapping areas to work in the new town's construction and the spatial nature of the muskrat harvest changed such that less effort was directed towards the area of the Delta closest to the construction site.

By the mid-sixties few trappers indeed were specializing in those species which could only be produced in quantity from the more distant areas, and though some specialisms could still be associated with certain settlements, this association was very weak. Most trappers from all settlements except Tuktoyaktuk now showed an orientation towards the Delta which would indicate either an emphasis on muskrat or that trapping had ceased to be important at all. The fact that muskrat takes were also low would indicate that the latter

was the case.

An objective measure of "serious" and "part-time" trapping indicated that most people trapping furs did so on a part-time basis and that their major income had to come from other sources. However, of these many still maintained camps in the Delta, and only for Fort McPherson people were the majority of camps occupied by serious trappers. This would indicate that even for those for whom trapping was no longer a viable activity, the allegiance to the land was sufficiently strong for them to follow patterns of activity associated with trapping even when these had lost whatever economic rationale they may have had. On the other hand, the allegiance to the settlements was sufficiently strong to deter them from trapping the more distant areas. The question remains whether this allegiance was expressed in simply living in the town or being incorporated into the town's economy, and this will be dealt with in the following chapter.

CHAPTER VI

INUUVIK'S EVOLVING ECONOMY: TRENDS IN
WAGE EMPLOYMENT1. Introduction

The changes within the trapping hinterland analyzed in the preceding chapter were accompanied by parallel changes in the settlements as erstwhile trappers were drawn into the wage economy. Since job opportunities have been very much greater in Inuvik than in any other settlement during the history of the Mackenzie Delta, it is not surprising that these changes have been greatest there. Indeed Inuvik may be taken as the paradigm of a new north in which the majority of native and transient people will live in an urbanized environment. The fact that most northern settlements have populations of only a few hundred people at maximum should not obscure the fact that the life styles followed in them are essentially urban. It is thus not misleading to consider the

social and cultural change occurring in the far north as concomitants of urbanization that bear some comparison with that process as it takes place in the less developed countries (cf. Breese, 1966: especially Chapter 3).

It has become almost commonplace to suggest that this process carries many problems for the Indian or Eskimo person caught up in it. Recent immigrants to urban areas in other parts of the world share these problems, which include an unpreparedness to compete successfully in the urban economy (ibid: 77), the tension felt in the conflict between the non-urban and the urban cultures (ibid: 86), and the anti-social results of these tensions which are reflected in alcoholism, crime and mental disorder, especially amongst the young (ibid: 74, 87). The fact that in the North the acculturative process involves the accommodation not only to urban values but to white urban values adds another dimension to the problem.

The first part of this study has made it clear that ethnic identity is more confused in the Mackenzie

Delta than in perhaps any other part of the Canadian North. Though over a century of ethnic admixture has produced a people in which the pure Eskimo, Indian or European strain is uncommon, nonetheless the contrasts between the person who has been raised in the Mackenzie Delta and he who has been raised outside are strong indeed. It is the latter however who represents the dominant norms and values.

Studies of recent cultural and social change in the North have noted the emergence of a typology of native peoples expressed in terms of the degree to which they exhibit at least superficial conformity to these norms and values. Fried (1964), Honigmann and Honigmann (1965), Saario and Kessel (1966) and Vallee (1967) have all drawn attention to the polarization of native people into those with a town and those with a bush orientation as a key characteristic of the social structure of northern settlements. Underlying this characteristic is what the Honigmanns (1965: 77) have called a "dual allegiance" to the land and to

the settlement, one of the aspects of which, that of the commitment towards trapping, has been considered in the previous chapter. This chapter will consider the other aspect of the absorption of native peoples into urban life in the important sector of wage employment.

In all the studies referred to above, acceptance of wage employment is considered to be a prime index of acculturation largely because it implies a number of other things for the native person, including above all the rejection of a way of life based upon the resources of the land and the severing of a number of traditionally sanctioned social and economic arrangements. The preceding chapter considered the extent to which the rejection of the bush life was reflected in changes in the spatial organization of trapping. If migration to an urban centre is seen as the result of both "push" and "pull" factors (Breese, 1966: 80), then these changes may be said to characterize the former rather than the latter. In this present chapter, the more

positive aspects of incorporation into the wage economy are considered.

The analysis which follows is based on surveys carried out in the summers of 1965 and 1968. In the first of these, all employers in the settlements of the Delta were asked for lists of their employees arranged by monthly income and ethnic status. The analysis of this data presented in a preliminary report to the Northern Coordination and Research Centre (later Northern Science Research Group) of the Department of Indian Affairs and Northern Development revealed certain generalizations and trends (Wolforth, [1966]).

With few exceptions, employment for wages was based on non-basic rather than basic activities and the exploitation of natural resources was almost entirely in the hands of private individuals working alone and generally living little above the subsistence level. Inuvik's economy in particular was very strongly biased towards those service activities

directed to the settlement itself rather than the wider region. In Inuvik the majority of permanent jobs were held by transient whites from outside the Northwest Territories and many of these, particularly in government service, seemed to have a very weak commitment to the north and often exhibited a "time-serving" attitude towards their jobs and the settlement. Those native people who were employed generally had jobs in the less skilled, lower salaried occupations and the vertical stratification of employment on an ethnic basis was a fairly widespread source of frustration among them, with social and psychological consequences which has been noted by other researchers in the area (Ervin, 1968; Lubart, 1969, 1970).

A major purpose of the later survey was to determine whether these characteristics had altered over the three year period and to indicate trends. Though confined entirely to the settlement of Inuvik, the 1968 survey was very much more detailed than that of 1965. As in the earlier survey, all employers in

Inuvik were polled, but with a questionnaire which elicited more detailed information for each employee on their payroll (See Appendix C). Though employers were not asked to identify employees by name it was possible in some cases to cross-check data with the employers themselves and to gain more detailed but impressionistic data from interviews in depth.

2. The Structure of Inuvik's Labour Force in 1968

In the summer of 1968 there were 610¹ people in Inuvik either working for wages or in private businesses on their own behalf. This represented an increase of 40 per cent over the comparable figure for the summer of 1965. In this three year period there had been some small growth in the private sector, but the largest growth had occurred in the government establishment. The functions of Inuvik had remained essentially unchanged, that of administrative and supply centre

¹ Excluding armed service personnel attached to C.F.S. Inuvik, RCMP officers and religious functionaries not working in childrens' hostels.

for the northern part of the Mackenzie District, but although no significant resource base had appeared in the period, the discovery of oil at Prudhoe Bay in Alaska and the intensification of exploration associated with the Panarctic scheme had raised expectations concerning the settlement's potential for growth, to which may be ascribed some at least of the expansion in the private sector.

Of the 598 persons working for wages in 1968, no fewer than 23 per cent were in service occupations, of whom 49 per cent were drawn from the Mackenzie Delta, 14 per cent from elsewhere in the Yukon and Northwest Territories and the remaining 37 per cent from the South. In addition, 5 per cent of the labour force were employed in managerial and official occupations, 13 per cent in professional occupations, 13 per cent in clerical occupations, 4 per cent in sales, 6 per cent in transportation, 3 per cent in skilled trades, 14 per cent in maintenance, and the remaining 17 per cent were labourers.

Like that of other northern communities the labour force was relatively young. Only 26 per cent of those employed for wages or salaries were over 40 years of age in 1968, 23 per cent were in their thirties and 37 per cent in their twenties. This characteristic was marked both for men and women. Of the 374 males in the labour force, 29 per cent were over 40 years of age, 23 per cent were in their thirties and 35 per cent in their twenties: of the 222 females, 22 per cent were over 40, 21 per cent in their thirties and 41 per cent in their twenties. This bias in the labour force toward young workers was represented by a predominance of whites in other age groups. Of all the workers in their twenties, 51 per cent were white; of workers in their thirties, 67 per cent; in their forties, 67 per cent; and in their fifties, 60 per cent. Only amongst the adolescents did native workers predominate, since 47 per cent of the teenagers in the labour force were Eskimo, 18 per cent Indian and 27 per cent Metis (Table 6-1).

Table 6-1

The Inuvik Labour Force, by Age, Sex and Ethnic Status, 1968

Age	N.R.			Whites			Eskimos			Indians			Metis			Total		
	M	F	T	M	F	T	M	F	T	M	F	T	M	F	T	M	F	T
N.R. ¹	6	1	9 ²	14	18	32	0	0	0	0	0	0	0	0	0	20	19	41 ²
10-19	0	0	0	2	2	4	12	9	21	6	2	8	9	3	12	29	16	45
20-29	0	1	1	75	38	113	32	25	57	7	16	23	15	11	26	129	91	220
30-39	0	0	0	58	33	91	18	8	26	3	6	0	10	0	10	89	47	136
40-49	0	0	0	43	19	62	14	3	17	2	2	4	7	2	9	66	26	92
50-59	0	0	0	17	13	30	6	2	8	2	3	5	3	4	7	28	22	50
60-69	0	0	0	8	0	8	3	1	4	1	0	1	1	0	1	13	1	14
Totals	6	2	10	217	123	340	85	48	133	21	29	50	45	20	65	374	222	598

311

¹ In all tables, "N.R." = not recorded.

² Including two subjects for whom sex was not recorded.

As in 1965 there were more whites than natives in the labour force. In the earlier survey it was found that 65 per cent of the labour force was white, 17 per cent Eskimo, 10 per cent Indian and 8 per cent Metis. In 1968 since the absolute number of whites had remained almost unchanged while the total labour force had expanded, the percentage of whites had dropped. In 1968, 57 per cent of the labour force was white, 22 per cent Eskimo, 8 per cent Indian and 11 per cent Metis (Table 6-2). As suggested previously (Wolforth, [1966]: 14), the white predominance in the labour force can result in the native person being regarded as a "bystander to the economic scene," resulting from his being ill-equipped by previous training to fill the majority of occupations that an administrative centre like Inuvik contains. Unlike the settlements of previous eras, Inuvik from its beginnings employed a large number of people whose jobs were not directly related to the northern milieu and many of which would appear incomprehensible to the

native person. As Fried (1964) notes, the phase of urbanization which occurred in the North after 1950 was characterized by the appearance of large numbers of white administrators, technicians, teachers and other professional people with weak grounds for social interchange with the indigenous population.

Table 6-2

Ethnic Composition of the Inuvik Labour Force,
1965 and 1968

	1965		1968	
	Number	Percentage of total	Number	Percentage of total
White	320	65 per cent	340	57 per cent
Eskimo	83	17 " "	133	22 " "
Indian	50	10 " "	50	8 " "
Metis	36	8 " "	65	11 " "
N.R.	0	0 " "	10	2 " "
	489	100 per cent	598	100 per cent

It appears then that in the three year period between the two surveys, the involvement of native peoples in wage employment had advanced somewhat. In particular while the number of employed whites and Indians has remained static the number of employed Eskimo and

Metis has increased considerably. Eskimo employment has increased 60 per cent over its 1965 value, and Metis employment 80 per cent.¹

3. The Ethnic Dimension of Employment

The structure of employment in Inuvik has a strongly ethnic dimension with whites generally in the dominant and others in the subordinate roles. Since Inuvik was conceived as a northern outpost of an almost exclusively white administrative community, it is hardly surprising that this pattern has persisted, even in the face of a growing native involvement in employment. The northerner enters the employment field

¹ Though the terms "native" and "indigenous" person are sometimes thought to carry a perjorative connotation, they are inescapable if any useful generalizations are to be made about the readily observable differences which exist within the population. In this work both terms have been used to define people who because of their ancestry may be considered native to the area whether Eskimos, Indians or Metis. The term "white" has been used to refer to all others whether they are long-term or short-term residents in the area or in the territorial North and the term "northerner" reserved for those born in the territorial North, whether of Eskimo, Indian, Metis or white ancestry. For the statistical ../..

through those occupations requiring a minimum of education and training and seldom achieves the means of becoming upwardly mobile. Thus, in 1968, 13 years after the decision to establish Inuvik had been set into motion, 86 per cent of those in managerial and official positions were from outside the Northwest Territories, plus 96 per cent of professionals and 65 per cent of clerical workers. In contrast, 79 per cent of the labourers were from the Mackenzie Delta (Table 6-3).

This factor showed a strong effect on the wage structure. In 1965, 93 per cent of all employed Eskimo persons, 82 per cent of all employed Indian persons, and 80 per cent of all employed Metis persons earned less than \$350 per month while, in contrast, 71 per cent of all employed white persons earned more than this amount (Fig. 6-1). In 1968, wages had risen generally with those of the country at large and there had been some tendency also for Eskimo,

analysis on which this chapter is based required specific working definitions are given in Appendix C.

