

THE EVOLUTION AND NATURE OF THE CONTEMPORARY SETTLEMENT  
PATTERN IN A SELECTED AREA OF THE YUKON TERRITORY

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by  
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## ABSTRACT

The thesis is concerned with the study of settlements in that area of the Yukon Territory which lies south of Latitude  $64^{\circ}30'$  and west of Longitude  $134^{\circ}$  (Figure 1). This study area consists, for the most part, of a dissected plateau with an average elevation of 4,000 feet, drained by the Yukon River and its tributaries. Adverse climate, with January mean temperatures ranging from  $-20^{\circ}\text{F}$  in the north to  $-2^{\circ}\text{F}$  in the south combines with inhospitable terrain to make the area only marginally habitable.

The northern and eastern limits of the study area were dictated by the distribution of settlements within the territory and the limitations placed upon field work by vast travelling distances and the limited time available. Five settlement groups were identified. Four of these five, known here as the Dawson group, the Mayo group, the Yukon Valley group, and the Alaska Highway group lie within the study area. The Johnson's Crossing-Watson Lake group, lying east of Longitude  $134^{\circ}$ , is outside the study area.

The settlement groups were identified on the basis of common history, similarity of function of the individual settlements, and geographic unity. It was decided to exclude the Johnson's Crossing-Watson Lake group due to practical considerations, time available for research was limited. At the same time it was observed that this settlement group

lacked the history of occupance which was to be found in the other groups, and consequently did not provide a very good model for the study of settlement evolution and adaptation to changing circumstances. The fact that many of the features found in these highway orientated settlements were also found in what has been classed as the Alaska Highway settlement group, which lies west of Whitehorse, also contributed to the decision to exclude this group of settlements from the study.

Within the study area it was decided to limit the study of Whitehorse to that necessary to explain its growth, its contemporary configuration, and its role in the development of the Territory. The reason for this is that it was felt that if full coverage were given to Whitehorse this town would dominate the thesis at the expense of the other settlements. Whitehorse has also been the subject of numerous studies, and to these the reader will be referred.

Two settlements which are allied to no specific group lie outside the study area. East of Longitude  $134^{\circ}$  lies Ross River. Once more practical considerations in respect to field work contributed towards the exclusion of this mining settlement. The settlement could not be allied to any identified group, and the only conceivable reason for including it would be the fact that this will be the site of Faro new town. However a new town within the study area is included, Clinton Creek, and as an almost completed settlement it



Whitehorse, being studied in depth.

A work which endeavours to study settlement patterns inevitably includes much descriptive material. History, site, plan, economy, building type, and amenities are major aspects of settlement pattern considered in this work. Although such description is used as a partial basis for the consideration of evolutionary process, and tentative conclusions are drawn, it is also justified as an end in itself, providing unique base material for future work.

An underlying theme is the study of the evolution of contemporary settlement patterns. As interpreted in this thesis the term 'pattern' is ambiguous. It refers to the internal configuration of settlements, and also the spatial distribution of, and communication between, settlements on a regional scale.

The concept of evolution in respect to Yukon settlement was first provided by Griffith Taylor. He attempted to classify settlements in the Yukon Valley according to their stage of development, based upon what he believed to be universally applicable criteria (1947).

In the concept of evolution envisaged in this paper one is concerned not with stages of evolution, but with process. The author believes that classification of stage is arbitrary, and not universally applicable. One is studying the processes at work responsible for the proliferation or contraction of

settlement in the study area, and assessing the settlement pattern resulting from such processes at different points in time.

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CHAPTER I

REVIEW OF SOURCE MATERIAL

Three basic sources provided research material for this thesis, maps, literature concerning the study area, and field work.

I. MAPS AND FIELD WORK

As is to be deduced from the main text much of the research involved the identification of settlements at different points in time, and study of the changing features of individual settlements. Maps ideally provide the obvious record of changing pattern of occupance in a region over time. However the author found the maps of the study area to be generally unsuited for such a purpose. There were insufficient maps of a standardised type for each era to illustrate changes, whilst maps which do exist either show as inhabited settlements which are not so, or fail to show settlements which do exist. Of the more recent maps of the study area both the 1950 Department of Mines and Highways' map and the 1965 World Aeronautical Chart of part of the Territory were guilty of such shortcomings.

Apart from the deficiencies already mentioned, maps, especially those on a regional scale, told the author little or nothing of the internal nature of settlements. Consequently

use of maps had to be supplemented, and in many cases substituted by, field work and literary and statistical sources.

Because field work is only a reliable indication of a contemporary state of affairs much of the information about settlement history and the changing configuration of settlement over time was obtained from literary sources. Field work tended only to be historically useful when it involved the provision of information about a historically significant settlement about which little or nothing descriptive had been written; settlements such as Tagish, Kluane, and Burwash Landing.

## II. LITERARY SOURCES

The thesis is concerned with two phenomena, pattern and process. Pattern being the internal configuration of settlements at a given moment in time and the regional distribution of settlements; process being the chain of events and motives responsible for changing pattern over time. The literary sources which aided the study of each of these can be broadly classed in two categories, contemporary and retrospective.

Contemporary sources are those literary works written by an observer who had been in the study area and described what he saw at a given moment in time. Retrospective sources

are those works written from a historical stand-point, reviewing a full series of events.

Contemporary works provided insight into both pattern and process. By contrasting the observations of different authors concerning the same area at different moments in time one can note the changes that have taken place between the two observations. Thus there is validity in contrasting Barnum's description of his journey to Fortymile in 1896 (To the Yukon River via the Chilcoat Pass, 1896.) with Adney's journey along the same route at the height of the gold rush (1900, The Klondike Stampede of 1897-8). Within the category 'contemporary literature' one can place such descriptive works as those of Campbell (1883), Ogilvie (1913), Scarth (1897), Robertson (1930), (although he was writing some thirty years after the event), Griffith Taylor (1947), and Bostock (1957), along with other numerous government geologists. The D.B.S. censuses also fall into this category, as do R.C.M.P. records of population distribution in the Klondike area at the time of the Gold Rush.

The 'retrospective' works tend to be the more recent ones, looking back at a series of events from a present day stand-point. Authors in this category include Berton (1958), Innis (1936), Godsell (1954), Lotz (1963), and Ridge (1953). Such retrospective works also tend to contain contemporary description of the present-day state of affairs, in many

instances historical study forming the background to the focal point of the work such as in Lotz's study of Dawson and the surrounding area, where historical background is out-lined as a partial explanation of the present state of Dawson (1963, The Dawson Area, A Regional Monograph).

Examination of the quantity of source material available for the study area shows a dearth of such material prior to the gold rush and a further dearth of material in the period 1910-1940. There is abundant material for the two growth periods, for the gold rush era and the period since the end of the second world war.

A. Sources Concerning the Pre-Gold Rush Era For the years prior to 1896 there is relatively little information,-- in keeping with the low population and isolation of the territory. Such works that do exist consist of either contemporary documents commissioned by either the church, government or Hudson's Bay Company, or retrospective works with description of this period often providing an introduction to a work which has as its focal point the gold rush. Berton's 'Klondike' (1958), and government handbooks on the territory published in 1909 and 1916 being examples of this.

The contemporary works from this early era include Campbell's Journal telling of his first penetration into the territory, along with assorted letters from Hudson Bay Company employees. Government publications include Dawson's

survey (1898), Ogilvie's survey in respect to the demarcation of the Canadian-U.S. border (1897), and Constantine's R.C.M.P. report from Fortymile (1893). The latter two, with associated photographs give a useful impression of Fortymile prior to the discovery of gold on the Klondike. Both Ogilvie and Constantine also provide insights into the location and condition of settlements in the territory in the pre-gold rush era.

A further indication of the existence of settlements other than Fortymile is provided by Father Barnum, in the publication, 'To the Yukon Gold Fields via the Chilcoot Pass' (Barnum, 1896). This brief and somewhat sketchy description of the Yukon Valley route is supplemented by Warburton Pike's 'Through the Sub-Arctic Forest' (1896), which contains reference to settlements in the Yukon Valley and their state of abandonment due to the migratory influence of the Fortymile gold discovery.

These early works tended to be factual, concise, and unemotional. Their value lies not in analysis, but in their purely descriptive qualities.

B. Sources Concerning the Gold Rush The gold rush era is the most abundantly documented episode in the history of the Yukon Territory. Numerous contemporary accounts have been published, ranging from Adney's famed and factual 'The Klondike Stampede of 1897-8' (1900), to such highly subjective

publications as Robertson's 'Yukon Memories' (1930).

Retrospective works range from Berton's colorful 'Klondike' (1958), to Innis's well balanced and unemotional analysis from the standpoint of an economic historian (Canadian Frontiers of Settlement, 1936).

Many of the works concerning the gold rush era tend to be emotional and inaccurate, with works such as, 'Northern Lights to Fields of Gold' (Scearce, 1939), 'Gold Nuggett Charlie' (Lloyd Owen, 1939), and 'I Followed Gold' (Trelawney Ansell), being of little or no value to any factual study. It is to be borne in mind that such colorful and inaccurate writing could well be a reflection of predominant character type involved in the gold rush,--the romantics, the adventurers, the misfits. Berton provides further insight into contemporary gold rush literature in the introduction to his bibliography, '....almost every man who wrote a personal account about his days in the Klondike wanted to make it appear that he was in the big events and knew all the colorful people' (Berton, 1958, 442).

The major retrospective publication providing an excellent general background to this era is Berton's 'Klondike'. This book itself is based, for the most part, upon the reminiscences of persons who were involved in the Klondike rush. The author found that Berton's book provided an excellent basic background to the era, and was especially useful in

capturing the ethos of the closing years of the nineteenth century and bringing out the psychological aspects of the gold rush.

Innis's study of the gold rush from the standpoint of an economic historian, in 'Canadian Frontiers of Settlement' was a major source of material for this thesis. He analyses the full gold rush era, his main concern being with process, bringing out the influence of innovation upon the development of the gold-fields and subsequent population changes.

A further useful retrospective work is that of Morrell, 'The Gold Rushes' (1940). The usefulness of the chapter upon the Klondike lies in his language and style, clearly bringing out the dependence of the Klondike region on the outside world and the lack of economic potential other than mineral wealth. Of the region's mono-economic base Morrell states that, 'the Klondike rush could not reveal, as other rushes could, the capacity of the region for carrying a large population at a high level of civilization.' (Morrell, 1940, 400).

Many of the retrospective works were a regurgitation of facts that were already known, and added nothing new to the research. Hinton and Godsell's 'The Yukon' (1954) not only lacked analysis but was also factually inaccurate.

C. Sources Concerning the Period 1900-1940 There are relatively few directly relevant publications relating to the period 1900-1940, many of the works which appeared in this era



being records of the gold rush era. Most of the sources available for this period appeared before 1920 and give some insight into the development of the Territory in the years immediately following the gold rush with declining population and geographically broadened mining activity.

Both Edwards (1904), and Stuck (1917), provide useful information on settlements other than Dawson, in decline. Edward's work is optimistic, associating the future development of Carcross and Whitehorse with Conrad and Kluane mining developments respectively. Although history proved such optimism to be misplaced one must bear in mind that judging from his standpoint the period was one of widening mining interest in the southern Yukon. It must however be conceded that there was no justification for some of the optimism Edwards displayed, for example, 'the soil of some of the river bottoms is rich and will yield wonderful crops when tilled.' The author conveniently forgot about the climatic factor.

Stuck's work is more realistic and provides valuable description. He speaks of the difficulty of developing Whitehorse and the contemporary dominance of copper mining in that community, whilst descriptions of Selkirk and Forty-mile are provided.

The difficulties experienced due to the lack of descriptive material in this period was partly offset by Government Publications. Three of these, government handbooks

for the Territory for the years 1909, 1916, and 1926, provided nothing new of value except the tracing of the economic development of the Territory, rather sketchily, to 1926. The Census provided some information, providing for 1911 and 1921 comparable lists of settlements which gave some indication of the degree of settlement decline in the ten year period. However there were numerous difficulties involved in the use of Census information. Prior to 1951 census data for the Territory varied in quality, being detailed but not comparable numerically for the years 1911 and 1921, due to the use of different Census areas, and virtually non-existent for the years 1931 and 1941. Since 1951 there has been a tendency to list all unincorporated settlements in excess of forty persons.

A major work which was used in an attempt to assess what settlements did exist in the period 1900-1940 was Bostock's publication containing the annual geological reports on sections of the Yukon Territory (Bostock, 1957). Although dealing exclusively with mineral extraction and geology the economic geology sections provided references to mining settlements, with varying degrees of description.

D. Sources Concerning the Period 1940-1968 Since 1940 increased economic activity in the Territory and increased population have been reflected in the spate of publications. The first of these was Griffith Taylor's 'Yukon Domesday, 1944'.

Although purely descriptive, and in some instances inaccurate, being observations of settlements from a boat on the Yukon River, the article contained valuable information about the condition of settlements on the Yukon between Whitehorse and Dawson.

It was in this period that studies of individual Yukon settlements began to emerge. There is a notable absence, however, of studies of settlements other than Whitehorse, Mayo Landing, and Dawson. Griffith Taylor (1947), Godsell (1954), Gutsell (1953), Ridge (1953), and Lotz (1963), dwell at length on one or more of these three settlements. These works which fall into the category 'contemporary publications' were useful inasmuch as they provided a historical record which the author contrasted with his own findings, noting the changes that had taken place.

Of these publications Ridge's 'Principles for the Planning of Sub-Arctic Settlements' (1953) and Lotz's 'Dawson Area' (1963) are of special interest. Ridge's thesis gave a detailed description of the three major settlements in 1952, and contained a discussion of geographic controls upon settlement development.

Lotz's 'Dawson Area' (1963) contains an outline of sociological features of Dawson and its hinterland, a detailed break-down of the labour force, and land utilization maps.

This could be classed as both a contemporary and retrospective work, the article containing a historical study of the processes at work responsible for the geographic, economic, and sociological configuration of the settlement in 1963.

Numerous articles and documents published since 1945 fall into none of the two categories previously mentioned. Robinson's study of Yukon agriculture (1945) was comprehensive and thorough, and the author found it far more informative than any government publications on the subject. The government publications available at the Haines Junction experimental farm proved to be out-dated and in the author's opinion showed an unfair government bias. Stastical information of value was yielded by three sources, Canadian Mining Statistics (DBS), The Development Plan for the Alaska Highway (1966), which provided traffic flow statistics, and the Government publication, 'The Yukon Today' (1968), which yielded numerous miscellaneous Government statistics. The report of the Second Yukon Northern Resources Conference (1966) provided the author with an insight into the personal views of many of the administrators and company representatives associated with the development of the Territory.

Literary sources external to the study area included those on the philosophy of evolution, and those on mining areas in other parts of North America. La Barre's book, 'The Human Animal' (1956), was used as a basic source in the study of

basic evolutionary principles which the author believes can be applied to settlement development.

The study of other mining areas was conducted in an attempt to assess whether the stages of development of Yukon mining settlements and settlement groups had their parallel in other mining areas which had a different geography, or whether there were any aspects of such settlement in terms of process and relationship between settlements that one could find to be universally applicable. Rump's study of the Caribou area of B.C. (1967) proved invaluable for this study, as did Kersten's paper on the mining areas of Sierra Nevada (1964). Finally Paul's study 'The Mining Frontier as a Measure of Western Historical Writing' (1964) was a useful precis of the major stages of mining development common to virtually every mining area in North America.

## CHAPTER II

## HISTORY OF SETTLEMENT DEVELOPMENT 1840-1968

## I. THE PERIOD 1840-1896

Until 1840 the Central Yukon remained unexplored and unexploited by other than its native peoples. The basic factor governing the peopling of the region in the ensuing thirty years was the trade ambition of the Hudson's Bay Company.

There were two zones of occupation on the periphery of the Yukon basin, Russian Alaska to the west, dominated by the Baranoff Company, and the Hudson's Bay Company dominated by Mackenzie basin and Great Slave Lake area to the east.

Although the Yukon River flowed through Alaska deep penetration into the Canadian portion of the Yukon Basin did not take place. This seems to have been due to two main reasons. Firstly, communications with St. Petersburg were already stretched, and most of the settlements were situated on the coast. The distance from Kodiak to St. Petersburg was 6,900 miles, with a further 1,000 miles to the Canadian boundary. Secondly, the population of Alaska, 730 in 1836, was too small to support any substantial movement inland. By 1838 Russia had only settled as far east as Nulato, some six hundred miles west of the  $141^{\circ}$  meridian (the present Alaska-Yukon boundary).

In contrast the Hudson's Bay Company, with its furthest out-posts to the east of the Mackenzie basin pursued a more aggressive, expansionist policy. Until 1840 the Company viewed the area west of the Mackenzie mountains as a buffer zone between themselves and Russian trading interests (Campbell, 1885).

In 1840, motivated by rumours of the presence of the Yukon River the Company dispatched Robert Campbell from Halkett on the Lower Liard River with orders to follow the northern branch of the Liard, cross its divide, and locate and follow any westward flowing river. (Campbell, 1885).

The westward flowing river was located, and named the Pelly, after Sir John Pelly, a governor of the Hudson's Bay Company. A fort was established at Pelly Banks, and in 1848 Campbell travelled down this river to its junction with what he named the Lewes River, and what is now commonly known as the Yukon.

At the confluence of the two rivers a trading post was established, Fort Selkirk. In 1852 the post was transferred to the opposite bank of the Yukon, being subject to flooding at time of break-up on its former site (Bostock, 1936, 1 ).

Almost simultaneously penetration into the Yukon by the Hudson's Bay Company was taking place by another route. Information had reached the Company concerning the presence of fur-bearing animals on the Peel River. Consequently in 1839 a

party led by John Bell had established a trading post, Fort McPherson, on the Peel. It was from this post that Bell crossed the Peel watershed in 1846, reached the head-waters of the Porcupine, and descended to its junction with the Yukon River. Here, in 1847, A. H. Murray established Fort Yukon (Ogilvie, 1913, 24).

With the establishment of Fort Yukon a trading pattern began to emerge in the Yukon basin. Campbell believed it to be easier to transport the products of trade down the Yukon River to Fort Yukon, and then along the Porcupine to the head-waters of the Peel, and thence to markets outside the Territory. The shorter, but more arduous, Liard route fell into disuse, in favour of the Yukon-Peel route.

The presence of gold was observed by Campbell and other officials of the Company. There is no geographic record as to the location of such gold, whilst isolation combined with a relatively lucrative trading economy to preclude any attempt to exploit discoveries. The sacking of Fort Selkirk in 1852 acted as a deterrent against white occupation in the middle Yukon Valley, and may have retarded the extraction of gold in this area. An impression of the contemporary attitude towards gold in the Yukon is obtained from a letter written by a clerk at Fort Yukon. He wrote that he,

'had some thoughts on digging gold,.....merely  
as a last resort when I can do no better.'  
(Ogilvie, 1913, 86).



1867 marked the start of the next important phase in the colonization of the Yukon Territory. In this year due to a combination of factors, mainly, isolation, recurring losses of the Russian American Company, the financial aftermath of the Crimean War, and the Declaration of the Monroe Doctrine by the U.S.A., Russia sold Alaska. Subsequently a more aggressive trading policy was adopted. The Baranoff Company sold its vessels and posts to the firm of Hutchinson, Kohl, and Company of San Francisco.

Revision of the Alaska-Canadian boundary at this time showed the Hudson's Bay Company, post of Fort Yukon to be in Alaska. The Company was obliged to abandon this post and moved to Rampart House on the Porcupine (1867). The Alaska Commercial Company which had been developed as a combination of American trade interests and the Russian trade legacy used Fort Yukon for a time before transferring to Belle Isle, which eventually became a wintering post for miners in the vicinity of the Canadian-Alaskan boundary (Ogilvie, 1913, 65).

In the face of competition the Hudson's Bay Company adopted a policy of forcing rivals out of the area east of the Mackenzie Mountains into the Yukon, thus consolidating its hold over the former area.

The development of American interests in the vicinity of the Canadian-Alaskan boundary based upon water access to the region led to the transport revolution which was to have

significant influence upon the area's economy. In 1869 the steam-boat 'Yukon' was introduced to the river. Three years later the steam-boat 'St. Michael' sailed as far as the site of Fort Selkirk.

The introduction of power vessels to the Yukon placed greater emphasis upon the penetration of the basin from the mouth of the river. The sacking of Fort Selkirk had provided the ultimate blow which led to the abandonment of the Liard-Pelly route, whilst the Peel-Porcupine route was a devious corridor of communication. The steam-boat made the Upper Yukon basin penetrable, and all the Yukon accessible, via a reliable (albeit seasonal) route from the more densely populated Pacific Coast of North America.

The dominance of the Yukon estuary as the major route into the Territory is to be noted from the manner in which settlement nucleated near the Canadian-Alaskan boundary. Belle Isle emerged as a trading post, whilst in 1871 Jack McQueston established a post for the Alaska Commercial Company at Fort Reliance, some six miles down-stream from the present site of Dawson City (Ogilvie, 1913, 65). This may have been partly in response to the declining fortunes of the Hudson's Bay Company, McQueston taking advantage of the fact that they did not have a post on the lower river at this time.

It was at this juncture that gold began to play a significant role in the economy and development of the Yukon.

In order to understand the rather belated exploitation of gold in the region it is necessary to consider the mental attitude of prospectors and the geographic progress of gold mining and prospecting through North America.

Prospecting was a permanent yet economically unstable occupation. Prospectors worked their way across America to California, and then north through the gold fields and rumoured ore fields of the Western Cordillera. As output or potential in one field declined so prospectors drifted to another area. Prospectors began to arrive in the Yukon in 1873, working either from the California fields of the '49 rush, the Caribou rush of the 1860's, or the Cassiar fields. The first group of prospectors known to have entered the area travelled down the Porcupine (1873); the second group crossed the Chilcoot Pass in 1878.

The traversing of the Coast Range into the Yukon basin, was the 'poor man's route' into the Territory was ultimately of great significance in the Territory's development. It provided the shortest route into the basin from populated coastal North America.

Over time the number of prospectors at work increased, and their location changed. In 1885 prospecting started on the Stewart River, and it has been estimated that one hundred men were working there in that year (Gutsell, 1953). Prospecting also commenced on the Fortymile and Sixtymile Rivers. In the

south, gold was discovered on the Big Salmon River, a tributary of the Yukon. In 1886 Cassiar Bar on the Yukon, a few miles above the mouth of the Big Salmon was discovered.

In response to mining development new settlements came into existence. Prospecting on the Stewart River led to the establishment of a post, Stewart, at its mouth by the Alaska Commercial Company Limited prospecting on the Fortymile River, combined with the presence of the Yukon as a useful waterway led to the establishment of a trading post, Fortymile, at the junction of this river and the Yukon.

The old fort at the junction of the Pelly and the Yukon (Selkirk) was reoccupied and became a trading post in response to increased movement on the river. In 1883 Pike noted the existence of a new post beside the old one, with a Protestant mission, and a collection of Indian houses (Pike, 1883, 211). Prospecting on the Sixtymile River provided the incentive for the establishment of a trading post, Ogilvie, on an island at the confluence of the Sixtymile and Yukon Rivers (Berton, 1958, 35).

In 1887 the discovery of relatively large quantities of gold in the valley of the Fortymile River led to internal migration. Camps were abandoned as miners moved to the scene of the new strike, and a township evolved round the Fortymile trading post. In 1887 this became the largest settlement in the Yukon, with at least two hundred miners working in its

vicinity. The proprietors of the Stewart trading post moved to Fortymile, whilst Stewart itself was rapidly depopulated (Ogilvie, 1897, 112).

The apparent increased economic fortunes of the Canada-Alaska boundary area gave rise to trade rivalry which in turn furthered settlement. Initiated by one John Healy, and backed by the Cudahy meat packing fortune, the North American Trading and Transportation Company was formed to break the monopoly of the Alaska Commercial Company. Fort Cudahy, across the Fortymile River from Fortymile townsite, was developed as the headquarters for this company.

The emergence of a single coherent mining centre in the Yukon in the form of Fortymile did not mark the termination of internal migration in the region. Ultimately three major factors contributed to the decline of Fortymile. These were exhaustion of the more accessible gold, the introduction of a police detachment to the settlement, and finally the discovery of gold on Birch Creek, an Alaskan tributary of the Yukon (Berton, 1958, 28). This latter event led to the establishment of, and subsequent migration to, the mining centre of Circle City. The reasons for the decline of Fortymile are dealt with more fully in Chapter III.

## II. THE PERIOD 1896-1901

The discovery of gold by Carmacks on Rabbit Creek, a

tributary of the Thron-Diuck River on August 17, 1896, led to the most important phase of human occupance in the Central Yukon. It precipitated immigration into the Territory on an unprecedented scale.

Two periods of development within this era of immigration are to be noted. Firstly internal migration within the Yukon Territory, with attendant consolidation of population around Joe Ladue's saw-mill and newly founded town-site at the junction of the Yukon and Klondike Rivers (Berton, 1958, 52). Secondly, the influx of prospectors from outside the Territory.

The two periods of development were separated by a gap of two years. The first period was marked by an influx of prospectors from other mineral based settlements in the area, namely Stewart, Fortymile, and Circle City. In a letter written in January 1897 Ogilvie infers that the discovery of Klondike gold was responsible for the demise of many of the older mining settlements. He states that,

'The reports from the Thron-Diuck are very encouraging; so much so that all other creeks are now practically abandoned, especially those on Fortymile.'  
(Ogilvie, Letter from Cudahy,  
11-1-1897).

Several events contributed to the delay in immigration from outside the Yukon in response to the gold discovery until summer 1898. Because of the attraction of gold few were willing

to leave the Territory in the late summer of 1896 to break the news to the outside world. The severity of the winter of 1896 prevented movement out of the Territory. Ships bearing news and material evidence of the gold strike could not leave for the Pacific Coast until the Yukon River cleared of ice in the spring of 1897, and consequently did not reach their destination until July 1897, immediately precipitating a mass exodus to the gold-bearing area. The S. S. Excelsior arrived at San Francisco on July 15, 1897. The S. S. Portland arrived at Seattle two days later.

By the time the immigrants started to arrive on the head-waters of the Yukon, or on the periphery of the Yukon basin it was winter 1897. Consequently relatively few were able to reach Dawson in this year, being obliged to camp and await the spring thaw, when the Yukon River, the main transport route, was navigable again. It has been estimated that during the winter of 1897-8 there were some 1,000 people camped at Glenora, waiting to take the Stikine route to the Yukon (Tollemache, 1912, 28), whilst some 10,000 had crossed the Chilcoot Pass and were camped in the vicinity of Lake Bennet, on the headwaters of the Yukon (Morrell, 1960, 385).

The impact of the 'gold-rush' as a colonizing influence in the Yukon is to be seen from comparing population figures for summer 1897, winter 1897-8 and summer 1898. Morrell estimates that in the summer of 1897 the population of the gold

producing area was between 3,000 and 4,000 (Morrell, 1940, 382). By the winter of that year Innis (1936) estimates that the population had risen to 5,000, whilst during the summer of 1898 some 30,000 persons entered the Yukon basin and migrated to the gold fields (Steele, 1915, 312).

The migration to the Yukon was on an unprecedented scale, Innis claiming that some 100,000 persons attempted to reach the Klondike area. The migratory forces were perhaps as much repulsive as they were attractive. Motive for migration as much in the deterioration of domestic conditions in industrial areas as it did in the attraction provided by gold.

The two major factors influencing migration were improved communications and world depression. World depression was important as it created an abnormal demand for money. It also meant that goods were cheaper, and consequently supplies were easy to obtain. Lack of employment gave people free time to travel to the gold bearing area. Improved communications aided the migration to the Yukon insomuch as the steamship enabled persons to be transported to the periphery of the Yukon basin with relative ease. Mass media was also responsible for the induction of migration, newspapers often conveying to the masses exaggerated reports of the gold discoveries.

The immediate effect of the sudden influx of migrants into the Yukon upon its settlement pattern was both a



modification and a reinforcement of the pattern that had existed in 1896. Two distinct functional types of settlement emerged, settlements along the routes to the Klondike servicing transient migrants, and settlements within the prospecting area, servicing the mining industry. The latter group can be further divided into settlements not located at the site of extraction yet servicing the miners and prospectors, and settlements situated at the site of extraction.

A definite locational trend is to be seen in respect to settlements acting as mine service centres but not situated at the point extraction. They were allied to communication rather than proximity to site of extraction. Without exception these centres were situated on the main river at its junction with the stream upon which extraction was taking place; the siting of such centres appeared to be a compromise between proximity to mineral resource and attempt to minimize discomfort in an inhospitable area of the earth's surface.

Consequently many of the trading centres serving mineral extraction which emerged in the gold rush era and the first twenty years of the twentieth century were located away from extracting areas, where site conditions were better suited to the comfort of the inhabitants. Flat land, low altitude, and consequently shelter from prevailing winds, combined with location on a major transportation media were characteristic of these settlements.

However good site conditions were a feature resulting from virtual geographic accident. The fact that esturinal situation gave features conducive to the comfort of the inhabitants was secondary to the fact that valley confluence provided the optimum site for a service, break of bulk, or distribution centre.

It is to be seen that situation on a major line of communication, serving a mineral extracting hinterland via a tributary valley, was characteristic of Fortymile and Ogilvie prior to the 'gold rush'. In the years immediately following the gold discovery Dawson City developed in this manner, whilst Mayo Landing which emerged in the first quarter of the Twentieth Century in conjunction with the exploitation of silver-lead ores on a tributary of the Stewart River illustrates the same locational trend.

The distribution of settlements acting as service centres for transients was dictated by three major factors. Firstly, the radial distribution of routes leading into the gold-bearing area, determined mainly by the natural positioning of valleys and rivers. Secondly, obstacles on the route which required break in bulk or transport media. Finally daily travelling distance.

Four major route-ways into the Yukon and to the Klondike were used:

- 1) The Bering Sea-Yukon River steamship route.

2) The Skagway-Chilcoot Pass (or White Pass) route to the headwaters of the Yukon, and thence down the Yukon.

3) The Dalton Trail from Pyramid Harbour via the Chilcat Pass to a point in the vicinity of Carmacks on the Yukon River.

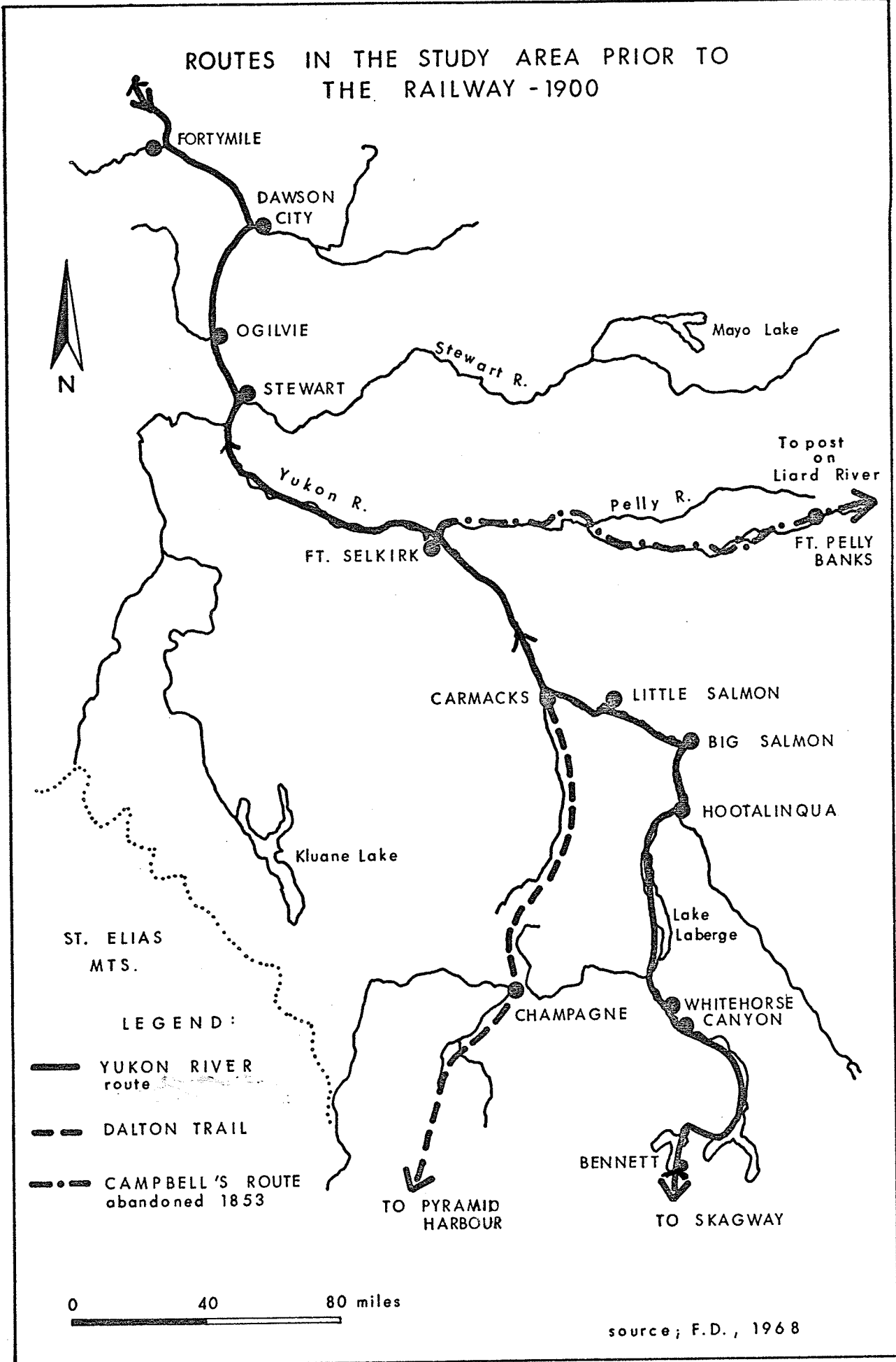
4) The Stikine route, across the watershed of the Stikine River to the headwaters of the Teslin River, and thence down the Teslin to the Yukon.

The most important of these routes in the early stages of the 'gold rush' was the Chilcoot Pass route. It must be borne in mind that the ultimate junction of the last three routes with the Yukon River gives an increase in population as one moves down the Yukon Valley prior to reaching the gold extracting area.

It is to be conjectured from studying the observations of Barnum (1896) that no new settlement emerged on the route to the Klondike in the period 1890-1900. In the years before the Klondike strike approach to the gold producing areas by many prospectors had been from the headwaters of the Yukon, this route having the added advantage of being free of ice and therefore navigable before the mouth of the river. The route used by the migrants of 1897-8 was the same as that used by previous prospectors.

Identical navigational hazards, similar human requirements, and analagous daily travelling distance dictated settlement and camp locations at the same place as such

# ROUTES IN THE STUDY AREA PRIOR TO THE RAILWAY - 1900



settlement had been located previously. The sudden influx of population merely meant that previously temporary camps became greatly enlarged, and attained the characteristics of permanent settlement.

The opening of the White Pass and Yukon railway in 1900, combined with the construction of a winter road from Whitehorse to Dawson in 1902 modified the settlement pattern. This modification was furthered by the fact that from 1900 onwards the region's population fell rapidly. In 1899 immigration had apparently ceased<sup>1</sup>, and centers which owed their importance to the fact that they serviced transient migrants declined.

The railway accelerated the decline of river settlements south of Whitehorse due to the fact that there was now no need for water transport in this area. It also aided the importation of heavy mining machinery which made large scale extraction more economically viable, and displaced the small operator, thus augmenting the decline in population (Innis, 1936, 216). The railway made a contribution to the permanence of settlement by making Whitehorse a break of media point on the Yukon's most important route-way. As a result the settlement

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<sup>1</sup>Figures showing number of passengers conveyed by steamboat on the Yukon River indicate that in summer 1899 steamboats conveyed 4,604 persons from Whitehorse to Dawson, and conveyed 5,465 persons from Dawson to Whitehorse.

was able to survive the reduction in number of transient migrants which otherwise may have led to its complete decline.

The completion of the Whitehorse-Dawson winter road (1902) facilitated year-round travel between the two settlements. Initially this communication improvement modified settlement pattern insomuch as road houses were established to service the stage line using the road. The advent of the automobile was to render the spatial distribution of such road houses irrelevant and lead to their decline.

As already indicated the period 1900-11 saw a rapid decrease in population in the Yukon. Apart from the displacement of labour due to the introduction of machinery there were other reasons for decline. The more accessible gold had been removed. The world economic situation had improved, and employment was again available in the industrial areas from which many of the prospectors had come. A further factor was that during the period 1898-1901 the population of the Territory was far greater than the gold discovery justified. In the words of Morrell,

'When the great rush came the extension of the gold fields was virtually over.'  
(Morrell, 1940, 391).

The main gainers from the gold discoveries had been the prospectors and traders residing in the Yukon prior to the gold rush.

Apart from its potential mineral wealth the Yukon had

little economic or social incentive for its vast migrant population. Its climate was adverse and its terrain inhospitable; agriculture was of no importance; its industry non-existent. Morrell, in comparing the Klondike 'gold rush' to rushes elsewhere states that,

'...the Klondike rush could not reveal as other rushes could, the capacity of a region for carrying a large population at a higher level of civilization.'  
(Morrell, 1940, 400)

### III. THE PERIOD 1901-1921

In the period 1901-1921 the population of the study area underwent a rapid decline. This decline was accompanied by a redistribution of population.

A major factor responsible for decline in this period was falling gold output combined with the increased cost of extraction. This forced small-scale operators of the creeks in the Dawson area, either to return to the outside world, or seek minerals elsewhere in the Yukon Territory. Large companies with economies of scale began to dominate production in the Klondike fields.

After the turn of the century mining methods changed, and lack of conformity in correlation between decline in gold production and decline in population is indicative of two facts. Firstly the fact mentioned earlier that the gold rush was over-subscribed in terms of population, secondly that with the use of machinery gold output was maintained at a high level

whilst population declined. The figures for gold production, showing a decline in output in the first decade of the Twentieth Century create the impression that extractive activity had decreased. This impression is wrong. McConnell states that,

'....the dwindling production since 1900, in spite of the increased use of machinery is largely due to the gradual exhaustion of the phenomenally rich portions of Eldorado and Bonanza Creeks, and of the richer benches, and does not mark a corresponding decline in the mining industry of the region.....the number of creek claims worked, and the amount of gravel handled has increased if anything..... and the decline in production must be attributed to the lower grade of minerals mined.'

(McConnell, 1903, 109)

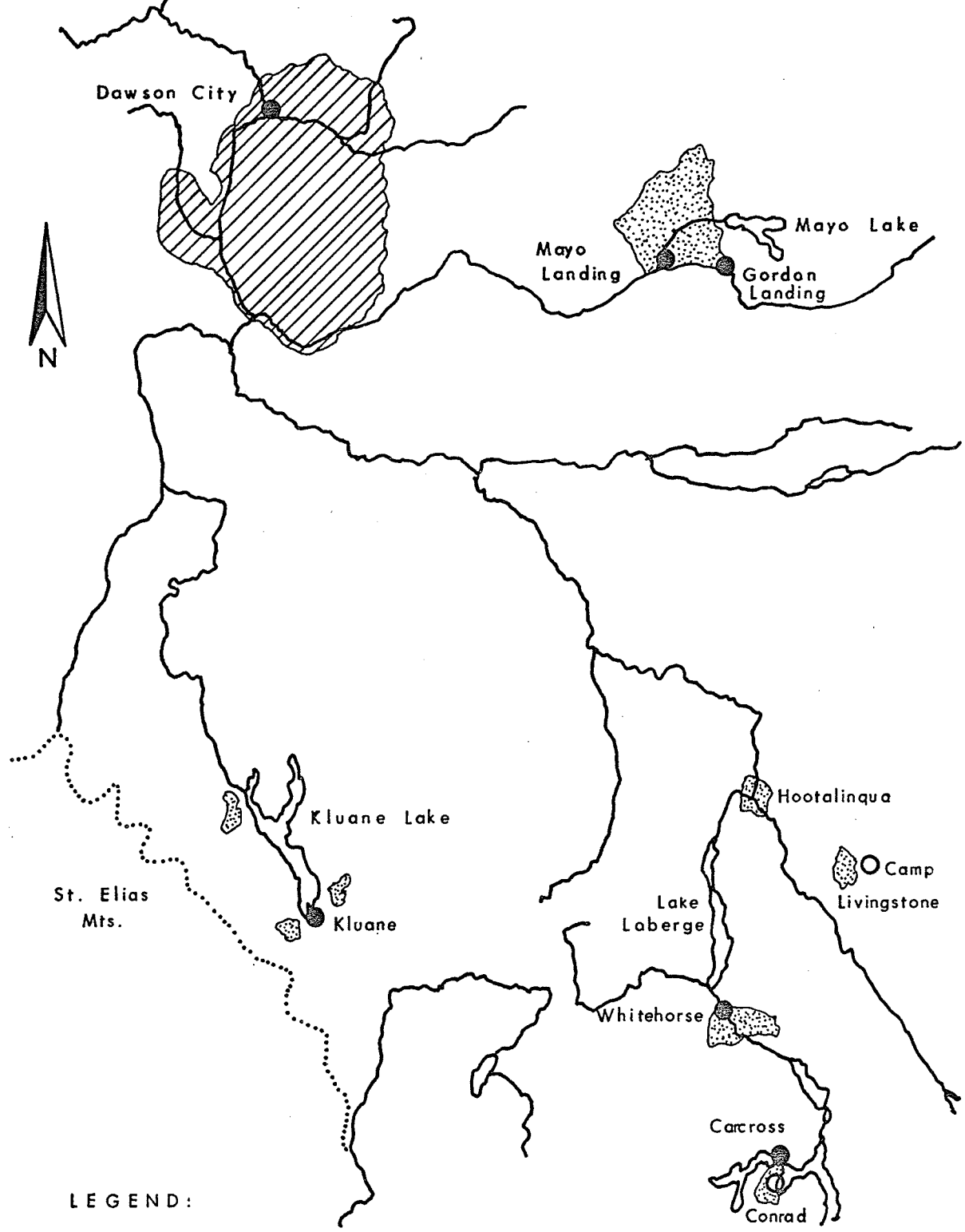
Marked decline in population and the emergence of large companies with resultant maintenance of a very high level of extractive activity inevitably left its impression upon settlement pattern. Nucleated company settlement emerged as the dominant settlement type, whilst the introduction of new mining methods led to the demise of linear creek settlement. Dredges were introduced and buildings in the creeks destroyed so that land previously worked by primitive placer methods could now be reworked by dredges.

In this period prospecting and mining began in several areas of the Central Yukon (Figure 3.), operated in many instances by miners formerly employed in the Klondike fields. The following areas were of importance:

A. The Mayo Area In 1900 the area north of Mayo Landing on the Stewart (formerly a trading post) was prospected by



DISPERSAL OF MINING ACTIVITY IN THE STUDY AREA IN THE PERIOD - 1900 - 1921



LEGEND:

- DISTRIBUTION CENTRE
- MINING SETTLEMENT
- ☛ ZONE OF MINING ACTIVITY
- ▨ ZONE OF CONTINUING ACTIVITY



source , F.D. , 1968

miners overflowing from the Klondike. In 1899 four Swedes discovered gold on Duncan Creek, a tributary of the Mayo River, and by 1902 the creek was staked for its entire length (Keele, 1904, 127). The following year another tributary of the Mayo, Minto Creek, was staked.

Two rival townsites to serve the mining area, Gordon Landing and Mayo Landing emerged, and government roads were constructed to give access to the new mineral area from the Stewart River.

1906 saw the discovery of silver lead ore on Galena Hill (Cairnes, 1915, 399). Small scale production was pursued for a number of years, and large scale production started in 1914 when shipments were made to Trail, B.C. In 1919 further discoveries were made on Keno Hill, and a subsidiary of the Yukon Gold Company began shipping ore (Cockfield, 1923, 508). Keno City emerged as a result of this latter mining development.

It is to be seen that the discoveries north of Mayo gave rise to two types of settlement. Firstly there were settlements involved directly in extraction, such as dispersed dwellings along Duncan Creek, and the nucleated settlement of Keno Hill. Secondly there were those settlements based upon communications and distribution, notably Minto Bridge, Mayo Landin, and the road houses established on the waggon roads. Although Gordon Landing had better port facilities than Mayo the construction of a government road from the latter settlement

site to the mineral areas was undoubtedly a major factor contributing to the decline of Gordon Landing.

B. The Carcross Area In the southern Yukon mining activity in the vicinity of Windy Arm of Tagish Lake led to the establishment of Conrad City as a settlement close to the point of extraction. Carcross, a White Pass Railway station at the bridging point on the Bennett-Tagish Narrows emerged as a break of media and distribution centre. This served the Conrad development and the Big Thing mine, some five miles to the south of Carcross. Merchandise was transported over the White Pass by rail to Carcross and then transported by steamer to Conrad. Initially reports concerning the mineral potential in this area were optimistic (McConnell, 1906, 211), but development was relatively short-lived, and in 1917 the Conrad mines were closed down.

C. The Kluane Area In 1903 gold was discovered on the Fourth of July Creek which flows into Kluane Lake, and prospectors were consequently attracted into the area. In 1904 Kluane Lake lay on the route of prospectors travelling to the gold discovery at Chisana, Alaska. Many of the prospectors travelling towards Chisana stayed in the vicinity of Kluane Lake, prospecting on its tributary streams (Cairnes, 1914, 355).

Kluane (also known as Silver City) at the southern end of Kluane Lake became the distribution point for the area and also acted as a disembarkation point for miners travelling

to mineral development in the vicinity of Burwash Creek at the north end of the lake.

A waggon road was constructed from Whitehorse to Kluane. This route was also supplemented by the use of the Takhini River for the conveyance of merchandise towards the mining area. Boats sailed up the Yukon to its junction with the Takhini and then along the Takhini to the point where the river and the waggon road diverged, here Mendenhall Landing served as the break of media point.

The Kluane mineral development lasted about twenty years, and at the outset appears to have given rise to optimism concerning the future development of Whitehorse. In 1904 Edwards wrote that Whitehorse, as the break of bulk point 140 miles from the kluane gold strike, 'now expects to yet rival Dawson' (Edwards, 1904, 106). At that point in history such optimism was unrealistic. The prohibitive cost of transporting supplies into the area adversely effected mining economies and limited development (McConnell, 1904, 126). By 1925 Kluane was little more than a ghost town.

Elsewhere in the Yukon there was scattered mineral extraction. In the vicinity of Carmacks, coal, based upon the Dawson market was mined. In 1909 a waggon road was constructed to serve a quartz claim south east of Whitehorse (Cairnes, 1909, 337). In the Hootalinqua area mining which had virtually ceased with the discovery of the Klondike fields was resumed and

Livingstone Camp on Livingstone Creek was established. For a time copper mining based in Whitehorse boomed, but reports concerning the ore were overly optimistic, and the fall in mineral prices, artificially stimulated by the First World War led to a cessation of activity (Ridge, 1953, 288).

In the era 1901-1921 expansion of communications was of importance. The motivation for the proliferation of communications in this period was the connection of new mining areas to the north-south river/rail transport axis. The additions to the communication network in this period evolved as a means of transport between such areas and the river/rail artery, following the easiest route.

The proliferation of communications influenced settlement in two ways. Roads and rivers required road houses and fuelling points respectively, whilst at the junction of different transport media settlement grew up to handle and distribute merchandise. The role of Fortymile, Dawson, Stewart and Ogilvie in this respect has already been discussed. In the period 1901-1921 Carcross, Whitehorse, and Mayo Landing emerged as settlements with break of bulk or distribution as the major function.

Whilst road houses tended to be specially created single unit settlements, such as Braeburn, refuelling stations were often settlements which already existed, the advent of the steam-boat giving them a wider economic or functional base.

