

SERVICE CENTRE STUDY OF THE INTERLAKE REGION, MANITOBA

By

Thomas Gregorio Sosa

A THESIS

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PREFACE

The primary concern of this study is to obtain an understanding of the role that "central places" or "urban communities" play with regard to the services they provide for the surrounding population. This "urban"-¹"rural" relationship involves a wide range of contacts in the marketing, administrative, professional, recreational and other social and cultural fields. This thesis is an investigation of all the factors that exert influence on the "urban"-¹"rural" relationship of the Interlake. Throughout most of this study however these "urban communities" or "trading centres" are referred to by the more appropriate term "service centres".

In order to obtain basic data for this study, an intensive analysis of the service structure of service centres in the Interlake, and of the trading patterns of farmers in the tributary areas of the service centres was made. This involved approximately ten weeks of field study, interviewing owners of business establishments, grain-elevator agents, municipal clerks, hotel attendants, doctors, other urban dwellers, farmers and many other individuals from all walks of life. Visiting the municipal office and interviewing the municipal clerk was an important routine of the field study, for in addition to the invaluable and trustworthy information gained from the clerk, it was also possible to list from the Tax Assessment Rolls, the number and location of the majority of service units available in that municipality. It was

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In view of the wide range of contacts of farm population with urban communities, these places will not be called by the customary name of trading centers. A more proper term for this purpose seems to be that of service centers, which being neutral, includes all possible facilities provided by urban communities.

Peter Woroby-Functional relationship between farm population and service centers (S.W. Saskatchewan), M.Sc. Thesis, U. of Manitoba, 1957, p.1.

only through observation and by interviewing, that the professional, public and recreational facilities became known.

2

At the "service centres" all operators of service units or their agents were interviewed. Only when there were five or more of the same service unit for example five general stores or six garages, would the interviewing be limited to approximately sixty per cent of that service unit. Business owners invariably refused to answer questions concerning the financial stability of their enterprises, and a common remark was that their business was "not doing too badly" and that they had "to make a go of it". Almost no one in the urban communities wanted their children to follow their footsteps. Only an insurance agent and a real estate agent would like to see their sons in the insurance and real estate business. The widespread hope of most parents, was for their children to go eventually to the city and get a good job.

Persons interviewed were also asked to delimit to the best of their ability on the map provided (scale 1" represents 4 miles), from how far customers came to patronize the service unit that they provided. The final result was that for each service centre, there were as many trade areas as there were persons interviewed. In many instances the trade areas of different and similar service units coincided, while on the other hand some differed fundamentally. Also of significance, was the fact that there were many areas between service centres where trade areas overlapped. This was the case when an operator of a service unit (eg. a garage) in one centre, claimed that the residents of the overlapping area patronized his garage rather than the garage of the neighbouring centre. While in the neighbouring centre the garage attendant there was of the opinion that he obtained most of the business from

2

Refer Glossary for definition of "service unit"

residents of the same area. The final result was a number of overlapping trade areas. This apparent problem was reasonably clarified at the second phase of the field study, which was the interviewing of about 100 farmers to obtain information on their trading patterns and the factors affecting these patterns. Most intensive interviewing of farmers was done at the location of overlapping trade areas. Whenever the trade areas of adjoining service centres did not overlap, only spot checks were made at farmsteads on the highway at what would approximate break points of adjoining trade areas.

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Farmers were asked a number of questions, among which were the following:

- (i) How long have you lived here?
- (ii) Where do you go for your day to day needs?(this included, where do your children go to school? Where is the nearest post-office? Where do you go for your milk, bread, butter, potatoes, meat?)
- (iii) Why do you go to for these things?
- (iv) Where do you meet with other farmers to gossip, argue, discuss politics and play cards . . . ?
- (v) Where do you go for less frequently required or more specialized services for example, a bank, drug store, doctor, lawyer . . . ?
- (vi) Where do you go on Fridays or Saturdays to purchase goods that are not available at ?
- (vii) Why do you patronize . . . rather than . . . which is just as close or even closer?
- (viii) Why do you travel to Winnipeg when is available at ?

On the inside of a manila folder carried by the interviewer, all the service units were listed under nine functional divisions (transportation and

3

In the final analysis many overlapping trade areas resulted.(Refer Figures 10, 11).

communication, wholesale, retail, banking, finance and business, manufacturing, professional trades and personal services, public services and recreational- Refer Table 24 in back pocket), so that after obtaining answers for the questions on the interview sheet, the farmer was further asked to state to which centre he went to obtain every service that can be demanded.

Ten weeks of interviewing, travelling, observing, assessing the remarks of farmers, early settlers and other peoples of all walks of life, and above all of finally checking and rechecking the answers written on the questionnaires enabled me to arrive at a hierarchy of service centres based on the diversity of the service units, to obtain information on trading patterns, to delineate trade areas (zones of dominance and influence), and also to be aware of some of the factors which affect the trading patterns of the residents in the Interlake.

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CHAPTER I
INTRODUCTION

Scope of the Problem:

The primary aim of this study is to obtain an understanding of the relationship between centres and their surrounding areas in Manitoba's Interlake Region and more particularly the role that the centres play with regard to the services they provide for the surrounding population. We will accept the fact that there are small towns, villages or concentrations of people at centres in the Interlake. We will further assume that there exist farmers who live on scattered farmsteads; that there are other persons engaged in transportation and communications, wholesale trade and retail trade, that there are those involved in banking, finance, business, manufacturing and the professional field, and also those occupied with public services, trades and personal services and recreational services, and that they provide their respective services in these centres. We are aware that a relationship exists between the urban¹ population (living in the centres) and rural¹ population (living on scattered farmsteads) and that essentially the livelihood of the one group depends on the other.

This study is devoted to an investigation of the form and function of the service centres, the relationship between the centres, and the relationship between centres and the surrounding countryside. Service centres stand out because they exhibit distinctive landscape characteristics, such as, in the compactness of buildings and in the street patterns, also by the density of population and the wide range of activities related to trade, commerce, and other services. Although the primary aim of the study is to understand the relationship which exists between centres and their surrounding rural areas, other aspects of the Interlake will also be investigated. For example, what is the function of the centre? What is the structure of the centre?

¹ Refer to Glossary P. 187 for definitions of "Urban" and "Rural"

What is the relationship with other centres? What of environmental influences which disturb the expected location and development of centres, such as, the occurrence of non-agricultural resources, topography, transportation systems? What is the influence of ethnic groups, local leadership etc... ?

The existence of a demand within any area for services, exerts enough economic pressure to lead to the establishment of business enterprises that will supply that demand. When the service demanded is supplied, economic forces usually cause its location to be central, that is, convenient and accessible to the residents of the surrounding area who originally demanded that service. Any such service centrally located is a "central service", and the location of that service is a "central place". (The settlement within which a number of central services are located is more usually referred to, however, as a "central place".) The term "central services" refers to all services provided whether they deal with transportation, communication, wholesale, retail, manufacturing, community, professional, trades and personal, public, recreational, banking, finance or business services.

Since as mentioned in the preceding paragraph the location of a central service is a "central place", it follows that a central service attracts customers from two sources, first, within the compact settlement in which it occurs and second, from the surrounding rural area. The distinction of areas served by a central service was referred to by Hans Carol in the A.A.A.G., December, 1960, in an article dealing with "The Hierarchy of Central Functions within the City" in which he says that,

The service area is that area which is served by either a single central function (Einzugsgebiet), or by a group of central functions (Erganzungsgebiet). A central place serves the population of its own settlement, the internal service area (internes Erganzungsgebiet), and the area adjoining that settlement, the external service area or umland (externes Erganzungsgebiet, Umland). A central place may have only an internal service area, eg., the service area of a mining town within an uninhabited region; or, within a city, a local business center which services exclusively a part of the built-up area. It is a serious mistake to confuse

the central place, that is, the location of the central functions, with the concrete settlement in which it occurs.

This viewpoint taken by Carol underscores the fact that a central place may serve the internal, the external trade area or both.

Centres because of their role as central places for the exchange of goods and services, are throughout this study referred to as "service centres". Some produce of the farmer has to be gathered and marketed in the centres. The repairing and servicing of farm machinery commonly has to be done at a central place. Moreover, the farmer utilizes the multitude of social, cultural, administrative and professional services that the centres provide. He buys commercial goods, seeks health services, pays taxes, goes to the movie, patronizes the drug store, and sends his children to school at the nearest service centre. In other words, there is a wide range of contacts between the service centres and the population of the surrounding tributary areas. The farmer needs these services, and the service centres depend upon this market from the external service area.

The other important market for the services of the central place comes from the internal service area. The garage attendant, the school teacher, the doctor, or perhaps the storekeeper who provide services for the rural population, live within the precincts of the service centre. They form a part of the "urban" population and they also demand services themselves. They go to the movie theatre, or patronize the drugstore and beer parlour while in turn the cinema manager or druggist or beer vendor must have his car serviced, send his children to school, visit the doctor and buy foodstuffs. All service centres therefore depend for their existence on the market provided by customers from the internal, the external service area or both.

This discussion now leads to the main objective of my study, the investigation of the forces, and principles if any, which will enable a better understanding of the relationship which exists between service centres and their surrounding areas in the Interlake Region. With this in view, four questions follow, the answers to which constitute the core of this study.

3

- I. How do functions or service units vary in relation to the size of centres?
- II. What is the relationship between small and larger service centres?
(Are they complementary or competitive?)
- III. What is the relation between the size of a centre and the size of the area which it serves?
- IV. What factors influence the location of service centres?

3

Refer to Glossary for definition of "service unit".

CHAPTER II
PREVIOUS INVESTIGATIONS OF CENTRAL PLACES IN ANGLO-AMERICA

In this section, a brief survey only will be made of earlier investigations of central places in Anglo-America. No such summary is complete, however, without reference to Christaller, the German geographer who has given the most complete theoretical analysis of trade centres, ranging from the smallest market towns to the largest cities. Christaller set forth, to quote his own words "a general deductive theory" designed "to explain the size, number and distribution of towns"¹. He classified centres of all sizes according to their functional attributes and analyzed their locational pattern. He took the principle derived ultimately from the classical theory expressed by the economist Von Thunen in 1826, that transportation routes converging towards a centre produce circular zones of influence around the centre.² Christaller applied this concept to a large number of centres of various sizes distributed more or less evenly over South Germany. In brief the chief features of Christaller's theory are as follows:

- (1) The basic function of a city is to be a central place providing goods and services for a surrounding tributary area. The term 'central place' is used because to perform such a function efficiently, a city locates at the center of the minimum aggregate travel of its tributary area, i.e., central to the maximum profit area it can command.
- (2) The centrality of a city is a summary measure of the degree to which it is such a service center; the greater the centrality of a place, the higher is its 'order'.
- (3) Higher order places offer more goods, have more establishments and business types, larger populations, tributary areas and tributary populations, do greater volumes of business and are more widely spaced than lower order places.
- (4) Lower order places provide only low order goods to low-order tributary areas; these low order goods are generally necessities requiring frequent purchasing with little consumer travel. Moreover low order goods are produced by establishments with relatively low conditions of entry. Conversely, high order places provide not

1

Brian J.L. Berry, Allen Fred - Central Place Studies- A Bibliography of Theory and Applications, Bibliography Series No. 1, Philadelphia: Regional Science Institute, 1961, p.3.

2

Z. Mieczkowski, Economic Geography, a lecture delivered at U. of Manitoba, in connection with Geog.701 March 12, 1963.

only low order goods, but also high order goods sold by high order establishments with greater conditions of entry. These high order goods are generally 'shopping goods' for which the consumer is willing to travel longer distances although less frequently. The higher the order of goods provided, the fewer are the establishments providing them, the greater the conditions of entry and trade areas of the establishments, and the fewer and more widely spaced are the towns in which the establishments are located. Ubiquity of types of business increases as their order diminishes. Because higher order places offer more shipping opportunities, their trade areas for low order goods are likely to be larger than those of low order places, since consumers have the opportunity to combine purposes on a single trip and this acts like a price reduction.

- (5) More specifically, central places fall into a hierarchy comprising discrete groups of centers. Centers of each higher order group perform all the functions of lower order centers plus a group of central functions that differentiates them from and sets them above the lower order. A consequence is a 'nesting' pattern of lower order trade areas within the trade area of higher order centers, plus a hierarchy of routes joining the centers.³

Christaller said further that,

- (6) although the shape of the tributary area of a single isolated center is circular, a series of centers uniformly spaced over a productive land surface develop hexagonal trade areas. The network of hexagons results from the fact that this pattern enables the fewest centers to serve a given territory and eliminates overlapping at the borders of trade areas around equivalent centers equidistant from one another. The pattern of transport according to this scheme is controlled almost entirely by radial forces. Each center, therefore, competes with six others of comparable function within a system of hexagons. The centers in each order of the functional hierarchy obey the same principle and the spatial arrangement of centers of higher orders interlocks with the lower orders in the hierarchy in successively larger hexagons.⁴

There are three common criticisms to which Christaller's model has been subjected,

- (1) that his central place theory is not a general theory of location for all centres, since too much emphasis is placed upon commercial functions, disregarding manufacturing and other aspects in their development unrelated to trade.
- (2) That the patterns of hexagonal trade areas in the ideal model are not found in reality.

3

Brian J.L. Berry, Allen Pred, op. cit., pp. 3-4.

4

J.E.Brush, The Trade Centers of South Western Wisconsin: An Analysis of Function and Location, Ph.D. Thesis, U. of Wisconsin, 1952, pp.14-15.

(3) that there is no step-like hierarchy of centres but rather a continuum of central places.

In spite of these criticisms, judging from conclusions drawn by Anglo-American geographers working in this field, there seems to be much truth in Christaller's basic concepts.

The conclusions reached by J.E.Brush from investigations into the trade centres of South-Western Wisconsin⁵ may be summarized as follows:

(1) There are functional grades among settlements in S.W. Wisconsin. Certain associations of functional units recur in centres of certain population range and can be considered distinctive of that size class. Population correlates roughly with the functional grades of trade centres.

(2) Trade centres of the lowest order are distributed more or less evenly throughout the uniformly settled agricultural area at intervals of five to six miles, whereas the larger centres are spaced at distances greater than this basic interval.

(3) The centres that have grown larger than hamlets occur at progressively larger intervals, but their distribution is governed as much by the linear principle of location as by the radial principle of Christaller.

6

Peter Woroby, after investigating the frequency distribution of various kinds of central services and the radii of their tributary areas, distinguished six functional groupings for all service centres in Saskatchewan. In analyzing the locational patterns of service centres, he found however that the transportation factor (railroads and highways), sufficiently distorted Christaller's theory of the location of centres that it could be considered an independent factor.

5

J.E. Brush, The Trade Centers of South-Western Wisconsin: An Analysis of Function and Location, PhD Thesis, U. of Wisconsin, 1952, pp. 40-41, 158-162.

6

Peter Woroby, "Functional Ranks and Locational Patterns of Service Centers in Saskatchewan," The Canadian Geographer, 14: p.43, 1959

W.J. Berry noted in his study of "Trading Centers in Haakon County, S. Dakota" that trading centres reflect the character and trends of the region in which they are located. The centres are small in response to small population, "they are far apart as are in general the homes of the rural people, they are not so numerous now as they have been, largely because there are fewer people in the region than formerly." ⁷ W.J. Berry recognizes that there are three ranks of centres based on the number of business units, and implies that there is a correlation between population and the rank of a trade centre. He concluded that the spacing of trading centres is related to the spacing of rural residences and that the function of trading centres is a division of labour in the local agricultural or grazing region.

Another classification of trade centres based on the correlation between functions and population was done by G.T. Trewartha in his analysis, of hamlets in S.W. Wisconsin. ⁸ He noted that hamlets are commercial units for a surrounding area and that their spacings and arrangement reflect the farmers' needs of services. He also observed that hamlets are not found in close proximity to larger settlements, and are most numerous in the inter-village and inter-town districts. There was little evidence of a Christaller arrangement of settlements because natural factors, locational advantages for manufacturing, and through lines of communication disturbed the possibility of an evenly distributed arrangement of settlements with radial lines of communications.

Christaller's basic concepts have exerted considerable influence on geographical works dealing with service centres in spite of the valid criticisms to which certain aspects of his theory have been exposed. In most service centre studies, ranking according to functional units is accepted as the most expedient way of comparing centres, and a direct correlation exists

⁷ W.J. Berry, "Trading Centers in Haakon County, South Dakota," A.A.A.G., 38, p.56, 1948.

⁸ Glenn T. Trewartha, "The Unincorporated Hamlet: One Element of the American Settlement Fabric," A.A.A.G. 33, pp. 32-81, March 1943.

between population, the rank of a centre and the size of the tributary area. The typical Christaller expression to explain this relationship is that "higher order places offer more goods, have more establishments and business types, larger populations, tributary areas and tributary populations."⁹

This thesis is an attempt to investigate all the factors that exert influence on the "urban" - "rural" relationship of the Interlake. Not only must we look at the physical causal relations but also the social and economic. The Interlake is not a static area, it is dynamic with a number of forces continually at work changing the existing pattern. Rural depopulation is generally accepted as a widespread trend through the province, yet as Figure 7 "Percentage Change in Total Population 1941-1961" indicates, a population surge has taken place in townships of the municipalities of Gimli, Rockwood and Woodlands within the last twenty years. Field observations have revealed that small centres (Hilbre, Malonton, Komarno, Silver, Meleb) are decaying, while others not too much larger (Moosehorn, Gypsumville, St. Martin) are experiencing a sudden briskness of trade. Local initiative at Teulon has sparked interest in the investigation of the town's trading area as a community endeavour. The Co-operative movement at Arborg shows signs of prosperity, and its members seem highly satisfied with its achievements, while Co-operatives at other centres in the Interlake appear to be lacking vitality. It is the investigation of these and the other forces at work which is of fundamental importance to this geographical study.

9

Brian J.L. Berry, Allen Pred, op. cit. p.3

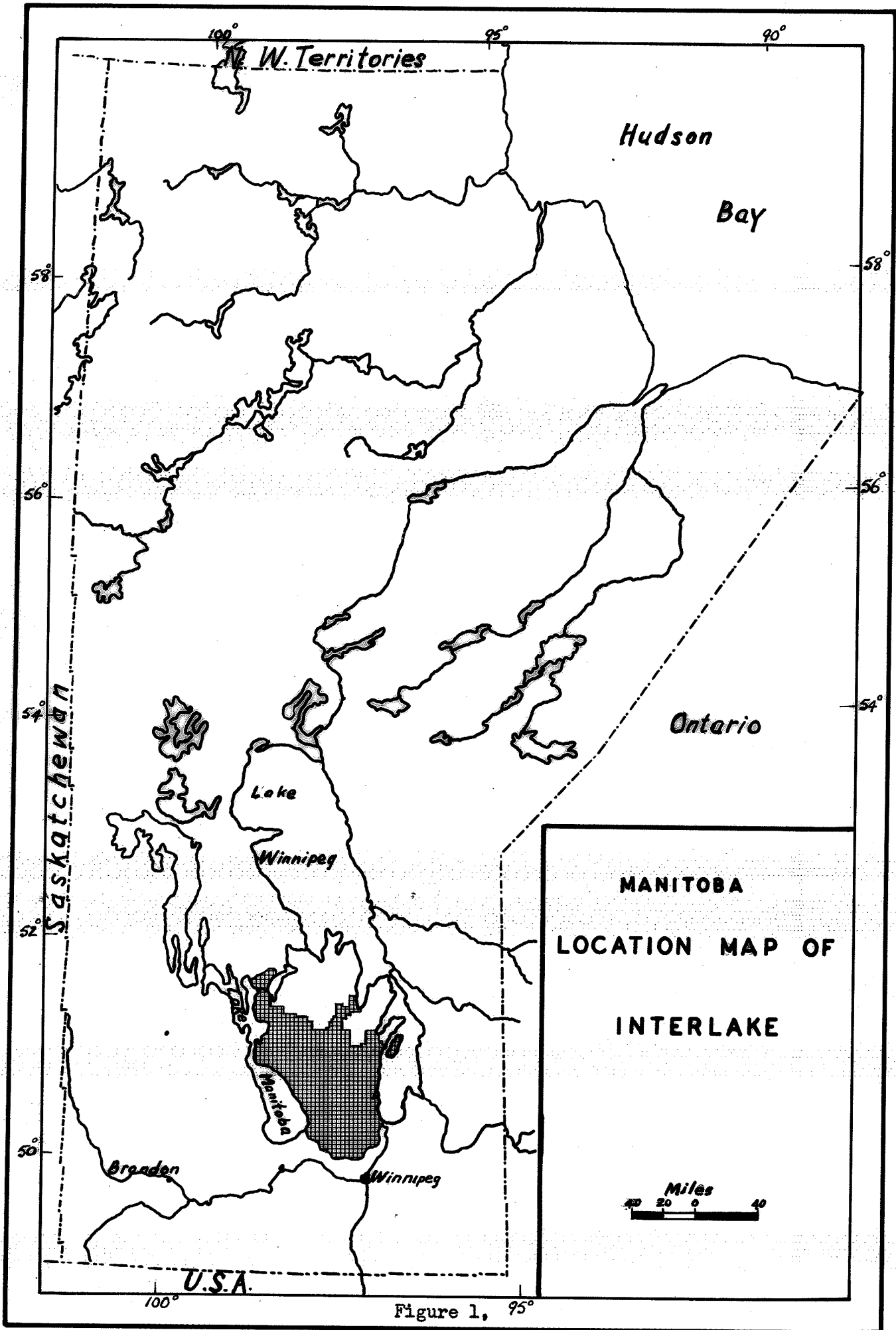


Figure 1, 95°

CHAPTER III
THE STUDY AREA

The delimitation and choice of the study area

Since it is Christaller who laid the foundation of the central place theory, it is only reasonable that in any investigation of central places, reference will be made to the major features of his theory which are now well known. "Edward Ullman introduced Christaller's ideas to the English language literature with his Theory of Location for Cities"¹ more than twenty years ago, and since then, most Anglo-American geographers attempting such a study have chosen an area which fits as closely as possible to Christaller's hypothetical example, "an agricultural area in which (1) both resources and population are distributed uniformly, and (2) movement from one place to another is not impeded in any way".² Emphasis is placed on "an agricultural area" as the occurrence of non-agricultural resources (for example minerals, recreational areas) gives rise to urban development at the site of the occurrence, thus disturbing completely any possibility of the expected location and development of centres associated with "the law of central places". Since the Interlake's economy is primarily agricultural (60% of labour force is fully or partly employed in farming),³ this was an important consideration influencing the choice of the area.

Another reason for choosing the Interlake, is that its northern, eastern and western limits, are easily defined, for example:

- (i) As the name of the study area implies, it is situated between lakes. The Interlake is clearly delimited to the east and to the west by prominent topographic features - Lakes Manitoba and Winnipeg to the west

1. Brian J.L. Berry, Allen Pred, Central Place Studies - A Bibliography of Theory and Applications, p. 1 (E.L. Ullman, "A Theory of Location for Cities", American Journal of Sociology, 46, pp. 853-64).

2. Royal Commission on Agriculture and Rural Life, "Service Centers," Report No. 12, submitted to the Government of Saskatchewan, 1957, p.61.

3. Source:- Preliminary Economic Survey of Manitoba's Interlake Area, unpublished report submitted to the Department of Industry and Commerce, Province of Manitoba.

and east respectively.

(ii) To the north of the study area is a frontier zone. As economic dependence on agriculture diminishes northwards, because of bog, marsh and short growing season, population also decreases until we enter what is defined as the "Lowlands South Forest Section" by the Department of Mines and Natural Resources (Province of Manitoba).

A "Forest Section" in Manitoba is a division of "The Accessible Forest Zone". It may be defined "as the area which produces or is capable of producing forest crops, and which for climatic reasons is, in the main more suitable for the production of wood than for agricultural crops".⁴ The southern boundary of what is called the "Interlake Forest Area," (a sub-division of the "Lowland South Forest Section") coincides with the northernmost extension of farm settlement in the study area and consequently was chosen as the northern limit of the Interlake study area.

(iii) Since the analysis of the functional diversity and locational pattern of agricultural service centres is most easily attained if manufacturing and its urbanizing influence be excluded as much as possible, the southern limits of the area are drawn so as to exclude Selkirk, Winnipeg and Portage la Prairie. It is almost impossible to try to delimit the area within which these large centres cease to exert influence on the Interlake. Winnipeg is the largest city and the most important wholesale and retail centre in the Prairies. Its wholesale establishments for agricultural and non-agricultural products operate in a large trade area and the entire Interlake is included in this service area. For the purpose of this study therefore, the northern boundary of the "zone of dominance"⁵ of these large urban centres is taken as the southern boundary

4. "Forest Resources Inventory". Forests of Manitoba, Report No. 10, Department of Mines and Natural Resources, Province of Manitoba, 1960.

INTERLAKE REGION

NORTHERN LIMIT OF STUDY AREA

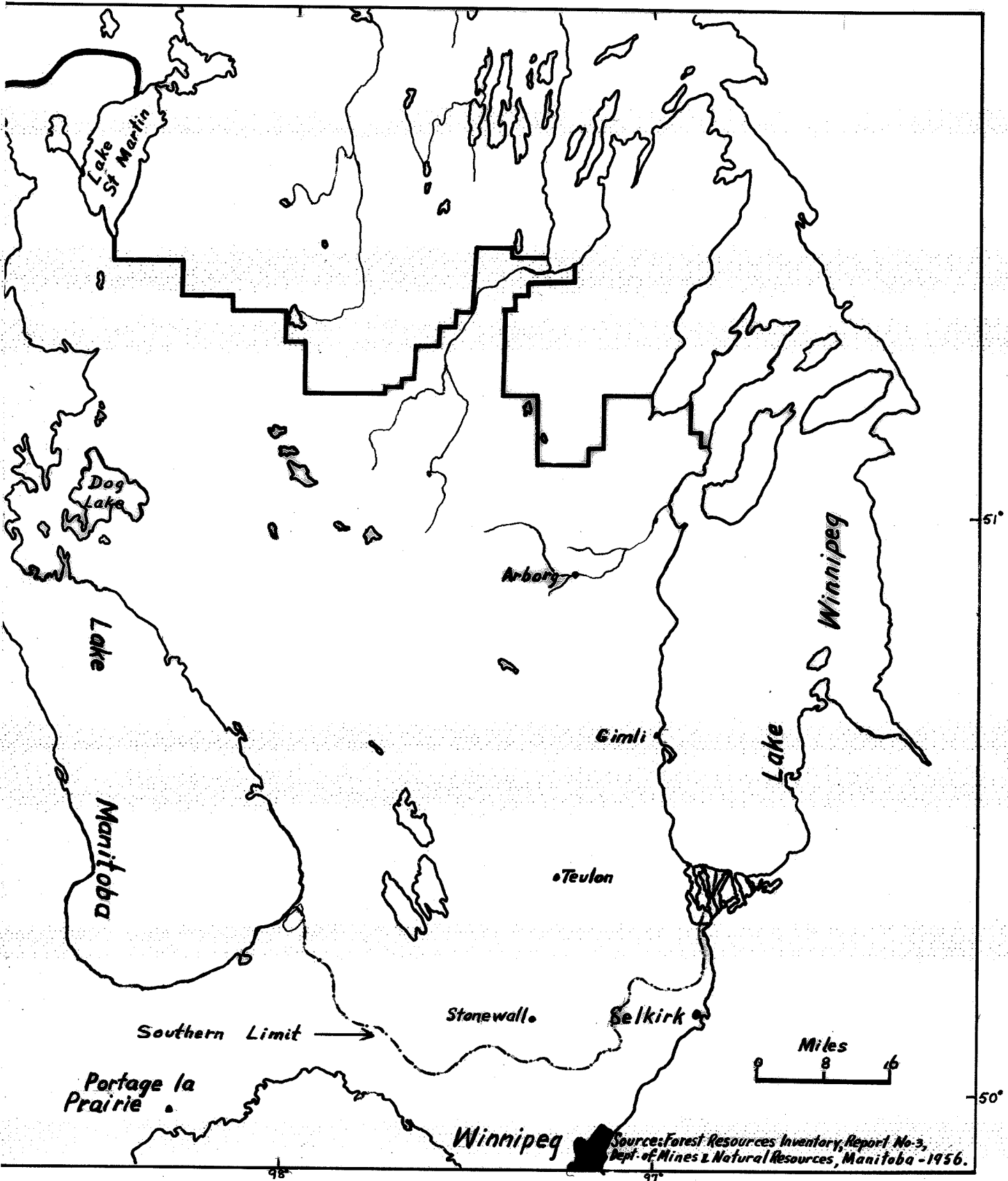


Figure 2.

of the study area. The southern limit of the study area is an arbitrary boundary drawn by the author for the purpose of this study. But it was drawn only after careful deliberation.

This southern boundary of the Interlake was determined by asking farmers along highways 6, 7, 8 and 9 south of the service centres of Warren, Stonewall, Stony Mountain and Clandeboye where they go to obtain day to day services (bread, butter, milk, meat, potatoes) or even to gossip and to have regular social gatherings. By plotting these data it was possible to delimit service areas, and consequently, the southern boundaries of the service centres, Warren, Stonewall, Stony Mountain and Clandeboye.

Thus there are clear cut well-defined boundaries for the Interlake to the east, west and north. The boundary to the south however, is a creation of the author to deal with the problem at hand. The large urban areas to the south needed to be excluded, so the "zones of dominance"⁵ of Warren, Stonewall, Stony Mountain and Clandeboye were taken as the southern boundary of the Interlake. This choice of a southern boundary is based on Preston E. James' assertion:

The criteria which are selected must be in terms of a stated objective or problem. For the purposes of a specific problem, it is possible to define and identify areas which are homogeneous in terms of relevant criteria, disregarding (as all generalizations do,) conditions which are not homogeneous but which are considered to be irrelevant. There can be

-
5. Zone of dominance - The area adjoining or contiguous to a trade centre within which day to day (elementary) economic and cultural activities are essentially one with those of the primary centre.

The idea for this definition was taken principally from E. Van Cleeef, "Hinterland and Umland", The Geographical Review, 31: p.308, April 1941.

Umland - The Area contiguous to a trade center (extending to and including its suburbs or 'urblets') whose total economic and cultural activities are essentially one with those of the primary center.

no such thing as a correct system of regions, or a system of "true regions"; no one system is right and all others, wrong: There are as many regional systems as there are problems worth studying.⁶

The proximity of the Interlake region to Winnipeg is another factor influencing the choice of the study area, as this enabled field work to be carried out readily without much inconvenience. The northernmost service centre at which detailed interviewing was carried out was at Gypsumville approximately 180 miles north-west of Winnipeg along Highway 6, four to five hours driving time without any undue haste. In addition, bituminous surfaced highways bring you into the heart of the region (St. Laurent, Chatfield, Gimli, Camp Morton along Highways 6, 7, 8, 9,) while gravelled roads reach all other analyzed service centres, and it is only when intensive interviewing from farmstead to farmstead was conducted that poorly maintained earth and mud roads were encountered.

Interest in this area was also stimulated by the fact that fellow geography students were conducting an historical geography study and a rural depopulation study here. Another reason influencing the choice of this area is the deep interest that the Department of Industry and Commerce has in the re-development of the Interlake an area which economists claim "tends towards economic stagnation, with much of the area already stagnant".⁷

Physical Geography of the Interlake

This section outlines briefly, the relief, surface materials and drainage conditions of the Interlake. This description makes it evident, that in spite of advantages offered by the environment (areas of reasonably good agricultural lands, forest resources), man is confronted by many problems in terrain,

6. Preston E. James, "Toward a Further Understanding of the Regional Concept", A.A.A.G., 42:pp. 199 - 200, September, 1952.

7. Taken from: Preliminary Economic Survey of Interlake Area of Manitoba, unpublished report submitted to the Dept. of Industry and Commerce, Province of Manitoba.

INTERLAKE REGION CONTOUR MAP

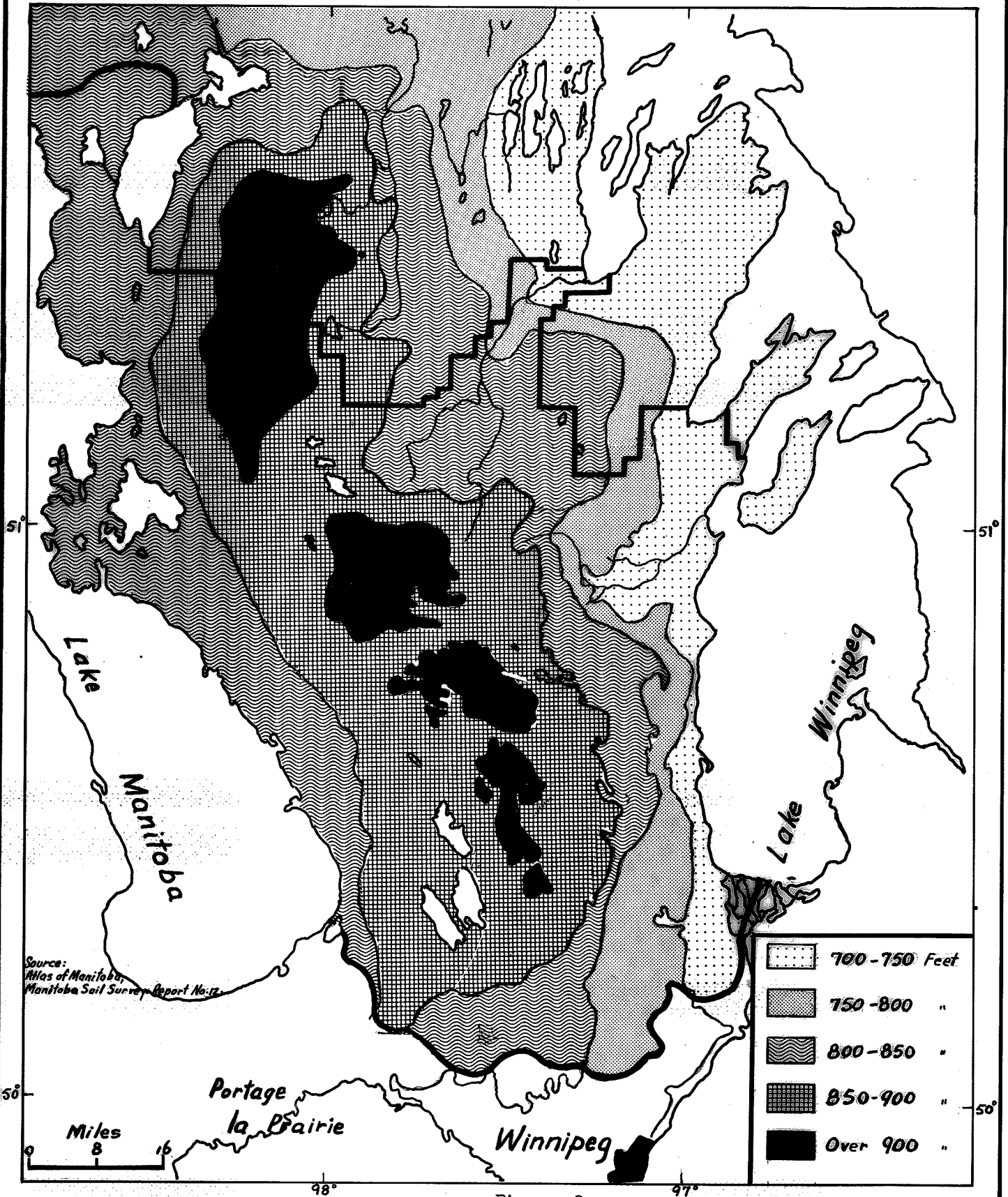


Figure 3.

drainage and soils, which make the task of occupying this region very challenging.

(i) Relief:

There are no prominent relief features in the Interlake region. The highest elevation, between 900' - 950' is in the centre of the region and from there the land slopes gently to Lake Manitoba (814') on the west, and Lake Winnipeg (714') on the east.

Between Lake Winnipeg and the higher central area, a series of marine strand lines of post-glacial origin lie between the 800' and 850' contours marking the edge of a lacustrine plain bordering Lake Winnipeg. The land is very gently sloping except for a few broad ridges of glacial till and rock outcrop, and some shallow stream valleys. This low relief is a reflection of the flat lying limestones of Ordovician, Silurian and Devonian Age underlying the Pleistocene tills. Bedrock exposures, for example, at Stony Mountain (shales and limestones of the Ordovician age) and at Stonewall, Gunton, Inwood and east of Fisher Branch (rocks of the Silurian age - dolomites) break the monotonous low relief of the area.

The edge of the hard Silurian dolomite is marked by a definite cuesta in the Stonewall - Teulon area. The principal erosion features are the deep old river - valleys east of Fisher Branch, the Stony Mountain monadnock, and the pits and swallow-holes which indicate extensive underground solution in the area between Lake Winnipeg and Lake Manitoba.⁸

The beach ridges, generally speaking, trend in a north north-westerly direction. Above these beach ridges and extending west to Lake Manitoba the land consists of a gentle swell and swale topography with a similar north north west to south east orientation. The low ridges (swells) do not rise much above the intervening depressions (Refer Figure 3, Contour Map), but as they lie across the general direction of fall of the land, they have a major damming effect on the surface run off.