WAGE EMPLOYMENT, BY INCOME & ETHNIC STATUS

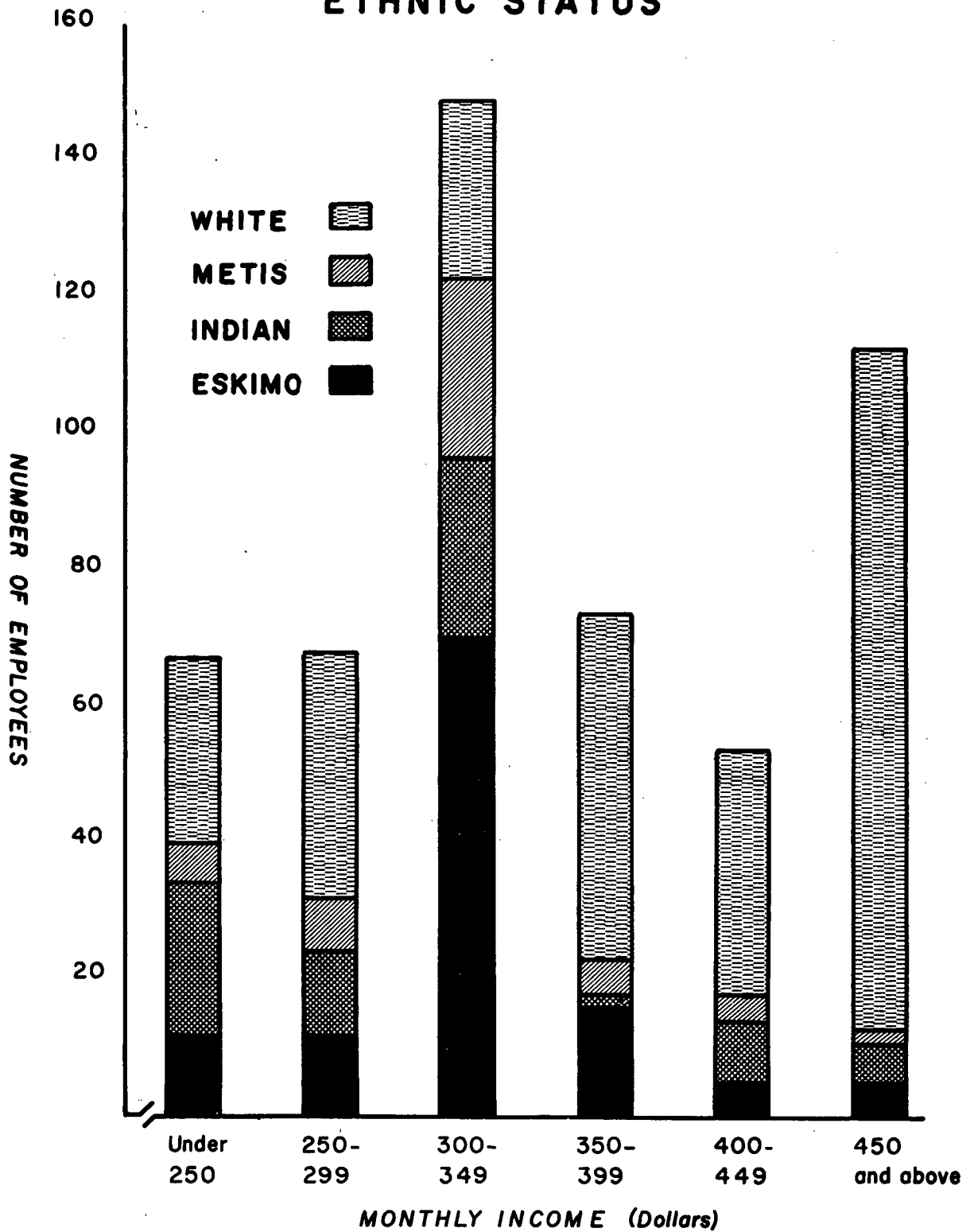


Fig. 6-1 Wage Employment by Income and Ethnic Status, Inuvik, 1965

Table 6-3.

The Inuvik Labour Force by Occupational Category and Place
of Origin, 1968.

	Mackenzie Delta	Elsewhere in NWT or Yukon	Outside the NWT or Yukon	Total
Managers, Officials	1	2	25	29
Professional	3	0	77	80
Clerical	22	5	52	79
Sales	6	0	20	26
Service	68	19	51	139
Transport	17	4	13	34
Agricultural	4	0	0	4
Skilled Trades	10	2	8	20
Maintenance	22	6	57	85
Labourers	81	8	12	102

Indian and Metis people to move into the higher salaried occupations. Even so, 64 per cent of all employed Eskimo persons and 80 per cent of all employed Indian persons earned less than \$450 per month while 69 per cent of all employed white persons earned more than this amount. Significantly, people of Metis origin seem to have been more successful in moving into the higher salaried occupations during this three year period, since 55 per cent earned more than \$450 per month in 1968 (Table 6-4).

Analysis in detail reveals other differences between and within ethnic groups. Metis men had been the most successful at moving into the more highly paid occupations, since in 1968, 58 per cent of all those employed earned more than \$450 per month, compared with 52 per cent of all employed Eskimo men, and 33 per cent of all employed Indian men (Table 6-5). Among employed women, Metis also received higher salaries than their Eskimo and Indian counterparts, though the smaller numbers make comparison less valid. Of all

Table 6-4

The Inuvik Labour Force, by Ethnic Status and Monthly Income,
(full-time employees only), 1968

		MONTHLY INCOME(DOLLARS)									
	N.R.	Less than 200	200- 250	250- 300	300- 350	350- 400	400- 450	450- 500	More than 500	Total	
White	19	0	1	1	17	25	38	12	207	320	
Eskimo	0	0	4	7	21	26	22	9	37	126	
Indian	0	1	4	2	9	10	11	1	8	46	
Metis	1	0	1	10	3	3	11	3	32	64	
N.R.	0	0	0	0	1	0	0	0	0	1	
Total	20	1	10	20	51	64	82	25	284	557	

employed Metis women, 63 per cent earned more than \$400 per month compared with 36 per cent of Indian women and 17 per cent of Eskimo women (Table 6-5). Slobodin (1966: 105) has noted that although wage employment has been characteristic for Metis people since their appearance in the Mackenzie District it has usually been in occupations connected with transportation and the fur trade, neither of which have required adherence to a rigid routine. It appears now that both male and female Metis are showing greater signs than either the Eskimo or Indian people of adjusting to wage employment in Inuvik, if the rapidity of movement into the higher salaried occupations may be taken as a valid criterion.

This of course is not due to any innate superiority based upon race, but rather upon the ability to take advantage of at least one aspect of marginality, that of being able to relate effectively to Eskimo and Indian people on the one hand and to whites on the other (Slobodin, 1966: 89). Also the clannishness

Table 6-5.

The Inuvik Labour Force, by Ethnic Status, Monthly Income
and Sex (full-time employees only), 1968.

		MONTHLY INCOME (DOLLARS)																	
N.R.		Less than 200		200- 250		250- 300		300- 350		350- 400		400- 450		450- 500		More than 500			
M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
White	1 18	0 0	0 1	0 1	0 1	2 15	15 10	15 23	6 6	164 43									
Eskimo	0 0	0 0	0 4	2 5	5 16	16 10	17 5	7 2	37 0										
Indian	0 0	0 1	3 1	1 1	1 8	5 5	4 7	1 0	6 2										
Metis	1 0	0 0	0 1	8 2	0 3	2 1	8 3	1 2	25 7										
N.R.	0 0	0 0	0 0	0 0	0 0	0 1	0 0	0 0	0 0										
Total	2 18	0 1	3 7	11 9	8 43	38 26	44 38	15 10	232 52										

sometimes exhibited by Metis people has ramifications in the employment field as at least one business activity owned by a Metis entrepreneur employed other Metis people almost exclusively. The possibility of Metis people over-reacting to an implied stigma cannot be excluded. One Metis informant, for example, recently returned from a prison sentence, refused to accept social assistance because of what he called "Metis stubbornness" and eventually acquired an excellent employment record "to show," he said, "the Regional Administrator I could do it."

4. Educational Achievement

Educational achievement has been represented in the Northwest Territories, as elsewhere in Canada, as the entree to well paying jobs. To a certain extent also it has been seen as a major remedy of the economic problems of native peoples. For example, it has frequently been assumed that with increasing educational achievement, native peoples would gradually come to

fill roles which up to the present have been filled by outsiders. The assumption of course rests on the belief that young native people who have acquired a higher education are content to return to their northern home communities. To date few native adolescents have progressed beyond Grade 12 and consequently the evidence one way or the other is slim. Of all permanent employees with a secondary education or more (283 in all) no fewer than 80 per cent were white, compared with 8 per cent Eskimo, 5 per cent Indian and 7 per cent Metis. In contrast, of all those with an elementary education or less (181 in all) 37 per cent were white, 38 per cent Eskimo, 13 per cent Indian and 12 per cent Metis.

A more detailed breakdown of the total labour force of both permanent and temporary employment (Table 6-6) shows that 56 per cent of all Eskimo employees, 42 per cent of all Indian and 45 per cent of all Metis had not proceeded beyond the elementary grades. In contrast, 89 per cent of all white employees

Table 6-6.

The Inuvik Labour Force, by Ethnic Status and Educational Achievement, 1968.

Level of Educational Achievement	White			Eskimo			Indian			Metis			Total (inc. N. R.)		
	M.	F.	T.	M.	F.	T.	M.	F.	T.	M.	F.	T.	M.	F.	T.
Nil or N.R.	36	15	51	20	3	23	6	5	11	2	3	5	64	35	100
Elementary	31	8	38	48	27	75	18	3	21	20	9	29	117	47	164
Grade 8 & 9	16	6	22	5	6	11	4	0	4	6	3	9	31	15	46
Grade 10	61	5	66	9	4	13	7	2	9	6	7	13	83	18	101
Grade 12	61	6	67	2	3	5	1	0	1	6	0	6	70	9	79
Grade 12 & Voc.	68	6	74	6	0	6	3	1	4	2	1	3	79	8	87
University	20	1	21	0	0	0	0	0	0	0	0	0	20	1	21
Total	293	47	340	90	43	133	39	11	50	42	23	65	464	133	598

had at least some secondary education. Within Inuvik, however, there was some indication that education was opening some doors for Metis people. As elsewhere in the Northwest Territories, education is the preserve of the young. Of Inuvik's labour force of 1968, 56 per cent had some secondary education and of these, 55 per cent were less than 30 years of age. For those with places of origin in the Yukon and Northwest Territories this correspondence of youth and educational achievement is even more pronounced. Although only 34 per cent had some secondary education, no fewer than 91 per cent of these were less than 30 years of age. On the other hand, practically none of the employed persons with places of origin in the territorial North and over 30 years of age had better than elementary education (Table 6-7).

People in the middle age groups were in the position of least choice since they usually lacked sufficient education even to embark on programmes of vocational training for adults, although some attempt had been made at offering upgrading programmes. For

Table 6-7:

The Inuvik Labour Force, by Age and Educational Achievement, 1968.

(a) Total Population

MAXIMUM EDUCATIONAL LEVEL ACHIEVED								
Age	N.R.	Elementary	Grade 8 or 9	Gr.10	Gr.12	Gr.12 and Voc.	Univ.	Total
N.R.	35	0	0	0	6	0	0	41
Less than 20	5	15	7	14	2	2	0	45
20-29	21	47	20	38	39	51	4	220
30-39	12	45	14	23	15	21	6	136
40-49	12	35	2	17	13	8	5	92
50-59	13	16	3	7	2	5	4	50
60-69	2	6	0	2	2	0	2	14
Total	100	164	46	101	79	87	21	598

Table 6-7

The Inuvik Labour Force, by Age and Educational Achievement, 1968

(b) People with Origins in
the NWT and Yukon

MAXIMUM EDUCATIONAL LEVEL ACHIEVED

Age	N.R.	Elemen- tary	Grade 8 or 9	Gr.10	Gr.12	Gr.12 and Voc.	Univ.	Total
N.R.	6	0	0	0	0	0	0	6
Less than 20	4	15	7	13	1	2	0	42
20-29	14	44	16	19	16	12	0	121
30-39	6	36	3	3	1	0	0	49
40-49	7	25	0	0	0	0	0	32
50-59	9	12	1	0	0	0	0	22
60-69	2	6	0	0	0	0	0	8
Total	48	138	27	35	18	14	0	280

young people still in school, or out of school for less than three years, the prospects were much better both with regard to available vocational programmes and to acquiring financial support. For those with more than a Grade 10 level of education, grants and loans were available from the Territorial Government for continuing education at institutes of technology and for those with Grade 12, at universities. For young people who had been out of school for less than three years, comparable financial support was available from the Department of Manpower subject to evidence that the skill being acquired would be useful in the current labour market. In 1968 there were ten students from the entire Mackenzie District enrolled at universities and of these, only three were not the children of outsiders (Government of the Northwest Territories, [1968]). The children of native people were making much greater use however of the programmes of vocational training in the Northwest Territories and elsewhere. For example, adolescents from the Mackenzie Delta were

being trained at various centres in the south to be secretaries, cooks, telecommunications workers, community health workers, nurses aides and electricians.

The generation of adolescents surveyed had greater opportunities for advancement than its predecessors. It was also much more open to influence from the outside, not only through the media of communication, but also through direct contact. It was, in consequence, the generation which had shown most signs of stress. In particular, a knowledge of the world outside the North combined with restricted access to it had resulted in ambivalent attitudes towards employment. Adolescents sought the rewards of the outside world, but often shunned the means of achieving them. The Honda motorcycle, the 45-horse "Kicker" and the Skidoo provided the incentive for work but often only sufficient work required for their attainment. The ethic of work and its implications was a concept which as yet had not received wide acceptance.

Adolescent boys benefitted from the relatively uncompetitive employment field which had been created in Inuvik. It was possible even for those with very little education to find jobs much more easily than it would be for their southern counterparts. Often, however, these were not "serious" jobs that could be expected to lead anywhere, even though they might be well remunerated. Since jobs were acquired relatively easily they were consequently not highly valued, a fact which was reflected in high job turnover rates for adolescent boys. That this characteristic may be shared by other northern communities is indicated by the Honigmann's study of Frobisher Bay where it was noted that at the time of the study no adolescent boy had yet succeeded in holding a steady job (Honigmann & Honigmann, 1965: 179).

5. Job Turnover

Both in 1965 and in 1968, the turnover rate among employees was unusually high, and one job might in a

period of only a few months be occupied by several workers. Employers, especially those in the government and quasi-government sectors, were tolerant of absenteeism on the whole and were generally prepared to re-employ all but the most consistent absentees. This was especially true for those jobs which did not require a high level of skills, and tended to encourage the existence of a large pool of unskilled workers who would accept a job when they needed one and leave when they had had enough. Much of the employment in Inuvik was seasonal in any case, largely due to the exigencies of climate, and to the fact that the pace of all economic activity ought to quicken in the summer months. Of the 598 employees in Inuvik in 1968, only 464 were in jobs that were regarded as permanent, of whom 276 were men and 188 women. Even among permanent employees the time spent in any one job was often very short.