The construction of the winter road, from Whitehorse to Dawson, improved year round communications. In summer river was the dominant transport media; in winter road was the only transport media. The construction of the winter road gave some settlements two transport functions. This is to be seen in the cases of Carmacks and Minto, which served transient road travellers in winter and acted as a wood-cutting base in summer.

Improved communications led to the decline of some settlements. Former foot or horse routes into the Territory such as the Chilcoot Pass and the Dalton Trail fell into disuse with the consequent abandonment of settlements such as Bennett City and Dalton Post and the eventual decline of Champagne at the junction of the Dalton Trail and the east-west waggon road to Kluane.

It is to be concluded that the proliferation of lines of communication influenced settlement development in the period 1901-21 insomuch as it modified the functional base of some previously existing settlements, such as Mayo Landing and Carmacks; gave rise to new centers such as Mendenhall Landing, Minto Bridge and Yukon Crossing; and led to the decline of settlements lying on out-moded lines of communication, such as Bennett City and Canyon City.

In the period 1901-21 one political factor significantly influenced the course of settlement development. In 1902

Dawson was incorporated as a city. Heavy taxation was imposed to meet civic expenses. As a result merchants moved out of Dawson into the creek settlements in the surrounding creeks. This movement augmented the development of Granville and Grand Forks which would otherwise have declined (Lotz, 1963, 13).

The map (figure 8) illustrates the extent of proliferation of settlement by 1921. Areas of abandonment indicated on the map combined with Census figures illustrates the fact that there were many short-lived settlements, indicating that in the period 1901-21 settlement development was allied to mineral extraction, as in the years before 1900. In this later era, however, production of much less value came from a far wider geographic area.

#### IV. THE PERIOD 1921-1941

Investigation of Census figures indicates that in the period 1921-1941 the Yukon Territory experienced a period of stagnation. It was an era of neither increase, decrease, nor redistribution, except in the Mayo mining area. The communications network was not expanded, and areas which had been developed and abandoned in the past were not reworked or reoccupied.

In the period there was the Depression, and fluctuation in silver prices, each contributing towards stagnation in respect to settlement development. Decline in silver prices ultimately made many silver ores in the Mayo area unprofitable

to work (Cockfield, 1930, 611). The world Depression was responsible, it has been surmised, for migration to frontier areas (Robinson, 1961), and this combined with increased demand for gold was responsible for the maintenance of a stable population level in Dawson and the surrounding creeks.

It is to be noted that at the outset of this period the S. S. 'Princess Sophia' sank in the Lynn Canal drowning many passengers from Dawson City (Lotz, 1963, 14). This adversely affected the settlement's population dynamics, and the increase in population which took place in the period 1921-1941 was confined to the years after 1930, and was due mainly to the influx of miners.

In the early part of this era (1921-3) silver ore production in the Mayo Area increased greatly. As output flourished so Mayo Landing grew, transformed from a trading post to a settlement handling ore and servicing the extracting area.

Near the end of the 1920's and in the early 1930's two factors struck a blow at the development of the Mayo area, increasing development costs, and in the years following 1930, decline in world silver prices. In 1930 Cockfield wrote that,

'....an ore that was profitable a year ago can no longer be considered as an ore; the minimum content of silver necessary for profitable operations has nearly doubled.'  
(Cockfield, 1930, 611).



Small scale operators were forced out of business, whilst larger operators had to seek richer veins in order to maintain a viable operation.

The fall in silver prices influenced settlement location in the Mayo area. In 1932 falling mineral prices forced the closure of the mill at Wernecke moved to Elsa. Thus Elsa grew whilst Wernecke ceased to exist.

Elsewhere in the study area the period 1921-1941 saw either sporadic small-scale development or stagnation. In Dawson gold production increased substantially after 1930, and although there was an influx of miners demand for labour exceeded supply, whilst the population increase of 224 was too small to give rise to any new proliferation of settlements in the creeks.

In Whitehorse, where copper production ceased in 1920 the population remained stable. Ridge attributes this stability to the fact that tourism emerged as a function replacing defunct copper production (Ridge, 1953, 289).

In 1941 the regional settlement pattern was much akin to that which had existed twenty years previously. The major changes had been in the population growth characteristics of existing settlements. Dawson, declining until 1930, had been paradoxically reinvigorated by the Depression, whilst the continuity of mineral exploitation in the Mayo area had been interrupted by it.

## V. THE PERIOD 1941-1968

This period was the second major era of growth in the Yukon's history. In this period the Territory's population increased almost three-fold, whilst the decrease in population, 1961-66 does not belie the fact that throughout the post-war years economic growth continued unimpeded.

This was an era of emergence of new settlements as much as it was an era of population increase in many of the established centers bar, notably, Dawson City. The major factors contributing towards redistribution and growth in this era were:

A. Transportation Improvement This improvement, manifest in the development of the Alaska Highway and the construction of the all weather road from Whitehorse to Mayo and Dawson had its initial basis not in any long-term planning project, but rather in strategic necessity.

In the years 1941-3 the Alaska Highway was constructed from Dawson Creek, B.C. to Fairbanks, Alaska. With its associated pipeline complex it was designed to provide a safe ground communications system between North American air bases involved in the Pacific War.

The end of the Pacific War left the Yukon Territory with a major (albeit unsurfaced) highway traversing the south-west corner of the Territory, passing through Whitehorse and providing a direct link with the peace River country, Edmonton and

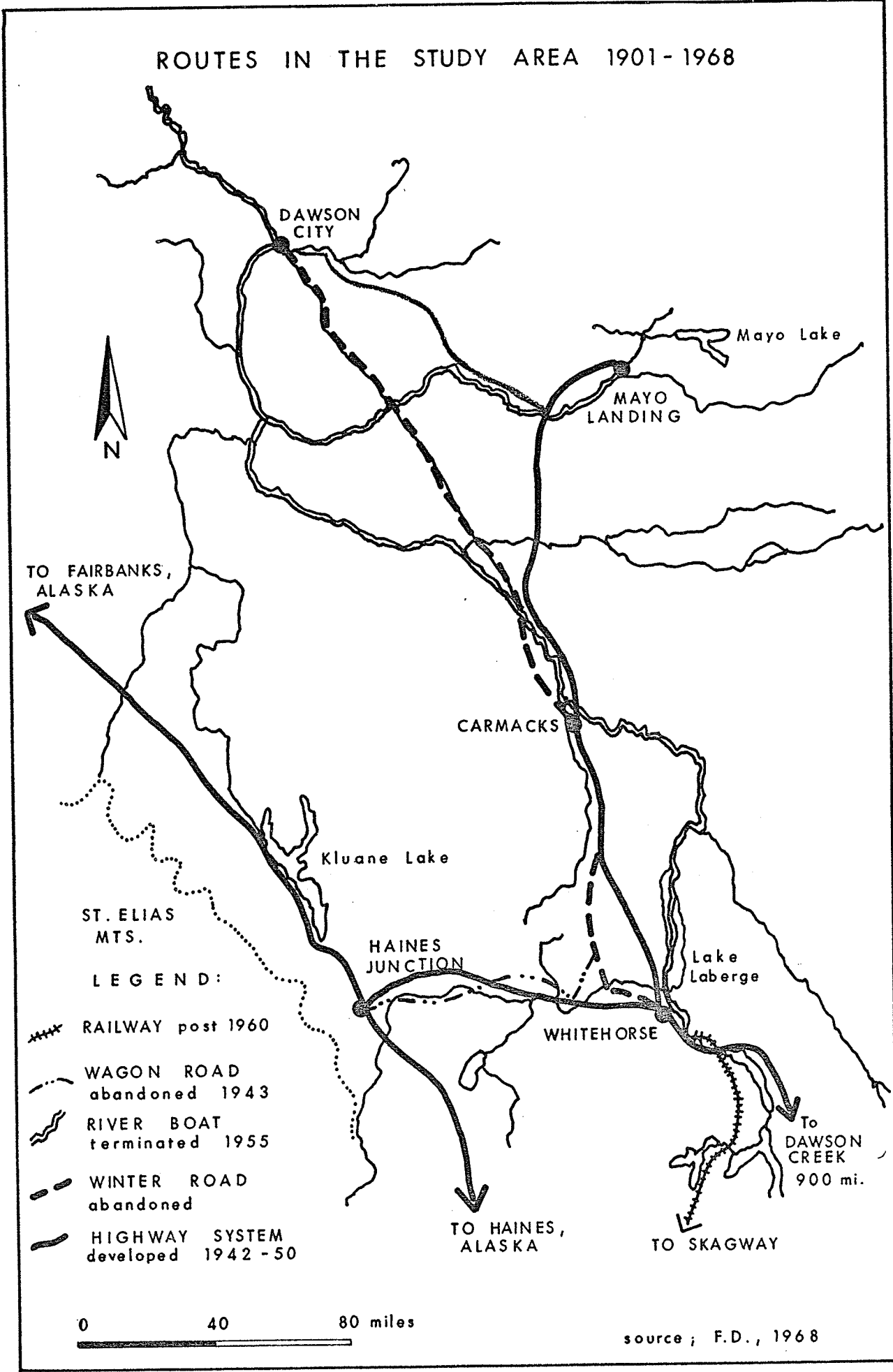
Vancouver. Within the study area the road runs from Whitehorse to the Alaskan boundary, with a loop south to Carcross, and a junction at Haines Junction providing access to the Territory from the port of Haines, Alaska (Figure 4).

In 1950 road construction, this time motivated by the desire to improve the economy of the region, started again. An all weather road was constructed from Whitehorse to Mayo Landing in order to facilitate the haulage of minerals from the Mayo mining area. A road was later constructed from Stewart Crossing joining this road to Dawson City.

The road building programme influenced settlement pattern in three ways. Firstly it replaced other lines of communication, such as the Kluane waggon road, the Dawson winter road, and the Yukon River as a transport media. This in turn led to the demise of settlements which had previously served these routes--road houses which had not already been rendered defunct by the innovation of the automobile, and settlements which acted as fuelling bases for steamships. Settlements which had served both river and road transport, such as Minto suffered a double blow.

The new line of communication required settlements to service it, along with its associated pipeline and telecommunications infrastructure. Settlements such as Haines Junction, at the junction of the Alaska Highway and the Haines Road, and Pelly Crossing and Stewart Crossing at bridging

# ROUTES IN THE STUDY AREA 1901-1968



0 40 80 miles

source ; F.D., 1968

points on the Dawson Road came into existence. A C.N. camp was established at Destruction Bay, as was a road maintenance camp, whilst settlements were constructed by the American Army on the Alaska Highway west of Whitehorse, for the maintenance of the pipeline to Alaska.

The highway development diversified or reinforced the functional base of settlements through which it passed. On the road to Mayo and Dawson, Carmacks, formerly a trading post, road house, and a fuelling point for steamboats became a bridging point. Its limited tourist services flourished with the increased amount of traffic brought by the highway. On the Alaska Highway, Destruction Bay, Burwash Landing, and Haines Junction developed tourist services.

B. Increased Mineral Activity Increased mineral exploitation resulted from a number of factors, increased world demand for industrial minerals and semi-precious metals, the construction of the Yukon Valley all-weather trucking route, and the introduction of more efficient mining methods being the most important. This era saw the reassessment of older, abandoned mining areas. Many abandoned workings were redeveloped, such as the Venus mines in the vicinity of Carcross, and the copper mines in the vicinity of Whitehorse. It was in the era, also, that increased efficiency in the Mayo mining area resulted in the movement of the settlement of Calumet to Elsa.

New areas of mineral extraction emerged. Prospecting

for oil started north of Dawson, giving the town importance as a base for operations. North-west of Dawson the discovery of large asbestos deposits led to the establishment of Clinton Creek mill and associated townsite.

In all probability the development of new areas of extraction will lead to the emergence of a settlement pattern which will be a repudiation of the pattern traditionally associated with Yukon mining activity.

The river orientated nature of former mining settlements in the study area, such as Fortymile, Dawson City and Mayo Landing has already been outlined. With the disappearance of river traffic the pattern has changed. All weather road transport eliminates the need for the construction of a townsite at break of bulk or media. Although it was previously argued that such valley location provided the most hospitable location in respect to human needs in a climatically adverse area, modern engineering and building techniques are rendering site factors less important. As a result the service centre for extraction is tied to the new transport media, road, and located at the point of extraction. Clinton Creek new town represents a break with the traditional siting of service centres, and it is to be surmised, taking into account the new transport media, that if the Clinton Creek asbestos had been developed as little as twenty years ago it would have been Fortymile, not the Clinton new town that would have been the service centre for

extraction.

C. Socio-economic Factors Since 1941 three notable Indian settlements, namely Minto, Aishihik, and Moosehide have ceased to exist. In the case of Minto and Aishihik the major factor responsible for decline was the advent of the highway. In the former settlement ceasure of river traffic and closure of the winter road forced the inhabitants to look elsewhere for work. In Aishihik the new settlements evolving along the Alaska highway acted as an attractive force contributing to depopulation. In Haines Junction, Pelly Crossing, and Dawson City, the three settlements to which the Indians moved from Aishihik, Minto, and Moosehide respectively there were certain social attractions.

Indians migrated to pelly Crossing after a beer parlour was established and a school constructed, whilst all three settlements to which the Indians moved had these basic amenities as well as government provided housing.

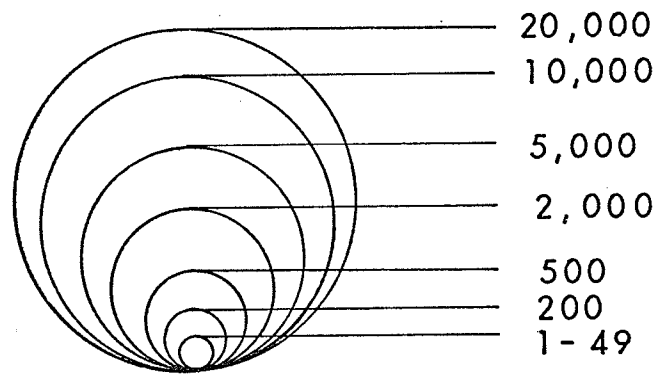
D. The Political Factor In 1952 the capital of the Territory was transferred from Dawson to Whitehorse. Although the move did not have any significant effect upon Dawson's already stagnant population it appears to have aided the growth of Whitehorse's population, which was already swollen by the military remnants of the war-time era. As time passed the Government commitment grew, the increased level of mining activity, maintenance requirements, the north-west highway

system and greater government participation on all aspects of northern life contributing to this and consequent increase in the population of whitehorse.

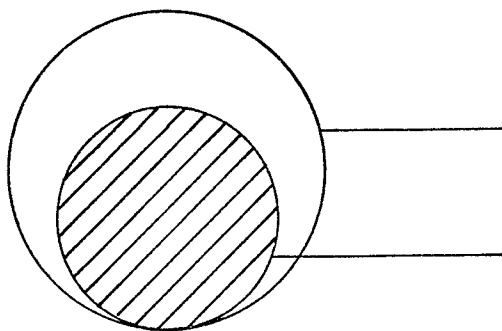


MAP KEY FOR :  
 POPULATION DISTRIBUTION  
 IN THE STUDY AREA  
 FOR THE YEARS :  
 1899  
 1911  
 1921  
 1951  
 1956  
 1961  
 1966

AREA POPULATION

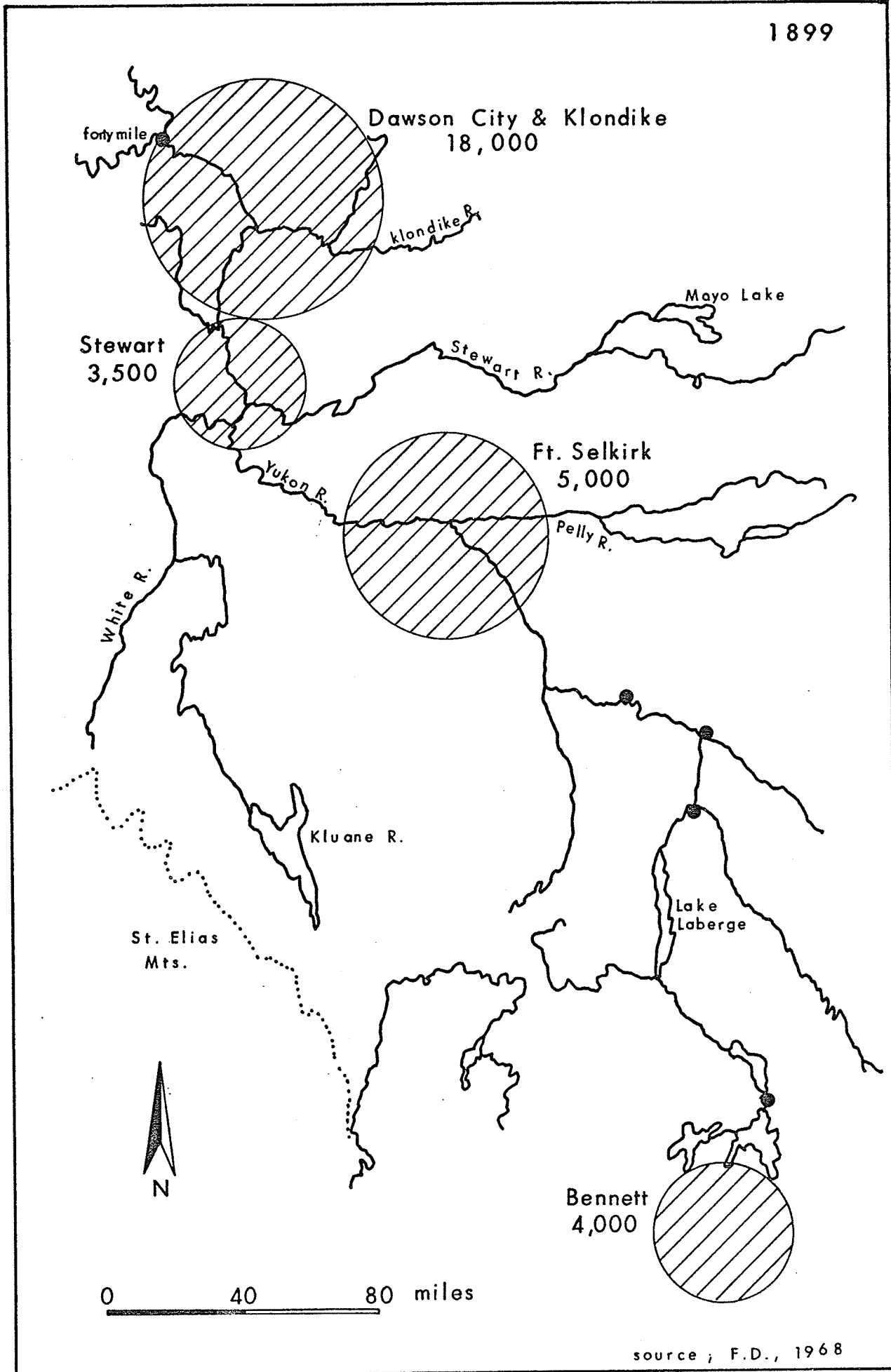


● Represents existing settlement with unknown population; probably not exceeding one hundred.



Outer circle represents the past population of the settlement if it has ever exceeded that illustrated for the current year.  
 Current population of the settlement.

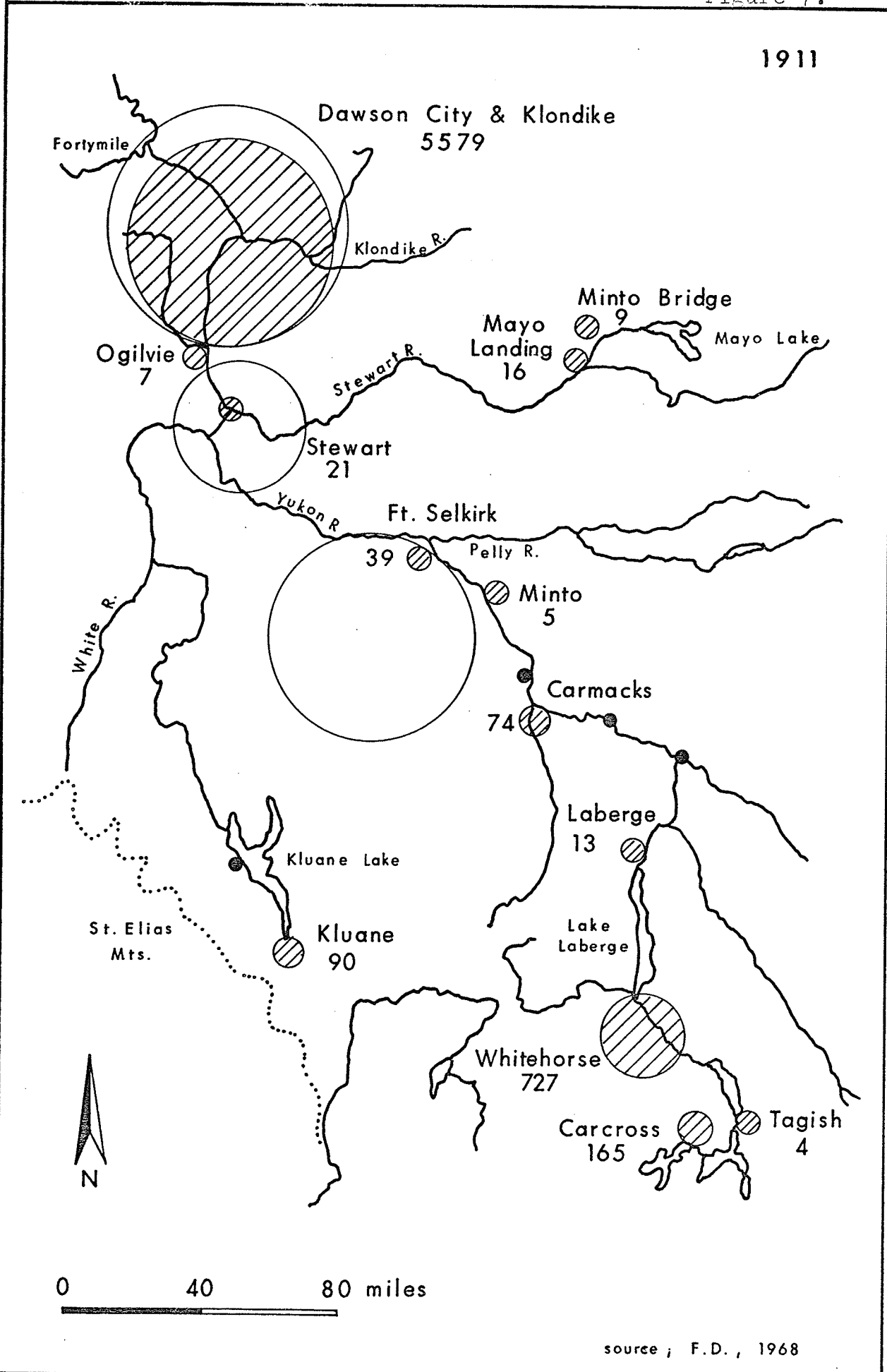
1899



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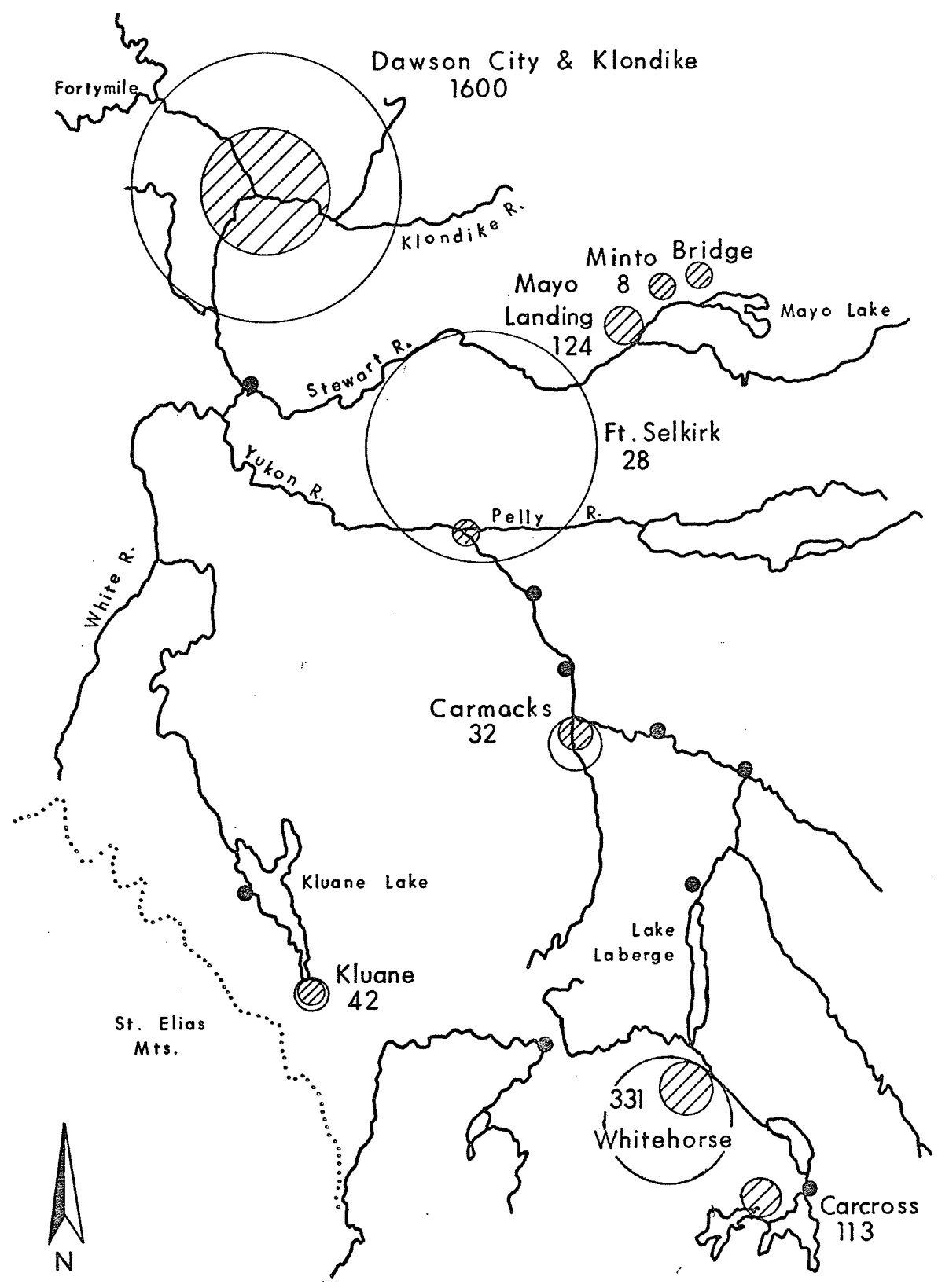
Figure 7.

1911



source ; F.D. , 1968

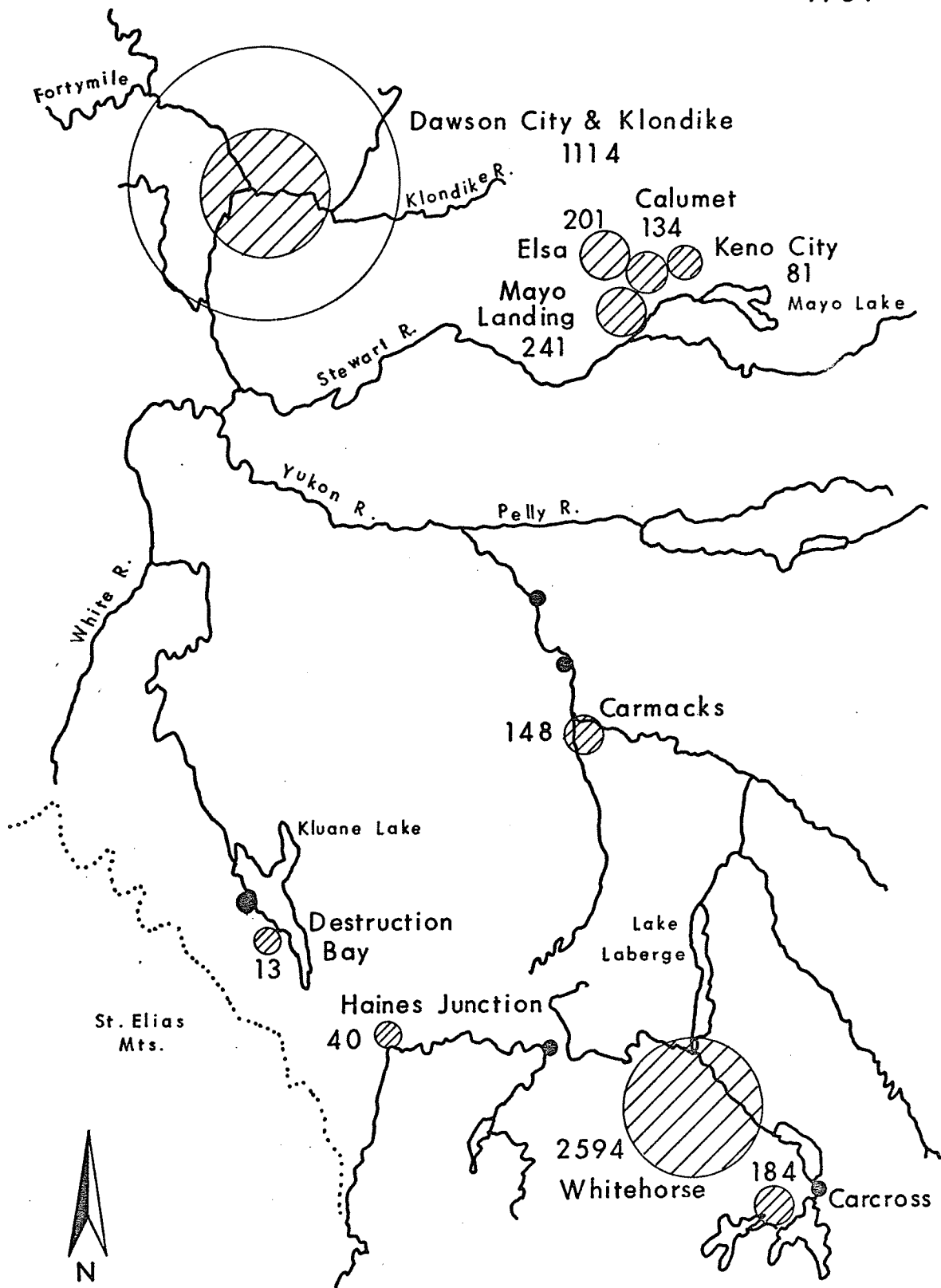
1921



0 40 80 miles

source ; F. D. , 1968

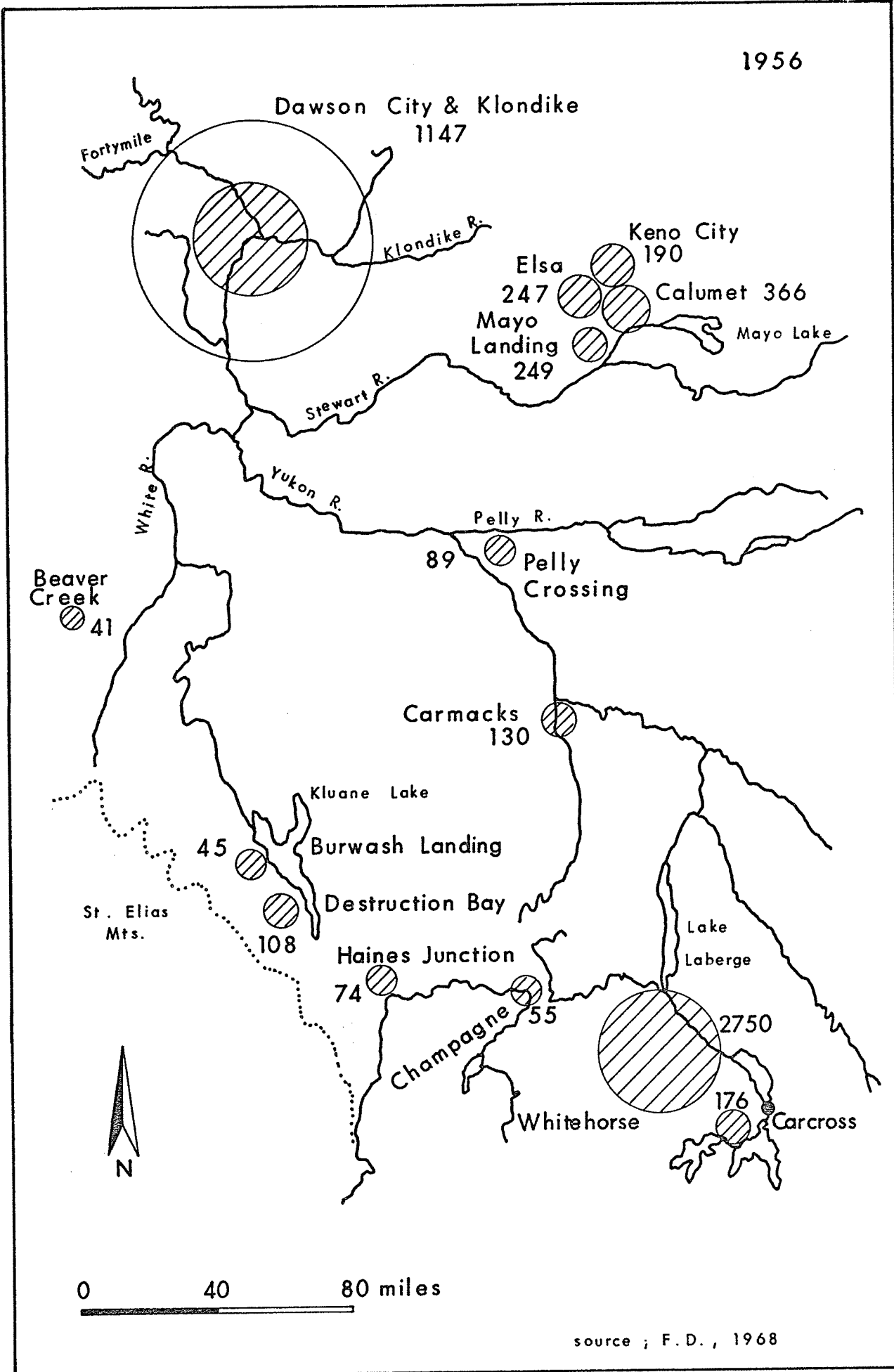
1951



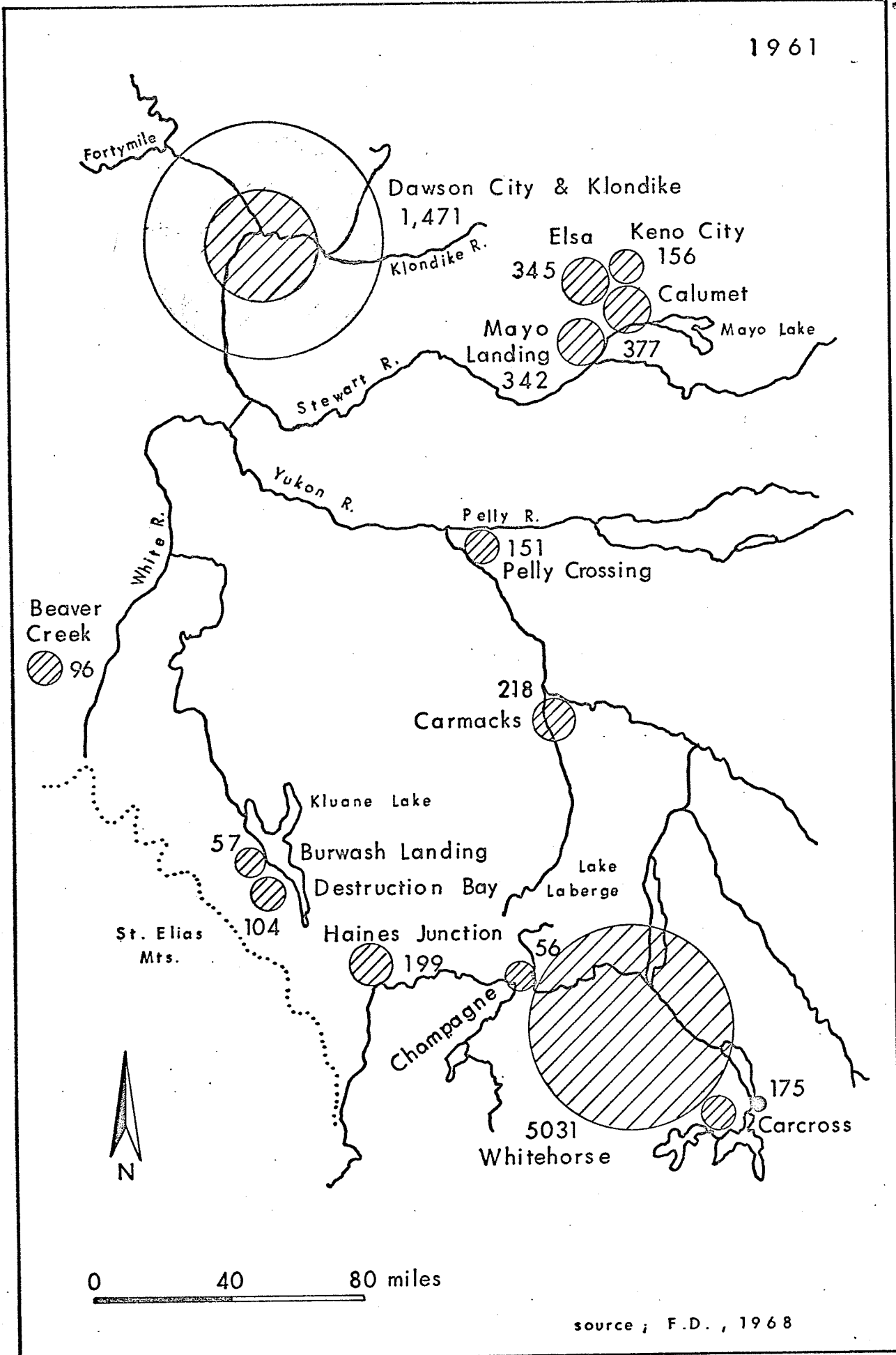
0 40 80 miles

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1956

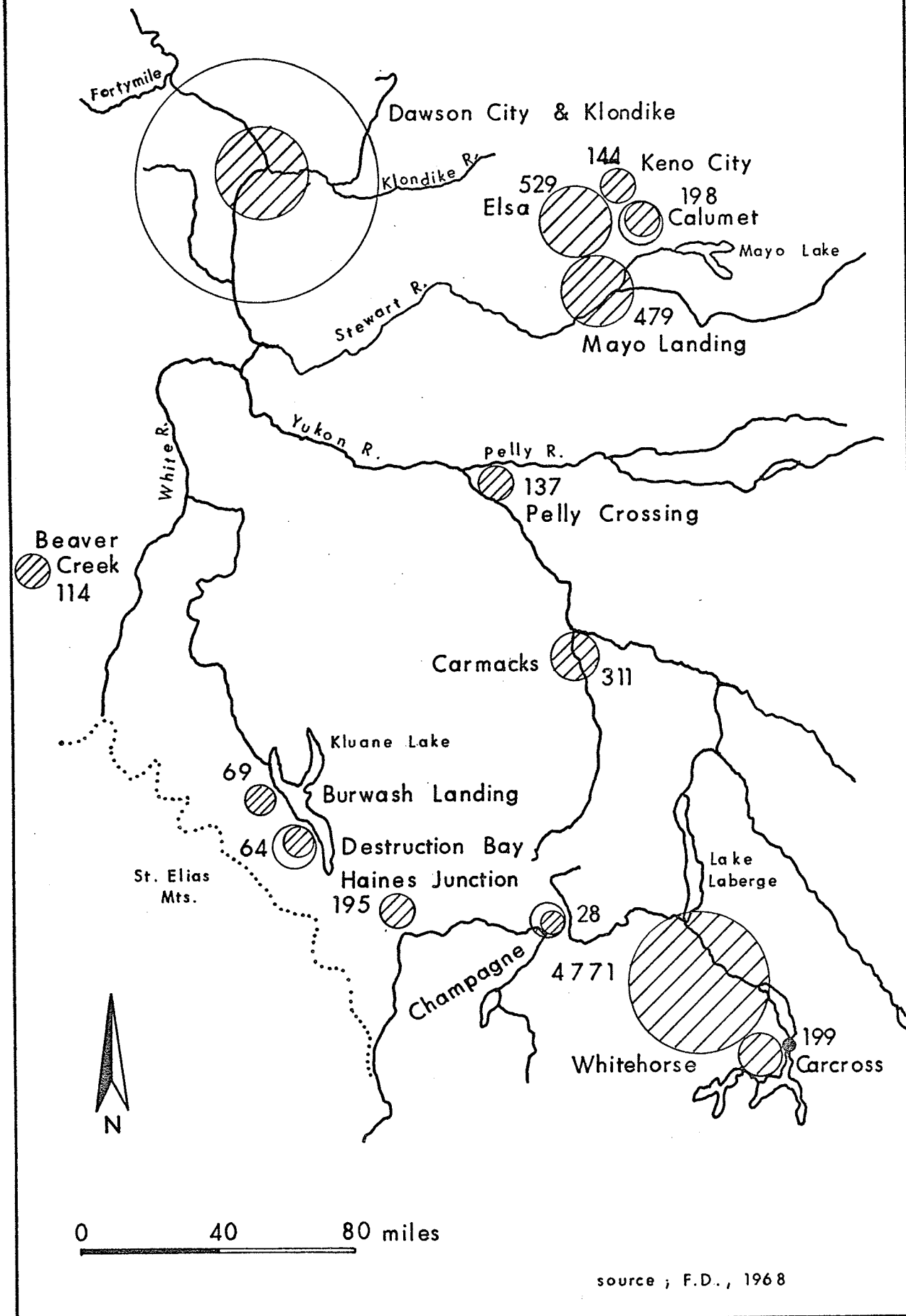


1961



source ; F.D. , 1968

1966



source ; F.D., 1968



## CHAPTER III

## THE SETTLEMENT GROUPS WITHIN THE STUDY AREA

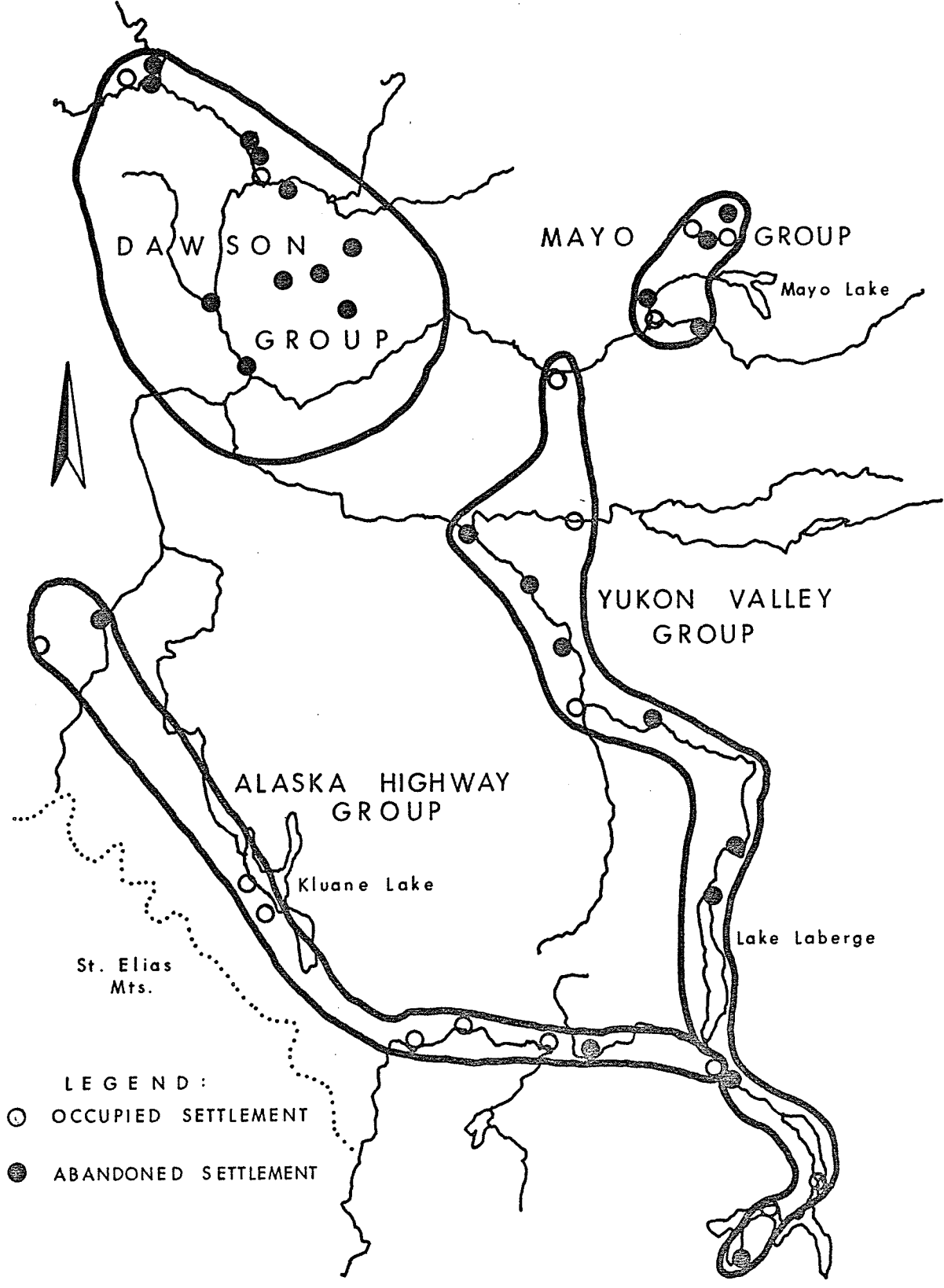
As indicated in an earlier Chapter the settlements in the study area lent themselves to a logical division into four groups. The four settlement groups identified are; the Dawson group, the Mayo group, the Yukon valley group, and the Alaska Highway group (Figure 13.). There is a fivefold basis for division in this manner, viz.:-

A. Economic Base Within each group the settlements have an economic base, or original basis for existence which is common to, and uniquely peculiar to, that group. The sole motive for the emergence of the Dawson group was the extraction of gold. Settlement in the Mayo group is based upon silver-lead extraction, whilst the Yukon valley settlement group owes its development to the servicing of transport routes and transients to and from the mineral producing areas of the north. Finally the Alaska Highway settlement group is based upon the servicing of the line of communication running westward from Whitehorse to the Alaskan border.

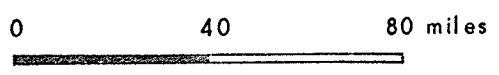
B. Differential Growth Rates Differential growth rates in each group, related to the basic function of the groups reflects the extent to which each group is, or has been, tied to a single function. Figure 14 illustrates correlation between the population of Dawson City and gold output in the Dawson

Figure 13.