8. R.C. Wallace, Geological Formations of Manitoba, Winnipeg: the Natural History Society of Manitoba, 1925, p. 39.

INTERLAKE REGION

DRAINAGE FEATURES

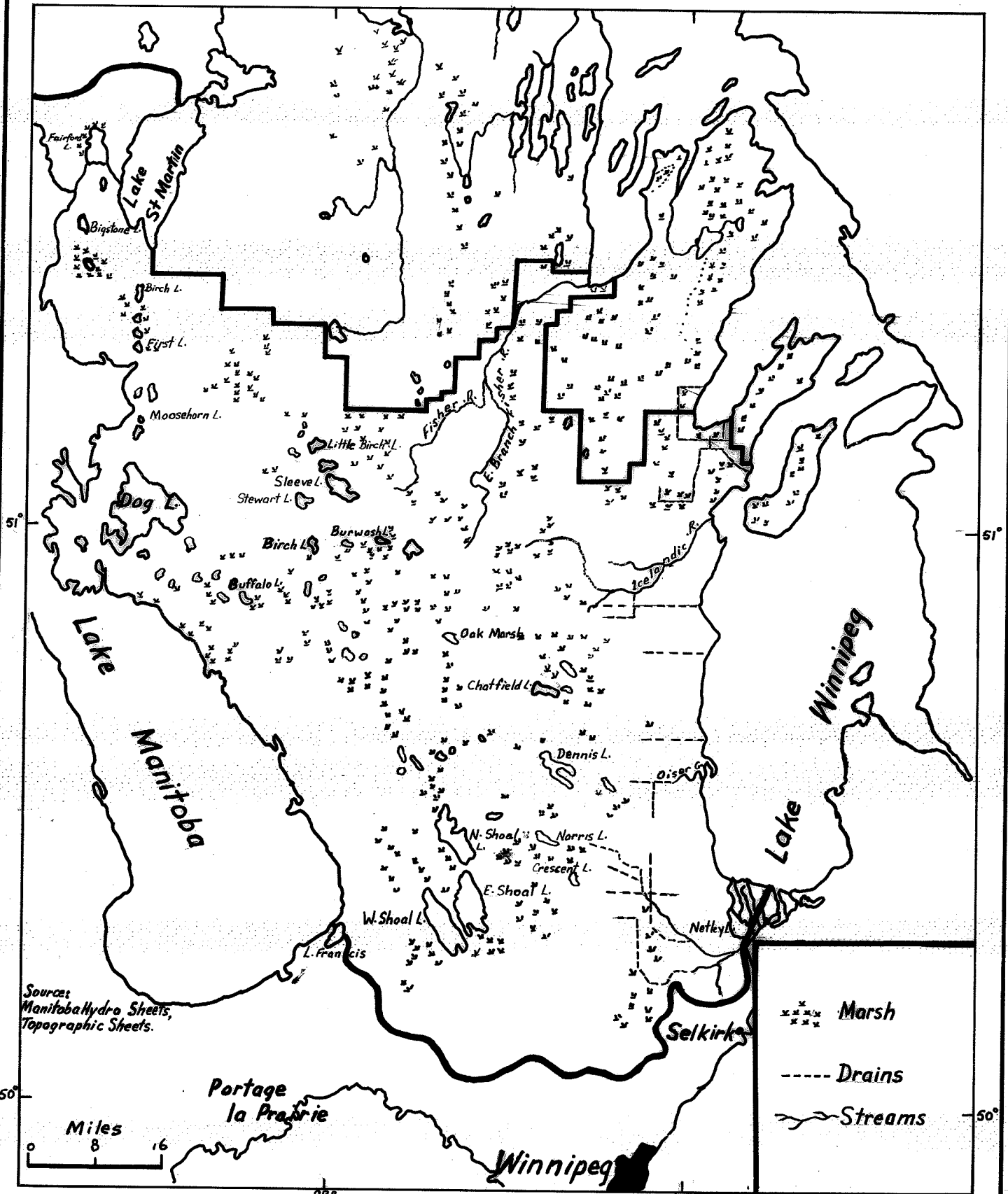


Figure 4.

(ii) Drainage

The Interlake is poorly drained and the drainage system is very immature. There are no large rivers, and all the rivers or creeks of any significance have shallow channels and flow eastwards draining into Lake Winnipeg (Refer Figure 4 - Drainage Features of Interlake).

The Fisher and Icelandic rivers and the Osier and Netley creeks together with their drainage ditches provide some drainage for the Fisher and Icelandic lowlands and the Winnipeg lake terrace. These rivers and ditches however, are quite inadequate as a means of proper drainage, for local flooding is a regular occurrence during the spring thaw and after heavy rains.

The land between the ridges in the central area consists of imperfectly drained swales into which the run off from the ridges either collects, or flows into channels which lead to larger marshes or intermittent lakes. The largest of the lakes in the area are the Shoal Lakes, Dog Lake, Sleeve Lake and Chatfield Lake. All of these are in the western half of the region, they have no natural outlets, are bordered by salt flats and marshes and dammed by beach ridges. Artificial drainage improvement of this area is very difficult owing to the lack of natural channels flowing westwards to Lake Manitoba, and the presence of these numerous beach ridges perpendicular to the fall of the land.

In summation, lakes, marshes, bogs and saline flats dot the entire region which is subject to flooding in periods of heavy continuous rains. This situation has been alleviated to some extent by constructing drainage channels throughout the area wherever roads are built. Thus because of the generally flat topography "the relative closeness to the surface of consolidated rock, and the general absence of river channels, drainage is impeded and becomes a problem."⁹

9. W. John Russell, Geography of Roads West of Lake Winnipeg, MSc. Thesis, McGill University, 1951, p.71.

INTERLAKE REGION SURFACE MATERIALS.

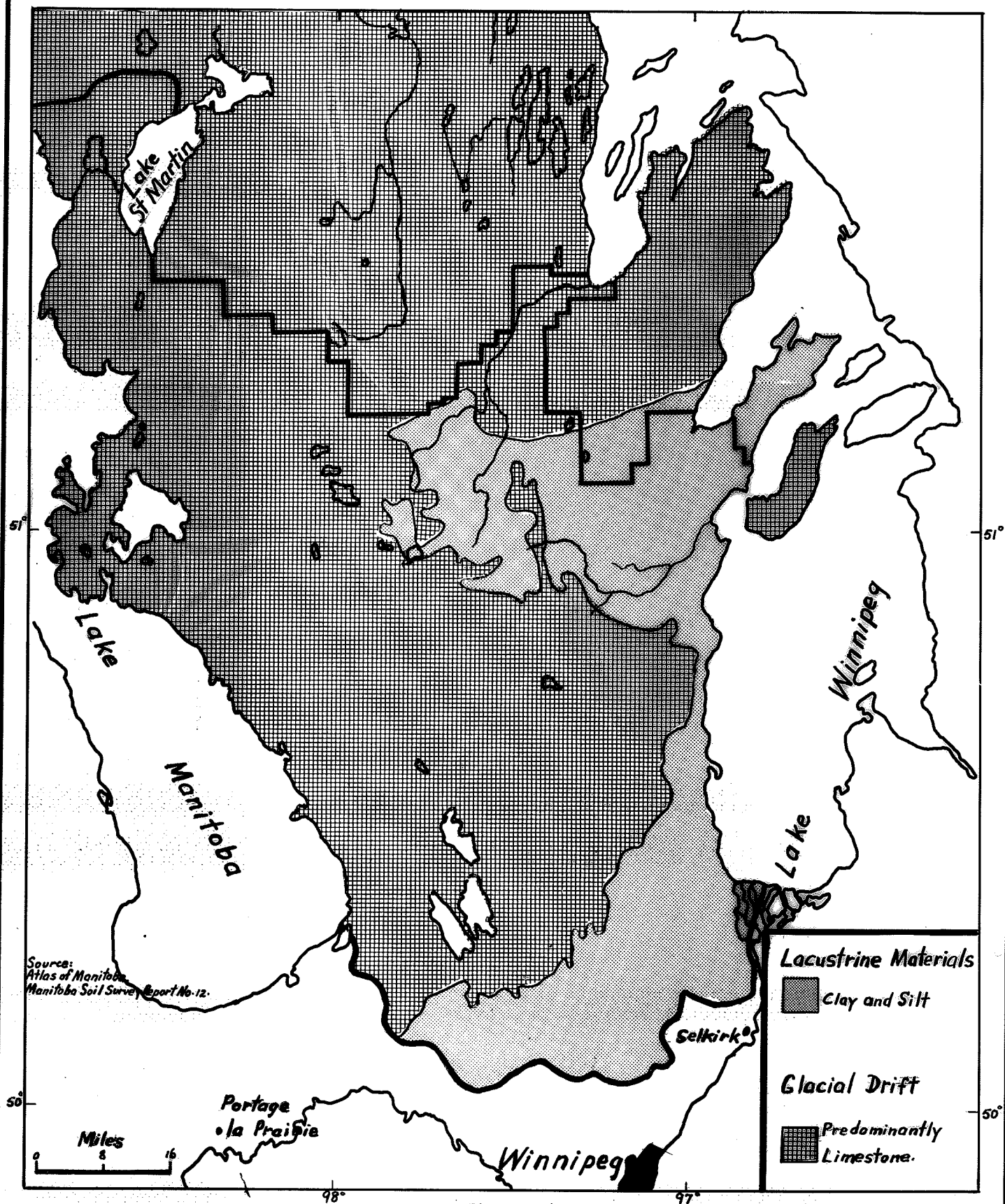


Figure 5.

(iii) Surface Materials

The Interlake is situated within what may be considered a till plain of low relief. This area was once covered by Lake Agassiz but apparently for only a relatively short period since much of the till surface is not covered by lacustrine clays. (Refer Figure 5 - Surface Materials of Interlake). On the basis therefore of surface deposits, two general regions can be recognized in the Interlake.

(a) Interlake Till Plain - glacial drift consisting of predominantly limestone materials, "limestone till plain".

(b) Areas of lacustrine materials (clay and silt) over till.

The Interlake Till Plain is a gently undulating area of ground moraine consisting of dominantly limestone materials. The relative flatness of the entire area is basically a reflection of the nearly horizontal beds of Palaeozoic limestone underlying the till. In some portions of this area, limestone bedrock outcrops at the surface or is covered by only a thin mantle of glacial drift hence the term "limestone till plain" associated with this area. The entire terrain has been modified by wave action and the surface deposits are more or less stony and strongly calcareous.

The areas of lacustrine materials - (clay and silt) over till, occupy the remainder of the Interlake. A number of sub-regions have been defined in the Manitoba Soil Survey Reports for this area.

(i) The Fisher River Plain - Lake Winnipeg terrace area, is part of Lake Agassiz basin, and consists of shallow lacustrine deposits over till.

(ii) The Icelandic River Plain and the Red River Plain both have common characteristics and hence are taken together. They occupy flat to depressional areas which were covered by glacial Lake Agassiz. The major portions of these areas are covered by lacustrine clays and alluvial deposits.

10. Ehrlich, W.A., Pratt, L.E., LeClaire, F.P., Barr, J.A., Report of Detailed Reconnaissance Soil Survey of Fisher and Teulon Map Sheet Areas, Soils Report No. 12, pp. 15-18.
Ehrlich, W.A., Poyser, E.A., Pratt, L.E., Ellis J.H., Report of Reconnaissance Soil Survey of Winnipeg and Morris Map Sheet Areas, Soils Report No. 5, p. 7.

(iii) A transitional area between the lacustrine plain to the south and the lake scoured terrain of the Interlake Till Plain to the north is referred to as "the Stonewall-Woodlands Area", a lake terrace between 800' and 850' contours. It consists of a relatively thin mantle of lacustrine and outwash sediments lying over calcareous till except where low morainic ridges of till occur at irregular intervals.

Population Geography

11

The population of the study area is approximately 37,630. Incorporated settlements make up 5,857 or 17% (Gimli - 1,841, Stonewall - 1,420, Riverton - 808, Winnipeg Beach - 807, Teulon - 749, Dunnottar - 232), while unincorporated settlements account for 20% or 7,398 people. By themselves these population figures do not indicate much, nevertheless relative tendencies in population growth taken in conjunction with other data are useful indicators of geographic trends.

TABLE 1
POPULATION BY 10 YEAR PERIODS SINCE 1921

<u>YEAR</u>	<u>POPULATION</u>	<u>DECREASE</u>	<u>%DECREASE</u>
1921	43,238	-	-
1941	41,420	1,818	4.2%
1951	38,518	2,902	7.0%
1961	37,630	888	2.4%

Source: Census of Canada, 1921, 1941, 1951, 1961.

N.B. In this section, the terms "unincorporated settlements", "urban", "Rural", are employed in the same sense that they are used in the 1961 census. "Unincorporated Settlements" refer to centres which have more than 50 people and have not attained incorporated status.

"Urban" refers to centres with more than 1000 people.

"Rural" refers to the population other than 'urban' and includes farm plus non-farm population.

The total population figures used in this study (eg 1951-38,518, 1961-37,630) conform very closely with the population of the Interlake Region as delimited for this study.

11. Census of Canada, 1961.

INTERLAKE REGION

RURAL POPULATION - 1961

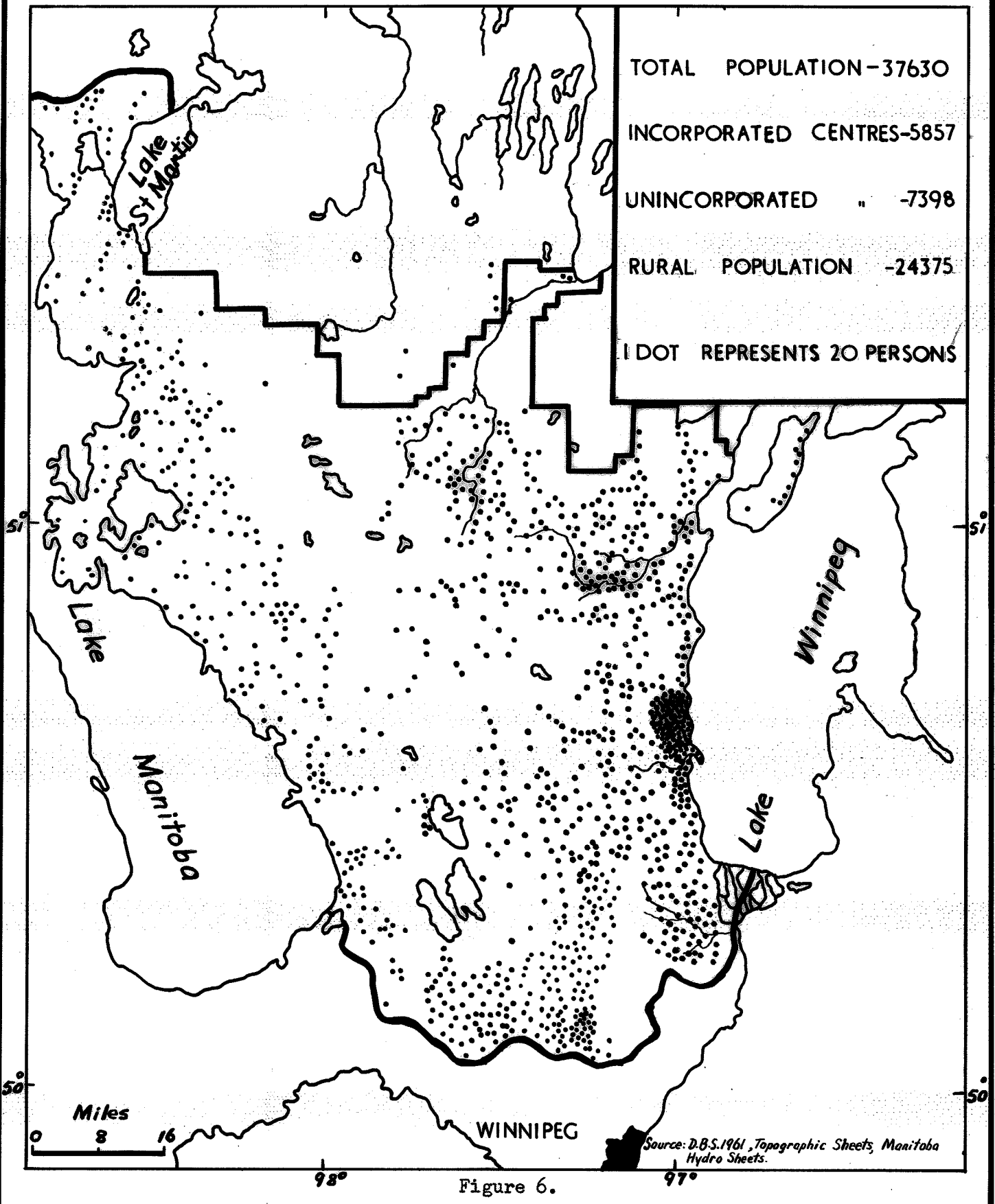


TABLE 2

URBAN, FARM AND NON-FARM POPULATION BY 10-YEAR PERIODS SINCE 1921

YEAR	POPULATION	URBAN	%	RURAL	%	FARM	%	NON-FARM	%
1921	43,238	1,112	3	42,126	97	-	-	-	-
1941	41,420	1,020	2	40,400	98	30,125	73	10,275	25
1951	38,518	2,364	6	36,154	94	24,584	64	11,570	30
1961	37,630	3,261	9	34,369	91	18,321	48	16,048	43

Source: Census of Canada, 1921, 1941, 1951, 1961.

TABLES 3, 4

DISTRIBUTION OF POPULATION BY RELIGIOUS AND ETHNIC GROUPS

RELIGIOUS GROUPS	1951	%	1961	%	ETHNIC GROUPS	1961	%
Roman Catholic	8,271	21	8,301	22	British	12,211	33
United Church	6,295	16	7,178	19	Ukrainian	6,864	18
Lutheran	7,463	19	7,136	19	Scandinavian	5,935	16
Anglican	5,308	14	5,065	14	French	3,261	8
Ukrainian Catholic	6,057	16	4,263	11	German	3,169	8
Greek Orthodox	1,645	4	1,463	4	Polish	2,748	7
Mennonite	258	1	996	3	Netherlands	1,139	3
Presbyterian	1,109	3	838	2	Russian	224	1
Baptist	404	1	416	1	Other European	1,432	4
Pentecostal	-	-	264	1	Native Indians	417	1
Others	1,708	5	1,710	4	Others	230	1
TOTAL	38,518		37,630			37,630	

Source: Census of Canada, 1951, 1961.

TABLE 5

DISTRIBUTION OF POPULATION BY SPECIFIED AGE GROUPS - SINCE 1951

AGE PERIODS	1951	%	1961	%
00 - 19	15,407	40	16,057	43
20 - 44	12,904	34	10,840	29
45 - 64	6,625	17	6,905	18
65 +	3,582	9	3,828	10
TOTAL	38,518		37,630	

Source: Census of Canada, 1951, 1961.

INTERLAKE REGION

TOTAL POPULATION CHANGE 1941-61

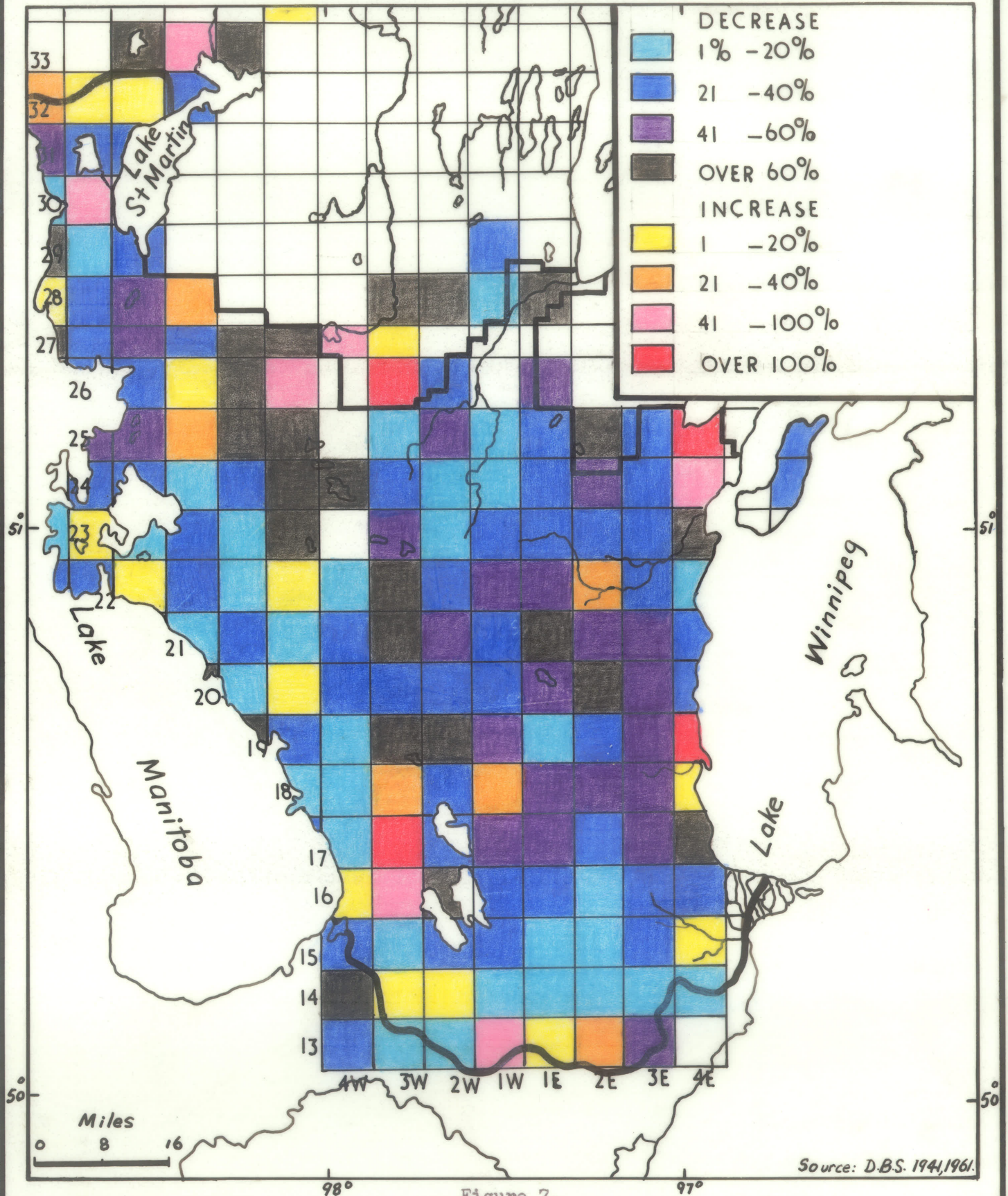


Figure 7.

Source: D.B.S. 1941/1961.

Between 1921 and 1961, there has been a total decrease in population of 5,608 or 13%. The percentage of people who now reside in urban centres has however increased from 3% (1,112 people) in 1921, to 9% (3,261 people) in 1961. Of the 34,369 people regarded as rural in 1961, non-farm accounts for 16,048 or 43%, while the farm population makes up the remainder of 18,321 or 48%. In 1941, of the total rural population of 40,400, non-farm was 10,275 or 25%, and farm 30,125 or 75%. Within the last 20 years there has been a marked decrease in farm population (11,804 people or almost 40% decrease).

In addition to the decline of farm and total population within the last forty years (1921-61), there are other significant aspects of population distribution in the Interlake (Refer Tables 3, 4, 5 - "Distribution of Population by Religious Groups", "by Ethnic Groups", "by Specified Age Groups"). With reference to distribution of population by specified age groups, the population of the 'Interlake' is passing from its relatively youthful composition. The growth of the age groups 0 - 19 and 65 and over, the decline in age group 20 - 44 is of particular significance for this study. There seems to be a larger proportion of children and old people with low earning power, and a smaller proportion of young people in the employable age in 1961 than ten years ago. This is part of the urbanization trend in the entire province of Manitoba, where large numbers of young people in the employable age leave the rural areas to seek employment in the city. This trend is also accompanied by economic implications, as the large proportion of children (43%) are dependent upon their parents. Ten percent of the population (those in age group 65 years and over) depend on social services which are usually at a subsistence level, and the income earners between ages 20 - 44 account for only 29% of the population.

Economic Geography

(i) Agriculture

In the 'Interlake' the land has been said to be very largely "marginal or submarginal for agricultural activity" and yet we find that close to "3/5's (60%) of the labour force is occupied in farming, compared with 30% in other farm areas of the province".¹²

The better agricultural soils which produce at reasonable standards are associated with the surface deposits of lacustrine materials - clay and silt while the major part of farming activity is carried on on the marginal or submarginal farming lands of the "limestone till plain" where farming pursuits appear in most cases to be conducted for the want of something to do, without any incentive and apparently never with the aim of maximizing returns.

The farmland of the 'Interlake' is rated generally poor and only 13% of it is considered as "fairly good" or better. The rest is marginal and sub marginal and in its present state is suitable only for grazing.¹³

In areas of "fairly good" agricultural soils, 40% to 60% of the farmland is cultivated, the farms are small in size, and barley, oats and wheat are the major crops. The centres of grain production in this region along with dairying and livestock farming are the districts of Arborg, Fisher Branch, Teulon and Warren.

The area of predominantly glacial drift - marginal or submarginal farmland - can be divided into two regions based on farming activity. In the first region, primarily of the Garson soil association (Refer Figure 13 - Generalized Soil Map), 15% to 40% of the farmland is cultivated, with bushland occupying a high percentage of most farms. Farmers within this area are limited by low soil fertility and depend mainly on livestock, dairying and poultry production for their livelihood.

In the other region, primarily of the Isafold Soil Association, less than

12. Taken from, Preliminary Economic Survey of Interlake Area of Manitoba, unpublished report submitted to the Dept. of Industry and Commerce, Province of Manitoba.

13. Ibid.

10% of the farmland is cultivated and ranching is the dominant farm enterprise particularly along the shore of Lake Manitoba. The carrying capacity of the bush covered land here is low, and little pasture improvement is ever attempted. Within the "limestone till plain" there are however, a few local areas of soils, "fairly good"¹⁴ for cereal crops, for example, west of Ericksdale and around the north shore of Dog Lake where with the use of fertilizers, grain growing is moderately successful. In other areas, the grain grown is used principally for livestock feed.

From surveys carried out by the Economics Division, Canada Department of Agriculture in co-operation with the Manitoba Department of Agriculture and Conservation within the last five years, it was discovered that cash income per farm is about \$1,000.00 per annum, about one-half the amount regarded as a suitable minimum standard by agricultural standards.

There are very low returns for the labour and capital invested and there is no indication that the level of income is rising. The low return can be traced largely to the heavy concentration of farms and low productive capacity of the cultivated land. It has been calculated that a minimum income per farm should be close to \$2,500.00 annually which mean very greatly intensified cultivation and a change of crop, or a substantial reduction in the number of farms which approximate 3,500 at the present time. In any event, significant improvement in the agricultural industry in the Interlake Region requires that a substantial part of the population now dependent on farming be moved to other employment.¹⁵

(ii) Fishing

The Interlake is bounded on the east and west by Lakes Winnipeg and Manitoba. Manitoba's commercial fisheries produce 1/3 of Canada's fresh water fish, about 1/2 of this volume comes from Lake Winnipeg with Lake Manitoba as an important producer.

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14. Information obtained from interview with two employees at Lands Branch, Manitoba Dept. of Mines and Natural Resources.
 15. Preliminary Economic Survey of Interlake Area of Manitoba, unpublished report submitted to the Dept. of Industry and Commerce, Province of Manitoba.

TABLE 6

FISH PRODUCTION ON LAKES WINNIPEG AND MANITOBA

16

	<u>Season</u>	<u>Production (lbs.)</u>	<u>Men Employed</u>
L. Winnipeg	1960-61	10,024,800	1,852
	1961-62	9,595,200	1,787
L. Manitoba	1960-61	5,569,500	950
	1961-62	3,318,000	855

The fishing industry makes a substantial contribution to the Interlake economy by employing on a full or part-time basis about 400 - 500 residents of the area, most of whom are located along the west shore of Lake Winnipeg.

17

During the winter months, most farmers along the Lake Winnipeg shore are engaged in fishing in order to obtain an additional source of income. There is a fish processing and packing plant - B.C. Packers Ltd. - at Gimli which employs 45 workers at the peak season. Except for this, production is confined to the primary stage, and the catch is shipped out of the area to processing plants in Selkirk and Winnipeg.

Lake Manitoba is only open for fishing in the winter months. Fishing, has become an important part-time occupation of farmers on the margins of the lake and provides seasonal employment when agriculture is largely dormant in the winter months. The most important fishing centres along this lake are at Oak Point, St. Laurent and Lundar. The total production and value to fishermen of fish caught in Lake Manitoba is much smaller than that caught in Lake

-
16. Source: Department of Mines and Natural Resources, Manitoba, Annual Report period ending March 31st, 1962, Table II, p. 37.
 17. The fishing industry employed 2,642 men on Lakes Winnipeg and Manitoba in the 1961-62 season (Annual Report, Department of Mines and Natural Resources). This figure includes those employed on both shores of the lakes, and also northern Lake Winnipeg beyond the limit of the study area. Also many farmers do part-time fishing in the winter and summer months; these are also included in the men employed, since the basis for arriving at 2,642 is from the number of fishing permits issued in the area. It is however estimated by employees of the Department of Mines and Natural Resources who compile the statistics for the department's annual report, that only between 400-500 residents of the study area are employed on a full or part-time basis in the fishing industry.

Winnipeg. In addition, an adverse freeze-up in winter plus cold stormy weather conditions seriously affect the fishery on Lake Manitoba, where only a winter fishing operation is carried on. These adverse conditions were experienced in 1961-62 season.

Within recent years, both the Federal and Provincial Governments have taken steps to develop the fishing industry, and instigated programmes of research, modernization of equipment and reorganization of transportation and handling methods.

(iii) Forestry

The study area excludes the accessible forest zone to the north, since the southern boundary of the "Interlake Forest Area" is taken as the northern limit of the region under study.

Some farmers who live on the southern periphery of the accessible forest zone do, however, supplement their farm income by participating in the lumbering industry during the winter months. This activity is typical of farmers around Riverton, Hodgson and north-east of Ashern. Inventory records indicate that in the Riverton, Ashern and Hodgson sections of the "Interlake Forest Area":

...there are more than 4,000,000 acres of productive and nearly 400,000 acres of potentially productive forest land in the Interlake Region, containing about 1,000,000,000 cubic feet of soft and hard wood. However, only about 1,860,000 acres of the forest land are accessible and the volume of merchantable timber in reserve approximates 500,000,000 cubic feet.¹⁹

Production approximates 12,000,000 cubic feet annually of which 57% is pulpwood and 36% saw logs. Spruce makes up more than 80% of the pulpwood and saw log production. The balance of wood production consists of boxwood, fuelwood, posts and poles.²⁰

The lumbering industry is confined mainly to the primary stage, as there

-
18. From the interviews it was found that only in the vicinity of these centres do farmers supplement their farm income by participating in the lumbering industry.
 19. Preliminary Economic Survey of Interlake Area of Manitoba, unpublished report submitted to the Dept. of Industry and Commerce, Province of Manitoba.
 20. Ibid.

is no extensive secondary processing of wood in the region and a large part of the cut is shipped out of the area in primary form. The local saw mill is seldom seen in the Interlake. There is one at Finns, two others one mile north and one mile south of Riverton, and portable saw milling equipment at Gypsumville, Hodgson, Fraserwood, Chatfield and Hilbre. As was mentioned before, forest production is carried on in the winter, largely by farmers. Each operator performs all the functions himself. There is no large scale operation and the major obstacle to more participation in this field is the high transportation cost involved in moving the timber to market.

From interviews with farmers who participate, or once participated in this activity, there was agreement that lumbering is no longer a profitable venture, as most stands of pulpwood and cordwood within fifty or sixty miles of transportation routes are exhausted and loggers are now forced to go far to the north to obtain either pulpwood or lumber for local uses.

(iv) Mining and Quarrying

Only about 1% of the persons employed in the Interlake work in the mining industry. Mining is relatively insignificant. Gypsum and limestone are the only two important minerals quarried. The gypsum plant at Gypsumville employs 5 workers, while the five limestone quarries only employ 110 persons.

(a) Gypsum has been strip mined continually since 1900 in a quarry at the north-east section of the village of Gypsumville. The bedded gypsum is blasted and loaded by steam shovels into cars to be shipped to the Domtar Construction Materials Ltd. mill in Winnipeg.

(b) Lime and Limestone - An excellent grade of white dolomitic lime is mined at Stonewall (2 quarries), and Inwood. These quarries also produce a considerable amount of crushed stone for road ballast, concrete aggregate and for use in metallurgical plants. The only source of high calcium lime in the

21. Information obtained from interviews conducted at the plant sites during September 1962 and May 1963.

Province is mined in quarries at Steeprock and Spearhill. The limestone at Steeprock is crushed at the quarry and shipped 146 miles to Fort Whyte to be used in the making of cement. The Spearhill limestone furnishes material for burning into lime, the bulk of which is used in the paper, pulp and mining industries.

(c) Sand and Gravel - Within the Interlake are many low ridges composed of gravel and sand materials which mark the shore lines of various stages of the former glacial lake that covered the area in recent geological times. The economic value of these deposits depend largely upon their proximity to those centres where they can be utilized, for example for road construction. Commercial gravel hauling is carried on at Stonewall, Clandeboye and Gimli.

(d) Other mineral deposits

Kaolin and Silicia Sand are found at Black Island (Lake Winnipeg) and around Arborg. There has been no extensive working of these deposits although investigation revealed that there are large quantities of deposit.

Clay - This is found around Gimli. It was formerly used for stoneware, but within recent years there has been no participation in this activity.

Marble - This is quarried by Winnitoba Marble Quarries Ltd. at Hodgson but in very limited quantities.

(v) Recreational Resources

The Interlake appears to have potential for the further development of its recreational resources. Both Lakes Manitoba and Winnipeg possess large areas of sandy beaches which attract vacationers during the summer months. Other recreational attractions include the Netley marshes, an area teeming with water fowl and a rewarding area for hunters. Between West

Shoal Lake and Highway 6 is another paradise for duck and water fowl hunters and the Inwood area is an excellent wild game district. In general, most areas bordering the larger lakes provide grounds for duck and geese hunting and are used extensively for this purpose.

Other than these areas, the interior of the Interlake offers little in the way of recreational attraction. Sport fishing has never developed here because there are no suitable waters. North of the study area, in the northern areas, there are reports of good bodies of water for sport fishing, plus good hunting districts, but the main problem is accessibility.

During a period of field work carried out in the months of September and October 1962, I recall that at Gypsumville all twenty rooms at the hotel and twelve units at the motel were occupied for that weekend of the hunting season and furthermore, there were no vacancies available for the next two weekends. Hotel proprietors at Riverton, Arborg, Fisher Branch and Hodgson all agreed that they were unable to accommodate all applicants during the hunting and shooting season and consequently it was not unusual that reservations were made weeks in advance.

The town site of Winnipeg Beach is the best example of a developed recreational-resort area in the Interlake. Modern facilities of all kinds are provided including a roller skating rink, bowling, golfing, horseback riding, swimming, beach concessions, dancing and movies. There is also a hotel with 30 rooms and a modern motel with 14 units. Owing to the demand for more services in the summer months, a number of businesses which do not operate in winter, cater for the additional population during

the summer period. Among these are - the amusement park, two grocery stores, supermarket, liquor commission, eight lunch counters, confectionary (milk bar) stands and three concessions. This approximation may be inaccurate, but the town office at Winnipeg Beach claims that between 100,000 and 150,000 vacationers or holiday seekers frequent this recreational area yearly. Most visitors are from Winnipeg and other Manitoba towns, with limited numbers from the rest of Canada and the U.S.A.

As has been mentioned earlier, large clean sand beaches are found on both Lakes Winnipeg and Manitoba. Along Lake Winnipeg well-maintained private cottages line the lake shore from the village of Dunnottar to as far north as Arnes. The facilities for non-resident visitors are generally confined to the nearby hotels or motels (at Winnipeg Beach and Gimli) which are not necessarily of a very high standard.

The Provincial Government is actively developing these recreational areas. The construction of a number of new tourist and general recreational areas on Lakes Winnipeg and Manitoba are planned, for example, Hnauasa Beach was established in 1962 by Order-in-Council as a provincial recreational area.