In August 1968, 22 per cent of all permanent employees, 32 per cent of those from the Mackenzie Delta and 17 per cent of those from outside the Yukon

and Northwest Territories had been in the same job for less than six months (Table 6-8a). There were clear indications that job turnover was higher among Eskimo and Indian employees than among either whites or Metis. Thirty-five per cent of all permanently employed Eskimos, 33 per cent of Indians, 22 per cent of Metis and 18 per cent of whites had been in the same job for less than six months (Table 6-8b). Using the same index it would appear also that transfer was somewhat higher among women than among men for the labour force as a whole. This was accounted for by the fact that 25 per cent of the permanent female employees from outside the Yukon and Northwest Territories had been in the same job for less than six months, compared with 16 per cent of the permanent male employees. For those with origins in the Mackenzie Delta, on the other hand, the percentages were very similar: in both cases about one-third of the employees had been in the same job for less than six months.

The correlation between the amount of education

Table 6-8a.

Percentage of Permanent Employees who had been in their
Job at the Time of the Survey for less than Six Months,
by Sex and Place of Origin, 1968.

	<u>Place of Origin</u>			
	<u>Mackenzie Delta</u>	<u>NWT & Yukon</u>	<u>Outside</u>	<u>Total</u>
All Employees	32.2	22.2	17.0	22.4
Males Only	31.5	27.8	16.0	19.4
Females Only	33.3	16.7	25.2	27.1

Table 6-8b.

Percentage of Permanent Employees who had been in their
Job at the Time of the Survey for less than Six Months, 1968.

(i) By Sex and Ethnic Status

	White	Eskimo	Indian	Metis	Total
All Employees	17.4	34.5	33.3	21.4	22.4
Males Only	12.8	36.8	28.6	16.0	19.4
Females Only	24.8	30.3	36.0	23.5	27.1

(ii) By Education and Ethnic Status¹

Elem. Educ.	20.9(14)	30.9(16)	33.3 (8)	13.7(3)	26.0 (46)
	16.4(37)	45.5(5)	33.3 (5)	30.0(6)	20.5 (58)

¹ Figures in brackets indicate absolute numbers.

received and attitude towards work has been noted elsewhere. Stevenson (1968: 8), for example, states that, with respect to employment on the Great Slave Lake Railway:

"Eskimo men with grade school education only, seem to form two categories: Those with grade eight or higher indicate a greater awareness and anticipation of the benefits to be derived from wage labour. They include men with vocational training as well as those without this added benefit. The second category includes those with less than grade eight (again including those with vocational training). This group displayed the greatest degree of dissatisfaction with both the work and social conditions."

Whether this will be the case with employment in Inuvik remained to be seen, since few native people with any secondary education had yet entered the labour force. The fact that 46 per cent of Eskimo employees with some secondary education had only been in the same job for six months compared with 31 per cent of those with no secondary education, 33 per cent of Indians with some secondary education compared with 33 per cent with none, 30 per cent of Metis employees with some secondary education compared with 14 per cent with none;

all of these may probably be ascribed both to the very small absolute figures (Table 6-8b) and to the recent graduation of almost all native adolescents with any high school training. For the labour force as a whole, there were clear indications that the attainment of some secondary education affected job turnover: 26 per cent of all those permanent employees with no secondary education had been in the same job for less than six months compared with 21 per cent of those with some secondary education.

Of course there are employees from each ethnic group who have been in their same job for some length of time. In August 1968, 40 per cent of those with origins in the Mackenzie Delta had been in the same job since 1966, and 43 per cent of those with origins outside the Yukon and Northwest Territories (Table 6-9). However, the fact that an unusually large number of workers seemed to have a very weak commitment to a particular job is part of an unfortunate syndrome. With only a brief experience of a certain job, a worker was unlikely

Table 6-9.

The Permanent Inuvik Labour Force, Duration of Employees in
the Job Occupied at the Time of the Survey, 1968.

Place of Origin of Employees

Length of Time in Job	Mackenzie Delta		NWT and Yukon		Outside		Total	
	No.	Per Cent	No.	Per Cent	No.	Per Cent	No.	Per Cent
0- 4 months	35	23.0	8	22.2	38	13.8	85	17.5
5- 8 months	26	17.1	1	2.8	27	9.8	54	11.6
9-12 months	8	5.3	0	0	20	7.3	28	6.0
13-16 months	18	11.8	4	11.1	32	11.6	54	11.6
17-20 months	5	3.3	3	8.3	16	5.8	24	5.2
21-30 months	14	9.2	7	19.4	42	15.2	63	13.6
Between 2.5 and 3.5 yrs.	13	8.6	3	8.3	23	8.3	39	8.4
Between 3.5 and 4.5 yrs.	4	2.6	2	5.6	14	5.1	20	4.3
Between 4.5 and 5.5 yrs.	8	5.3	1	2.8	9	3.3	18	3.9
Between 5.5 and 6.5 yrs.	8	5.3	3	8.3	4	1.5	15	3.2
Between 6.5 and 7.5 yrs.	4	2.6	2	5.6	6	2.2	12	2.6
Between 7.5 and 8.5 yrs.	5	3.3	1	2.8	2	0.7	8	1.7
More than 8.5 yrs.	4	2.6	1	2.8	18	6.5	23	5.0
Total	152	100.0	36	100.0	276	100.0	464	100.0

to gain the skills which would make it possible for him to be promoted or even to gain a sense of satisfaction from doing a specialized job well. There was thus very little inducement for him to stay should alternative opportunities arise. That there was a growing commitment for wage employment is indicated by Fig. 6-2, however. Of those employees who had entered the job they held in August 1968 since 1966, a somewhat larger percentage in both groups - those with origins in the Mackenzie Delta as well as those with origins outside the Yukon and Northwest Territories - did so between May and August of the preceding year than at any other time. This may be taken as small indication that some at least in the former group, who took advantage of the greater availability of summer wage employment did not quit their jobs at the end of the summer as has often been the custom in the past.

Fig.6-2 LENGTH OF TIME IN CURRENT JOBS OF INUVIK

EMPLOYEES

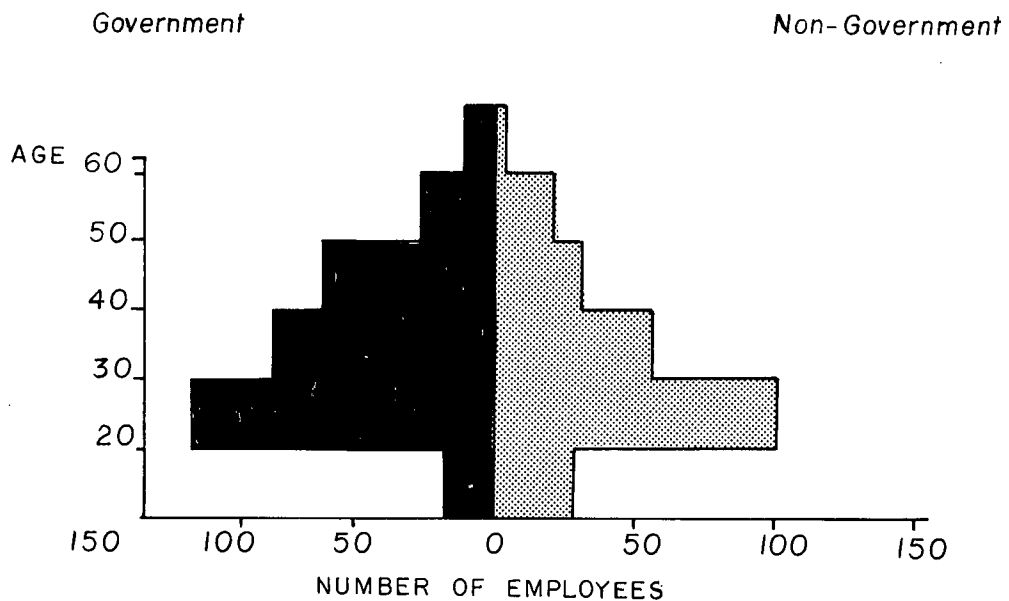
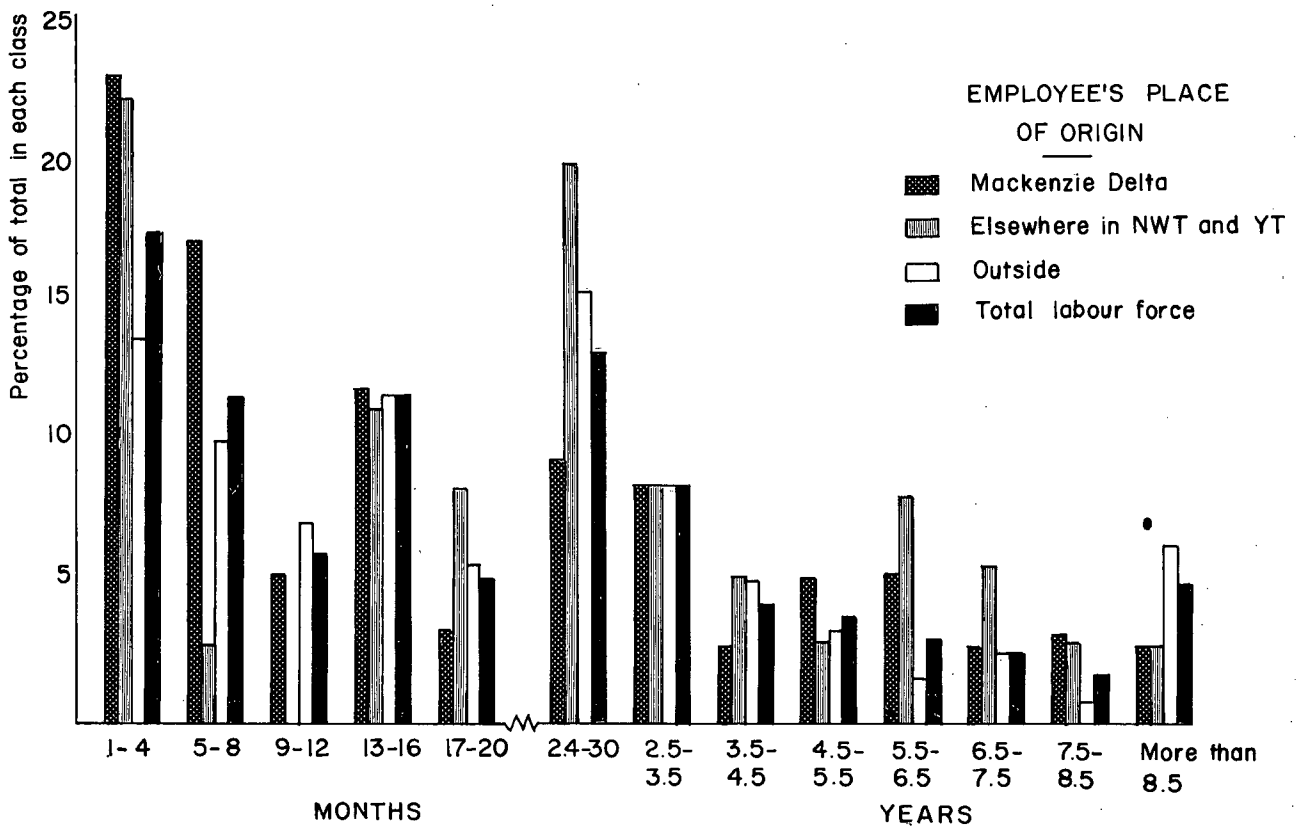


Fig. 6-3 AGE STRUCTURE OF THE LABOUR FORCE, 1968

6. Employment in the Government Sector

Employment in the government sector did not change appreciably between 1965 and 1968 either in numbers or in the distribution of employees among the various government departments. In both years the major share of employment was accounted for by two departments alone (Table 6-10), the policies of which have therefore tended to influence the total structure of government employment, and indeed of the unemployment in all sectors. The Department of Northern Affairs and National Resources and its successor, the Department of Indian Affairs and Northern Development explicitly favoured the native employee as much as was consistent with efficient operation. The Department of National Health and Welfare, though not as firmly committed to this policy, also tried to employ as many native people as possible.

Notwithstanding this, the proportions of native employees in both government departments, and consequently in the government labour force as a whole,

Table 6-10

Employment in Government Departments in Inuvik, 1965 and 1968

Government Dept.	1965					1968				
	W	E	I	M	T	W	E	I	M	T
North. Aff. and Nat. Devt. ¹	43	58	15	28	144	-	-	-	-	-
Citizenship and Immigration	3	-	-	-	3	-	-	-	-	-
Ind. Aff. and North. Devt. ¹	-	-	-	-	-	57	40	5	22	124
Nat. Health and Welfare	75	12	11	1	99	78	19	11	5	113
Public Works	6	-	-	-	6	4	8	-	2	14
Transport ²	23	-	1	-	24	19	1	-	1	21
National Defence ³	-	1	1	2	4	1	4	-	-	5
Research Laboratory	3	-	1	-	4	4	1	3	-	8
Post Office	2	-	-	-	2	4	-	-	-	4
RCMP ³	3	-	-	1	4	3	2	-	1	6
CBC (CHAK)	2	1	2	2	7	9	1	-	1	11
Can. Wild Life Service ⁴	2	-	-	-	2	4	4	-	-	8
Totals	162	72	31	34	299	183	80	19	32	314
Percentage	55	24	10	11	99	59	25	6	10	99

¹ Excluding teachers both for NA and NR and for IAND, but including employees of the government laundry in both cases.

² Airport, Meteorological and Radio Divisions.

³ Civilian personnel only.

⁴ Including Reindeer Herders in 1968.

diminished slightly between 1965 and 1968. Forty-five per cent of government employees were non-white in 1965 and only 41 per cent in 1968 in spite of a small increase in the total government employment. Although all government departments had a number of unskilled positions to fill, and generally did so from the pool of local labour, many jobs required a level of skill and training which had not yet been acquired by native people.

It was noted in 1965 that differences in income according to ethnic status could be observed in government service as in other branches of the economy. In 1968 also this was true, though as in the earlier survey the differences were due to this lack of skills rather than a discriminatory attitude on the part of government departments. On the contrary, most government departments seemed to be sensitive to the need to produce parity of white and native wage levels and were generally prepared to make greater accommodation to the Eskimo, Indian or Metis employee than they would

to their white counterpart. Even so, the de facto distinction between the wage and salary levels of native and white employees noted in 1965 existed also in 1968 (Table 6-11).