# SETTLEMENT GROUPS WITHIN THE STUDY AREA



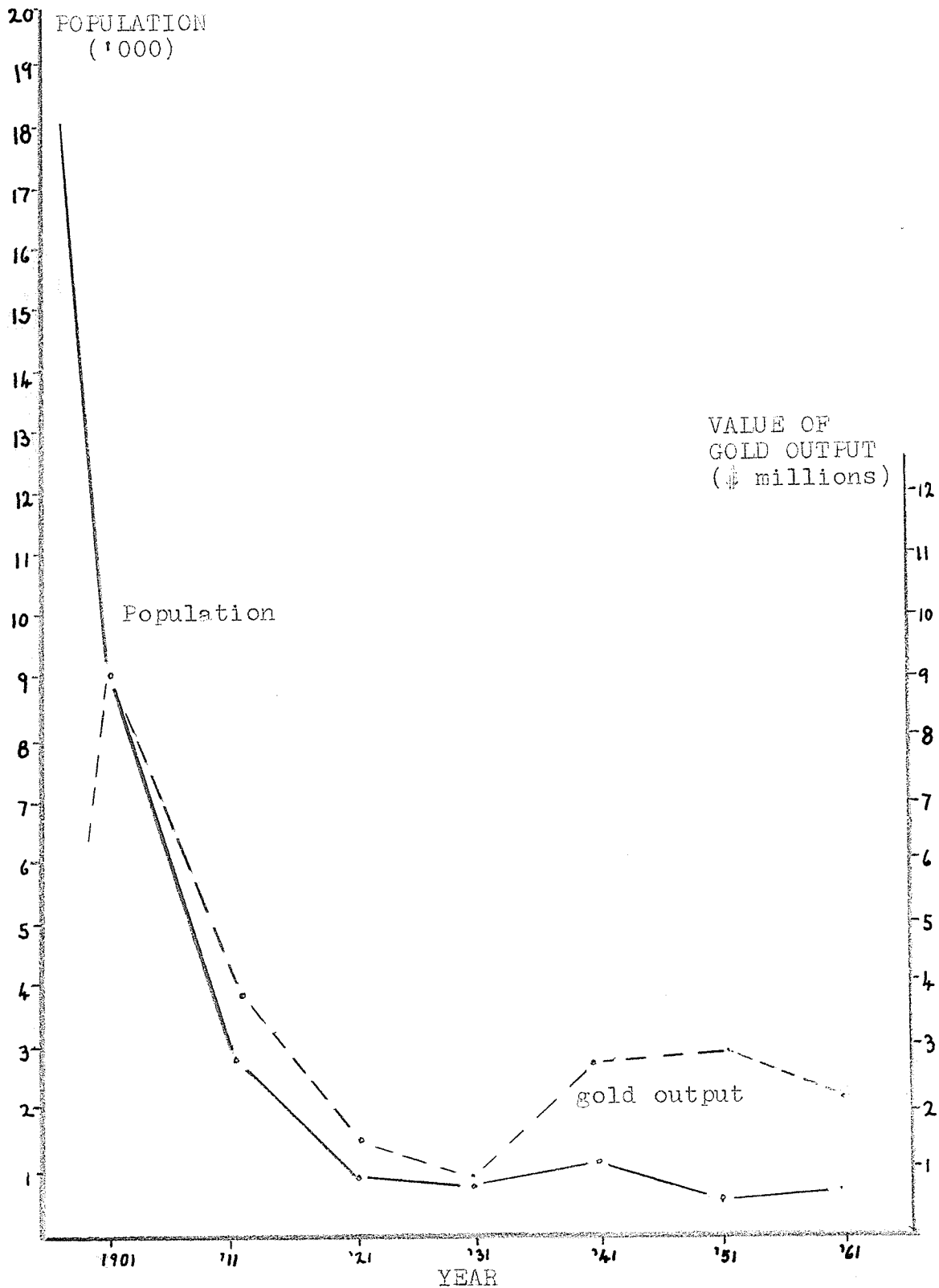
- LEGEND:
- OCCUPIED SETTLEMENT
  - ABANDONED SETTLEMENT



source, F.D., 1968

Figure 14.

Comparative Change in Value of Gold Production and  
Population of Dawson City, for Selected Years,  
1897-1961.



group, whilst Figure 15 shows the degree of correlation between mineral output and population in the Mayo group. It is to be noted that in the Dawson group where mineral production falls to a very low level (1931) there is no corresponding marked fall in population; it is conjectured that this is because the service centres, which hold a larger proportion of a group's population at time of depression maintain a service employed population which will not leave the area at time of depression, expecting future improvement.

The diagram (Figure 16) shows the response of settlements in the Yukon valley to changing transport media, and the changing fortunes of the northern mining area, which was responsible for the generation of the traffic upon which these transport-service based settlements depend. The degree of correlation between population and traffic flow in the Alaska Highway settlement group is seen in Figure 17. It must be borne in mind that the increased traffic flow illustrated in this graph is not a generated consequence of settlement growth in the group, but consists of traffic responsible for it.

C. Visual Grouping In visual terms, as can be seen from the map (Figure 13) the settlements under discussion can be grouped together in the manner already defined because each group has an alignment peculiar to itself, and, apart from the merging of the Alaska Highway and Yukon Valley groups, are separated by wide tracts of empty land. As can be seen the

Figure 15.

Comparative Change in Value of Mineral Production and  
Population in the Mayo Settlement Group for Selected  
Years, 1951-66.

Although correlation appears to cease after 1956 it is to be noted that falling output value after this date leads to a levelling of the rate of population growth, whilst the failure of population to fall in response to falling value of production is explained by the presence of fixed capital and the maintenance of prospecting operations.

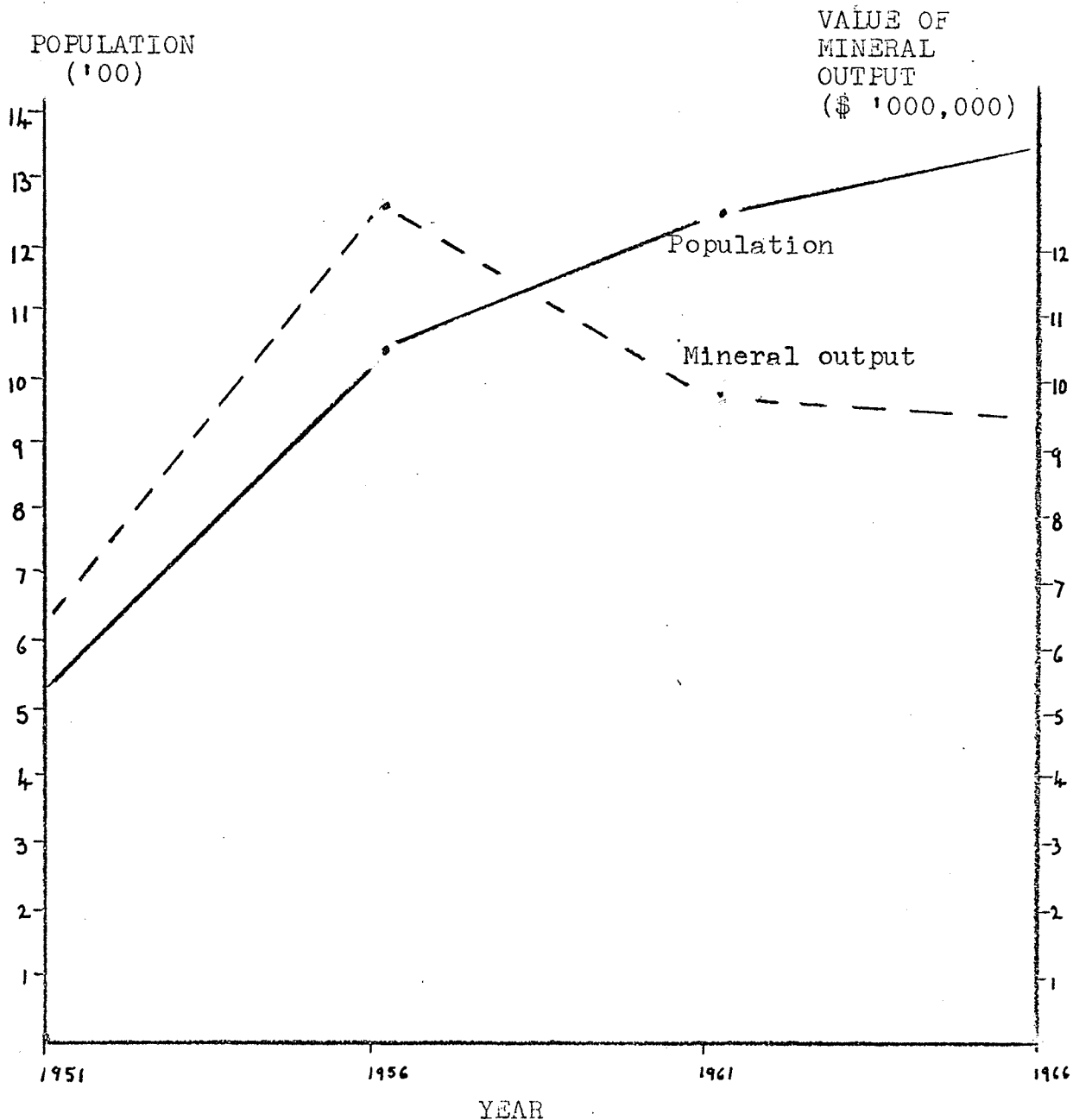
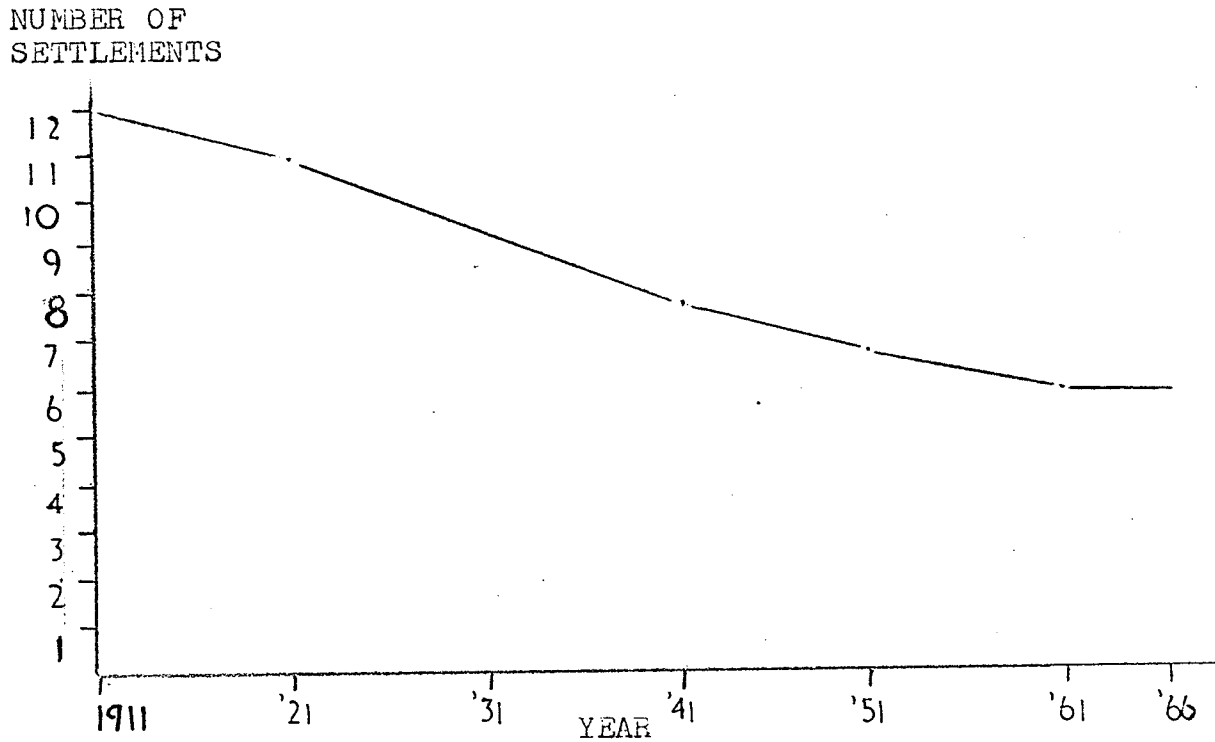


Diagram Illustrating the Decline in the Number of Settlements In the Yukon Valley Group, 1911-66, and Relative Decline to Demand For, and Nature of Transportation.

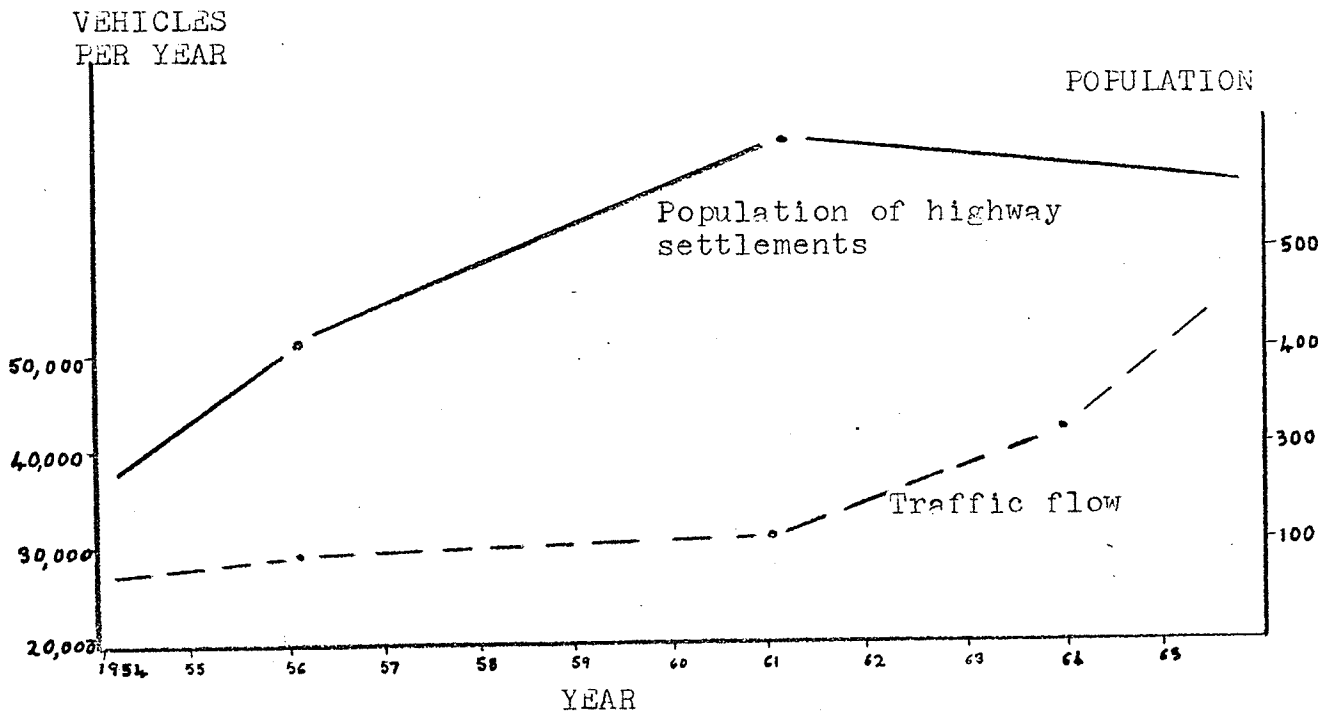


The slight decrease in the period 1911-21 resulted from the decline in traffic to the northern mining areas as the most accessible gold was removed. At this time settlements in the group serviced, and were serviced by, river and winter road transport.

The steady decline in the period 1921-41 was a reflection of stagnation, the Depression creating uncertainty in the mineral industry and the population of the northern mining areas remaining low.

The decline in the period 1941-1961 resulted from the construction of the north-west highway system with consequent displacement of river traffic and by-passing of sections of the former road to Dawson. Settlements not located on the new road declined, their function as transport service points being redundant.

Comparative Change in Population of Alaska Highway Settlements and Traffic Flow on the Alaska Highway, 1954-1965.



Source: Development Plan for the Alaska Highway; D.B.S., Census of Canada; 'The Yukon Today'.

two transport-servicing groups of settlements are aligned along the lines of communication they service, whilst the mineral based groups tend to lie in a cluster in the extractive area.

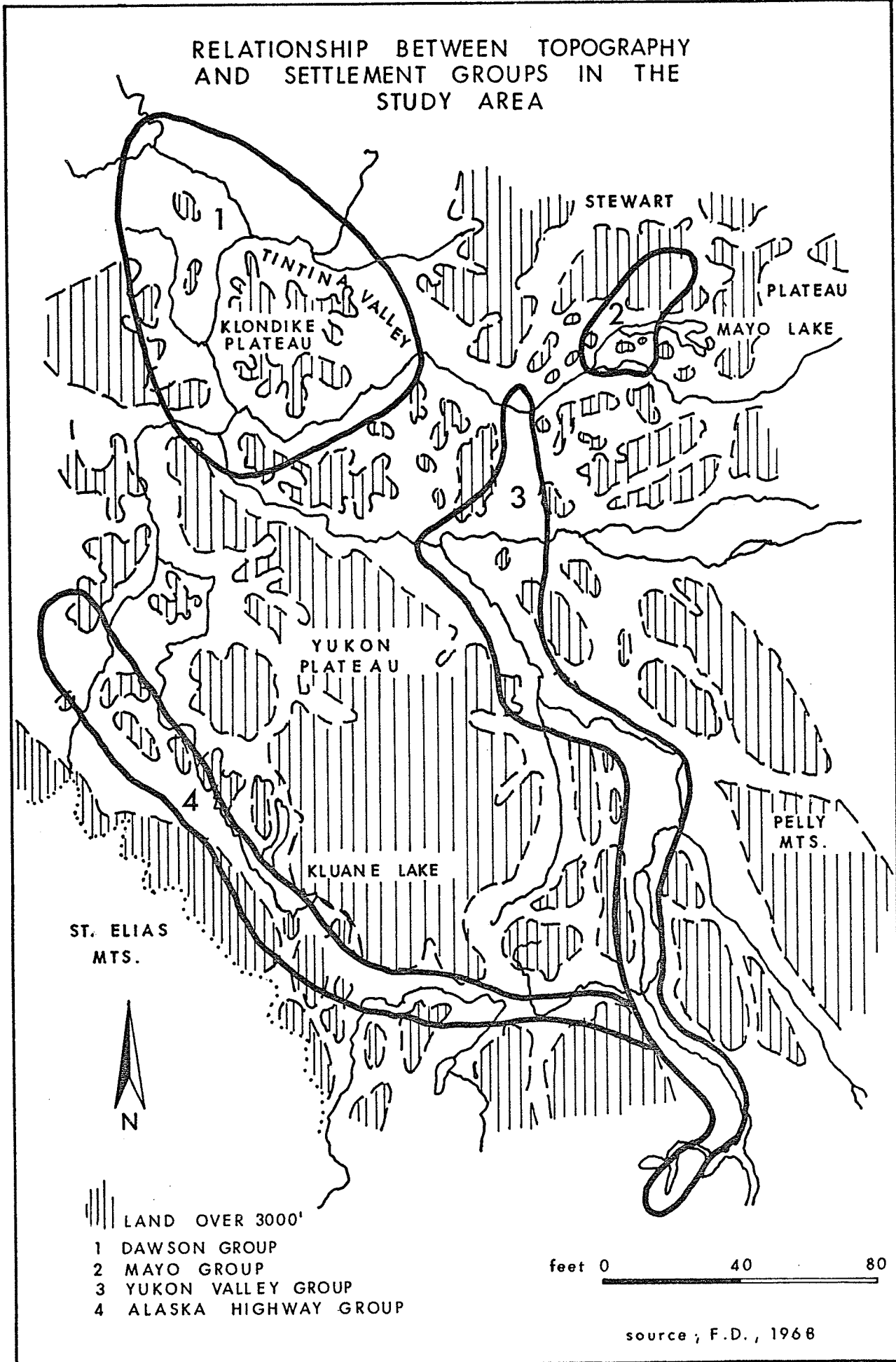
#### D. The Presence of a Major Service Centre in Each Group

Although, as will be seen later, Whitehorse is the obvious major service centre for the whole region each settlement group has a centre with a higher number of services than any other settlement in the group which acts as a local service centre, and is functionally comparable with the leading service centre in all the other groups. Table XI in Chapter 8 illustrates the dominance of Dawson City, Mayo Landing, Carmacks, and Haines Junction as the leading service centres in the Dawson group, Mayo group, Yukon valley group, and Alaska Highway group respectively. The importance of Carmacks and Haines Junction as service centres is undermined by the dominance of Whitehorse, the regional service centre, and its proximity to the Yukon valley and Alaska Highway groups. A fuller consideration of service centres appears in Chapter 8 .

E. Physiography The map (Figure 18) illustrates the relationship between physiography and settlement. As can be seen the study area can be divided into several physiographic areas (Bostock, 1948), and the settlement groups under consideration can all be identified according to the area in which they lie. The Dawson group lies on the Klondike Plateau, the Mayo group occupies the Stewart Plateau, the Yukon Valley



### RELATIONSHIP BETWEEN TOPOGRAPHY AND SETTLEMENT GROUPS IN THE STUDY AREA



ST. ELIAS MTS.



LAND OVER 3000'

- 1 DAWSON GROUP
- 2 MAYO GROUP
- 3 YUKON VALLEY GROUP
- 4 ALASKA HIGHWAY GROUP

feet 0 40 80

source ; F.D. , 1968

settlements lie on the eastern part of the Yukon Plateau, whilst the Alaska Highway group of settlements mainly lie in the Shakawak Valley.

Not only can one identify settlements with physiographic regions, one can also argue that physiography was responsible for the development and alignment of the settlement groups themselves. On the Klondike Plateau lack of glaciation led to the preservation of the placer gold deposits which were responsible for the region's development. On the Stewart Plateau igneous activity and metamorphism gave rise to the mineral deposits which were responsible for the development of settlement in the area.

Route-ways in the Yukon Territory follow topographic features which aid ease of transport. Thus the major north-south route became the Yukon Valley, giving a low level route from the southern Yukon to the mineral producing areas in the north. It was upon the servicing of this routeway that the Yukon Valley settlements are based. In the same manner the Shakawak Valley, which was formed as a glacial trench in the Pleistocene era is the route followed by the Alaska Highway, with its associated group of settlements.

In the ensuing four chapters settlement development in each of the four groups defined will be studied.

## CHAPTER IV

## THE DAWSON SETTLEMENT GROUP

## I. THE PHYSICAL AND HISTORICAL SETTING

The Dawson Settlement Group, consisting of those settlements, occupied and abandoned, which lie in the north-west portion of the study area (Figure 19) owes its existence to gold extraction. In this part of the study area physical controls on human occupation are great; it was the geology of the region which led to its development, whilst climatic factors have influenced economy and settlement.

Physiographically this area consists of a plateau dissected by wide river valleys which never underwent Pleistocene glaciation (Ridge, 1953, 68). Due to vulcanicity and late Mesozoic and early Cenozoic intrusion the area has proved to boast rich deposits of placer gold. Lack of glacial erosion led to the preservation of these mineral deposits, whilst the dominance of water erosion in the region led to the deposition of the gold in gravels on the beds of rivers and creeks. Gold was eroded from a vein or out-crop and deposited on the floor of a stream due to its high specific gravity.

Gold-bearing gravels are located in varying quantities on the floor of river valleys throughout this study area. It will be seen that the distribution of this gold dictated the distribution and location of settlements directly associated

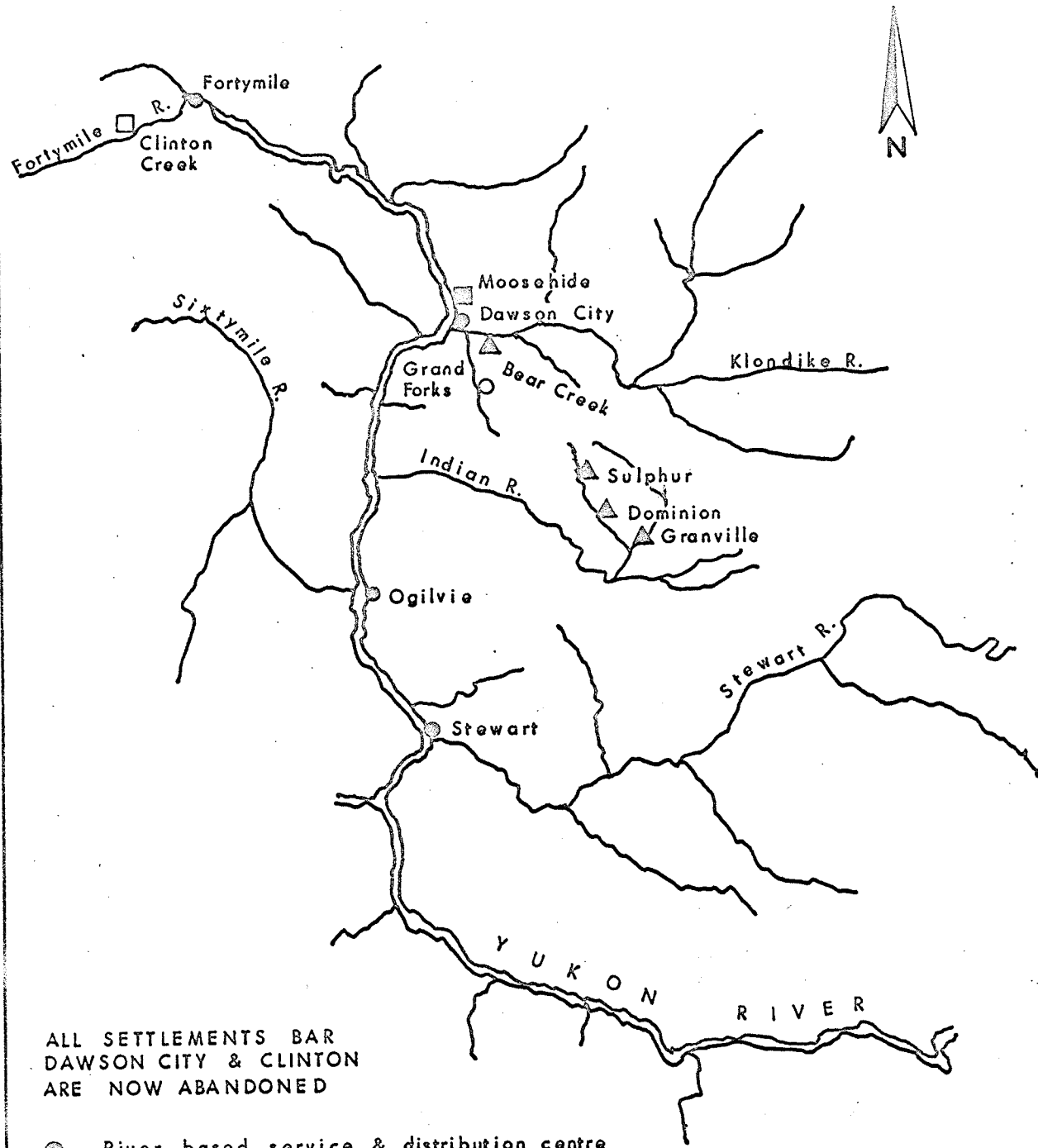
TABLE I

Population Changes in the Dawson Group, 1951-66.

	<u>1951</u>	<u>1956</u>	<u>1961</u>	<u>1966</u>
Dawson	783	851	881	742
Bear Creek	131	121	138	887
Dominion			76	
Sulphur	100	54	52	
Jensen Creek		54		
Granville	82	108		

Source: D.B.S., Census Of Canada.

# MAJOR SETTLEMENTS IN THE DAWSON GROUP



ALL SETTLEMENTS BAR  
 DAWSON CITY & CLINTON  
 ARE NOW ABANDONED

- River based service & distribution centre
- Local service centre near point of extraction
- ▲ Extraction or dredge camp
- Native settlement
- New town

miles 0 20 40

source; F.D., 1968

with gold extraction.

Climatically this area is one of extremes. The mean January maximum temperature is  $-14^{\circ}\text{F}$ , the mean minimum  $-28^{\circ}\text{F}$ , whilst the mean July maximum is  $73^{\circ}\text{F}$  and minimum is  $46^{\circ}\text{F}$ . Despite the winter extremes climatically associated problems are not those of human survival; despite the popular concept of the area as bleak and inhospitable it lies within the range of human tolerance. The problems are those of transportation, mineral extraction, and building construction.

In the early years of mineral extraction the Fortymile area (and later the Klondike area) was isolated from the outside world when the Yukon River froze. The Yukon is frozen from the end of October to the beginning of May, and sometimes longer. The result of this isolation was that food had to be stock piled in summer, and in winter food prices rose (Department of Interior, 1916). The migration of miners and prospectors into the area following the discovery of gold on Bonanza Creek was delayed due to the fact that the advent of winter, 1896 prevented news travelling to the outside world, whilst winter 1897 prevented movement into the Territory (Berton, 1958, 156). Prior to the construction of an all weather road it was only possible to transport gold out of the Klondike area in summer. However the fact that the processing of pay dirt was a summertime occupation (again dictated by climate) offset this difficulty. Because of the seasonal availability of water

due to freezing, gold bearing gravels were extracted in winter, and in spring and summer when water was available processed by spraying or sluicing with water.<sup>1</sup>

Permafrost in the area created building problems. Although the permafrost is by no means continuous throughout the study area it creates problems where it coincides with settlement. In Dawson the foundations of many of the buildings have to be adjusted once every three years in order to compensate for heaving and subsidence (Ridge, 1953, 249).

Although mineral extraction in this area was characterized by two different eras, the Fortymile development in the years following 1887, and the Klondike gold field development, from 1896 onwards the initial settlement types evolving were similar in both instances. Settlement in this group has passed through five stages, each stage reflecting changing technology and economies in the extractive process. These stages were:

- 1) The establishment of break of media settlements, located where the stream upon which prospecting or extraction was taking place joined the Yukon. The location of Fortymile, Stewart, Ogilvie, and Dawson as break of media and distribution

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<sup>1</sup>Despite the mainly seasonal nature of operations, water shortage in the Klondike Valley soon became apparent along with the difficulty of balancing the distribution of water between creek claims and bench claims. This difficulty was overcome by importing water from outside the Klondike Valley, the Yukon Consolidated Gold Company spending \$7,000,000 on building an eighty-five mile ditch from the head of Twelve Mile River to Gold Hill. This latter point, with an elevation of 1,112' acted as a distribution centre for water to various gold workings.

centres has already been dealt with at length.

2) The growth of 'linear' settlements along the sides of gold bearing creeks, with local service centres evolving at the junction of major creeks. This settlement type was characteristic of the development that took place in the period 1898-1900.

3) The demise of 'linear' settlement and the emergence of nucleated settlements as centres of mining operations.

4) The introduction of 'migratory' dredge camps.

5) The disappearance of dredging operations and reduction in scale of extractive activity, creek settlement being confined to temporary summer camps.

The peak period of human occupancy in this area was in the period 1898-1911, and in terms of numbers of settlements and population size decline has been consistent since 1900. An approximate record of the rate of decline is obtained by comparing the numbers of settlements listed in consecutive Censuses, 1911-1961.

Year Settlements

<u>1911</u> <sup>1</sup>	<u>1921</u>	<u>1931</u>	<u>1941</u>	<u>1951</u>	<u>1961</u>
45	19	No listing given		4	3

As can be seen the major period of decline was in the period

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<sup>1</sup> Obviously at the time of the gold rush there were far more settlements than this. The 1911 figure is a good starting point because it is a contemporary estimate with a standard criteria for identification.



1911-1921, and it is to be noted that of the 19 areas of settlement or settlements in 1921 eight had less than 20 persons.

Today only one inhabited settlement remains from the gold mining era, Dawson City; the other inhabited settlements are Clinton Creek new, dispersed service lodges and road camps (Gravel Lake), and the temporary summer camps of prospectors.

Evidence of large scale devastation and settlement abandonment abounds in the major mining area, east and north-east of Dawson City.

Throughout the Klondike gold fields creeks and river channels have been greatly modified by dredging; miles of tailings line the floors of the major creeks, whilst on the valley sides secondary vegetation (willow and poplar replacing the native spruce) bears testimony to the destruction of forest cover for the provision of fuel and building materials<sup>2</sup>. In many places the derelict infrastructure of the gold industry of the past persists. Abandoned settlements abound. Towns such as Granville, Bear Creek, and Dominion lie desolate. In some areas empty cabins line the valley sides; along the waggon roads the derelict remnants of road houses can be observed.

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<sup>2</sup>Although the forest cover of the Klondike area was never in itself of great commercial value it provided adequate material for the construction of dwellings and sluice boxes. In the years 1899 and 1900 alone 9,000,000 feet of timber were cut per annum.

Abandoned drainage channels contour the steep slopes of the area's flat-topped hills; disused pipe-lines are to be seen and derelict telegraph and power cables parallel the rapidly decaying waggon roads.

Given the fact that there are now probably only thirty-five persons living in the creeks<sup>1</sup>, the author estimates that there are now probably only 1200<sup>2</sup> persons living in the Dawson area, (including Clinton Creek), an area which once had a population of some 30,000.

It will be seen that despite the unique character of the Dawson Area the settlement pattern which emerged as a result of mineral extraction was similar in many respects to patterns emerging elsewhere in gold extracting areas, notably in the Caribou area of British Columbia (Rump, 1967), and the Nevada mining area of the period 1860-90 (Kersten, 1966). Rump, in outlining the Caribou development refers to de-afforestation, modification of valley floors, and the growth of linear creek settlement. It appears that Quesnel, a distribution centre at the junction of the Fraser and Quesnel rivers had a parallel in Fortymile and Dawson City.

In an area with little physical or climatic similarity

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<sup>1</sup>This is a summertime figure based upon an interview with the mining recorder, Dawson City.

<sup>2</sup>A summertime figure based on author's estimate.

to the Klondike area, the Sierra Nevada, Kersten (1964) noted an ephemerality and mobility of settlement very much reminiscent of that in the region north-east of Dawson. The influence of gold as a colonising influence, and the proliferation of roads with associated road houses in the Sierra Nevada was a phase clearly reflected in the evolution of the Klondike gold field.

It is now proposed to examine in detail the types of settlement which were associated with the five phases of development in the Dawson settlement group.

Within the Dawson Settlement Group there were two distinct periods of settlement development, the pre-Klondike era, based firstly upon prospecting on the Stewart and the Sixtymile Rivers and then on prospecting on the Fortymile River, and the era of the Klondike gold extraction. The two periods were separated by some three years. Growth in the Fortymile area effectively ended in 1893 with the migration of miners and prospectors to Birch Creek, Alaska, where Circle City emerged (Berton, 1958, 28), whilst the discovery of gold on Bonanza Creek which reversed this migration did not take place until 1896.

## II. PRE-GOLD RUSH SETTLEMENT

Three settlements emerging as a result of extraction and prospecting in the pre-Klondike era were Stewart, Ogilvie, and Fortymile Rivers respectively. The motive for the

esturinal situation of these settlements, break of media, with associated function as a service centre for the surrounding mining area has already been discussed in Chapter 2.

The internal pattern of these early centres was unsophisticated, the settlements being small and unplanned, clustering along the edge of the river bank. Ogilvie, Stewart and Fortymile had a similarity beyond locational and functional similarity. All contained a saw-mill. The saw-mill was an essential piece of apparatus in the establishment of settlements in the Yukon. Wood was the basic material for many things. It was the only building material, it provided the only source of fuel, it was required in the construction of boats and in the construction of flumes and sluice-boxes,--basic infrastructure for the processing of mineral bearing gravels. In many instances settlement sites had to be cleared of forest before buildings could be built, and it is to be noted that amongst the first buildings on the site of Dawson was Ladue's saw-mill.

Berton described Ogilvie in 1890 as a small settlement consisting of a saw-mill, a two-storey trading post and a few cabins (Berton, 1958, 35). Fortymile was by far the largest settlement, with a population fluctuating between 500 and 1,000. At the height of its dominance as a mining centre the settlement boasted ten saloons and stores (Berton, 1958). The community acquired importance as a Customs Post, being the first Canadian

settlement on the Yukon River east of the Alaskan border.

In the period 1887-93 the attraction of Fortymile and its associated placer deposits was such that it was responsible for the depopulation of Ogilvie and Stewart (Ogilvie, 1897, 112), whilst Fortymile became the destination of migrants entering the Territory for the first time. The emergence of the trading post of Cudahy on the opposite bank of the Fortymile from the main town was partly in response to this influx, and partly an attempt to break the monopoly of the Alaska Commercial Company.

Field work proved the settlement of Fortymile to have changed little from 1917 when it was visited by Stuck. He described it as consisting of some cabins, a customs house, Church of England chapel, RCMP post, a store and a road house (Stuck, 1917, 66). The author found the abandoned remnants of these buildings clustered on a flood plain, some twelve feet above, and running parallel to, the Yukon River (Plate 1).

The main body of the remains of the settlement lay on an elongated island which was separated from the main river bank by a narrow slough, and were confined to a single street. It was evident that these remnants of a community of between 500 and 1,000 persons by no means represented the complete settlement. Study of a photograph taken by Ogilvie in 1893 and examination of an air-photograph (A/P, A17156-64) of the settlement-site revealed far better than field work the presence of an old street pattern running through what is now dense



Plate 1: The remains of Fortymile, viewed from the Yukon River. Little of this settlement now remains, and much of the settlement's site is overgrown. With river alignment and river-mouth location (the Fortymile River enters from the right), Fortymile displayed features common to every major mining service center within the Territory.



Plate 2: Moosehide. Now abandoned Moosehide was a typical Indian river village, with river alignment and dependence upon the river for communication. The Anglican mission is to be seen right of center.

under growth whilst secondary vegetation extending beyond the island testifies to the degree of devastation as a result of the emergence of Fortymile.

The Klondike gold rush, it is to be argued, merely delayed the already evident decline of Stewart, Fortymile and Ogilvie. The depopulation of Fortymile at the time of the Birch Creek gold discovery was aided by the introduction of a police force into the community which immediately led to the migration of lawless elements (Berton, 1958), and by placer exhaustion.

Along with Ogilvie and Stewart, Fortymile underwent a revival in the period 1898-1900. The three centers attained importance partly as service centers for transients, and partly as centers for gold extraction, with overspill from the Klondike fields leading to a resumption of prospecting on the Stewart, Fortymile and Sixtymile Rivers. In winter 1898 the population of Stewart, probably about 300 in the 1880's, had risen to 3,500 (Innis, 1936, 207).

However the revival was short-lived. By 1911 the population of Stewart had shrunk to 121 (and this probably includes persons living on Stewart River but not in the main settlement); by 1921 it was 25 (D.B.S.). Today only one family lives here. Ogilvie has also disappeared. There are no population figures available for this settlement; in 1917 Stuck described it as being,

'A small post at the mouth of the Sixtymile River'  
(Stuck, 1917, 42)

today it no longer exists. The fact that no reference was made to it in the 1921 Census may be indicative of the fact that by that time it had ceased to exist.

Fortymile's decline also continued with the end of the 'gold rush.' By 1911 its population was reduced by 38, and in 1921 it was only 23. After its function as a service center servicing prospecting and extraction had ceased, Fortymile survived as a customs post and a staging point on the Yukon River route to Alaska (Lotz, 1963, 18).

### III. SETTLEMENT EMERGING AS A RESULT OF KLONDIKE GOLD EXTRACTION

Prospecting and extraction on the Klondike and its tributaries, commencing in 1896, led to the growth of settlement in two areas. At the junction of the Yukon and Klondike Rivers where Dawson City emerged as the service center for the gold field, and in the gold bearing creeks, tributaries of the Klondike and Indian Rivers. It is now proposed to study this latter area of development.

An impression of the population of the creeks is obtained from studying RCMP statistics for winter, 1897 (Table II). As can be seen from the figures the popular concept of Dawson as the population center of the Yukon at this time is false, the creeks listed having almost three times the population of Dawson.

Three functional types of settlement are to be identified



TABLE II

The Population of the Klondike Gold-field,  
January, 1899.

Dawson	4,236
Bonanza	3,540
Eldorado	945
Hunker	1,400
Dominion	4,917
Sulphur	680
Bear Creek	540

Source: R.C.M.P. estimates.

in the creeks in the period 1896-1900. These are miners' dwellings, road houses serving transients in the gold field, and local service centers which were normally located at the junction of major creeks. These emerging communities and dwelling units were connected by trails or waggon roads which followed the river valleys.

Initially creek settlement development was linear. Cabins and tents followed the path of the creek upon which extraction was taking place, with the miners' dwelling at, or near, place of work. This early settlement growth was visually chaotic. Tents and shanties lined the floor and sides of the creeks, surrounded by piles of pay-dirt and waste and assorted extractive apparatus.

As creek dwellings and communities acquired a degree of permanence, however, a distinct pattern in the location of dwelling units became discernable. The emergent creek settlement appeared to reflect two things, immediate environment and land economy. In terms of environment local forests provided the only building material, whilst the restrictive nature of the valleys was such that proliferation of settlement was linear, following the path of the creeks. In economic terms the miner's dwelling was just one part of the extractive apparatus. Most dwellings were located on the side of the creek, above the area where extraction was taking place. Given the primitive methods of the small scale miner the floor of the

creek had to be utilised in every way.

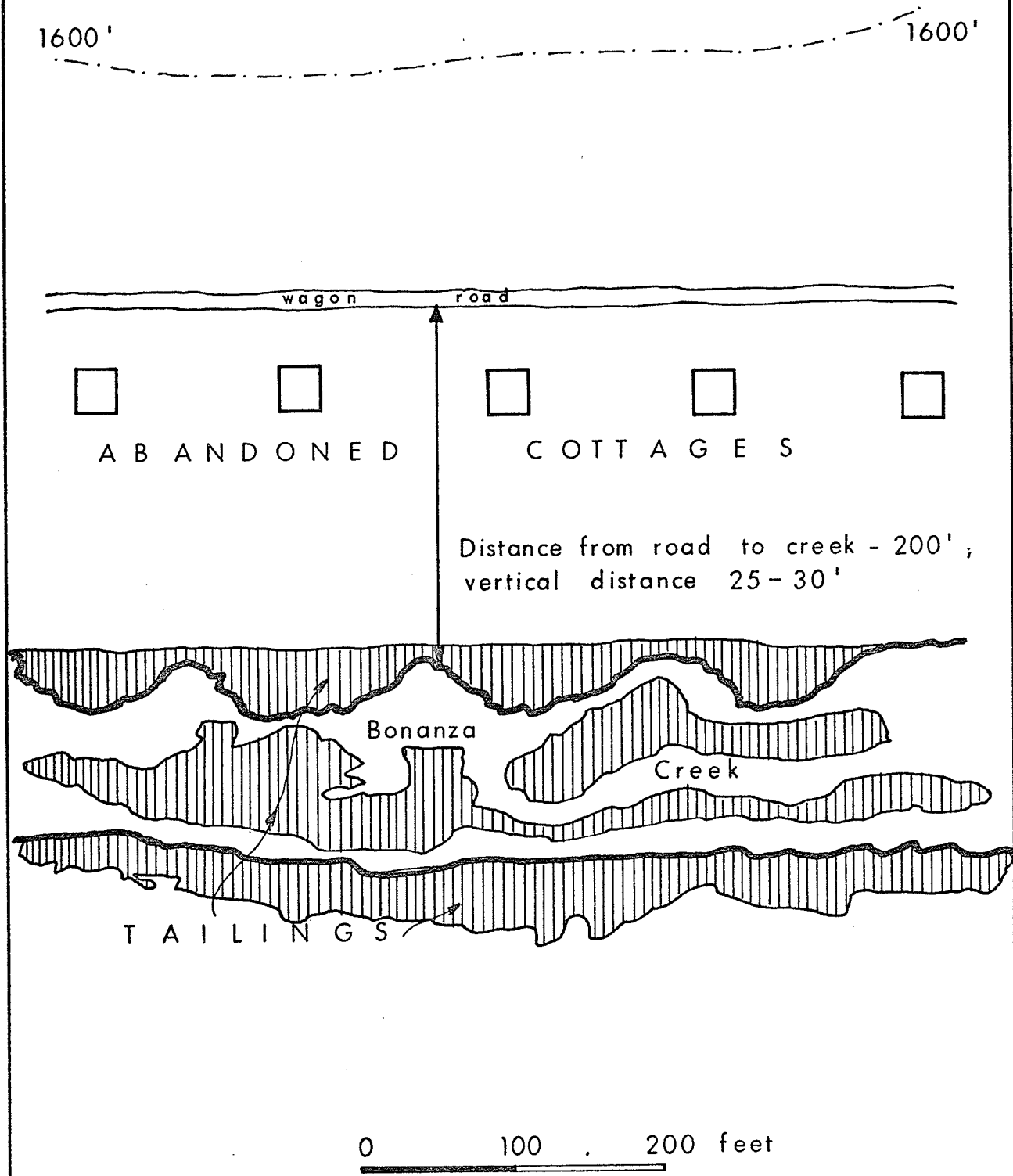
Water was the major resource utilised in the processing of 'pay-dirt', which was extracted in winter. Water from the creeks was diverted into sluice-boxes where the gold was separated from dirt and impurities. Given the presence of numerous claims and sluice-boxes on each creek, and the fact that in many instances a stream had to be diverted before its floor could be worked, whilst flumes were often required to convey water to claims, there was little or no room for a dwelling on the floor of a creek.

Restriction of dwellings to the valley side does not necessarily mean that settlement in a creek consisted of a single street (although often this does appear to have been the case), in many instances parallel rows of dwellings were to be seen following the valley of a creek.

The diagram (Figure 20) is a reconstruction of linear settlement based upon field work in Bonanza Creek, and it combines the major features which the author believes to be characteristic of linear settlement development in the creeks; single unit settlement, location above the point of extraction, and association with a waggon road or trail joining the dwelling units. Although the floor of the creek had been dredged the shattered remnants of sluice-boxes and flumes could be seen amidst the tailings.

At the confluence of creeks nucleated settlements

### SKETCH PLAN OF CREEK SETTLEMENT IN THE VICINITY OF GRAND FORKS



emerged. These settlements served as local service centers for the miners and prospectors. Grand Forks at the junction of Eldorado and Bonanza Creeks is an example of this (Lotz, 1963), so also is Granville.

Grand Forks first came into existence as a small community consisting of, 'twenty cabins, and a couple of hotels and saloons' (Berton, 1958, 188). Although current legend in the Dawson area claims that Grand Forks once boasted a population of some 10,000 this seems highly improbable, in winter 1898-9 Bonanza and Eldorado had only 5,500 inhabitants (Innis, 1936), and this probably was the highest population the creeks ever attained. In 1902 the settlement was given a fillip when it should have logically declined; high taxes forced merchants out of Dawson into the creek service centers, and Grand Forks gained in terms of population from this migration (Lotz, 1963, 13).

Despite its former size and initial resilience in a period when regional depopulation was taking place Grand Forks had a population of only 62 in 1911, and was not listed in the 1921 Census. Today nothing remains of the settlement bar six derelict houses; the settlement has been destroyed, and its site dredged.

Changing mining technology, the exhaustion of the more accessible gold, and the realization of economies to be gained through large scale operations were responsible for the emergence of a second stage of settlement development in the Klondike gold

field.

1899 virtually marked the end of growth of extraction and settlement in the Klondike based upon the efforts of the small scale miner. Disillusioned prospectors left the gold producing area either to seek gold elsewhere or to return to the industrial centers from which many of them had come; original claimants left the area as gold became more inaccessible and consequently more difficult to work. Large organizations purchased control of a multiplicity of claims so that large scale extractive methods could be used economically. Dredges were introduced to the creeks, and dwellings and the former extractive infrastructure destroyed so that the dredges had room to operate.

At first nucleated settlements which had acted as creek service centers provided a base for large scale mining operations. However as dredging activity increased and as creek population decreased company settlements emerged to house and service miners operating the dredges. Granville, Dominion, and Bear Creek emerged as company settlements.