In conclusion it can be said that except for summer resorts confined to the southern portion of the Lakes Winnipeg and Manitoba which are crowded with privately owned cottages, the tourist trade development in the Interlake is negligible. The current programme of highway development, plus plans by the provincial government for the development of more tourist resorts and recreational areas, indicates that there is every likelihood

TABLE 7

Present Recreational Areas

<u>Name</u>	<u>Location</u>	<u>Nature of Activity</u>
<u>Highway 6</u>		
Miami Beach	2 miles W. of Woodlands	beach, camping, snack bar
Walsh's Cottages	4 miles S. of St. Laurent	" " " "
Interlake Camp	4 miles S. of St. Laurent	" " general recreation
Lundar Beach	12 miles W. of Lundar	" " " "
The Narrows Camp	L. Manitoba Narrows	" " snack bar, stove
Peter's Lodge	16 miles W. of Ashern	" " general recreation
Watchorn Bay	4 miles W. of Moosehorn	" " " "
<u>Highway 7</u>		
Kinsman Park	Stonewall	" " snack bar
Shady Oak Trailer Park	Stonewall	camping
Norris Lake	4 miles S.E. of Inwood	beach, camping
<u>Highway 8</u>		
Gull Harbor	N. tip of Hecla Island	" "
Beaver Creek	L. Winnipeg N. of Riverton	" "
<u>Highway 9</u>		
Netley Parking Ground	11 miles N. of Selkirk	" "
Sunview Bay Resort	2½ miles E. of Petersfield	" " snack bar
Camp Chesley	2 miles E. of Petersfield	" " store
Sportsman Paradise	E. of Petersfield	" " "
Wildwood Tourist Camp	Winnipeg Beach	" " "
Willow Island	½ mile S. of Gimli	" " "
Hnausa	18 miles N. of Gimli	picnic site, beach

that, in the near future, the recreational potential of the Interlake will be fully developed.

(vi) Other Economic Activities

Various government financed construction projects provide additional income to residents of the Interlake. There is highway construction and improvement, the building of the Radar Station near St. Martin and the construction of tourist camps and roadside parks. These projects only provide temporary employment and require mainly unskilled workers.

The R.C.A.F. Station at Gimli provides employment for many residents of the surrounding area and it is the only activity with any degree of permanence. This station which was temporarily closed in 1946, was reopened in 1950 and today it has the status of an "Advanced Flying School". There are 720 (approximately) service personnel employed. Eighty (80) of these service personnel live off the Station while all others with their families live in the quarters provided at the Station site. Two hundred and twenty eight civilians from the surrounding area are permanently employed as cooks, or on maintenance and construction crews. ²² The Gimli Station, as an employer in the area, is vitally important to the economy of the Interlake.

Summary

The Interlake's economy is dominated by an agricultural industry (60% of labour force) developed on what has been said to be marginal or sub-marginal farmland. The region has not developed much beyond the primary stage of production with forestry and fishing providing supplementary income

22. Information on the approximate number of personnel and civilians employed was supplied by the Public Relations Department, R.C.A.F. Station, Gimli, 2nd November, 1962.

to the region's farmers in the winter months. Mining and quarrying activities employ about 115 people during the peak season and are non-operating in winter. There is virtually no secondary industry. The little industry that does exist employs about 150 people, with creameries accounting for most of the manufacturing output. The only other economic activity of significance is the R.C.A.F. Station at Gimli which employs between 220 - 250 civilians from the surrounding area all year round.

CHAPTER IV
THE CLASSIFICATION OF CENTRES

In this chapter various criteria are examined with the hope of arriving at the most appropriate means of classifying service centres. Population, the assessed value of business establishments, and postal revenue are examined, and prove to be inadequate for a number of reasons. Finally it is decided, that the recording of the diversity of service or functional units supplemented by information from the alternative possibilities considered, is to be the primary means of classifying service centres. The result is first of all, that when centres are grouped according to the diversity of service units recorded, a hierarchy of service centres becomes apparent in the Interlake Region; and secondly that within this hierarchy a four fold classification- towns, greater villages, villages and hamlets can be discerned.

(a) Population

To the layman, the obvious method for grouping centres is according to population. Population is the guide that the ordinary individual has, before visiting a settlement, of determining the size of a centre and the possible availability of different goods and services which he may wish to purchase. A travelling salesman expects to find a general store in a centre of less than 100 people, while on the other hand he will not anticipate obtaining the services of a drug store unless the population of the centre is close to or above 500. Hence, quite unconsciously, to the layman, population is a basis for determining the status of a centre.

In Manitoba, the incorporated status of centres is based on taxable assessment of the locality, population, the area of the locality and also local initiative. If we ignore other factors and consider population alone, the Municipal Act distinguishes the following categories: hamlet - less than 500, village - at least 500, town - over 1,500 and city - over 10,000.

Although population may not be the principal basis for determining the incorporated status of a centre, population data is always employed in a supplementary manner.

Population has two principal advantages as an important measure. First, it gives the size of the settlement in terms of the number of people residing in a certain locality and secondly, it incorporates all the diverse elements in a settlement to a single common denominator. The primary purpose of this study however is to show the relationship between "service centres" and their trade areas, in other words the role that "centres" play in providing goods and services for their rural areas. A classification of centres based solely on population does not assist us fully in explaining this sought after relationship as there are many groups of unemployed, retired and disabled persons who add to the total population and who do not play any role whatsoever in exerting centripetal influence on the surrounding trade area. On this basis, population as the sole factor in classifying centres is inadequate.

(b) The assessed value of business establishments:

One alternative to population measurement, is the use of the assessed value of business establishments because this value is closely related to the income producing potential of commercial establishments. This criterion is also rejected as inadequate for two important reasons, these are,

1. In the official tax assessment rolls, many important central services under the recreational, public service and professional divisions are omitted: for example community halls, schools, churches, hospitals, government services.

2. There is no uniform basis for assessment from municipality to municipality.

From actual checkings with three assessors employed with the Municipal Department in the Interlake Region there was noticed a marked discrepancy in the assessed values of the same establishment estimated by the three assessors. Most assessors admit that assessed values of establishments are based too much on subjective interpretation.

(c) Amount of postal revenue:

This third alternative, the amount of postal revenue, has the advantage of being readily available for every centre at which a post office is located and is "a way of measuring the comparative strengths of centres for any particular year"¹. It is however, not an accurate measure of establishing the central significance of centres as there is no means of determining the revenue of the urban as opposed to the rural population served by the post office, and moreover no break downs are available showing the sources of revenue by services. When used by itself this alternative will be inadequate to give an accurate measure of centre rank.

(d) Diversity of service units:

After examining these propositions, it is decided that the status of service centres can best be established by the functions or services they perform, with the aid of supplementary data from the other rejected alternatives. This functional criterion is determined by recording the diversity of service units which becomes the basis for classifying the centres.

Everyday needs of individuals, for example goods sold at a general store, must be offered in the vicinity of their residence, if effective use is to be made of this daily demand for services. Consequently these "lower order" services find it profitable to operate within a small tributary area. Services required less frequently are confined to larger centres, which are able to provide them with the volume of business required to operate profitably. Less frequently demanded or "higher order services", cannot be provided at smaller or "lower order" centres mainly because it is uneconomical. The higher operational costs related to higher order services demand a greater number of potential customers in order to compensate for the demand which is less regular. This indicates, that as available services become more

1

John H. Warkentin, The Mennonite Settlements of Southern Manitoba,
PhD. Thesis, U. of Toronto, 1960, p.583.

diversified we leave the realm of lower order centres and go up the ladder to higher order centres. The status of centres can be determined most satisfactorily by "the diversity of service units", for in addition to the widespread availability of data "it is a basis which deals directly with the physical manifestations of trade rather than with data which are merely symptomatic of it".²

The Classification of Centres:

For the purpose of this study, nine major functional divisions are defined

- | | |
|--------------------------------------|---------------------------------|
| 1. Transportation and Communications | 6. Professional |
| 2. Wholesale Trade | 7. Trades and Personal Services |
| 3. Retail Trade | 8. Public Services |
| 4. Banking, Finance, Business | 9. Recreational Services |
| 5. Manufacturing | |

These nine major divisions are subdivided into functional groups for example, under

1. Transportation and Communications:

- | | | |
|----------|--------------------|------|
| Air | Trucking | Mail |
| Railroad | Telecommunications | |

3. Retail Trade:

- | | | |
|---------------------------|------------------------------|------|
| General Merchandise | Auto Group | Food |
| Farm Equipment and Supply | Building Material and Supply | |

...

These functional groups are further subdivided into functional or service units for example under General Merchandise (of the Retail Trade-functional division) General Store Dry Goods Store

²

Royal Commission on Agriculture and Rural Life, "Service Centers", Report No. 12, Submitted to the Government of Saskatchewan, 1957, p. 29



(For the purpose of this study the terms "service units" and "functional units" are synonymous).

The service units of all the centres in the study area are examined, and by a process of induction four major ranks of service centres become apparent 1. towns 2. greater villages 3. villages 4. hamlets (these are defined later in this chapter). It must be mentioned, that a distinctive central place of lower status than a hamlet was an outstanding feature throughout the Interlake. In some instances this small settlement is a new or decaying local centre, a stopping place along the main highways catering to the transient car population, or a centre which does most of its business during the short summer period (this type is generally associated with beach facilities).

The Method of Classification

Of fifty one centres analyzed in the Interlake, six have more than 600 people, while thirty three have less than 200. Although population is not the primary basis by which these centres are classified, the advantage of this measure, suggested earlier in the chapter, is that it incorporates all the diverse elements in a settlement to a single common denominator. Based solely on population it is apparent that if there are to be levels of a hierarchy of service centres, the majority of centres will fall into the lower rather than the higher category. Population although inadequate as the sole factor for determining rank is useful as a supplementary source of information. Ten weeks of work in the field, also revealed that what the layman will call a hamlet is much more prevalent than what he will be tempted to call a village or town. The four fold classification of town, greater village³, village and hamlet, was not however determined in such a haphazard fashion but rather through a long intensive inductive process.

³ Greater village - The idea of a "greater village" a service centre of higher rank than a village yet not a town, was taken from, Royal Commission on Agriculture and Rural Life, "Service Centers", Report No. 12, submitted to the Government of Saskatchewan, 1957, pp.45-52. The author refers to a "greater town" as a centre "with roots in the urban population itself".

"All of the town-ranking central functions are more strongly represented than in the lower-ranking centers and there are numerous additional activities".

The service units of all the settlements were recorded, and the functional criteria of each of the four classes were determined empirically. The types of service units designated as typical in each class of service centres, are those which occur in more than 75% of all the centres in that class.

The functional units which are found to be distinctive criteria of each successively higher level in the hierarchy of settlements are those ubiquitous types appearing in addition to the ubiquitous types in lower levels.⁴

It is the combination, or association, of distinctive sets of functional units in trade centers which determine their functional status.⁵

The types of service units designated as common, are those which appear in more than 25% of all the centres in that class. All other service units, those appearing in less than 25% of all the centres in that class, are listed as uncommon.

In addition to these three types of service units, designated as typical, common and uncommon, for the purpose of determining the functional status of centres, all service units are further classified into four categories (category 1 - primary, category 2 - secondary, category 3 - tertiary, category 4 - quaternary service units) with the same end in view, that is the determining of the functional status of centres, but only as a means of supplementing the first three types, typical, common, and uncommon service units.

These four categories of service units are based on a number of factors, first is the thesis of Hans Carol,⁶ that "A central place serves the population of its own settlement, - the internal service area (internes Ergänzungsgebiet), and the area adjoining its settlement, the external service area or unland (externes Ergänzungsgebiet, Umland)". He further states that

⁴ J.E. Brush, The Trade Centers of South-Western Wisconsin: an Analysis of Function and Location, Ph.D. Thesis, U. of Wisconsin, 1952, pp. 27-28.

⁵ Ibid., p. 28

⁶ Hans Carol, "The Hierarchy of Central Functions within the City," A.A.A.G. 50: p.420, December, 1960

"the central place can be the location of a single central function or as the term is generally interpreted the location of a group of central functions".⁷ E. Van Cleef describes the umland (or external service area) as, "The area contiguous to a trade area (extending to and including its suburbs or 'urbplets') whose total economic and cultural activities are essentially one⁸ with those of the primary center". Based on these well-defined assertions and from my work in the field, the four categories of service units were defined.

Category 1 or "primary" service units:

Category 1 refers to service units which serve customers from both the internal and external service areas. The location of "primary service units" is based principally on the owner's ability to select a central location which is convenient and accessible to the customers who demand the service he offers. This choice of location is a factor which can determine whether the business is to be a profitable enterprise in an environment in which the action of economic forces are continually striving towards economy in the number of service units.

The existence of demand for services in an area exerts economic pressure to service that demand, in other words to locate central services in such a manner that they will be accessible to residents of the entire area. Similarly, the economic forces which govern the supply of services (the characteristic sizes of economic retail units) will exert pressure to keep the number of centers (and thus the number of establishments) at the minimum required to service the demand.⁹

Category 2 or "secondary" service units:

These service units like those of category 1 serve the customers from both the internal and external service area. The existence of a demand (however small) for service units of category 2 can exert sufficient influence on administrative authorities to establish the service units where they will

7

Ibid.

8

E. VanCleaf, "Hinterland and Umiland", The Geographical Review, 31:p.408
April, 1941

⁹Royal Commission on Agriculture and Rural Life, Report No.12, "Service Centers", submitted to the Government of Saskatchewan, 1957, p.61.

TABLE 8

List of Primary Service Units - Category 1.

<p>I Freight Trucking Livestock Trucking Weekly Newspaper</p>	<p>IV Flour Feed Mill Bakery Creamery Wood Work Shop Saw Milling Equipment</p>
<p>II Grain Buyer Egg Grading Station</p>	<p>V Medical Clinic Optometrist Veterinarian Physician Dentist Lawyer</p>
<p>III General Store Co-op Farmers' Supply Store Dry Good Store Filling Station Service Station Garage Auto Dealer Auto Body Shop Brake and Drum Tire Repair and Vulcanizing Shop Auto Wrecking Implement Dealer Fuel Dealer Lumber Yard Hardware Store Grocery Meat Market Super Market Locker Plant Confectionary Stand Coffee Shop Cafe or Restaurant Clothing Store Men's Clothing Store Women's & Children's Clothing Store Customer Tailor Shoe Store Furniture Store Appliance Store Drug Store Novelty and Gift Store Jewelry Store Liquor Store Second Hand Store Hatchery</p>	<p>VI Hotel Motel Blacksmith/Machine Shop/Welding Shop Shoemaker Upholstery and Furniture Repair Barber Beautician Laundry Laundromat Funeral Home Photographer Carpenter Painter and Decorator General Contractor, Road & Earth Moving, Building, Well-Drilling Plumbing and Heating Electrical Contractor</p> <p>VIII Winter, Summer, Sport Premises Arena Community Hall Golf Course Pool Room Bowling Alley Movie Theatre Membership Organizations</p> <p>IX Credit Union Bank Insurance Agents Loan and Credit Agents Real Estate Agents Public Accountants</p>

be accessible to the customers demanding them. The principal difference between category 1 and 2 is that of service units which are on the one hand set up and operated by private enterprise mainly for profit and therefore rigidly subject to the pressure of economic forces (category 1), and on the other hand service units set up by administrative authorities (eg. government) primarily for the benefit of the public (because of need) rather than for profit (category 2). Some of the service units listed under category 2 include the post office, school, hospital, R.C.M.P. Station, transformer station and municipal office.

Category 3 or tertiary service units:

These service units, such as local milk delivery, local taxicab service, water supply system, sewage disposal service and local constable, serve primarily the population of its own settlement, its internal service area.

Category 4 or quaternary service units:

Included under category 4, are those service units which come under the functional division of manufacturing, such as, feed mill, bakery, creamery, fish processing, woodworkshop, saw milling, and boat building.

Most of these service units also belong to the functional division of retail trade. For example, the bakery makes bakery products, but at the same time bakery products are also sold over the counter to customers (a retail trade transaction). Depending therefore on the specific function that a bakery performs it is possible to classify the service unit under either Category 1 or 4. Limestone processing at Stonewall, Inwood and Spearhill, Hosiery Mills Ltd. at Teulon and Shearmat Ltd. at Gimli, are three service units which do not fit clearly into any of the above four categories.

TABLE 8

List of Service Units- Categories - 2,3,4.

<u>Category 2.</u>	<u>Category 3.</u>	<u>Category 4.</u>
I Rural Telephone Exchange Local Dial System Post Office Railway Depot	I Local Milk Delivery Taxicab Service	IV Flour/Feed Mill Bakery Creamery
V Elementary School High School Hospital Health Unit Public Health Nurse Church	VII Water Supply System Sewage Disposal System Local Constable	Fish Processing and/or packing Woodwork Shop Saw Milling Equipment
VII Agricultural Representative R.M. Office R.C.M.P. Station Electric Transformer Station Village Office Town Office		

The determination of the ranks of centres:

The break points between the ranks of service centres were determined primarily on the data collected from the field study, plus reference to similar investigations of trading centres carried out by Peter Woroby, Glen T. Trewartha and

10

John E. Brush.

The Hamlet:

The hamlet is of the lowest order in the hierarchy of service centres in the Interlake Region. Within its small community, the position it occupies is convenient and accessible. Its chief function is the provision of the day to day needs of its adjacent rural population. There must be a settlement where there is a post office, school and general store, a central location where farmers gather to gossip, argue or discuss the current issues. This is the role that the hamlet which survives today plays within its small community.

The minimum requirements are as follows:

- (a) The settlement must exhibit a distinct clustering of residences, business and other buildings. At least six actively used buildings within a $\frac{1}{2}$ mile radius from the centre of the settlement.
- (b) At least five and not more than ten active service units. Between this range 5-10 service units, there must be at least three service units considered typical. One typical service unit must be from category 1, the other two may be from either category 1 or 2, or both.
- (c) At least 15 inhabitants ranging up to as much as 100.

The first pre-requisite, six actively used buildings within a $\frac{1}{2}$ mile radius from the centre suggest a distinct clustering of residences and/or businesses, an actual settlement.

10

Peter Woroby, Functional Relationship between Farm Population and Service Centers in S.W. Saskatchewan, MSc. Thesis, U. of Manitoba, 1957, pp. 217-225.

John E. Brush, The Trade Centers of South-Western Wisconsin: An Analysis of Function and Location, PhD. Thesis, U. of Wisconsin, 1952, pp. 20-41.

Glenn T. Trewartha, "The Unincorporated Hamlet: One Element of the American Settlement Fabric", A.A.A.G., XXXIII: March 1943, pp. 32-81.

"The spacing of buildings in a hamlet must be such as to give an appearance of compactness exceeding that of ordinary farmstead spacing."¹¹ This idea is Trewartha's, yet from observations made during the field study it was found that at the smallest service centres six buildings within a $\frac{1}{4}$ mile radius from the general store (which was usually situated at the centre of the settlement), gave the necessary appearance of "compactness" to differentiate the settlement from a roadside location of a store, garage and residence.

The second requirement demands at least five and not more than ten active service units. J.E. Brush adheres to Trewartha's minimal requirement of at least one but not more than nine retail and service units, while Woroby's range of service units for the hamlet vary from two to ten.

Here I did not find it expedient to follow any of these authorities, rather, all settlements which fulfilled the idea of "compactness" as outlined in the first requirement, were found to have a general store, post office, and elementary school, plus at least two other service units, such as a garage, church, hall, fuel dealer, grain elevator, hotel or coffee shop. When however the service units of a service centre exceed ten, in my opinion, the settlement is no longer a hamlet as its morphology changes, and side streets with residential houses begin to appear, a feature which is characteristic of the village.

The third requirement is directly related to the first. Fifteen inhabitants were obtained from the most trustworthy evidence in the field, that is from actual countings at three of the smallest centres.¹² It was found that of the six actively used buildings, at least five are residences, and on an average each residence houses three persons. It is quite common in rural settlements of the size of a hamlet that a business place e.g., general store adjoins a residence and consequently are in the same structure, hence five residences with three person per house gives us the minimum population figure of 15.

11

Glen T. Trewartha, op.cit., p.37

12

Hilbre, Faulkner, Meleb.

The population of 100 as the maximum for hamlets is not a rigid number. Yet it has been adopted for the following reasons:

1. There is a direct relationship between population and diversity of service units, and it was found that when population reaches about 100, the minimum service unit requirements for a village are also reached.
2. The population of 100 further separates settlements where post offices, general stores, elementary schools, are typical (a hamlet), and where freight trucking, grain elevators, implement dealers, high schools, hotels, and pool rooms, are common (a village).
3. A last but important observation was, that by evidence obtained from the field and the 1961 Dominion Bureau of Statistics Census, the population of the largest hamlets rarely exceeds 100.

The minimum and maximum population requirements therefore range from 15 up to as much as 100.

The Village:

The village is one stage up the hierarchy of service centres. The maximum requirements of the hamlet automatically become the minimum of the village. In addition to the post office, general store and elementary school found typically in hamlets, auto garages, coffee shops, churches and community halls also appear typical of villages. Many other services which are altogether non-existent in the hamlet are now common in the village, for example, freight trucking, railroad depots, implement dealers, high schools and barber shops.

The criteria of the village are as follows:

- (a) The number of actively used buildings range from 25 to as high as 75. The one main street of the hamlet is still an outstanding feature, but one or two side streets with residential houses begin to appear.
- (b) The total number of service units range from 11 to 25. Of this minimum number of 11 service units, there must be at least 2 which are typical

and 2 others which are common to villages. The typical and common service units must be from either category 1 or 2 or from both.

(c) There is no strict population unit for the village, but all service centres classed as villages have population figures varying from 54 to 300.

Requisites (a) and (b) follow Woroby's criteria for the village closely. Within the range of 11 to 25 service units, there are 16 service centres which differ from each other by not more than one or a few diverse service units (e.g. Clandeboye 11, Petersfield 12, Chatfield 13, Poplarfield 14, Steeprock 18 and so on). There is however a marked difference, an actual gap, in the continuity of diverse service units between Inwood (23 service units) the largest village, and Moosehorn (31 service units) the smallest greater village. In other words, there is a distinct cluster of service centres within the range of 11-23 diverse service units, and somewhere between 23 (Inwood) and 31 (Moosehorn), the breakpoint between a village and greater village can be appropriately determined. This reasoning is further emphasized by the fact that at Moosehorn, the one main street as the focus of all economic and cultural activity, typical of the hamlet and village, is no longer the rule. The high school, church, hotel beer parlour, lumber yard and coffee shop appear on side streets. In addition there is a well defined residential sector distinct from the commercial core of the service centre. Woroby's maximum limit of 25 service units for the village appears to be as good a choice as any other for the Interlake, hence his range of 11 to 25 service units is followed.

From actual checkings at Balmoral (12 service units), Chatfield (13 service units), Clandeboye (11 service units), and Oak Point (12 service units),

service centres which barely meet the minimum number of diverse service units to be a village, and at Inwood (23 service units), it was found that the total number of actively used buildings also were within the range of 25-75 as suggested by Woroby. Woroby also proposes a population range of 100-300. Other than at Fraserwood (478 people), all the other villages fall within this range as suggested by him.

Professional, retail and trades and personal service units are not well developed at the village level. Exceptions include, a grocery store at St. Laurent, a physician at Woodlands, a beautician at Inwood, a movie theatre at Hodgson and a credit union at Poplarfield.

The Greater Village:

There are seven greater villages, Moosehorn, Ericksdale, Lundar, Riverton, Fisher Branch, Winnipeg Beach and Ashern. Because of the great diversity of their service units, they are more than a typical village, but they also have not yet attained the status of a town. The definition of a greater village as adhered to for the present analysis is as follows:

- (a) In the greater village a distinct business core develops, a feature lacking in all hamlets and only in the initial stages in the village. In addition, there is no longer one main street as the focus of all economic and cultural activity, as side streets begin to appear and a well-defined residential quarter sets itself apart from the commercial sector of the centre.
- (b) The diverse service units range from 26 to 50. There are at least ten service units typical, and ten others which are common to greater villages. These 20 service units are from either or both of the first two categories. The service units of Category 3, such as taxicab, local constable, and water supply system, which serve primarily the internal service area begin to appear. Diversity of service units and

morphology are the most appropriate means of determining a greater village, as the population figures range from 190 at Ericksdale to 808 at Riverton.

The requirement of 26 to 50 diverse service units is one of the criteria accepted by Woroby for determining the rank of a town. This has not been accepted a priori, but, as in the case of the requisites of the village, the range of 26 to 50 service units, has also been verified closely. The seven greater villages range in diverse service units from 31 (Moosehorn) to 46 (Ashern). The four largest centres (towns) have a range of diverse service units varying from 63 (Teulon) to 73 (Gimli). There is a break or gap between these two groups of service centres of 17 service units, clearly indicative of two distinct ranks. Further, Teulon, Arborg, Stonewall and Gimli are fully developed service centres with highly specialized retail and professional services which give them marked superiority over all other centres. Ashern with 46 service units is obviously not of equal status as centres with 62 and more service units. On this basis Woroby's range of 26-50 diverse service units is accepted.

This level of service centre higher than the village and the hamlet is revealed by a number of factors:

1. The greater strength or larger number of lower ranking service units. There are always two general stores and as many as five at Ashern and Riverton. Every centre has more than three garages with six or more at Riverton, Ashern and Winnipeg Beach. The number of churches range from two to six per centre, while implement dealers range from two to five. The high schools are larger, accomodating a much larger enrolment, with more rooms and additional teachers.
2. There are many more service units both typical (20) and common (28) of greater villages than there are for the village (Refer Table 13). What is significant however, is that a number of service units almost non-existent at the village level are typical and common of greater villages.

INTERLAKE REGION

DISTRIBUTION OF AGGLOMERATED SETTLEMENTS

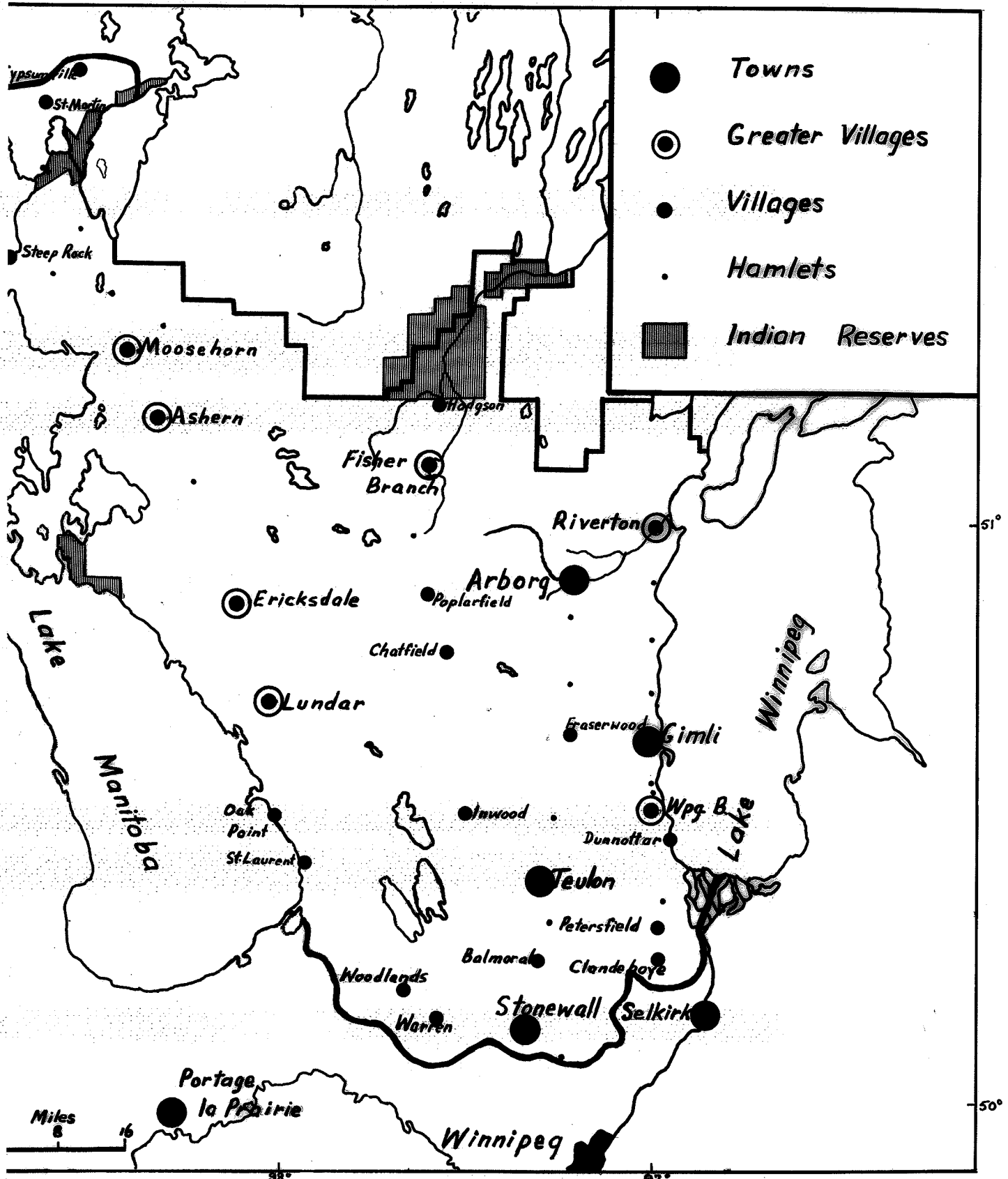


Figure 8.

Examples of such service units are:

typical - lumber yard, locker plant, appliance store, arena.

common - Co-op farmers' supply store, hardware store, meat market, clothing store, drug store, liquor store, hospital, lawyer, funeral home, bank.

3. The greater village can be considered an immature town, for service units which are characteristic of towns begin to appear, making the greater village stand out clearly at a higher level than the village. Examples of service units characteristic of towns which begin to appear in the greater village are taxicab, egg grading station, bakery, painter and decorator, bowling alley and supermarket.

The Town:

The highest level of service centres in the Interlake Region is composed of towns. There are four towns in the present analysis - Teulon, Arborg, Stonewall and Gimli, with population figures varying from 749 at Teulon to 1841 at Gimli. The criteria for determining towns are at least 51 service units of which 20 are typical of towns.

Towns are fully developed local service centres. They provide all the services available at the hamlet, village and greater village level plus at least 20 additional service units which are typical of towns. These additional service units differentiate the town from and set it above the level of the other lower order centres.

Towns are distinguished from greater villages in almost all the functional divisions. In transportation and communications, local newspapers and local milk delivery appear as service units. In retail trade, there are specialized lines of commodities and larger stocks of goods available. There is the jewelry store, hatchery, family shoe store, and a list of more specialized auto service units such as brake and drum, tire shop, auto body shop and auto wrecking, services which are not available at any of the lower centres.

In the professional field, there is a physician, hospital, dentist, lawyer, optometrist at every town, with a medical clinic at Gimli and two veterinarians at Stonewall.

J.E. Brush has suggested that:

It is the grouping of specialized retail stores and professional services in these centers that gives the towns their superiority to villages as trade centers.¹³

and further that:

The multiplicity of functions that give towns distinction as trade centers is to be attributed to four main causes. First, the mere fact of aggregation of people, forming large local markets, facilitates the development of certain specialized types of retail goods, personnel services and recreational facilities related directly to the concentration of town dwellers and not maintained in smaller centers. . . .

Second, the larger trade areas, combined with their larger local markets, enable towns to develop additional types of retail trade and services to those in smaller centers, with their smaller trade areas. . . .

Third, the larger farm market of towns enable them to offer goods and services solely for farmers that are not obtainable in smaller centers. . . .

Fourth, the towns attract commercial travellers and develop wholesale distribution because of their concentration of business and population.¹⁴

Certain service units for example, meat market, bakery, (both food speciality shops) local milk delivery, taxicab, laundromat, and laundry, found in the town are directly related to the agglomeration of dwellers in the town. Population agglomeration also demands public services and utilities as water supply system, town office, local constable and transformer stations. A strong case can be made, that to a considerable degree, the above mentioned service units can be attributed to the mere fact of aggregation of people in towns.

The larger trade areas of towns, the external trade areas, combined with their larger local markets, the internal trade areas, affect nearly all the service units of towns. Service units which cannot be developed fully in

¹³ J.E. Brush, The Trade Centers of South Western Wisconsin: An Analysis of Function and Location, Ph.D. Thesis, U.of Wisconsin, 1952, p.36.

¹⁴ J.E. Brush, "The Hierarchy of Central Places in South Western Wisconsin", The Geographical Review, 43: July, 1953, pp. 387-390.

lower order centres grow up in towns because of the opportunity to tap the trade both of the large internal and external service areas. The most appropriate service units in this category are the custom tailor, family shoe store, man's clothing store, liquor store, jewelry store, hatchery, supermarket, brake and drum, auto body shop, tire shop and auto wrecking - all from the retail group; the woodworkshop, bakery, paper honeycomb factory, and hosiery mill from the manufacturing group; a medical clinic, health units, optometrists from the professional group, and upholstery and furniture repairs, painting and decorating, and a credit agent.

There is a third group of service units which, mainly because of the larger farm markets of towns, enable towns to offer services solely for farmers which are not obtainable in a smaller centre. This is not a rigid rule as some patronage is always obtained from the townsfolk. In this group is the veterinarian, agricultural representative, and the feed mill, service units which are all directly related to the farm population. J.E. Brush states that:

"travelling salesmen make frequent visits to towns because of the concentration of retail business. Hotels, restaurants, and passenger terminals are maintained in towns because of the number of transients. Thus towns display many of the features of economic specialization that are considered to be typically urban in the U.S." 15

This large agglomeration of people locally, plus the large farm market caused by a large trade area bring about a demand for additional specialized services which cannot normally survive at lower order centres. It is this group of specialized service units in these centres that makes the town stand out as the highest functional class of service centre in the Interlake region.

15

J.E. Brush, "The Hierarchy of Central Places in South Western Wisconsin," The Geographical Review, 43: p.390, July, 1953.

INTERLAKE REGION

MUNICIPALITIES & RAILROADS

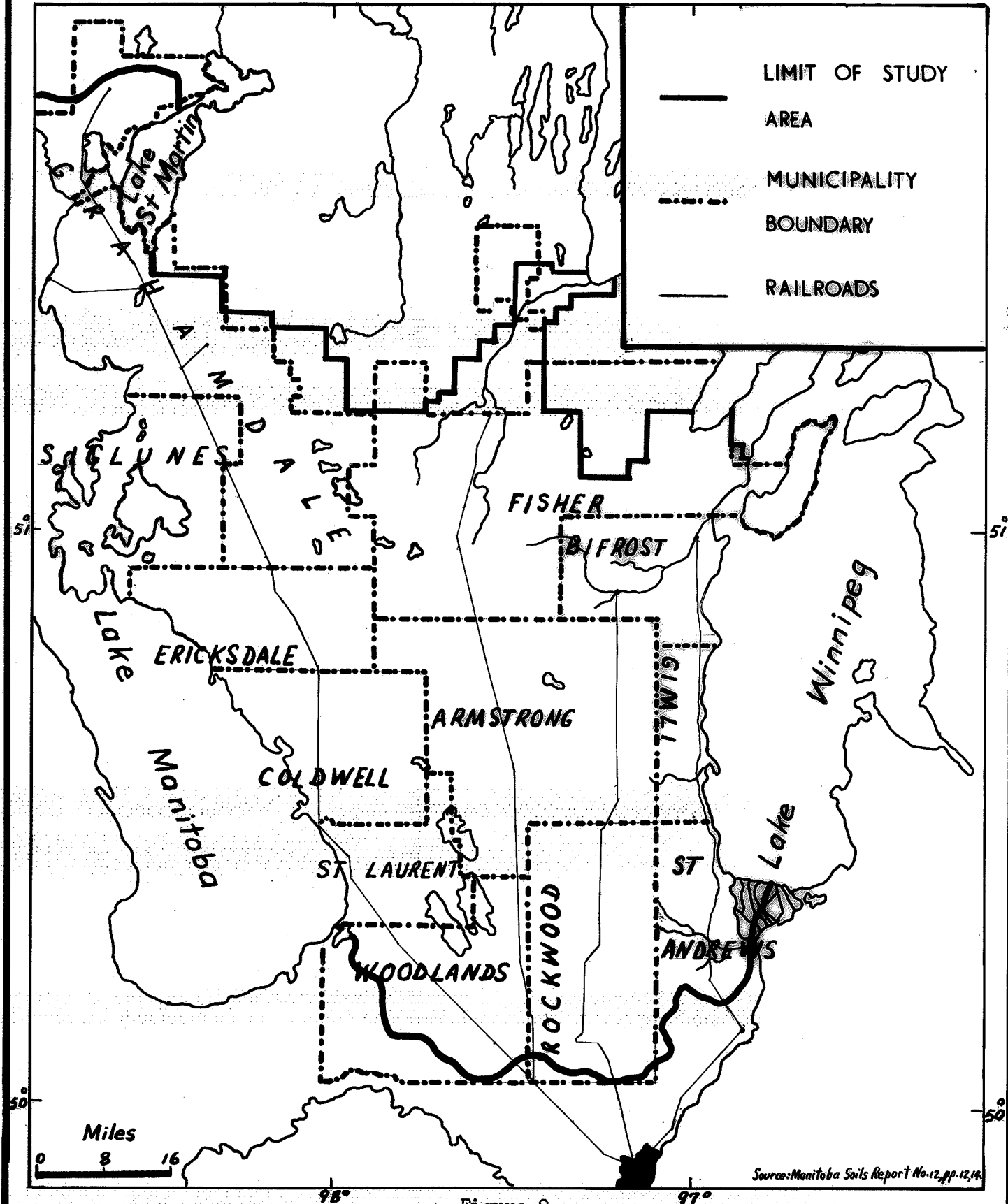


Figure 9.