In August 1968 there were 314 government employees in Inuvik of whom 302 were classed as full time. Of these, 59 per cent were white, 25 per cent Eskimo, 6 per cent Indian and 10 per cent Metis. As for the labour force as a whole, a preponderance of the white employees was to be found in the higher salaried occupations. While 76 per cent of the whites earned more than \$450 per month, 55 per cent of the Eskimos, 79 per cent of the Indians, but only 35 per cent of the Metis, earned less than this amount.

Managerial, official and professional occupations were filled almost entirely by those from outside the Yukon and Northwest Territories though 29 per cent of the clerical workmen and 50 per cent of the service workers in government employ were from the Mackenzie Delta, most of them women. As for the labour force as

Table 6-11.

Full-time Government Employees, by Ethnic Status and
Monthly Income, 1968.

	Less than \$250		\$250- \$300		\$300- \$350		\$350- \$400		\$400- \$450		Over \$450		Totals	
	Per No.	Cent	Per No.	Cent	Per No.	Cent	Per No.	Cent	Per No.	Cent	Per No.	Cent	Per No.	Cent
White	0	0	0	0	12	7	9	5	21	12	135	76	177	100
Eskimo	0	0	2	3	13	17	13	17	13	17	34	45	75	100
Indian	3	16	1	5	3	16	3	16	5	26	4	21	19	100
Metis	0	0	0	0	2	6	2	6	7	23	20	65	31	100
Totals	3	3	3		30		27		46		193		302	

a whole, however, more local people fell into the "labourer" class than into any other (Table 6-12). It is one of the assumptions of northern policy at least insofar as it is articulated at the local level, that northerners should be drawn increasingly into the labour force and particularly into its higher echelons. The signs that this policy is reaching fruition were weak indeed in both 1965 and 1968 since the majority of native people either occupied subordinate positions in government employment, or no position at all. Unfortunately for the many northerners, the jobs which are becoming available in the North are precisely those for which their training fits them least and the number of models to which most may reasonably aspire are few.

Earlier in this chapter it was suggested that in the North, as elsewhere in Canada, education is represented as the panacea which will forward the assimilation of native peoples into the wider society. In the Mackenzie Delta it is often assumed by the administration that young native people with secondary

Table 6-12.

Government Employees, by Occupational Category and
Place of Origin, 1968.

Category	<u>Place of Origin</u>											
	Mackenzie Delta			Elsewhere in NWT & Yukon			Outside NWT & Yukon			Total (Inc. N.R.)		
	M.	F.	T.	M.	F.	T.	M.	F.	T.	M.	F.	T.
Manager, Official	0	0	0	1	0	1	8	0	8	9	0	10
Professionals	1	1	2	0	0	0	29	33	62	30	34	64
Clerical Workers	4	11	15	1	2	3	10	24	34	15	37	52
Sales Workers	0	0	0	0	0	0	0	0	0	0	0	0
Service Workers	7	28	35	5	3	8	9	17	26	21	48	70
Transport Workers	5	1	6	1	0	1	7	0	7	13	1	14
Agricultural Workers	4	0	4	0	0	0	0	0	0	4	0	4
Skilled Tradesmen	4	0	4	2	0	2	3	0	3	9	0	9
Main tenance Workers	7	0	7	2	0	2	22	0	22	31	0	31
Labourers	44	4	48	4	4	8	3	1	4	51	9	60
Totals	76	45	121	16	9	25	91	75	166	183	129	314

and post-secondary education will increasingly come to fill these occupations which at present can only be filled by transient whites. The level of educational attainment amongst government employees is an indication that this was not an unreasonable goal, since these levels were not particularly high. They were however beyond the present reach of most native people in the Mackenzie Delta. Of the total government labour force in 1968, 61 per cent had attained an education beyond the elementary level, but of these only 24 per cent had places of origin in the Yukon and Northwest Territories. In contrast, only 50 per cent of the employees in the non-government sector had an education beyond the elementary level, but of these 35 per cent were from the Yukon and Northwest Territories (Table 6-13). It would seem then that opportunities for those with little education were less in the government than in the non-government sector and that, moreover, the latter seems to be attracting a greater proportion of those native northerners who have acquired some secondary education.

Table 6-13.

Educational Levels of Government and Non-Government Employees,
by Place of Origin, 1968.

Maximum Educational Level	Government		Non-Government	
	Place of Origin ¹		Place of Origin ²	
	NWT & YT	Outside	NWT & YT	Outside
Nil or N.R.	13	1	35	48
Elementary	88	19	50	7
Grade 9	15	16	12	3
Grade 10	14	35	21	31
Grade 12	14	37	4	24
Grade 12 & Voc.	2	41	12	32
University	0	17	0	4
Total	146	166	134	149

¹ Place of origin not known for 2 employees.

² Place of origin not known for 1 employee.

As in the labour force as a whole the majority of those with a post-elementary education were to be found among the younger employees, especially in the case of native people. Of the 45 government employees from the Yukon and Northern Territories with more than an elementary education, all but 5 were less than 30 years of age. In contrast, of the 146 employees from outside the Yukon and Northwest Territories with more than an elementary education, only 56 were less than 30 years of age. The age structure of the labour force of both the government and non-government sectors were similar since both employed a fairly large proportion of persons under 30 years of age (Fig. 6-3). For the government sector, however, this was slightly less, due to a preponderance of young native northerners, than it was in the non-government sector. Twenty-eight per cent of government employees from outside the Yukon and Northwest Territories were less than 30 years of age compared with 52 per cent of the native northerners. In contrast, 23 per cent of the non-government employees from outside

Table 6-14.

The Age Structure of the Labour Force, 1968.

Employees	Less than 20	20-29	30-39	40-49	50-59	Greater than 60	N.R.
Government ¹	17	118	79	61	27	10	2
A. NWT & YT	16	59	32	21	12	6	-
B. Outside	1	59	47	40	15	4	-
Non-Government ¹	28	102	57	31	23	4	39
A. NWT & YT	26	62	17	11	10	2	6
B. Outside	2	40	40	20	13	2	32
Total	45	220	136	92	50	14	41
A. NWT & YT	42	121	49	32	22	8	6
B. Outside	3	99	87	60	28	6	32

¹ The place of origin was not known for 2 government employees and one non-government employee.

the Yukon and Northwest Territories were less than 30 years of age compared with 67 per cent of the native northerners. This would seem to indicate then that young native northerners are being attracted more strongly into the non-government than the government sectors of employment.

7. Employment in the Non-Government Sector

In the period from 1965 to 1968 almost the entire growth in employment in Inuvik had been accounted for by what has been referred to as the non-government sector. Strictly speaking, this refers to all activities which are not directly under the control of a department of the federal government - an assemblage of enterprises under the control of private individuals and companies, religious establishments, crown corporations, and levels of administration other than the federal.¹ In all,

¹ These were considered separately from agencies of the federal government since their hiring practices are different, and they were for the most part concerned more directly with providing services for the settlement rather than the wider region. The distinction was in some respects arbitrary however.

there were 284 jobs in this sector of which 191 were occupied by men and 93 by women. Of this total, 56 per cent were white, 19 per cent Eskimo, 11 per cent Indian and 12 per cent Metis. In contrast, in 1965 only 27 per cent of the labour force in this sector were accounted for by non-whites. Although there has been considerable growth in employment in the non-government sector, it appears to have been balanced among each of the major economic activities. Both in 1965 and in 1968, transport and communication accounted for 17 per cent of the employment in this sector and retail trade service activities for 36 per cent. A gain in the relative share of the construction industry had been offset by a fall in that of public utilities and the hostels (Table 6-15). The major change however had been in the proportion of non-white employees in all branches, but especially in those branches whose growth had been greatest. From employing almost no non-whites in 1965, the transport and communications industry had 57 per cent of its labour force in this

Table 6-15

"Non-Government" Employers in Inuvik, 1965 and 1968

	<u>Numbers Employed¹</u>									
	1965 ¹					1968 ¹				
	W	E	I	M	T	W	E	I	M	T
<u>Public Utilities etc.</u>										
Village of Inuvik			NA			2	5	1	-	8
N.C.P.C. ²	26	3	10	-	39	31	3	11	2	47
<u>Transport and Communications</u>										
Arctic Transportation	4	-	-	-	4	1	3	-	15	19
Bruno Taxi	2	-	-	-	2			NA		
C.N. Telecommunications	3	-	-	-	3	5	1	-	1	7
N.T.C.L. ³	3	1	-	-	4	7	3	-	-	10
Northward Aviation			NA			6	-	-	-	6
P.W.A. ⁴	7	-	-	-	7	3	-	-	-	3
G.N.A. ⁵	3	-	-	-	3	4	2	-	-	6
Reindeer Air Service	-	1	-	-	1	4	1	-	1	6
Douglas Trucking	1	1	-	-	2			NA		
<u>Construction</u>										
Poole Construction	None were in existence in 1965 although some contracting was done by firms listed in other categories					5	3	1	-	9
Masons Painters						5	-	-	1	6
Mackenzie Delta Constr.						4	1	1	-	6
Arctic Painting						4	-	2	1	7

¹ Excluding owners.² Northern Canada Power Commission.³ Northern Transportation Company Limited.⁴ Pacific Western Airlines.⁵ Great Northern Airways.

Table 6-15 (continued)

	1965					1968				
	W	E	I	M	T	W	E	I	M	T
<u>Retail Service</u>										
Imperial Oil	5	-	-	-	5	4	-	-	-	4
North Star Service	1	-	-	-	1	6	4	-	1	11
Topps Fine Foods)	12	1	2	-	15	3	3	1	1	8
Mackenzie Hotel)						14	3	2	2	21
Rec. Hall	5	-	-	3	8	2	1	-	-	4 ⁶
Inuvik Devt. Corp.)						6	-	-	-	6 ⁶
Hudson's Bay Co.	15	-	-	-	15	19	2	3	3	32 ⁶
Craft Shop			NA			-	2	2	1	5
Semmler's Gen. S.	-	2	-	-	2	-	2	-	-	2
Territorial Liq. S.	1	1	-	-	2	1	1	-	-	2
Nanook Beauty S.	1	-	-	-	1			NA		
The Drum			NA					NA		
Canadian Imp. Bank	4	-	-	-	4	6	-	-	1	7
Tuk Traders	1	1	-	-	2			NA		
<u>Hostels</u>										
Grollier Hall	13	2	4	-	19	8	6	4	2	20
Stringer Hall	6	7	3	-	16	10	8	3	-	21

⁶ Ethnic status of remainder not established.

category in 1968, while the retail trade and services industry also increased the share of non-whites in its labour force from 16 per cent to 34 per cent. It was noted in 1965 that private employers were more reluctant than government departments to employ potentially unreliable and untrained native people (Wolforth [1966] : 48). This characteristic seemed to have been reversed in 1968, though the same attitudes were expressed by private employers on hiring native people.

In contrast with the government sector, the non-government had fewer jobs requiring a high level of skills. While 37 per cent of those in the government sector required professional or clerical training, for example, only 15 per cent of those in the non-government sector did so (Table 6-16). Consequently a smaller proportion of the jobs in the government than in the non-government sector were open to the generally less trained native person. In addition however the distinction between the relatively well paid transient "white-collar worker" was often not as

Table 6-16.

Government and Non-Government Employment, by Occupational Category, 1968.

Category	Government Employment	Non-Government Employment	Total Employment
Managers, Officials	3.2 per cent	7.0 per cent	4.9 per cent
Professionals	20.4 "	5.6 "	13.4 "
Clerical Workers	16.6 "	9.5 "	13.2 "
Sales Workers	-	9.2 "	4.4 "
Service Workers	22.3 "	24.3 "	23.2 "
Transport Workers	4.5 "	7.0 "	5.7 "
Agricultural Workers	1.3 "	-	0.7 "
Skilled Trades	2.9 "	3.9 "	3.3 "
Maintenance	9.9 "	19.0 "	14.2 "
Labourer	19.1 "	14.8 "	17.1 "
Absolute Totals	(314)	(284)	(598)

clearly marked among non-government employment as among government employees, which made the former more attractive to the native employee. Not only did he not appear to be in as subordinate a position but often his actual chances for material advancement were greater, since they did not depend to the same extent on the attainment of paper qualifications. The same disparity in incomes did however exist in the non-government sector as in the government sector. Of those full-time employees earning over \$500 per month, 77 per cent were white compared with 71 per cent in the government sector. In contrast, in the non-government sector, 82 per cent of the Eskimos, 85 per cent of the Indians and 65 per cent of the Metis earned less than this amount. (Table 6-17).

8. Summary and Conclusions

In the three years separating the surveys on which this chapter has been based, Inuvik's primary function had remained relatively unchanged: the

Table 6-17.

Full-time Non-Government Employment by Ethnic Status and
Monthly Income.

		MONTHLY INCOME (DOLLARS)								Total
	N.R.	Less than 200	200- 250	250- 300	300- 350	350- 400	400- 450	450- 500	More than 500	
White	19	0	1	1	5	16	17	2	82	143
Eskimo	0	0	4	5	8	13	9	3	9	51
Indian	0	1	1	1	6	7	6	1	4	27
Metis	1	0	1	10	1	1	4	3	12	33
Total	20	1	7	17	21	37	36	9	107	255

majority of its employment was still in occupations which served the settlement itself and the wider region which it administered. Although the signs were more promising in 1968 than in 1965 that the North was in some respects approaching the point of economic take-off due to increased activity by the petroleum industry, no employment had been created in Inuvik as a direct response to new primary resources. On the contrary, the numbers engaged in serious trapping had declined still further and although there had been a brief experience with commercial fishing, this had not been sustained. Inuvik was in 1968 as in 1965 a service centre par excellence.