Basically there were two types of dredge camp, migratory camps and stationary camps. The dominant type was the migratory camp. The general principle behind the migratory camp was that as the dredge moved down a creek the camp would follow it, the number of times that a settlement moved being dictated by commuting distance between camp and dredge. The

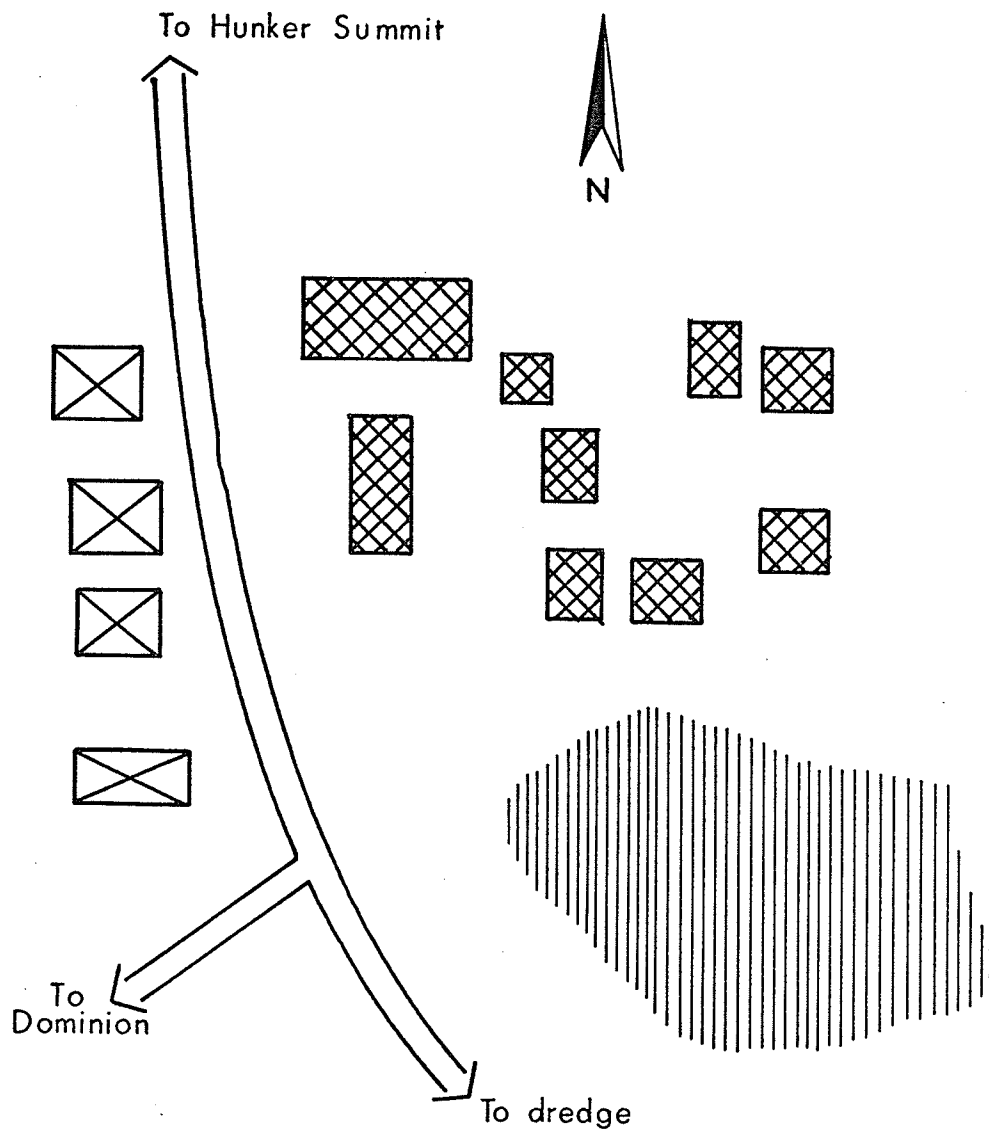
camp which now stands at Granville is believed to have been moved three times, that at Dominion five times. The rate of movement was dictated by depth and width of operations, the wider or deeper the dredging operation the slower the dredge moved.




Both Granville and Bear Creek which are now abandoned were visited by the author. Granville dredge camp (Figure 21) lies at the junction of Dominion Creek and Sulphur Creek, at the edge of an extensive area of tailings. Some two miles to the south-east lies the dredge that the camp formerly served.

The valley occupied by the camp is wide and shallow, and the dredge-camp lies on the western side of the valley where the gently sloping valley floor gives way to the more abrupt valley side. A waggon road follows the break in slope, and the camp straddles the road. As can be seen from the map (Figure 20), the road provides a physical dividing line between the two functions served by Granville, the housing of the labour force and the servicing of the extractive machinery. To the east of the road lay the machine shops and storage sheds of the company, to the west lay the bunk-houses and residences of the miners.

Granville provides an example of one of the simplest forms of company settlement, functionally it served only two purposes, its labour force was small and specialized, and probably required no retail structure. Most of the accommodation

### SKETCH MAP OF GRANVILLE DREDGE CAMP showing simple functional division



-  Buildings involved in mining operation
-  Bunk - houses
-  Tailings



was in bunk-houses reflecting the fact that the population of the settlement was predominantly male.

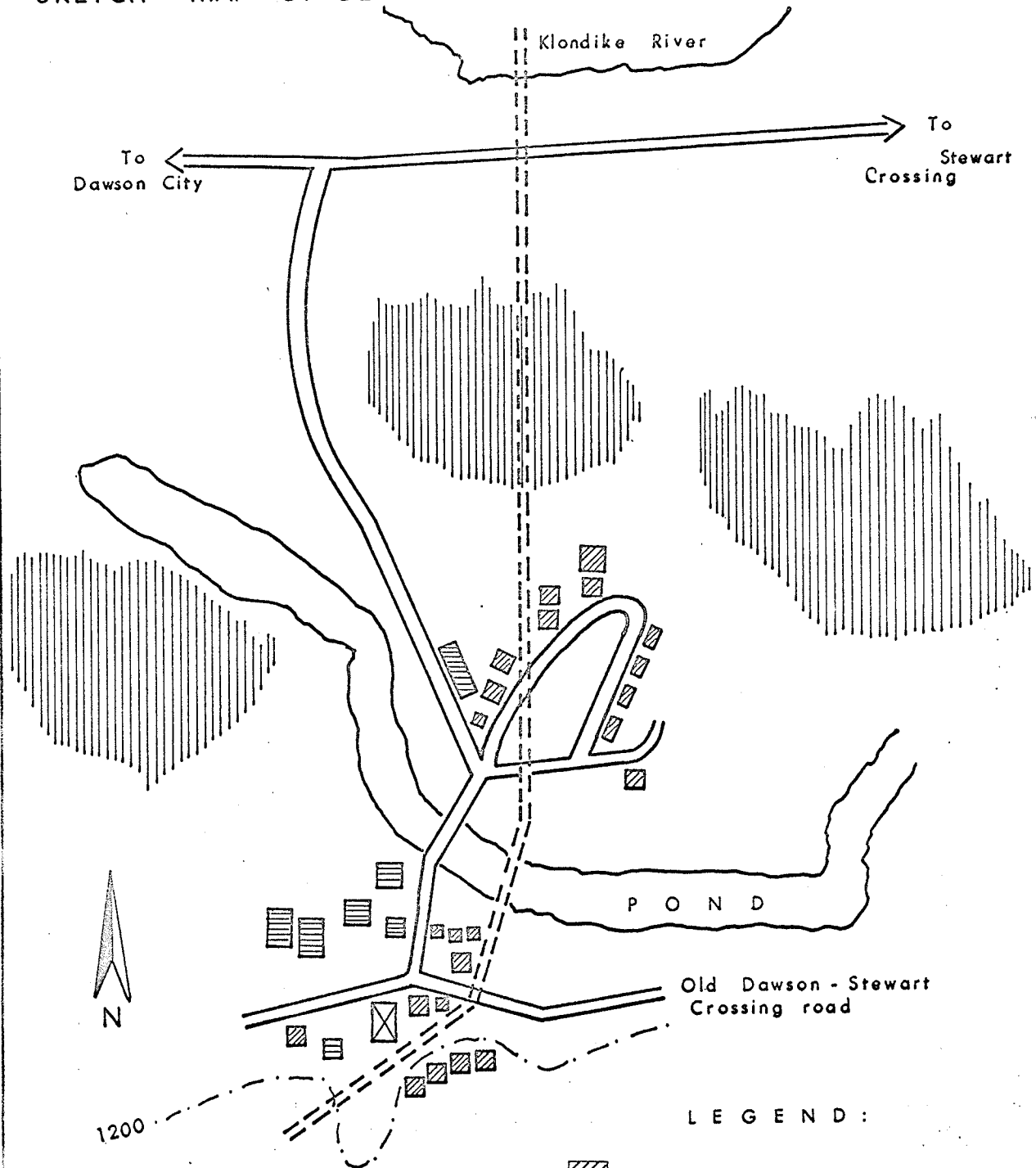
Unlike Granville dredge camp Bear Creek, the site of a company camp since the early Twentieth Century is not a migratory settlement. In lay-out (Figure 22) the community is more complicated than Granville, although the same functional division exists. The settlement lies at the mouth of Bear Creek, where the valley containing Bear Creek meets the Klondike Valley. The settlement straddles the old Dawson-Stewart Crossing road which ran along the junction of the valley floor and the valley wall of the Klondike Valley.

The tailing pond lying to the north of the old Dawson road acts as a dividing line between the two functions of the settlement. North of this line lie the dwellings of the company employees, south of it lie the extractive infrastructure.





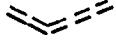
The division between residence and work is rather more pronounced than in Granville, the fact that this was a stationary as opposed to migratory camp being reflected in the presence of single unit family dwellings arranged in a crescent in the northern section of the settlement. The buildings in the settlement were found to be in generally good condition and are for sale. When sold they will be transported away from Bear Creek.

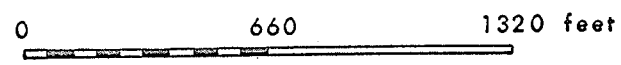
The only retail outlet of the settlement consisted of a single store. It became evident from discussions with store-

# SKETCH MAP OF BEAR CREEK COMPANY SETTLEMENT



### LEGEND :

-  DWELLING
-  BUNK - HOUSE
-  COMPANY BUILDINGS  
(machine shops, maintenance sheds)
-  TAILINGS
-  PIPE - LINE



source ; F. D., 1968

keepers and former company employees that the predominance of family units with a variety of retail demands, and the nearby presence of Dawson City with its numerous retail outlets and government services combined to make the settlement's internal retail structure of little importance.

#### IV. DAWSON CITY

A. Site The motives for the emergence of Dawson City have already been discussed, and comparisons with other break of media and distribution centers on the Yukon River made. With its original site on a flood plain, some twenty feet above water level, on the northern bank of the Klondike River at its confluence with the Yukon River, the town grew at a phenomenal rate after its foundation in 1896. The settlement occupied the flood plain (where the contemporary inhabited town now stands), the south bank of the Klondike, (formerly known as Louse-town), and the west bank of the Yukon River, West Dawson.

The flood plain containing the contemporary settlement of Dawson is bounded to the north and the east by a steep scarp which runs from the Klondike River to the Yukon; the summit ridge of the scarp lies about 400 feet above the flood plain. The site of Dawson did have certain advantages other than proximity and access to the gold field. The presence of the flood plain permitted the construction of buildings upon level ground and the execution of a grid plan. Surrounding

hills provided a degree of protection from winter winds; sandy soils were conducive to agricultural and horticultural production in an area isolated from the continent's main agricultural and horticultural production in an area isolated from the continent's main agricultural regions<sup>1</sup>. There were, however, certain disadvantages of the Dawson site. Permafrost is responsible for the shift in the foundations of buildings; it has been claimed that the light-restricting tendencies of the surrounding hills in winter have a psychologically adverse effect (Lotz, 1963, 5). A further disadvantage is the manner in which the scarp surrounding the settlement permits low-level road access only via the 75 foot flood plain which borders the northern bank of the Klondike River.

Ridge contends that many of the advantages of Dawson's site were fortuitous, and were barely considered when the settlement emerged (Ridge, 1953, 249). He contends that the basic reason why the site was chosen was that the Klondike River was not navigable, and its confluence with the Yukon was consequently a natural break of media point; it was virtual

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<sup>1</sup>At the time of the Gold Rush farms totalling several thousand acres were developed in the Klondike area. These provided only a fraction of the food requirement, and concentrated to a large extent on the production of fodder for pack animals. The only farming activity today is market gardening, and the quantity produced almost satisfies the local market, but water content in the vegetables produced impairs quality and consequently stores sell vegetables which have been imported into the Territory.

geographic accident that there were other site advantages associated with location at the mouth of the Klondike.

The author supports Ridge's argument, but also notes that despite the disadvantages of site outlined it became evident from field observations that the Dawson City site was one of the best sites available for tens of miles along the Yukon River. It appeared that the disadvantages of the settlement site were common to other potential sites in the area, permafrost, flooding, and the restrictive tendencies of surrounding hills were not unique to Dawson.

Dawson's brief, but rapid, growth took place in two stages. Firstly the period prior to summer 1898 when the full impact of the 'gold rush' had not been felt. At that time the settlement consisted of crude or temporary structures. Secondly the period 1898-1900 when a rapid influx of population brought demand for retail services and a labour force that could be utilised in the construction of a more substantial township.

The period 1900-1921 saw a steady decline in population as gold became more inaccessible and as the small scale miner was replaced by the mining companies with more efficient methods. From 1921 until the present day the settlement has stagnated, with the only abnormal period of population growth being in the 1940's when gold production boomed in the face of a labour

shortage (Figure 2).

One of the physical factors retarding the proliferation of the main body of settlement when Dawson was growing, it has been suggested, was the scarp behind the town. Gutsell contends that, 'the shape of the settlement has been determined by the river flat' (Gutsell, 1953, 25), whilst Ridge also argues that topographic features limited the city's ability to grow (Ridge, 1953, 250). Despite this the author believes that only in decline has topography had a truly restrictive effect upon the plan of the community. The only exception to this is in the north where Moosehide Mountain forms a formidable cliff and prevents any development whatsoever.

The original town plan of the city envisaged a grid-pattern spilling over the scarp behind the flood-plain. In the settlement's hey-day when dwellings abounded on the river flats opposite the present townsite and on the scarp behind it, topography appeared to place very little restriction upon growth. It was evident from photographs taken at the time that the major restriction placed upon settlement by terrain was in building types, the poorer quality buildings tended to lie on the scarp above the town.

The proliferation of Dawson City across two rivers and over the scarp behind the present settlement is an example of economic motivation taking priority over what would normally be limiting factors on the extension of settlement.

It is undeniable that in decline the shape and extent of Dawson City has been dictated by topographic features. The outlying areas, Lousetown, West Dawson, and the bench above the town were abandoned as population declined and vast areas of the main townsite itself became deserted. The settlement is now physically limited. In appearance the grid-pattern is limited to the flood plain and the scarp, as far as the 1100 contour. Today the inhabited area lies within the oversize grid-pattern which is a visible legacy of the gold rush era.

The present settlement of Dawson is aligned north-south along the flood plain, with a westerly aspect, the frontage of a vast majority of the buildings overlooking the Yukon River. The edges of the grid-pattern encroach on the scarp behind the flood plain. In the east the flood plain slopes gently, but with increasing gradient up to the 1100 foot mark, where a definite concave break in slope can be observed. Three streets lie above, and run parallel to this break, Sixth, Seventh, and Eighth Streets. To the north the break in slope widens, forming a bench. The streets in this part of the town traverse the bench, at right angles to the face of the scarp.

The map (Figure 23) illustrates the alignment and simple functional division of contemporary Dawson. The most striking thing to be observed from this is the proximity of the basic requirements of the settlement. Water source, power source,

Panoramic View of Dawson City and the Klondike Valley, 1968.

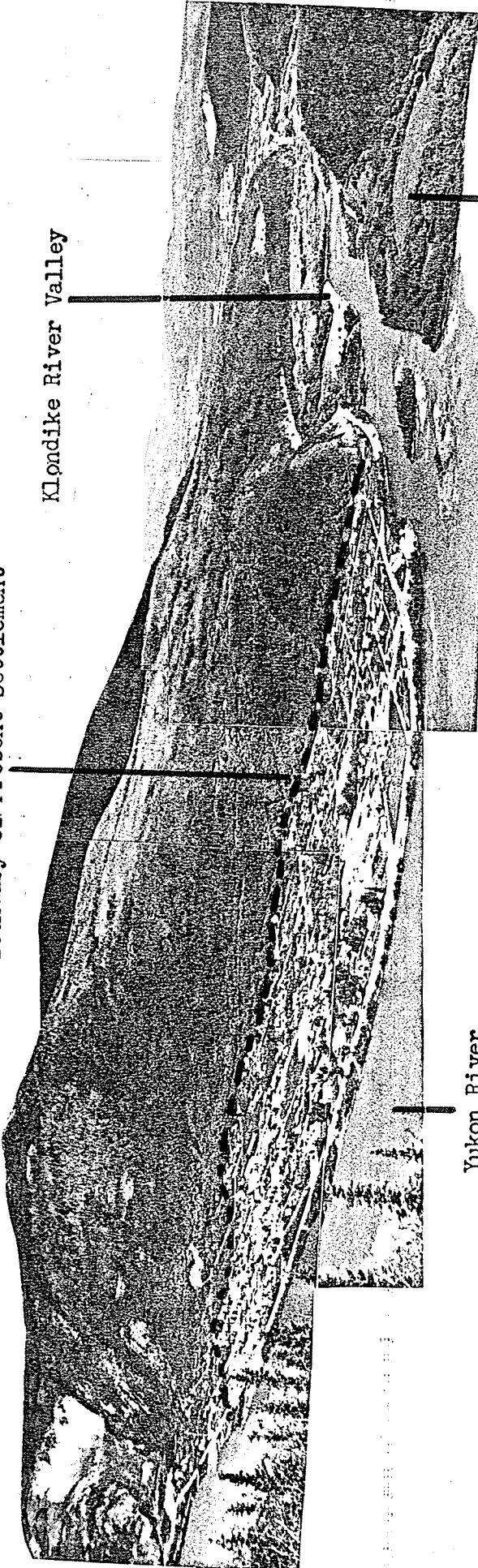
Midnight Dome

Boundary of Present Settlement

Klondike River Valley

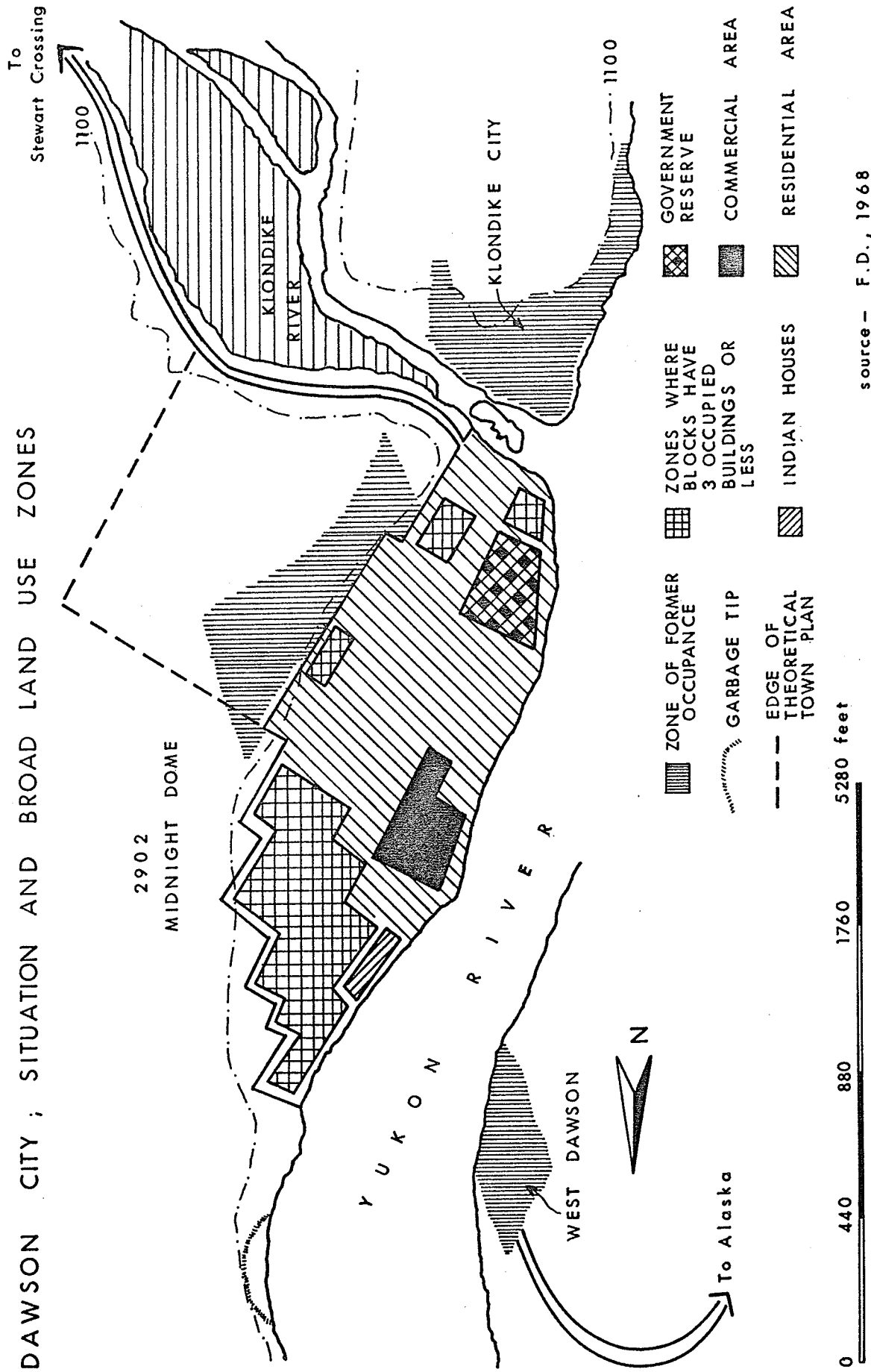
Yukon River

Site of Lousetown





DAWSON CITY ; SITUATION AND BROAD LAND USE ZONES



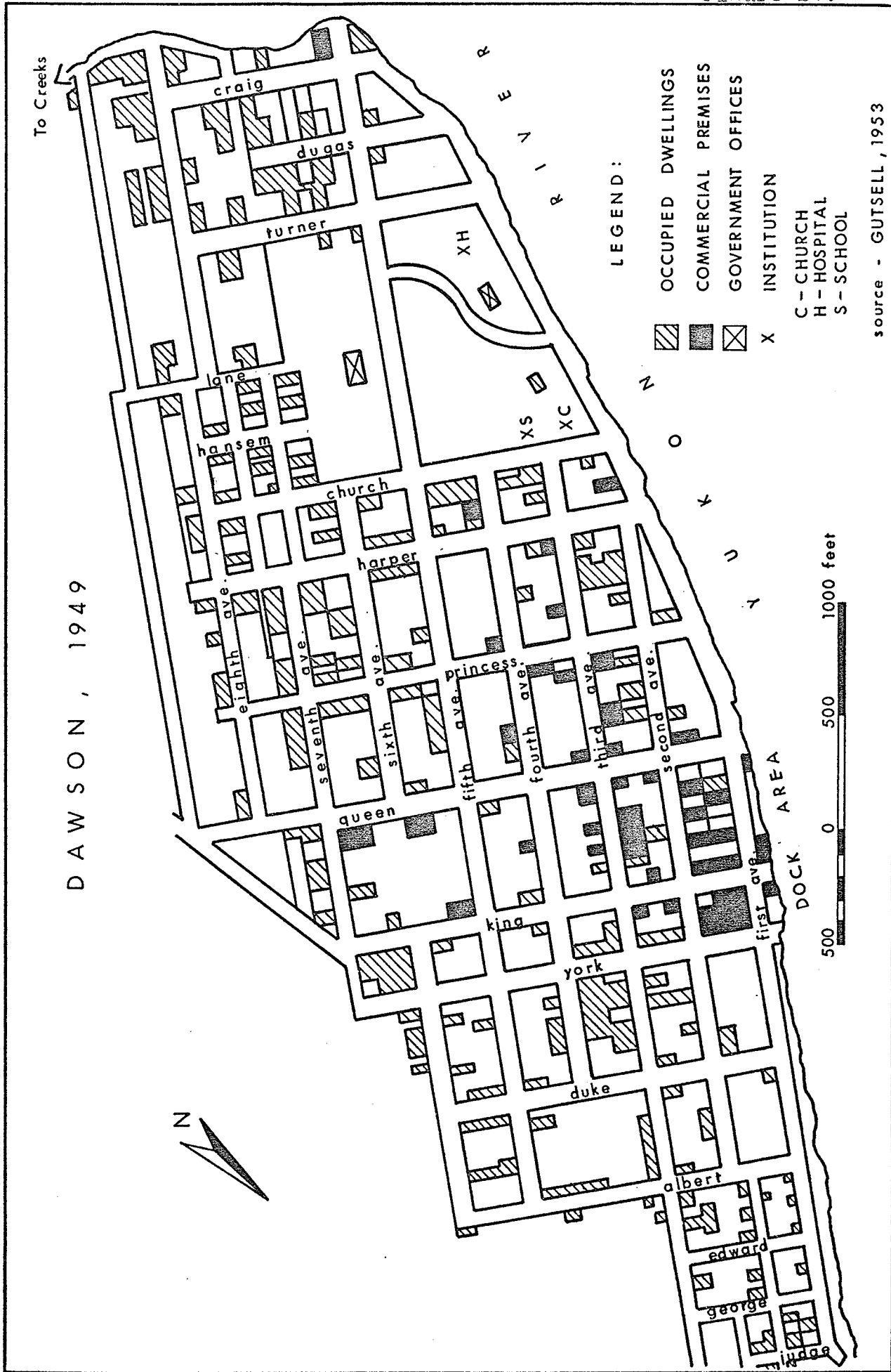
source - F.D., 1968

and garbage dump are located on the flood plain along with the main body of the town. It will be seen that such features of self-containment, with basic amenities being provided by individual settlements are common to almost all other settlements in the Yukon study area.

B. Changing Land Use Within Dawson Since 1945 The year 1945 is chosen as the starting point for the study of changing land use for a number of reasons. Firstly since the end of the Second World War Dawson has undergone more change than it has known since the end of the gold rush era. Large scale gold mining has ceased; the seat of Territorial Government has been transferred to Whitehorse. With the ceasure of river traffic the settlement's port function is non-existent, and tourism has emerged as a major basis of the community's economy. Four land utilization maps for the period exist, Gutsell providing a map land utilization for 1949, Ridge and Lotz providing data for 1952 and 1963 respectively, and the author providing a map for 1968.





A contrast of the 1949 and 1968 maps (Figures 24 and 27) shows that in the past twenty years there has been a marked shrinkage in the number of commercial premises and retail outlets in Dawson. At the same time the settlement's river alignment has persisted despite the fact that Dawson is no longer a river port.

It is to be seen that in 1949 commercial premises had a



DAWSON, 1949

LEGEND:

-  OCCUPIED DWELLINGS
-  COMMERCIAL PREMISES
-  GOVERNMENT OFFICES
-  INSTITUTION

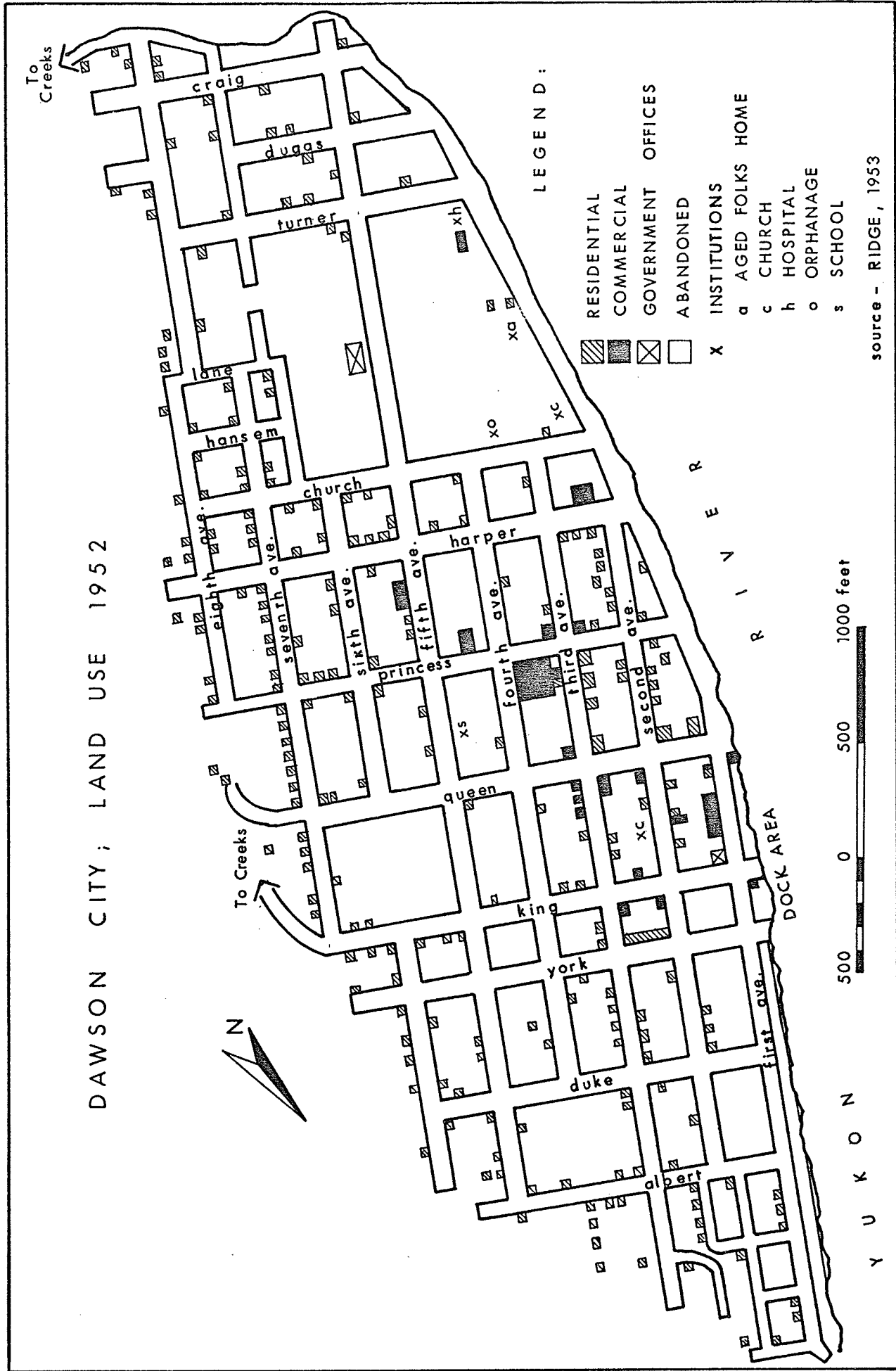
- C - CHURCH
- H - HOSPITAL
- S - SCHOOL

source - GUTSELL, 1953



Figure 25.

DAWSON CITY; LAND USE 1952



LEGEND:

- RESIDENTIAL
- COMMERCIAL
- GOVERNMENT OFFICES
- ABANDONED
- INSTITUTIONS
- a AGED FOLKS HOME
- c CHURCH
- h HOSPITAL
- o ORPHANAGE
- s SCHOOL

source - RIDGE, 1953

500 0 500 1000 feet



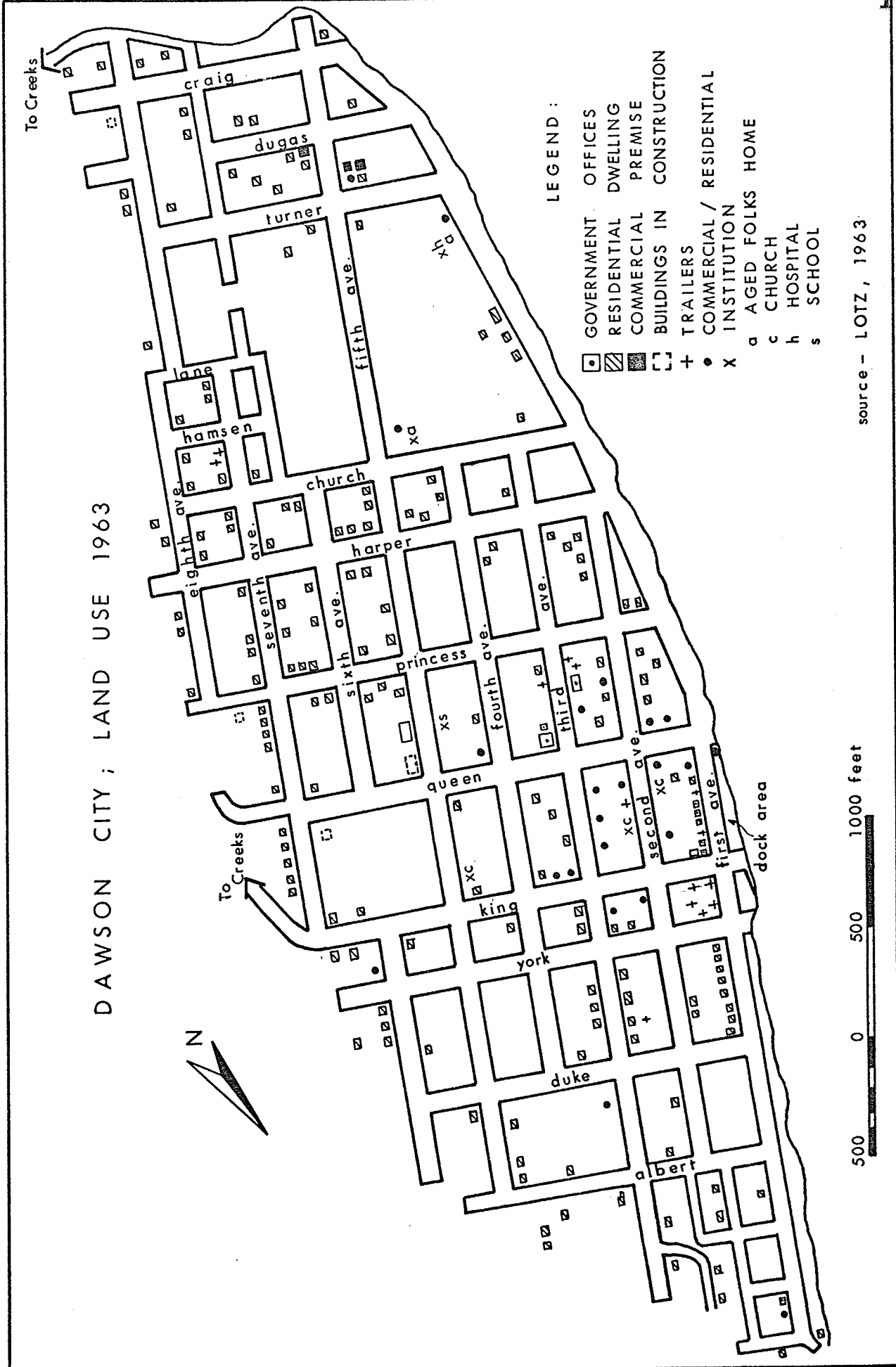
To Creeks

To Creeks

DOCK AREA

Y U K O N

DAWSON CITY ; LAND USE 1963



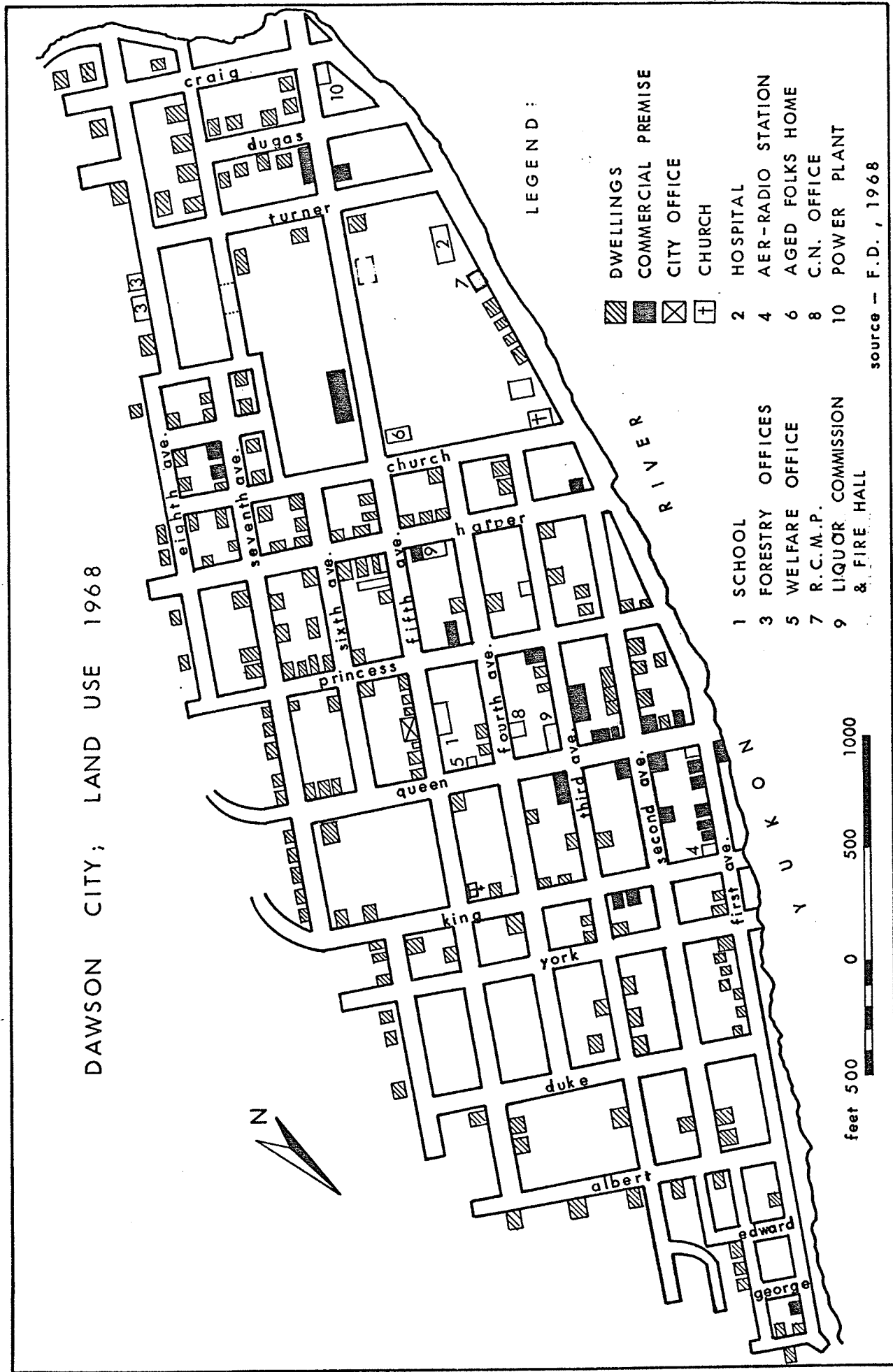
LEGEND :

- GOVERNMENT OFFICES
- ▨ RESIDENTIAL DWELLING
- ▩ COMMERCIAL PREMISE
- BUILDINGS IN CONSTRUCTION
- + TRAILERS
- COMMERCIAL / RESIDENTIAL
- x INSTITUTION
- a AGED FOLKS HOME
- c CHURCH
- h HOSPITAL
- s SCHOOL















source - LOTZ, 1963

500 0 500 1000 feet

DAWSON CITY; LAND USE 1968



LEGEND :

-  DWELLINGS
-  COMMERCIAL PREMISE
-  CITY OFFICE
-  CHURCH
-  HOSPITAL
-  AER-RADIO STATION
-  AGED FOLKS HOME
-  C.N. OFFICE
-  POWER PLANT
-  1 SCHOOL
-  3 FORESTRY OFFICES
-  5 WELFARE OFFICE
-  7 R.C.M.P.
-  9 LIQUOR COMMISSION & FIRE HALL

source - F.D. , 1968



definite concentration and river orientation. Front Street, Second Street, and (dominantly) Third Street were the areas of concentration, whilst there were a few business premises scattered north of this central commercial area. By 1952 the central commercial area was more elongated, shrinkage in water front activities was evident, whilst within the commercial zone areas of abandonment began to appear.

By 1963 (Figure 26) functional transformation had taken place. Decline in the commercial area was continuing, whilst the Government function within the settlement showed a marked decline. Lotz (1963) provides a comparative list of changing government functions within the settlement, illustrating decline over a ten year period (P. 27). The focus of Government activity had swung from the Government reserve on Fifth Avenue to another site three blocks north.

The emergent visual pattern in 1968 (Figure 27) further decline of commercial activity on Third Street, east of Queen Street, but increase of such activity on Front Street. This increase in activity was in response to the development of tourism.

In the twenty-three year period there was a marked increase in the areas of abandonment in Dawson. In this period the absolute number of dwellings in the city decreased by 43. In 1968 there were 172 occupied dwellings, 40 of which either did not exist or were not occupied in 1947, despite the absolute

TABLE III

Government Operations in Dawson City, 1968.

## Territorial Government;

Welfare

Liquor Store

Highway Maintenance

Schools

## Federal Government;

Mining Recorder

Forestry Officer

Customs and Excise

Post Office

R.C.M.P.

Dept. of Transport

National Health and Welfare

C.N. Telecommunications

There is no change from the table compiled by Lotz in 1963, when he showed the total number of Federal Government agencies in Dawson to have fallen from eleven in 1952 to eight.

Source: Author.



decrease in the number of dwellings. In 1947, 74 abandoned buildings or former building sites could be positively identified; in 1968, 188 abandoned buildings or sites of former buildings were enumerated.

In the period 1963-68 the number of occupied dwellings increased by 8, whilst the number of abandoned dwellings increased from 152 to 157. Logically this means that in the five year period, 13 dwellings had either been reoccupied or constructed. Of the 13, field work proved 10 to have been constructed in the past five years. In 1963 Lotz noted three buildings under construction. In 1968 the author observed two dwellings being constructed. It would appear that a construction rate of two buildings per annum is in keeping with the pace of local demand and the limitations of a brief summer building season.

Construction of houses in the town in the past twenty years has been dominated by two bodies. The government building on the Government reserve, providing housing for Government officials, and also for Indians, and also Cassiar Asbestos, constructing dwellings for officials involved in the preliminary stages of the Clinton Creek operation.

In studying the contemporary internal settlement pattern of Dawson City one must consider the factors responsible for changes in dwelling location and nature and location of commercial and government activities. It is to be argued that decline in commercial activity was a direct result of the demise of the

gold extracting industry with consequent shrinkage of population in the creeks as opposed to shrinkage of the city's population itself. Although service centers such as Grand Forks and Granville, and dredge camps such as Bear Creek had stores the goods they sold were of limited range, and Dawson was the major service center for such settlements. Interviews with storekeepers in Dawson yielded the information that until five years ago stores sold more goods to creek settlements than they did to Dawson.

Nowadays the vast majority of business comes from within the settlement. As gold mining declined, and with it Dawson's function as a service center, so the town began to rely increasingly upon tourism; hence the revival in water-front commercial premises.

The shift in the location of government activity in Dawson resulted from the transferring of the seat of Territorial government from Dawson to Whitehorse, and the changing nature of the government function itself. The Federal Government building was transferred to a new site from the Old Territorial building as a matter of economy of scale--the new building being smaller and more efficient. At the same time the growth of Government housing in the settlement reflects the settlement's role as a regional center for highway maintenance, police, forestry, and air traffic control.

C. Building Types Building types within Dawson reflect

the two growth periods, the gold rush, and the Post-war period. In considering building types one is concerned with building materials, design, function, and the influence of era of development upon both of these. From the outset wood was the major building material; the dominance of second and third generation vegetation on the scarp behind Dawson tears testimony to the degree of devastation that resulted from the utilization of local forest as building material. In the gold rush era three types of building can be identified. These were dwellings, mainly log cabins and frame shacks with a few two-storey units, single-storey warehouses associated with the port function, and false fronted commercial premises, many of which were two-storey buildings.

Today wood is still the major building material. The major dwelling unit is the single-storey house with boarded sides, as opposed to log structures. Most of the warehouses have disappeared with the termination of the port function. Commercial premises are increasingly confined to single-storey as opposed to two-storey buildings.

The presence of old two-storey buildings in the settlement appears to be an anomaly. Some 32 occupied two-storey dwellings, and 29 two-storey commercial premises, both abandoned and occupied were observed. Although this proportion may be low by comparison with cities in the more civilised areas of the continent it was the highest proportion in any of the settlements

studied, bar Whitehorse. Whereas most of the two-storey buildings in Dawson were the remnants of the early days of gold extraction, those in Whitehorse had been constructed when the settlement was a military base. The presence of two-storey houses in Dawson appears to be a cultural transplant, and lends credence to Paul's idea that mining communities displayed traits of conservatism as much as they did innovation (Paul, 1963).

It is increasingly evident that the modern trend in building construction in Dawson is introduction of prefabricated houses that can be easily constructed and moved elsewhere if the need arises. This reflects the temporary nature of many of the operations in Dawson City, such as company prospecting, and uncertainty in the future. A classical example of prefabricated housing in Dawson is that provided by Cassiar Asbestos for its Clinton Creek employees based in the city. Three houses were constructed for company personnel and will be transferred from their Dawson site to Clinton Creek upon completion of the new town.

The temporary nature of many prospecting and mining operations, and the difficulty and cost of construction in this climatically adverse and permafrost prone region is reflected in the presence of trailers in Dawson City. Ten trailer units serving as dwellings were noted in the settlement. The trailer provides a mobile unit which, due to lack of

foundations is not prone to distortion due to permafrost. At the same time aluminum is a weather resistant material that does not depreciate as a result of an adverse climate.

D. The Retail Service Base of Dawson City As already stressed Dawson grew as a service base and distribution point for the Klondike mining industry. Numerous abandoned shops and business premises bear testimony to the previous importance of the settlement as a service center. The distribution function of Dawson in the past is illustrated by studying the list of freight destinations, and a map showing Dawson as the focal point of the waggon road complex (Department of Interior, 1916; Innis, 1936, 198).

Until the mid 1940's Dawson remained the undisputed Territorial service center. In the past twenty years decline in the Dawson hinterland combined with the increasing eminence of Whitehorse to bring about the termination of Dawson's dominance as a service center.

There was a decrease in the range of commercial operations in Dawson in the period 1953-68 from 18 to 15, although the total number of operations, 37 in 1968, was the same as fifteen years previously. In 1963, however, the number of commercial operations had risen to 46, whilst the range had fallen to 17. In the face of a virtually static population the increase appears to be an anomaly. It will be seen by reference to Table IV that the increase in 1953-63 was in transportation

TABLE IV

Commercial Operations in Dawson City, 1953-1968.

	<u>Ridge 1953</u>	<u>Lotz 1963</u>	<u>Author 1968</u>
Blacksmith's Shop	2		
Garage	2	2	2
Commercial Gardener	1	1	
Barber	2	1	1
Beauty Parlor	1	1	1
Theatre	1	1	2
Hardware Store	1		
Bicycle Shop	1		
Souvenir Shop	2	3	3
Restaurant	2	4	3
Hotels (with bars)	5	5	2
Rooming Houses, Cabins		3	2
Motels		5	4
Banks	2	2	2
Transportation Companies	6	10	3
General Stores	2	3	3
Bakery	1	1	
Newspaper office	1	.	
Clothing Store	1	1	1
Company Offices	4	2	2
Taxi Companies.		1	2

and tourist services, notably motels and rooming houses. At this time extractive activity in the creeks was still at a high level, and the increase in the number of services is a reflection of the presence of mining communities in the creeks, and the growth of tourism in Dawson itself; it was in this period that the road replaced the river as the major transport media between Dawson and the south, making the city accessible to motor-borne tourists.