TABLE 10

SUMMARY OF THE CLASSIFICATION OF SERVICE CENTRES

Rank of Service Centre	Diversity of Service Units	Description of Service Units	Population	Dwellings
HAMLET	5 - 10	At least 3 typical service units At least 1 typical service unit from category I At least 2 typical service units from category 1 or 2	15 to 100	At least 6 actively used buildings in $\frac{1}{4}$ mile radius from the centre of the settlement.
VILLAGE	11 - 25	At least 2 service units typical of villages At least 2 service units common of villages The typical and common service units must be from category 1 or 2 or both	100 to 300	The development of a distinct business core. Two or three side streets with resid. begin to appear. 25-75 actively used buildings
GREATER VILLAGE	26 - 50	At least 10 service units typical of greater villages. At least 10 service units common of greater villages The typical & common service units must be from either category 1 or 2 or both	-	There is a resid. sector distinct from business core.
TOWN	51 and over	At least 20 service units typical of towns Service units of category 3 are found mainly in towns.		

TABLE 11
Service Units of Hamlets

<u>Divisions</u>	<u>Groups</u>	<u>Typical Units</u>	<u>Common Units</u>	<u>Uncommon</u>
I Transportation & Communications:	Mail Telecommuni- cation	Post Office		Rural Telephone Exchange
II Wholesale Trade:	Farm Products			Grain Elevator
III Retail Trade:	General Merchandise Auto Group Farm Equip.& Supply Eating & Drinking Places	General Store	Garage Fuel Dealer	Coffee Shop
IV Manufacturing:	Wood Products Limestone Prod.			Saw Milling Equip. Limestone Processing
V Professional:	Educational Religious Health	Elementary School Church		Public Health Nurse
VI Trades & Personal Services:	Lodging Repair Contract Const.			Hotel Machine Shop Shoemaker Road Contractor
VII Public Services:	Utilities Local Gov't.			Transformer Stn. R.M. Office
VIII Recreational Facilities:	Recreational		Beach facilities Community Hall	Golf Course Pool Room Winter Sport Premises

TABLE 12
SERVICE UNITS OF VILLAGES

<u>Divisions</u>	<u>Groups</u>	<u>Typical Units</u>	<u>Common Units</u>	<u>Uncommon</u>
I Transportation & Communications:	Trucking Railroad		Freight Trucking Railroad Depot Telegraph Service Rural Telephone Exchange Local Dial System	Livestock Trk.
Local Passenger Service				Taxicab Srv.
II Wholesale Trade:	Farm Products		Grain Elevator	
III Retail Trade:	General Merch. Auto Group Farm Equip. & Supply Food Eating & Drinking Places Building Mtls.	Garage Coffee Shop	Implement Dealer Fuel Dealer	Grocery Confectionery Hardware Store
IV Manufacturing:	Wood Products Limestone Prod. Food Products		Saw Milling Equip.	Limestone processing/quarrying Creamery Fish Processing
V Professional:	Educational Religious Health	Church	High Schools	Physician Public Health Nurse
VI Trades & Personal Services:	Lodging Repair Contract Construction Personal		Hotel Barber	Motel Blacksmith/ Welding Shop Road Contractor Well Drilling Beautician
VII Public Services:	Utilities Local Gov't. Public Safety		Transformer Stn. R.M. Office	R.C.M.P.
VIII Recreational Facilities:	Recreational Membership	Community Halls	Winter Sport Premises, Beach Facilities, Pool Room, Summer Sport Premises	Movie Theatre Membership Organizations
IX Banking, Finance, Business:	Banking Insurance Real Estate		Insurance Agent	Credit Union Real Estate

TABLE 13

Service Units of Greater Villages

<u>Divisions</u>	<u>Groups</u>	<u>Typical Units</u>	<u>Common Units</u>	<u>Uncommon</u>
I Transportation & Communications:	Trucking	Freight Trucking		
	Telecommuni- cation		Rural Telephone Exchange Local Dial System	
	Railroad	Railway Depot & Telegraph Serv.		
	Local Passen- ger Service			Taxicab
II Wholesale Trade:	Farm Products		Grain Buyers	Egg Grading Stn.
III Retail Trade:	General Merch.		Co-op Farmers' Supply Store Filling Station	Service Stn.
	Auto Group			
	Farm Equip.& Implement Supply Dealer			
	Building Mtl. & Supply	Lumber Yard	Hardware Store	
	Food	Locker Plant	Grocery, Meat Mkt.	Super Mkt.
	Eating & Drink- ing Places	Cafe		
	Apparel & Access.		Clothing Store Women's Clothing Store	Custom Tailor
	Home Accomodations & Furnishings	Appliance Store		Furniture Store
	Miscellaneous Retail Store		Drug Store Liquor Store	Novelty Store
	IV Manufacturing:	Wood Products		
Food Products		Creamery		
V Professional:	Educational Health	High Schools	Physician Hospital Lawyer	Public Health Nurse
	Legal			
VI Trades & Personal:	Lodging	Hotel		Motel
	Repair Personal	Blacksmith Barber	Shoemaker Beautician Funeral Home Photographer	
	Contract Const.		Road Building Contractor Plumbing&Heating	Painter Decor. Building Contr
VII Public Services:	Utilities Local Gov't.	Transformer Stn.	R.M. Office	Water Sup. Sys. Village Office Town Office
	Public Safety Provincial Gov't.		R.C.M.P. Stn. Agricultural Representative	Local Constable

(continued on next page)

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TABLE 13 (continued)

<u>Divisions</u>	<u>Groups</u>	<u>Typical Units</u>	<u>Common Units</u>	<u>Uncommon</u>
VIII Recreational Facilities:	Recreational Facilities	Winter Sport Premises Summer Sport Premises Arena Pool Room	Beach Facilities Movie Theatre	Golf Course Bowling Alley
	Membership Organizations	Membership Organizations		
IX Banking, Finance Business:	Banking	Insurance Agent Insurance Agents Real Estate	Bank Real Estate Agent	Credit Union

TABLE 14
SERVICE UNITS OF TOWNS

<u>Divisions</u>	<u>Groups</u>	<u>Typical Units</u>	<u>Common Units</u>	<u>Uncommon</u>	
I Transportation & Communications:	Trucking		Local Milk Delivery		
	Telecommuni- cation	Rural Telephone Exchange		Local Dial System	
	Local Passenger Service		Taxicab		
	Printing & Publishing		Local Newspaper		
II Wholesale Trade:	Farm Products	Grain Buyers	Egg Grading Stn.		
III Retail Trade:	General Merch.	Co-op Farmers' Supply Store	Dry Goods Store		
	Auto Group		Service Stn.	Auto Dealer Brake & Drum Auto Body Sh Tire Shop Super Mkt.	
	Food	Grocery Meat Market			
	Building Material and Supply	Hardware Store			
	Apparel and Accessories	Women's Clothing Store		Men's Cloth. Store Custom Tail. Family Shoe Store	
	Home Accomodation & Furnishings		Furniture Store		
	Miscellaneous Retail Stores	Drug Store Hatchery	Jewelry Store	Liquor Store Second Hand Store	
	IV Manufacturing:	Wood Products			Woodwork Sh. Paper Honey Comb Limestone Pro. Fish proc.
		Limestone Products			
		Food Products	Bakery	Feed Mill Creamery Hosiery Mills	
	Textiles				
V Professional:	Health	Physician Optometrist Hospital Dentist	Health Unit	Medical Cl. Public Health Nurse	
	Legal	Lawyer			
	Agricultural			Veterinarian	
VI Trades & Personal Services:	Lodging			Motel	
	Repair	Shoemaker Upholstery & Furniture			
	Personal	Beautician Funeral Home		Laundry Laundromat	
	Contract Const.	Road Building Plumbing & Heating	Con. Painter & Decorator	Carpenter Bldg. Contr. Electrical Contr.	

(continued on next page)

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TABLE 14 (continued)

<u>Divisions</u>	<u>Groups</u>	<u>Typical Units</u>	<u>Common Units</u>	<u>Uncommon</u>
VII Public Services:	Utilities			Water Supply System
	Provincial Gov't.	Agricultural Rep.		
	Local Gov't.	R.M. Office	Town Office	Village Off.
	Public Safety	R.C.M.P. Stn.		
VIII Recreational Facilities:	Recreational	Movie Theatre	Arena	Golf Course
			Beach	Bowling
			Facilities	Alley
IX Banking, Finance, business:	Banking	Bank		
		Credit Union		
	Real Estate	Real Estate Agents		Credit Ag.
	Credit Agency			
	Business Services		Public Accountant	

TABLE 15
ASSOCIATED SERVICE UNITS IN 4 CLASSES OF SERVICE CENTRES
Service Units - Typical In:

<u>Functional Divisions</u>	<u>Hamlets</u>	<u>Villages</u>	<u>Greater Villages</u>	<u>Towns</u>
I Transportation & Communications:	Post Office		Freight Trucking Railroad Depot Telegraph Service	Rural Telephone Exchange
II Wholesale:				Grain Buyers (Elevators)
III Retail Trade:	General Store	Garage Coffee Shop	Implement Dealer Fuel Dealer Lumber Yard Locker Plant Cafe/Restaurant Appliance Store	Co-op Farmer's Supply Store Grocery Meat Market Hardware Store Women's Clothing Store Drug Store Hatchery
IV Manufacturing:			Creamery	Bakery
V Professional & Community:	Elementary School	Church	High Schools	Physician Hospital Dentist Lawyer Optometrist
VI Trades & Personal Services:			Hotel Blacksmith Barber	Shoemaker Upholstery & Furniture Rep. Beautician Funeral Home Road Building Contractor Plumbing & Heating
VII Public Services:			Transformer Stns.	Agricultural Rep. R.M. Office R.C.M.P. Stn.
VIII Recreational Facilities:		Community Hall	Winter Sport Premises Summer Sport Premises Arena Pool Room Membership Organization	Movie-Theatre
IX Banking:			Insurance Agents	Bank Credit Union Real Estate Agents

TABLE 16

RANK OF SERVICE CENTRES

Rank	Service Centres	Service Units		Popula- tion	Rank	Service Centres	Service Units		Popula- tion
		Diversity	Total				Diversity	Total	
T O W N S	Gimli	73	123	1841		Hnausa	10	11	102
	Stonewall	68	123	1420		Stony Mtn.	9	14	1130
	Arborg	63	106	811		Grahamdale	9	11	44
	Teulon	63	98	749		Arnes	9	11	
						Komarno	8	14	101
G R E A V E L E R L A G E S	Ashern	46	82	374		Gunton	8	9	88
	Winnipeg Beach	46	76	807		Netley	7	9	
	Fisher Branch	45	67	369		Camp Morton	7	8	
	Riverton	43	65	808	H A M L E T S	Camper	7	8	
	Lundar	40	54	713		Sandy Hook	6	7	93
	Ericksdale	35	43	242		Broad Valley	6	7	49
	Moosehorn	31	45	208		Husavick	6	6	
					Spearhill	6	6	75	
					Meleb	5	8		
	Inwood	23	28	183		Silver	5	6	
	Gypsumville	22	30	235		Faulkner	5	6	
	Warren	20	26	241		Hilbre	5	5	
	St. Laurent	19	30	869		Fairford	5	5	37
V I L L A G E S	Hodgson	18	24	222		Malonton	4	6	
	Steepröck	18	19	168		Rembrandt	4	5	
	Fraserwood	14	21	78		Lake Francis	4	4	
	Poplarfield	14	19	142		Deerhorn	3	3	27
	Woodlands	13	17	124		Clarkleigh	3	3	
	Oak Point	13	14	238		Mulvihill	3	3	13
	Chatfield	13	14	158					
Balmoral	12	16	103						

(continued on next page)

TABLE 16

RANK OF SERVICE CENTRES

Rank	Service Centres	Service Units		Popula- tion
		Diversity	Total	
V I L L A G E S	St. Martin	12	15	23
	Petersfield	12	15	157
	Dumottar	11	18	232
	Glandeboye	11	13	119

CHAPTER V
AN ANALYSIS OF THE FUNCTIONS OF THE SERVICE CENTRES

To understand the nature of the functional hierarchy of service centres in the Interlake it is necessary to analyze in detail the various types of service or functional units found in the centres. Attention is directed to the frequency of occurrence of each type of service unit and to qualitative as well as quantitative differences in the units, in relation to the rank of service centre in which each type appears. This analysis of service units aids in establishing the relationship which exists between the small and larger service centres.

In this chapter, the service units referred to are designated as typical, common or uncommon (as outlined in the preceding chapter).¹ Typical refers to those service units which occur in more than 75% of all the centres in that functional rank. Common refers to those which appear in more than 25% of all centres in that class. All other service units (those appearing in less than 25% of all the centres in that class) are listed as uncommon. In order to determine the frequency of occurrence of each type of service unit we must keep in mind that service units which are typical of hamlets (the lowest rank of service centre) will automatically be typical of all centres of a higher rank (village, greater village, town). In other words, the service units which are typical, common and uncommon of towns, the highest level in the hierarchy of centres, include all those service units that are typical, common and uncommon of towns, in addition to all other service units, typical, common and uncommon of centres of a lower status (greater villages, villages, hamlets).

This frequency of occurrence establishes a relationship between the service units provided at higher and lower order centres and confirms one of Christaller's basic concepts as indicated below:

¹See Glossary for definitions of "Typical service units", "common service units" and "uncommon service units".

Lower order places provide only low order goods to low order tributary areas; these low order goods are generally necessities requiring frequent purchasing with little consumer travel. Moreover low order goods are provided by establishments with relatively low conditions of entry. Conversely, high order places provide not only low order goods, but also high order goods sold by high order establishments with greater conditions of entry. These high order goods are generally "shopping goods" for which the consumer is willing to travel longer distances, although less frequently. The higher the order of goods provided, the fewer are the establishments providing them, the greater the conditions of entry and trade areas of the establishments, and the fewer and more widely spaced are the towns in which the establishments are located. Ubiquity of types of business increases as their order diminishes. Because higher order places offer more shopping opportunities, their trade areas for low order goods are likely to be larger than those of low order places, since consumers have the opportunity to combine purposes on a single trip, and this acts like a price-reduction.

More specifically, central places fall into a hierarchy comprising discrete groups of centers. Centers of each higher order group perform all the functions of lower order centers plus a group of central functions that differentiates them from and sets them above the lower order.²

Transportation and Communications

This functional division includes six functional groups: trucking, mail, railroad, telecommunications, passenger service, printing and publishing.

Trucking:

Freight Trucking - is a service unit "common" in villages and "typical" of greater villages and towns.

The service area and terminals of each trucking enterprise is specified in the licence issued by the provincial government. This type of trucking involves the movement of ordinary kinds of merchandise- household goods, furniture, and other types of dry goods chiefly between Winnipeg, outside the study area, and the service centres within the area specified by the trucker's licence. Proprietors of retail establishments who need regular

² Brian J.L. Berry, Allen Pred, - Central Place Studies - A Bibliography of Theory and Applications, p.3-4.

shipments of goods from wholesalers in the city are the main customers of this type of service. No hamlet in the study area has a transfer service of its own, owing mainly to the fact that the volume of business does not justify the establishment of such an enterprise locally. All hamlets are located on or near trucking routes and are provided with regular trucking service from the "transfers" of adjacent towns or villages.

Separate licences are issued to truckers who handle only livestock shipments. As in the case of freight trucking, the service areas and terminals of these truckers are also stipulated by licence. Goods handled must be exclusively livestock and/or the personal freight of the licensed trucker.

Local Milk delivery is a service common only to towns. Only a large concentration of population can facilitate profitably a house to house delivery of milk products, for example, at Stonewall.

Mail:

The Post Office, is found in every hamlet, and consequently, is typical of all the service centres analyzed. There is only one type of postal service available, that which involves the sorting of mail into window boxes located at the post office which the addressee must visit. No postman or house to house delivery of mail service is provided. Two types of post office (not based on service available) may be distinguished in the Interlake area.

1. A post office - located at a private home or a general store, usually at a central location in the community.

N.B. It is recommended that the reader consult Table 24 (in the back pocket), while reading this section.

Table 24 differentiates between functional division, functional group and service unit in a tabulated form, and indicates the frequency of occurrence of each type of service unit in relation to the rank of service centre in which each type appears.

2. A post office building, the premises of which are used exclusively for postal duties.

The post office building is found only in centres of a higher functional rank (greater villages and towns), which have large populations. The post office is one of the three typical elementary services provided at the hamlet level. It fulfils the important task of providing the population of the neighbourhood area with social and business contacts to the outside world, and enables the farming population to purchase by mail order from Eatons and Simpson Sears, dry goods, mainly household articles and clothing which are not carried at the local general stores.

Railroad:

Freight service is the only function of the railroads in the area. Much of the freight hauled is crushed or quarried stone (from Steeprock, Spearhill, Gypsumville), grain, some livestock, building materials, lumber, and heavy equipment (enroute to Grand Rapids or Radar Station site at St. Martin). All analyzed centres have rail connections with Winnipeg, but only at the towns and greater villages (also at four villages) are railway depots maintained (Refer Table 24).

The term railway depot is used here when a freight agent supervises the local demand for railway transportation. At all hamlets and villages where freight agents are not maintained, way-freight service is provided. Railway depots are typical in towns and greater villages, common in villages and absent in hamlets. The use of the railway service is not extensive. Freight cars do not run more than twice weekly and substantial losses are continually borne by the railway companies.

Telecommunication:

Telephone Service:- Telephone Exchanges are one of the widespread typical services of greater villages and towns, a common feature of villages and

³Based on an interview with the Sales Analyst (Regional Freight) C.N.R., at Winnipeg, October 1963.

uncommon in hamlets. The workings of the telephone system at present in the Interlake is very complicated, there is expectation however that in the near future all telephones will go on a dial system homed on the exchange at Selkirk.

At present there are five types of telephone service available.

1. Local Dial System:- This automatic exchange is referred to as a Community Dial Office (C.D.O.). There is no operator or attendant within the community, as all local calls are placed by dialing. The equipment of the C.D.O. is however homed on a larger exchange where the operator handles long distance calls.
2. The Magneto and 3. Common Battery are both referred to as rural telephone exchanges, as an operator at the exchange controls the placement of all calls (local and long distance).

Common Battery:- A large battery is located at the rural telephone exchange where the operator is located, while with the

Magneto, small batteries are located at each house with a telephone.

At smaller centres where private telephones are not provided, there is usually a toll station conveniently located at a public place homed on an exchange where an operator handles all calls. A radio network service operates for the Koostatak district considered a remote area of the Interlake.

Telegraph Service - is available wherever there is a railway depot. This service is little used, as practically all telecommunication service is now provided by telephone.

Passenger Service:

Passenger Bus Service:- Daily passenger bus service to and from Winnipeg is provided for all centres located either on or close to the main highways. Bus Stop stations are usually situated at central locations in the community at a bakery, general store or drug store.

Taxicab Service- This service is common only in towns where there is a local population large enough to make this undertaking profitable. Taxicabs however are usually operated on a part time basis at rush hours by persons who have an alternative source of income.

Printing and Publishing:

The publishing of a weekly newspaper is an important role common only to towns. The local newspaper is the advertising medium of the town. Its columns describe the business and social life of its own population and that of the surrounding area, so that many neighbouring villages and hamlets have their community activity reported in the weekly newspaper of the adjoining town. The circulation of a local weekly newspaper was found to be a fairly accurate means of delineating the zone of influence of a town. The variability of newspaper circulation seems to depend however not only upon the size and influence of the centre but also upon the editor's popularity. He is invariably an old resident of the town, familiar with local interests and problems, and highly respected.

There are only two local weekly newspapers in the Interlake, and not much rivalry between them for customers. The "Interlake News" at Arborg carries excellent coverage of all communities in the area extending from Hodgson to Gimli (north-east and central Interlake), while the "Stonewall Argus" covers the south-west and central Interlake from Stonewall to Ericksdale. Some rivalry for customers may exist in the central Interlake area around the Komarno-Fraserwood District as both editors claim subscribers in this vicinity. The published circulation of the "Interlake News" is 1,600 while the "Argus" editor claims 2,700 customers. It is worth mentioning that the daily papers from Winnipeg, are more widely circulated and read than the local weeklies of the Interlake.⁴

⁴Based on interviews conducted in the area.

A printing establishment is also owned by the proprietor of the "Stonewall Argus", while the printery for the "Interlake News" is located at Selkirk. Although printing is a separate service, it is not a characteristic town function. Apart from its association with the local newspaper, there does not seem to be sufficient commercial demand for it.

Wholesale Trade

The only type of wholesale trade carried on is the collection and shipment of agricultural commodities.

Farm Products:

Grain Buyers - The Interlake is not essentially a commercial grain growing area, as was indicated in Chapter III. The land is very largely marginal or sub marginal for agricultural activity with the better agricultural lands found around Arborg, Fisher Branch, Teulon and Warren districts. Ranching, livestock rearing and hay cultivation is more important in "the Interlake till plain area". All towns are located in good grain country, and so we find that grain elevators are typical of towns. They are common to greater villages, and villages and uncommon in hamlets. In some centres there are two or three grain buyers depending on the nature of the surrounding farm land, for example, Teulon (3), Arborg (2), Fisher Branch (2), Riverton (2).

Dealing in coal, fertilizers and feeds is frequently a sideline activity of elevator companies.

Livestock Buyer: Occasionally there is a buyer of cattle (usually a farmer) whose function on behalf of the packing company parallels that of the grain buyer. This depends on the nature of the surrounding town area. In the Ashern district where ranching is much more important than grain growing, the local Cattlemen's Association sponsors three or four cattle sales annually at the local corral.

Poultry Products Buyer: This service appears under the name Egg Grading Station. In addition to the sorting and grading of eggs, these stations also assemble and process poultry. Products are distributed to the stores (general or grocery) in the surrounding area or sent out to larger centres. This type of business is common to towns and uncommon in greater villages. Arborg, Teulon, Riverton are the three centres with egg grading stations, all closely related to grain growing areas, further exemplifying the argument put forward in Chapter III, that grain growing, livestock and poultry rearing activities are all conducted jointly in areas of good agricultural land.

Retail Trade

General Merchandise:

The General Store - like the post office and elementary school is found in every hamlet. This service unit is a prerequisite in hamlet communities. It is where farmers meet, gossip, where posters advertising coming events are displayed; where social contacts are made and business transactions effected. The general store is the central place of the hamlet.

As its name indicates, the general store offers a considerable variety of goods required by the farm population for every day use. General stores vary from centre to centre in the volume and variety of goods which they carry. In hamlets, they attempt to supply customers with everything; in villages, groceries may be reduced if a specialized grocery store appears; while in a greater village where there is an appliance store, clothing store, grocery store and drug store the great variety of goods carried is further reduced.

The typical general store as found in the hamlet or village has groceries as its main stock-in trade (60% or more), but it also carries household supplies, clothing and furnishings, drugs and drug sundries, hardware and building products, house furnishings, auto parts and accessories, farm equipment supplies, fuel, oils....almost every imaginable item. This store is a composite unit in miniature, which supplies the goods which are offered in larger centres in separate specialized stores. Of significance is the filling station pump which is located outside the general store. Fuel is just one item of the heterogeneous assortment of items supplied by this service unit. The proprietor retails fuel or a quart of oil as he sells any other item.

No data is available to show the relative importance of various commodities sold in general stores, but judging from the use of display space, it can be surmised that the larger the store the less important is the grocery business.

Dry Goods Store (General Merchandise Store):

This service unit is a common feature of towns. Although the general store still functions at the town level, there is now an increased division of labour, a transfer of the food retailing function to the grocery store; of nails, lumber etc. to the hardware store; and electrical appliances to the appliance store. The large local population of the town plus the large tributary areas also provide sufficient demand for a concentration on dry goods particularly clothing.

There are two such stores where clothing is emphasized, one at Gimli and another at Teulon. The proprietors still maintain a variety of other articles, for example, household utensils, furnishings etc. The variety of items sold, is quite similar to those of a typical general store, the significant difference however is that in a dry goods store all groceries are excluded and clothing is emphasized.

Co-op Farmers' Supply Store:

This type of store is typical of towns, and common to greater villages. The basis of this function is a co-operative association of farmers in the district. It is a supply store and deals in all the items of the general store but on a much more extensive basis. It also carries farm implements, lumber, fertilizers, coal, feeds and fuel. An extensive wholesale business of fuel is often carried on with farmers in the Co-operative. Members of co-operatives boast of the advantage of substantially lower retail prices for goods and supplies. The best example of a thriving Co-op. supply store is at Arborg.

Automotive Group:

It is very difficult to categorize the various service units of the auto group, because no accurate data is available. Many proprietors handle auto repairs, servicing, body repairs, the sale of parts and accessories, tire repair, sale of gasoline and oils in one establishment. They themselves are not certain from which activity they obtain their greatest source of income. One owner may refer to his enterprise as a service station, while another individual providing exactly the same services, doing the same things, considers his establishment a garage.

There are however five auto establishments in the Interlake which obviously gain more than 60% of their revenue from one activity:

- | | |
|-----------------------------|-----------------------------|
| (1) autowrecking (Teulon) | (1) brake and drum (Teulon) |
| (1) auto body shop (Teulon) | (1) tire shop (Stonewall) |
| (1) auto dealer (Stonewall) | |

All others are either referred to as a filling station, service station or garage.

For the purpose of this analysis the following definitions were adhered to for these categories.

Filling Station: where 50% or more of the owner's revenue comes solely from the sale of gasoline and oils. Operators do not engage in extensive repair work.

Service Station: where 50% or more of the owner's revenue comes from the sale of gasolines, oils and servicing such as, (lubricating, washing, minor auto maintenance.)

Garage: where 50% or more of the owner's income comes from auto repairs, the sale of gasoline, oils, plus some servicing, or from auto repairs only.

Many proprietors of a service station or garage may also receive income from the sale of parts and accessories or auto body repairs, but these are only side line activities to earn additional income. Garages are a common feature of hamlets and typical of villages. Service stations are uncommon to greater villages and common to towns. Filling stations are common only of greater villages. It must be remembered that a gasoline pump is a universal feature outside general stores of hamlets, but that it is merely considered, as stated earlier, as another item offered for sale by the general store proprietor. The apparent reason for the lack of highly specialized auto services is because of the Interlake's proximity to Winnipeg.

Farm Equipment and Supply:

Implement Dealer - This service is non-existent in hamlets, common in villages and a typical feature of greater villages and towns. In some villages, this service is provided along with a garage, while in centres of higher ranks, separate farm implement establishments are set up. Revenue comes mainly from the sale of farm equipment, second hand machinery, repair

N.B. The definitions for filling station, service station and garage are based on the interpretations given to these terms by three assessors of the Department of Municipal Affairs, Province of Manitoba, combined with some estimation on the part of the author.

services and miscellaneous merchandise.

Fuel Dealer - Oil companies usually have agents who engage in bulk distribution of fuel oil to farmers from bulk storage depots. This service is common to hamlets and villages and typical of greater villages and towns. At Arborg (better agricultural district) there are as many as five bulk storage depots.

Building Materials and Supply:

Lumber yard: The lumber business together with the sale of building materials, is one of the largest types of businesses in the Interlake. Lumber yards handle in addition to building materials, feed and coal as sidelines. Chain lumber yards (for example, North American Lumber Supply and Beaver Lumber Co. Ltd.) exist throughout the entire area in both towns and greater villages. This service is typical of towns and greater villages, and non-existent in centres of a lower rank.

Hardware Store: The hardware store exhibits some of the diversification of the general store. Tools, metal ware and accessories, nails, paints, electrical goods, house furnishings and small appliances are all sold in the hardware store. This service unit is uncommon in villages, common of greater villages and typical of towns. In greater villages and towns, the hardware store loses some of its electrical appliance business to the appliance store, and its home furnishings business to the furniture store. Supplementary lines of activity usually assume the status of independent specialized stores in higher ranking service centres.

Food:

The Grocery Store involves the specialization in groceries such as food and kindred products. It is an establishment which depends on large local markets to survive. This service unit is uncommon in villages, a common

feature of greater villages and typical of towns. In addition to food products, grocery stores also may carry paper goods and stationery, tobacco products and a few household supplies.

Supermarkets - are large self-service grocery markets. There are two such establishments, one at Gimli and another operated during the summer months at Winnipeg Beach. Modern super markets as these, carry large stocks of meats, frozen goods, baked goods and other food products. In addition to grocery products, there are always shelves of drug sundries, electrical fittings, stationery and small hardware items.

The Meat Market - is a food specialty store which complements the grocery store. It deals almost exclusively in meat, meat products, fish, poultry and dairy products. This service is neither found in hamlets or villages, as it depends largely upon the local resident population of greater villages and towns for its trade. Meat markets are common to greater villages and typical of towns. Villages frequently have a "meat market - general store combination". In such an instance the meat market has not been classified as a single unit, as it occurs in combination.

Locker plants - are typical of greater villages and towns and non-existent in villages and hamlets. As a rule meat markets or creameries have a locker plant for cold storage which primarily serves the internal needs of the establishment. This facility however is also extended for public use. Locker plants do not appear as independent business units, but rather jointly with a meat market or creamery. Today they do not enjoy the volume of business they did before the electrification of rural areas, most farmers now possess their own deep freeze refrigerators, thereby no longer making use of the local locker plant service.

Eating Places:

Three types of eating places are recognized:

(I) Confectionary: In this study it refers to the "hot dog stall" found during the summer months at beach resorts, where soft drinks, ice cream, donuts, cakes, candies, chips and coffee can be purchased. An occasional confectionary stand concentrating on sweets, candies, ice cream and soft drinks is also found adjoining a drug store (eg Winnipeg Beach) and catering for the local population.

(II) Coffee Shop: This term is used here synonymously with "snack bar" and "lunch counter". This service unit differs from the "confectionery stand" as seating facilities are now available for customers. Coffee, hamburgers, hot and cold sandwiches, and hot dogs are sold. Typical locations of coffee shops are adjoining service stations, or general stores catering for the transient population; or downtown in the heart of large centres.

(III) Restaurant or Cafe: refers to the service unit where a full course meal can be obtained, in addition to all other services provided in the snack bar and confectionary. Coffee shops are uncommon in hamlets and typical of villages, while cafes are typical features of greater villages and towns.

Apparel and Accessories:

Clothing Stores - are common in greater villages and typical of towns. All specialized clothing stores - (men, women, children) are considered together as clothing stores. The first indication of the increasing importance of clothing in larger trade centres is the appearance of small apparel shops at Ericksdale, Lundar, Fisher Branch and Ashern (greater villages). There is only one family shoe store at Arborg.

As regards clothing, the local centres cannot compete with the influence of Winnipeg and Selkirk upon the people of the region. People do not

hesitate to travel to Winnipeg and Selkirk, or to resort to the mail order catalogue of Eatons and Simpsons Sears, in order that they might obtain a wide selection in quality and a large price range.

Home accomodations and furnishings:

The Furniture Store is a highly specialized type of retail business. There are only three furniture stores in the area, at Fisher Branch, Teulon and Gimli. The sale of other appliances usually adds revenue to the receipts of the furniture store.

The Appliance Store deals chiefly with electrical appliances and supplies. Additional revenue is obtained from repairs, maintenance and the sale of other merchandise. The display of an appliance store involves televisions, refrigerators, stoves, washing machines, radios and other electrical appliances. This store is typical of greater villages and towns, and non-existent in centres of a lower rank. Appliance stores have enjoyed a profitable business with the rural electrification program of the Interlake. Much of the trade formerly received by the hardware store is now diverted to the appliance store. The proprietor is usually an electrician or electrical contractor, who increases his revenue by installing and repairing electrical equipment.

Miscellaneous Retail Stores:

Drug Stores are common of greater villages, typical of towns and non-existent in centres of a lower rank. Patent medicines, prescriptions, drug sundries, toilet articles and cosmetics account for 75% of the total receipts of drug stores. Sales from candy, confectionery, newspapers, magazines, tobacco products and photographic supplies also add to the total revenue. The druggist is always a licensed pharmacist who fills prescriptions. All drug stores located in centres where a liquor commission store is not situated carry a liquor licence to sell packaged liquor, in addition to the regular drug store business.

Novelty or Gift Stores carrying knick-knacks and souvenirs are found at Winnipeg Beach during the summer months. A small gift store is also located at Fisher Branch.

Jewelry Stores are common features of towns. They are usually associated with the sale and repairing of watches as well as the sale of jewelry.

Hatcheries are typical of towns. These establishments specialize in the rearing and sale of live-chickens, and in the sale of feeds and equipment to poultrymen.

Other retail establishments include the liquor store and second-hand store. There are three liquor stores in the Interlake, at Fisher Branch, Gimli and during the summer months at Winnipeg Beach. One second-hand store at Gimli sells almost every imaginable article which the owner can obtain.

Manufacturing

Manufacturing is relatively unimportant in the economy of the study area. Local industries can however be divided into three groups.

(1) Those which utilize local raw materials:

Creameries are the most numerous of the industries based on local raw materials. There are eleven creameries, two in towns, seven in greater villages and two in villages. All Interlake creameries are butter factories with their location based on the availability of cream from the surrounding farm areas. Much of the cream of the southern Interlake region is shipped directly to creameries at Winnipeg and Selkirk.

Fish Processing at Gimli. There is a fish processing plant (B.C. Packers Ltd.) which employs 45 workers at the peak of the season. Mulletts, saugar, white fish, pike, pickerel, perch, are cleaned, scaled, processed, frozen and shipped to Winnipeg, Minneapolis, Chicago and New York to be marketed.⁵

⁵ Based on an interview with the supervisor at B.C. Packers Ltd. Gimli, 2nd November, 1962.

Some processing is also carried on at Riverton by Sigurdson Fisheries. Saw Mills are found wherever wood is to be sawed. Most of the wood is suitable for rough lumber. There are three saw mills close to Riverton, 1 mile south and 1 mile north of the town and at Finns. Portable saw milling equipment is found at Gypsumville, Hodgson, Fraserwood, Chatfield and Hilbre.

(2) Those which depend on local markets:

Boat Building at Riverton. Many of the fishing boats operating out of Riverton and Gimli have been built locally. The ferry at Hecla Island and at The Narrows was also constructed by this local enterprise.

Feed milling is a service industry associated with direct distribution to consumers.

Bakeries are non-existent in hamlets and villages. These are found in all towns and at Lundar (greater village). Lundar's bakery has an extensive wholesale distribution service. All other bakeries are engaged primarily in retail sales, with some wholesale distribution, for example, Arborg and Gimli.

Wood Work Shop: At Teulon and Ashern are the only two wood work shops of the area. These indicate advancements over the semi-skilled carpenter shops in smaller centres.

(3) A third group is represented by industries attracted to the area because of low costs of production, although markets and raw materials are obtained outside the area.

Shearmat Ltd. at Gimli, manufactures paper honey comb core material for partitions. Sale of the finished product is chiefly to construction companies in Winnipeg.⁶

⁶Based on an interview with proprietor of Shearmat Ltd. Gimli, 2nd November 1962.

Hosiery Mills Ltd., located at Teulon and Stonewall. At Teulon, the raw materials come mainly from Eastern Canada (Toronto, Montreal, Kingston), the employees are local, but the semi-manufactured product is shipped to Eastern Canada (St. Catharines), to be converted into the finished product, seamless nylons.⁷ Their presence in this region can be explained by

(a) unskilled or semi-skilled cheap labour,

and

(b) low costs of plant operation because of cheap rents.

Limestone products: The processing of limestone products was dealt with under extractive industries in Chapter III.

Community and Professional Services

The concentration of professions is one of the most significant aspects of the functional status of service centres. Each of several kinds of professional services are characteristic of each of the four classes of service centres.

Hamlets - Elementary schools are typical - Churches are common

Villages - Churches are typical - High schools are common

Greater villages - High schools are typical - Physicians)
Hospitals) are common
Lawyers)

Towns - Physicians)
Hospitals) are typical, in addition to all the other services
Lawyers) typical of centres of a lower rank, that is,
Dentists) elementary schools, churches and high schools.
Optometrists)

⁷ Based on an interview with Mr. Frank Marrington, superintendent of Hosiery Mills Ltd. Teulon, 28th September 1962.

Educational Services:

Education is the most widespread professional service available in the region studied.

One room elementary schools are typical in hamlets. Schools of this type are also located in the open country often seen along highways spaced at regular intervals, these are not considered as being directly related to any centre. An elementary school however, not located within the actual settlement, yet within walking distance for children of that centre, is considered as a service unit of the centre.

High Schools non-existent in hamlets are common in villages. Six of the sixteen villages studied have high schools. High schools are typical features of greater villages and towns and are focal points for many social activities, athletic events, farm displays, school entertainments and local dances, and so draws trade to the centres. Towns surpass greater villages in education because the specialization of instruction is possible in their larger schools and because of the superior equipment there.

The Composite High School is a characteristic of towns. In addition to academic work, which is of primary importance, female students are instructed in home economics and male students at workshops. Moreover instructions are given in typing, shorthand and bookkeeping.