Changes in the settlement's economy were discernible, however, the greatest being a relative shift away from government towards non-government employment. To a very small extent this had been accounted for with the relinquishment by the Federal Government of certain functions, for example, that of the administration of the settlement itself. To a much greater extent,

however, it was the result of an independent growth of non-government activities, and an economic climate which appeared to be more optimistic for private investment. New economic activities, particularly in the transportation and construction industries contributed to an increase in wage employment in the settlement by almost one-half of its 1965 value.

Though there was still some justification in 1968 for the observation that the role of the native person in Inuvik was that of bystander to the economic scene, it was possible to observe a far greater involvement of native people, and especially young native people, in wage employment in the non-government sector. Since employment opportunities in this sector were relatively unattractive to the worker from southern Canada, there had not been a substantial movement of white transient workers into the settlement as there had into other northern settlements in the past. For the white person not employed by the Federal Government, the amenities of the settlement were also less attractive. As a

consequence, any growth in employment which took place was largely accounted for by native peoples.

The local entrepreneur did not exhibit in 1968 any less favourable attitude toward native employment than in 1965 since his view was still that the native employee had not learned reliable work habits. In fact, the native person's increasing familiarity with wage employment had diminished the validity of this claim. A greater number of Eskimos, Indians and especially Metis persons had adopted wage employment as a way of life, rather than an occasional occupation in 1968 than in 1965. This was especially true for young people who had gained a general or vocational education, though job turnover was still very high among this group.

Even for those who were actually employed in 1968, and therefore included in the survey, there were distinct differences in attitude towards wage employment as well as observed behaviour which reflected the same process of polarization noted elsewhere in the

literature (Ervin, 1968; Fried, 1964; Honigmann and Honigmann, 1965; Saario and Kessel, 1966). On the one hand, the relatively highly acculturated town-dwelling native person held a permanent, full-time, well-remunerated job which he or she had occupied for several years. Often such people were active in community associations (Mailhot, 1968) and were purchasing a home through the InnuIt Housing Cooperative (cf. Honigmann and Honigmann, 1965: 24). On the other hand, a large number of native people seemed to regard a job as a resource to be exploited in order to gratify a transient want. Members of this group occupied the jobs which were less well-remunerated and often demeaning. They rarely stayed in one job long and even though they had abandoned the bush life, displayed only a very weak commitment to living in the settlement.

In the previous chapter it was observed that there still remained a strong allegiance to the land expressed in the persistence of part-time bush

activities, particularly spring ratting. It was clear however that this was no longer an economically viable activity though many people continued to cling to it as a way of life, even to the extent of maintaining camps in the Delta. The major effect of the establishment of Inuvik had not been the complete abandonment of the bush in favour of the town but rather a reorientation of bush activities to take account of both the decreasing profitability of trapping and the desire to be close to the enhanced amenities of the urban centre. This chapter has addressed itself to the degree of involvement of native people in the activities of the settlement in the important sector of wage employment, and its conclusions also would seem to support the hypothesis that a dual allegiance is felt to the land and to the town. Though there was without doubt a group in Inuvik which had fully accepted wage employment and the changes in life style which accompanied it, there were also those whose allegiance to the town was weak.

Perhaps the most outstanding characteristic of wage employment in 1968 as in 1965 was the relative disparity in incomes between white and native persons. If income is used as a measure of status as it often is in western society (cf. Reiss, 1961: Chapter IX), then the native employee occupies a lower status role than his white counterpart and this perhaps more than any other single factor, is a root of potential conflict in the settlement. The higher salaried "white-collar" occupations which predominate in Inuvik, especially in the government sector, cannot even now be filled by native people since they are in categories for which native people have not yet been trained. The civil service community in Inuvik was staffed initially by transients from outside the region, and this pattern has persisted. Consequently, a transient, white, middle class community has been superimposed upon an existing society and has imposed its values upon it. Problems of assimilation could undoubtedly

have been less intense had the transient white population been of largely working class status. In order to be accepted into the now quasi-permanent dominant white community in Inuvik, the Eskimo, Indian or Metis person has to cross class as well as ethnic barriers: it is not therefore surprising that so few are able to do so and that when they do it is in a spirit of self-depreciation or of covert hostility towards those they wish to join.

CHAPTER VII

SUMMARY AND CONCLUSIONS

According to a number of writers (Fried, 1964; Saario and Kessel, 1966; Vallee, 1965), a characteristic feature of the native populations of northern settlements is their dichotomization between land-based and town-based types. This concept was aptly expressed by Honigmann and Honigmann (1965) as a dual allegiance felt by the inhabitants of Frobisher Bay to land and to town. It was clear from the work of other researchers in the Mackenzie Delta (Smith, [1967]; Ervin, 1968) that similar polarities existed there, especially in the new planned settlement of Inuvik even though the population, unlike that of Frobisher Bay, was drawn from different ethnic stocks and had a long history of culture contact. The present study has as its major objectives the

tracing of changes in spatial organization of the people who are presently experiencing the full impact of urbanization in the Mackenzie Delta, and the determination of the consequences for resource utilization patterns resulting from the present divided allegiance between land and town.

The Development of "Dual Allegiance"

The origins of the Mackenzie Delta community are far from simple though the major indigenous ethnic components are the descendents of Kutchin Indians and Mackenzie and Alaskan Eskimos who in the pre-contact era existed as distinct bounded units. Barth (1969) has suggested ways in which ethnic boundaries may be maintained which help to conceptualize the processes at work in the Delta. In the present day Mackenzie Delta community the boundaries between the Eskimo, Indian and Metis peoples have not persisted except in vestigial form; in the pre-contact period, however, the Kutchin and the Mackenzie

Eskimos were quite separate from one another because each people followed a different ecological regime.

This study has argued that the erosion of social and ethnic boundaries is a natural concomitant of the erosion of geographical boundaries which accompanied the processes of culture contact. The stages by which the transformation from the initial to the present condition occurred may for clarity and convenience be represented by a number of phases shown diagrammatically in Fig. 7-1.

The diagram has both spatial and temporal implications. The pattern of spatial evolution is one in which the peripheral zone characterized by discrete territoriality of the Peel River Kutchin, the Mackenzie Kutchin and the Mackenzie Eskimos, gives way to the joint occupancy of the Mackenzie Delta or the core zone, which in turn alters so that present day activity is most concentrated in settlements of the Delta region and is dominated by the town of Inuvik - the urban matrix. The

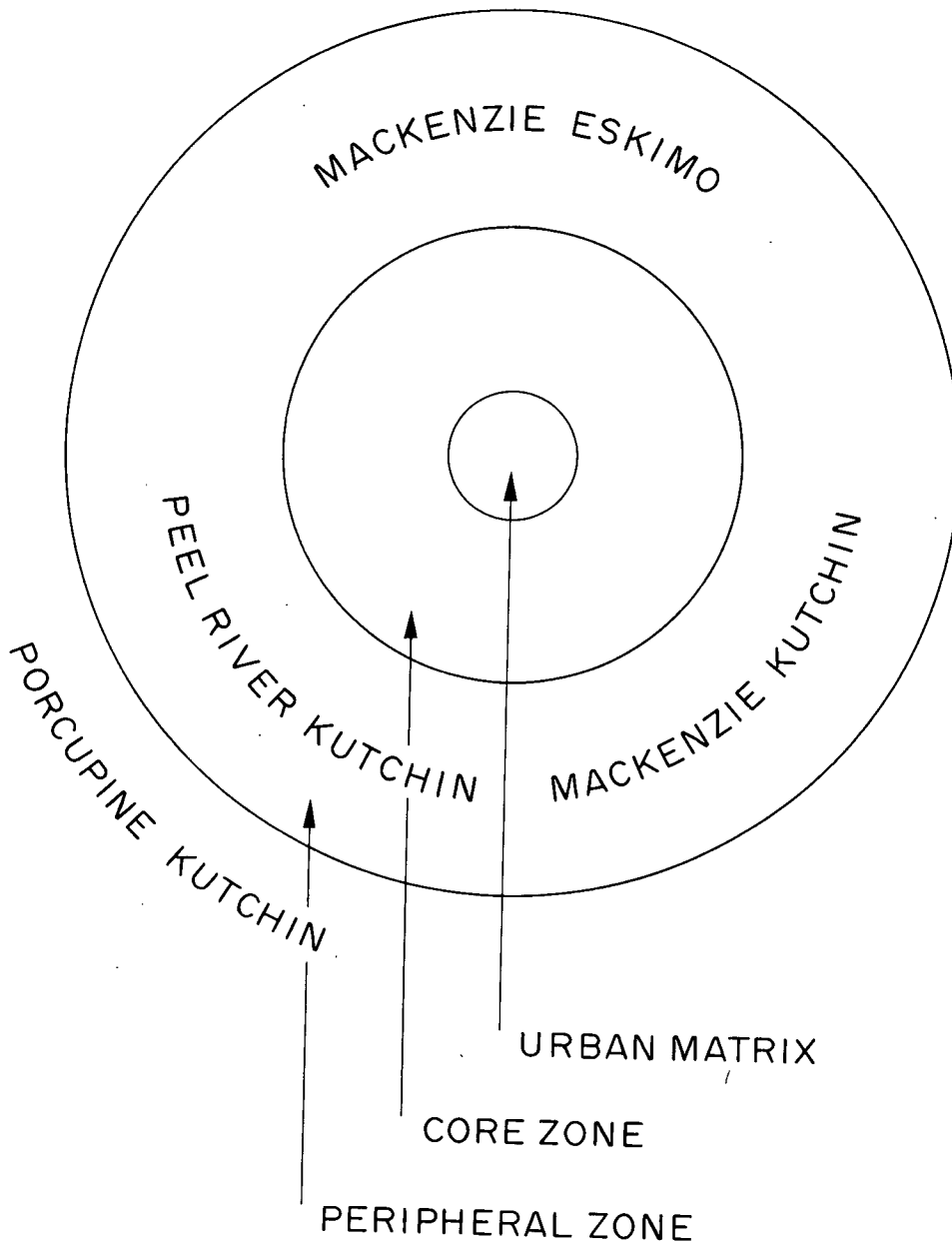


Fig. 7-1 Diagram to show major zones in the Lower Mackenzie Area (see text for explanation)

pattern is not a simple one of concentration over time, but involves people occupying new land, and responding to points of contact between indigenous and an exotic culture. Such points became focal or nodal with tributary zones or nodal regions. In time, some nodal centres lapsed, while others grew; the nodal regions changed accordingly with the overall changes represented in the diagram as moving from the peripheral zone to the urban matrix.

The thesis is at pains to point out that the change in spatial pattern took place over time. It was a gradual process in which successive phases have been identified, each being marked by a greater degree of concentration and focus on nodes, and a greater involvement in urban activities.

Phase I - Dispersed Populations Occupying Distinct Territories.

In its precontact phase, the Mackenzie Delta was peripheral to the home territories of a number of indigenous groups who monopolised distinct terri-

tories - the Mackenzie Eskimos along the coast, the Nakotcho Kutchin in the Lower Mackenzie, the Tetlit Kutchin in the Peel River area, and the Tukkuth Kutchin across the divide in the Upper Porcupine area (see the peripheral zone on Fig. 7-1). Though the territories occupied by each group had widely separated centres, there is strong evidence that overlap occurred in the spring in the Upper Delta leading to "articulation (through) politics along the border" (ibid.) usually in the form of bloody encounters between Kutchin and Eskimo groups.

Phase II - Isolated Outposts Acting as Nodal Centres.

The first outposts of the external culture generally represented a single institution or economic activity - trading posts, missions and whaling stations. They tended to realign the spatial organization of the people who entered into transaction with them into a more nodal configuration, and this in turn led to some shift in the use of territory. In some cases the area of overlap

between distinct territories became greater while elsewhere tendencies towards exclusiveness were reinforced. (Referring to Fig. 7-1, phase II would be borderline between the peripheral and core zones.)

The forces acting in phase II are both convergent and divergent:

a) Convergent forces. Generally speaking the early fur trade acted as a convergent force as it centered upon the Delta and Lower Peel as the last link in the traditionally water borne transportation system of the Hudson's Bay Company along the Mackenzie system. The response to the presence of a trading post in the lower reaches of the Peel River was neither immediate nor universal as has been shown in Chapter 2. Only a few members of the closer Kutchin tribal units were drawn into the trade initially and the Eskimo remained aloof until 1870. The work of Kutchin middlemen and the establishment of satellite trading posts at La Pierre House, Fort Yukon and Fort Anderson introduced the fur trade to more distant

peoples who, when the satellite posts collapsed, were drawn to the Lower Peel to gain commodities for which they had developed a need. By the 1880's, the Mackenzie Eskimo and at least three Kutchin tribal groups were trading regularly at Fort McPherson and together occupying the Upper Delta for part of each year.

Nonetheless, cultural differentiation between the Eskimos and Kutchin still persisted, reinforced by each group still following distinct ecological patterns, the former directed northward towards the coast and the latter towards the mountains up the Peel River. The important point is that with the collapse of peripheral trading posts, both peoples were drawn more strongly towards the nodal centre of Fort McPherson, where they spent a part of each year in trade.

b) Divergent forces. Though the process of convergence was strengthened by the efforts of the early missionaries who encouraged converts to

cluster at the fort for religious service as well as trade, the presence of two competing sects reinforced some exclusive tendencies. Since the Protestant and Catholic missionaries established themselves more effectively at different centres - Fort McPherson and Arctic Red River - they widened an existing division between two Kutchin tribal groups - the Peel River and Mackenzie Flats people. Moreover, the fact that the Catholic missionaries customarily made no use of native catechists increased the necessity to cluster around the settlement where the services of a priest would be available. Thus while the Peel River people continued to roam over a wide area of the Upper Peel and the Yukon drainage basins until the 1920's, the hunting area of the Arctic Red River people was more closely circumscribed from an early period.