Lotz conducted his survey, it would appear, at a time of flux. This is reflected in the decline in hotels and transport operations in the next five years. The decline in the number of hotels was due to the decrease in the number of miners, combined with the condemnation of a number of hotel premises by a building inspector from Whitehorse. Decline in transport operations based in Dawson was also associated with the reduction in mining activity. Lotz anticipated the transformation in commercial operations in Dawson with the closure of Yukon Consolidated Gold Company camps and mines in the Klondike area. In 1963 he wrote,

'Although Dawson is not a company town it has many of the attributes of one, lying as it does under the shadow of YCGC.....Some Dawson residents will not believe that the company is closing.....Dawson also depends upon the company not only for services, but for employment and for money spent locally both by the company and its employees.'

(Lotz, 1963, 100)

With the termination of much of the mining activity in Dawson the emergent range of services in 1968 show great contrast to

those in 1953, with 6 activities disappearing completely, and tourist orientated activities emerging, notably motels and rooming houses. The activities which have disappeared are those which depend upon a stable population to support them, such as those based upon a regular daily market, newspaper, and bakery, and those dependent upon a specialist market, in this instance cycle repair.

The service hinterland of the town has now become virtually non-existent. Temporarily the Clinton Creek operation provides a market for Dawson based services, but with the completion of the new town at Clinton Creek this market will decline. In the creeks south-east of Dawson there are some 35 miners working and living in summer (1968), inevitably these miners use Dawson as a service base.

In the face of decline in the number and size of mining operations Dawson has sought to capitalise on what has become the Klondike legend. A stern-wheel boat, the S. S. Keno<sup>1</sup> has been renovated and placed upon the Dawson water-front, whilst the Palace Grand Theatre--an institution with its origins in the gold rush era, has been restored. Plans are now afoot for the preservation of more abandoned and decaying buildings within the settlement. As already stated motels have emerged in response to tourism. The extent to which tourism provides

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<sup>1</sup>Ironically the Keno plied the Stewart River and served the Mayo mineral area, and not the Klondike.



a future economic base for Dawson is debatable. Although some 50% of the present commercial operations in Dawson could be said to be tourist orientated it would appear that the city is not maximising its chances of capitalising on tourism. Lotz speaks of the number of tourists who merely see Dawson only briefly on route to or from Alaska. He also mentions the extent to which tourists provide their own amenities, camping or living in trailers on one of the three camp sites in or near the settlement. The author noted a continuation of this trend in 1968, and reflected that high prices in many of the tourist establishments (especially the restaurants) were partially responsible for this.

#### IV. CLINTON CREEK

Dawson's dominance as the only remaining settlement within the Dawson group of settlements is nearing an end. A new town is being constructed near the site of the Clinton Creek asbestos mine to house the labour force employed at the mine. The fact that the siting of Clinton Creek new town represents a break in tradition insomuch as it lies near to the point of extraction and is not served by a break of media or distribution settlement has already been discussed. Here it is proposed to examine the outline plan for the construction of Clinton Creek new town.

It appears that the site of the town has been consciously

dictated by the desire to maximise comfort in an adverse environment as opposed to maximise economies of production. The settlement, which will have a population of 700 is being constructed some five miles from the site of the mine, at the junction of Clinton Creek and the Fortymile River. The president of the Cassiar Asbestos Corporation claims that in terms of economy the optimum site for the town would have been closer to the point of extraction and processing (Report on the Second Yukon Resource Conference, 1966). However in sociological terms, and by modern environmental standards, such location would be undesirable--the only two possible sites at the mine were on top of a hill or in a valley. Both these sites would have been climatically adverse, one would mean exposure to bitter winter winds, the other would mean that occupants of the new town would receive little sun in winter.

Location at the junction of the Fortymile River and Clinton Creek solves some of the water supply and sewage disposal problems of the new town. The power plant for the settlement stands on the Fortymile River at the site of the town, and water for power generation is drawn from the Fortymile.

Conceivably the Clinton Creek new town may be detrimental to the development of Dawson City, containing amenities which the populace of the present mining camp travel to Dawson for-- such as beer hall, store, and bank. The community will also

contain a school.

The major influence that the Clinton Creek operation and the associated new town could have upon the geography of the Dawson settlement group lies in the field of communications. The Minister for Northern Affairs has stated that if the extractive operation were worthy of it a new bridge would be built across the Yukon River, replacing the present ferry and consequently eliminating interruption of transportation at time of freeze and breakup. With Dawson as the site for the bridge such construction may, in commercial terms offset the economic damage that the emergence of Clinton Creek new town could do to Dawson.

## CHAPTER V

## THE MAYO SETTLEMENT GROUP

## I. PHYSICAL AND HISTORICAL SETTING

The Mayo settlement group, lying in the north-east corner of the study area, owes its development to the extraction of silver-lead concentrates. Currently this group of settlements includes the former break of media and distribution center for the region, Mayo Landing; Keno City, a declining mining center; and Elsa, presently a booming mining town.

The settlement group lies on the southern edge of the Stewart Plateau, and is bounded to the north by the McQueston River, and to the south by the Stewart River. This glaciated plateau, characterized by broad steep-sided valleys is composed of metamorphosed sediments of Pre-cambrian age which are overlain by Paleozoic sediments (Bostock, 1948). Contained within the Pre-cambrian rocks is the ore mineral Galena, and it is the extraction of this ore that forms the economic base of the region.

Climatically this area is similar to Dawson, although winters are not as harsh, with a January mean of  $-13^{\circ}\text{F}$  (a mean daily minimum of  $-23^{\circ}\text{F}$  and a mean daily maximum  $-3^{\circ}\text{F}$ ) at Mayo, compares with  $-22^{\circ}\text{F}$  at Dawson. The mean daily July maximum for Mayo Landing is  $72^{\circ}\text{F}$  with a minimum of  $45^{\circ}\text{F}$ . North of the Stewart, however, in the Elsa-Keno area altitude is an adverse







TABLE V

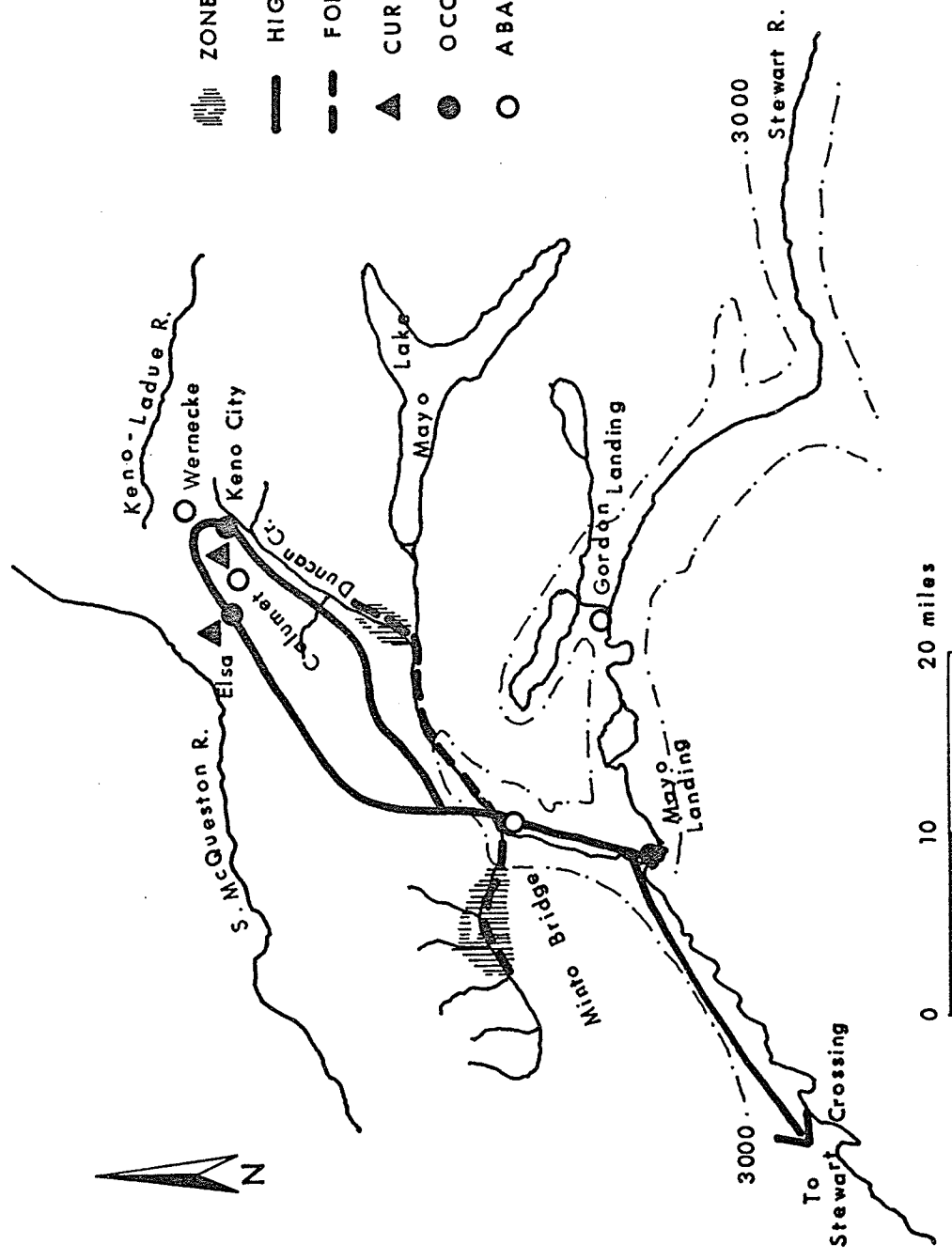
Population of Settlements in the Mayo Group,  
1951-66.

	<u>1951</u>	<u>1956</u>	<u>1961</u>	<u>1966</u>
Mayo Landing	241	249	342	479
Keno	881	190	156	144
Elsa	201	247	395	529
Calumet	134	366	377	198

Source: D.B.S., Census of Canada.

# THE SETTLEMENTS IN THE MAYO GROUP

- LEGEND :
-  ZONE OF EARLY MINING ACTIVITY
  -  HIGHWAY
  -  FORMER WAGGON ROAD
  -  CURRENT MINING SETTLEMENT
  -  OCCUPIED SETTLEMENT
  -  ABANDONED SETTLEMENT



source ; F.D., 1968

modifying influence. As with the Dawson group climatically induced problems are associated with construction and transportation. Permafrost, lying at depths between ten and six feet at Mayo exists throughout the region (Ridge, 1953, 311), although there is little visible evidence of its influence on construction, bar in Elsa where the water supply system lies on the surface.

Unlike the Dawson area climate is not a seasonal control upon mining activity, however in the past it has been an important influence upon communications. Until the construction of an all-weather road from Whitehorse to Mayo the Stewart and Yukon Rivers were the major transport artery. Extracted minerals were transported by waggon road to Mayo where they were transferred to boats for transportation to Whitehorse whilst provisions for the mining settlements were brought by boat to Mayo where they were distributed to the surrounding mining communities. Because of seasonal navigation food and provisions had to be stockpiled at Mayo in the summer for winter use, whilst in winter extracted minerals were stockpiled at Mayo to await the reopening of navigation in spring.

The early history of the settlement group has already been discussed (Chapter 2). Resulting from the original placer development on Duncan and Minto Creeks settlement emerged on the Stewart River at Mayo Landing and Gordon Landing, with both communities functioning as distribution points analagous to

Dawson and Fortymile. Minto Bridge evolved as an inland distribution point at the junction of waggon roads serving Minto and Duncan Creeks (Cairnes, 1915, 382), whilst in the creeks themselves settlement was linear, akin to that found in the creeks of the Klondike gold field.

Although in 1906 silver-lead ore was discovered on Galena Hill it was not until 1914 that extraction first took place, with the fruits of small scale production continued until 1919 when discoveries on Keno Hill led to shipment of ore by a subsidiary of the Yukon Gold Company. In 1921 another Klondike company, the Treadwell Yukon Company began to develop claims in the Keno Hill area (Cockfield, 1923, 508). The subsequent history of settlement development in this area is the story of changing location of mining communities in the face of new mineral discoveries and changing market conditions for the extracted minerals.

It is apparent that until 1920 Gordon Landing was the dominant break of media and distribution point on the Stewart River. This is illustrated by reference to the fact that a freight destination list from Dawson for 1916 refers to Gordon Landing as the destination on the Stewart River; Mayo Landing is not mentioned (Department of Interior, 1916).

From 1919 onwards Mayo Landing grew at the expense of Gordon Landing because, although it was roughly equidistant from Gordon Landing and Mayo Landing to the extracting area,



the latter settlement was lower down the Stewart and consequently the aggregate distance from the junction of the Stewart and Yukon Rivers was shorter. At the same time Keno City became the major extractive settlements acting as a center for companies working claims on Keno Hill.

As stated in Chapter 2 in 1932 world market conditions became a force influencing the changing location of settlement. In this year falling world prices forced the closure of the Treadwell Company's mill at Wernecke on Keno Hill, which had been founded in 1923. Subsequent discovery of the Calumet ore led to the movement of the plant and its associated infrastructure to Elsa in 1934. The dependence of Mayo Landing upon the fortunes of the mining area is reflected by the fact that both in the early 1930's and early 1940's when large scale mining operations were temporarily suspended due to adverse world market conditions the distribution function of Mayo Landing correspondingly declined (Ridge, 1953, 316).

The years following the end of the Second World War saw an increase in world metal prices, and the Keno-Elsa mining region flourished. Production of silver-lead-zinc ores has continued at an increasing rate over the past two decades, whilst at the same time settlements have emerged and declined. Calumet on Galena Hill was, briefly, the largest settlement in the group; it has now ceased to exist. Keno City is rapidly declining, whilst Elsa has become the major mining community and the

largest settlement in the area. Mayo Landing, however has not shared in the improved fortunes of the mining area to the extent one would have expected. The construction of the all-weather road from Whitehorse to the mining area led to the decline of Mayo's break of media function, whilst the through trucking of supplies from Whitehorse to Elsa led to a reduction of the distribution and service function. It is now proposed to study in detail the three settlements in the group that are currently occupied.

## II. MAYO LANDING

A. Stages of Development The origin of Mayo Landing as a trading post which became a service center for placer mining were outlined in the first chapter. In subsequent years the development of the settlement passed through three stages. Firstly it emerged as the only port on the Stewart serving the mining area, after the decline of Gordon Landing, the motives for which have already been discussed. Interviews yielded the information that in reality Gordon Landing was the better of the two ports, being less suspect to flooding than Mayo.

The second stage was the emergence of a coherent hinterland serviced by the settlement, in the form of Elsa and Keno City. This was reflected in the manner in which the growth of Mayo Landing was tied to the fortunes of the mineral

industry and the way in which the prosperity of the community faltered as mineral prices failed as they did at intervals in the period 1930-1945 (Ridge, 1953, 316).

The third phase of development is that phase which the center has passed through in the past twenty-three years. In 1950 the construction of the all-weather road from Whitehorse rendered the port function obsolete. Consequent reduced transport costs and continuity of transportation meant that smaller companies could move into the area and use Mayo as a mining and prospecting base, but there was now no need for Mayo as a distribution center, the three major extracting communities of Elsa, Keno City, and Calumet, being joined to Whitehorse by a single transport media. Despite this decline in the necessity for a distribution center retail functions are still of great importance to the community, as shall be seen, whilst decline has also been averted by an increased government commitment in the settlement.

B. Site Conditions Mayo Landing lies on the northern bank of the Stewart River, about 15 feet above water level, some 170 miles above its junction with the Yukon. To the west it is bounded by the Mayo River, whilst to the north and east the aluvium flood plain upon which the settlement stands stretches away uninterrupted by any major topographic features. The presence of a dyke along the western extremity of the town is indicative of the fact that it is susceptible to flooding

# MAYO LANDING SITUATION AND BROAD LAND - USE ZONES



To Stewart Crossing,  
Whitehorse, Dawson

To Airport,  
Elsa, Keno

### LEGEND:



COMMERCIAL AREA



RESIDENTIAL AREA



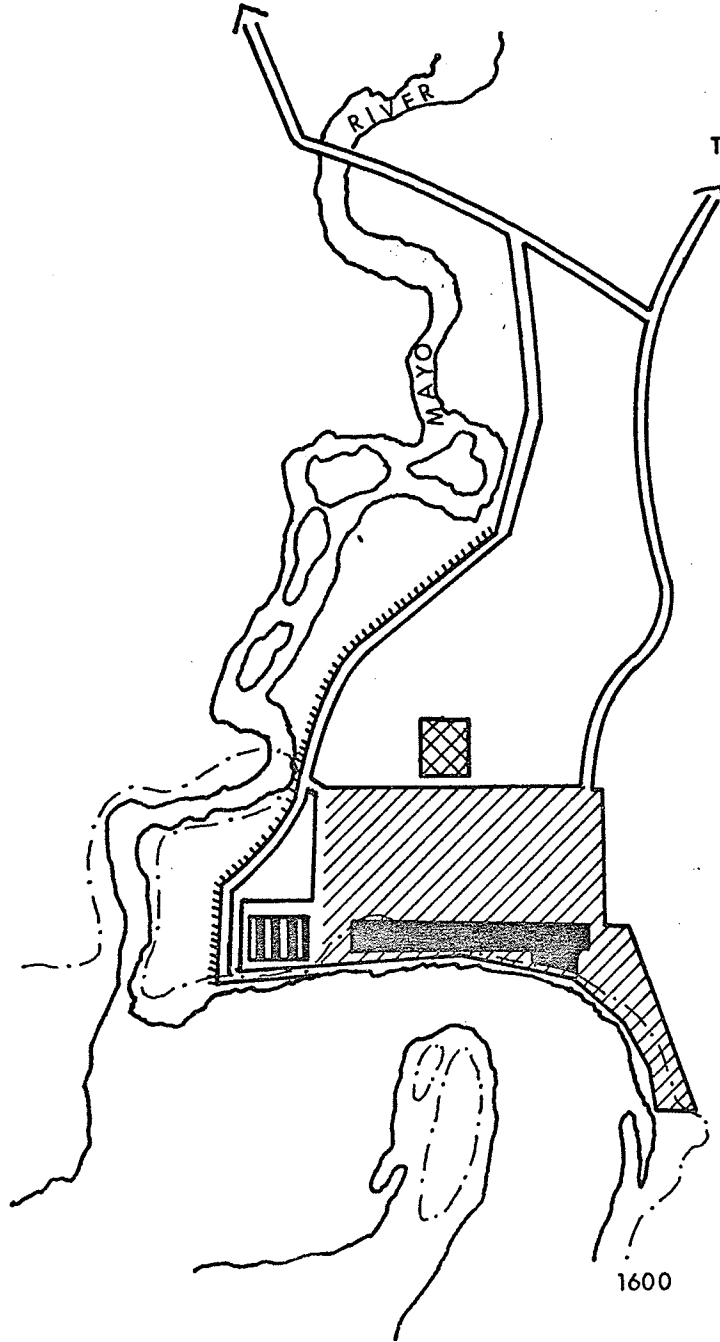
INDIAN HOUSING



GOVERNMENT ZONE



DYKE



0 440 880 1760 feet

(see Figure 29).

The plain on which Mayo Landing stands extends northwards for two miles, and has a gradient of only 1:100. This provides ample room for expansion if, as is unlikely, this is ever required. Bearing in mind comparison with Gordon Landing the location of Mayo Landing appears to result from optimum economy in respect to transportation being preferred to optimum site condition in terms of security from natural hazards, and it appears that such features as the presence of flat land for future expansion is purely fortuitous.

In plan the settlement has an unmodified grid-pattern, the only deviation from which is the extension of the waterfront road south along a meander in the river (Figure 31). Unlike Dawson City, and despite the fact that its basis for existence was removed in 1950, the community has a neat and consolidated appearance. The incidence of abandonment is low--15 dwellings being abandoned out of a total of 103. Although vacant lots can be seen, abandonment is mainly manifest on the periphery of the settlement, especially on the water edge extension south of the town.

The idea that most settlements in the whole study area provide basic amenities such as water, garbage disposal and electricity is not entirely valid for Mayo Landing, nor for any of the settlements within the group. In Mayo water is obtained locally (from wells), whilst waste disposal is located at a

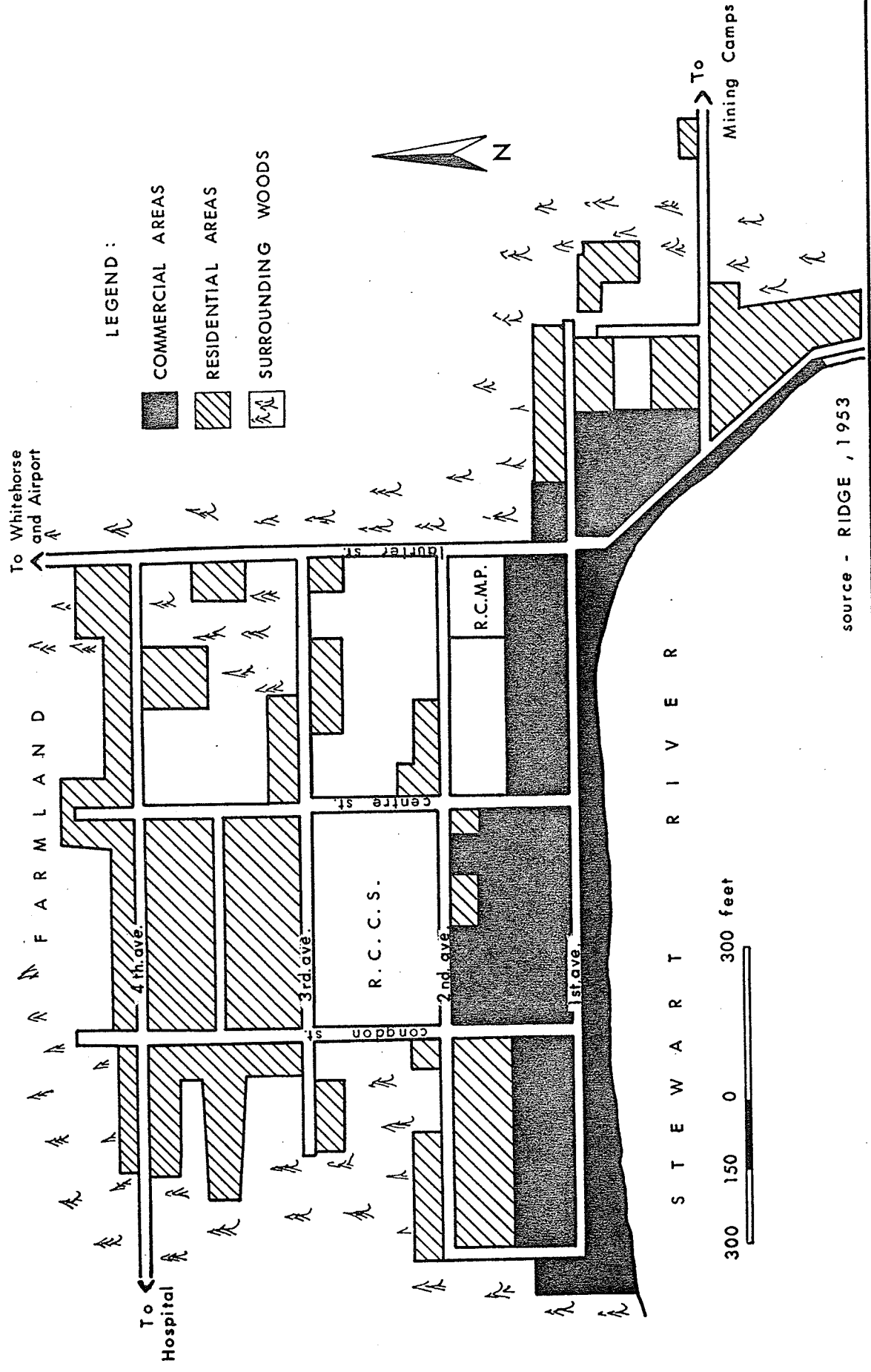
point on the perimeter of the town. However electricity is obtained from the Mayo River hydro electric power scheme, which also provides power for Elsa and Keno City. Constructed to provide power for mining operations and communities in 1951 the scheme has a capacity of 12,000 Kw. derived from two 6,000 generators.

C. Land Use Figures 30 and 31 show land use in the settlement for the years 1953 and 1968. The first map is based upon Ridge's work, the second upon the author's field work. In 1950, as can be seen from Ridge's map, Mayo Landing boasted features associated with other river based distribution points, such as Dawson and Fortymile. The commercial area dominated the water-front and First Avenue, as did the docking and ore-handling facilities.

A relatively empty tract of land separated the dwelling area from the commercial area. Government function were dispersed. On his land utilization map Ridge shows farm land lying to the north of the main body of the town; although long summer days are conducive to horticulture in this area the author doubts that this farming could have been of much importance and found no evidence of agricultural activity here in 1968.

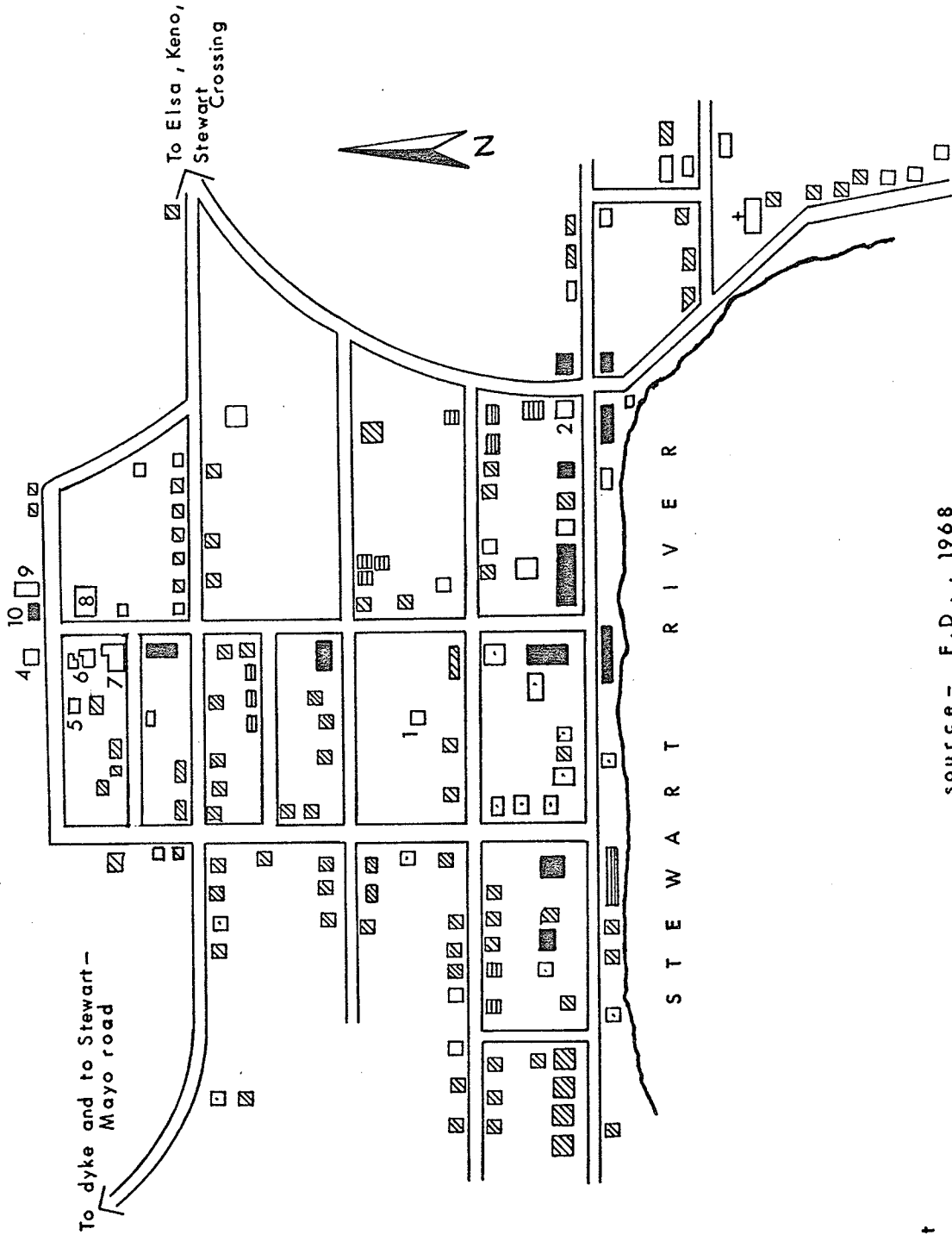
In 1968 the land utilization map shows considerable change. The grid-pattern itself has been slightly modified, it would appear, with the construction of a highway from the Whitehorse-Mayo road into the town from the east. However such

# MAYO LANDING ; LAND USE 1952








source - RIDGE , 1953

MAYO LANDING; LAND USE 1968



LEGEND:

-  OCCUPIED DWELLING
-  COMMERCIAL PREMISES
-  ABANDONED
-  SHED
-  CHURCH
- 1 AER - RADIO STATION
- 2 GOVERNMENT GARAGE
- 3 C.N. OFFICE
- 4 R.C.M.P. POST
- 5 MINING RECORDER
- 6 FORESTRY OFFICE
- 7 SCHOOL
- 8 HOSPITAL
- 9 COMMUNITY HALL
- 10 LIQUOR STORE



source - F.D., 1968



modification may have always existed, Ridge possibly used Government survey maps of Mayo which show a rigid grid-plan which deviates from reality. The 1968 map also illustrates a considerable shrinkage of the commercial area, this now being confined to a limited part of First Street. This has resulted mainly from the failure of river traffic.

A notable consolidation of Government activity has taken place. Two areas containing Government institutions are to be seen. There is the aer-radio station, operated by the Department of Transport, which lies north of Second Avenue; there is also an area north of Fourth Avenue, where there is a school, forestry office, mining recorders office, Indian Affairs office, and R.C.M.P. post. In this area also lies the settlement's hospital that was formerly located outside the grid-plan.

There is an obvious segregation of population within Mayo. In the south-west portion of the settlement, bounded by the dyke, is a recently created Indian community. Here lie nine houses constructed by the government. In 1953 Ridge stated that, 'the native and white residents are not separated, but live within the same zone' (Ridge, 1953, 323). At the time of Ridge's writing most of the Indians living in the vicinity of Mayo lived in a native village, about eight miles down the Stewart River from Mayo. Today this is no longer the case. The Indian population of the village has moved into Mayo, and approximately 90 Indians are housed in the adequately constructed, standardized,

single storey government houses which were erected in 1961. The Indian population of Mayo and its immediate vicinity now numbers 142, compared with 70 in 1950. The increase since 1950 was undoubtedly due to the attraction of government provided housing, combined with the presence of a beer hall and possible employment opportunities within the community.

D. Building Types The buildings within Mayo Landing display similar features as many of those in Dawson City. The vast majority of two-storey buildings lie in the commercial area. Six out of nine commercial buildings on First Street were two-storeys, whilst out of 103 dwellings only six exceeded one storey. Wood was, and is, the exclusive building material, with buildings ranging from log constructed warehouses to recently erected buildings constructed from prefabricated wooden sections.

E. Service Base As with Dawson City the past twenty years have seen the greatest transformation in the functional base of the settlement it has ever known. This has been the demise of the break of media and distribution functions as river traffic ceased.

As can be seen from comparison of the two land utilization maps apart from becoming consolidated government agencies within the settlement have increased since 1950. A government garage and C. N. office have been introduced whilst the Royal Canadian Corps of Signals moved out to be replaced by an aer-radio complex.

TABLE VI

Commercial Operations in Mayo Landing,  
1953 and 1968.

	<u>Ridge, 1953.</u>	<u>Author, 1968.</u>
Airline Office	1	
Bank	1	
Barber's Shop	1	
Beer Hall	2	2
Book Store	1	
Cafe	2	1
Clothing Store	1	1
Garage	2	2
General Store	2	3
Motel		1
Saw-Mill	2	2
Trucking Company	4	1

Despite the development of the Whitehorse-Mayo road and the through trucking of goods from Whitehorse to the Elsa-Keno area, there has been no marked change in the range of retail services since 1950. The only notable closure has been that of the bank. The reason for the maintenance of many services in Mayo is the absence of a variety of services in the mining communities, (Elsa, Calumet, Keno). Keno does not have a store; Elsa has only one store. Thus despite the decline of the settlement's port function, its retail services still linger and this is more the result of default in other settlements rather than the fact that Mayo is the natural center for such activities.

The decline of the community's importance due to the closure of the port is reflected in the reduction of the number of trucking operations based in Mayo. Today White Pass is the only trucking company with an office in the settlement, compared with 1950 when there were four trucking companies.

In 1953 Ridge wrote that,

'The continuance of Mayo as a distribution and government administrative center appears to depend on the price of base metals, improved transportation conditions between the settlement and the mining areas, and the rise and importance of Keno City.'

(Ridge, 1953, 327)

Since this date, despite Ridge's pessimism, and despite the failure of Keno City and the growth of Elsa as the leading settlement in the group the population of Mayo has increased from 657 to 1340. The range of retail services within Mayo

Landing has not increased in proportion to the increase in population in its hinterland. This could be indicative of the fact that retailers rely increasingly on markets within the settlement, whilst through trucking of commodities satisfies the demands of Elsa and Keno.

In the face of an increasingly self-dependent hinterland and the failure of break of media function, the population increase within Mayo seems to be somewhat illogical. Two phenomena may explain the population increase; firstly, the influx of Indians which was discussed earlier, and secondly, lack of specialization as a settlement and adaptability to changing circumstances. Although Mayo was economically tied to its break of bulk and distribution functions in terms of site the settlement had the best (although as already argued not the optimum) site in the north-east central Yukon. It has an air strip, room for expansion, and is more advantageously located in respect to climate than any other community in the area. As a result it is a good base camp for prospecting operations in the area, and it is able to supply the basic goods and services required by prospectors. At the same time Mayo is a useful base for government operations in the area, the presence of a service base, room for expansion, and the least adverse climate in the group being factors one could consider to be attractive to government officials.

The statement in the 1967-68 Mining Recorder's Report

(Mayo) that,

'activity for the season was on the increase and continued to be widespread in nature',

reflects Mayo Landing's new function as a base servicing prospecting operations. The increasing use of the helicopter in prospecting operations has enhanced the settlement's importance as a center for prospecting; because of its range the helicopter does not have to be stationed at the point where prospecting is taking place, whilst Mayo is in easy access of the mineral bearing areas of the Stewart Plateau and can supply the basic goods and services required by a prospecting expedition.

### III. KENO CITY

A. Development The settlement of Keno City emerged in response to the development of silver ore extraction in the vicinity of Keno Hill in the years following the stampede to the area in 1919. Since this date, with its economic base tied completely to mineral extraction, the community's fortunes have fluctuated with the prosperity of the mining industry in the area. This is reflected in the varying population of Keno City.

In 1921, after the initial development of the area the population numbered 101. Although no figures are available for the years 1931 and 1941 it is probable that in this period there were two phases of decline, both associated with depressed metal prices; these were the years 1930-34 and during the Second World War. In 1951 the population numbered only 81.

Ridge, in 1953, described the settlement as consisting of a mill, bunkhouses, private dwellings, and beer halls, and stated that it was a 'wide open mining settlement (Ridge, 1953, 310). He showed great optimism for the settlement's future and spoke of possible air-field development to support the mineral industry. The optimism displayed for the future of the settlement seemed initially justified when its population increased by 109 to 190, in the period 1951-1956.

Since this date, however, with the closure of mines upon which the settlement was dependent the population has declined, and in 1966 totalled 144; by 1968 it was evidently less than this.

Although obviously owing its prosperity and existence to the presence of large mining companies Keno City is not a typical, planned, company settlement. Rather it is a 'laissez faire' community which has served as a base for mining operations of all sizes in the past.

B. Site Conditions In geographic terms the site of Keno City (Figure 32) is poor. Lying at an altitude of 3,100 feet the settlement straddles a ridge, with the main body of the community aligned along the crest of the ridge. To the south the town is bounded by Lightning Creek, whilst to the west the land falls away towards the Mayo River.

In appearance the settlement is chaotic. Northwards old mine workings abut into the town, whilst westwards mining

# SKETCH PLAN OF KENO CITY, 1968

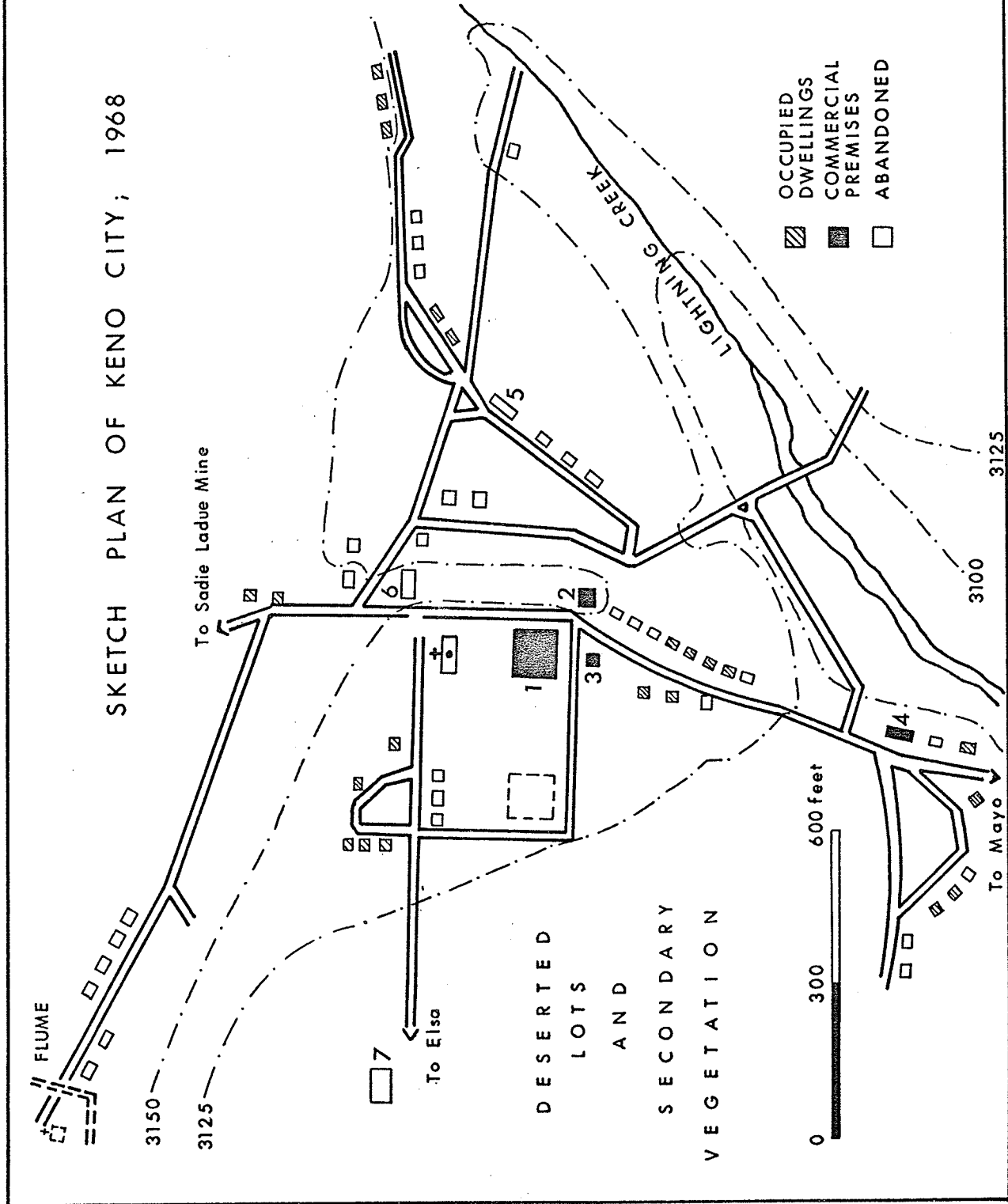


## LEGEND :

- 1 HOTEL
- 2 RESTAURANT
- 3 GAS STATION
- 4 GAS STATION
- 5 ABANDONED CURLING RINK
- 6 ABANDONED STORE
- 7 ABANDONED SCHOOL
- ABANDONED CHURCH
- CHURCH
- COMMUNITY HALL under construction

- OCCUPIED DWELLINGS
- COMMERCIAL PREMISES
- ABANDONED

source - F.D., 1968





activity has defaced the landscape. There are vast areas of abandonment, many of which are overgrown by shrub-like secondary vegetation. Numerous buildings are abandoned; of the sixty dwellings enumerated in the settlement twenty-nine were derelict. The town is physically divided by a depression running transverse to the main street, with one inhabited nucleus lying north of the depression and the other lying south of it.

At the present time Keno City lacks characteristics which, it will be seen, are associated with most Yukon settlements. There is no government reserve or institutions; no segregation of function, nor any specific zone of Indian settlement.

The atmosphere within the community is one of stagnation, and it is to be argued that the town is being allowed to die. The only school is closed, and the total range of services in Keno consist of a hotel, cafe, and two garages. The only new building is a community hall.

Only two mining operations employ the town's labour force, Sadie Ladue and Elsa. Sadie Ladue is closer to Keno than any other settlement, whilst the Elsa-Calumet mines obtain the vast majority of their labour force from Elsa.

The nearest immediate service center to Keno City is Elsa, with a single general store, but a broad selection of merchandise. Buses run to the major service center of Mayo Landing once a week.



Plate 4: Keno City. This general view of Keno, looking north, testifies to the present-day dereliction within the settlement. Overgrown lots are to be seen in the foreground, whilst the majority of the remaining buildings cluster untidily along the former Keno-Mayo road. Lightning Creek occupies the depression in the skyline right of center.

Excluding the Sadie Ladue mine it would appear that employees in the mining industry (35% of the electorally eligible populace) would be more conveniently located in Elsa. The only relevant function served by the settlement, apart from the housing a fraction of the Sadie Ladue labour force is that of acting as a field base for prospecting. In the age of the helicopter it is not unlikely that this function will soon cease.

Poor site combined with declining population are two factors responsible for lack of social capital in the settlement. As with all but one other Yukon settlements the streets are unpaved. There is no running water; it is delivered to dwellings by water cart. Garbage disposal takes place on the periphery of the town. Somewhat paradoxically, in the face of general lack of social capital, power is supplied by the Mayo River scheme.

The decline in population that was noted between 1956-66 is evidently continuing. The 1968 electoral list showed there to be only 42 eligible voters in the community, and although mining settlements tend to have a large temporary population there was no evidence of such in Keno and it is to be concluded that the brevity of the electoral list is indicative of continuing decline.

#### IV. ELSA

A. History The mining settlement of Elsa is the most

prosperous and fastest growing community in the Mayo group. There has been mining activity and temporary camps in this area (35 miles north of Mayo) ever since the Galena Hill silver ore was first worked in 1914. The settlement was not listed in the census until 1951, but has been of major importance in the area since 1934 when the Treadwell Yukon Company removed its mill at Wernecke and placed it at Elsa in response to the discovery of the Calumet mineral deposits (Ridge, 1953, 316). The settlement grew rapidly, and by 1938 boasted such social capital as a school, hockey rink and community hall. At this time 186 men were employed on a year-round basis (Bostock, 1938, 12).

Since the end of the 1930's the population and importance of Elsa as a mining center have increased greatly. The population rose from 151 in 1951 to 529 in 1966. The increase in the period 1961-66, which is still continuing, is partially the result of a consolidation policy. In the interests of operational economy the settlement of Calumet, which was once larger than Elsa (366 in 1956 compared with 193) is in the process of being transferred to Elsa.

The mines in the Calumet area are being maintained, but with the transfer to Elsa the economies of grouping labour in a single town, with a single service base and consequently no need for duplication of facilities will be realized.

B. Site Conditions The site of Elsa is a case of optimum

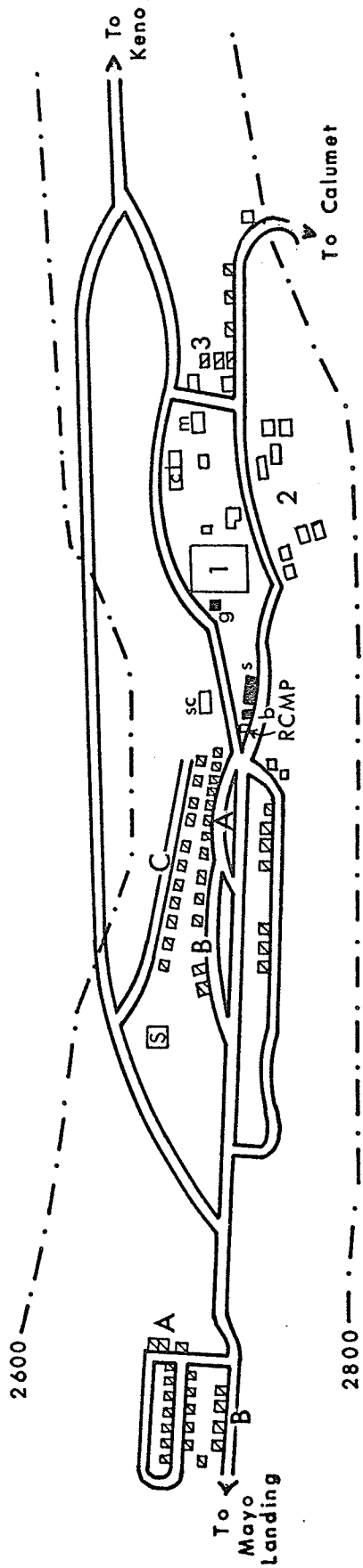
economic requirements in respect to mining operations overcoming optimum geographic location in terms of defence against physical hardship. The settlement lies on the side of Galena Hill, well above the valley floor, at an altitude of 2,700 feet. At the site of the settlement lies a drift mine. The disadvantages of such a site are obvious. Firstly, water has to be pumped up to the site of the town; secondly, there is little room for growth bar either laterally along the hillside, or vertically by terracing the hillside. Vertical development means increased construction costs.

Hillside location and altitude give rise to other disadvantages. Climatically the settlement does not have a sheltered location, it faces the junction of two valleys down which winds are funnelled, whilst altitude has a modifying effect upon climate. Vissicitudes of climate are reflected in the water supply system which runs along the surface of the ground due to permafrost.

C. Land Use The initial impression of Elsa is that it is a linear settlement, most buildings clustering along a single street (Figure 33). As a company settlement it displays a marked internal division, which is reminiscent of company mining camps observed in the Klondike. A four-fold division can be seen as one travels from north to south.

At the north end of the town, lie the bunk houses of miners and labourers, along with an associated social infra-

SKETCH PLAN OF ELSA; 1968



LEGEND :

- |  |  |  |
|--|--|--|
| <ul style="list-style-type: none"> <li>▣ RESIDENTIAL BUILDINGS</li> <li>▣ DWELLINGS ESTABLISHED WITH CAMP</li> <li>▣ DWELLINGS CONSTRUCTED 1951 - 1955</li> <li>▣ DWELLINGS TRANSFERRED RECENTLY FROM CALUMET</li> </ul> | <ul style="list-style-type: none"> <li>▣ COMMERCIAL BUILDINGS</li> <li>b BANK</li> <li>s STORE</li> <li>g GASOLINE STATION</li> <li>1 MILL &amp; ASSOCIATED BUILDINGS</li> <li>2 ADMINISTRATIVE AREA</li> <li>3 BUNK HOUSE AREA</li> </ul> | <ul style="list-style-type: none"> <li>▣ SCHOOL</li> <li>sc SOCIAL CLUB</li> <li>cl CURLING CLUB</li> <li>m MESS HALL</li> <li>▣ BUNK HOUSE</li> </ul> |
|--|--|--|

source - F.D. , 1968

structure, -cafe and beer hall. South of this lies the main mine complex, the mill and associated buildings lying west of the road (down-slope) and the administrative buildings lying east of the road (up-slope). Behind the administrative buildings lie the bunk houses of members of the managerial hierarchy. Immediately south of the main mine complex is the service center of the settlement.