Religious Services:

Churches are common in hamlets and as elementary schools, they are often located in the open country at regular intervals. Nearly all ministers live in towns or greater villages, and they travel to nearby villages and hamlets on Sundays or on other appointed days during the week. Ukrainian Catholic, Roman Catholic and Lutheran churches dominate the religious activities of the Interlake. At the village level two denominations are frequently

represented, while at the town level there are as many as six representative denominations.

Health Services:

A common grievance among residents of many communities is the lack of even minimum health services.

Doctors are common in greater villages and typical of towns. The four towns are adequately served with doctors, four at Gimli, two at Stonewall, two at Teulon and one at Arborg. Throughout the remainder of the study area there are seven doctors. Of these seven, two are old men who have retired but still maintain a part-time office because of the demand for their services. Between Lundar and Gypsumville on Highway 6, approximately 90-95 road miles, there is only one doctor, located at Ashern. At Gimli is a Medical Clinic formed by an association of three doctors.

Hospitals: There is a hospital in every town, plus three others at the greater villages of Fisher Branch, Ericksdale and Ashern. The hospital at Ericksdale is operated and financed by the United Church, while the one at Gimli is operated by Roman Catholic Franciscian Sisters. The establishment of the other hospitals is based on the initiative of the local municipal council and the ratepayers. These hospitals as well as doctors' services are financed by the ratepayers as the Health Services Act stipulates.

Dentists: There are fewer dentists than doctors. There is no dental service available from Winnipeg to Gypsumville along Highway 6, consequently the dentists who maintain offices at the four towns are unable to cope with the demand for their services. It is not unusual for patients requiring dental services from as far north as Fisher Branch, Riverton, and Gypsumville to travel to Winnipeg.

Veterinarians: Stonewall is the only centre within the study area at which veterinarian services are available. Veterinarian services are also obtained from the neighbouring centres of Selkirk and Winnipeg outside the study area.

Lawyers are typical of towns and common in greater villages. Of the nine lawyers practising in the area, four are resident lawyers while the other five visit their rural offices weekly, fortnightly or in the case of Riverton once every three weeks. Many clientele in the Interlake travel to Winnipeg to obtain legal services.

Optometrists: There are no resident optometrists in the Interlake. Offices are opened once or twice weekly at Teulon, Gimli and Arborg with optometrists from Winnipeg following a regular weekly circuit.

Trades and Personal Services:

Lodging Services

Hotel: There are two hotels in hamlets, they are common to villages and typical of greater villages and towns. The major share of hotel clientele is attracted to towns and greater villages, while the village and hamlet hotel exists in name only, its chief function at present being to perform the services of a beer parlour. At all centres, the beer parlour accounts for most of a hotel's total revenue, with the adjoining restaurant also accounting for a fair proportion. Transient population, salesmen, holiday seekers etc. form the mainstay of the clientele who patronize the local hotels. Many hotels are used partly as boarding houses providing accommodation and meals for their clientele on a monthly basis for example, teachers from the city working in a local vicinity. Hotels vary in size from 8 rooms at Camper, St. Martin, Poplarfield, to 25 rooms at Gimli. There are motels located at four centres - Gimli, Winnipeg Beach, Steeprock and Gypsumville, with capacity varying from 8 to 14 units.

Repair Services:

Blacksmith/Machine Shop/Welding Shop are all taken together as one service unit. This service is available in every town, and is typical of greater villages. Much of the blacksmith's work has been taken over by the garage, but the repair of farm implements still remains his main occupation. Most shops are equipped with acetylene torches which enable them to repair broken parts of farm machinery.

Shoe Repair Shops are common in greater villages and typical of towns. This service has disappeared in hamlets and villages with the exception of Komarno, and are now concentrated only at higher ranking centres. The main occupation of the shoe maker today is the repair of shoes and boots.

Upholstery and Furniture Repair Shops are typical of towns and found only in towns. The demand for this service unit is so limited that it can only survive in centres of large local populations with large tributary areas.

Personal Services:

Barber Shops are common in villages, typical features of greater villages and found in every town.

Beauticians are common to greater villages and typical in towns. Both these service units depend mainly on the local resident population for business, but in spite of the similarity in service provided, there are three times as many barber shops as there are beauty parlours in the Interlake. The village barber cannot survive on the revenue from haircutting so he usually has an additional source of income such as insurance, real estate or operating a pool room adjoining his establishment. The beauty shop is seldom a full fledged beauty parlour, but merely at a home where a housewife performs hair dressing services.

Laundry and Laundromat There is one laundromat (at Gimli) which depends mainly on the local population for its existence. There are plans underway

for the construction of additional laundromats at Winnipeg Beach and Teulon. The Laundry at Arborg has a large tributary area which includes centres as far away as Hodgson, Riverton, Fisher Branch, Chatfield, Fraserwood and Arnes. All deliveries and pick ups are made by van. Patronage of this laundry is because of the firm foothold that the proprietor's business has established in the community for many years. The bulk of the Interlake's dry cleaning business is handled by Winnipeg establishments, Perth's, Scott's and Fort Garry Cleaners make weekly circuits throughout the Interlake picking up and delivering clothes.

Funeral homes are common in greater villages, typical of towns and non-existent in centres of a lower rank. This service is located in large centres, with large populations which influence large tributary areas.

Contract Construction:

Only in the town of Stonewall are there full time carpenters (3). In all other centres farmers do occasional carpentry as an additional activity. Painter and Decorator, Plumbing and Heating are specialized services only obtained in higher ranking centres (towns and in three greater villages). Contractors (road, earthmoving, building, well drilling, electrical) are characteristic of towns and greater villages. A few contractors are occasionally found in hamlets and villages.

Public Services

Utilities:

Water Supply and Sewage Disposal Service: There is water supply service available at Gimli and Winnipeg Beach, while sewage disposal service is found only at Gimli. All other centres are without either of these services, water is obtained from private wells, and sewage disposal handled privately.

N.B. The laundromat under construction at Winnipeg Beach when the field work for this study was carried out has since been completed.

Transformer Stations: The entire Interlake has obtained the benefits of Manitoba Hydro's rural electrification program. There are nineteen transformer distribution stations conveniently located throughout the study area, transforming high voltage current into low voltage current for distribution to local consumers.

Agricultural Representatives: Government employees of the department of Agriculture and Conservation are stationed at Stonewall, Teulon, Arborg (towns), Ashern, Fisher Branch (greater villages).

R.C.M.P. Stations are typical of towns and common of greater villages. A R.C.M.P. Station is located at Hodgson village mainly because it's remoteness necessitates this. Most stations have a two man R.C.M.P. detachment. The function of this service is the subject of special agreement between municipality and federal government to provide security to the community and the surrounding area.

Other public services include the Village Office, Rural Municipal Office, and Town Office. Associated with these three last mentioned services is the development of local government institutions another significant aspect of service centres.

Centres of less than 500 residents are rarely separated from the rural municipality or local government district in which they are situated; and in the Interlake only five centres have achieved incorporated status. Incorporated villages and towns do not extend their authority beyond their corporate boundaries, but a number of centres serve as municipal seats of government exercising jurisdiction over the surrounding rural territory and also over nearby villages and hamlets.

The seats of government for the local municipalities are as follows:
(Local Government Districts are administered by the Provincial Government.)

Rural Municipalities

Location of seat of Government

Siglunes	Ashern
Coldwell	Lundar
Ericksdale	Ericksdale
St. Laurent	St. Laurent
Woodlands	Woodlands
Rockwood	Stonewall
Bifrost	Arborg
Gimli	Gimli
St. Andrews	Clandeboye

Local Government Districts

Location of Local Government Office

Grahamdale	Grahamdale
Fisher	Fisher Branch
Armstrong	Inwood

At each of these service centres is an office, where a full-time clerk employed either by the local municipality or the provincial government collects taxes on behalf of his employer.

In addition, there are three service centres which have the incorporated status of towns, and three others which are incorporated villages.

	<u>Population</u> <u>(1961-D.B.S.)</u>	<u>Legal Incorporated Status</u>	<u>Status based on</u> <u>Functional Diversity</u>
Gimli	1841	Town	Town
Stonewall	1420	Town	Town
Arborg	811	Nil	Town
Teulon	749	Village	Town
Winnipeg Beach	807	Town	Greater Village
Riverton	808	Village	Greater Village
Dunnottar	232	Village	Village

The requirements for incorporated status of a village are as follows:

1. The locality must contain 500 inhabitants.
2. The boundaries of the locality must not include an area of more than 640 acres, unless population exceeds 2000, then 160 acres may be added for every additional 1000 inhabitants over the first 2000.
3. The locality must have a municipal taxable assessment of not less than \$3000.00
4. At a referendum vote to determine the wishes of ratepayers, three fifths of the ratepayers voting on the referendum must vote in favor of incorporated status.

To be an incorporated town the following requirements are needed:

1. The locality must contain 1,500 inhabitants.
2. The boundaries of the town the population of which does not exceed 2000 shall not have an area of more than 640 acres.
3. Where population exceeds 2,000 then its limits may be increased in the proportion of 160 acres for every additional 1000 inhabitants. Villages⁸ over 1,500 people are eligible to apply for the status of a town.

Recreational Facilities

Recreational facilities both commercial and free vary according to population and functional status of the centres.

Community Halls are common in hamlets and are typical features of villages, greater villages and towns. At the hamlet and village level, they serve as meeting places for various local groups, for dances, occasional theatre shows, weddings and for general entertainment.

Winter Sport premises can be either of the indoor type - an arena, or outdoors such as hockey, skating and curling.

⁸ Taken from Province of Manitoba, Municipal Act.

Arenas are typical of greater villages and towns and non-existent in centres of lower rank.

Outdoor winter, and summer sport premises (such as playing field with organized baseball, fastball and soccer), are common to villages and typical of greater villages and towns.

Pool Rooms are found in only three hamlets but are common in villages and typical of greater villages and towns.

Bowling Alleys are located at the town of Arborg and the greater village of Winnipeg Beach during the summer months.

Golf Courses are associated with summer resort centres or in towns which support large local populations for example Stonewall, Winnipeg Beach, Sandy Hook.

Movie Theatres are common of greater villages and typical of towns. Most movie houses do not operate more than 3 times weekly.

There are also various membership groups which appear throughout the area, including community clubs and local and national organizations (e.g. 4-H Clubs, Co-operatives, religious groups, Boy Scouts, Girl Guides, Orange Club, Farmer's Union, Cattlemen's Association, Red Cross, Kinsman Club and Canadian Legion).

In general, commercial recreational activities tend to be closely linked to large centres; while those which are free are widely dispersed among centres of all ranks.

Banking, Finance and Business

Banks are common in greater villages and typical of towns. There are no instances of banks being located in villages. All the banks in the Interlake are branches of either the Canadian Bank of Commerce or the Imperial Bank of Canada except the bank at Teulon which is a Toronto Dominion Bank. There is no need for more than one bank in any centre, and the delineation of areas

served by each bank, usually corresponds with the tributary area of the centre.

A Credit Union is another form of banking which is invariably associated with the farmers' Co-op. Associations. These service units are typical of towns, with one located at a greater village and another at a village. Those which are not linked with the local Co-op., depend on the initiative of their members for their existence.

Insurance Agents: The Insurance business is a sideline of bank officials, retired farmers, municipal clerks, real estate agents and other businessmen. In the towns, the larger populations warrant the existence of insurance agents on a full time basis and it is not unusual to see an office set up to handle only the insurance business. Insurance agents are typical of greater villages, although this service is provided at centres of lower status.

The Real Estate Business is typical of towns and common of greater villages. In greater villages most agents carry on this undertaking as a part time activity, it is only in the towns with large populations that the real estate business is a full time enterprise, for example at Gimli.

One Loan and Credit Agent is found at Teulon.

Public Accountants are common of towns.

There are two accountants, one at Teulon and the other at Stonewall. They formerly practised in Winnipeg and are now semi-retired yet maintaining offices at these two centres.

In reviewing the frequency distribution of central services, the various activities at different levels of centres can be summarized as follows:

HAMLET

The post office, general store and elementary school are found in every hamlet. Churches and community halls are common. Garages and fuel dealers are also common, but there are six less garages and fuel dealers in hamlets than there are churches and community halls. Other important service

units found in hamlets but occurring in less than 25% of these centres are grain elevators, coffee shops, hotel and pool rooms. Hamlets are important focal points for farm dwellers of a small community, in addition to being the centre where essential day to day services are obtained, they also provide the central place for local gossip.

THE VILLAGE

Villages stand above hamlets because in addition to having the post-office, general store and elementary school as typical service units, the garage, coffee shop, church and community hall are additional typical services. Of the common service units, the most prevalent are, freight transportation by truck, the telephone exchange, fuel dealer, high school, hotel and pool room. Other common service units include, railroad depot, grain elevator, implement dealer, barber, insurance agent, and the rural municipal office. Service units appearing in not more than three villages and classed as uncommon include, creamery, blacksmith shop, beauty parlour, credit union, real estate agent, and movie theatre.

GREATER VILLAGE

Typical service units are much more diversified, as a number of service units appear which are principally dependent on the resident urban population of larger centres for survival. Lumber yard, appliance store, locker plant and the arena which were altogether non-existent in centres of lower rank now appear here as typical service units. Other typical service units include, freight trucking, railroad depot, implement dealer, fuel dealer, cafe, creamery, high school, hotel, blacksmith shop, barber, pool room, insurance agent, and telephone exchange, in addition to those typical of villages and hamlets.

Common service units are numerous and also very diversified, hardware store, grocery, meat market, clothing store, drug store, liquor store, physician, hospital, lawyer, beautician, shoe maker, funeral home, bank, real estate agent, movie theatre, rural municipal office, and R.C.M.P. Station. Those listed as uncommon are just as numerous. Noteworthy service units among this list include bowling alley, bakery, woodwork shop, custom tailor, furniture shop, super market, taxicab, egg grading station.

TOWNS

Towns stand at the top of the hierarchy of service centres. They provide all the ordinary goods and services demanded by the town, greater village, village, hamlet and the farm dwellers. In addition, towns are outstanding because they have available a greater number and a greater variety of specialized service units. "It is the grouping of specialized retail stores and professional services in these centers that gives the towns their superiority to villages as trade centres"⁹. Most of the service units common of greater villages are now typical, included in this group is, the physician, optometrist, hospital, dentist, lawyer; while many of those which were uncommon are now more frequent in towns, and so are classed as common. Among the service units appearing for the first time, and listed as uncommon are: auto dealer, brake and drum, auto body shop, tire shop, auto wrecking, supermarket, family shoe store, second hand store, veterinarian, water supply system, sewage and disposal service and credit agent.

There appears to be a direct functional relationship between the hamlet, village, greater village and town. The goods and services provided by

⁹ J.E. Brush, The Trade Centers of South-Western Wisconsin: an Analysis of Function and Location, Phd Thesis, U. of Wisconsin, 1952, p.36.

higher ranking trade centres provide something additional to those goods and services which are offered by the centres of a lower functional rank, and there is seldom any competition for elementary services which are provided at both the lower and higher ranking centres.

In order to confirm this claim that higher and lower ranking centres do not compete at the level of elementary services, and that the role of the large centre in relation to the nearby small centre is to provide additional services, very intensive interviewing was carried out at Broad Valley (hamlet) Fisher Branch (greater village) and Arborg (town).

The proprietor of the general store at Broad Valley (hamlet) supplies day to day (elementary) requirements to regular customers within a three mile radius. These customers may purchase goods for cash or credit, in the latter case settling their accounts weekly, bi-weekly or monthly. Broad Valley has two garages, an elementary school and a grain elevator which exist not prosperously but primarily on local business. Ten road miles from the settlement of Broad Valley is Fisher Branch (greater village), which has a diversity of forty three and a total of sixty six service units. This greater village provides many more specialized services than those at Broad Valley, and a weekly trip to Fisher Branch on Saturdays or Fridays by residents of Broad Valley is a regular occurrence. There is a liquor store, bank, rural municipal office, lumber yard, hardware store, beer parlour, hospital, doctor and creamery. Fisher Branch has a large tributary area, its services are for the benefit of its local population, the "urban" populations of hamlets and villages within the vicinity, plus the surrounding farm dwellers.

The "Red and White" general store at Fisher Branch does not directly compete with the business of the general store at Broad Valley which has a number of regular daily or weekly customers. Shoppers from the Broad Valley district, on a single trip to Fisher Branch do have the opportunity to combine

purposes by purchasing foodstuffs and lumber, paying taxes, visiting the creamery and going to the bank. This combination of purposes on a single trip can act as a price reduction and in such a case ought to deprive the Broad Valley general store of some business. This however is not generally the case. There are no wholesalers in the Interlake, and all goods retailed at general stores are purchased from wholesalers in Winnipeg and conveyed to Broad Valley and Fisher Branch possibly by the same freight trucking vehicle. There is no guarantee of price reduction in bread, tinned vegetables, frozen foods, milk or eggs, when we buy at a store in Fisher Branch rather than at Broad Valley, and consumers are likely to purchase goods from where they can obtain credit when needed, rather than where they have to pay cash. There is a tendency therefore for the services provided at Fisher Branch, not necessarily to compete with those similar types of services provided at Broad Valley. The residents of Broad Valley travel weekly to this larger centre primarily to obtain more specialized services or groceries which do not exist locally, and which are only provided at higher ranking centres with larger markets.

At Arborg (town) approximately 34 road miles from Fisher Branch there is a similar relationship. The service units available at larger centres usually provide the consumers of smaller centres with additional services. In other words, the three grain elevators at Arborg do not compete with the two at Fisher Branch. Residents of Fisher Branch will not travel to Arborg for groceries or medical attention, neither to purchase liquor nor to bank money, as all these facilities are available locally. They do journey to have an advertisement printed in the "Interlake News", to sell poultry products at the Egg Grading Station, to fill a prescription at the Drug Store, to obtain a money loan from the Credit Union, to compete in a bowling competition or even to have a watch repaired at the Jewelry Store. They travel to make use of the additional services of the town of Arborg which are not provided locally, and which are highly specialized, and can therefore only exist on large markets.

CHAPTER VI
THE RELATIONSHIP BETWEEN SERVICE CENTRES AND THEIR SERVICE AREAS

As mentioned in Chapter IV, customers who patronize a central service usually live in one of two places, either within the actual settlement in which the service occurs (the internal service area), or in the surrounding rural tributary area (external service area). Many urban geographers have emphasized the role that these two markets play in the development and survival of central places, more stress is always put however, on the importance of the external service area. Mark Jefferson put it best when he said that "Cities do not grow up of themselves. Countrysides set them up to do tasks that must be performed in central places"¹. John W. Alexander has made a further observation with regard to Jefferson's statement,

A portion of the economic effort in a city is supported by non-local demands. But these city people in turn have need for local services, and thus a second urban function is discernible - that which caters to the needs of local inhabitants.

The difference between these two economic efforts is of fundamental importance, because the former constitutes the city's economic foundation. As Jefferson observed, the city's life depends upon it. It brings money into the city and is termed "basic". By contrast, the second category (serving local demands) is termed "non-basic" and simply involves an exchange of money which basic efforts have already brought in.²

Richard U. Ratcliff refers to Alexander's "basic" economic functions as "those activities which bring into the community purchasing power from outside"³. Chauncy D. Harris and Edward L. Ullman say the same thing in a different way. They insist that "the support of a city depends on the services it performs not for itself but for a tributary area"⁴.

1. Mark Jefferson, "The Distribution of the World's City Folks: a Study in Comparative Civilization", Geographical Review, XXI: p.453, 1931.

2. John W. Alexander, "The Basic-Non Basic Concept of Urban Economic Functions", Readings in Urban Geography, edited by Harold M. Mayer, Clyde F. Kohn, p.87.

3. Richard U. Ratcliff, Urban Land Economics, New York: McGraw Hill Book Co., 1949, p.43.

4. Chauncy D. Harris and Edward L. Ullman, "The Nature of Cities", Annals of the American Academy of Political Science and Social Science, CXXLIII, p.7, Nov. 1945.

In this chapter an investigation is made of the relationship which exists between centres and their tributary areas (external service areas). As was outlined in the Preface, two methods for the delineation of tributary areas were employed. First, the proprietors of the majority of service units in the centres were interviewed and asked to delineate on a map presented to them, from how far their customers came. By the second method, data was collected directly from customers by asking farmers on the borders of the trade areas already obtained (or within overlapping trade areas) where they go to obtain specific services. By using this device it was possible to verify and correct if necessary, the trade areas obtained by the first method.

Based principally on these data, collected through interviews (i) zones of dominance were delimited for all service centres investigated and then (ii) zones of influence for higher ranking centres (greater villages and towns).

A zone of dominance is herein referred to as, the area adjoining or contiguous to a service centre within which day to day (elementary) economic and cultural activities are essentially one with those of the primary centre. The general store, post office, and elementary school are service units which are primary determinants of zones of dominance. The garage, church, community hall and beer parlour to a lesser degree (only in some instances) are also determinants of the zone of dominance of the analyzed centres. A zone of dominance really demarcates an area which is so closely related to the associated centre, that the zone and the centre are considered as essen-
tially one. Customers within this zone go to the centre to obtain day to day or elementary services, for example, to buy bread, milk, butter, potatoes and meat. It is here they meet to gossip, to play cards and to have regular social gatherings. The zone of dominance is the area economically dominated by the centre; it also delineates the gossip community of the centre.

A zone of influence also refers to the tributary area of a centre, with

the difference that this area is only influenced by the centre rather than dominated by it. Van Cleef would refer to my zone of influence as a hinterland. "The area adjacent to a trade centre (extending to and including its satellites) within which economic and some cultural activities are focused largely on the primary centre".⁵ No rigid rule can be established to outline which service units determine the zones of influence of various centres. For example, a grain elevator may be used to determine accurately the zone of influence for Arborg, while if used for Moosehorn it will be very inaccurate, since along Highway 6, Moosehorn is the only centre at which an elevator is located (north of Warren). The result is that all centres from Gypsumville to Lundar will be included in Moosehorn's zone of influence. This is not very accurate. All zones of influence were therefore determined by answers received from farmers interviewed. Farmers were first asked to name the centres to which they went to purchase day to day needs. These answers assisted in enabling zones of dominance to be determined. They were also asked to which larger centres they were attracted for more specialized or less frequently required services (zones of influence). The answers to the second question provided the data for approximating the extension of zones of influence for the larger centres.

Zones of dominance

From observation in the field, it was found that every centre analyzed exerted a certain amount of centripetal power as a trade centre. Although the influence of hamlets like Camper, Faulkner, Gunton, Arnes etc. may be weak as trade centres, anyone who travels through the Interlake and takes time to speak to residents, will discover that farmers who live near small centres (Silver, Arnes, Camper, Faulkner - none with a population over 50), associate themselves with these small centres (where there is only a store,

⁵E. Van Cleef, "Hinterland and Umland", The Geographical Review, 31 (1941) P. 308.

LEGEND - (Figure 10) - Zones of Dominance

1.	Gypsumville	24.	Inwood
2.	St. Martin	25.	Fraserwood
3.	Fairford	26.	Chatfield
4.	Hilbre	27.	Poplarfield
5.	Steep Rock	28.	Broad Valley
6.	Faulkner	29.	Fisher Branch
7.	Grahamdale	30.	Hodgson
8.	Moosehorn	31.	Meleb
9.	Spearhill	32.	Silver
10.	Ashern	33.	Arborg
11.	Camper	34.	Riverton
12.	Ericksdale	35.	Hnausa
13.	Lundar	36.	Arnes
14.	Oak Point	37.	Camp Morton
15.	St. Laurent	38.	Gimli
16.	Woodlands	39.	Husavick
17.	Warren	40.	Sandy Hook
18.	Stony Mountain	41.	Winnipeg Beach
19.	Stonewall	42.	Dunnottar
20.	Balmoral	43.	Netley
21.	Gunton	44.	Petersfield
22.	Teulon	45.	Clandeboye
23.	Komarino		

INTERLAKE REGION

ZONES OF DOMINANCE

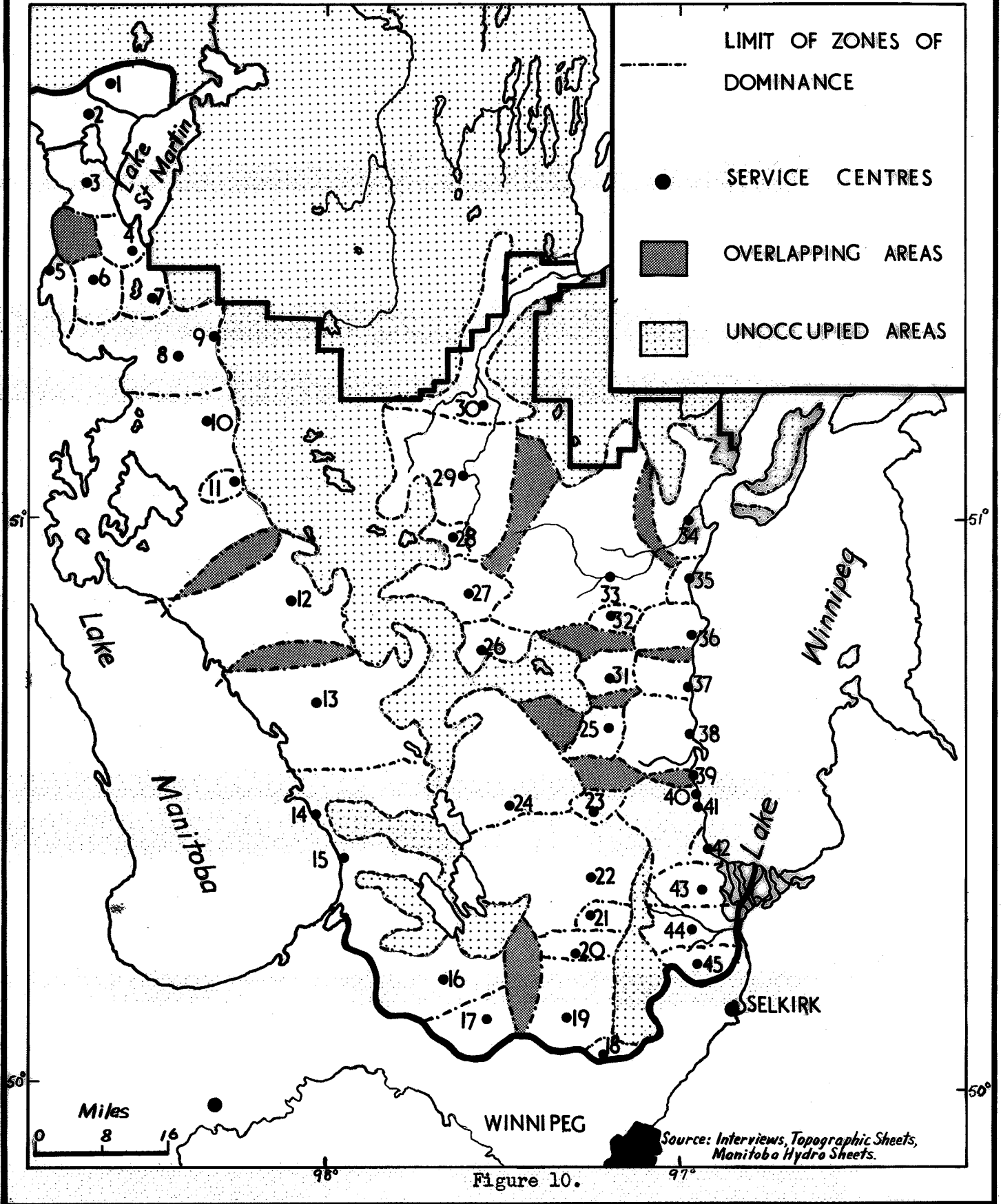


Figure 10.

post office, school, garage, church) rather than with the large town or village only 5 or 6 road miles away.

Higher ranking centres have large zones of dominance, while small centres (hamlets) only have sway over the day to day needs of the farmers who come to collect mail at the local post office once or twice weekly. In six out of ten instances, farmers who maintain post office window boxes locally, also have an account with the local store, and quite commonly the general store is the gathering house for local discussions.

Many small hamlets (Malonton, Rembrandt, Deerhorn, Mulvihill etc.) have declined, perhaps because of the universal use of cars which have permitted farmers a wider range of trading possibilities within recent decades. But, there is still a persistence of day to day services to be provided at the hamlet level and a reluctance to withdraw patronage from business people who served their fathers in satisfying more elementary needs, and who now provide them with credit for goods they need daily. Although smaller centres have generally suffered a progressive decline, many of them are still focal points for their surrounding area and so command zones of dominance.

In the map indicating "Zones of Dominance" (Figure 10), there are a few anomalies. Spearhill, the equivalent to a mining town, does not show a tributary area. The services provided here serve only the local inhabitants or internal service area. The service units at Sandy Hook and Husavick cater mainly for summer vacationers and the transient population. Although three general stores are maintained during the winter months, it is difficult to demarcate a tributary area as many local potential customers prefer travelling to nearby Winnipeg Beach or Gimli.

Winnipeg Beach to Sandy Hook - 2 road miles

Sandy Hook to Husavick - 2 road miles

Husavick to Gimli - 4 road miles

Also on this map (Fig. 10) a number of areas are coloured dark indicating zones of dominance which overlap. These areas are so indicated because it is virtually impossible to determine exactly which adjoining centre attracts more of the farm trade.

(i) Around the Mulvihill area - loyalties are split between Ashern and Ericksdale.

(ii) Deerhorn district - farmers travel to Ericksdale with the same convenience that they can go to Lundar. The choice of one centre over another depends mainly on what transactions are to be carried out, since the travelling time to these two larger centres is approximately the same (7 and 6 road miles respectively).

(iii) There is a large area between Zbaraz - Sylvan districts in which the trade areas of Fisher Branch and Arborg overlap. As was mentioned before, attraction to either one of these centres depend on the specific service required. When a service is required urgently, travelling time is another important factor in the consumers' choice of a centre.

(iv) Farmers of the Ekhart-Argyle-Woodroyd district divide their trading activities with Stonewall, Warren, and Woodlands.

Finally, I must re-emphasize that during the field study it was quite noticeable that many farmers continually spoke of "going to town". On further inquiry it was obvious that they did not in fact refer to the nearest town (Gimli, Stonewall, Teulon, Arborg), but to where they went to collect their mail and to buy bread, milk and butter. In other words, each small centre appears to prevail over a small tributary area (its zone of dominance), each one has its definite role to play within its small community.

Zones of Influence

As was previously indicated, there is no well established rule by which

LEGEND - (Figure II) - ZONES OF INFLUENCE

1. Ashern
2. Lunda
3. Fisher Branch
4. Arborg
5. Gimli
6. Teulon
7. Stonewall

INTERLAKE REGION

ZONES OF INFLUENCE

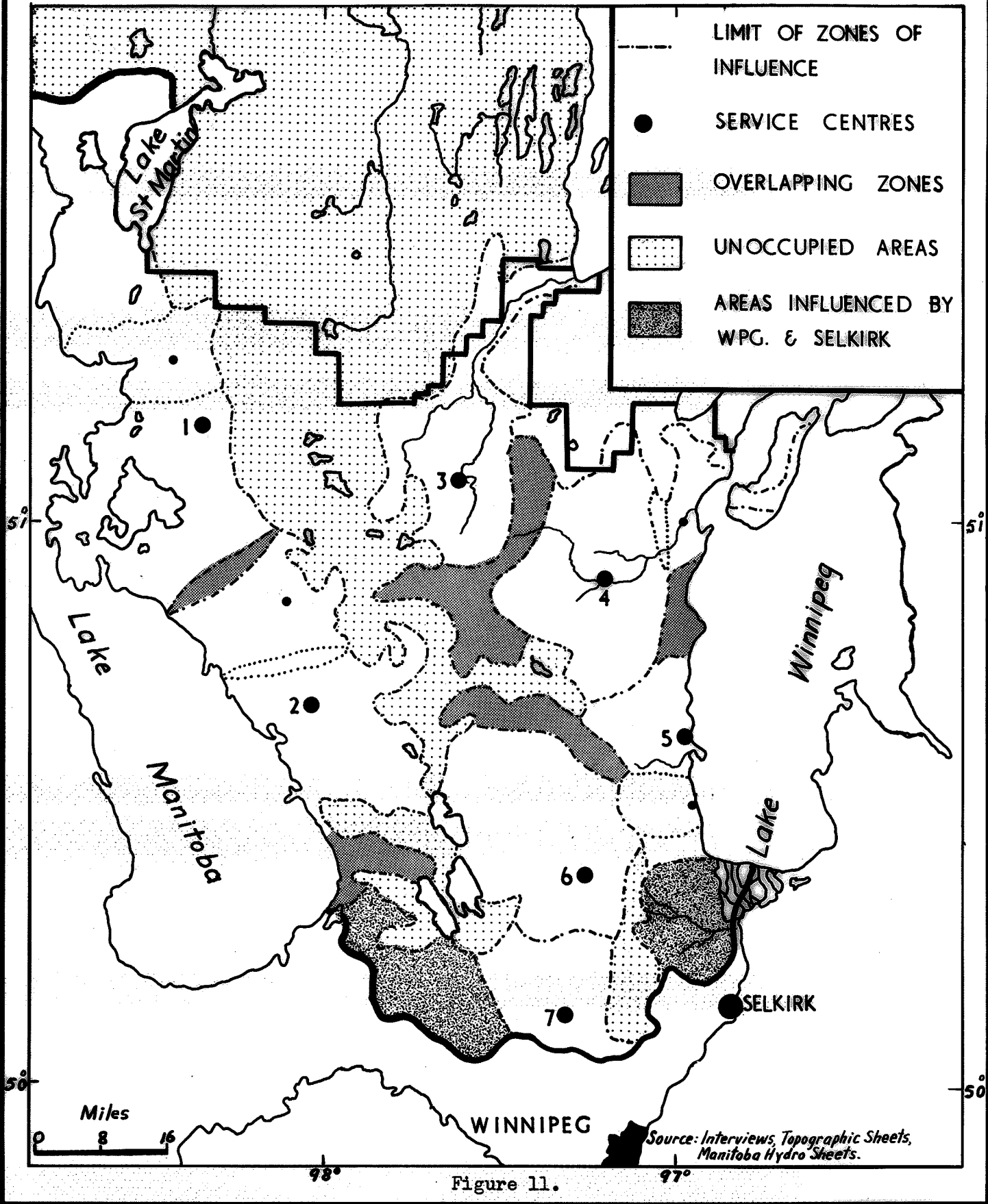


Figure 11.

these zones are delineated. Farmers were asked to which centres they travelled when they wished to obtain more specialized or less frequently required services. By less frequently required services is meant services which are not under the category of day to day needs and which are more or less specialized and consequently obtained only at centres of a high functional status. Because of this method of obtaining information and because smaller centres do not have zones of influence, the delineation of these zones is confined to centres of the highest functional status, towns (Gimli, Stonewall, Arborg, Teulon) and greater villages (Fisher Branch, Riverton, Lundar, Ericksdale, and Moosehorn) (Refer Fig. 11 Zones of Influence).

(i) Ashern:

Ashern's influence extends from Gypsumville to approximately Mulvihill along Highway 6 and to Lake Manitoba westwards. As the map indicates, there is no tributary area east of Highway 6, as settlement does not extend here. Moosehorn and its tributary area is included in Ashern's zone of influence. Although a greater village, Moosehorn has 30 diverse units and a total of 45 service units. It dominates its own service area but fails to exert much influence beyond that zone of dominance. Ashern on the other hand has 46 diverse service units and a total of 82. This greater variety of functions and a much wider selection for consumers is the main reason for Moosehorn remaining within the shadow of Ashern's zone of influence. From Gypsumville to Mulvihill, Ashern is the only centre at which a variety of functions can be obtained, for example - hardware store, women and children's clothing store, bank, woodwork shop, doctor, hospital, drug store, lawyer, beauty parlour, funeral home, agricultural representative, lumber yard and R.C.M.P. Station.

Moosehorn is an active little service centre (lime processing plant at Spearhill 4 miles to N.E.) of 208 people. It shows signs of prosperity, such as a new and modern high school, a renovated beverage room at the hotel

catering for mixed drinking, and at least five recently erected residential homes, but eight road miles distance from the larger and more established centre of Ashern forces it to remain in the background. From investigation in the field it was found that seven service units were primarily the cause of Ashern's influence over a large tributary area, - the bank, doctor, funeral home, drug store, hospital and R.C.M.P. station.

Within the vicinity of Mulvihill indicated on Figure 11 by a dark colour, there is an overlap between the zones of influence of Ashern and Lundar. For frequent rudimentary requirements, farmers within this overlapping district of Mulvihill journey to Ericksdale or Ashern (that is, if they are not available locally at Mulvihill or Camper). A surprising trend however, was that many of these farmers would rather journey 18 road miles to Ashern to obtain services which were readily available at Ericksdale only 8 road miles away.

(Mulvihill to Ashern - 18 road miles)

(Mulvihill to Ericksdale - 8 road miles)

This tendency exists because of a long established relationship between the customers of this district and the businessmen of Ashern. Perhaps however, an explanation may be suggested for this long established relationship. At Ashern, the population is made up of Icelanders, Germans, Ukrainians, Anglo-Saxons and Swedes with the Icelanders accounting for the largest population. Further the prominent business establishments are owned by proprietors with names, such as: Arnor Thorgilsson, Fred Thorgilsson, Harry Thorgilsson, Elmo Helgasson, Edwin Thorkellson and Adolf Kunzelman, Saul Schwartz, Albert Scheske and Rudolph Geisler, all typically Icelandic or German.