Perhaps the strongest forces leading to divergence were the whaling boom in the Beaufort Sea after 1890 and the Gold Rush in the Yukon after

1897. The whaling boom attracted the Mackenzie Eskimos westwards towards Herschel Island where the whaling ships spent their winters and, since the whalers provided trade goods in return for meat, their presence eliminated the necessity for Eskimos to visit Fort McPherson. In a similar way the Kutchin were also attracted away from the Peel River towards Dawson City by the market they found there for meat, and by the general attractions of a relatively large urban centre. Both these forces were ephemeral however and when the Gold Rush and the whaling boom both petered out, the Kutchin and the Eskimos drifted back towards the Peel River and the Delta, but they returned with more sophisticated skills and expectations. In the case of the Eskimo, in fact, since the original Mackenzie stock had been decimated by disease they were replaced in large measure by relatively highly acculturated Alaskan Eskimos. The result of the ebb and flow of peoples at the turn of the century was that by

about 1920 there were in the core zone and environs two different peoples who were used to trapping and valued a large number of material goods which could only be obtained through trade.

Phase III - Dispersed Outposts in the Core Area with Vestigial Tributary Areas.

With the intensification of trapping after 1912 the Delta itself became much more important as a core area. (Phase III on Fig. 7-1 would be almost completely in the core zone.) Initially, trading posts were widely diffused throughout the area and the trappers themselves more mobile due to innovations in transportation such as the schooner. Thus, no nodal centre was especially dominant and trappers ranged freely within the Delta and surrounding areas. Though groups of both Eskimos and Kutchin retained allegiances to the older home territories, these were weakening as the Delta itself became more attractive. This phase of the Delta's history may thus be seen as a brief transition from a more

dispersed to a more concentrated pattern of activity.

Phase IV - Strong Nodal Centres within the Core Area.

After 1929, the trading posts retreated to a few recognized settlements where a range of other new institutions were also to be found, such as schools, hospitals, and government agencies. At the centre of the Delta, Aklavik assumed a more dominant nodal role in its multi-functional aspects, and smaller settlements assumed the role of satellites. The tributary areas became much less important as "home territories" as people moved into the Delta, though they were still trapped by a few for the more valuable fur species. (Phase IV represented in Fig. 7-1 is totally within the core zone.)

Until this time, the settlements had existed solely as points of contact between the outside and indigenous cultures. Since they contained only the agents of contact - the trading company, the church and the police - they could not be regarded as settlements in the strict sense of the term.

The intensification of muskrat trapping, especially in the Delta, and the establishment of Aklavik as a major centre of trade resulted in the appearance of a different type of settlement which supported new nodal relations. In particular, the majority of the Kutchin were now drawn down into the Delta where they interacted with the Eskimo and the growing number of white trappers and traders. In addition, the agencies of contact with the outside culture proliferated as the role of government increased and communication with the south improved. More activities were now organized through Aklavik as it increasingly assumed the role of nodal centre and as Kutchin, Eskimo and white trappers participated in the muskrat economy.

If a stage were to be selected at which the two ethnic communities organized on territorial lines had coalesced into a single community, it would be at this time. Not only had Aklavik emerged as a multi-ethnic pluralistic urban centre, but, in the

region which it served, ecological differences had been largely submerged in an orientation towards vigorous commercial trapping, especially of muskrat. Older territorial allegiances were now expressed largely in some trapping preferences, but a large area of common ground existed in the spring muskrat harvest. These trapping preferences were significant however in that they were often linked with the older or more peripheral settlements and with the more traditional areas of the two major ethnic groups.

Besides its nodal structure, the Delta has been characterized during this time by an increasingly multi-ethnic complexion. Though ethnic divisions were recognized, as they are today, their validity had been reduced by intermarriage and by the adoption of a wide range of common value orientations expressed in behaviour related to the model presented by the external culture. In Barth's (1969) terms, the ethnic identities were no longer marked by either behavioural differences or even

in many cases by organizational integrity.

Phase V - Concentration on the Centres.

The ecological component of convergence upon the Delta took the form of the disappearance of trapping specialisms based upon the smaller settlements as shown in Chapter V. While these specialisms had demanded a strong commitment to the land the patterns which replaced them were associated with a growing allegiance to the settlements. The process of transformation was initiated by the growth of Aklavik, but reached maximum proportions when the establishment of Inuvik opened up new channels of employment. (On Fig. 7-1, this phase is within the urban matrix zone.) This combined with falling fur prices and rising costs to make trapping, and especially trapping requiring special equipment, less attractive than wage employment. Thus the most recent phase of the area's history has been one of intense concentration in the settlements, especially Inuvik, accompanied by the attenuation of land-based activities.

It marked the end however of the Delta Community which had only recently emerged for, while in the past it had been possible to accommodate new roles and practices within existing indigenous institutional structures, they now had to be defined in terms of those of the dominant external culture. Nodal relations either with Fort McPherson or with Aklavik had not necessarily precluded activities which reinforced the coherence of the land-based community since they were based upon a complementarity between the nodal centre and the region which it served. The establishment of Inuvik marked such a radical departure since its relations were much stronger with the "outside" than with the region in which it was placed. What happened within this region had become in fact largely irrelevant to the activities carried on in the urban centre; and the land-based and urban economies operated as distinct and poorly integrated units.

The contemporary Delta Community is one in which

ethnic differences have been largely submerged by the features of the cultural shock which seems to have been experienced through contact with a massive influx of white transients. The stress which has arisen due to the disparity between the perception and the achievement of goals defined in terms of the values of the external culture, has been documented elsewhere (Smith, 1966; Ervin, 1968; Lubart, 1969). Native northerners are caught on the horns of the classic dilemma which exists in the systems Barth (1969: 31) has described. That is:

"Though such systems contain several ethnic groups, interaction between members of the different groups of this kind does not spring from the complementarity of ethnic identities; it takes place entirely within the framework of the dominant majority group's statuses and institutions."

In the ecological context, the convergence towards the dominant culture is reflected on the one hand in the attenuation of the land-based ecologies and on the other by the movement of people of both cultures into a settlement way of life.

In the early nineteen-fifties, before the new town of Inuvik was built, some semblance still remained of the old ecological patterns which had evolved at the apex of the trapping era. A large number of people still made their livings from trapping, and could be grouped according to different trapping patterns associated with their ethnic status and with the settlement upon which they were based. A decade later when the new town was fully established, such distinctions had largely disappeared and land-based activities were a part-time occupation for those who had been absorbed, for better or worse, into an urban existence.

The Analysis of the Spatial Component of "Dual Allegiance"

The details of dual allegiance were analyzed in two aspects, the first concerned with changing patterns of trapping and the second with changing patterns of employment in the settlement. Since these are the principal sources of income from

land-based and town-based activities respectively, they were considered to be the most appropriate indices of allegiance to the land and to the town. Both analyzes seemed to support the hypothesis that for a large number of people this allegiance was divided for they participated in land-based activities in a way which permitted close contact with the town, and in town-based activities in a way which permitted close contact with the land. Specifically it was found that a large proportion of people could be categorized as part-time rather than serious trappers and that these usually maintained camps in the Delta within a short distance of one of the towns. On the other hand it was found also that a large proportion of the employed people in Inuvik occupied temporary jobs and that the rate of job turnover was high.

The pattern of specialized trapping which had been observed in earlier periods were seen to have virtually disappeared at the present time. An

objective grouping procedure showed that in the 1930's and 1940's many trappers followed such patterns which, by inference, linked certain resource utilization areas and certain settlements as nodal regions and centres. The process of urbanization, especially as expressed in the establishment of Inuvik had the effect of breaking down these older nodalities and replacing them with a pattern in which the Delta itself predominated as the major resource region. Even within the Delta though the influence of the settlements was evident as the distribution of trappers was seen to recede towards the settlements when the number of trappers declined. A trend analysis of the major Delta species, the muskrat, showed also that the establishment of the new town changed the spatial structure of the harvest from registered areas.

During the complex history of the Mackenzie Delta, allegiance has not been simply to the land, but to patterns of activities derived from older

ecological regimes associated with particular ethnic groups. The growing allegiance to the settlement reflected in the gradual absorption of native people into wage employment has been accompanied by the gradual relinquishment of these patterns in favour of those in which some participation in the town's economy is possible. Since the older patterns were usually related to the utilization of more distant trapping grounds, the spatial expression of this process has been the convergence towards the Delta itself and more especially towards those parts of the Delta which are within easy reach of settlements. The fact that on the one hand many of those occupying camps in the Delta could not by any criteria be serious professional trappers indicates that the allegiance to the land is not supported by a viable economic activity. On the other hand, the fact that many take jobs in the town for a short period only indicates that the allegiance to the town is weak also. The signs are apparent however, that the

Delta people are caught up in the painful process of transferring their allegiance from the land to the town.

There is no course open for the Delta Community but to be drawn into the wider culture as it is represented in Inuvik. Whether this process can be accomplished without the signs of stress which have been all too apparent to date will depend upon the mechanisms provided for individual adaptation, and upon the goodwill with which these are exercised.

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ABBREVIATIONS

A number of documentary sources were consulted in the preparation of this work. They are cited in the text as follows:

ACND: Advisory Committee on Northern Development.

ACR: Anglican Church Records (Journals kept at Fort McPherson and Aklavik).

CMS: Church Missionary Society records on microfilm in the Public Archives of Canada.

HBC: Hudson's Bay Company records on microfilm in the Public Archives of Canada.

IAND: Department of Indian Affairs and Northern Development.

NALB: Northern Administration and Lands Branch (Department of Indian Affairs and Northern Development).

NANR: Department of Northern Affairs and National Resources (predecessor to Department of Indian Affairs and Northern Development).

NASF: Northern Area Subject Files (Department of Indian Affairs and Northern Development).

PAC: Public Archives of Canada.

APPENDIX A

Trading Posts in the Lower Mackenzie Area (1840-1929)

<u>Date Opening</u>	<u>Trader or Trading Company</u>	<u>Location</u>	<u>Date Closing</u>	<u>Source</u> ¹
1840	H.B.C.	Ft. McPherson	Present	HBC B157/a/1
1901	Hislop and Nagel	Arctic Red River	1912	Lecuyer, n.d.
1902(?)	Hislop and Nagel	Ft. McPherson	1908	<u>Gazeteer</u> , 4A-2
1902	H.B.C.	Arctic Red River	Present	Lecuyer, n.d.
1912	Northern Traders	Arctic Red River	1938	<u>Gazeteer</u> 3D-32
1912	H.B.C.	Kittigazuit	1934	Innis 1956
1913	D. Anuktuk	Kendall Island	1928	<u>Gazeteer</u> 5A-110
1914	Scogate(Scogale)	Ft. McPherson	1918(?)	PAC, RG18, A1, vol. 227
1914	Scogate(Scogale)	Arctic Red River	1915	PAC, RG18, A1, vol. 227
1914(?)	Northern Traders	Ft. McPherson	1938	ACR, Ft. McPherson

¹ Abbreviations for documentary sources cited are given in the bibliography. A complete gazeteer of trading posts of the Northern Territories has been prepared by P.J. Usher and Mary Jane Jones (1970) to which the writer was glad to make some small contribution. Reference to this work is given as Gazeteer with the reference number.

1915	Northern Traders	Aklavik/ Shingnek	1939	<u>Toronto Star Weekly</u> Feb.19,1927
1915	H.B.C.	Aklavik/ Shingnek	Present	<u>Toronto Star Weekly</u> Feb.19,1927
1915	G. Burrell	Arctic Red River	1916	<u>Gazeteer</u> 3D-35
1915	Northern Traders	Herschel Island	1938	Innis,1956
1916	H.B.C.	Baillie Island	1942	PAC, RG18, B2, vol. 58
1917	H. Liebes and Company	Kitti- gazuit	1921	<u>Gazeteer</u> 5A-113
1917(?)	Northern Traders	Kitti- gazuit	1920	NANR, NASF, 379,35
1918(?)	H. Liebes and Company	Shingle Point	1928	NANR, NALB, 540-3
1918	Ostergarde and Williams	Liverpool Bay	1926	NANR, NASF, 429,3943
1919	Lamson and Hubbard	Ft. McPherson	1924	PAC, RG18, F1, vol.12; NANR, NASF, 379,35
1920(?)	H. Liebes and Company	Aklavik	1921	NANR, NALB, 540-3, vol.3
1920	H.B.C.	Shingle Point	1928	PAC, RG18, F1, vol.12
1920	B. Furlong	Hare Indian River	1932(?)	<u>Gazeteer</u> 3D-100
1921(?)	O. Andreason	Atkinson Point	1933	NANR, NASF, 462,5653

1921	E. Wyant	Horton River Mouth	1931	NANR, NASF, 462,5653
1921	H.B.C.	Clarence Lagoon	1924	PAC, RG18, F1, vol.12
1921	Lamson and Hubbard	Aklavik	1924	PAC, RG18, F1, vol.12; <u>Gazeteer</u> 4B-3
1922(?)	Cunningham	Aklavik	1927(?)	NANR, NASF, 429,3943
1922(?)	Warner	Aklavik	1923- 27	NANR, NASF, 429,3943
1922	Johnson and Hainline	Ft. McPherson	1927(?)	NANR, NALB, 540-3, vol.1
1922	Ostergaade and Williams	Kugaluk River	1926	<u>Gazeteer</u> 5A-132
1922(?)	de Steffany Bros.	Pearce Point	1924(?)	NANR, NASF, 429,3943; Rasmussen, 1927
1923	P. Wyant	Baillie Island		NANR, NASF, 429,3943
1925	F. Wolki	Horton River	1926	NANR, NASF, 466,5752
1926(?)	H.B.C.	Junction of Husky Channel and Peel River (67°32'N 134°50'W)	1930(?)	<u>Gazeteer</u> 4A-100
1926(?)	A.N. Blake	Half mile below junction of Husky Channel and Peel River	1935	<u>Gazeteer</u> 4A-101