On both sides of the road south of the service area are the dwellings of miners' families. These lie on streets terraced into the hillside, most of which lie west (i.e. down-slope) of the main street. As can be seen from Figure 33 three eras of housing development are to be identified. These are firstly the older asphalt dwellings, some of which lie on the first street north of the main street. The dwellings located here were amongst the first on the settlement site. Another group of dwellings of similar age and type are those in the most westerly part of the town. This group of dwellings was constructed in the early days of settlement by mine workers themselves, whilst the managers of the mine lived some distance away at the site of extraction.

The second era of dwelling construction was in the period 1950-56 when timber dwellings were constructed. As can be seen from the map (Figure 33) these houses are located alongside the most westerly group of asphalt-fronted buildings.

The most recent era of construction has included the



Plate 5: Elsa. As illustrated here Elsa, currently the most prosperous community in the Mayo group, is terraced into a hillside and aligned along the Mayo-Elsa road. In the foreground (left of center) some of the settlement's newer dwellings are to be seen, whilst to the left of these part of the above-surface water conveyance system can be observed.



removal of dwellings from Calumet (1968) and their placing in Elsa. These houses form a new street, running parallel to the general trend of the community, west of the main street. A further recent development has been the construction of new single-storey houses from prefabricated sections alongside the most southerly group of asphalt buildings (See map, Figure 33).

D. Service Base The settlement is evidently highly organized, services being geographical central to the community, and as outlined a high degree of functional segregation being apparent. The service area of Elsa merely contains those services one would consider to be essential for a settlement with a population of 500. There is a general store, bank, and Post Office. Social capital in the community includes an R.C.M.P. post, community hall and skating rink.

Human activity has left a marked impression upon the landscape in the vicinity of the settlement. In the valley north of the town waste disposal and deafforestation are evident, with a saw-mill providing timber and pit-props for the community. Water supply for Elsa comes from Mayo Lake (See map, Figure 28) and because of hillside location has to be pumped to the town site.

In evolutionary terms the growth of Elsa seems to have been almost parasitic. It owed its early development to the use of capital equipment formerly located at Wernecke. It superseded Keno City as the major mining center and the residents of

this community now rely upon Elsa for both employment and services. Finally the settlement is physically increasing in size at the expense of Calumet.

Unlike the other settlements in the Mayo group Elsa's future seems assured. It is now the central mining community on the Stewart Plateau, whilst the sinking of the New Husky mine just west of the town site may well lead to increased mineral production in the immediate vicinity of the town.

## CHAPTER VI

## THE YUKON VALLEY SETTLEMENT GROUP

## I. PHYSICAL AND HISTORICAL SETTING

The alignment of the Yukon Valley group of settlements (Figure 34 ) immediately suggests the function which they serve--that of servicing transportation routes to the northern inhabited area of the Central Yukon. All but four of the seventeen communities which exist or have existed in this group are allied to a single major topographic feature, the Yukon River valley, which in this section of the study area runs from the river's headwaters in Lake Bennett to the junction of the Yukon and Pelly Rivers. Of the settlements outside the valley two were road houses on the Dawson-Whitehorse winter road, whilst two are bridging points on the Pelly and Stewart Rivers which have only attained importance since 1950.

The settlements within the group are so dispersed that they lie in no rigid or easily defined climatic sub-region as do the communities of the Mayo and Dawson groups. The distance between Bennett in the extreme south and Stewart Crossing in the extreme north is approximately 240 miles.

Although climatic data is available for two stations within the area, Carcross and Whitehorse, both these are in the extreme south and are so close together that no useful appraisal of climatic contrast between north and south can be

TABLE VII

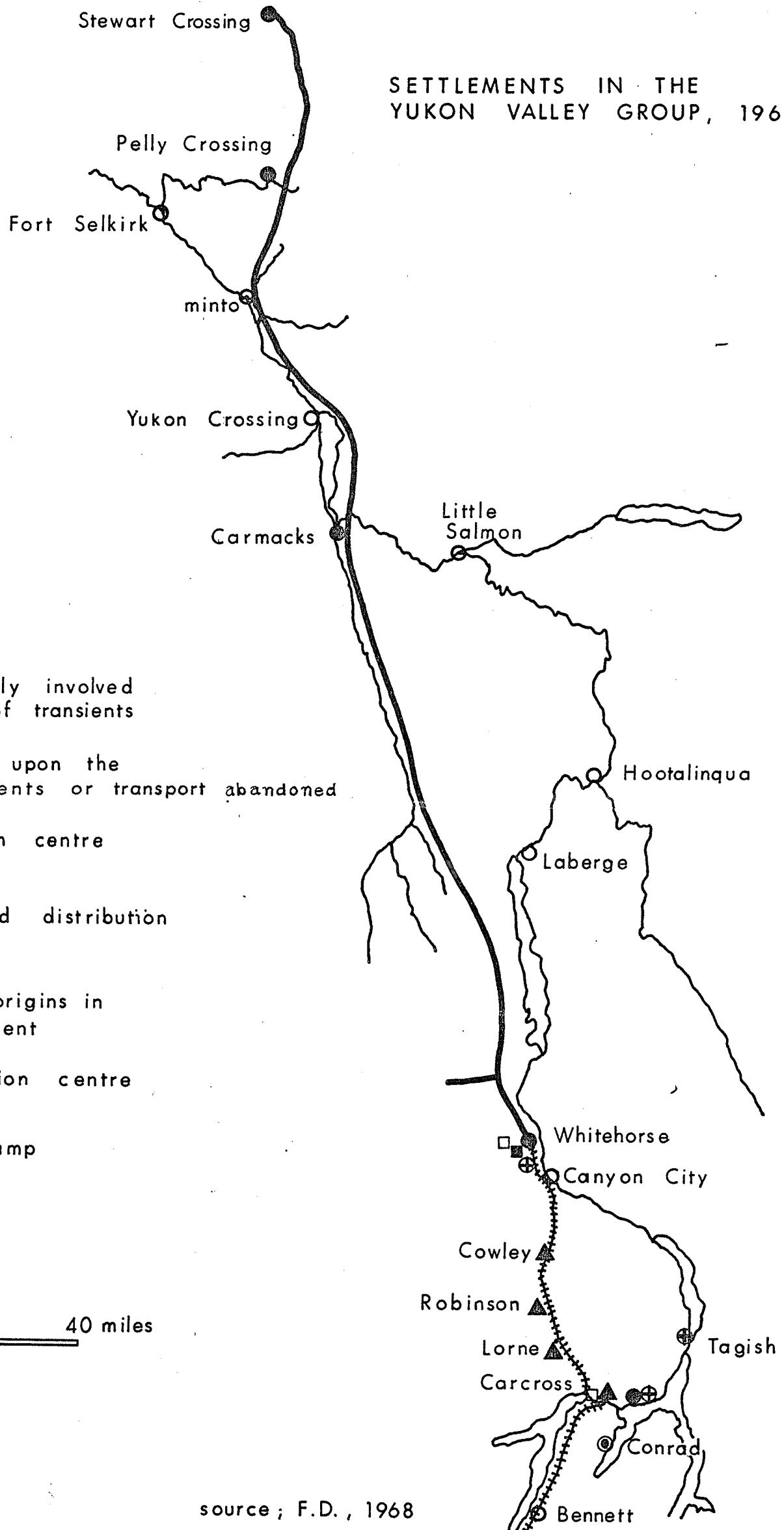
Population of Settlements in the Yukon Valley Group,  
1911-1966.

	<u>1911</u>	<u>1921</u>	<u>1931</u>	<u>1941</u>	<u>1951</u>	<u>1961</u>	<u>1966</u>
Whitehorse	727	331	541	754	2594	5031	4771
Carcross	165	113	-	-	184	175	199
Tagish	4	-	-	-	-	-	-
Laberge	13	-	-	-	-	-	-
Hootalinqua	2	-	-	-	-	-	-
Carmacks	74	32	-	-	148	218	311
Minto	5	-	-	-	-	-	-
Ft. Selkirk	39	25	-	-	-	-	-
Pelly Crossing	-	-	-	-	5	151	137
Stewart Crossing	-	-	-	-	-	-	-

(-) indicates that in that year a settlement existed, but was not listed in the Census.

Source; D.B.S., Census of Canada.

SETTLEMENTS IN THE  
YUKON VALLEY GROUP, 1968



LEGEND :

- Settlements currently involved in the servicing of transients
- Settlements based upon the servicing of transients or transport abandoned
- Current distribution centre
- Former river based distribution centre
- ▲ Settlement with origins in railway development
- ⊕ Tourist or recreation centre
- ⊙ Former mining camp

0 20 40 miles

source ; F.D. , 1968

Figure 34.

obtained from them.

However climatic data is available for Mayo Landing, only some twenty miles north of the most northerly community in the group. The data provided by Mayo Landing provides a realistic basis for the illustration of climatic variation within the Yukon Valley group, Mayo having a location akin to that of Stewart Crossing.

In Carcross, the most southerly station the mean January minimum temperature is  $-10^{\circ}\text{F}$ , whilst the maximum is  $8^{\circ}\text{F}$ . The corresponding temperatures in Mayo Landing are  $-20^{\circ}\text{F}$  and  $0^{\circ}\text{F}$ . July mean minima in Carcross is  $42^{\circ}\text{F}$ , maxima is  $68^{\circ}\text{F}$  the corresponding figures for Mayo are  $45^{\circ}\text{F}$  and  $71^{\circ}\text{F}$ . Latitude and distance from maritime influences can be cited as the two major factors responsible for the variations in temperature in the group. The southern section of the group is influenced in winter by the periodic passage of relatively warm Pacific air over the St. Elias Mountains. Although the northern part of the region also receives Pacific air it is also prone to cold air moving down the Yukon Valley from the Bering Sea. At the same time Pacific air arriving in the northern part of the region has travelled overland for a considerable distance and is consequently cooler than in the south. In summer the paradoxically higher temperatures in the north are due mainly to longer daylight rather than to any significant difference in air mass activity between north and south.

The Yukon Valley settlement group contains some of the oldest settlements in the Yukon Territory, such as Carmacks and Fort Selkirk which had a river trading function long before the immigration of the 1896-98 period. All the communities in the group, bar Pelly Crossing and Stewart Crossing either date from the gold rush era or the years preceding it.

In this area the influence of selective processes will clearly be seen, whilst the importance of a flexible functional base as a factor contributing towards settlement survival is to be noted.

In evolutionary terms there are five eras of development. Initially there was the pre-gold rush era when trading posts emerged notably (as already mentioned) Carmacks and Fort Selkirk. This was followed by the gold rush, when settlements emerged at strategic points on the Yukon River. At Tagish an R. C. M. P. post was constructed; at Canyon and Whitehorse break of media dictated the construction of small towns, whilst at such places as Hootalinqua and Little Salmon fueling points for steamboats were established.

The third stage occurred with the construction of the development of Whitehorse-Dawson winter road, this led to the widening of the settlement group due to the emergence of such road house settlements as Braeburn and Kynocks.

Changing transport media heralded the fourth stage. Improved automobiles increased the necessary spatial distance



between road houses. Associated with the automobile is the fifth, and present stage. In 1950 the Whitehorse-Mayo all-weather road was constructed, by-passing settlements such as Minto and Yukon Crossing, displacing the need for river traffic, and bringing into existence important bridging points. Carmacks, Pelly Crossing, and Stewart Crossing became bridging points on the Yukon, Pelly and Stewart Rivers respectively. These stages of development must be borne on mind when studying the history and morphology of communities within the group.

It is apparent that the Yukon Valley settlement group reflects more than any other group the existence of a plural society in the Yukon Territory. In the early period of development in the Yukon Valley white settlements were either sited close to existing Indian settlements or a settlement was established which attracted Indians into it. Carcross, Tagish, Little Salmon, and Carmacks are examples of white communities at or near the site of native camps. Whitehorse and Pelly Crossing are settlements which have attracted natives.

In four out of the five surviving communities in the group a definite area of Indian habitation was noted, usually clearly segregated from the main body of the settlement.

In Carcross the native area lies almost exclusively south of the lake narrows; in Carmacks it lies east of the Yukon River whilst the main body of the settlement lies on the west bank. Not only is segregation reflected in settlement

pattern, it is also emphasized by physical features delimiting the extensions of racial groupings within the community.

The settlements in the Yukon Valley group shall now be studied individually, travelling from south to north (see map Figure 34).

South of Whitehorse four settlements exist or have existed, and all were of importance in the 1896-99 era--Bennett City, Carcross, Tagish, and Canyon City. Prior to the gold rush only one of these settlements existed, Tagish, this was a native community. Today only Carcross and Tagish survive.

## II. BENNETT

The most southerly community, Bennett lay in Northern British Columbia, close to the Yukon boundary. It is included in this study because of its obvious association with the gold rush combined with a function which was undisputably allied to the servicing of transients passing along the Yukon Valley. Located on the Chilcoot Trail where the trail reaches the shore of Lake Bennett the settlement served as a break of media point where migrants travelling to the Klondike constructed boats for the journey down the Yukon River to Dawson. Bennett City was situated at the point where the lakeshore coincided with the tree line, and consequently wood was available for the construction of boats.

The community lay on undulating ground, and extended

towards Lake Lindeman, necessity of break of media overriding desire for hospitable location when the community was founded. Bennett had an estimated population of 5,000 in 1898, and has been appropriately called 'the greatest tented city in the world' (Berton, 1958, 269), apparently having many of the functions of a permanent settlement, but ceasing to exist as a result of the decrease in the number of immigrants after 1898 and the opening of the White Pass Railway in 1900.

### III. CARCROSS

A. History North-east along Lake Bennett, at the point where the lake flows into Nares Lake lies Carcross. Although there was possibly some form of temporary settlement at Carcross (known in the gold rush era as Caribou Crossing), prior to the advent of the White Pass Railway it was the coming of the railway that gave the community permanence. The narrows where the community lies formed a natural crossing place on the series of lakes that are the headwaters of the Yukon River, and it was here that a station was established.

The fate of Carcross would have been the same as that of any other ten mile station (i.e. obscurity) but for two major reasons. Firstly, it provided an early head of navigation and break of media point as the railway was pushed towards Whitehorse. Secondly it was strategically placed to act as a distribution point serving the Conrad mining development on Windy Arm of

Tagish Lake, and for a time acted as a port serving the mining town of Atlin in Northern British Columbia.

In the early days of its existence Edwards described the community as, 'a collection of cabins and huts where they say some day there will be a city' (Edwards, 1904, 75). He based his optimism on the Conrad mining development which showed spectacular growth but which was short-lived. Conrad City, lying on a bleak hillside above the tree line on the western shore of Windy Arm, was the settlement located at the point of extraction. In the first decade of the Twentieth Century Conrad City boomed. In 1906 Cairnes described it as boasting, 'several hotels, stores, restaurants, churches and so on.' (Cairnes, 1906, 211). Carcross acted as the distribution center for the mining area, merchandise being conveyed by railway over the White Pass, and then being placed on steamers at Carcross for transportation to Conrad City.

Whether Carcross would have attained importance as a distribution point if the Conrad operation had continued is doubtful. It seems probable that a branch line from the White-Pass Railway would have been constructed to Conrad, this rendering Carcross's function as a distribution center defunct (Cairnes, 1906, 211).

Since the closure of the Conrad operation Carcross has had a seemingly unstable existence, being dependent for growth upon periodic booms in the local mining industry. It is to be

conjectured that function as a railway station, combined with the presence of a relatively large Indian population, has prevented catastrophic reduction in population at times of depression. At the present time the economy of the community is tied to three functions; its function as a distribution center and a labour reservoir serving mines in the area, its function as a tourist center, and its function as a railway station.







B. Site Conditions The main body of Carcross lies north of the narrows, about ten feet above water level, on a flood plain that extends northwards to what appears to be the former shore of the lake (Figure 35). Part of the plain, which is about a mile wide, is covered by undulating sand dunes, but this does not provide any serious obstacle to any future growth of the settlement, should this ever be necessary.

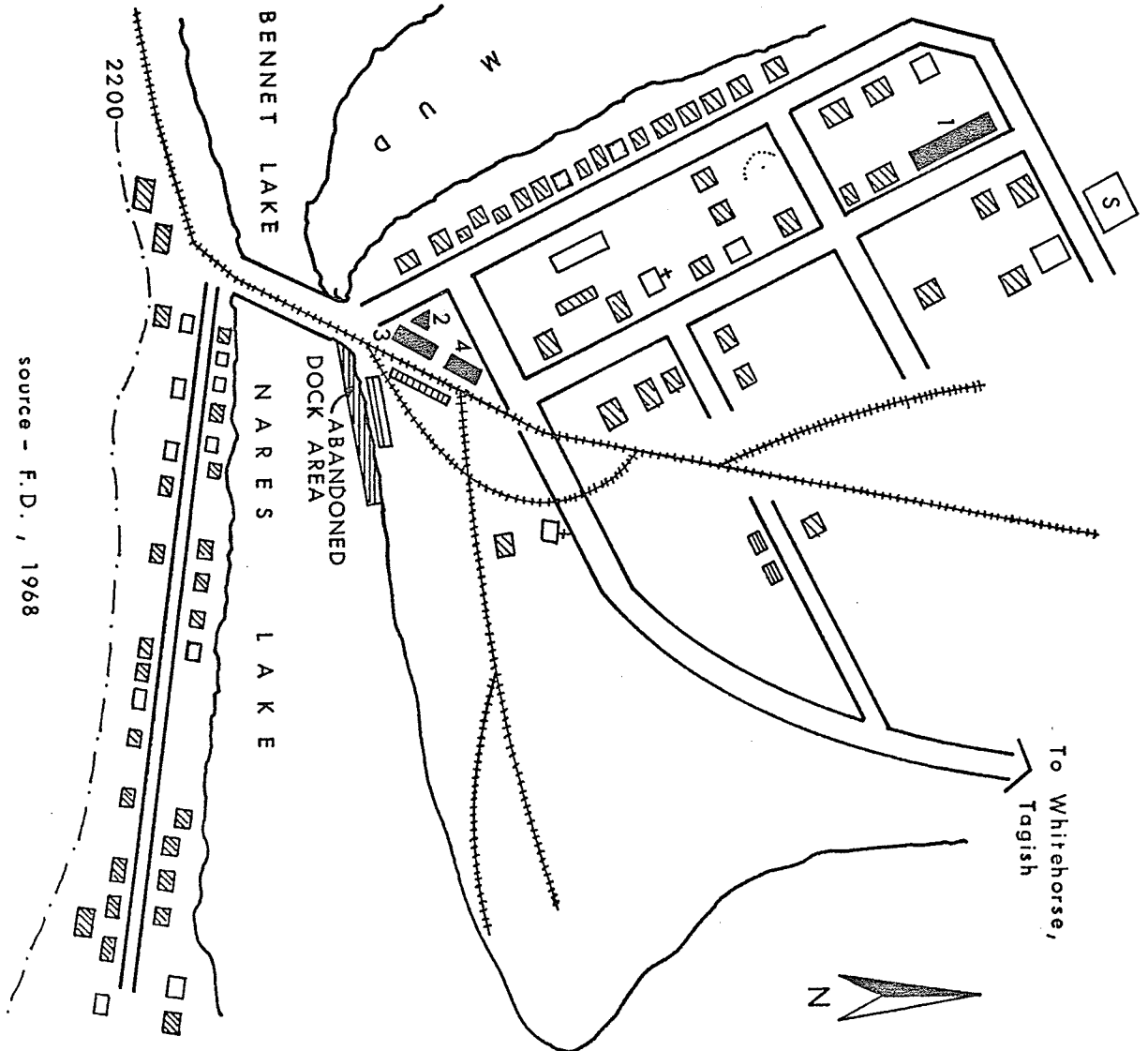
South of the narrows an abrupt scarp impedes settlement growth, and here the native section of the community lies. This is aligned along the shore of Nares Lake, parallel to the scarp.

A large area round the northern section of Carcross has been cleared of forest, the zone of devastation extending to the former beach line. It is evident that much of this devastation resulted from clearance when an American armed forces base was established here during the Second World War.

C. Land Use The lay-out of Carcross (Figure 35) reflects the settlement's functions. The retail area, consisting of a

# CARCROSS LAND USE

-  OCCUPIED DWELLINGS
-  ABANDONED DWELLINGS
-  COMMERCIAL PREMISES
- 1 - CURLING RINK
- 2 - GAS STATION
- 3 - STORE
- 4 - HOTEL
-  RAILWAY COMPANY LINE
-  SHED
-  CHURCH
- S - SCHOOL



source - F.D., 1968

Figure 35.

three unit store and a hotel is aligned along the railway which it was built to serve. West of this lie the port facilities, consisting of an abandoned wharf and warehouses.

West of the railway lies the main non-native residential area, consisting of a simple grid-plan running parallel to the lakeshore. In its alignment this reflects the community's past association with the lake as a media of transport and a source of livelihood.

South of Nares Lake there is evidence of abandonment of dwellings, ten out of the thirty-one dwellings being abandoned, compared with sixteen out of seventy-five dwellings for the whole community. Such abandonment gives a false impression of decline. Many of the abandoned buildings have been derelict for decades, whilst north of the narrows miner's families have moved into new dwellings.

D. Economic Base Carcross has a small service base, consisting of the eleven room hotel, the three-unit general store, two schools (one private) a community club, and a gasoline station.

Both the Arctic and Venus mines, (fifteen miles and three miles from Carcross respectively), were opened recently at the site of former mines in response to improved market conditions and more economic operation. Although a high proportion of the community's labour force is employed in mining, (approximately 30%), it is to be seen that Carcross does not serve exclusively

as a dormitory for the mines, most of the labour force employed at the mines living in bunk houses near the site of extraction. Venus mine has two bunk houses, whilst the Arctic mine has five.

Tourist potential and function as a recreation center is seen in the presence of weekend cottages for the citizens of Whitehorse. Water-edge dwellings on both sides of the narrows now serve as weekend cottages.

The dominant, and almost exclusive building material in the settlement is wood, a notable exception to this were two aluminum trailers, which had been sub-divided into individual dwellings. Such units prove to be weather resistant and easily transportable.

Carcross boasted the usual features of self-containment associated with Yukon settlements. Electricity was generated centrally with two oil-deisel generators providing a total of 160 Kw. Water was obtained from wells by individual dwellings, whilst waste disposal lay north of the settlement.

Given modern communications, and given its vastly superior service base Whitehorse could conceivably displace Carcross as the center serving the Arctic and Venus mines. To all intensive purposes Whitehorse is at the present time the dominant service center for the mines. Although miners live in Carcross they are dependent upon Whitehorse for a multiplicity of services, whilst Carcross's meagre retail base is partly dependent upon the import of goods from Whitehorse--it is not served exclusively





Plate 6: Carcross. A general view of the main body of Carcross, looking north across Nares narrows. In the foreground, left of center can be seen the remains of a disused wharf; behind this lies the railway station and store. The three storey building right of center is the hotel. The railway enters the settlement from the south via the bridge on the extreme left which also serves as a road-bridge.

by the White Pass Railway. It would appear that the future of Carcross lies not in mining but in the extension of its function as a recreation center serving, mainly, residents of Whitehorse.

#### IV. TAGISH

The present community of Tagish lies at the mouth of Tagish Lake, in an area occupied by Indians prior to the gold rush era. In 1896 Barnum stated that the area around Tagish Lake contained, 'the only human occupants in the whole country of the lakes.' Scarth, in 1897, described the settlement as consisting of, 'five large houses, one shed, and several burial houses.' (Scarth, 1897, 9).

The first white occupation of Tagish, on the narrows between Tagish and Marsh Lakes probably took the form of a temporary camp established by migrants travelling north. The first permanent white settlement was in the form of an R.C.M.P. post some two miles south of the present town site. The post was established as a custom's post and check-point for transients travelling towards the Klondike area, and at one time housed 200 men. Associated with the R.C.M.P. post was a road house servicing the transients.

The author travelled to the site of the R.C.M.P. post. Along the river bank between the bridging point and the post there was ample evidence of past occupation--an Indian graveyard, secondary vegetation and abandoned meadows.

The site of the post ran parallel to the water, and as far as could be ascertained the post had consisted of several buildings, aligned along the river for about 200 yards. Jutting into the water was a formidable pile of stones, the remnants of the old landing stage. Despite the fact that the post had been abandoned for decades the surrounding forest had not enveloped it and it makes a striking impression upon the immediate landscape. From the site of the post an old trail runs to the base of the hills which lie to the east, and here meadows were located, providing hay for the horses at the post.

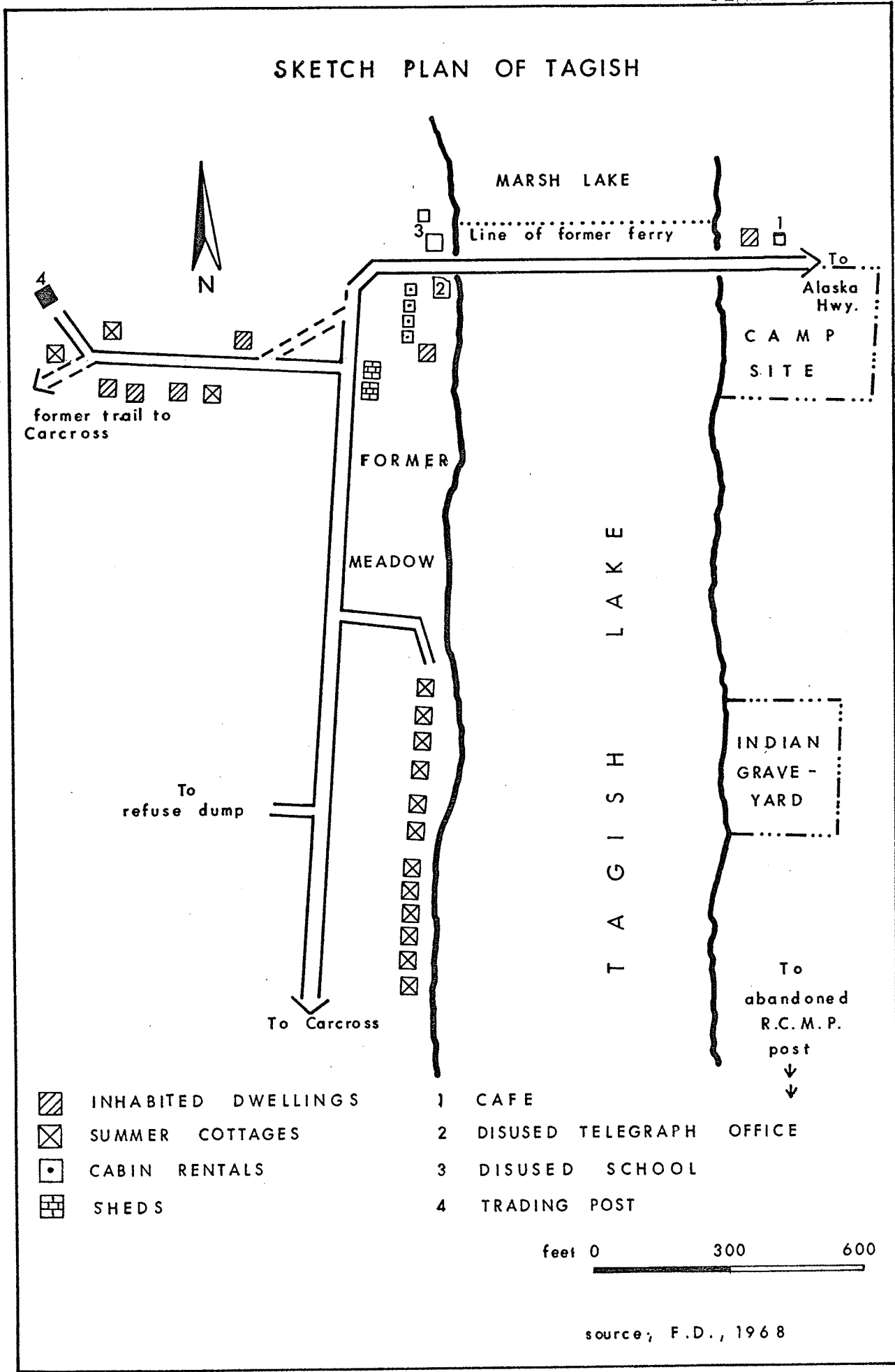
The contemporary settlement of Tagish lies mainly west of the narrows, with two dwellings lying at the eastern end of the bridge constructed in the Second World War as part of the North-west Highway system.

The settlement is aligned along both the shore of Tagish Lake, and the Jake's Crossing-Carcross road (Figure 36). Its last recorded census population was four, in 1911. Interviews yielded the information that ten years ago only two families lived in Tagish permanently; today there are five.

The eastern extremity of the settlement lies at the point where a cable-ferry operated across the narrows in the era prior to the construction of the bridge, whilst recent westerly extension of Tagish has been due to the construction of 'weekend cottages' by persons from Whitehorse. This is associated with the increasingly urban character of Whitehorse.

Figure 36.

# SKETCH PLAN OF TAGISH



- ▨ INHABITED DWELLINGS
- ⊠ SUMMER COTTAGES
- ◻• CABIN RENTALS
- ▣ SHEDS

- 1 CAFE
- 2 DISUSED TELEGRAPH OFFICE
- 3 DISUSED SCHOOL
- 4 TRADING POST

feet 0 300 600

source; F.D., 1968

and explains the existence of twenty-nine inhabitable dwellings when only five families are permanent residents of the community.

Logically Tagish should exist no longer. Owing its first white occupation to the gold rush and water transport it was inertia that maintained the settlement long after the railway had replaced the boat as a media of transport in this part of the Territory.

It is evident that by 1940 Tagish was declining rapidly. The school had closed, the telegraph office had ceased to function.

Improved communications motivated by military necessity prevented the complete disappearance of the community. Since 1945 the growth, or maintenance of Tagish has been dictated by the growth of Whitehorse and the manner in which improved road communications have made the community accessible to the populace of Whitehorse as a recreation area. As the population of Whitehorse sought recreational outlets so Tagish grew.

Today the service base of the settlement, which is completely tourist orientated consists of a trading post, a camp site, a cafe, a boat rental office, and a cabin rental area.

As can be seen from the map (Figure 36) the construction of the bridge across the narrows and the associated road to Carcross which was formerly part of the Alaska Highway was partly responsible for the modification of the internal settlement pattern. Formerly the trail to Carcross ran through bush,

at right angles to the narrows, and it was along this road that the early street settlement at the site of the narrows occurred. The construction of cottages since 1950 has taken place parallel to the narrows, access being gained by the new road to Carcross.

Despite its recent growth Tagish lacks basic amenities. Water is obtained from the lake; there is no electricity, and as in other Yukon settlements waste disposal lies immediately adjacent to the periphery of the settlement.

#### IV. WHITEHORSE

The settlement of Whitehorse, the major settlement and service center in the Yukon Territory, shall not be studied in any greater detail than that required to illustrate its evolution, and its role in the development of the contemporary settlement pattern in the Yukon Valley group of settlements. There are two reasons for this. Firstly, much research has already been conducted on Whitehorse, and to this the reader is referred. Secondly the study of contemporary Whitehorse could be a thesis in itself, and would be too lengthy and involved for inclusion in a work of this nature.

In reality Whitehorse can be classed into two settlement groups, the Yukon Valley group and the Alaska Highway group. It is in the former group that Whitehorse first emerged, and most its history has been associated with. Consequently the settlement is classed in the Yukon Valley group of settlements.

A. History Whitehorse first came into existence as a resting place for migrants travelling northwards, after overcoming two major obstacles on the Yukon River, Miles Canyon and Whitehorse Rapids. Formerly lying at the site of the present town, but on the eastern bank of the Yukon, the settlement was first known as Closeleigh (Dennis, 1960). Prior to the advent of the White Pass Railway Whitehorse had a function associated with Canyon City, four miles to the south. Wooden railway lines were laid round Miles Canyon and Whitehorse Rapids and boats were transported round the rapids on these lines. Canyon City was the southerly terminus of the lines, Closeleigh the northern terminus. As with many other early Yukon settlements there was a saw-mill at Closeleigh.

The opening of the White Pass Railway in 1900 established the community as a break of media point where the railway and the river met, and resulted in the transference of the settlement to the western bank of the Yukon where the railway terminus lay. The advent of the railway heralded the decline of many river based settlements south of Whitehorse (such as Canyon City and Tagish).

The next stage in the settlement's development was the shortlived copper boom which terminated in 1919 (for reasons see Ch.2. Past evidence suggests that at this time the community had few other functions than that of servicing the railway. Stuck writes that,

'It (Whitehorse) has presented conclusive evidence that a railway does not necessarily bring business, and that even the terminus may be a dull place.'<sup>1</sup>

(Stuck, 1917, 18).

It has been asserted (Ridge, 1953) that in the years following the collapse of copper extraction the tourist industry grew, offsetting the adverse economic effects of the collapse. The author is sceptical about such developments. Population figures (Table VII) tend to illustrate the fact that Whitehorse stagnated until the construction of the Alaska Highway.

After 1942 the Alaska Highway became a major influence upon the settlement's growth. The service base was increased to meet the demands of construction workers, whilst Whitehorse became the focal point of the North West Highway system. Since 1951 the removal of Territorial government offices from Dawson City to Whitehorse and the increased use of the settlement as a base for mining and prospecting operations have been responsible for rapid increase in population (Table VII). Location in one of the most climatically hospitable parts of the Territory combined with its position at the hub of the Territory's transportation network are assets which have made Whitehorse attractive to mineral companies and government departments as a base for operations. Today the settlement is the administrative, distributive, and tourist center of the Yukon Territory.

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<sup>1</sup>Despite this statement Stuck believed, mistakenly, that copper mining could make Whitehorse prosperous.



B. Site Conditions The site of the present settlement lies mainly west of the Yukon River, and has been fully described by Griffith Taylor (1947), and Ridge (1953). The town lies on a 2,000 foot wide river plain, 10 feet above average water level. It is backed by a steep scarp with a plateau-like summit some 200' above the settlement. The settlement's airport is situated on the summit of the plateau. To the south Whitehorse is bounded by the braiding of the Yukon River, the Whitehorse Rapids cutting into the scarp face. Northwards the settlement is bounded by a creek flowing down the scarp into the Yukon.

C. Changing Land Use Whitehorse has a conventional grid-pattern (Figures 37,38,39). This pattern has remained unmodified since 1945, despite changing land use within its framework. East of the Yukon River settlement has proliferated along the river bank and it is here that the most recent expansion of the residential area of Whitehorse has taken place.







As with Dawson City the last twenty years have seen the greatest transformation in the settlement since the end of gold rush era. Three studies exist illustrating changing land use since the Second World War, Griffith Taylor's (1943), Ridge's (1953), and the author's (1968).

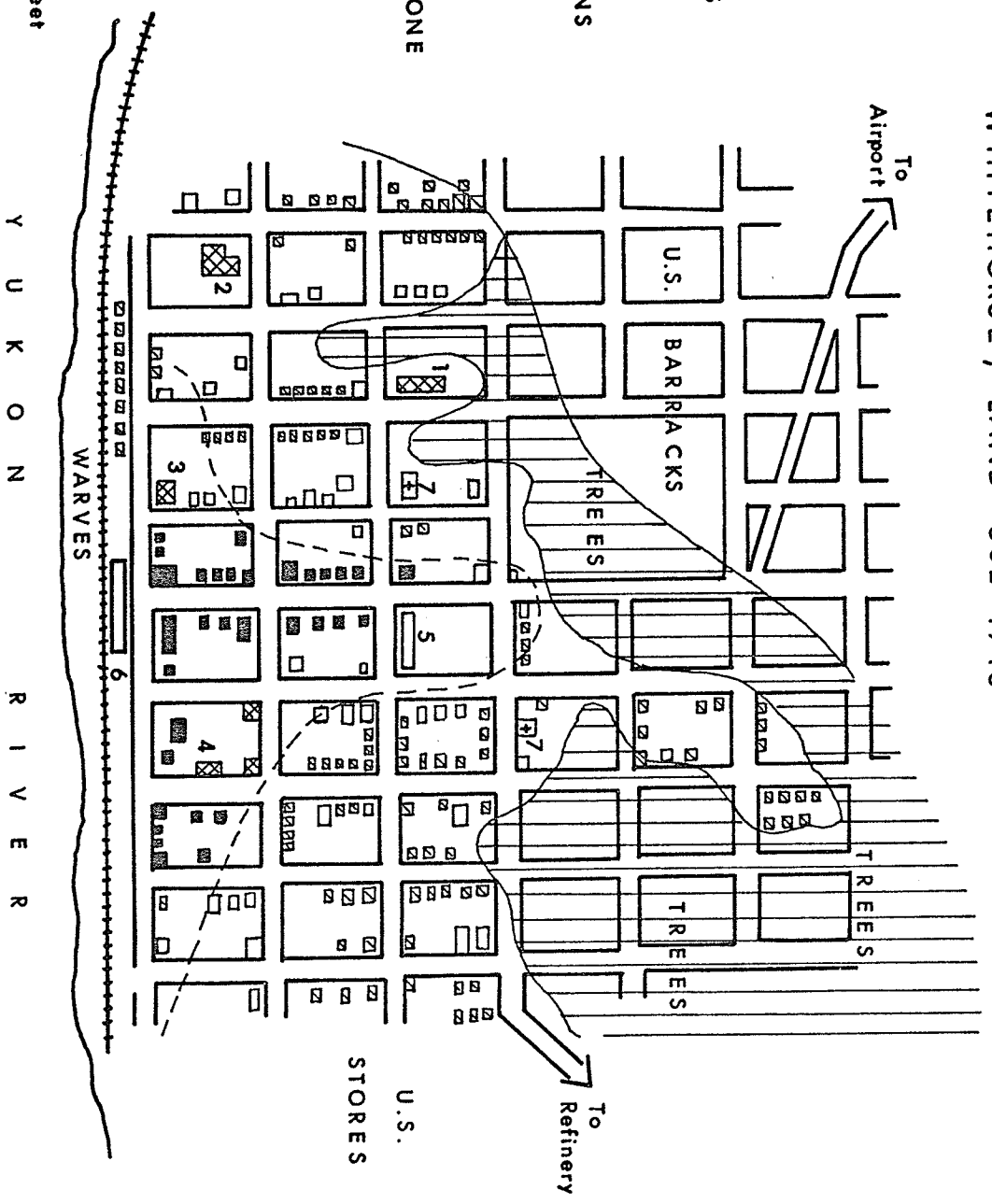
Griffith Taylor's study came shortly after Whitehorse became a base for the construction of the Alaska Highway, and shortly after the Alaska Highway access road had been constructed,

# WHITEHORSE ; LAND USE 1943



LEGEND :

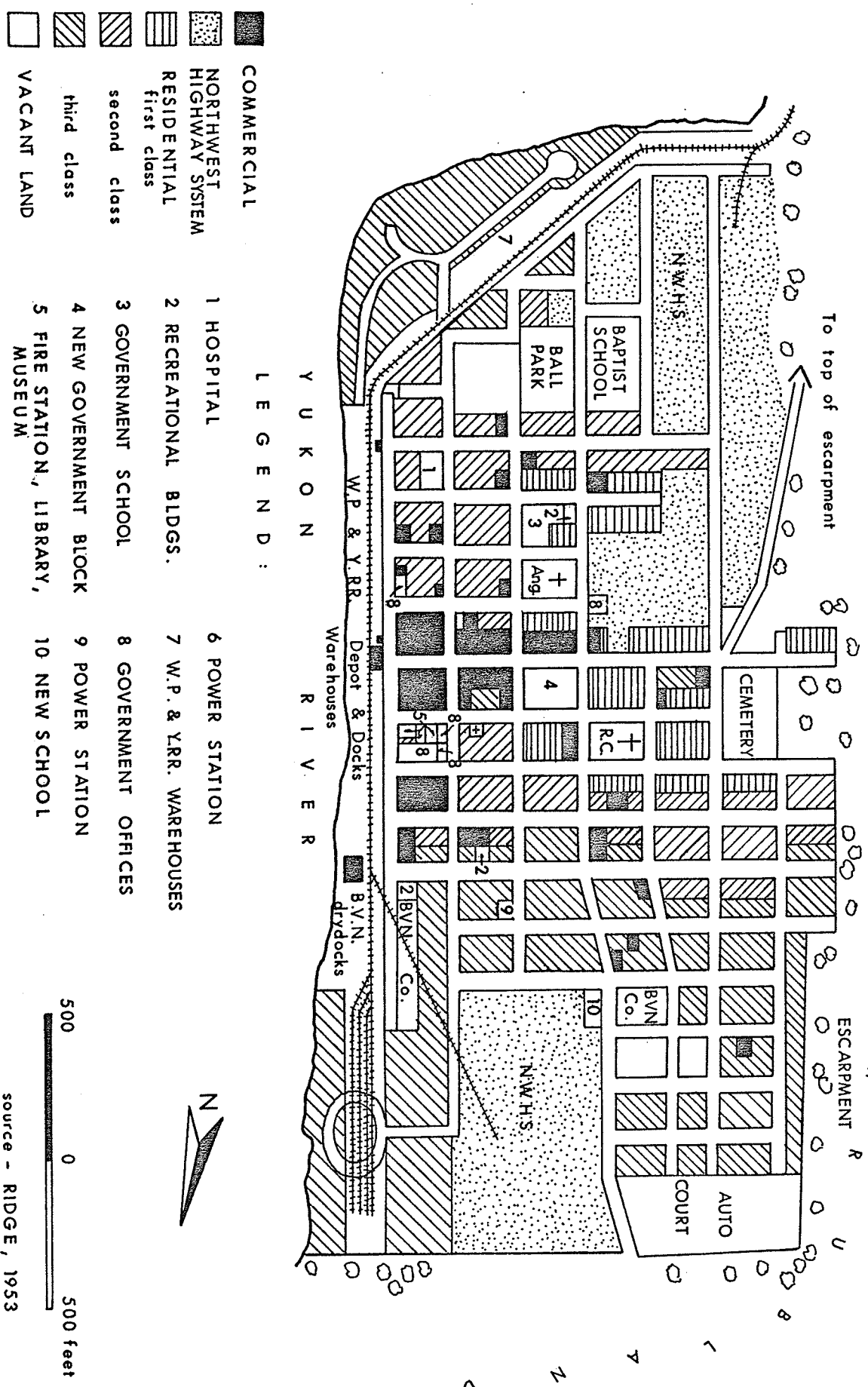
-  RESIDENTIAL DWELLINGS
-  COMMERCIAL PREMISES
-  GOVERNMENT INSTITUTIONS
-  EDGE OF COMMERCIAL ZONE
-  BUSH
-  RAILWAY
- 1 SCHOOL
- 2 HOSPITAL
- 3 POST OFFICE
- 4 R.C.M.P.
- 5 HALL
- 6 STATION
- 7 CHURCH



source - GRIFFITH TAYLOR

Figure 37.

# WHITEHORSE, LAND USE 1952



- LEGEND:**
- COMMERCIAL
  - ▨ NORTHWEST HIGHWAY SYSTEM
  - ▧ RESIDENTIAL first class
  - ▦ second class
  - ▩ third class
  - VACANT LAND

- LEGEND:**
- 1 HOSPITAL
  - 2 RECREATIONAL BLDGS.
  - 3 GOVERNMENT SCHOOL
  - 4 NEW GOVERNMENT BLOCK
  - 5 FIRE STATION, LIBRARY, MUSEUM
  - 6 POWER STATION
  - 7 W.P. & Y.R.R. WAREHOUSES
  - 8 GOVERNMENT OFFICES
  - 9 POWER STATION
  - 10 NEW SCHOOL

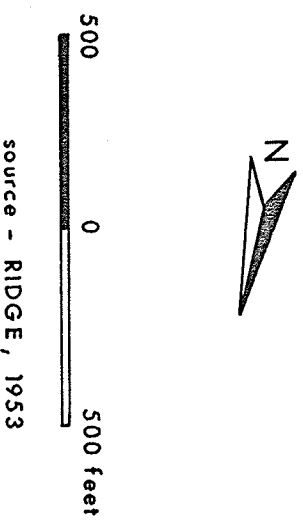
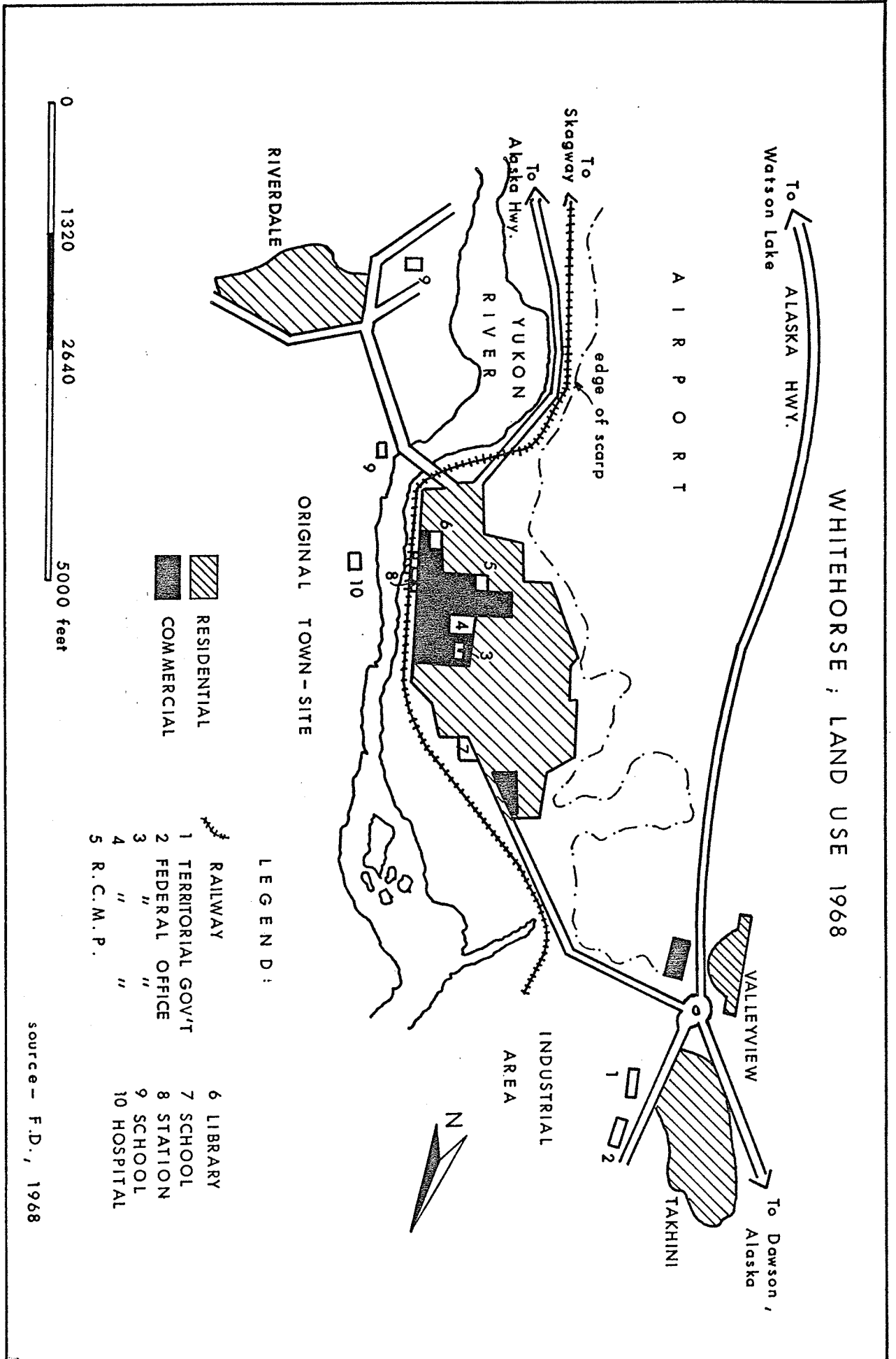


Figure 38.