Delving into history, we learn that an Icelandic reservation was set up around the Lundar-Mulvihill district and that Icelanders moved into the Mulvihill, Lundar, Suffren districts in 1886 - 87, and also that in 1909,

German settlers moved into the Dog Lake - Ashern district.

On referring to a map of ethnic origins for the year 1921 compiled by James Richtik,⁷ my contention that this long established trade relationship between the Mulvihill district and Ashern is based primarily on ethnic relations is verified when it is evident that up to 1921 the Mulvihill district was populated almost completely by Icelanders, with Germans, Anglo-Saxons and Ukrainians making up not more than ten percent. It appears reasonable to suggest therefore, that the farmers of the Mulvihill district patronized Ashern principally because of their ethnic relations there.

For less frequently required (more specialized) services, Ashern, finds a greater competitor in the greater village of Lundar.

(ii) Lundar

Lundar's zone of influence extends from around the Mulvihill district where it overlaps with Ashern's zone to as far as a few miles south of Oak Point. Within the St. Laurent - Lake Francis district, the trade for more specialized services is split between three service centres - Lundar, Stonewall and the city of Winnipeg. South of Lake Francis, Lundar fails to exert any influence as consumers now turn to the larger centres of Stonewall and Winnipeg. From investigation in this area, it was found that every second person interviewed around the Woodlands-Warren district travels to Winnipeg rather than to Stonewall for less frequently required services.

Within Lundar's zone of influence is Ericksdale and its zone of dominance. Ericksdale is related to Lundar, in the same manner that Moosehorn is related to Ashern. Ericksdale has 34 diverse service units and a total of 44 service units. Lundar on the other hand, has 40 diverse service units and a total of 54 service units. These additional or incremental service units make Lundar rather than Ericksdale a more influential service centre south of Mulvihill

⁶ Refer Chapter VIII, Table 22, p.172, "Early Movement of Settlers".

⁷ James Richtik is preparing a Historical Geography Study of the Interlake.

along Highway 6. There is at Lundar - an appliance store, drug store, bank, bakery, two doctors, funeral home and R.C.M.P. station, all important functions which are not available at Ericksdale. Ericksdale however, dominates the trade of a certain area (zone of dominance), and for elementary services provided at both centres (Ericksdale and Lundar) there is an area around the vicinity of Deerhorn where the zones of dominance of both centres overlap. At Deerhorn is a local general store which supplies the needs of many nearby farmers. As has been mentioned before in the case of Moosehorn and Ashern, we also find here that for less frequently demanded services the farmers from the Ericksdale district tend to patronize the greater village of Lundar.

Before leaving the zones of influence of Ashern and Lundar which occupy almost all centres on the western side of the Interlake along Highway 6, brief reference will be made to the influence exerted by Winnipeg on all these centres. All wholesale products originate from wholesalers in Winnipeg, and it is quite customary for residents to travel once or twice monthly to Winnipeg to buy dress or fancy clothes, shoes, to visit the dentist, optician, lawyer, doctor (specialist), or even to have a major repair job such as a transmission overhaul etc. done to an automobile.

(iii) Fisher Branch

From Koostatak, including Dallas-Hodgson to Broad Valley, is the north-south extent of Fisher Branch's zone of influence. The districts around Sylvan, Zbaraz, Poplarfield to Chatfield are areas where the zones (of influence) of Fisher Branch and Arborg overlap. Farmers from these districts, depending on the commodity they require, travelling time, or the possibility of combining purposes on one single trip (almost the equivalent to a price reduction) patronize either centre.

Residents of Poplarfield and Chatfield interviewed, prefer travelling to Arborg to shop as they believe that there is a wider selection of alternative choices at Arborg, and to quote one farmer, "there is always something doing

at Arborg on a Friday and Saturday night". Distance was a factor which, they consider, influences them to patronize Fisher Branch.

Poplarfield to Arborg - 19 road miles

Poplarfield to Fisher Branch - 14 road miles

More than 80% of Fisher Branch's population is made up of Ukrainians and French. There are no Protestant churches or Orange Halls in the community, a feature characteristic of all other large centres in the Interlake, yet, there are two Catholic churches: a French Catholic and a Ukrainian Catholic. Interviewing revealed that bitter animosity existed between these two ethnic groups for many years until quite recently (about 10 years ago) when both parish priests began to intervene from the pulpit. Fisher Branch's hinterland like that of the centre is composed primarily of Ukrainians and French, with Anglo-Saxons (mainly around Hodgson), Germans, Poles and Icelanders together making up a small percentage.

(iv) Arborg

Arborg is the leading town in the north-central Interlake, and lies in the heart of the "better agricultural lands". If Fisher Branch was not as much as 33 road miles away from Arborg, there is every likelihood that it would suffer the same fate as Riverton and be included in Arborg's zone of influence. In spite of the distance, residents of the Fisher Branch district still travel regularly to Arborg to make use of the services such as the "Interlake News", egg grading station, drug store, credit union, bowling alley and jewelry store which are not available locally. On the other hand, the residents of Riverton think of their greater village as a rival to Arborg and some will despise this suggestion that their centre is included in Arborg's zone of influence. From investigation, it was evident that Riverton makes use

of the more specialized services not available locally, but offered at Arborg. Services such as provided by the weekly paper, clothing store, shoe store, jewelry store, hatchery, bakery, hospital, dentist, optometrist, laundry, upholstery and furniture repair, funeral home, R.C.M.P. station, bowling alley and public health nurse, are all obtained at Arborg.

Southwards, Arborg's influence extends as far as Meleb along the highway and includes Silver and Rembrandt districts. Hnaua's residents travel to Riverton as a first choice, and then to Arborg if the services they require are not available. The Arnes district to the south of Hnaua has its patronage divided between Arborg and Gimli. Many residents of Icelandic origin in the Arnes district prefer to patronize the business proprietors at Gimli (12 road miles away) with whom they have established long standing commercial ties, while other residents prefer journeying to Arborg and Riverton.

In the same way that some customers of the Chatfield, Poplarfield, Sylvan districts favour Fisher Branch, while others favour Arborg, similarly some residents of the Arnes area will travel to Gimli while others make use of the services at Arborg and Riverton. Interviews conducted in the Arnes area revealed that most people travel to the larger centres where their ethnic and blood relations live.

(v) Gimli

Gimli is the centre of highest functional rank in the Interlake. Yet, in terms of area, its zone of influence is smaller than that of all the centres discussed so far. Its zone of influence is however, much more densely populated, it serves more customers and there is every reason to believe that the purchasing power of its customers is also greater.

The trade of the Arnes district as was mentioned before is divided

between the centres of Arborg, Riverton and Gimli. There is an overlapping here of the zones of influence of Arborg and Gimli. Customers of Icelandic origin in the Arnes district tend to travel to Gimli rather than Arborg for as was indicated earlier, there is a reluctance to withdraw patronage from business people who served their fathers and grandfathers. The approximate area of Gimli's zone stretches southwards to the district of Dunnottar along highways 8 and 9 and eastwards to include Fraserwood.

In the area from Fraserwood to approximately Narcisse (where Highway 7 swings in an east-west direction), farmers indicated that it is more convenient to travel to Gimli rather than any other centre, that is, if private means of transportation is available. After further investigation, it was found that two out of every five residents travel to Teulon rather than Gimli. Individuals who patronize Teulon rather than Gimli were unable to suggest reasons for their preference of one centre over another.

Of significance within Gimli's zone of influence is the R.C.A.F. Station which provides full-time employment for 228 civilians in addition to approximately 750 service personnel.

The customers of the southern extent of Gimli's zone around the Dunnottar district begin to feel a trade attraction towards the town of Selkirk.

Selkirk's influence

A few businessmen of the town of Teulon optimistically insisted that they are now tapping trade from areas as far east as Petersfield. Yet from investigation in the Petersfield-Clandeboye district it was impossible to find any resident who travelled to Teulon for specialized goods and services. Within this area Selkirk performs a similar role to that performed by Winnipeg along Highway 6. The great variety and diversity of Selkirk's service units begin to attract customers as far north as to overlap with Gimli's zone around Dunnottar, with very little competition if any at all from Teulon.

(vi) Teulon

Teulon is one of the four towns of the Interlake, defined by diversity of service units. In terms of area, its zone of influence is as large as that of Arborg. It includes the districts of Inwood and Komarno (to the north), as far west as the Shoal Lakes and southwards to an imaginary line somewhere between Gunton and Balmoral (across Highway 7). Eastwards its zone is limited by the St. Andrew's bog, although a few Teulon businessmen insist that farmers come from as far east as Highways 8 and 9. To the north east, Teulon's influence terminates somewhere within the Pleasant Home district. The area between Malonton and Narcisse (paralleling Highway 7 as it swings in an east-west direction) is within the influence of both Teulon and Gimli, as some residents prefer journeying to Gimli while others to Teulon for specialized services not available locally.

Teulon is one of the most prosperous service centres in the Interlake. Approximately 20 new residential houses have been erected within the last 2 or 3 years. The diversity and total number of service units appear to be adequate for the market it supplies, but above everything, it was remarkable how interested the townsfolk were about community sponsored endeavours. The Chamber of Commerce was active, a credit union was recently formed and was getting support, the local United Church had opened a programme for girls such as sewing, knitting and domestic science, there was a 4H Club, Boy Scouts, Girl Guides and a gymnastic club at the school. Bingo parties were held regularly, and there appeared to be something every weekend for the local residents to do.

(vii) Stonewall

Stonewall's zone of influence is limited on the east by the St. Andrew's bog. To the south, it includes the Stony Mountain area, and to the north the Balmoral district. The entire area of Argyle, Elkhart and Woodroyd to the

west is included in its zone of influence. Stonewall has 67 diverse service units, and a total of 123. It appears to have adequate services for its local residents and its rural population.

It is the only centre with veterinary service (three veterinarians), a first class auto dealer (Stonewall Motors), a tire shop and a local milk delivery service. The morphology of the settlement is that of a town, rather than of a village or hamlet. There is a definite Central Business District, with the residential sector, hospital and high school away from the hustle of the Main Street. Stonewall has a limiting factor to its scope of influence, this is its proximity to Winnipeg (only 25 road miles). The wide range of retail, wholesale and other service facilities available at Winnipeg, limits the possibility of an introduction of many more diverse and specialized units at Stonewall. Stonewall originally started as a marketing and supply centre for the surrounding agricultural region, this function it has continued to perform. Its influence to the south may be limited, but Stonewall like Gimli, is one of the most advanced, prosperous and self-sufficient centres in the Interlake.

(viii) Other Centres

Emphasis throughout this chapter has been only on those centres which command zones of influence. There are other centres however, about which general comments are necessary.

Winnipeg Beach is a typical resort town. Its economy is based primarily on the city folk who maintain summer cottages at the beach, and the thousands of visitors who swarm the district during the summer months. Winnipeg Beach is a prosperous recreational centre during the summer, with skating, bowling, golfing, horseback riding, boating, swimming and fishing facilities readily available to holiday seekers.

Gypsumville (235 people) has the greatest potential for development among the

smaller centres of the Interlake. It originally started in 1900 as a mining centre of gypsum. Today mining is no longer the foundation of this centre's economy (only five persons were employed at the gypsum quarry during the summer months of 1962). A radar station is now (1962) under construction a few miles south-west of the townsite (near St. Martin). Construction workers in the area demand more services than those available locally. Gypsumville now has the largest hotel capacity in the Interlake (new hotel - 13 rooms, old hotel - 7 rooms, motel - 12 units). Its dining room and beverage room facilities are better than any available at Gimli or Stonewall. There however, is doubt concerning the permanence of this demand for services and facilities after the completion of the radar station.

General Remarks about Smaller Centres

Interviews held at most of the smaller centres, for example, Deerhorn (27 people), Grahamdale (44 people), Broad Valley (49 people), Gunton (88), Komarno (101), Chatfield (158) and Camper, Meleb, Silver and Malonton all centres of less than 50 people, revealed that proprietors of business establishments are all harassed by declining profits, rural depopulation and the attraction of potential customers to larger towns where there is a wider range of trading possibilities. These small centres still cater to the farmer's day to day needs and provide a location for farmers to meet and gossip. Farmers however no longer buy working clothes, kitchen utensils or hardware supplies locally. Their purchases are confined to bread, milk, butter, and maybe meat and potatoes. A factor that has accelerated the waning of these centres is the development of improved highways which by-pass most smaller centres (for example, Highway 7 - Komarno, Malonton, Broad Valley, Chatfield, Gunton). Improved highways, the universal use of cars by farmers, the wider range of trading possibilities at nearby larger centres and also the deprivation of the business of transient population using the highways -

INTERLAKE REGION

RURAL HINTERLANDS - W. J. RUSSELL

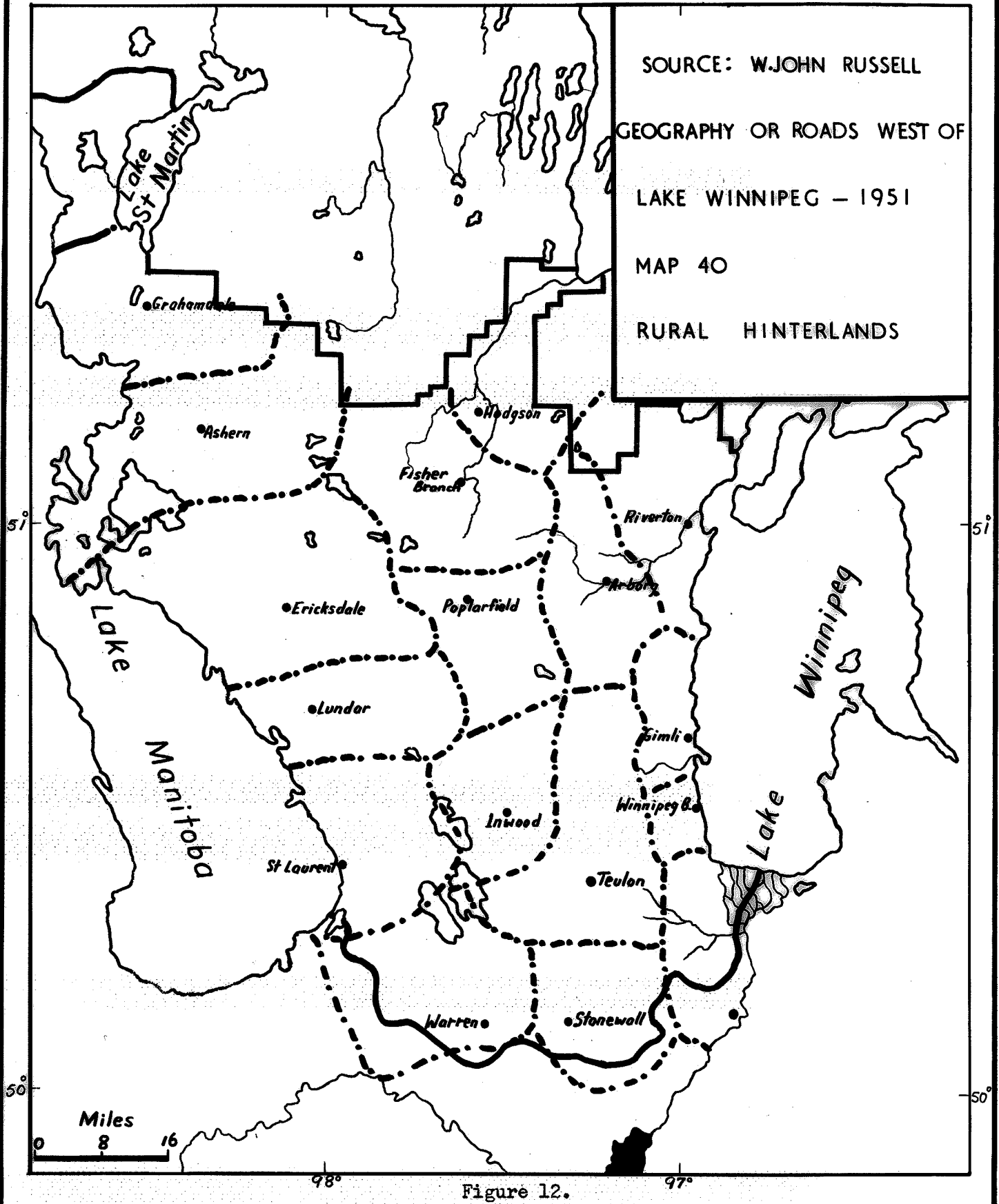


Figure 12.

an income upon which Hnaua, Arnes and Camp Morton thrive during both the summer and winter months, are some of the factors which are hastening the extinction of some smaller centres. But there are hamlets like Arnes, Hnaua and Camp Morton which are surviving and others which are suffering a progressive decline (for example, Broad Valley, Hilbre, Grahamdale, Komarno, Silver, Meleb). But declining hamlets is the general trend for the area. Rural depopulation (refer Fig. 7 - Total Population Change (%) 1941 - 61) within the last twenty years has been particularly true of many townships in the Interlake. Small centres which grew up depending primarily upon the buying power of farmers for survival, must consequently decay when farmers leave, and when those who remain only make use of the hamlet to collect mail, purchase elementary necessities and to chat and gossip.

The provision of elementary goods and of a convenient meeting place is the primary, and in many cases, the only role left for many small centres to play within their small communities.

CHAPTER VII
SERVICE CENTRES AND THE NATURE OF THEIR HINTERLANDS

In the previous section, by using the data obtained from interviews, the zones of influence of seven service centres were delineated, and possible reasons were suggested why customers patronize one centre rather than another. An investigation is now made of the nature of these hinterlands, particularly the quality of the farmland, its estimated suitability for various agricultural purposes, and the estimated purchasing power of these farm hinterlands.

The Estimated Suitability of the Soils of the Hinterlands for Various
Agricultural Purposes:

The discussion deals with the hinterlands of the 4 towns (Gimli, Stonewall, Arborg, Teulon) and the greater villages of Ashern, Fisher Branch and Lundar. The hinterland of the service centres refer to their zone of influence, and includes the zone it dominates and the other service centres plus their trade areas which are included in that centre's scope of influence.

Gimli: (Refer Figure 11 - Zones of Influence)

The better agricultural soils of the Interlake are those associated with surface deposits of lacustrine materials (clay and silt). Two thirds of Gimli's hinterland is occupied by these better soils (Peguis-Arnes Group and Lakeland Association- Refer Figure 13 Generalized Soil map of Interlake) while approximately one-third is taken up with soils of a generally high lime content and stoniness (Garson Assoc.) which tend to restrict agricultural use. There are also a few gravel and sand beach ridges which are seldom cultivated but are utilized chiefly as a source of gravel for road construction.

As S.W. Garland and T.O. Riecken indicated in their "Broad Land-Use Classification - of the Dennis and Chatfield Lake area", the better agricultural lands of lacustrine materials are connected with "the cultivated lowland" for grain along with dairying and livestock, while the "stoney Interlake upland" of high lime content is used for some grain cultivation but mainly for cattle. ¹ In terms of general soil categories, "the cultivated lowland" includes the Peguis-Arnes group and the Lakeland association while the "stoney Interlake upland" is made up of the Garson association and gravel and sand beach ridges.

Garson Association: The stoniness of this area severely limits its land use capability. The soils are stony and thin and the low fertility is due to the low nitrogen content. This area is better suited for hay production or use as native pasture than for grain production, since the low organic matter and high lime carbonate are also detrimental to crop production. In less stony areas under cultivation, forage, root crops and a limited extent of grain production exists. Substantial increases in yields are possible if these less stony areas are adequately fertilized with manure, nitrogen and phosphorus. As was noted, some grain is cultivated in less stony areas, but the use of this soil category is mainly for cattle rearing.

Gravel and sand beach ridges:

Within Gimli's hinterland, these areas are seldom cultivated, but are utilized chiefly as a source of gravel for road construction.

N.B. The information on which this section is based was obtained primarily from L.E. Pratt, W.H. Ehrlich, F.P. LeClair, J.A. Barr, - Report of Detailed Reconnaissance Soil Survey of Fisher and Teulon Map Sheet Areas, Soils Report No. 12.

¹ S.W. Garland, T.O. Riecken - Some Economic and Sociological Information about the Interlake Region of Manitoba - 1960 - Figure 1. 'Dennis and Chatfield Lake Area - showing Broad Land - Use Classification' p.4.

INTERLAKE REGION GENERALIZED SOIL MAP

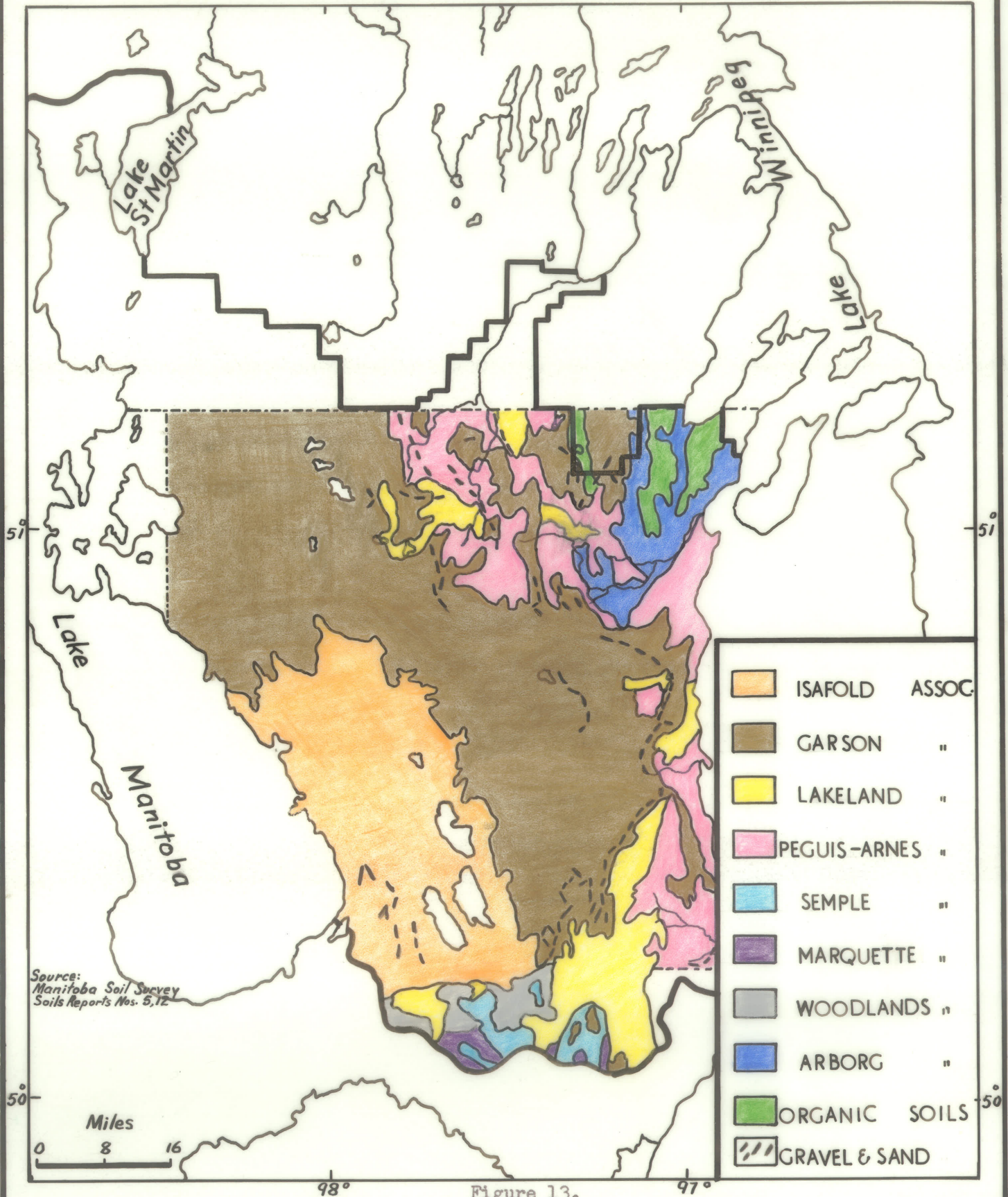


Figure 13.

The Peguis-Arnes Group represents the best agricultural soils in the Interlake and are found around the townsite of Gimli, north as far as the Arnes district and south to the village of Dunnottar. The east-west extent of this soil category is approximately from three miles west of Highway 8 to Lake Winnipeg. The Peguis soils are well suited to grain and forage crop production and are naturally fertile with favorable structure. Local flooding or water logging however is always a hazard in seasons with above average rainfall.

Arnes soils like the Peguis type are among the best agricultural soils in the Interlake, they are fairly well-drained and moderately fertile. Nitrogen and phosphate fertilizers usually increases yields of grain and forage crops. Even in areas with good agricultural soils, management problems arise. The soils of the Peguis-Arnes group are subject to waterlogging in very wet seasons and tend to become hard when dry, especially if the organic matter content is low. Continuous grain cropping also lowers the organic matter content and reduces soil fertility.

Lakeland soils extend from Camp Morton to Gimli approximately on both sides of Highways 8 and 9, and in an east-west direction for about 3 to 4 miles from Lake Winnipeg. These soils are of moderate productivity for grain, forage and intertilled crops. Crop yields respond readily to phosphate and nitrogen fertilizers as these soils are usually low in available phosphorus and organic matter. The Balmoral series of this group is not favorable for farming in its natural state, because of poor drainage, high lime content, and salinity. Applications of appropriate fertilizers yield good response with grain and forage crops. In this group waterlogging is also a hazard in excessively wet seasons.

In summation, it can be concluded that the soils of two-thirds of Gimli's farm hinterland are of reasonably high productivity for grain, forage

and most root crops. The Garson association, is of the lowest fertility with stoniness and high lime content as the major obstacles. In the less stony areas under cultivation, good crop growth is produced if soils are fertilized adequately. The Arnes-Peguis soils are among the best agricultural soils in the Interlake, with high natural fertility and high water holding capacity. The Lakeland soils are also moderately good agriculturally, and high in productivity for grain forage, and intertilled crops with the use of appropriate fertilizers. For both the Peguis-Arnes and Lakeland soil associations, waterlogging is the chief hazard in wet seasons which are above normal. Waterlogging is the chief managerial problem, yet with artificial drainage, stone removal and appropriate fertilization, good yields of grain, forage and root crops can be produced.

Teulon:

Teulon's hinterland includes the districts of Inwood and Komarno to the north, it extends westwards as far as the Shoal Lakes, southwards to an imaginary line somewhere between Gunton and Balmoral, and eastwards to the St. Andrews bog.

Teulon is situated within the Garson soil association, and is flanked on the east and west by gravel and sand beach ridges. About 2 miles eastwards is a band of moderately fertile soils of the Lakeland association running in a north-south direction. Within the immediate vicinity of Teulon, the soils of the Garson association include those of the Garson, Inwood and Pine Ridge series. These soils are thin, of fairly low fertility and are greatly limited by stoniness. Cultivated areas require continuous stone removal. Extensive cultivation of forage crops and production of limited quantities of grain is carried on in the less stony areas bordering Highway 7. This is only possible when these soils are heavily fertilized with manure and/or phosphorus. From an agricultural stand point, these areas are best suited for pastureland.

West from Teulon, the Garson association consists mainly of the Meleb and Chatfield series, with some deep peat. A common feature here is the peaty character of the soils which make them poorly drained and non-arable unless artificially drained. Improvement in draining is difficult as ridges lie across the direction of land fall. The native grasses and sedges are low in phosphorus content and cattle grazing on this forage requires mineral supplements. In their natural state they are of limited value for native hay and pasture. Further west in the vicinity of Shaol Lakes are marsh and saline flats, soils of very low agricultural value. Some of these areas are used periodically as native hay and pasture land, but in most seasons the land is too wet for these purposes. The saline flats are largely bare of vegetation and have a white encrustation of salts when the surface is dry.

East of Teulon, the quality of the farmland improves, soils are reasonably fertile and associated with the Lakeland association. The Lakeland, Morton and Balmoral series (all of the Lakeland association) make up the major part of Teulon's eastern hinterland. The Lakeland and Morton soils are of satisfactorily high productivity for grain, forage and intertilled crops. They have no major management problems but contain excessive amounts of lime carbonate at or near the surface. Unprotected fields are susceptible to wind erosion, which is detrimental to these naturally thin soils with calcareous sub-soils. Among the Lakeland series waterlogging is also a hazard in excessively wet seasons, while the Morton series suffers from a low content of organic matter. In both series of soils most crops show marked response to phosphate and nitrogen fertilizers. Intermingled with these moderately fertile soils are those of the Balmoral series. The chief problems involved in farming these soils are associated with their poor drainage, high lime content, salinity and in some places thin peat cover. Excessive lime in the cultivated area is detrimental to crop growth, with waterlogging still a

hazard. With the application of nitrogen and phosphate fertilizers good yields of grain and forage crops are received. In their natural state these soils are not favorable for farming.

Teulon has a larger hinterland than Gimli. Its hinterland to the west is of low agricultural value, poorly drained, and non-arable. Emphasis in this district is on cattle grazing, on native hay and pasture, which in its natural state is of limited value. The best soils of the hinterland are of moderate fertility and associated with the Lakeland group. Though Gimli's hinterland is smaller than Teulon's the quality of the farmland is more suited to the production of both grain and forage crops, and is not limited by as many management problems. Gimli's hinterland includes the moderately fertile soils of the Lakeland association (Teulon's most productive agricultural soils), as well as those of the Peguis-Arnes association which have high natural fertility and are among the best agricultural soils in the Interlake.

Arborg:

Arborg's hinterland includes the Peguis-Arnes, Garson and Lakeland associations of soils dealt with before, plus the Arborg association which is characteristic of this district. Included among the Arborg association in the vicinity of the townsite are soils of the Fisher series which though small are among the most fertile soils in the Interlake.

S.W. Garland's and T.O. Riecken's "Broad Land-Use Classification Map of the Dennis and Chatfield Lake area"² indicates that the southern portion of Arborg's zone of influence is made up of "marsh and meadow", and "stoney Interlake upland". The stoney Interlake upland is connected with the Garson association already dealt with in analyzing the hinterlands of Gimli and Teulon. A brief recapitulation will indicate that this type of soil is severely limited by stoniness. The soils are stony, thin and low in fertility

²Ibid.

because of a low nitrogen content. In areas less stony, forage, root crops and a limited extent of grain are produced, with the application of appropriate fertilizers however, adequate yields result. This area is best suited for hay production or use as native pasture for cattle. The production of alfalfa has been a considerable success in this area.

The remainder of Arborg's tributary area is divided almost evenly between the Arborg association and Peguis-Arnes association with small sections of the Lakeland association and shallow deep peat soils.

Around Vidir district is a small pocket of Lakeland association soil (Balmoral series). With the application of nitrogen and phosphate fertilizers reasonable yields of grain and forage crops are produced. The chief problems involved in farming these soils are the poor drainage, high lime content, salinity, thin peat cover in some places and its susceptibility to waterlogging and local flooding. In their natural state these soils are not favorable for farming yet if corrective methods are adopted, they are estimated to be fair to good for grain crops, fair for intertilled root crops and good to fair for cultivated hay. Deep peat soils in the northern extremities of Arborg's hinterland are not suitable for farming and of relatively no agricultural value in their natural state. Some shallow peat soils have been cultivated through the installation of ditches, they are however low in fertility and better suited to grass production than to grain.

The wealth of Arborg's farming hinterland is found in those areas associated with Peguis-Arnes and Arborg soil associations. Peguis-Arnes association represents the best agricultural soils but there are some management problems. They are rated from fair to good to excellent for grain crops, from poor to fair to good for root crops, and from fair to good to excellent for cultivated hay crops. The Peguis-Arnes association includes soils of the Arnes, Framnes, Shorncliffe, Fyala, Tarno and Peguis series.

The Arnes series is found in small pockets throughout the area. They represent good agricultural soils, moderately well drained, and reasonably fertile. They produce increased yields of grain and forage crops with the use of nitrogen and phosphate fertilizers.

The Framnes series is found in the Framnes district. They are moderately good agricultural soils suited to the production of grain and forage. Local flooding is a hazard in wet seasons. Around the Shorncliffe district is the Shorncliffe series, with a minor problem of imperfect drainage. Fertilization with nitrogen and phosphorus produces maximum yields of grain and forage crops. The use of these specific fertilizers is due to the excessive liminess of the substrate and low organic matter content. Approximately within an area extending from south west Framnes - south of Arborg - to northern Arnes, is the Fyala-Tarno series. Both these soils have features in common. They are non-arable in their natural state because of poor drainage. Most of this area is cropped however, as artificial drainage has been introduced. The soil fertility is moderately low, owing to the very high lime content of the silty substrate which adversely affects fertility. With the use of appropriate fertilizers yields of grain crops produced are rated fair to good.

The Peguis series (around Sylvan, Vidir, Zbaraz and south of Geyser) comprises some of the best agricultural soils of the Inberlake, and is well suited to grain and forage crop production. It is naturally fertile, but as in the case of most soils of this association, it is subject to waterlogging in excessively wet seasons. In general, most of the soils of the Peguis-Arnes group are well suited to the production of grain and forage crops, with increased yields if suitable fertilizers are employed. These soils are also always subject to water logging in very wet seasons, causing extensive crop losses in many instances.

Within the immediate vicinity of Arborg on the flood plains of the Icelandic river and in very small extent are Fisher soils, the most fertile in the Interlake. They are ideally suited to the production of grain and forage crops, producing good yields in most seasons.

The typical soil group of this area is the Arborg association. On these soils, grain crops produced rate from good to fair, intertilled crops from fair to poor, and cultivated hay good. These soils can be considered moderately productive under favorable conditions. Problems arise from the heavy clay texture, poor structure and slow drainage. For root crops these soils are not suited, but all other crops respond favorably to applications of nitrogen and phosphorus fertilizers.

Arborg serves a moderately rich agricultural hinterland. For grain crops - the Arnes, Arborg, Framnes and Shorncliffe series of soils are considered from excellent to good to fair. The major problem of most soil series in Arborg's hinterland is waterlogging in above average wet seasons, but it has been demonstrated that with adequate artificial drainage, along with the use of appropriate and correct fertilizers, the soils of the lowest fertility in this area - Garson association- are capable of producing good crop yields. In terms therefore of the quality of farm hinterlands it is apparent that the farmers of the Arborg areas will receive better crop yields and should have a higher purchasing power than the farmers of either the Teulon or Gimli area.

Riverton:

The soils of Riverton's trade area are similar to those of Arborg's farm area. They however lack the variety of Arborg's hinterland. The Arborg soil association flanks both sides of the Icelandic river, and is of greater extent here than in the vicinity of Arborg. As has been previously noted, under favorable conditions, these soils are of fair fertility and moderately

N.B. Riverton's hinterland is a subdivision of Arborg's zone of influence as indicated in the preceding chapter.

productive, but problems include heavy clay texture, poor structure, and slow drainage. Grain crops produced on these soils rate from good to fair, good for cultivated hay and fair to poor for intertilled crops. These soils are not suited to root crop production, but other crops (grain, forage), respond favorably to the application of nitrogen and phosphorus fertilizers.

The Washow Bay area in the northern section of the hinterland consists predominantly of organic soils (deep peat) which are not naturally suitable for anything and are of relatively little value. These soils occupy areas that are flat and poorly drained. Under the provincial government's land reclamation project started in 1949, much of what was formerly useless peat land is now cultivated and settled. Mennonite settlers on these reclaimed areas have been able to bring large areas under cultivation by artificial drainage. The reclaimed land is used principally for hay, pasture land and limited quantities of grain.

Between Riverton and Lake Winnipeg are marsh flats. In their natural condition these soils are non-arable, the native hay is of very poor quality, and even the areas drained are of low agricultural value.

To the south-east of Riverton are some of the best agricultural soils, the Peguis-Arnes association (dealt with at length in discussing Arborg's hinterland). The soil series included in the Peguis-Arnes association of this district are the Arnes, Peguis and Fyala series. In the midst of these better agricultural lands are poorer soils of the Inwood-Maleb series located approximately five miles north of Hnausa on both sides of Highways 8 and 9. These are thin soils, stony, moderately low in fertility, subject to water-logging and have a tendency to become very calcareous at the surface

when cultivated. Grain crops produced rate fair to poor and cultivated hay good to fair. These soils are of relatively little value for intertilled crops. Since grain crops do not produce well, they are used mainly for forage. For good crop growth nitrogen and phosphate fertilizers are required.

Riverton's trade area is limited on the east by Lake Winnipeg and its adjoining marsh flats, and on the north by the organic soils of deep peat. Although its trade area includes moderately productive and the good agricultural soils of the Arborg-Peguis-Arnes association, there are pockets of the Inwood-Meleb series which in their natural state are of moderately low fertility. In comparing the trade areas of Arborg and Riverton it ought to be noted that Arborg's trade area is larger, it consists of soils just as fertile and in many instances more suited to the production of both grain and forage crops than that of Riverton. Arborg has no limitations of the lake, marsh soils, or deep peat, hence it is to be expected that farmers in the Arborg area fare better, obtain greater yields from the more productive soils, have greater purchasing power, and bring more money into the centre, thereby causing Arborg to be of a more thriving service centre than Riverton.