1926	Hamdon and Alley	Hare Indian River	1929	<u>Gazeteer</u> 3D-101
1926	F. Wolki	Pearce Point	1927	NANR, NASF, 466,5752
1926	A. Eckhardt	Kipnik (68°43'N: 135°24'W)	1933	NANR, NASF, 462,5653
1926	W. Day	Aklavik	1930	NANR, NASF, 462,5653
1926	Ostergarde and Williams	Anderson Forks	1929	<u>Gazeteer</u> 5A-134
1927(?)	H.B.C.	Raney, 90 miles south of Arctic Red River	1931	<u>Gazeteer</u> 3D-170
1927	A. Eckhardt	Aklavik	1933	NANR, NASF, 440,4572
1927	B. Nannen-gaksek	Nicholson Island	1929	<u>Gazeteer</u> 5A-142
1927(?)	Watson and Craig	Mouth of Peel River	1927	NANR, NASF, 464,5086
1927(?)	F. Wolki	Middle Channel (68°30'N: 134°10'W)	1930	NANR, NASF, 466,5752
1927	W.G. Phillips	(67°50'N: 133°55'W)	1939	NANR, NASF, 466,5758
1927	N. Verville	Half mile from junction of Main and East Channels	1936(?)	<u>Gazeteer</u> 4A-112
1927(?)	H.B.C.	Point Separation	1930(?)	<u>Gazeteer</u> 4-120
1927	W. Clark	Travaillant River Mouth	1939	<u>Gazeteer</u> 3D-160

1927	A. Watson	Mouth of Peel River		NANR, NASF, 462,5753
1927(?)	J. Firth	Mouth of Peel River	1930(?)	<u>Gazeteer</u> 4A-104
1927	M. Dehar and Company	Mouth of Peel River		NANR, NASF, 462,5653
1927	M. Dehar and Company	Aklavik		NANR, NASF, 462,5653
1927	H.B.C.	Pearce Point	1934	<u>Gazeteer</u> 5A-160
1927	M. Dehar and Company	Mouth of Snake River		NANR, NASF, 462,5653
1927(?)	N. Verville	Little Chicago	1929(?)	<u>Gazeteer</u> 3D-120
1927(?)	Northern Traders	Raney	1929	<u>Gazeteer</u> 3D-171
1927	S. Daigle	Mouth of Tree River on the Mackenzie		NANR, NASF, 462,5653
1927(?)	Northern Traders	Junction of Peel River and Peel Channel		<u>Gazeteer</u> 4A-108
1927(?)	M. Dehar and Company	Ft. McPherson	1929	NANR, NASF, 462,5653
1927(?)	A. Blake	Ft. McPherson	1935	<u>Gazeteer</u> 4A-8
1927	A.J. Miller	Aklavik	1929(?)	<u>Gazeteer</u> 4B-9
1927(?)	H.B.C.	Rotten Eye Creek (63° 38'N:134°40'W)	1930(?)	<u>Gazeteer</u> 4A-102
1928	Northern Traders	Bernard Creek		NANR, NALB, 400-2, vol.2

1928	E. Pantel	Little Chicago	1930	<u>Gazeteer</u> 3D-121
1928	A. Pantel	Arctic Red River	1930	<u>Gazeteer</u> 3D-36
1928	N. Verville	Ft. McPherson	1929(?)	<u>Gazeteer</u> 4A-9
1928	F. Wolki	Middle Channel 15 miles north of old post	1930	NANR, NASF, 466,5686
1928	Northern Traders	20 miles below Point Separation		NANR, NASF, 464,5686
1928	H.B.C.	Peel Channel West (67°43'N; 134°38'W)	1930(?)	<u>Gazeteer</u> 4A-107
1928	H. Magnuson	Junction of Oniak and Main Channels	1929	<u>Gazeteer</u> 4B-107
1928	D. McLeod	Arctic Red River	1929	<u>Gazeteer</u> 3D-37
1929	H.B.C.	East and Main Channels (67°48'N; 134°10'W)	1930(?)	<u>Gazeteer</u> 4A-110
1929	H.B.C.	"Big Rock", East Channel (68°05'N; 133°48'W)	1930(?)	<u>Gazeteer</u> 4B-122
1929	W. Day	Left Bank of Aklavik Channel (68°07'N; 134°40'W)	1930	<u>Gazeteer</u> 4B-141
1929(?)	Hamdon and Alley	Aklavik	1932(?)	<u>Gazeteer</u> 4B-10

The locations of trading posts which appeared between 1930 and 1935 shown in Fig. 4-1 are all to be found in the Gazeteer.

APPENDIX B

Analysis of Trapping Data

Cards were punched for each trapper for the seasons 1931-32, 1940-41, 1950-51, 1961-62, 1962-63, 1963-64, 1964-65 with format as follows:

Columns 1-6

Identification number of each trapper

Columns 1-2 : Year (e.g. 50)

Column 3 : Settlement

1 = Aklavik

2 = Fort McPherson

3 = Arctic Red River

4 = Inuvik

5 = Reindeer Station

6 = Tuktoyaktuk

Columns 4-6 : Trapper number

Columns 7-10

Number of bear taken by trapper

12-14

Number of beaver taken by trapper

15-18

Number of black fox taken by trapper

19-22

Number of blue fox taken by trapper

23-26

Number of cross fox taken by trapper

27-30

Number of red fox taken by trapper

31-34

Number of silver fox taken by trapper

35-38

Number of white fox taken by trapper

39-42

Number of lynx taken by trapper

43-46

Number of marten taken by trapper

47-50

Number of mink taken by trapper

51-54

Number of muskrat taken by trapper

55-58

Number of otter taken by trapper

59-62

Number of squirrel taken by trapper

63-66

Number of weasel taken by trapper

67-70

Number of wolf taken by trapper

71-74

Number of wolverine taken by trapper

75-78

Number of seal taken by trapper

The grouping programme used was adapted by R. Whittaker from one appearing in Veldman (1967: 308-319) and is reproduced on pp. 411-417. Since the programme was designed to analyse data arranged in a \underline{m} by \underline{n} matrix, where \underline{m} = the number of subjects, a further programme was required to transpose the data from the more orthodox \underline{n} by \underline{m} format in which it was punched on the cards. M. Church kindly wrote the programme which is reproduced on p. 418.


```

      DIMENSION O(198),KG(198),W(198),LC(198),CONT(198)
      DIMENSION KHOLD(198,2),KSTORE(198),FMT(198),TITL(198),ID(198)
      COMMON A(19701)
      DIMENSION LAM(200)
      EQUIVALENCE (W(1),LAM(1))
      EQUIVALENCE (CONT(1),O(1))
1      FORMAT (3I5,3I1,I3,I5)
2      FORMAT (20A4)
6      FORMAT (20A4)
9      FORMAT (1X,19HPROBLEM NAME ***** ,20A4/14HNO.OF SUBJECTS,15/15HNO.
      10F VARIABLES,14)
42     FORMAT (1X,17HWITH CONTIGUITIES////)
43     FORMAT (1X,20HWITHOUT CONTIGUITIES////)
52     FORMAT (20(2X,I4))
80     FORMAT (75H STEP,14,5X,14,1X,28HGROUPS AFTER COMBINING GROUP,14,1X
      1,IH(,13,1X,6HITEMS),10H AND GROUP,14,1X,1H(,13,1X,6HITEMS),16X,7HE
      2RROR =,F16.5/)
110    FORMAT (8X,5HGROUP,15,1X,1H(,13,1X,6HITEMS),19I4/(30X,19I4))
507    FORMAT (048H CONTIGUITY CRITERION PREVENTS FURTHER GROUPING./)
600    FORMAT (1H1)
7      READ (5,6) (TITL(I),I =1,20)
      READ (5,1) NS,NV,KP,KS,KT,KCONT,ML,KX
      WRITE (6,600)
      WRITE (6,9) (TITL(I),I =1,20),NS,NV
      IF (KCONT.EQ.0) GO TO 41
      WRITE (6,42)
      GO TO 45
41     WRITE (6,43)
45     READ (5,2) (FMT(I),I =1,20)
      READ (4,52) (ID(I),I =1,NS)
      IF (ML.EQ.0) ML =20
      IF (KP.EQ.0) KP =NS-1
      LX =0
      LL =((NS*NS)+NS)/2
      DO 3 I =1,LL
3       A(I) =0.0
      L =0
      DO 24 JJ =1,NV
      READ (4,FMT) (D(J),J =1,NS)
      C      STANDARDIZE VARIABLES IF OPTIONED
      IF (KS.EQ.0) GO TO 12
      SUM =0.0
      DO 4 I =1,NS
4       SUM =SUM+D(I)
      FM =NS
      XBAR =SUM/FM
      SUM =0.0
      DO 5 I =1,NS
5       SUM =SUM+((D(I)-XBAR)**2)
      STD =SQRT(SUM/FM)
      DO 8 I =1,NS
8       D(I) =(D(I)-XBAR)/STD

```

```

12  NG = NS-1
    DO 17 I = 1, NG
      K = I+1
      DO 17 J = K, NS
        SUM = (D(J)-D(I))**2
        L = I+(J+J-I)/2
        A(L) = A(L)+SUM
17  CONTINUE
24  CONTINUE
    DO 32 I = 1, NG
      K = I+1
      DO 32 J = K, NS
        L = I+(J+J-I)/2
        A(L) = A(L)/2.0
        IF (A(L).EQ.0.0) A(L) = 0.000001
32  CONTINUE
C   READ IN CONTIGUITY MATRIX STORE AS MINUS VALUES IN A
    IF (KCONT.EQ.0) GO TO 55
    DO 53 I = 1, NS
      READ (7,52) (KG(J), J = 1, ML)
      DO 51 JJ = 1, ML
        IF (KG(JJ).LE.1) GO TO 51
        J = KG(JJ)
        LL = I+(J+J-I)/2
        A(LL) = A(LL)*(-1.0)
51  CONTINUE
53  CONTINUE
55  NG = NS
C   INITIALIZE GROUP-MEMBERSHIP AND GROUP-N VECTORS.
    DO 60 I = 1, NS
      KG(I) = I
      KSTORE(I) = 1
60  W(I) = 1.0
C   LOCATE OPTIMAL COMBINATION, IF MORE THAN 2 GROUPS REMAIN.
    KZ = 0
    CUM = 0.0
65  NG = NG - 1
    IF (NG.EQ.0) GO TO 120
    X = 10.0**10
    DO 75 I = 1, NS
      IF (KG(I) .NE. 1) GO TO 75
      DO 70 J = I, NS
        IF (I .EQ. J .OR. KG(J) .NE. J) GO TO 70
        LL = I+(J+J-I)/2
        TEMP = A(LL)
        IF (KCONT.EQ.0) GO TO 67
        IF (TEMP.GE.0.0) GO TO 70
67  LL = I+(1+I-I)/2
        TEMP1 = A(LL)
        LL = J+(J+J-I)/2
        TEMP2 = A(LL)
        DX = ABS(TEMP)-TEMP1-TEMP2
        IF (DX .GE. X) GO TO 70
        X = DX
        L = I
        M = J
70  CONTINUE
75  CONTINUE
C   CHECK WHETHER ANY GROUPS HAVE BEEN JOINED. CONTIGUITY CRITERION
C   MAY PREVENT FURTHER GROUPING. IF SO PRINT OUT GROUP MEMBERSHIP AND

```

```

C      GET NEXT DATA SET
      IF(KCONT.EQ.0.OR.X.NE.10.0**10) GO TO 505
      WRITE(6,507)
      GO TO 120
505    KZ=KZ+1
      CUM=CUM+X
      IF(KT.NE.1) GO TO 77
      KHOLD(KZ,1) =L
      KHOLD(KZ,2) =M
      CONT(KZ)=CUM
77     NL=W(L)
      NM =W(M)
      WRITE (6,80) KZ,NG,L,NL,M,NM,CUM
C      MODIFY GROUP-MEMBERSHIP AND GROUP-N VECTORS, AND ERROR POTENTIALS.
      LJK =W(L)
      DO 85 I = 1,NS
      IF (KG(I).NE.M) GO TO 85
      KG(I) =L
      KSTORE(I) =KSTORE(I)+LJK
85     CONTINUE
      IF (KCONT.EQ.0) GO TO 89
C      SAVE CONTIGUITIES OF GROUPS JOINED - NEW GROUP HAS CONTIGUITIES
C      OF BOTH PREVIOUS GROUPS
      DO 87 I =1,NS
      IF (M.GT.I) GO TO 82
      LL =M+(I*I-I)/2
      GO TO 83
82     LL =I+(M*M-M)/2
83     IF (A(LL).GE.0.0.OR.L.EQ.I) GO TO 87
      IF (L.GT.I) GO TO 84
      LL =L+(I*I-I)/2
      GO TO 86
84     LL =I+(L*L-L)/2
86     IF (A(LL).LT.0.0) GO TO 87
      A(LL) =A(LL)*(-1.0)
87     CONTINUE
89     WS =W(L)+W(M)
      LL =L+(M*M-M)/2
      X =ABS(A(LL))*WS
      LJ =LL
      LL =L+(L*L-L)/2
      TEMP =ABS(A(LL))
      LM =LL
      LL =M+(M*M-M)/2
      TEMP1 =ABS(A(LL))
      Y =TEMP*W(L) + TEMP1*W(M)
      A(LM) =ABS(A(LJ))
      DO 95 I = 1,NS
      IF (I .EQ. L .OR. KG(I) .NE. I) GO TO 95
      LL =I+(I*I-I)/2
      XY =ABS(A(LL))*W(I)
      IF (I.GT.L) GO TO 88
      LL =I+(L*L-L)/2
      TEMP =ABS(A(LL))
      LJ =LL
      LL =I+(M*M-M)/2
      TEMP1 =ABS(A(LL))
      ATEMP=(TEMP*(W(I)+W(L))+TEMP1*(W(I)+W(M))+X-Y-XY)/(W(I)+WS)
      IF (A(LJ).LT.0.0) GO TO 93
      GO TO 94