# WHITEHORSE ; LAND USE 1968



To ← ALASKA HWY.  
Watson Lake

A I R P O R T

To ← Skagway  
To Alaska Hwy.  
YUKON RIVER  
edge of scarp

RIVERDALE

ORIGINAL TOWN - SITE

RESIDENTIAL  
COMMERCIAL

LEGEND :

- RAILWAY
- 1 TERRITORIAL GOV'T
- 2 FEDERAL OFFICE
- 3 " "
- 4 " "
- 5 R.C.M.P.
- 6 LIBRARY
- 7 SCHOOL
- 8 STATION
- 9 SCHOOL
- 10 HOSPITAL

INDUSTRIAL AREA

VALLEYVIEW

TAKHINI

To Dawson,  
Alaska

0 1320 2640 5000 feet

source - F.D., 1968

slightly modifying the grid-pattern.

Despite this modification, and despite the presence of military installations in the town, land use probably remained much the same as it had done for the previous twenty years (i.e. since the decline of copper extraction). West of Fourth Street the grid-pattern remained virtually unoccupied; the business area was limited to Main Street, east of Third Street (see map Figure 37). First Street was dominated by the railway station. The invasion of vegetation, stretching from Hawkins Street, north-west to the scarp epitomises the emptiness and frontier nature of the settlement at this time. One hundred and thirty-six houses were enumerated--a reflection of the fact that the settlement's population of 330 in 1931 had, in Griffith Taylor's estimation, increased to about 500.

Functionally the main body of Whitehorse could be divided into three zones, commercial and retail located on Main Street and Pont Street, residential, north and south of the Main Street, and the break of media area where the railway terminus and docking facilities were located. This latter area lay between Front Street and the Yukon River.

Ridge's land utilization map (Figure 38) shows the residential zone in the settlement extending westwards beyond Seventh Avenue, and the disappearance of the belt of vegetation which had been present in 1943. This is associated with the fact that by 1951 the population of Whitehorse had grown to

2,594, an increase of almost 2,000 in ten years.

Visually the growth of the residential area is the most striking feature emerging from a comparison of the two land utilization maps, almost all lots east of Fourth Avenue being occupied, compared to the rather intermittent occupation sketched by Griffith Taylor.

Functionally the greatest change in the period 1943-53 was the emergence of government institutions in the town. On Main Street, between Fourth and Third Street a new Government block is shown on Ridge's map, whilst large tracts to the south-west and north of Whitehorse are used as maintenance depots for the North-West Highway system. These areas were formerly occupied by military installations. A new school is to be noted on Ridge's map, in the south-west corner of the northern area. The areas of government activity are to be added to the three-fold division of land use previously listed.

Land utilization in the main body of Whitehorse became visually simplified after 1953 with the enforcement of a land zoning act--stating that blocks and lots used for a dominant purpose in the 'down-town' area should be used exclusively for that purpose. Thus after 1953 the RCMP and the government came to monopolize lots in the center of the settlement (see map Figure 39).

In 1968 the settlement of Whitehorse was noted to have distinctive urban characteristics, especially when compared to



Plate 7: Whitehorse. This view of the Territory's capital, taken from the scarp which forms the western boundary of the settlement, clearly shows flood-plain location and grid street pattern. The path of the Yukon River is marked by the scarp in the immediate background.

any other community in the Yukon Territory (Plate 7 ). Although the port function which had been a basis of the early growth of Whitehorse had ceased in the mid 1950's growth of population, commercial and retail facilities and government functions had continued apace.

In 1968 four land use divisions could be identified, these were residential land use, commercial land use, Government land use, and industrial land use. On the plateau above the town the former military base of Camp Takhini now houses Territorial government offices, whilst the houses in the camp are now used by government officials.

As previously stated, east of the Yukon the settlement has extended southwards along the bank of the river. The hospital lies on this bank, opposite the southern extremity of the main body of the town, and south of here lies a new school and a new residential area.

D. Service Base The decline in water front activity has been reflected in the restriction of commercial development to Main Street, and its tributary streets, notably Fourth Avenue northwards to the school.

The retail and service base of Whitehorse has quadrupled since 1943. As can be seen (Table VIII) in 1944 the settlement boasted twenty-four retail services; by 1968 this had risen to ninety-seven. Both Ridge and Griffith Taylor make the point that in 1944 the population of Whitehorse was artificially swollen



TABLE VIII

Whitehorse; Range of Services, 1944 and 1968.

	<u>Griffith Taylor, 1944.</u>	<u>Author, 1968.</u>
General Stores	2	3
Catalogue Stores		2
Small Miscellaneous Stores	1	4
Drugs	1	2
Clothing	2	2
Books		3
Butchers	1	1
Miscellaneous Services		11
Heating and Electrical	1	6
Airlines	1	2
Tourist Offices		2
Hotels	3	7
Motels		8
Restaurants	3	9
Garages	1	12
Souvenir Shops		5
Lawyers Offices		1
Banks	1	4
Insurance Offices		1
Post Office	1	1
Liquor Store	1	1
Telegraph Office	1	1
Theatres	2	2
Barber Shops	1	1
Taxi Companies		3

by the presence of American troops, and consequently it is to be argued that the retail base at this time supported more than a nominal population in the vicinity of 750 persons.

In his study, Ridge gives no quantitative indication of the size of the service base but indicates that it was broader than in 1944, supporting the increased resident population. He states that the range of services included,

'offices, banks, drug stores, electrical appliance shops, grocery and butcher's shops, department stores, souvenir shops, photograph, taxi, sight-seeing offices, clothing, newspaper offices, restaurants, automobile stores, garages, barber shops, and theatres.'

(Ridge, 1953, 294).

It is evident that the function which has seen the greatest growth has been that of tourism, with accommodation services increasing in number along with restaurants and taxi services.

The cessation of the port function aided the transformation of the geographic location of the growth of retail services. In 1944 the ratio of Front Street retail services to Main Street services was 8:16, in 1968 it was noted to be 8:30, suggesting stagnation of the Main Street area following the failure of the port function.

As striking as the increase in retail services has been the increase in Government services in Whitehorse since 1944. In this year Griffith Taylor noted a school, hospital, Post Office, RCMP post, and liquor store. This contrasts greatly with the list compiled by the author in 1968 (Table XI). Many of the

government services shown here were also observed by Ridge in 1953, and this illustrates the fact that change in the period 1944-53 was more pronounced than in the period 1953-68.

Housing types in Whitehorse are of greater variety than in any other settlement within the study area. In Camp Takhini and east of the Yukon River two-storey houses are dominant. On the edge of the river, on the periphery of the main body of the settlement, stand Indian shanties. Within the main body of Whitehorse, on the river plain, single storey wooden or stucco-faced dwellings dominate.

E. Urban Characteristics Increase in urban-like characteristics of Whitehorse is manifest in four ways. Firstly the zoning of functions, with the industrial area lying north of the town, the commercial complex lying in the center of the settlement and government offices dominating whole blocks on the edge of the central commercial area. The industrial area contains the offices and equipment of mineral exploration and mining companies.

The second vaguely urban characteristic is the road surface. Whitehorse is the only settlement in the Yukon Territory with a tarred road surface. The third feature is the proliferation of the settlement along the Alaska Highway north of the town. Here lies much new property, and visually the development along the highway is akin to ribbon development. The final characteristic is the emergence of recreation areas

outside the town which serve as weekend retreats for its residents. This is seen in the growth of Tagish since 1950 and the acquisition of cottages at Carcross by Whitehorse residents (Pages 160-164).

#### VI. RIVER SETTLEMENTS NORTH OF WHITEHORSE

Between Whitehorse and the confluence of the Yukon and Belly Rivers lie the remains of settlements which owed their origin or growth to the gold rush, but which no longer have function or population. These include Braiburn and Kynocks, road houses which emerged in response to the opening of the winter road between Whitehorse and Dawson City; Laberge, an RCMP post at the north end of Lake Laberge; Hootalinqua at the junction of the Teslin and Yukon Rivers; Little Salmon, where the Little Salmon River flows into the Yukon, and Carmacks, Yukon Crossing, Minto and Fort Selkirk. The author found access to all but two of these settlement sites to be impossible in the time available, although two of those not visited were surveyed from the air. Descriptions provided by Griffith Taylor (1944), Bostock (1958), and Adney (1900), adequately overcome deficiencies due to lack of field work.

Many of the settlements did not enjoy a very lengthy existence, and some were so small that they were not included in Government census's. The rapidity of decline following the end of the gold rush era can be seen from comparison of population

figures for two of the settlements which depended upon river traffic and the servicing of transients, Hootalinqua and Laberge.

By 1911 Hootalinqua (which, it shall be seen, was once a sizeable settlement) was shown in the census as only having a population of two persons. In 1921, according to census information it had ceased to exist. Similarly Laberge; in 1911 its population was thirteen, in 1921 it was not listed in the census.

In 1944 Griffith Taylor sailed past Laberge, and described it as 'a small settlement of ten houses' which was situated at the north end of Lake Laberge, on the eastern shore (Griffith Taylor, 1947, 92). The settlement of Hootalinqua, which had its origins as a prospecting center prior to the gold rush and which served as a service center for migrants at the time of the gold rush era was described by Griffith Taylor as consisting of,

'an abandoned police station, a few houses, and an old decaying steamer pulled up on the shore.'  
(Griffith Taylor, 1947, 92)

Some fifty miles north along the Yukon from Hootalinqua lie the remains of Little Salmon. This settlement was described by Adney (1900) as being an Indian village, and it probably also served as a camping place for migrants travelling northwards at the time of the gold rush. From Cockfield's description (1928) it becomes apparent that Little Salmon had a plural society,

with white occupation being secondary, superimposing its own institutions on the original Indian settlement. Cockfield writes,

'One time there was a trading post, and an Anglican mission and an Indian village. It is now deserted for most of the year.'

(Cockfield, 1928, 586).

The temporary nature of occupation of the settlement was due to the nomadic habits of Indians, using it as a winter camp.

North of Little Salmon are three other communities which in the past have been dependent upon the river for livelihood, Carmacks, Minto, and Fort Selkirk. Carmacks, which will be dealt with in more detail later in this chapter, displayed characteristics similar to other river settlements when Griffith Taylor visited it in 1944. He described it as consisting of,

'Half a dozen houses including two of two-storeys clustered on top of the twelve foot bank.'

(Griffith Taylor, 1947, 93).

The settlement also displayed river alignment. The now abandoned community of Minto, about sixty-five miles north of Carmacks is also aligned parallel to the Yukon River and was dependent upon the river as a source of livelihood, both as a transport media, and as a functional base, in the servicing of river traffic.

At the junction of the Yukon and Pelly Rivers lies the remains of yet another river settlement, Fort Selkirk. This is the most northerly community on the Yukon River in the Yukon Valley settlement group. Originally situated on the eastern bank of the Yukon this settlement, with initial function

as a trading post, was transferred to the west bank of the river in 1852. (Bostock, 1936).<sup>1</sup> It was sacked by local Indians, but attained importance with the increase in prospecting activity north of the Felly-Yukon junction. It had its peak population in the gold rush year of 1898 when 5,000 transient gold seekers were enumerated there by the RCMP.

The decline of Fort Selkirk was rapid. By 1911 its population had fallen to thirty-nine; in 1921 the population according to the census, was only three. Today the sole occupant is a janitor. Griffith Taylor noted that in 1944 the community was still functioning, although there were less than a dozen persons there. Twenty houses were observed, along with two missions, two stores, and a telegraph station. The large service base relative to the small population may be indicative of the fact that the community was the major service center for river settlements in a stretch of the river probably extending from Lake Laberge to Stewart.

The dependence upon the river as a mode of communication and dependence upon the servicing of river traffic as a functional base which many of the virtually mono-functional river communities had was ultimately the factor leading to their demise. As soon as the steamboats stopped operating the river settlements with no alternative function declined and ceased to exist. Lotz

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<sup>1</sup>The fort site was suspect to flooding at time of breakup.

provides a social comment upon the effect of the decline of river transport,

'Before 1953 the river was alive with boats.....The river held the Territory together,--a living thread down which travelled people, news, goods and gossip. The road that can be traversed so quickly does not serve the same function.'

(Lotz, 1963, 23).

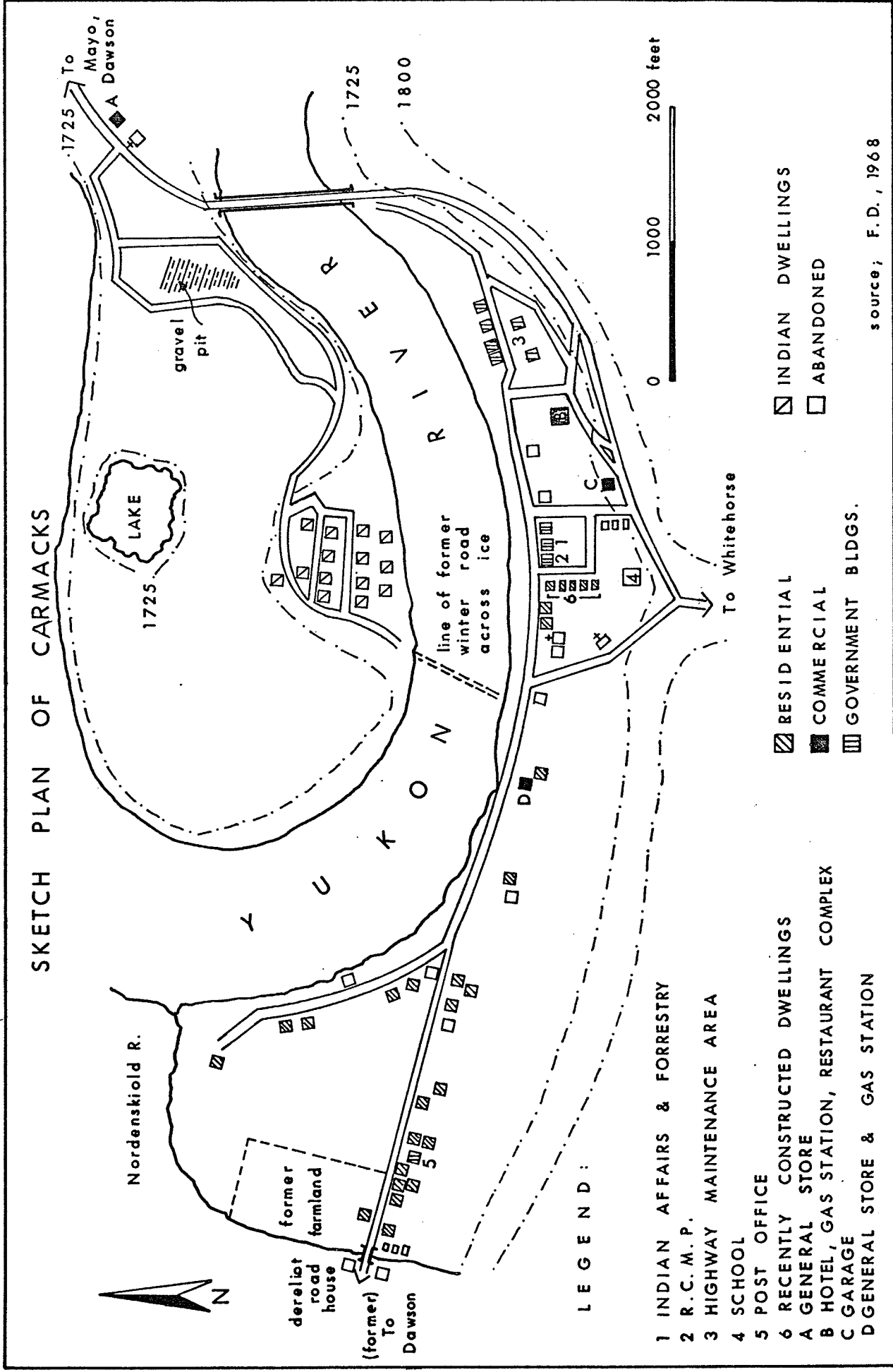
## VII. CARMACKS

The one settlement between Whitehorse and the confluence of the Yukon and Pelly Rivers which did not decline was Carmacks. This community provides an excellent case example of a settlement which due to lack of specialization combined with adaptability to changing circumstances was able to outlive the failure of its original basis of existence.

A. Site Carmacks lies on the western bank of the Yukon River, on the concave stretch of a pronounced meander. The main body of the settlement runs parallel to the river, and lies on a narrow plain backed by a steep wooded scarp. The plain lies about twelve feet above the level of the river (Figure 40 ).

B. History White habitation of Carmacks had its roots in the foundation of a trading post there by George Carmacks. Scarth (1897) noted the presence of the post in 1896, but stated that it was deserted. The location of the post at the point where the Dalton Trail met the Yukon River is to be gleaned from Scarth's statement that, 'a pack trail well worn with horse manure goes off in a south-westerly direction.' (Scarth, 1897, 12).





source; F.D., 1968

In the years following the gold rush Carmacks developed as a community servicing transients. It provided road house facilities for both the Dalton Trail and the Whitehorse-Dawson winter road. It also served as a fueling point for steamboats.

The fluctuating population of Carmacks is associated with changing functions over time and its ability to adapt to changing circumstances. In 1911 its population was 74, but by 1911 had fallen to 32. Griffith Taylor states that when he visited the settlement in 1944 its population totalled only 16. This decline is associated with decline in traffic due to depression of northern mining areas. The fact that the community retained a communication function based upon the servicing of road traffic, combined with the presence of a small coal extracting industry meant that it did not cease to exist as did other river settlements.

The extraction of coal in the vicinity of Carmacks, principally on Tantalus Butte on the eastern bank of the Yukon, was a function intermittently pursued by the settlement from 1900 onwards. The coal had two market outlets, Domestic use in Dawson City<sup>1</sup>, and for a period, the powering of steamships on the Yukon River (Bostock, 1937, 13). Production fluctuated greatly, and at no time did the extractive industry monopolize

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<sup>1</sup>A major problem associated with the use of this coal in Dawson was the seasonal nature of river transport between Carmacks and Dawson (Bostock, 1937).

the economic base of the community.

In 1950 the construction of the all-weather road from Whitehorse to Mayo initiated the transformation of Carmack's functional base. Before river traffic ceased due to competition from the new road the settlement acted as a river port and an all seasons crossing point on the Yukon River. In summer a cable ferry was used; in winter a road was created across the ice. In 1953 the population of Carmacks totalled 148.

The increase in population to 218 in 1961, and 311 in 1966 is associated with increased mining activity in the settlement's hinterland, combined with an increased government commitment in the settlement. Carmacks has become the focal point of communications to mines in the central study area, with roads leading from its location on the Whitehorse-Mayo/Dawson road to Mount Nansen and the Anvil development at Faro.

Although river traffic has ceased the settlement did not decline because it acquired the function of local service center for mines in its hinterland, and was also able to benefit from the servicing of increased traffic brought by the new all-weather road.

C. Land Use In plan (Figure 40), as already stressed, Carmacks has a river bank alignment associated with other settlements on the Yukon. The original settlement lay on the junction of the Nordenskold and Yukon Rivers--it was here that Scarth noted the cabins in 1897, and it is here that the main

body of the settlement lies today. The only remnants of the original settlement that the author could locate was the old road house where the winter road to Yukon Crossing crossed the Nordenskold River.

In 1944 Griffith Taylor observed eight dwellings at the site of Carmacks, two of which were of two storeys. Griffith Taylor also identified two cabins on the scarp behind the settlement. To the author's knowledge, and as field work proved, he evidently mistook the Indian cemetery with its burial cabins for an extension of the settlement.

Today the settlement extends for about a mile down the Yukon River to beyond its junction with the Nordenskold. On the east bank of the Yukon, in the neck of the meander, an Indian village has been established by the government. Within the vicinity of Carmacks live some 225 Indians, possibly 90 living in the fifteen dwelling village (Department of Indian Affairs).

The land utilization map (Figure 40) shows a government reserve containing an RCMP post, school, and Department of Forestry and Indian Affairs offices. The presence of such a reserve combined with the presence of a segregated Indian sector within the settlement appears to be a typical feature of many Yukon communities.

Figure 40 illustrates the fact that the older buildings in the community stretch in a linear pattern north of the present

government reserve. A modification of the linear north-south alignment of the dwellings in the community has taken place in the past few years with the creation of streets linking the Whitehorse-Dawson road to the river. Along the most northerly of these three roads lie the houses of Government officials, which have only been constructed in the past two years.

Nine out of the sixty-one dwellings in Carmacks were abandoned, but the settlement showed no signs of decay, and abandonment was more than offset by the number of buildings constructed in the settlement in the past ten years, twenty-seven. The dwellings are constructed from wood, ranging from the prefabricated house of government officials to the remnants of the log cabins of the original settlement.

D. Service Base The retail services within Carmacks consist of two stores, a Post Office, motel, gasoline station, and a garage/gasoline station complex. The two stores are located on opposite banks of the Yukon River, and as can be seen from the map, geographically appear to be orientated towards different markets. The store east of the river is advantageously situated for serving transient traffic on the main road north and inhabitants of the Indian community. The store west of the Yukon lies in the heart of the main body of the settlement on what was the main thoroughfare before the construction of the Whitehorse-Dawson road. This general store serves the miscellaneous requirements of the main body of the settlement.

The basic amenities boasted by Carmacks are similar to those possessed by other isolated Yukon settlements. The settlement centrally generates its own electricity, (two oil diesel generators with a total capacity of 160 Kw.). Water is obtained from wells, whilst waste disposal takes place on the scarp west of the settlement.

It appears that the future prospects for Carmacks are good. In the face of the ceasure of river traffic the settlement has orientated itself towards road communication. It has equired a sizeable government commitment which is physically manifest in the government reserve, whilst it has become the focal point of transport routes to the mines in the surrounding area. A further transportation factor which may conceivably enhance the status of the community will be the opening of the road to Faro new town which leaves the Whitehorse-Dawson road at Carmacks.

#### VIII. PELLY CROSSING AND STEWART CROSSING

Although not within the Yukon Valley, the settlements of Pelly Crossing and Stewart Crossing can be classified as being in the Yukon Valley settlement group inasmuch as they owe their existence to the servicing of north-south communications.

Both communities have attained importance since 1950, firstly as ferry points, and then as bridging points where the

Whitehorse-Mayo/Dawson road crosses the Pelly and Stewart Rivers. At Stewart Crossing the road divides, one branch going north-west to Dawson City, the other going north-east to Mayo Landing.

At the present time Pelly Crossing has a census population of 137, but it is felt that this figure is somewhat inaccurate insomuch as the Indian Agent in Whitehorse claims that there are 195 Indians living in the community.

Although no census figures are given for Stewart Crossing the 1968 electoral list shows eighteen persons over the age of twenty-one living in the community, whilst the Indian Agent claims that there are some twelve Indians living in the vicinity of the settlement.

In lay-out both communities are simple and conform to no rigid grid-plan. Both lie south of the rivers upon which they act as bridging points, and the retail outlets of each are aligned along the main highway. The service base of Pelly Crossing consists of a store, lodge, gasoline station and beer parlour, whilst that of Stewart Crossing consists of a restaurant and a gasoline station.

The growth of Pelly Crossing's population from five in 1951 to today's population of perhaps 200 compared to the apparent stagnation of Stewart Crossing is partly due to the decline of Minto, some twenty miles to the south. When river traffic ceased the functional base of this Indian river settlement failed, and many of the Indians moved to Pelly Crossing where the government provided housing and a school. The presence

of a beer hall in Pelly Crossing was conceivably another attractive force to the migrants.

Thus it is to be concluded that throughout the Yukon Valley, transportation to the north has been the salient motive for settlement development whilst changing transport media has been the major single reason for the decline of communities.



## CHAPTER VII

## THE ALASKA HIGHWAY SETTLEMENT GROUP

## I. PHYSICAL AND HISTORICAL SETTING

The Alaska Highway group of settlements extends westwards from Whitehorse to the Alaskan border (Figure 40). The settlements in this group serve a function analagous to those in the Yukon Valley group, that of servicing transients. The communities on the Alaska Highway west of Whitehorse lie in the valleys of the Takhini, Mendenhall, and Dezadeash Rivers, and the Shakawak Valley, a glacial trough in Pleistocene time. The Shakawak Valley is the only physiographic feature containing more than one settlement; stretching north-west from Haines Junction towards Alaska, running parallel to the St. Elias Mountains, it contains the major settlements in the group at the present time.

Prior to the construction of the Alaska Highway settlements existed west of Whitehorse which had their basis in either the Klondike gold rush or the Kluane mineral development which started in 1903. The communities which emerged either serviced transients en route to the extracting area or were used as a base for operations at the point of extraction.

Such early settlements were Champagne and Mendenhall Landing, road houses such as Marshal Creek and Macintosh Lodge, and mining based settlements--namely Kluane and Burwash Landing.

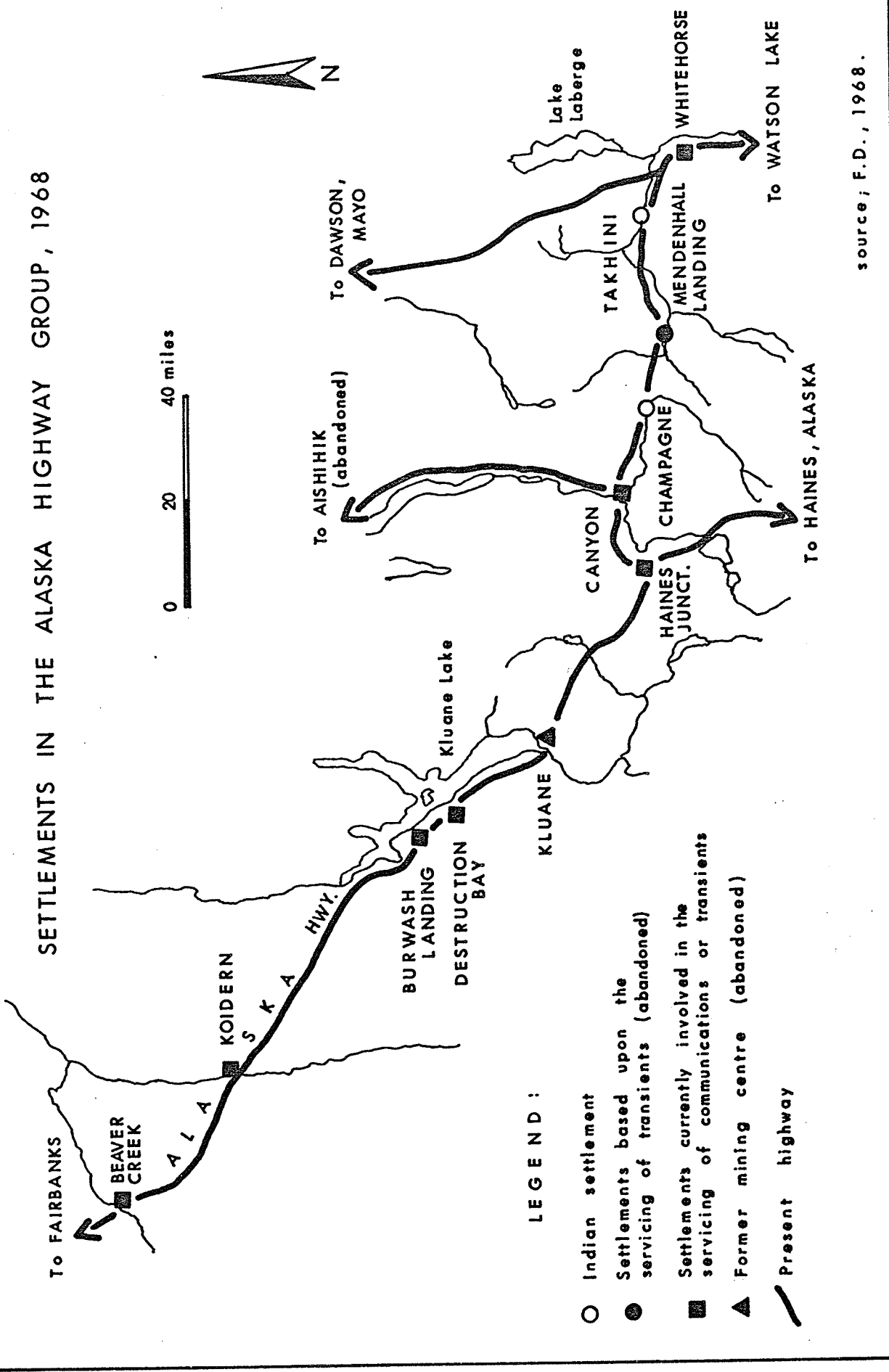
TABLE IX

Population of Alaska Highway Group Settlements, 1951-66

	<u>1951</u>	<u>1956</u>	<u>1961</u>	<u>1966</u>
Champagne		55	56	28
Haines Junction		74	199	195
Destruction Bay	13	108	104	64
Burwash Landing		45	57	69
Beaver Creek		41	96	114

Source: D.B.S., Census of Canada.

# SETTLEMENTS IN THE ALASKA HIGHWAY GROUP, 1968



### LEGEND :

- Indian settlement
- Settlements based upon the servicing of transients (abandoned)
- Settlements currently involved in the servicing of communications or transients
- ▲ Former mining centre (abandoned)
- Present highway

source; F.D., 1968.

Champagne was an Indian settlement which became a trading post on the Dalton Trail, at the point where the trail left the Dezadeash River. Mendenhall Landing lay at the break of media point where boats travelling along the Takhini River from Whitehorse, bearing cargo for the Kluane mining area, unloaded at the Kluane waggon road. On the waggon road lay the road houses of Marshal Creek and Macintosh Lodge. Kluane, the base camp for mineral extraction situated at the southern end of Kluane Lake, also acted as a disembarkation point for boats travelling to the Silver City mining area north-west of Burwash Landing which acted as the docking point serving this latter camp.

Decline of the Kluane mineral industry and changing lines of communication were responsible for the emergence of the contemporary settlement pattern. Today the surviving settlements are Champagne, Canyon, Takhini, and Burwash Landing. Emergent settlements are Haines Junction, Destruction Bay and Beaver Creek.

The closure of the Dalton Trail has been responsible for the decline of Champagne to its present day status of being little more than a ranch and a few Indian shanty houses. The failure of river traffic on the Takhini as a result of the abandonment of the Kluane mining area was responsible for the disappearance of Mendenhall Landing. The advent of the Alaska Highway was responsible for the decline of road houses on the

former waggon road which it by-passed, whilst the new road was responsible for the emergence of new settlements--Haines Junction, at the point where the highway merges with the road from the port of Haines, Destruction Bay, and Beaver Creek, the custom's post on the Canadian side of the Canada-United States border.

It is apparent that the highway has been partly responsible for the decline or stagnation of Indian communities in its vicinity. Aishihik ceased to exist as its native population migrated to Highway settlements--notably Whitehorse and Haines Junction. The Indians from Canyon and Champagne have also dispersed to these centers.

## II. SETTLEMENTS EAST OF HAINES JUNCTION

Takhini, Champagne, Mendenhall Lodge, and Canyon are the only four currently occupied settlements between Whitehorse and Haines Junction. In plan these communities lack symmetry, and leave no marked impression upon the landscape. Takhini consists of a few Indian shacks dispersed in the bush by the side of the highway. The only form of settlement in the vicinity of Mendenhall Landing is Mendenhall Lodge, 200 yards west of which lie the dilapidated remnants of a former road house. Champagne consists of a ranch, dilapidated Indian shanties and an abandoned gasoline station. Evidence of the settlement's former size was presented by the presence of abandoned buildings

and an Indian graveyard. The former north-south orientation of Champagne--a reflection of its former position on the Dalton Trail--is seen in the fact that the remnants of this community have very little frontage on the east-west Alaska Highway.

Canyon, situated at the point where the Alaska Highway crosses the Aishihik River, has the same simple form of other highway settlements east of Haines Junction. It consists of a few Indian houses and, gasoline station, and a lodge.

The major settlements in the group are those lying west of Haines Junction. Haines Junction, Destruction Bay, Burwash Landing, and Beaver Creek have all experienced growth, either economically or physically since 1950 and the major factor responsible for this growth has been the Alaska Highway. It is now proposed to study these settlements in detail.

### III. HAINES JUNCTION

Haines Junction, which, with a population of 195 in 1966, was the largest settlement on the Yukon section of the Alaska Highway west of Whitehorse, has only come into existence since the end of the Second World War.

A. Site Conditions The community lies on the northern bank of the Dezadeash River, at the point where the Alaska Highway meets the road from Haines, Alaska. At this point traffic travelling from points south and south-west of Whitehorse to Alaska, and traffic entering the Yukon Territory via the port

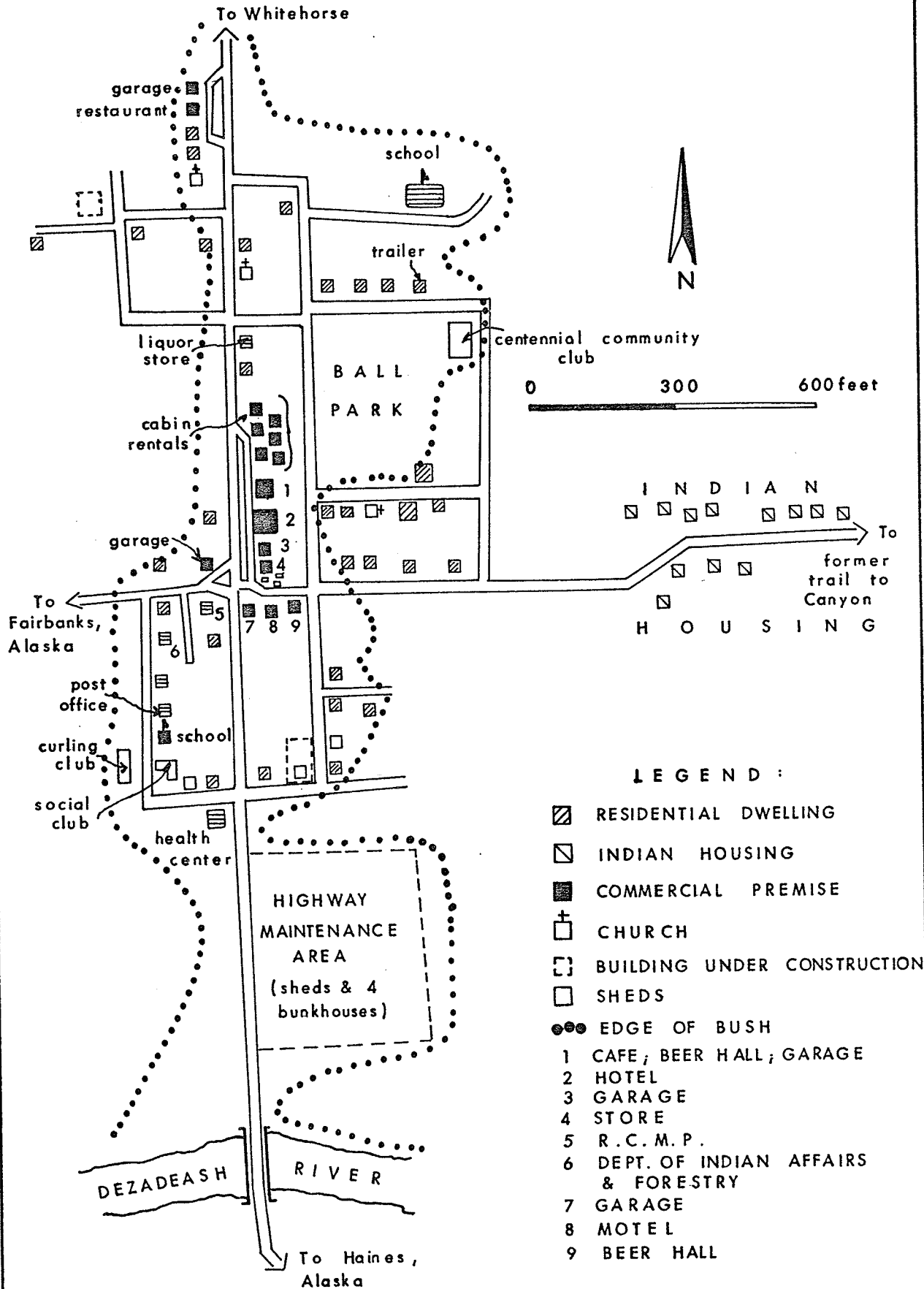
of Haines merge. The former waggon road from Whitehorse to Kluane passes through Haines Junction, and here it formerly served as a section of the highway. The waggon road enters the settlement from the east, whilst the Alaska Highway now enters it from the north (Figure 42).

The growth of Haines Junction's population (Table IX) is associated with the development of transport orientated services, the presence of a government reserve, and the presence of government housing for Indians. Today probably 60% of the community's labour force (author's estimate) is employed either in Highway maintenance or tourist orientated services.

The settlement is aligned north-south along the Alaska Highway, which runs at right angles to the Dezedash River, the southern boundary of the town. The valley floor upon which Haines Junction lies has an average gradient of approximately 150 feet per mile, but this increases as one travels south towards the river with the result that much of the settlement lies upon a pronounced slope, and it is down this slope that the linear nucleus of Haines Junction runs.

B. Plan and Land Use Although the idealized plan of the settlement consists of a simple grid-pattern it appears that there has been no symmetrical development of this. The main body of the community consists of the Alaska Highway and a series of streets running parallel to it. Two continuous streets lie east of the highway, whilst one street interrupted

## SKETCH PLAN OF HAINES JUNCTION





by a bush lies west of it (see map Figure 42). To the east the settlement has proliferated along old waggon road, where the Indian sector of the community stands.

Within the settlement four distinct areas can be observed. Firstly the government reserve, south of the Haines road/Alaska Highway junction. This contains a RCMP post, school, post office, Department of Indian Affairs office, and health center. Here also lies a highway maintenance center, within the confines of which lies the community's power source consisting of five oil/deisel generators with a capacity of 500 kw.

The second area that can be identified is the Indian sector of the settlement, lying on the old waggon road. This contains eleven government built plywood houses. These dwellings were constructed in 1965, and house Indians from Aishihik, Canyon, and Champagne. It is apparent that not all the Indians living in the settlement reside in these houses. The Department of Indian Affairs stated that 95 Indians live in Haines Junction, whilst there are only eleven houses within the exclusively native sector.

Thirdly there is the commercial area, aligned north-south along the Alaska Highway, on the eastern side of the road. This forms the nucleus of Haines Junction. Finally there is the residential area. This lies back from the Alaska Highway, either on roads running parallel to the highway, or on the lateral linking roads between these and the main thoroughfare.

Within the residential area 42 private dwellings were counted (including the Indian sector). Only one case of abandonment was observed whilst two buildings were under construction.

C. Service Base As already stated the retail services of Haines Junction are aligned along the eastern side of the Alaska Highway. The westerly aspect of these tourist orientated services allows them to capitalize on an impressive view of the St. Elias Mountains. The list showing the breakdown of retail services in the settlement (Table X) illustrates the fact that the servicing of automobiles dominates the service base, with five of the fourteen services being gasoline stations. Of the remaining nine, seven are dependent upon transient traffic, (three services providing accommodation, two beer halls, and two cafes). Only four services can be said to be directly connected with the servicing of the community itself--one gasoline station, one store, one beer hall, and a launderette--given the fact that it has a population of only 197 (1966).

On the eastern boundary of the settlement, beyond the Indian sector, there is evidence of a previous attempt to diversify the economic base of the community. Here stands a derelict oil-cracking plant. This was constructed in 1956 in the hope of attracting and refining crude oil imported via the port of Haines. The plant was never used. The economies of oil processing are such that the oil is pumped directly from

TABLE X

Haines Junction, Range of Services, 1968.

Gasoline Stations	5
General Stores	1
Motels	2
Lodges	1
Restaurants	2
Beer Halls	2
Laundry	1
Liquor Store	1

Source: Author, 1968.

Haines to its markets (mainly military) in western Alaska.

In terms of self-containment Haines Junction displays features which are typical of Yukon settlements. Power is generated within the community itself; water is obtained from wells.

D. Agriculture Unlike other settlements in the Territory there was agricultural development. This consists of Pine Creek experimental farm operated by the Federal Government which lies about three miles west of Haines Junction on the Alaska Highway.

Although this farm produced wheat and maintained a herd of cows its economic value to the community was negligible, with only one full time employee and no market outlet within Haines Junction. The future of the experimental farm is uncertain. Although grain and milk yields are high so are production costs, and it is apparent that the farm is slowly being closed down by the Federal Government who appear to be attempting to centralize operations in the Albertan experimental farm at Beaverlodge. The officer in charge of the farm informed the author that he could see little future in agriculture in the Territory unless a farming operation were large enough to attain economies of scale which would offset the cost of importing such basic materials as fertilizer and feeds. Although there are vast tracts of empty land, and although the Japanese have expressed interest in extensive beef farming in the

Territory it appears that such agricultural development is very unlikely--the government being reluctant to turn land here over for agricultural use when there are areas to the south (i.e. British Columbia) which, as yet, remain undeveloped.

Of the four settlements identified west of Haines Junction three lie on the shore of Kluane Lake. Destruction Bay and Burwash Landing lie here, on the narrow plain between the foothills of the St. Elias Mountains and the lake. This plain facilitates the north-west passage of the Alaska Highway. On the lacustrine plain at the southern end of Kluane Lake lies the remains of Kluane.

These four main settlements are interspersed with small seasonal tourist orientated communities, usually consisting of a lodge, gasoline station, and restaurant. Two of these are located on the extreme south-east shore of the lake, another stands on the highway about twenty miles north of Burwash Landing, whilst another is Koidem, a former road camp at mile 1169 on the highway. These tourist facilities exploit the recreation potential of one of the most scenically attractive parts of the Yukon Territory. This part of the Territory attracts more tourists than any other (Figure ) benefitting from the fact that it lies on the overland route to Alaska which is the Mecca of American tourists every summer. As Figure 45 indicates it is not the recreation potential of the Yukon that attracts these tourists, their destination being Alaska--and it appears

to be merely coincidental that this part of the Yukon Territory has a recreation potential that can be exploited at the expense of transient Americans.

#### IV. KLUANE

The remnants of the mineral extraction based settlement of Kluane lies on a lacustrine plain at the southern end of Kluane Lake. According to census information the population of the community, which was founded in 1904, was 90 in 1911 and 42 in 1921; by 1925 its extractive function had ceased. The visible remains of Kluane are indicative of two periods of habitation. Firstly there are the remnants of an RCMP post, road house, and assorted cabins. These date from the period of gold and silver extraction in this area. Secondly there are six bunk-houses which lie north of the original settlement. These appear to date from the era of highway construction, serving as a camp for construction workers.

Although never a very large settlement Kluane has left a marked impression on the immediate landscape. The area between the original settlement and the lake has been levelled and devastated. The scarp immediately to the south of the settlement has been deforested in the search for fuel and building materials.

Both Destruction Bay and Burwash Landing owe their importance to the Alaska Highway.

#### V. DESTRUCTION BAY

Destruction Bay is a completely transport communications

orientated settlement. It consists of a C. N. telecommunications camp, a highway maintenance camp, and a motel garage complex, servicing transients on the Alaska Highway.

A. Site The settlement lies on the narrow lakeshore, which consists mainly of outwash from the Kluane Range which lies about one and a half miles immediately to the south-west and attains an altitude of 7000 feet. The plain upon which the community lies is about one mile wide, and falls away northward towards Kluane Lake.

B. Land Use It is to be seen from the land utilization map (Figure 42) that the main body of the community lies north of the Alaska Highway, and that here there is rigid segregation of land use, the easterly portion being occupied by the Department of Public Works, acting as a residential area for its employees, the westerly portion being occupied by the telecommunications branch of Canadian National, and also serving as a residential area.

No abandoned buildings were found here--despite the fact that the 1966 Census shows a fall in population of forty since 1961. Nine new dwellings were counted out of a total number of fourteen family type dwellings. Bunkhouses provided further accommodation in this part of the settlement, four of these were noted and it appeared that an attempt had been made to convert them into individual family dwelling units.

On the Alaska Highway itself the community consisted of

a motel/garage complex, and a store/Post Office/gasoline station complex (Figure ). A second motel lay north of the Alaska Highway.

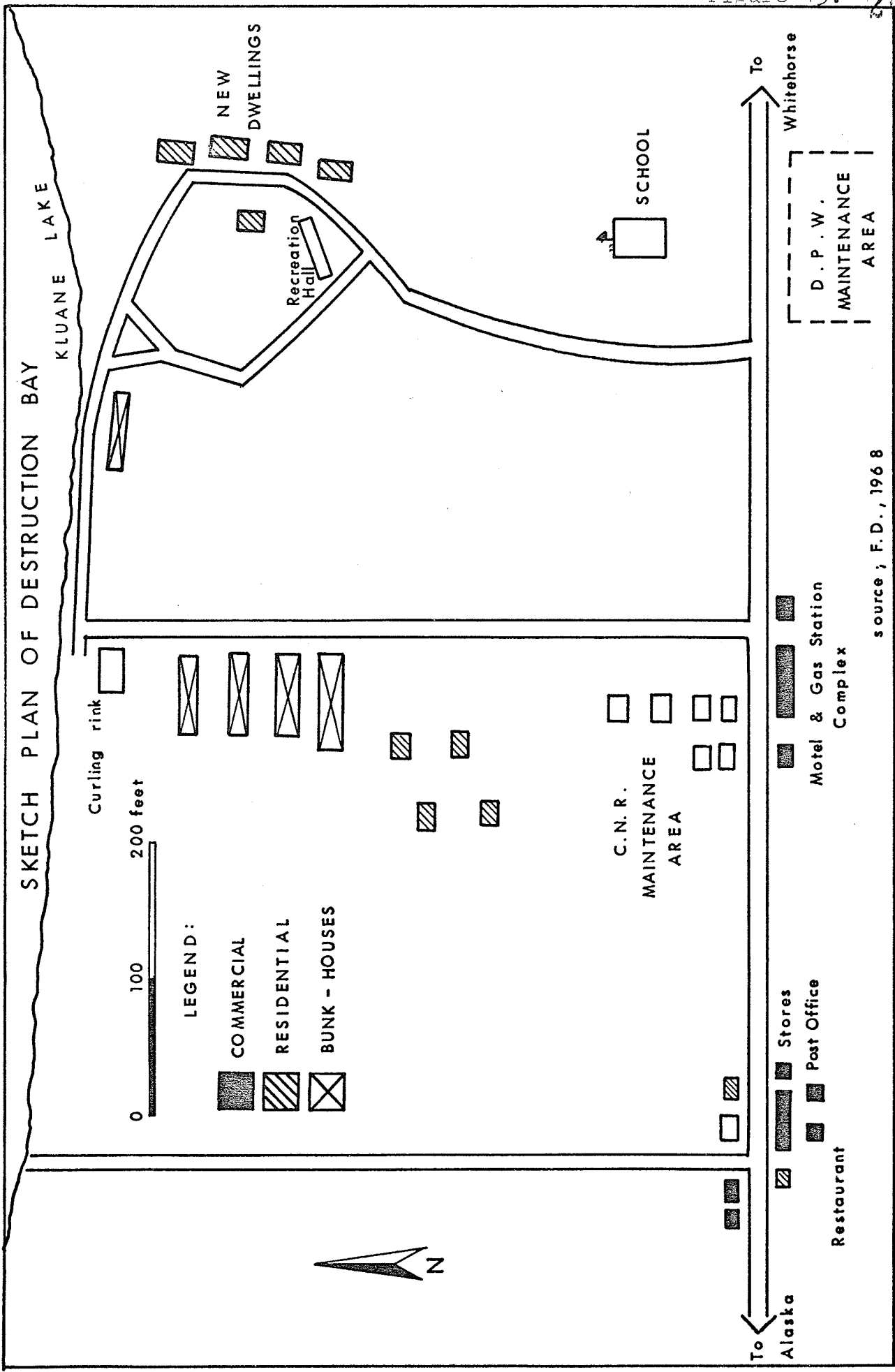
The role of the Alaska Highway as a basis of growth in the settlement is underlined by the fact that its population grew from 13 in 1951 to 104 in 1961. By 1966 the Census showed the population as being 64, whereas the electoral list for 1968 listed sixty-six persons over the age of twenty-one in the community. The importance of communications as an employment base in Destruction Bay can be seen from the fact that thirty-three out of the forty-one listed members of the labour force, (electoral list), are involved in either the maintenance of communications or the servicing of transients. The importance of the highway is also reflected in the fact that although the community has an inadequate general store it has two motels, two restaurants, and two gasoline stations.