Fisher Branch:

The farm tributary area of Fisher Branch possesses good agricultural soils of moderately high fertility. These soils can be considered as on par with or better than those of Riverton, Gimli and Teulon and surpassed only by the soils of Arborg's hinterland.

The greater village of Fisher Branch is like an island in the midst of the most fertile soils in the Interlake (Fisher soils). These are immature soils which occur on the flood plain and levee deposits of the Branch Fisher river. They are ideally suited to the production of grain and forage crops, producing good yields in most seasons and are completely stone free. (As noted earlier, the town of Arborg is also situated in the immediate vicinity of a

very small area of these fertile soils). The problem of liminess in Fisher soils is minimized by the application of appropriate fertilizers, while a lesser problem is the flooding of the flats in very wet seasons. Grain crops produced on these soils rate good to fair, intertilled crops also good to fair, with cultivated hay crops rating from good to excellent.

Some of the best agricultural soils (Arnes-Peguis) association in the Interlake suited to the production of both grain and forage crops are found within the immediate vicinity of Fisher Branch (Refer to analysis of Arborg's farm hinterland where Arnes-Peguis association is discussed). The Arnes-Peguis soil association in this district comprises the various soil series-Fyala, Peguis, Arnes, Frammes, and Tarno. Based on the suitability for farming, these soils are rated from fair to good to excellent for grain crops, from poor to fair to good for intertilled crops and from fair to good to excellent for cultivated hay crops. Poor drainage renders some soil series of this group (Tarno and Fyala) non-arable in their natural state. Artificial drainage and use of nitrogen and phosphorus fertilizers improve these soils which are of moderately low fertility because of the high lime content of the silty substrate. Yet this soil is able to produce grain crops rated fair to good.

Extending in a north east - south west direction from Fisherton to south of Fisher Branch are gravelly outwash beach deposits. These soils are unsuitable for grain production, of relatively low fertility, sometimes cultivated with drought tolerant grasses and consequently best used for improved pastureland. These outwash beaches consisting of coarse sand, gravelly materials, and stratified drift deposits, are often used as a source of gravel for road construction.

Further eastwards on the periphery of the good agricultural soils are those of moderately low fertility (Garson association-Stonewall series, Narcisse

series). Agricultural utilization is hindered by excessive stoniness, low nitrogen content and generally low fertility. Use of appropriate fertilizers yield grain crops fair to poor, and cultivated hay fair to good. Most of these soils are primarily suited therefore for use mainly as pastureland.

Immediately west of the greater village of Fisher Branch are extensive areas of the Balmoral series of soils. These soils are associated with poor drainage, high lime content, and salinity. The surface drainage of most of this area has been improved through the installation of drainage channels, and with applications of nitrogen and phosphate fertilizers good yields of grain and forage crops are produced. Waterlogging continues however to be a problem in wet season above average.

Further west towards Sleeve Lake thin very stony soils of moderately low fertility which tend to become calcareous at the surface when cultivated, are encountered. Moreover these areas are also subject to local flooding and water logging in wet seasons. The native grasses are low in phosphorus, and wherever cattle grazing is attempted mineral supplements have to be added. Nitrogen and phosphate fertilizers are required for good crop growth, but emphasis is on forage production as grain crops do not produce well in most years.

In conclusion, Fisher Branch has good farmland within its immediate vicinity. Further to the east and west however, the suitability of these soils for grain production gradually deteriorates. To the west, are thin very stony soils of moderately low fertility on which forage production yields well with the use of correct fertilizers. Beyond the better agricultural lands to the east are soils of moderately low fertility which are better suited for use mainly as pastureland than for grain crops. On these soils of low fertility grain crops produced are rated as fair to poor even with the use of appropriate fertilizers.

The hinterlands of two other greater villages and one town (Lundar, Ashern, Stonewall) remain to be discussed. The hinterlands (zones of influence), of Lundar and Ashern are analyzed first, because there are many characteristics common to the farm trade areas of both these centres.

The soils of this area bordering Highway 6 north of Woodland are developed on high lime parent material and consist mainly of stony moraine and drift deposits. The land along Lake Manitoba is low lying and best suited for pasture and hay. Further back from the lake, stoniness is excessive, drainage is poor, the land is unsuited for cultivation and only small isolated pockets of land have soils that can be used for extensive grain production. Generally, fertility is low in phosphorus, and yields of grain can only be increased by the application of phosphate fertilizers. Emphasis is on cattle, but most of the cattle suffer from phosphorus deficiency in the fields.

Lundar:

The entire tributary farmland of Lundar can adequately be described by "thin soils- high lime content- very stony- low fertility".

The Lundar area consists of two major soil associations:

1. Isafold Association (From Deerhorn to south of St. Laurent)
2. Garson Association (From Deerhorn as far north as almost Gypsumville)

The Isafold Association includes almost two thirds of Lundar's tributary area (soils of Isafold, Lundar, Clarkleigh and Marsh complex series). For grain crops (wheat, oats, barley) and intertilled crops, these soils are rated from fair to poor, while for cultivated hay and pasture their suitability vary from fair to poor to fair to good. The suitability of the soils of the Garson Association (Inwood, Meleb, Stonewall, Garson, Narcisse, Chatfield series) for cultivation is just as discouraging. For grain production the rating is either poor or fair, for intertilled crops poor to fair, and for cultivated hay from fair to good or from good to fair. In the midst of these

soils of low fertility are isolated pockets of better agricultural lands (Peguis, Balmoral, Fyala series). The suitability of these pockets of better soils for cropping is evident by the rating of fair to good or good for grain crops and good to fair or good to excellent for cultivated hay.

In the major soil associations, many features hinder successful agricultural utilization of these soils:

- (i) Soluble salts in the parent material periodically rise to the surface by capillary action.
- (ii) In wet seasons, soils are subject to waterlogging.
- (iii) In dry seasons, native hay and cultivated crops are affected by physiological drought.
- (iv) Extremely thin stony soils.

Other than the few isolated pockets of better agricultural soils, grain cultivation requires intensive stone removal and heavy use of phosphate and nitrogen fertilization in order that soils may be moderately productive. Production of cultivated hay is the only suitable use for these calcareous soils, with cattle rearing as the only worthwhile occupation of the farmer. It is noteworthy that there is no grain elevator within the vicinity. The nearest elevators are at Warren 50 miles south or at Moosehorn 47 miles north of Lundar along Highway 6. Grain farming is virtually limited to a small section of the hinterland and cattle rearing on pasture land which in its native state is poor, is the only hope of the farmer. Along the east coast of Lake Manitoba and within Lundar's tributary area are marsh and salt flats of low agricultural value and native hay of poor quality.

A noticeable feature is the relatively large amounts of "idle land" cultivated at one time, and not seeded for several years. This is because (i) the soils do not produce satisfactory crops after native fertility is depleted (ii) much of the land is stony and possibly never suitable for permanent cultivation and (iii) the ground water table rises and periodic

flooding occurs. Consequently, temporarily unoccupied farms have gone to sod and are not rebroken.

In conclusion the emphasis of Lundar's hinterland is on cattle grazing. Farms are generally organized to utilize native grassland or cultivated hay crops through cattle production. Sale of cattle and dairy products is the major source of income. The native pastureland is of poor quality consisting mainly of sedges and salt tolerant plants of low quality. Forage growth improvement is made by the application of phosphate and nitrogen fertilizers. Grain products are grown on small selected pockets of fairly productive soil and it is not unusual to have relatively high grain yields (1957-28.4 bushels wheat per acre)³. Grain yields do not reflect however the true productivity of the soils in the area. Also of interest is the fact, that wherever cropping takes place, oats is common, with wheat and barley in small amounts. Finally, recent surveys, indicate that farm incomes in the area are generally low averaging between \$1,034.00 to \$1,616.00 annually.⁴ It follows that the purchasing power of the hinterland will be low and that the service centres of Lundar and Ericksdale which depend on the money brought in from the farm trade area, will not be as prosperous as Arborg, Gimli, Teulon, Stonewall, centres which dominate rich agricultural hinterlands.

Ashern:

Ashern's hinterland is large, it stretches from Deerhorn northwards as far as Gypsumville. It is associated with the Garson soil association; which occupies the largest portion of the "Interlake till plain" and is characterized by thin, very stony soils developed from high lime till that have been

³ McKenzie K.M. "Survey of St. Laurent, Coldwell, Ericksdale District", Changes in Farm Organization - Interlake Area of Manitoba 1957, Winnipeg: Economics Division, Marketing Service, Canada Dept. of Agriculture, 1958.

⁴ Ibid.

degraded under the prevailing aspen and spruce vegetation.

Typical features of Ashern's farming hinterland are:- "thin very stony soils" - "low fertility" - "low nitrogen content" - "from an agricultural standpoint mainly pastureland with native grasses and sedges low in phosphorus content" - "subject to waterlogging and local flooding in wet seasons". In general the area is of low agricultural value, with mineral supplements required for cattle grazing on the native pastureland. Ashern's hinterland is, as mentioned before, associated with the Garson soil group which includes the following soil series- Garson, Stonewall, Inwood, Meleb, Chatfield, Narcisse, Leary, Polson and Marsh. For grain crops, the soils are rated as fair, poor, not suitable, or of relatively low value. For intertilled crops from poor to fair, to not suitable, while for cultivated hay from not suitable, to poor to fair, to fair, to fair to good. Based on the estimated suitability for the cropping of these soils Ashern's hinterland appears to be similar to that of Lundar.

From an agricultural standpoint, the main use of this land is for pasture. On less stony areas, where cultivation is possible, forage crops and a limited extent of grain crops are produced when appropriate fertilizers are applied. In some areas cropping is not at all possible as the soils are wet most of the year, high in lime, invariably stony, and highly saline in sections. The only use of these areas is as native pastureland (native grasses and sedges). Very often however, these native grasses are low in phosphorus content and cattle grazing on this forage requires mineral supplements. On the areas best suited for use as improved pastureland, seeding of suitable grasses greatly increases the hay and pasture value of this land. There are small pockets of better agricultural land, for example north of Dog Lake, where with the use of corrective fertilizers grain crops produced rate from good to fair and good.

In conclusion, it must be noted that Ashern's farm hinterland is greatly hindered by the natural limitations of its soil's capability. Grain crops do not yield well in most years as these soils do not produce satisfactory crops after native fertility is depleted, hence cropping is limited to forage production, and the farmers' activities are confined mainly to cattle rearing.

Stonewall:

As noted previously Stonewall's zone of influence is limited on the east by the St. Andrews bog, to the south it is delineated by an imaginary line drawn from Stony Mountain running approximately east-west, westwards it includes the area of Argyle-Ekhart-Woodroyd, and to the north by a line running east-west midway between the centres of Balmoral and Gunton.

Stonewall is the second largest town in the Interlake. It was originally started as a market centre for its agricultural hinterland, a role it still maintains. The diversity of service units it provides is surpassed only by that of Gimli.

	<u>Diversity of Service Units</u>	<u>Total Number of Service Units</u>	<u>D.B.S. 1961 Population</u>
Gimli	74	123	1841
Stonewall	67	123	1420

Stonewall's hinterland east of highway 7 is dominated by Lakeland clay loams and clay, which for the most part occupy meadow land and are often salinized. There are isolated pockets of other soils east of highway 7, for example, Osborne clays, Garson soils (on which Stony Mountain is situated) and Marquette clays to heavy loams. The northern extent of its hinterland is made up of Lakeland (fine sandy loams), Semple (clay loam to clay) soils, and soils of the Woodlands complex (sandy loam to heavy clay loam). The western area of Argyle-Ekhart-Woodroyd is occupied primarily by soils of the Woodland complex with small sections of Lakeland (fine sandy loam) and Semple

N.B. The main source for the analysis of Stonewall's zone influence was:
W.A. Ehrlich, E.A. Poyser, L.E. Pratt, J.H. Ellis.- Report of Reconnaissance Soil Survey of Winnipeg and Morris Sheet Areas, October, 1953., Report No. 5.

soils. The townsite of Stonewall is also situated on a block of Garson soils which is encircled by a large extent of Semple soils. Marquette soils are found to the south, west, north-east, and in pockets within these Semple soils. The following generalized soil associations make up Stonewall's hinterland.

(1) Lakeland (clay loams & clay) more than 50%
(fine sandy loam)

(11) Semple, Woodlands, Marquette soil associations make up almost the entire remaining portion, together with small isolated pockets of Garson and Osborne soils.

Lakeland soils association - In natural fertility these soils are considered medium. They are high in lime content (having been developed on calcareous parent materials) and susceptible to wind erosion. East of Stonewall, these soils occupy many depressional areas which are poorly drained, in the better drained areas however, surface drainage of these soils is not a serious problem. These soils are best suited to mixed or diversified farming. Livestock production together with the growing of grass legume mixtures are the predominant enterprise of these soils. In local sites, productivity is limited because of the presence of soluble salts, with the better drained areas being utilized for grain farming. The poorly drained soils are best utilized for hay or pasture and it is only under improved drainage and controlled moisture conditions that these will produce satisfactory yields of grain.

Because of the low phosphorus content caused by the calcareous nature of the parent material, phosphate fertilizers are required for cereal and other crops to offset this deficiency. Cattle raised on this soil are deficient in phosphate but this can be corrected by feeding the proper mineral supplement and by the application of phosphate fertilizers to hay and pasture crops.

Semple Association: These soils are of medium to high fertility.

The soils of the Semple association as a whole are best suited to mixed farming. They are moderately high in productivity but a considerable portion is still in its virgin state because of the combination of the cost of clearing the forest cover and the local stony condition of the soil. The arable soils are suitable to grain, grass, legume and root crop production. Non-arable areas may be utilized as pastures or wood lots. Poorly drained areas require provision for drainage and the removal of excess surface water. If adequately drained these poorly drained soils may be cultivated, but where drainage is inadequate, crop production is restricted to hay crops which are tolerant to some degree of flooding.⁵

In general, the arable soils are suitable for the production of grain, forage and intertilled crops, with stoniness, poor drainage and low organic matter content of the soil as management problems.

Marquette Association: In natural fertility these soils are rated medium high in non-salinized areas, and low to medium in saline soils. There are two main management problems associated with these soils:

- (i) Poorly drained soils are usually salinized to some degree, and often salt concentration is strong enough to inhibit plant growth.
- (ii) Some soils are intractable because of continued fallow-grain culture.

The better to intermediately drained soils are considered good for general agricultural cropping. Root crop production is limited because of the sticky and cloddy nature of the clay soil which causes difficult and late harvesting in wet fall seasons. This soil association requires periodic grass and alfalfa production to keep the soils porous and friable and to improve soil tilth and drainage.

The poorly drained soils are of variable productivity, because of the variable degree of salinity. Some saline soils are suitable only for hay or pasture. In some areas however fair to good grain crops can be grown if

⁵ Ehrlich, W.A. Poyser E.A. Pratt L.E. Ellis J.H. Report of Reconnaissance Soil Survey of Winnipeg and Morris Sheet Areas - October 1953. p.39

artificial drainage has been installed for the removal of excess surface water. In general Marquette soils are good for grain and grasses, with major problems of drainage and salinity hindering crop production.

Woodlands Association: This soil association is of medium fertility, with major management problems including slow drainage, local stoniness, limy nature of the soil and salinity. The Woodlands Association includes all the transitional soils between the Lakeland and Isafold association.

Mixed farming with major emphasis on livestock production is the type of agriculture best suited to soils of this complex. During the survey fair to good grain crops were seen on summer fallow, but grain crops on second-crop land were poor. Physiological drought and fertility appear to be limiting factors. Grass legume crops are essential to maintain organic matter. Phosphate fertilizers are required to offset low availability of phosphorus in the soil, and barnyard manure has a high fertility value when applied to these soils. It may be noted that some areas are either too stony or are too saline to be used as arable land in which case they are best utilized for hay and pasture.⁶

In conclusion it is evident that some centres (Arborg, Stonewall, Fisher Branch, Gimli) are supported by farm hinterlands which are estimated, in average seasons, to be more suitable for agricultural production than others (Lundar, Ashern). As was mentioned earlier, the land of the Interlake is marginal or submarginal so far as agriculture is concerned, with only 13% of the farmland rated as fairly good or better for agricultural use.⁷ This 13% obviously refers to the areas of lacustrine materials (clays and silt) over till- (the hinterlands of Arborg, Gimli, Fisher Branch and Riverton), as opposed to the "limestone till plain" which includes the hinterlands of Ashern and Lundar. These areas of lacustrine materials (clays and silt) include the generalized soil associations (Refer "The Generalized Soil Map" Fig.13) referred to as the Peguis-Arnes group, Arborg association, Lakeland

⁶ Ibid., p. 35

⁷ Source: Preliminary Economic Survey of Interlake Area of Manitoba, unpublished report submitted to the Dept. of Industry and Commerce, Province of Manitoba.

association, and in the vicinity of Stonewall, the Semple and Marquette association. Generally these are good agricultural soils, moderate to high in natural fertility and capable of producing grain crops and cultivated hay rated from fair to good to excellent in average seasons. In spite of the suitability of these soils for cropping, management problems arise, for example, waterlogging in above average wet seasons, low organic content, low nitrogen supply and excessive amounts of lime carbonate at or near the surface. However, most of these soils respond well to applications of nitrogen and phosphorus fertilizers.

The largest area of the Interlake is occupied by the "Interlake till plain" or "limestone till plain". This is a gently undulating area of ground moraine consisting dominantly of limestone materials. The Garson and Isafold soil association occupy the entire area referred to as the limestone plain. Both these soil associations are rated low in natural fertility, and capable of producing grain crops rated as fair or poor to fair, and cultivated hay rated as good to fair or fair to good in average seasons. It should be re-emphasized that the service centres of Ashern and Lundar are located among these soils of low natural fertility. These soils are impeded by problems of excessive stoniness, imperfect drainage, high lime content and low organic matter. The area is generally too stony for cultivation and the arable land percentage is limited because of the stoniness of the region. Stones are found at plough depth hindering both tillage and root development. The less stony lands are fair for grain, but the general stoniness necessitates that agricultural activities be largely confined to livestock production. The forage produced is generally low in phosphate and a deficiency of phosphate results in the cattle unless their feed is supplemented with grain or the required mineral.

Table 17

ESTIMATED SUITABILITY OF SOILS IN STONEWALL AREA FOR VARIOUS PURPOSES

SOIL DESIGNATION	CULTIVATED LAND						
	GRAIN CROPS		INTERTILLED CROPS			CULTIVATED HAY	
	WHEAT	COARSE GRAIN	FODDER CORN	SEED CORN	ROOTS & POTATOES	GRASSES	LEGUMES
Fine Sandy Loams	F - G	F - G	F - G	F-G	G - F	G - F	G
LAKELAND ASSOC. Clay Loams	G - F	G - F	F - G	F-G	G	G	G
SEMPLE ASSOC.	(V) F-G	(V) G-F	(V) F-G	?	F - G	(V) G-F	(V) G-F
Intermediately Drnd. MARQUETTE ASSOC.	G-E	G - E	G	F-G	G - F	G	G
Salinized Assoc.	(V) F-G	(V) F-G	(X) F	?	(X) F	F-G	(V) F-G
WOODLANDS ASSOC.	(V) F	(V) F	(V) F-P	?	(V) F	F-G	(V) G-F

Symbols - E = Excellent

E-G = Excellent to good

G-E = Good to excellent

G = Good

G-F = Good to fair

F-G = Fair to good

F = Fair

F-P = Fair to poor

P-F = Poor to fair

P = Poor

V = Variable

X = not naturally favorable but would be utilized if suitable corrective measures were adopted.

Note: The following estimates are given as a guide to the average suitability of each soil association for land use in average seasons.

Source: Report of Reconnaissance Soil survey of Winnipeg and Morris Map Sheet Area, Report No. 5, October 1953, Table No. 7. p. 56B.

From the analysis and assessment of the soils' suitability for various agricultural purposes, it is obvious that the areas of lacustrine clays and silt deposits, are more suitable for agricultural production than the "limestone till plain". John W. Alexander's statement that, "A portion of the economic effort in a city is supported by non-local demands ... (and) constitutes the city's economic foundation",⁸ and Mark Jefferson's observation that, "It brings money into the city and is termed basic"⁹ both appear to be reasonably applicable in the Interlake. The weak agricultural hinterland,⁹ "weak economic foundation", of both Ashern and Lundar in a predominantly agricultural environment is obviously one reason why these centres are of a lower functional rank than the centres of Arborg, Gimli, Stonewall and Riverton. Agricultural soils of moderate to high natural fertility, produce better crops, yield increased returns if correct and appropriate fertilizers are applied, the farmers have more money to spend, and the service centres which they patronize, for example, Arborg, Gimli, Stonewall, Teulon and Fisher Branch will provide an adequate number of services and will be generally more prosperous. On the other hand, the service centres with hinterlands of low agricultural fertility in a predominantly agricultural environment will struggle to survive especially if alternative sources of income are not available to their customers.

⁸John W. Alexander, "The Basic-Non Basic Concept of Urban Economic Functions" Readings in Urban Geography edited by Harold M. Mayer, Clyde F. Kohn, p.87

⁹Mark Jefferson, "The Distribution of the World's City Folks: A Study in Comparative Civilization," Geographical Review, XXI: p.453, 1931.

Service Centres and the Estimated Purchasing Power of Their Hinterlands

This section deals with a further analysis of the zones of influence, by discussing the possible factors which determine the income of the farmers who patronize these 7 service centres.

Of the factors which influence farm income, the most important are: (i) the amount of improved land available, that is, the acreage that is available for crop production; (ii) the present use of the land available for crop production (crops cultivated, and crop acreage); (iii) yield performance over a period of years; (iv) production costs; and (v) the prices received for grain, cattle and other farm products. Since these factors will be dealt with in the following pages, it is recommended while reading this section, that reference be made to the following Figures and Tables.

Figure 6, Rural Population- 1961 (dot map)

Figure 10, Zones of Influence.

Figure 12, Generalized Soil Map.

Figure 16, Cereal Crop Receipts.

Figure 14, Generalized Land Classification by Township.

Figure 15, Per Cent Improved Land by Township.

Table 19, Present use of Land by Shipping Points.

Table 20, Yields per Acre for Principal Cereal Crops by Shipping Points.

Table 18, Estimated Population Density by Zones of Influence.

Reference is made particularly to Fig. 14, and 15, in this section hence a full explanation is given of the bases on which these maps were constructed. Both maps are taken from a report published by the Economics Division, Canada Department of Agriculture in co-operation with the Manitoba Dept. of Agriculture and Conservation in March 1963.

INTERLAKE REGION

GENERALIZED LAND CLASSIFICATION

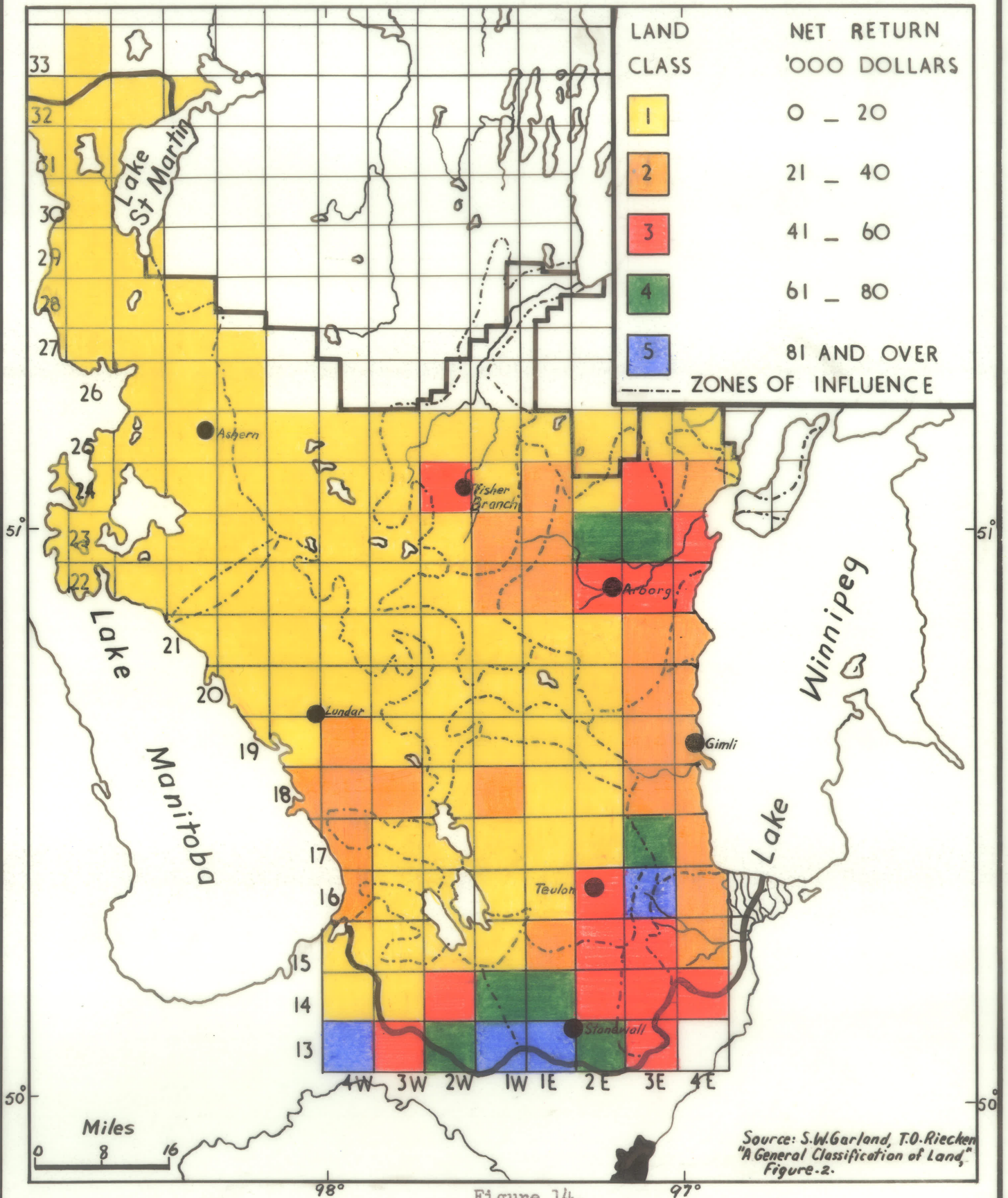


Figure 14.

Fig. 15. - Percent Improved Land by Township: The total land area does not include land in such uses as urban - industrial, transportation, parks, schools and townsites.

The first step in the classification procedure was to assemble data on the present use of land on a township basis with the main division being made between improved and unimproved land. The improved land includes land in cultivated crops, improved hay and pasture, and summer fallow. The unimproved land includes all the remaining land area in general agricultural use. The unimproved land includes land use for grazing and hay, including land with tree cover, marshes, and waste land. The major source of information for this major separation of land use were records of the Manitoba Provincial Municipal Assessment Branch and Local Government District Office. These sources were supplemented by aerial photographs and actual field checks.

Once the amount of improved land was established, each township was placed in one of five categories, according to the proportion of the total area improved, as follows:

Group I	-	0- 20 per cent improved.	
Group II	-	21- 40 per cent improved.	
Group III	-	41- 60 per cent improved.	
Group IV	-	61- 80 per cent improved.	
Group V	-	80-100 per cent improved.	ll

Fig. 14. - Generalized Land Classification by Township: The classification is based on the annual net value of agricultural production per township. It represents the net value of crops produced from cultivated land areas and the net value of beef produced from lands used for hay and pasture. Data used are related to present land use, average crop and pasture yields, long run average prices for grain and cattle, and current farm costs.

Figure 2 shows an estimate of the average annual net income produced in each township, under the assumptions and limitations listed above. It is restressed that the income is, for the most part, an income produced under the present use of land, and should not be interpreted as an income produced under what is necessarily the "best and highest use". System of land management Figure 2 summarizes to some extent the township income, in that each township is placed in one of five categories. The categories are as follows:

INTERLAKE REGION

PERCENT IMPROVED LAND BY TOWNSHIP

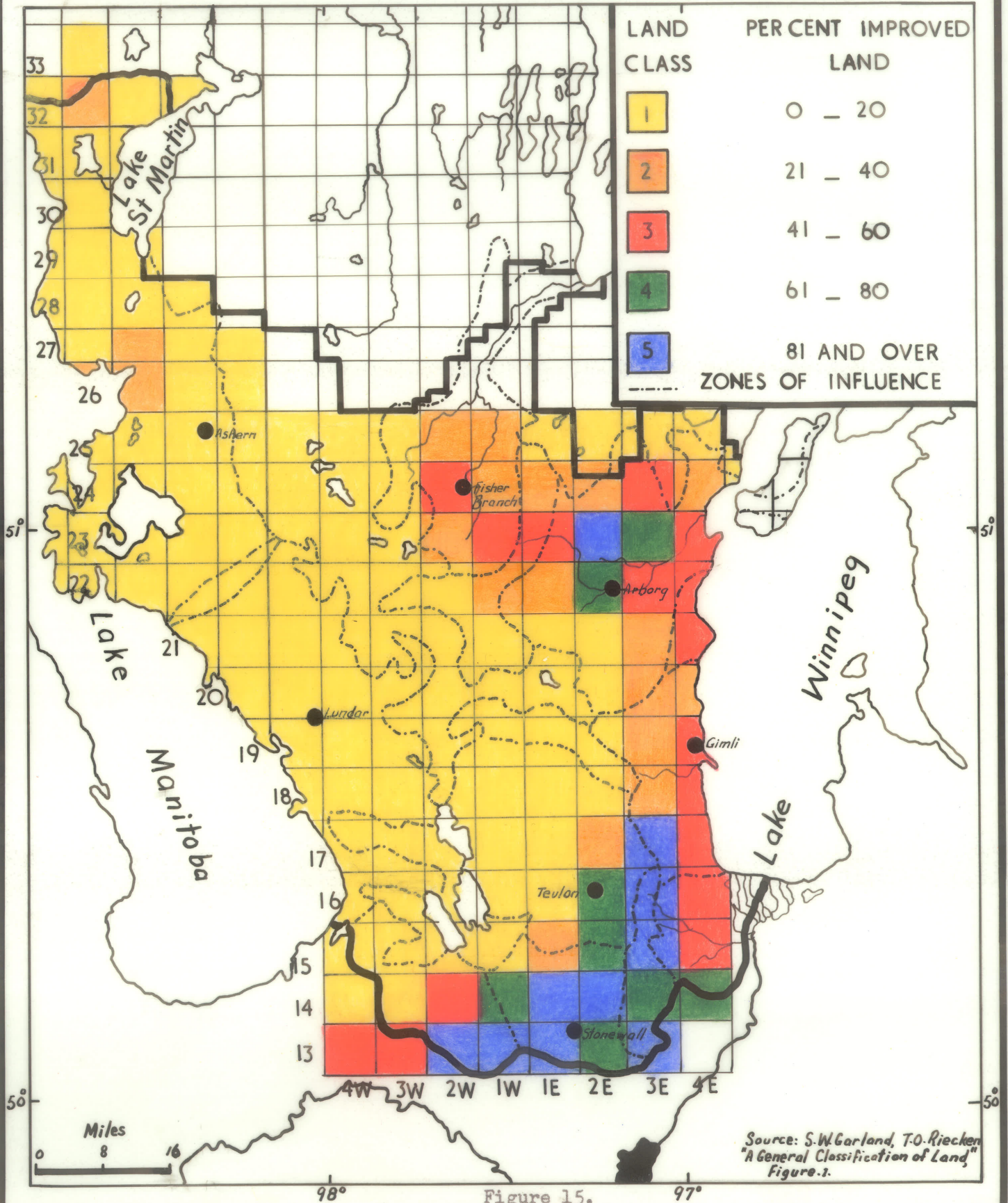


Figure 15.

<u>Class</u>	<u>Average annual net return per township</u>
	- '000 dollars -
I	0 - 20
II	21 - 40
III	41 - 60
IV	61 - 80
V	81 or more

A striking feature of Figure 2 is the variation that exists between the incomes produced by the individual townships. This variation is the result of several factors but probably the major ones are (a) the number of improved acres in each township and (b) the yields of crops and grazing lands. The implication of these income differences for the farmers and for any area is evident. The best townships (Class V) have on the average, five or more times the income produced in the poorest (Class I) townships. Yet, in many cases the number of farms and farm people in townships of different quality is about the same.¹²

Superimposed over Figures 14 and 15, are the zones of influence of the seven primary centres in the Interlake in order that it may be possible to establish the relationship which exists between the hinterlands of these centres, the population density, the general soil characteristics, the soils' suitability for various agricultural purposes, the percent improved land by township, cereal crop receipts by shipping points, and the annual net value of agricultural production by township.

Gimli:

The approximate area of Gimli's hinterland is 272 square miles. It supports a population of approximately 7257 people (town of Gimli-1841, farm and non-farm population - 5416),¹³ giving a population density of approximately 27 people per square mile.

(Refer Figure 15) Of the eight townships which together make up Gimli's hinterland, 25% (2 townships) of the total area has less than 20% of each township in improved land (Group I). Three townships (38% of the total area)

¹²

Ibid., p.15

¹³

Gimli's R.C.A.F. Station accounts for about 900-1000 of the non farm population included in Gimli's hinterland.

LEGEND - (Figure 16) - CEREAL CROP RECEIPTS

Summary of Country Elevators Receipts at Individual Shipping Points

10 Year average, 1951 - 1961
Bushels (Wheat, Oats, Barley, Rye,
Flour)

1.	Arborg	714,411
2.	Teulon	559,148
3.	Fisher Branch	416,024
4.	Warren	364,985
5.	Riverton	328,333
6.	Stonewall	215,086
7.	Moosehorn	193,717
8.	Balmoral	137,008
9.	Argyl	110,542
10.	Gimli	109,399
11.	BroadValley	107,960
12.	Winnipeg Beach	102,628
13.	Hodgson	96,718
14.	Gunton	89,853
15.	Glandeboye	73,001
16.	Petersfield	65,599

Source: Statistics Branch
Board of Grain Commissioners for Canada

INTERLAKE REGION

CEREAL CROPS RECEIPTS

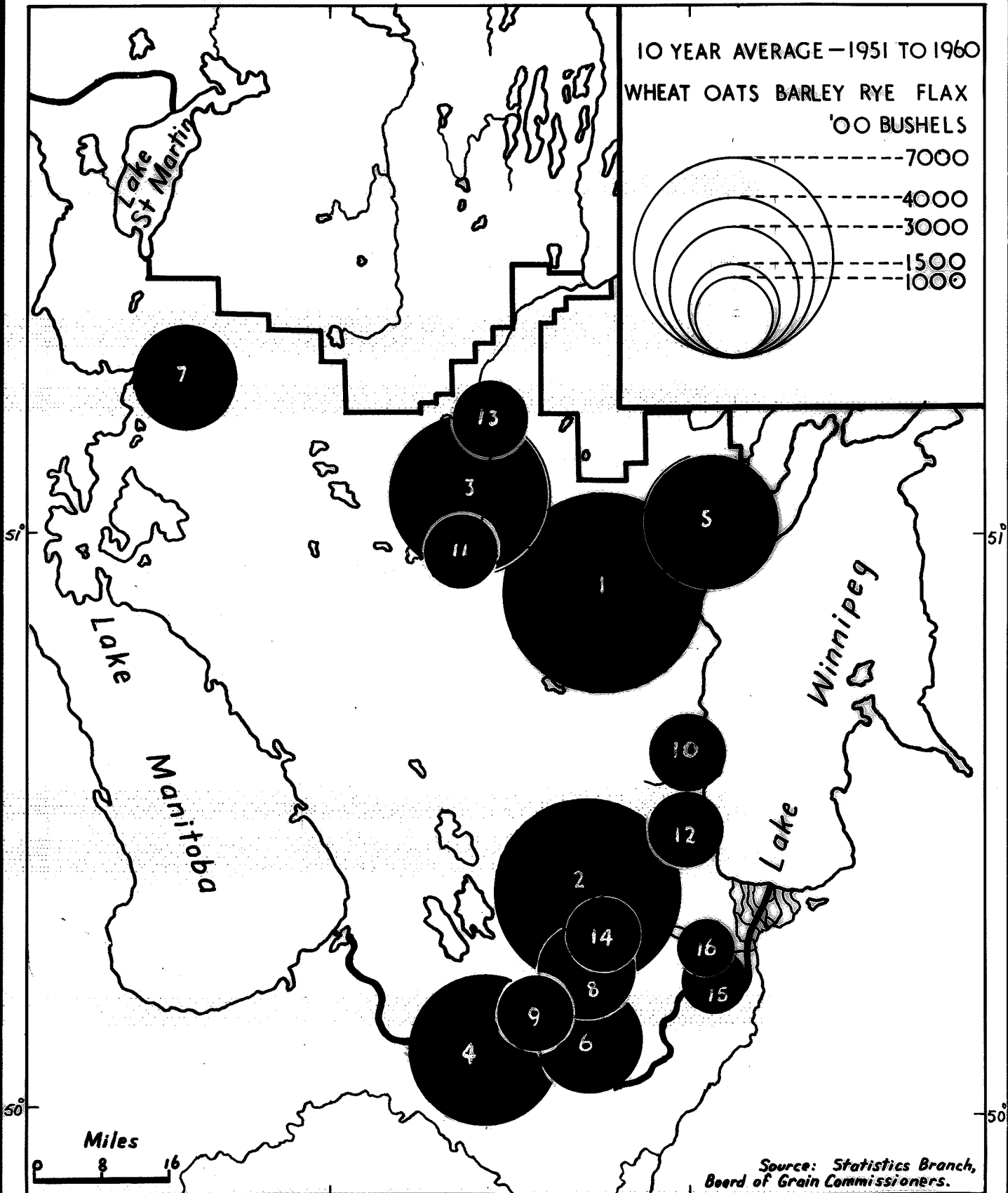


Figure 16.

have between 21-40% of each township in improved land (Group II), while the remaining 37% has a range of 41-100% of each township occupied with improved land (Group III, Group V).