```

```

88  IF (I.LT.M) GO TO 90
    LL = L + (I - 1) / 2
    TEMP = ABS(A(LL))
    LJ = LL
    LL = M + (I - 1) / 2
    TEMP1 = ABS(A(LL))
    ATEMP = (TEMP * (W(I) + W(L)) + TEMP1 * (W(I) + W(M)) + X - Y - XY) / (W(I) + WS)
    IF (A(LJ).LT.0.0) GO TO 93
    GO TO 94
90  LL = L + (I - 1) / 2
    TEMP = ABS(A(LL))
    LJ = LL
    LL = I + (M * M - M) / 2
    TEMP1 = ABS(A(LL))
    ATEMP = (TEMP * (W(I) + W(L)) + TEMP1 * (W(I) + W(M)) + X - Y - XY) / (W(I) + WS)
    IF (A(LJ).LT.0.0) GO TO 93
    GO TO 94
93  A(LJ) = ATEMP * (-1.0)
    GO TO 95
94  A(LJ) = ATEMP
95  CONTINUE
    W(L) = WS
C  PRINT GROUP MEMBERSHIPS OF ALL OBJECTS, IF OPTIONED.
513 IF (NG.GT.KP) GO TO 65
506 DO 115 I = 1, NS
    IF (KG(I).NE.1) GO TO 115
    L = 0
    DO 100 J = 1, NS
    IF (KG(J).NE.1) GO TO 100
    L = L + 1
    LC(L) = ID(J)
100  CONTINUE
    IF (L.LE.1) GO TO 115
    WRITE (6,110) I, L, (LC(J), J=1, L)
115  CONTINUE
    GO TO 65
120 IF (KI.NE.1.OR.NS.GT.200) GO TO 135
    NY = NS - NG
    IF (NG.NE.0) GO TO 145
    DO 130 I = 1, NY
    LL = KSTORE(I)
    KG(LL) = I
130  CONTINUE
    GO TO 138
145  LJ = 0
    DO 160 I = 1, NS
    IF (KG(I).NE.1) GO TO 160
    L = 0
    DO 150 J = 1, NS
    IF (KG(J).NE.1) GO TO 150
    L = L + 1
    NJ = KSTORE(J)
    LC(NJ) = J
150  CONTINUE
    DO 155 J = 1, L
    LJ = LJ + 1
    LAM(LJ) = LC(J)
155  CONTINUE
160  CONTINUE
    CALL TREE (NY, LJ, LAM, CONT, KHOLD)

```

```

      GO TO 135
138  CALL TREE (NY,NS,KG,CONT,KHOLD)
135  IF (KX.NE.1) GO TO 7
      STOP
      END
      SUBROUTINE TREE (NY,N,KG,CONT,KHOLD)
C    DIMENSION SIZE OF DATA MUST BE SET EQUAL TO AT LEAST (N*2)+1
C    FOR A MAXIMUM OUTPUT OF 120 CHARACTERS PER RECORD CHANGE THE
C    VALUES OF LMJ AND LJR IN THE DATA STATEMENT TO 84 AND 116
C    RESPECTIVELY
      DIMENSION KG(198),KHOLD(198,2),JOKE(198),DATA(500)
      DIMENSION CONT(198),IMT(29),FSPEC(8)
      INTEGER DATA,FSPEC
      COMMON A(19701)
      EQUIVALENCE (A(1),JOKE(1)),(A(1001),DATA(1))
      DATA JV,JX,JY,JW,LMJ,LJR/1H ,1H*,1H_,1H|,96,128/
      DATA FSPEC/1H7,1H6,1H5,1H4,1H3,1H2,1H1,1H0/
      DATA IMT/1H(,1H3,1H1,1H5,1H,,1H2,1HX,1H,,1HF,1H1,1H0,1H.,1H8,1H,,1
1H2,1HX,1H,,1HA,1H1,1H,,1H1,1HX,1H,,1H1,1H0,1H1,1HA,1H1,1H)/
1  FORMAT (14,15(4X,14))
2  FORMAT (5X,13HITEMS GROUPED,6X,13(4X,14))
3  FORMAT (26X,13(4X,14))
16  FORMAT (1X,4HSTEP,4X,1H1,4X,1HJ,4X,5HERROR,4X,13(4X,14))
17  FORMAT (30X,13(4X,14))
20  FORMAT (3X,129A1)
25  FORMAT (2X,14,15(4X,14))
26  FORMAT (16(4X,14))
27  FORMAT (2X,16(4X,14))
32  FORMAT (29X,A1)
34  FORMAT (29X,A1,1X,101A1)
55  FORMAT (1H1)
76  FORMAT (1H )
      NJ =NY-1
      L =(N*2)+1
      NM =0
      LX =LMJ
      MKJ =1
      KJ =LMJ/2
      KL =LJR/2
      FORM =10.0
      NL =KJ
      IF (N.LE.KJ) NL =N
4  WRITE (6,55)
      IF (LX.GE.L-2) GO TO 19
      MJ =LX
      GO TO 13
19  MJ =L
13  IF (MKJ.NE.1) GO TO 21
      KW =LMJ
      WRITE (6,2) (KG(I),I =1,NL,4)
      WRITE (6,3) (KG(I),I =2,NL,4)
      WRITE (6,16) (KG(I),I =3,NL,4)
      WRITE (6,17) (KG(I),I =4,NL,4)
      GO TO 22
21  NL =KJ+1
      KJ =KJ+KL
      IF (KJ.GE.N) KJ =N
      KW =LJR
      WRITE (6,1) (KG(I),I =NL,KJ,4)
      JJ =NL+1

```

```

WRITE (6,25) (KG(I),I =JJ,KJ,4)
JJ =JJ+1
WRITE (6,26) (KG(I),I =JJ,KJ,4)
JJ =JJ+1
WRITE (6,27) (KG(I),I =JJ,KJ,4)
22 JS =0
DATA(L) =JX
GO TO 40
9 JS =JS+1
K =0
L =0
DO 5 I =1,N
J =KG(I)
L =L+1
JOKE(J) =L
DATA(L) =JW
L =L+1
DATA(L) =JV
5 CONTINUE
L =L+1
DATA(L) =JX
14 K =K+1
IF (K.GT.NJ) GO TO 40
KM =KHOLD(K,1)
KK =KHOLD(K,2)
LL =(JOKE(KK)-JOKE(KM))-1
LS =JOKE(KM)+1
LJ =(LS+LL)-1
DO 10 I =LS,LJ
10 DATA(I) =JY
IF (MRJ.NE.1) GO TO 28
IF (CONT(K).LT.FORM) GO TO 80
NM =NM+1
IMT(13) =FSPEC(NM)
FORM =FORM*10.0
80 WRITE (6,IMT) K,KM,KK,CONT(K),JX,(DATA(I),I =1,MJ)
GO TO 11
28 WRITE (6,20) (DATA(I),I =MRJ,MJ)
11 LS =LS-1
LJ =LJ+1
DO 12 I =LS,LJ
12 DATA(I) =JV
LS =(LL/2)+1
JOKE(KM) =JOKE(KM)+LS
LS =JOKE(KM)
DATA(LS) =JW
GO TO 14
40 JJ =MJ-1
LJ =MRJ+1
IF (MRJ.NE.1) GO TO 37
IF (NL.GT.KJ) GO TO 56
DO 43 I =1,JJ
43 DATA(I) =JV
WRITE (6,34) JX,(DATA(I),I =1,MJ)
GO TO 65
56 WRITE (6,32) JX
65 IF(JS)85,9,85
37 IF(LX.GE.L-2)GO TO 42
WRITE(6,20)JV
GO TO 800

```

```

42    DO 31 I=MRJ,JJ
31    DATA(I)=JV
      WRITE (6,20) (DATA(I),I =MRJ,MJ)
800   IF(JS.EQ.0)GO TO 9
85    DO 33 I=MRJ,MJ,2
33    DATA(I)=JX
      DO 70 I =LJ,MJ,2
70    DATA(I) =JV
      IF(MRJ.NE.1)GO TO 39
      WRITE (6,34) JX,(DATA(I),I =1,MJ)
      GO TO 38
39    WRITE(6,20)(DATA(I),I=MRJ,MJ)
38    IF(LX.GE.L-2)GO TO 41
      MRJ =MRJ+KW
      LX =LX+LJR
      GO TO 4
41    RETURN
      END

```

DIMENSION ID(200),A(200,18),B(18,200),TITLE(19)

```

      READ(5,12)NL2
12     FORMAT(16)
50     READ(5,6)M,KK,(TITLE(I),I=1,19)
6      FORMAT(13,11,19A4)

      N=0
      I=1
1      READ(5,2,END=4)ID(I),(A(I,J),J=1,M)
2      FORMAT(16,18F4.0)
      I=I+1
      N=N+1

4      GO TO 1
      DO 3 I=1,N
      DO 3 J=1,M
3      B(J,I)=A(I,J)
      WRITE(7,10)(ID(I),I=1,N)
10     FORMAT(20I6)

      DO 15 I=1,M
15     WRITE(7,20)(B(I,J),J=1,N)
20     FORMAT(20F6.0)

      EN=FLOAT(N)
      DIV=EN/20.0
      IDIV=N/20

      DIVCH=FLOAT(IDIV)
      IF(DIV-DIVCH)7,8,7
7      IDIV=IDIV+1
8      NL1=NL2+1
      NL2=NL2+IDIV+M*IDIV
      WRITE(6,5)(TITLE(I),I=1,19),N,NL1,NL2
5      FORMAT(1H0,19A4,'NO SUBJECTS=',I4,'      LINES IN FILE=',I4,'14)
      IF(KK.EQ.0)GO TO 50
      STOP
      END
$ENDFILE

```


Appendix C

Data was analyzed using the MVTAB programme of the University of British Columbia Computing Centre. The card format used was as follows:

(i) Columns 1-3

All employees were identified by a number between 001 and 599.

(ii) Columns 5-6

All employers in Inuvik were identified as follows:

- 01 Department of Indian Affairs and Northern Development
- 02 Department of National Health and Welfare
- 03 Department of National Defence
- 04 Department of Public Works
- 05 Department of Public Works (Meteorological Division)
- 06 Department of Public Works (Airport)
- 07 Department of Public Works (Radio)
- 08 Royal Canadian Mounted Police
- 09 Scientific Research Laboratory
- 10 Post Office
- 11 Canadian Wildlife Service
- 12 Village of Inuvik
- 13 Northern Canada Power Commission
- 14 Arctic Transportation
- 15 Poole Construction
- 16 Masons Painters
- 17 Arctic Painting
- 18 Mackenzie Delta Construction
- 19 Imperial Oil (Retail)
- 20 North Star Service Station
- 21 Topps Fine Foods
- 22 Mackenzie Hotel
- 23 Rec. Hall
- 24 Hudson's Bay Company
- 25 Inuvik Development Corporation
- 26 Craft Shop
- 27 Semmler's General Store
- 28 Territorial Liquor Store
- 29 Nanuk Beauty Salon
- 30 Bruno Taxi
- 31 The Drum (Newspaper)
- 32 Canadian Imperial Bank of Commerce
- 33 Canadian National Telecommunications

- 34 Northern Transportation Company Limited
- 35 Canadian Broadcasting Corporation (Radio Station CHAK)
- 36 Northward Aviation
- 37 Pacific Western Airlines
- 38 Great Northern Airways
- 39 Reindeer Air Service
- 40 Grollier Hall (Hostel)
- 41 Stringer Hall (Hostel)

(iii) Columns 8-10

All employers were further classified according to the Standard Industrial Classification. The key to the three-digit code is given in: Dominion Bureau of Statistics, Standard Industrial Classification Manual, Catalogue No. 12-501 (Queen's Printer: Ottawa, Dec. 1960).

(iv) Column 12

All employees enumerated in the survey were classified according to sex as follows:

- 1 Males 2 Females

(v) Column 15

All employees enumerated in the survey were classified according to age.

(vi) Column 17

All employees enumerated in the survey were classified according to ethnic status as follows:

- 1 White 3 Indian
- 2 Eskimo 4 Metis

Employees appearing on disc lists and band lists were considered to be Eskimo and Indian respectively. Although the category Metis is no longer used officially, it was felt to be misleading to identify people of mixed ethnic origin as white since most have cultural origins which are more like those of Eskimo and Indian people than those of transient whites.

(vii) Column 20

The monthly incomes of all employees enumerated in the survey were classified as follows:

- | | |
|-------------------|-------------------|
| 1 Less than \$100 | 6 \$300-\$350 |
| 2 \$100-\$150 | 7 \$350-\$400 |
| 3 \$150-\$200 | 8 \$400-\$450 |
| 4 \$200-\$250 | 9 \$450-\$500 |
| 5 \$250-\$300 | A More than \$500 |

Where applicable, northern allowances were included in incomes.

(viii) Column 22

The jobs of all employees enumerated in the survey were classified as follows:

- 1 Permanent 2 Temporary

(ix) Column 24

The jobs of all employees enumerated in the survey were classified as follows:

- 1 Full-time 2 Part-time

(x) Column 27

The date when each employee was recruited into his/her present job was coded as follows:

- | | |
|-------------|---------------|
| 1 Aug, 1968 | F Jun, 1967 |
| 2 Jul, 1968 | G May, 1967 |
| 3 Jun, 1968 | H Apr, 1967 |
| 4 May, 1968 | I Mar, 1967 |
| 5 Apr, 1968 | J Feb, 1967 |
| 6 Mar, 1968 | K Jan, 1967 |
| 7 Feb, 1968 | L 1966 |
| 8 Jan, 1968 | M 1965 |
| 9 Dec, 1967 | N 1964 |
| A Nov, 1967 | O 1963 |
| B Oct, 1967 | P 1962 |
| C Sep, 1967 | Q 1961 |
| D Aug, 1967 | R 1960 |
| E Jul, 1967 | S Before 1960 |

(xi) Column 29-31

All employees enumerated in the survey were classified according to occupational classification given in Dominion Bureau of Statistics: Occupational Classification Manual, Catalogue No. 12-506 (Queen's Printer: Ottawa, April, 1961).

(xii) Column 33

The educational level achieved by each employee was classified as follows:

- 1 Elementary
- 2 Secondary (less than Gr. 10)
- 3 Secondary (minimum of Gr. 10)
- 4 Secondary (minimum of Gr. 12)
- 5 Gr. 12 plus special training
- 6 University
- 7 Nil, or not given

(xiii) Column 35

The place of origin of each employee enumerated in the survey was classified as follows:

- 1 Mackenzie Delta and Tuktoyaktuk
- 2 Elsewhere in the N.W.T. or Yukon
- 3 Outside the N.E.T. and Yukon.