Destruction Bay provides its own electricity (two oil-diesel generators with a capacity of 350 Kw) whilst waste disposal is on the periphery of the settlement.

## VI. BURWASH LANDING

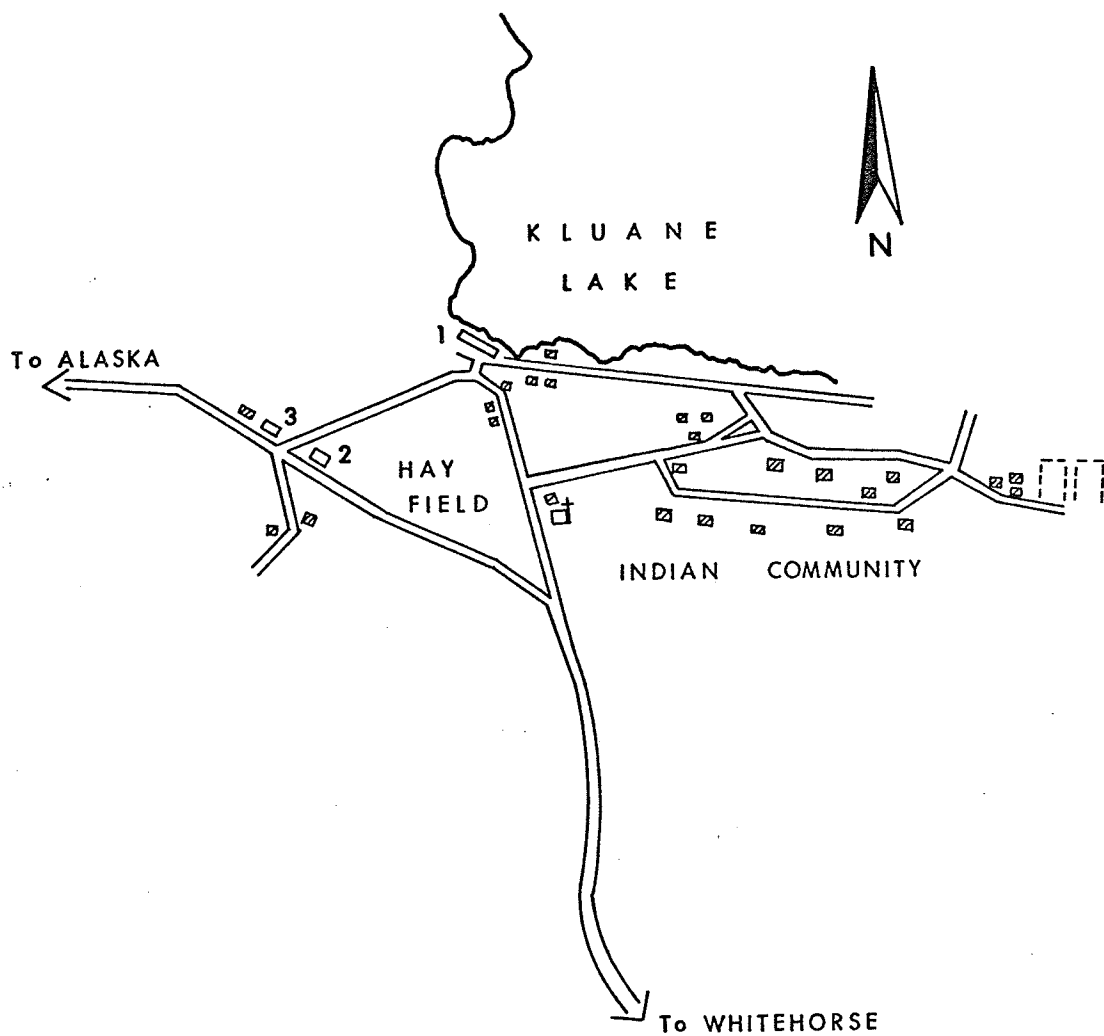
Unlike Destruction Bay the settlement of Burwash Landing (Figure 43) has barely grown at all in response to the development of the Alaska Highway. The community is situated on the north-west shore of Kluane Lake, at the point where a creek,











source ; F. D. , 1968

# SKETCH MAP OF BURWASH LANDING



### LEGEND :

- |   |  |
|---|--|
|  MISSION               |  LODGE            |
|  RESIDENTIAL DWELLINGS |  GASOLINE STATION |
|  CEMETERY              |  SOUVENIR SHOP    |



source ; F.D. , 1968

(nameless) flows into the lake. It had its origins in the Kluane mining development where it served as a small port serving mineral development on Burwash Creek, which flows into the northern end of Kluane Lake.

Burwash Landing has had continuous existence as a lodge and seasonal Indian community since the early 1900's, but only recently has grown in size. This growth can hardly be attributed to the development of the Alaska Highway--although it doubtless increased the prosperity of the community's few retail services which consist of a lodge, gasoline station, and souvenir shop.

In 1951 Burwash Landing was unlisted in the Census. By 1956 its population totalled forty-five, and in 1968 was sixty-nine. Once more there is evidently some discrepancy in respect to Census figures--the Department of Indian Affairs giving the Indian population alone to be eighty-four. Although a house count leads one to doubt the Department of Indian Affairs figure the fact that the electoral list showing forty-eight persons over the age of twenty-one in the settlement casts doubts upon the accuracy of the D.B.S. figure.

The growth of the community has been due to the establishment of a Government constructed Indian village composed of fifteen houses at the present time. This was constructed in 1965. The houses are made from plywood; water is obtained from wells. Future development envisages the construction of a communal washroom for the village. The Indian community is

akin to other native communities in the study area insofar as its houses are of a standard type, whilst it is spatially segregated from the rest of the settlement (Figure 43).

In terms of visible land use a dominant feature at Burwash Landing is the presence of farming activity. A large hay field lies between the two access roads which converge on the lodge, whilst in the north-west sector of the settlement a farm enclosure with underground barn was noted. The farm's only activity was the maintenance of a herd of cows. However the economic value of the farm to the community was negligible, the cows were maintained as pets.

The few retail and service outlets of the community house its white inhabitants. These consist of the gasoline station, which is situated on the Alaska Highway; the souvenir shop which is also situated on the Alaska Highway, and the lodge which contains a beer parlour and restaurant and lies on the shore of the lake.

## VII. BEAVER CREEK

Beaver Creek, like the other Yukon settlements west of Whitehorse owes its current prosperity to the development of the Alaska Highway, serving a special function as the Canadian customs post on the highway. As can be seen from Figure the highway brought Beaver Creek into existence, and its population has increased consistently since 1950. It is the

only settlement in this group which (according to the 1966 Census) showed a marked increase in population in the period 1961-66.

The community's dependence upon the servicing of the Alaska Highway and the traffic it conveys is illustrated by the fact that over 70% of its labour force is employed in the servicing of vehicles or transients (estimate based upon electoral list) provision of services for travellers or highway maintenance.

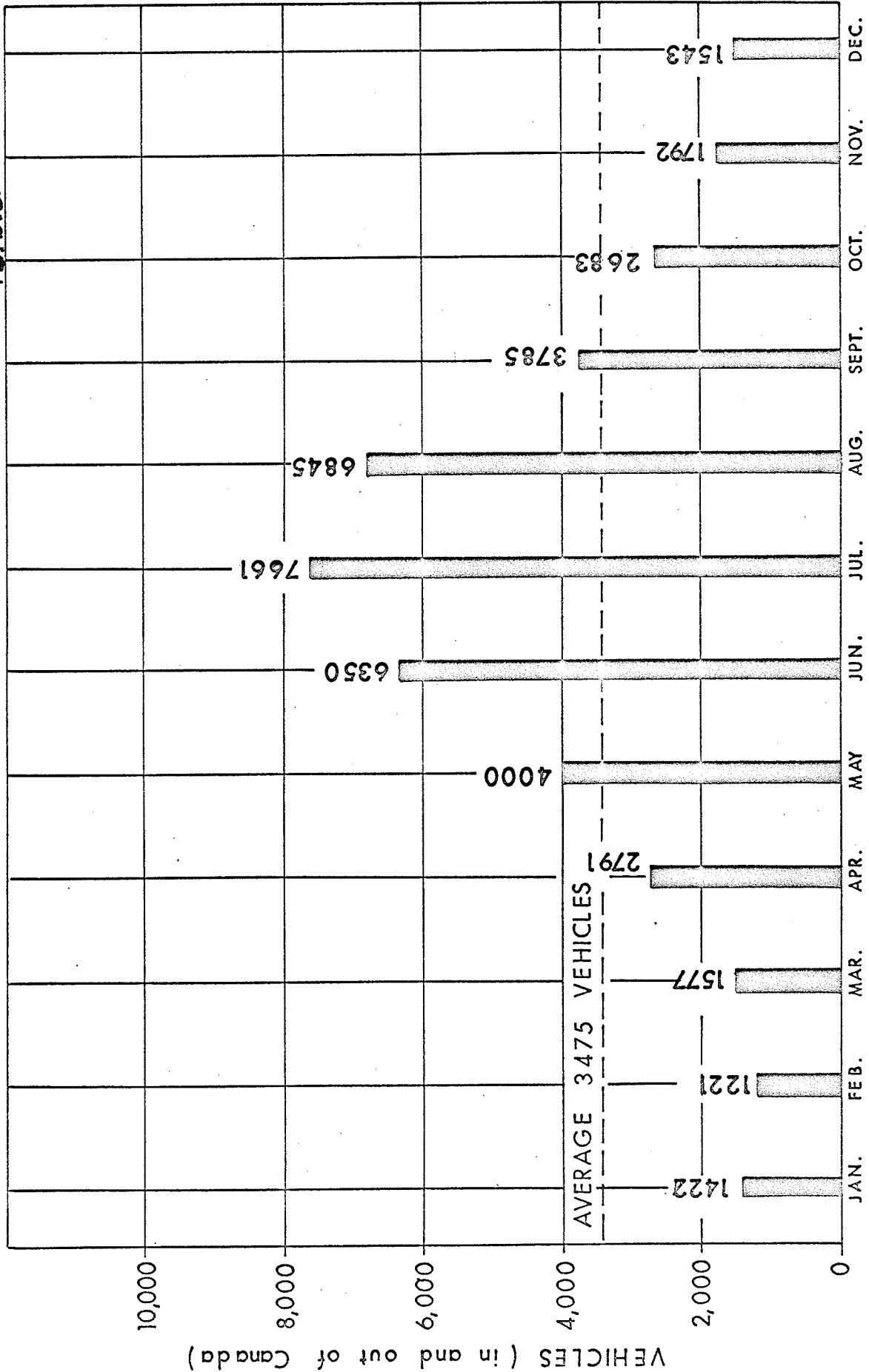
The servicing of transients dominates the service base of Beaver Creek, of the twelve services available nine are directly associated with the Alaska Highway and its traffic--four gasoline stations, three restaurants, a lodge and a motel.

In appearance the settlement has features common to other communities on the highway. Its transport orientated services are aligned along both sides of the Alaska Highway, whilst the residential area lies back from the main road.

Traffic flow figures for Beaver Creek are indicative of the fact that the Alaska Highway provides a predominantly seasonal base for the settlements which service its travellers. The graph (Figure 4) shows the volume of traffic flowing through Beaver Creek by month for 1964. Despite the fact that these figures are now five years old the seasonal trend which is illustrated still exists, and has in fact been accentuated with increased volume of tourist traffic (in 1964 tourist vehicles totalled 17,075, in 1965 they totalled 19,231). As can be seen

TRAFFIC FLOW AT BEAVER CREEK, 1964, SHOWING SEASONAL FLUCTUATIONS

source: D.B.S.



VEHICLES (in and out of Canada)

AVERAGE 3475 VEHICLES

from the graph the period May to September has the greatest traffic flow, with traffic flow in July being twice the monthly average.

Consequently it is in the period from May to September that the settlements west of, and including, Haines Junction have their highest employment, their resident labour force being supplemented by seasonal labour.

The future of the settlements in the Alaska Highway group is tied to tourism and the servicing of highway traffic. It seems unlikely that those settlements between Whitehorse and Haines Junction which have declined rapidly with the advent of the Alaska Highway will be revitalized; their native populations are moving to the larger centers, whilst the section of the highway with greatest traffic volume and greatest tourist potential lies west of Haines Junction. The future growth of the settlements between Haines Junction and Beaver Creek (including these two settlements) probably depends upon the development of recreation potential in this area of the Yukon--making it a tourist attraction in its own right, and the paving of the Alaska Highway which will, it has been argued, lead to increased traffic flow.

## CHAPTER VIII

## CONCLUSION

## TRENDS IN SETTLEMENT DEVELOPMENT

In this, the final chapter, it is proposed to summarize similarities between contemporary settlements in the study area, and attempt to identify the underlying trends in settlement development. Finally the future of communities in the Territory will be considered.

## I. COMPARATIVE FEATURES OF SETTLEMENTS STUDIED

Features common to many of the communities studied are found. In eight out of the fourteen existing settlements studied the presence of a segregated Indian sector is a feature. In seven instances the Indians were housed in standardized Government constructed dwellings. Of the six settlements with which segregation was not associated, three (Keno, Elsa, Destruction Bay) were company dominated towns with few, or no, Indian occupants. The other three communities (Champagne, Canyon, and Stewart) lie at the bottom of the settlement hierarchy in terms of size (Table XI) and two of these, Champagne and Canyon, have an Indian population, but it is not segregated.

Five of the settlements studied, Dawson City, Mayo Landing, Carmacks, Whitehorse and Haines Junction contained a relatively large Government commitment which was physically manifest in



RELATIONSHIP BETWEEN SETTLEMENT SIZE AND RANGE OF RETAIL SERVICE, GOVERNMENT INSTITUTIONS, AND SOCIAL SERVICES IN THE CONTEMPORARY STUDY AREA SETTLEMENTS

	Whitehorse	Dawson	Elsa	Mayo	Carmacks	Carcross	Haines Junction	Keno City	Pelly Crossing	Beaver Creek	Burwash Landing	Destruction Bay	Clinton Creek	Champagne	Stewart Crossing	Tagish	Canyon
Total Number of Services:	112	47	9	23	14	8	21	7	8	14	5	12			2	1	
Population 1966	4771	742	529	479	311	199	195	144	137	114	69	64	300?	28			
Growth Trend 1961-66	-	-	+	+	+	+	-	-	-	+	+	-	+	-			
Beer hall	127	2	1	2	2	1	2	1	1	4	1	1			1		
Gasoline Station	3	2	1	2	2	1	1	2	1	1	1	1					
General Store	15	3	1	3	2	1	1	1	1	1	1	1					
Accomodation	1	1	1	1	1	1	1	1	1	1	1	1					
Post Office	9	3	1	2	1	1	1	1	1	3	1	2					
Restaurant	1	1	1	1	1	1	1	1	1	1	1	1			1	1	
R.C.M.P.	3	1	1	1	1	1	1	1	1	1	1	1					
School	4	1	1	1	1	1	1	1	1	1	1	1					
Social Club	1	1	1	1	1	1	1	1	1	1	1	1					
Dept. of Indian Aff.	1	1	1	1	1	1	1	1	1	1	1	1					
Dept. of Forestry	1	1	1	1	1	1	1	1	1	1	1	1					
Dept. of Mines	1	1	1	1	1	1	1	1	1	1	1	1					
Dept. of Transport	1	1	1	1	1	1	1	1	1	1	1	1					
Clothing Store	2	1	1	1	1	1	1	1	1	1	1	1					
Bank	4	2	1	1	1	1	1	1	1	1	1	1					
Liquor Store	1	1	1	1	1	1	1	1	1	1	1	1					
Souvenirs	5	3	1	1	1	1	1	1	1	1	1	1					
Theatre	1	2	1	1	1	1	1	1	1	1	1	1					
Airlines Office	2	1	1	1	1	1	1	1	1	1	1	1					
Tourist Shop	2	1	1	1	1	1	1	1	1	1	1	1					
Barber's Shop	2	1	1	1	1	1	1	1	1	1	1	1					
Road Transport Off.	3	2	1	1	1	1	1	1	1	1	1	1					
Taxi Company	3	2	1	1	1	1	1	1	1	1	1	1					
Drugs	3	1	1	1	1	1	1	1	1	1	1	1					
Books	3	1	1	1	1	1	1	1	1	1	1	1					
Butcher Shop	1	1	1	1	1	1	1	1	1	1	1	1					
Insurance Company	1	1	1	1	1	1	1	1	1	1	1	1					
Lawyer	1	1	1	1	1	1	1	1	1	1	1	1					
Miscellaneous Goods & Services	13	3	1	1	1	1	1	1	1	1	1	1					
Miscellaneous Government Services	6	3	1	1	1	1	1	1	1	1	1	1					

The Settlements are ranked according to size in 1966, if given in Census

the Government reserve. These communities are the leading service centers in their groups, and also lie at the top of the population hierarchy.

It can be seen from Table XI that there is apparent correlation between population size of a settlement and the range of retail and social services available within it. In all but four of the seventeen communities listed there are basic services common to each community--a beer hall, gas station, and general store. The table also illustrates the fact that in three out of the four groups the largest settlement has the largest service base and is also the service center for the group. The exception is the Mayo group, where Elsa is the anomaly, with the largest population but not the largest service base. The failure of Elsa to dominate the Mayo group can be attributed to its relative youthfulness, as only since 1956 has it outstripped Mayo in terms of population growth. This is also a truly single enterprise community, and it appears that a minimal service base is a common feature of mineral extracting single enterprise communities in the study area (Granville, Bear Creek, Keno).

A second possible exception is in the Yukon Valley group, where Whitehorse is evidently the leading service center. However it was felt that Whitehorse should be precluded from a study of group service centers inasmuch as it acts as a service center for the whole study area, whilst Carmacks (which obviously

serves a far smaller area within the Yukon Valley group) has features which shall be seen to be akin to other Territorial sub-centers which in reality Haines Junction, Mayo and Dawson are.

Certain features were common to the leading service centers in each group. All had a general store, garage, beer hall, and motel as basic retail services. Government operations within all centers included RCMP post, Post Office, Department of Forestry, and school. Social services consist of a church and a community hall.

The catchment area for each service center was defined by assessing how far a person was willing to travel for goods and services, given the fact that many of the settlements involved are spatially isolated, and consequently travel between such settlements by their inhabitants was limited. In the case of Haines Junction the Catchment area is limited to Burwash Landing and Destruction Bay, Beaver Creek being isolated, and having developed its own services, whilst Whitehorse tends to act as the service center for the communities east of Haines Junction. The Carmacks service area was limited to Carmacks and Pelly Crossing--Whitehorse being the dominant service center for settlements in the Yukon Valley group south of Carmacks.

Table XIIIa illustrates the population per service in the catchment area of a service center which is served by various

TABLE XI I

a.) Number of Persons in Service Areas With Access to Basic Services Which are Duplicated Outside the Area Service Center.

N

<u>Persons Served by each:-</u>	<u>Store</u>	<u>Gas Station</u>	<u>School</u>
<u>Population of Service Area:↴</u>			
Dawson Area	1,000	330	500
Mayo Area	1,152	288	230
Carmacks Area	448	139	149
Haines Jct. Area	327	163	41
			163

b.) Services Within Service Centers Which are Not Generally Duplicated Within Their Service Area.

<u>Service</u>	<u>Center;-</u>	Dawson	Mayo	Carmacks	Haines
Clothing Store		X	X		
Bank		X			
Barber's Shop		X			
Laundry		X	X		X
RCMP		X	X	X	X
Dept. of Forestry		X	X	X	X
Dept. of Transport		X	X	X	X
Mining Recorder		X	X		
Dept. of Indian Affairs		X	X	X	X

services duplicated in service area settlements outside the center. Table XIIb shows the range of services not duplicated outside the service center and the population per service.

The first figure illustrates the fact that there is no apparent correlation between population and the per capita availability of basic service amenities in a group. The population per store varies between 330, (Dawson Area) and 139 (Carmacks Area), whilst the population per school varies between 576 (Mayo Area) and 139 (Carmacks Area). No break points with an increase in the availability of a facility as population increases are apparent--Haines Junction has the same number of general stores in its catchment area as Dawson, although its population is less than half that of the Dawson area.

This lack of correlation is explained by location and isolation. Isolation of settlements distorts any concept of a constant relationship between number of services and population where essential services which are utilized every day are required. Thus there is great variation in the service population served by schools. Because the distances between settlements are great, commuting to a central service community on a daily basis is virtually impossible, and consequently communities have to provide their own schools. The small service population per gasoline station in the Haines Junction service area is explained by location. The settlements within this service area are advantageously located on the Alaska Highway,

and it is more than probable that the vast majority of persons using the gasoline stations in this area are from outside both the immediate service area and the Territory.

Table XII b shows those services in each service center which are not duplicated within the catchment area of the service center. It becomes immediately obvious that Haines Junction and Carmacks are only really service centers by virtue of their Government functions. It can also be seen that the two service centers with the highest service populations also have specialist retail functions--in both Dawson and Mayo there is a clothing store, whilst Dawson has a barber's shop and two banks.

There is no correlation between size of service population and range of services available within a service center. Dawson City, with a peak summer population of possibly 1,000 in its catchment area has a total of 47 services; Haines Junction with 327 persons in its catchment area has twenty-four services. Mayo Landing with 1,152 persons in its service area has only twenty-seven services.

It is evident that location has a significant influence upon population per service and number of services available. Dawson's large service base is a reflection of history, being a legacy of the gold extracting era and remaining due to inertia. It also results from the attempt to develop tourist potential. A further influence could be that due to its isolation (330 miles

from Whitehorse, and most northerly permanent non-native community) the settlement has to retain certain services which would not be required if it were located closer to the Territorial capital or at a point where periodic visits to Whitehorse were easier to make. Such services are a barber's shop, beauty salon, clothing store, and two banks.

In contrast to Dawson, Mayo Landing, with a larger service population has fewer services. This results from location away from the major tourist routes combined with the fact that the service area has (unlike Dawson) never contained a larger population than it does at the present time. Once more the possible influence of isolation is reflected in the presence of the specialized store (clothing store), although this is also associated with the high service population within the Mayo catchment area.

Isolation of the individual settlements in the study area was physically reflected in settlement pattern and the relationship between settlements and landscape. As already outlined in previous chapters all the communities studied displayed features of self-containment. Three out of the four groups contained settlement generating their own electricity. All settlements provided their own water and the presence of a garbage disposal dump on the periphery of each settlement was a further physical manifestation of self-containment. Visually many of the settlements appeared to cluster together; even the

Haines Junction has features which are typical of contemporary service centers within the study area. Plate 8 shows the Indian sector of the community which is spatially separated from the rest of the settlement. Plate 9 shows part of the retail area which is located on a single street. Plate 10 shows the Government reserve at Haines Junction.



Plate 8.



Plate 9.



Plate 10.



linear communities are consolidated insomuch as spatial distance between individual buildings is low and there are rarely outlying buildings peripheral to the main body of the community. On the fringes of most of the settlements studied bush encroached, and lack of agriculture with consequent low incidence of cleared land gave the impression that most of the town sites were no more than clearings in the bush (Champagne, Minto, Mayo Landing, Fortymile, Carmacks).

Conceivably isolation is a phenomenon that can be measured by studying variations in prices between outlying areas and the less isolated, more densely populated area of a country. In the case of the Yukon Territory a study has been undertaken comparing prices of various commodities and services with the average price of such commodities in the whole of Canada (Table XIII).

Although it is undeniable that price deviation does indicate isolation, transport costs being high due to distance from manufacturing centers, and labour costs being high because of the difficulty of attracting labour into a climatically adverse area where social outlets are few and living standards low, one must not place too much emphasis upon the use of the table as a measurement of isolation. Price deviation may tell one that a region is isolated but cannot indicate any variation in degree of isolation within the region; within the region itself distances between settlements could be low, and communications

TABLE XIII

Table Illustrating Deviation of Prices in the Yukon Away From Canadian Average.

	Canada	Yukon
<u>Food</u>	100%	125%
Tobacco		100
Alcohol		110
Beer		200
<u>Clothing and Personal Furnishings</u>		110
Mens Clothing		110
Womens Clothing		110
Footwear		110
Laundry		110
Other		110
<u>Shelter</u>		
House-hold operations		130
Fuel		180
Electricity		200
Gas		125
Telephone		120
Furniture		110
Home Furnishings		110
Appliances, T.V., Radio.		110
<u>Transport</u>		
Railway		110
Automobile		100
Automobile Operating Expenses		130
<u>Personal and Medical Care</u>		
Insurance		110
Other		110
<u>Miscellaneous</u>		
Motion Picture Theatre		100
Newspaper/Magazine		110

Although the concept of a nationally applicable average price is a statistical fantasy (above average prices which are shown in this table could be the product of many factors, including inflation in a local growth area) it is contended that price deviation in the Yukon results from isolation from manufacturing centers, increased transport costs due to the vast distances involved, and inflation as a result of the above average wages paid in order to attract labour into the area.

Source: Carr Commission, 1968

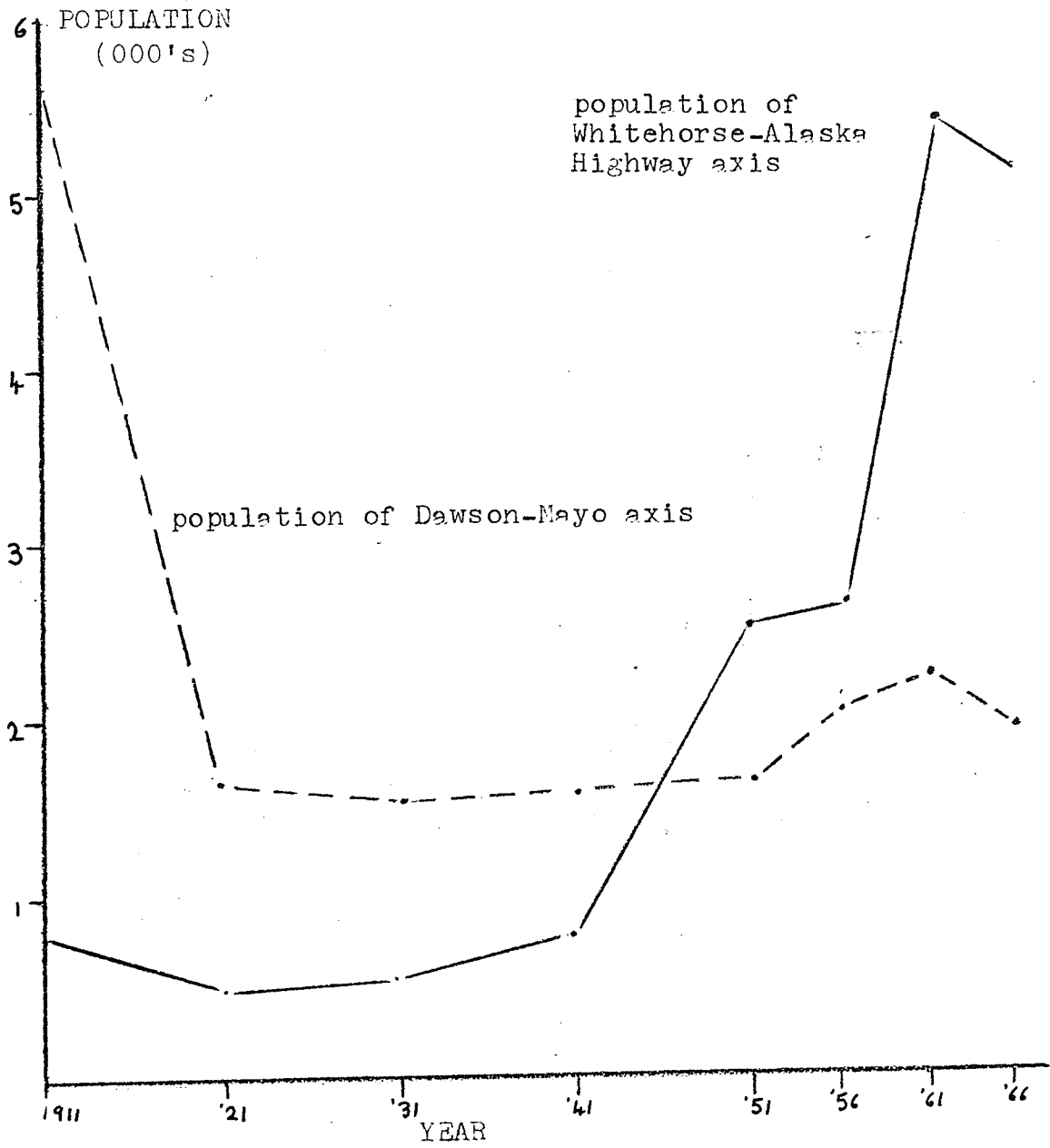
in good condition. It is to be argued that within any specific region isolation is an observable phenomenon, manifest in the pattern of individual settlements. The narrowness of the service base of many communities in the study area, the similarity of service types in such communities, and the degree of self-dependence of settlements (provision of basic amenities) are all a physical manifestation of isolation.

## II. SETTLEMENT GROWTH TRENDS; 1951-1968

The major trend in regional location of population growth over the past sixty years has been in a shift of the area of growth from the north to the south, from the Dawson-Mayo axes to the Whitehorse-Alaska Highway axes. This shift has only taken place since 1945. Until this date as the graph indicates, ( Fig. 46 ) the vast majority of the Territory's population lived in the northern mining areas, this area providing the only large scale economic base for the Yukon. Outside the Dawson and Mayo groups the only settlement of any great significance was Whitehorse and this was in virtue of its break of media function. It was not until the early 1940's, however that the population of Whitehorse exceeded 1,000.

As the figures, indicate the Alaska Highway group of settlements increased in size consistently after the end of the Second World War, whilst the Dawson area stagnated. However the shift in balance of population and population growth to the

Graph Illustrating the Shift in Balance of Population Distribution in the Study Area From the Dawson-Mayo Axis to the Whitehorse-Alaska Highway Axis.



south was due to the phenomenal growth of Whitehorse (the reasons for which were discussed in Chapter 5) as opposed to the development of other settlements on the Alaska Highway.

It is now proposed to study changes in the growth of individual communities since 1951 and attempt to assess what the predominant trends in settlement growth are in the study area. The settlements of the study area were initially divided into five categories on the basis of population size, and changes in the settlements occupying the groups noted over time. The communities were listed in order of ascending size for each census year, and break points indicative of grouping in a certain size range sought by calculating percentage increase in size of settlement as one ascended the scale. Obvious break points occurred and the break points for each of the four census years were found to be similar (TableXIV). Five categories of settlement scale emerged:-

Settlements with less than 70 persons.

Settlements with population 70-130 persons.

Settlements with population 131-250 persons.

Settlements with population 251-700 persons.

Settlements with population 701-5,000 persons.

Although the categories may superficially appear to be broad and arbitrary the variation in settlement size within each group was limited (TableXIV). The only exception is the category containing the highest population (701-5,000) of which

TABLE XIV

Changing Location of Settlements in the Population  
Size Hierarchy for the Study Area, 1951-68.

<u>1951</u>	<u>1956</u>	<u>1961</u>	<u>1966</u>	<u>1968</u>
Whitehorse Dawson	Whitehorse Dawson	Whitehorse Dawson	Whitehorse Dawson	Whitehorse Dawson
	Calumet	Elsa Calumet Mayo		Elsa Mayo Carmacks Clinton Ck.
Mayo Carcross Carmacks Elsa Calumet Bear Ck.	Mayo Elsa Keno Carcross	Carmacks Haines Jct. Carcross Keno Bear Ck.	Carcross Calumet Haines Jct. Keno Pelly Crossing	Carcross Haines Jct. Keno Pelly
Granville Keno	Carmacks Bear Ck. Destruction B. Granville Pelly Haines Jct.	Destruction B. Beaver Ck. Beaver Ck. Dominion	Beaver Ck.	Beaver Ck.
Destruction B. Hunker Pelly Koidern	Hunker Champagne Jensen Ck. Aishihik Burwash Ldg. Beaver Ck. Minto Moosehide Snag Stewart Koidern	Aishihik Burwash Ldg. Champagne Sulphur Tagish Stewart Koidern Minto Canyon	Burwash Ldg. Destruction B. Champagne Stewart Tagish Canyon Koidern	Burwash Ldg. Destruction B. Champagne Stewart Tagish Canyon Koidern

Dawson and Whitehorse are the sole occupants. Here the variation was as high as 4,000.

At the bottom end of the scale percentage calculations tend to be distortive because of the small numbers with which one is dealing. Consequently a category was created with a maximum population of 70, based upon the personal observations of the author. Listed within this group are certain communities which are not listed in the census, but which field work proved to have existed.<sup>1</sup>

It is to be seen from Table XV that the general trend has been for slight increase in the number of settlements in the period 1951-56, followed by elimination of settlements, 1956-66. The Yukon's total population, when compared to the number of settlements for each of the three census years is instantly indicative of an increase in the average size of settlements. Inter-censal changes in number and size of settlements will now be studied.

At the outset of this period of study the communities of the study area fell into four categories (1951). These were less than 70 persons, (three settlements), 71-130 persons (two), 131-250 (six) and 701-5,000 (two). As already illustrated (Table xv) there was a small range in settlement size in the first two out of the three groups. The two largest communities,

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<sup>1</sup>Such settlements were Tagish, Canyon.



TABLE XV

Decrease in the Number of Settlements in the Study Area,  
1951-68.

	<u>1951</u>	<u>1956</u>	<u>1961</u>	<u>1966</u>	<u>1968</u>
Whitehorse	X	X	X	X	X
Dawson City	X	X	X	X	X
Mayo	X	X	X	X	X
Carcross	X	X	X	X	X
Carmacks	X	X	X	X	X
Elsa	X	X	X	X	X
Calumet	X	X	X	X	
Bear Creek	X	X	X	X	
Granville	X	X			
Keno	X	X	X	X	X
Tagish	X	X	X	X	X
Hunker Creek	X	X			
Felly Crossing	X	X	X	X	X
Stewart Crossing	X	X	X	X	X
Haines Junction	X	X	X	X	X
Destruction Bay	X	X	X	X	X
Beaver Creek		X	X	X	X
Burwash Landing	X	X	X	X	X
Dominion	X	X	X		
Sulphur	X	X	X		
Koidern	X	X	X	X	X
Snag	X	X			
Moosehide	X	X			
Minto	X	X	X		
Champagne	X	X	X	X	X
Aishihik	X	X	X		
Clinton Creek					X
Canyon	X	X	X	X	X
	<u>26</u>	<u>27</u>	<u>23</u>	<u>19</u>	<u>18</u>

X= Existing Settlement.

Whitehorse and Dawson were both leading service centers, whilst the second category, (131-250) was dominated by service centers.

In terms of geographic location the only generalized observation that can be made is that the Mayo mining area had the most concentrated settlement in terms of numbers and size, with three communities lying within thirty-five miles of each other, two of which fell into the 131-250 population category. Likewise the Dawson area boasted concentration of settlements, with four within thirty miles of each other, but three of these lay towards the bottom of the population hierarchy.

The 1956 census shows the emergence of new communities, such as Beaver Creek on the Alaska Highway. It also marks the appearance of a new population category, the 251-700 category, into which the Mayo group settlement of Calumet moved. In the period 1951-56 it appears that the average size of settlements increased, with Mayo and Keno moving up into the 131-250 category. However both Carmacks and Carcross, showed an absolute decline in population.

The emergence of the new category combined with the dominance of the 131-250 category by the Mayo mining settlements marks the Mayo group's continued dominance of the study area as the largest, spatially most consolidated group, and the group containing the most equally large average settlement. At the same time the Dawson mining area saw a general increase in the size of communities, whilst the two bottom categories in the

settlement hierarchy were swollen by the growth of Alaska Highway settlements (Table XIV).

The period 1956-61 saw the decrease in the number of settlements with a marked increase in the size of many of the larger ones, Elsa and Mayo joining Calumet in the second highest category, whilst the service center of Carmacks underwent a resurgence and moved up into the third highest category. The growth of Carmacks was probably due to the provision of Indian housing by the Government and the construction of the bridge across the Yukon leading to an expanded transient service base in response to increased traffic. Once more Whitehorse and Dawson City exclusively dominated the 701-5,000 category.

By 1966 two more Indian settlements had ceased to exist, Minto having been by-passed by the Whitehorse-Dawson road, and the population of Aishihik being attracted to Whitehorse and settlements on the Alaska Highway, notably Haines Junction. The mining community of Calumet began to decline as its population and dwellings were transferred to Elsa. The growth of Carmacks continued, with the settlement moving into the 251-700 category. It would appear from Table XIV that the present trend is for the smaller settlements (those with less than 70 population) to disappear, and for communities to nucleate in the 131-250 category. In 1968 4 out of the eighteen communities in the study area lay in the 131-250 category, compared with five out of eighteen in 1966, five out of twenty-

three in 1961, four out of twenty-seven in 1956 and five out of twenty-six in 1951. At the same time the number of settlements in the 70-130 category had decreased from six in 1956 to one. The elimination of the smaller settlements in the study area is further illustrated by the fact that in 1956 only seven of the twenty-four settlements had a population in excess of 130; in 1968 ten of the sixteen settlements had a population exceeding 130.

### III. TENTATIVE CLASSIFICATION OF SETTLEMENTS WITHIN THE STUDY AREA

Based upon the foregoing examination of growth trends of settlements since 1951 a tentative classification of settlements within the study area can be made (Table XVII). This classification is based upon the general growth characteristics of the communities studied, and possibly gives some insight into the future trend of settlement proliferation.

The trend towards fewer and larger settlements which is illustrated here can be seen in evolutionary terms. In the past settlements in the four groups have been closely associated with environmental conditions governing their existence, and as a result communities in specific areas at a given time in history displayed common features. Geographic location in the study area governed the type of settlement emerging; a different type being associated with different conditions. Communities

TABLE XVI.

Classification of Settlements Based Upon  
Growth Characteristics, 1951-66.

TYPE	SETTLEMENT	CHARACTERISTICS
Settlements with a stable population with any change manifest in an upward trend.	Whitehorse Mayo Carmacks Carcross	Old established. Have above average population. Tend to be leading service centers. Displayed 'resilience' in the past. Tendency toward segregation of native population.
Settlements with a population displaying generally erratic growth features.	Elsa Calumet Bear Creek Keno Jensen Creek* Dominion* Sulphur * Granville* Hunker*	Are all mining camps. First four display features of company towns. No native population. Minimal service base. Latter five are creek company camps. All are located in either Mayo or Klondike area.
Settlements initially displaying growth, but with population stabilising or declining in the latter part of the period.	Haines Jct. Pelly Crossing Destruction B. Burwash Ldg. Koidern	All situated on highways which developed post-1940. Tend to have tourist orientated services.
Settlements with a stagnant or declining population.	Dawson City Tagish Takhini Canyon Champagne Aishihik* Minto*	Group consists of either declining native settlements or settlements which have had their economic base displaced - usually because the line of communication they serviced was abandoned.

\*= Abandoned Settlement in 1968.

along the Yukon River in the years following the gold rush all displayed river alignment, river transport orientation, and usually Indian occupation. Those serving extractive areas in the era of the steamboat displayed river mouth location, large service base, and river-valley access to extractive hinterland. Settlements located at the site of extraction were characterized by minimal service base, and creek alignment.

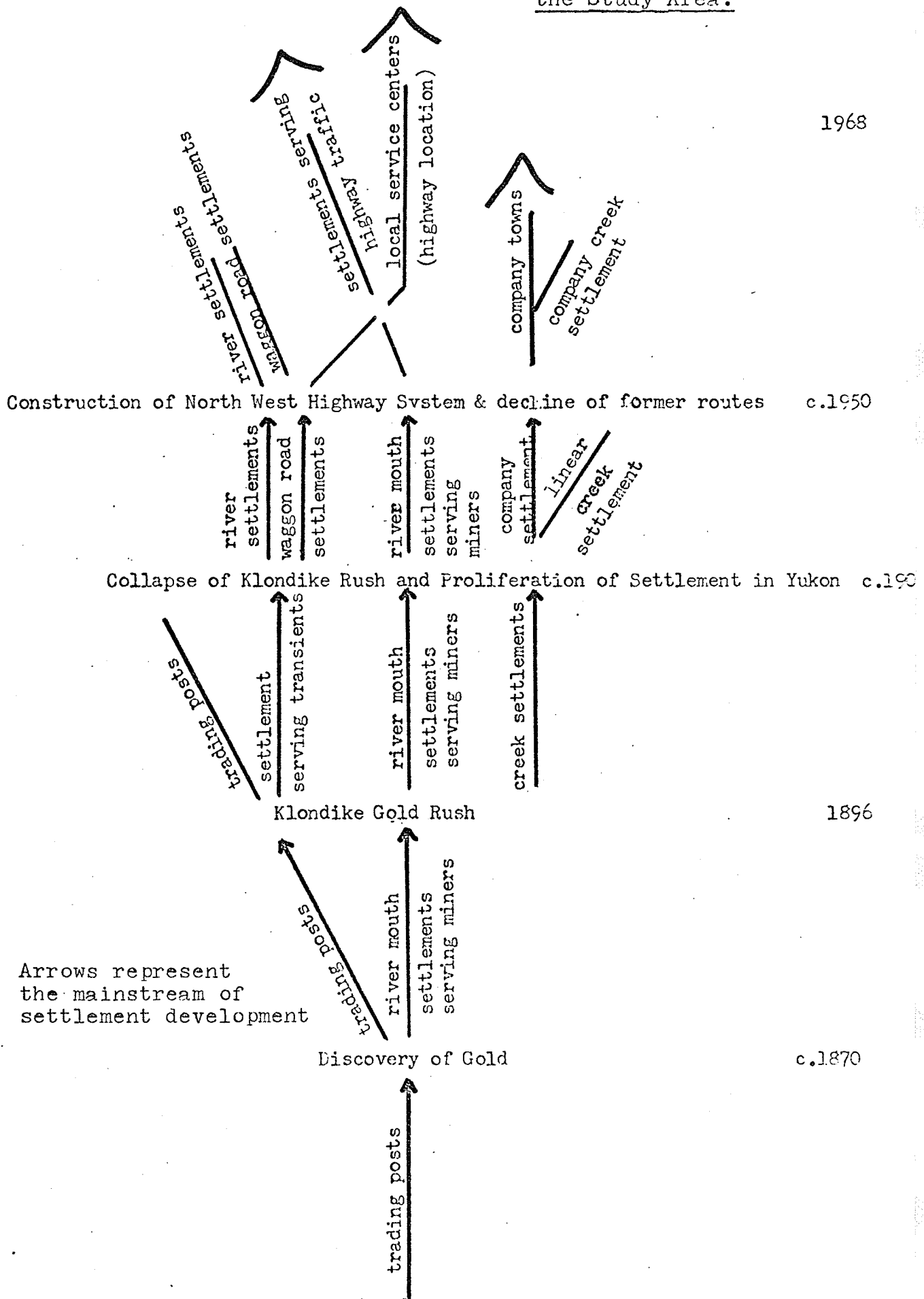
Many of the communities were mono-functional. They served one transport media, or were exclusively involved in the extraction of one mineral. Once the function ceased the settlement ceased to exist. Because they were functionally and economically specialized these settlements were unable to survive change in location of extraction or change in transport route or media.

Some communities have survived because they were able to adapt themselves to changing circumstances, either having additional functions to fall back on once a major function had failed, or being able to change their economic base with changing circumstances. Such settlements could be said to display resilience. It has been seen previously that Carmacks, Carcross, and Whitehorse have all shown resilience in the past, surviving at critical periods, perhaps with reduced population, by having other functions to fall back on if one function ceased.

The diagram (Figure 47) is a graphical representation of the evolution of the contemporary settlement pattern in the

Figure 47.

Diagrammatic Representation of  
the Evolution of the Contemporary  
Functional Type of Settlement in  
the Study Area.



study area; tracing development from the original river-based trading posts to the contemporary highway located service centers. The settlements which exist today, as has been seen, are those with a situation conducive to the pursual of more than one activity, and are, in many instances those which have demonstrated adaptability to change in the past, (Carcross, Whitehorse, Carmacks, Mayo).

One of the reasons for the decline of many communities with the failure of a single function is the study area's peculiar geography. As stressed earlier in this work the Yukon Territory is, in economic and human terms, a marginal area. Economic incentive in the past in the form of mineral potential has been the one factor making the area tolerable for a vast proportion of the population. With the failure of economic base of a settlement there is no incentive to remain in the settlement and consequently the population moves out. If no economic alternative exists within the Territory migration out of the Territory takes place. Distances are so vast, reliability of communications so uncertain that residence in a community yet working elsewhere because the economic base of the community has failed is virtually impossible.

The history of the evolution of the contemporary settlement pattern in the study area is the story of the disappearance of the specialized settlements and the survival of multi-functional communities. Changing transport media is the



one major selective influence responsible for the trend from numerous mono-functinal communities to relatively few multi-functional communities. If one compares the settlements surviving today--Whitehorse and Carmacks and Carcross in the Yukon Valley group; Dawson in the Dawson group; Mayo Landing in the Mayo group, and Haines Junction and Destruction Bay on the Alaska Highway one notes that they all serve multiple functions.

Not only have communities become less specialized, the spatial distance between them has also increased with time. In the Alaska Highway group distance between settlements increased from an average of twenty-five miles to forty-four miles with the advent of the Alaska Highway and the demise of small specialized settlements, such as those serving the waggon road and the Kluane mining area. In the Yukon Valley group distances increased from twenty-five miles to seventy-five miles as the river was displaced as a transport route.

Today there is very little difference in orientation and type between communities on the Alaska Highway and settlements in the Yukon Valley group. Similarly Haines Junction is very reminiscent of Carmacks, Mayo Landing and Dawson City in terms of functinal types contained within the settlement.

From this observation one can derive two arguments. Either that the automobile as the dominant mode of transport in the study area over the past fifteen years has been responsible for the standardization of settlements which formerly served widely

different functions, or that standardization is resulting from the survival of the least specialized communities with the consequent emergence in these communities of government institutions and service facilities.

These arguments are not incompatible. It has already been demonstrated that the natural evolutionary trend has been away from specialization, with those settlements which have survived over time being those with a multiplicity of functions which have been able to adapt to changing circumstances. At the same time the observation that a specific mode of transport leaves its own impression upon settlement pattern has already been made; this point was stressed most strongly with reference to river-transport orientated communities. Thus it appears that, apart from aiding the decline of specialized communities such as road houses and river-transport servicing points the advent of the automobile has also led to the increased standardization of surviving settlements, which were themselves the product of the natural movement away from specialization.

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