(Refer Figure 14) Two townships (25% of the total area) have an annual net value of agricultural production of less than \$20,000 (Class I), approximately 65% of the total area has an annual net value of agricultural production per township of between \$21,000 - \$40,000 (Class II), while 10% fall in Class IV (\$61,000 - \$80,000).

(Refer Table 19) Records for the 1961-62 crop season indicate that 46% of Gimli's hinterland was uncultivated, 13% was used for summer fallow, 16% forage crops, and 24% was in cereal crops (wheat 10%, oats 11%, barley 1%, flax 2%). Only 1% was occupied in other crops.

Table 20, indicating "Yields per acre - 10 year period 1953-62", shows that wheat production yielded 21 bushels per acre, and oats 29 bushels per acre.

For 1961 - wheat - 18 bushels per acre oats - 25 bushels per acre

1962 - wheat - 35 bushels per acre oats - 45 bushels per acre

Stonewall:

Stonewall's hinterland of approximately 227 square miles maintains a population of about 4949 people (Stonewall-1420, rural population-3529). Its population density of 22 people per square mile is surpassed only by that of Gimli (27 people per square mile - which is due to a large degree by the concentration of close to 1000 residents at the R.C.A.F. Station west of Gimli).

(Refer Figure 15) Of approximately six townships which are included in Stonewall's hinterland, 10% (or less than one township) has less than 20% of its area in improved land (Group I), another 10% has between 21 - 40% of its area in improved land (Group II), while five townships (80% of the total area)

have between 61-100% of each township occupied with improved land (Group IV,V).

There is a marked correlation between the townships of the highest net value of agricultural production and those of the largest percentage of improved land. The township with less than 20% of its area in improved land, also has less than \$20,000 annual net value of agricultural production (Class I). The other portion of a township in Group II (21-40% of its area in improved land) also has between \$21,000-\$40,000 annual net value of agricultural production, while 80% of the total area which has 61-100% of each township in improved land, also has the highest net return between \$41,000-\$81,000 and more per township (Class III,IV,V). This strengthens the contention that townships with the largest percentage of improved land, also have the highest agricultural returns.

(Refer Table 19) Data on the use of land during the 1961-62 crop season, indicates that Stonewall's hinterland has the highest percentage of cropped land- 51% cereal crops (wheat-14%, oats 31%, barley 3%, flax 3%), 15% forage crops, 17% summer fallow, with only 16% of the acreage uncultivated.

(Compare with percent uncultivated land at other shipping points -Moosehorn 59%, Riverton 36%, Gimli 46%, Arborg 35%, Teulon 32%, Fisher Branch 39%).

Table 20, shows the following yield performance over the 10 year period, oats 40 bushels per acre, wheat 22 bushels per acre.

1961	Oats	40 bushels per acre	Wheat	18 bushels per acre
1962	Oats	10 bushels per acre	Wheat	25 bushels per acre

Arborg:

Arborg's hinterland has an approximate area of 716 square miles, and a population of about 7819 (Arborg 811, rural population 7008). It's population density is approximately 11 persons per square mile.

(Refer Figure 15) Of twenty townships included in Arborg's hinterland, 5 townships (25% of the total area) are in Group I (0-20% improved land per

township), 30% of the total area (6 townships) is in Group II (21-40% of improved land per township), while the remaining nine townships (45% of the total area) have a range of 41-100% of improved land per township (Group III, IV, V,).

Figure 14 indicates that the annual net value of agricultural production by township in 30% (6 townships) of Arborg's hinterland is in Class I (0-\$20,000), 35% (townships) is in land Class II (\$21,000-\$40,000), while the remaining 35% of the total area yield an annual net value of agricultural production ranging from \$41,000-\$80,000 (Class III, Class IV) per township.

The present use of land by acres as indicated by Table 19 shows that 46% of the total acreage is uncultivated, 13% is in summer fallow, 16% forage crops, while all cereal crops account for 24% (wheat 10%, oats 10%, flax 2%, barley 1%). Cereal and hay crops are the chief users of the land, while crops other than small grains account for only 1% of the total acreage indicating the extensive nature of the crops of Arborg's hinterland.

For the 10 year period (1953-62), yields per acre for the two principal grain crops were as follows:- oats-36 bushels per acre, wheat - 21 bushels per acre.

1961	Oats	15 bushels per acre	Wheat	18 bushels per acre
1962	Oats	50 bushels per acre	Wheat	25 bushels per acre

Teulon:

Teulon's hinterland has an estimated area of 501 square miles, it supports a population of 3964 (Teulon 749, rural population 3215), giving a population density of approximately 8 people per square mile, the lowest population density of the hinterland of any town in the Interlake.

This is reflected in Figure 15, where it can be seen that about 70% (10 townships) of the total area has less than 20% improved land per township

(Group I), 14% has between 21% - 40% improved land per township, while the remaining 16% of the total area is in Groups IV, V, (61-80%, 81-100% improved land per township). The townships with the greatest proportion of improved land are east of the townsite of Teulon (areas of lacustrine deposits), while the 70% of Teulon's hinterland with less than 20% improved land per township lies within the "limestone till plain", the area which supports a sparse population.

Figure 14, further indicates an important aspect of the nature of Teulon's hinterland. Ten townships (70% of total area) have less than \$20,000 (Class I) net return of agricultural production per township, 10% (a little more than 1 township) of the total area has between \$21,000-\$40,000 (Class II) net return per township. One township (Rge. 18 tp 1W) in Class II is completely surrounded by townships within Class I (0 - \$21,000 per township). It can be suggested, that this anomaly is due to the additional source of income gained by farmers in this township during the summer months at the lime processing plant at Inwood. This further suggests that there is more money in this township to be invested in agricultural pursuits (dairying, livestock rearing), resulting in increased returns and enabling this township to stand out with a higher net value of agricultural production (Class II) than the surrounding townships (Class I). The remaining 20% of the total area has an annual net value of agricultural production per township ranging between \$41,000-\$81,000 and more (Class III, IV, V).

Table 19 shows that 39% of the total area is in cereal crops (wheat 10%, oats 18%, barley 6%, flax 5%), 13% in summer fallow, 15% forage crops, and 32% uncultivated. Yield returns over 10 year period (1953-62) show an average of 19 bushels wheat per acre, and 34 bushels oats per acre.

1961	Wheat	20 bushels per acre	Oats	35 bushels per acre
1962	Wheat	20 bushels per acre	Oats	40 bushels per acre

Fisher Branch:

With an area of approximately 417 square miles, and a population of 2970 (Fisher Branch 369, rural population 2601), Fisher Branch's trade area has a density of about 7 persons per square mile. This zone of influence extends north of Fisher Branch to as far as Fisher Bay (in order to include Koostatak). This northern extent of the trade area is undoubtedly the reason for the small population density.

Figure 15 does not extend north of township 25, as it excludes Indian Reserves and areas of limited settlement. Of approximately 12 townships included in its hinterland, 3 townships (25% of the total area) are in Group I (0 - 20% improved land per township), 6 townships (50%) have between 21%-40% of each township in improved land (Group II), while the remaining 25% of the total area (2 townships) has a range of 41% - 60% improved land per township (Group III).

Figure 14 indicates that 58% (7 townships) of the total area has an annual net value of 0 - \$20,000 per township (Class I), 33% (4 townships) between \$21,000-\$40,000 per township (Class II) and the remaining 9% between \$41,000-\$60,000 net return annually per township.

On the basis of present use of land, the percentages are quite similar to those of Arborg and Teulon, 39% uncultivated, 15% summer fallow, 12% forage crops and 33% cereal crops (wheat 14%, oats 13%, barley 3%, flax 3%)- (Refer Table 19).

Yield performance for cereal crops for the last 10 years indicate 17 bushels per acre (wheat), 30 bushels per acre (oats), 10 bushels per acre (flax) 19 bushels per acre (barley).

	Wheat	Oats	Barley	Flax (bushels per acre)
1961	10	20	12	10
1962	20	30	25	10

Lundar and Ashern:

A striking comparison is available between the five centres already investigated (located in areas of lacustrine deposits "better agricultural soils"), and the remaining two centres, Lundar and Ashern, located in the "limestone till plain" (these soils are developed on high lime parent material, and consist mainly of stony moraine and drift deposits). Lundar's hinterland has an area of approximately 551 square miles. It supports a population of 2091 (Lundar 713, rural population 1378), giving an average density of 4 persons per square mile. Ashern's density is 5 persons per square mile, with an estimated area of 958 square miles and a population of 4913 (Ashern 374, rural population 4539).

(Refer Figure 15) All the townships (15) included in Lundar's trade area have less than 20% of the total area per township in improved land (Group I). Ashern has 10% (3 townships) of its total trade area with 21%-40% improved land per township (Group II), the remaining 24 townships (90% of total area) are in Group I (less than 20% improved land per township).

(Refer Figure 14) Lundar has 26% (5 townships) of its trade area in Class II indicating an annual net value of agricultural production of \$21,000-\$40,000 per township, while its remaining 74% plus all of Ashern's 27 townships (100% of its trade area) fall within Class I, an annual net value of less than \$20,000 per township.

There are no yield performance statistics for either of these centres, as data is only available for shipping points. At Moosehorn is the only grain elevator on Highway 6 north of Warren. This elevator serves farmers of the trade areas of both Ashern and Lundar hence the yield figures for this station are worthy of mention.

10 years average (1952-61)

Wheat - 17 bushels per acre

Barley - 21 bushels per acre

Oats - 31 bushels per acre

Flax - 7 bushels per acre

	Wheat	Oats	Barley	Flax (Bushels per acre)
1960	15	30	22	9
1961	4	6	-	4

While the yield characteristics of the other centres may reflect the production from all the soils in the surrounding area, this is not necessarily the case around Moosehorn. Agricultural emphasis in this area is on cattle, hence 17 bushels of wheat per acre (1952-61 average) actually refer only to local soil conditions and is not indicative of the general yield level of the entire area served by the grain elevator at Moosehorn. (Refer Table 20). The shipping point of Moosehorn only has 6% of its cropped land utilized in wheat production and 14% in the production of other cereal crops, as compared with the following percentages of land taken up with cereal crops at the other centres, Riverton 34%, Fisher Branch 33%, Teulon 39%, Arborg 36% and Stonewall 51%.

Table 21 verifies the conclusion drawn after the analysis of the preceding section, that is, that the areas of lacustrine clays and silt deposits are more agriculturally productive than the limestone till plain. It is also now evident, that farmers who live in areas of good agricultural soils, of moderate to high natural fertility, will have a greater annual net value of agricultural production per farm, higher incomes, and greater purchasing power than farmers who cultivate areas of low agricultural natural fertility.

In concluding it is worthwhile to look briefly at some of the smaller centres and to see whether there is a relationship between the categories of land (as defined by S.W. Garland and T.O. Riecken in Figures 14 and 15) in which they are located, and either the decay or survival of those communities as service centres. Table 24 indicates, that there are six small centres (Malonton, Rembrandt, Lake Francis, Deerhorn, Clarkleigh, Mulvihill) which do not meet the minimum requirements of a hamlet. It appears unlikely that by

sheer coincidence these six small centres are all located within the "limestone till plain" and fall within the lowest categories of Figures 14,15-Land Class I, \$ 0 - \$20,000 net agricultural return by township and 0-20 percent improved land by township.

Among the service centres classed as hamlets there is also this relationship between the less agriculturally productive environment and struggling communities. From the interviews conducted during the field work, it was evident that the farmers and general store proprietors at Camp Morton, Arnes, Hnaua were more optimistic about the future of their community than those at Grahamdale, Camper, Hilbre and even Meleb and Silver. Factors other than the agricultural productivity of the soils obviously influenced the optimism of the residents of Hnaua, Camp Morton and Arnes. The primary reason was that additional opportunities were available to these communities to supplement farm income, for example, part-time fishing on Lake Winnipeg, part-time jobs as carpenters and painters, repairing and renovating summer cottages along the lake, jobs as labourers, grocery store attendants, and helpers at the summer amusement park at Winnipeg Beach, the additional business for the general store proprietors created by summer vacationers at the summer camps and cottages that line the lake-shore from Winnipeg Beach to Hnaua, and then the R.C.A.F. Station at Gimli as a permanent source of employment for 228
14
civilians.

The conclusion to be drawn is that the smaller centres located in the vicinity of less agriculturally productive soils are declining, those within more productive agricultural areas are not necessarily prosperous (Gunton, Netley), but the residents of small communities, which are located close to sources which can supplement their farm income, are more optimistic about the survival of their small communities in spite of the province wide trend of declining small centres.

¹⁴Based on information received from Personnel Dept. RCAF Stn. Gimli,
2nd November 1962.

TABLE 18

ESTIMATED POPULATION DENSITY BY ZONES OF INFLUENCE

Centres	Population	Approximate Area of Zones of Influence Square Mile	Population of Zones of Influence	Total Population	Density of Population per Square Mile
GIMLI	1841	272	5416	7257	27
STONEWALL	1420	227	3529	4949	22
ARBORG	811	716	7008	7819	11
Teulon	749	501	3215	3964	8
FISHER BRANCH	369	417	2601	2970	7
ASHERN	374	958	4539	4913	5
LUNDAR	713	551	1378	2091	4

Note:

Area of Zones of Influence: (Method of calculating approximate area). The grid or square method was employed. Townships (1 township = 36 square miles) are divided into sections (1 section = 1 square mile).

All complete townships are first counted, parts of townships (complete sections) are then counted. The rule of thumb is applied for all parts of sections.

Sections with more than half of its area in the zone are counted as a complete section, sections with less than half of its area in the zone are discarded.

Overlapping zones are included in the areas of both adjoining centres.

Population of Zones of Influence:

Population is counted by townships.

The population of overlapping areas is counted twice, that is, included in the population of both adjoining zones.

TABLE 19
PRESENT USE OF LAND (ACREAGE BY SHIPPING POINTS) CROP YEAR 1961-62

Shipping Points	Uncultivated Acres %	Summer Fallow Acres %	Forage Crops Acres %	Total Cereal Crops Acres %	Wheat Acres %	Oats Acres %	Barley Acres %	Rye Acres %	Flax Acres %	Rapeseed Acres %	Durum Acres %	Other Crops Acres %	Total Acreage
GINLI	18120 46	5001 13	6103 16	9446 24	3870 10	4143 11	685 1	-	748 2	-	-	304 1	38974
STONE-													
WALL	7034 16	7557 17	6549 15	21974 51	5912 14	13544 31	1234 3	2	1096 3	65	121	272 1	43386
AREORG	65955 35	24898 13	29292 15	68393 36	21198 11	26761 14	14370 8	12	5812 3	218	22	2824 1	191362
TEULON	34590 32	14313 13	15969 15	41590 39	10577 10	19775 18	6186 6	158	4719 5	10	165	704 1	107166
FISHER													
BRANCH	48365 39	18616 15	15779 12	41676 33	17801 14	16388 13	3910 3	-	3480 3	20	77	1131 1	125567
RIVER-													
TON	32639 36	12389 13	14813 16	31523 34	8501 10	13312 15	4248 5	35	3886 4	79	21	1441 1	91373
MOOSE-													
HORN	88615 59	12196 8	16502 11	29380 20	9256 6	12650 9	4889 3	12	2551 2	9	13	2399 2	149092

Source: (Wheat Board-Statistic^s Department)

TABLE 20

YIELDS PER ACRE (BUSHELS) - 10 YEAR AVERAGE (1953-62) (BY SHIPPING POINTS)

<u>Shipping Points</u>	<u>Wheat</u>	<u>Oats</u>	<u>Barley</u>	<u>Rye</u>	<u>Flax</u>
GIMLI	21	29	20	14	9
STONEWALL	22	40	28	13	11
ARBORG	21	36	23	15	10
TEULON	19	34	21	16	9
WINNIPEG BEACH	18	29	18	17	7
FISHER BRANCH	17	30	19	16	10
RIVERTON	19	37	22	19	9
MOOSEHORN	17	31	21	--	7
WARREN	21	39	24	--	8
HODGSON	23	37	23	--	10
BALMORAL	21	36	21	17	8
PETERSFIELD	23	40	19	21	8
CLANDEBOYE	22	32	23	18	10
GUNTON	21	39	21	18	10
ARGYLE	25	39	17	--	11
BROAD VALLEY	16	31	18	--	9

Source: Wheat Yield by Towns - Sandford Evans Statistical Service,
Winnipeg, Canada

TABLE 21

SUMMARY OF (i) PERCENT IMPROVED LAND (ii) GENERALIZED LAND CLASSIFICATION
BY TOWNSHIP BY TOWNSHIP

Zones of Influence	Proportion of Total Area	Category	% of Improved Land by Township	Proportion of Total Area	Category	Annual Net Value of Agricultural Production by Township- '000 Dollars
GIMLI	25%	I	0-20%	25%	I	0 - 20
	38%	II	21-40%	65%	II	21 - 40
	37%	III, V	41-60% 81-100%	10%	IV	61 - 80
STONEWALL	10%	I	0-20%	10%	I	0 - 20
	10%	II	21-40%	10%	II	21 - 40
	80%	IV, V	61-80% 81-100%	80%	III, IV	41-60, 61-80
ARBORG	25%	I	0-20%	30%	I	0 - 20
	30%	II	21-40%	35%	II	21 - 40
	45%	III, IV, V	41-100%	35%	III, IV	41-60, 61-80
TEULON	70%	I	0-20%	70%	I	0 - 20
	14%	II	21-40%	10%	II	21 - 40
	16%	IV, V	61-80% 81-100%	20%	III, IV	41-60, 61-80
FISHER BRANCH	25%	I	0-20%	58%	I	0 - 20
	50%	II	21-40%	33%	II	21 - 40
	25%	III	41-60%	9%	III	41 - 60
ASHEFN	90%	I	0-20%	100%	I	0 - 20
	10%	II	21-40%			
LUNDAR	100%	I	0-20%	74%	I	0 - 20
				26%	II	21 - 40

CHAPTER VIII
THE LOCATION OF THE SERVICE CENTRES

Having classified the centres according to functional diversity, and having discussed the relationship which exists between small and larger centres, and between centres and their service areas, there remains one other aspect to be dealt with in this study: an explanation of the spatial arrangement of service centres.

In advancing theoretical principles concerning the spatial arrangement of trade centres in South Germany, Christaller states that,

The system of central places developed on the basis of range of central goods used the assumption that all areas were able to be served from a minimum of central places; therefore the principle on which the system was developed can be called the marketing or supply principle. But there are other factors. The principles of traffic The political-social (administrative) principles.....¹

(1) the average trade area must be a close approximation to a circle, with traffic routes converging toward the center from all parts; and (2) the centers must be regularly spaced in a radial-circular system, the higher-ranking centers falling in a framework of successively larger tributary areas and standing at successively greater distances apart. Geometric laws determine what would seem to be the most efficient manner of serving the inhabitants of any area. Each center has a circular trade area in contact with the trade areas of six equal-ranking equidistant centers. The costs of reaching one center increase progressively outward from the center in all directions up to an economic limit fixed by transport costs and travel time. Hence additional centers of like kind should always develop beyond the reach of any one center. Galpin found that competition existed in a zone of overlap between neighbouring centers. Christaller theoretically eliminated overlap by reducing the circles to hexagons, which are the perfect mathematical resolution of adjacent circles covering a plane surface. A rectangular arrangement with each center equidistant from four other centers would result in more overlap and require more centers to serve a given area.²

¹ Brian J.L. Berry, Allen Pred, Central Place Studies: A Bibliography of Theory and Applications, p.16 Abstract of theoretical parts from W. Christaller, "Die zentralen Orte in Suddertschland",

² J.E. Brush, "The Hierarchy of Central Places in S.W. Wisconsin," The Geographical Review, 43(1953), pp.390-91.

Christaller further states that the spacing of trade centres in all categories from the smallest to the largest is controlled by a constant mathematical relationship. The ideal distance between two adjacent centres of equal rank is $1.73 (\sqrt[3]{3})$ times larger than the distance between two adjacent centres of the next lower rank. The size of the trading area for a centre of a given rank is three times as large as the size of the trading area of the next lower rank. The number of centres in any given rank is equal to twice the number of all higher ranking centres.³

These theoretical postulates of Christaller are based on a number of assumptions,³

- (1) that central places evolve to meet the needs of the rural population.
- (2) that the area under study is an agricultural area in which resources and population are distributed uniformly, and
- (3) communication and transportation from one place to another is not impeded in any way.⁴

It is unrealistic to attempt to fit Christaller's theoretical pattern of service centre location into the Interlake, since the assumptions on which his theoretical postulates are based, are not applicable here. Although the majority of the inhabitants gain their livelihood by agriculture, the types of agricultural activity vary from grain production along with dairying and livestock farming in better agricultural areas to ranching in marginal or sub-marginal farming areas. The configuration of the area consists of former beach ridges, a cuesta in the Stonewall-Teulon area, and a gentle swell and swale topography with the low ridges (swells) lying across the general direction of the fall of the land causing a major damming effect on the drainage. The run off from these ridges either collects or flows into channels which lead to larger marshes or lakes of the Shoal Lakes - Sleeve Lake - Chatfield Lake type which have no natural outlets and are in general uninhabitable areas.

³Taken from: Royal Commission on Agriculture and Rural Life, "Service Centers", Report No. 12, submitted to the Gov't. of Sask., 1957, p.133

⁴Ibid., pp. 60-61

Topography, poor drainage and unequal distribution of natural resources, plus uneven distribution of population, historical factors influencing settlements and above all transportation routes, all play a part in disturbing the possibility of any "system of central places after the marketing or supply principle" as devised by Christaller.⁵

There are four railway lines serving the Interlake running roughly in a north-south direction (one line runs in a N.W. - S.E. direction) which converge approximately within the vicinity of Winnipeg at the southern extremity of the study area. A glance at the map showing the location of all service centres analyzed reveals a well-defined linear pattern conforming with the location of the four railway lines (Refer Figures-8,9). From observation in the field, it is also evident that the railway depot was invariably located in the Central Business District of most centres, and that all business enterprises grew up around the focal point of the centre which was Railway Avenue. Teulon, Arborg, Ericksdale, Moosehorn, furnish good examples of this. Evidence seems to indicate further that the coming of the railways determined the locational pattern of service centres. A few centres, (such as Stonewall, St. Laurent, Balmoral) were established before the railway came. As it happens the railway lines headed towards these centres, but in almost all other cases, earlier settlements, such as those around Teulon shifted their location to the railway when it reached their area.

⁵Brian J.L. Berry, Allen Pred, Central Place Studies: A Bibliography of Theory and Applications, p.16. Abstract of Theoretical Parts from, W. Christaller, "Die zentralen Orte In Suddertschland".

The Evolution of Service Centres:

W. John Russell in his thesis Geography or Roads west of Lake Winnipeg mapped the Indian trails that existed and were in use before the coming of the whiteman. These Indian trails are significant because they indicate the routes which the earliest settlers followed in the 1820's and later in the 1870's. It is noteworthy that St. Laurent, Oak Point, Stonewall, the earliest centres established, all lie on the route of these Indian trails, illustrating the influence of transportation routes on the location of centres even in the earliest times.

The main Indian trail started from the junction of the Red and Assiniboine rivers and followed the north bank of the Assiniboine meandering westward. It ran north and slightly west of Marquette towards Oak Point, along the shoreline of Lake Manitoba to west of Dog Lake and thence up to Fairford river. (This was known as the Fairford trail). A second trail, which was known locally as the Ridge trail, ran north from the forks past Stony Mountain to the vicinity of Gunton, then swung northeast along an old beach, Gimli beach, thence northwesterly to the south of Silver and virtually due north to the Fisher river. The third route was from the forks to the vicinity of Oak Point. This trail plus the Ridge trail and some shorter trails "joined at a point close to the S.E. of Stony Mountain". "Although these three represent the major trails there were undoubtedly many minor ones criss-crossing the area".⁶ As the first settlers proceeded all marketing centres were located along established trails, for example those in the vicinity of the municipalities of present day Rockwood and Woodlands (the exception is the Icelandic reservation around Gimli - the original settlers came from Winnipeg by boat via Red river and Lake Winnipeg.)

N.B. Three sources were used to obtain the historical information, in this chapter: Madeline L. Proctor, Woodlands Echoes, "A History of the Rural Municipality of Woodlands."
Rockwood-Woodlands Historical Society, Rockwood Echoes.
W. John Russell, Geography or Roads West of Lake Winnipeg (Interlake Area), MSc Thesis, McGill University, 1951

⁶W.J. Russell, Geography or Roads West of Lake Winnipeg. p.96

INTERLAKE REGION

POSTAL REVENUE - 1881

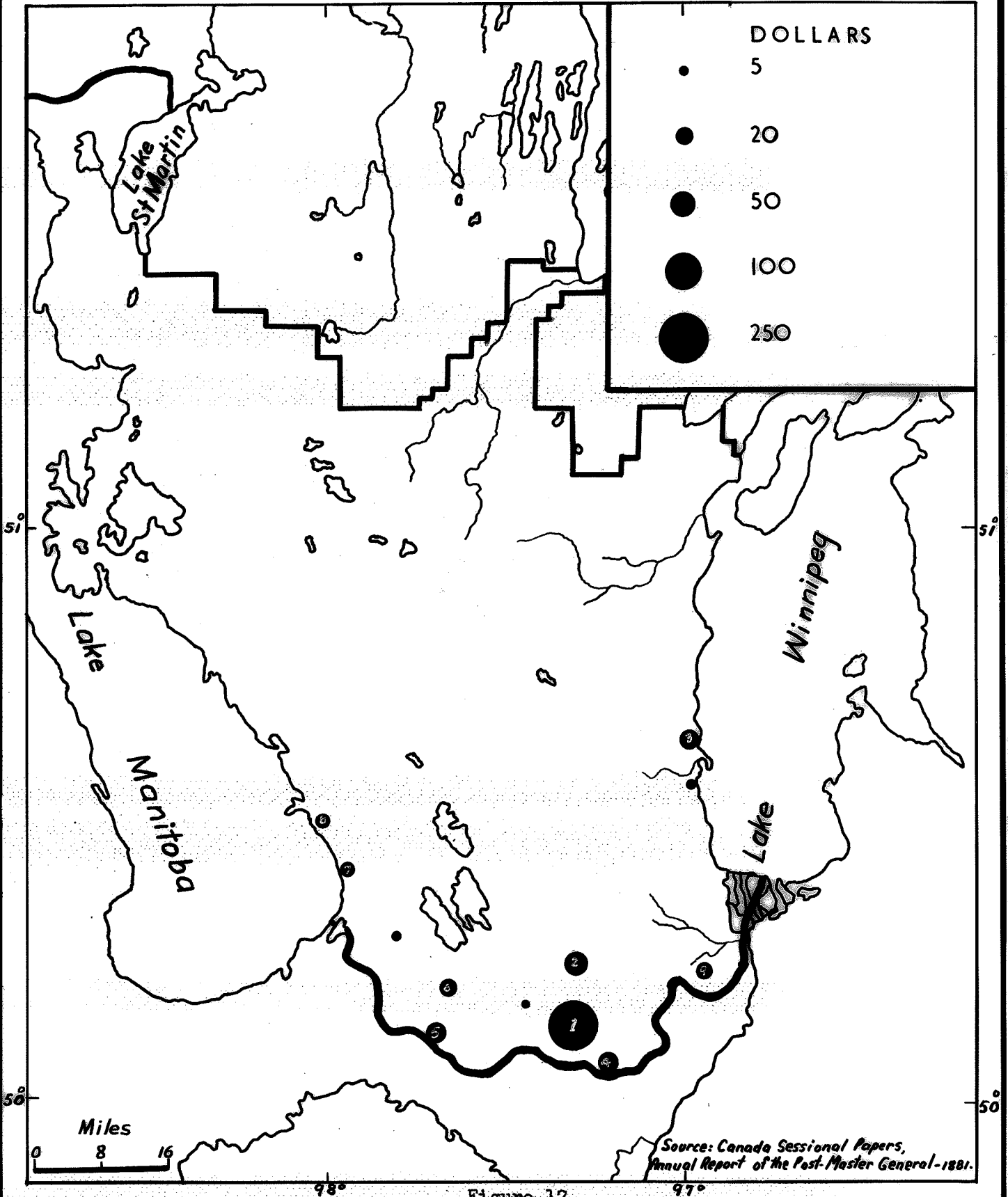


Figure 17.

INTERLAKE REGION

POSTAL REVENUE - 1899

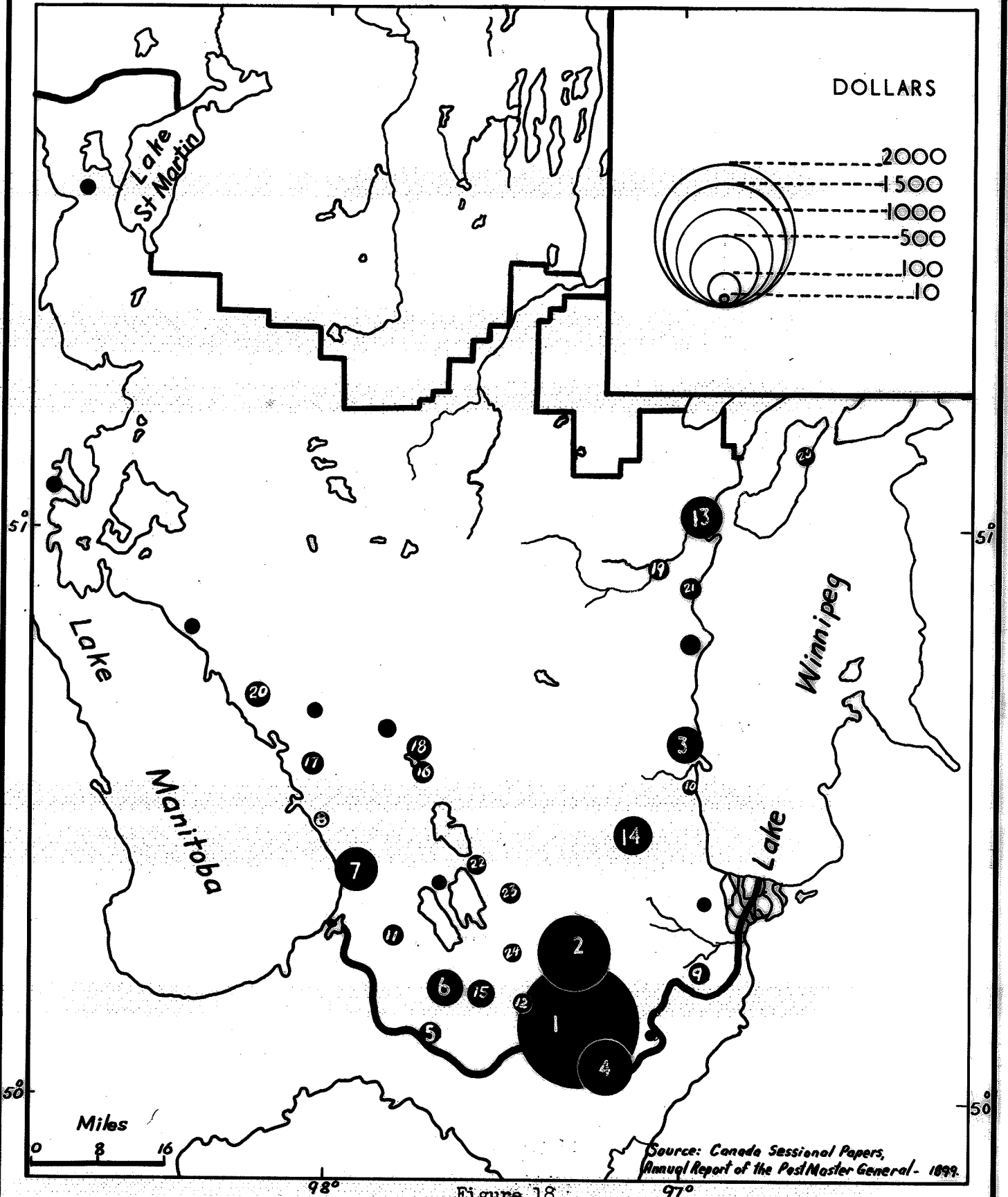


Figure 18.

INTERLAKE REGION

POSTAL REVENUE - 1905

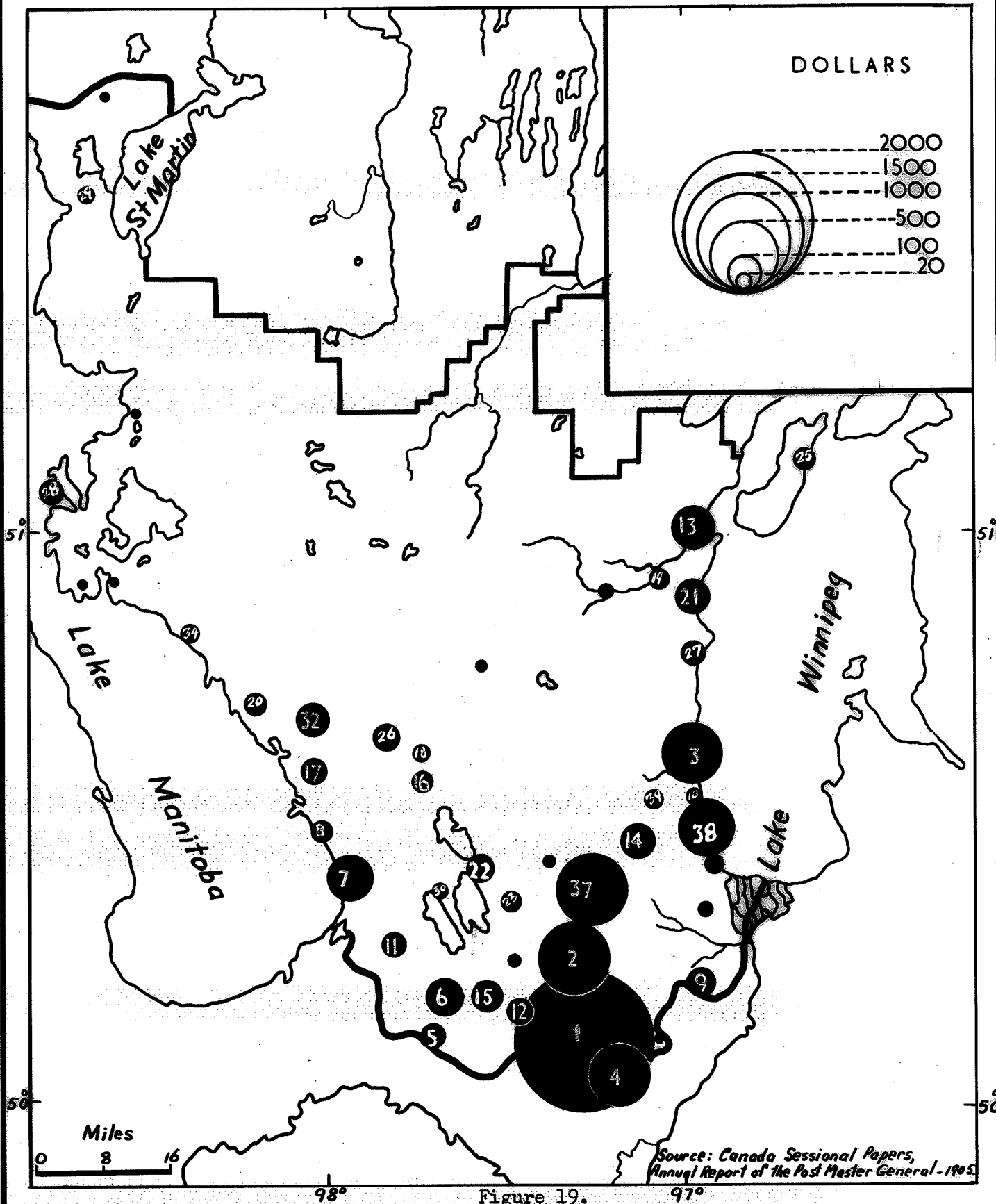


Figure 19.

INTERLAKE REGION

POSTAL REVENUE - 1916

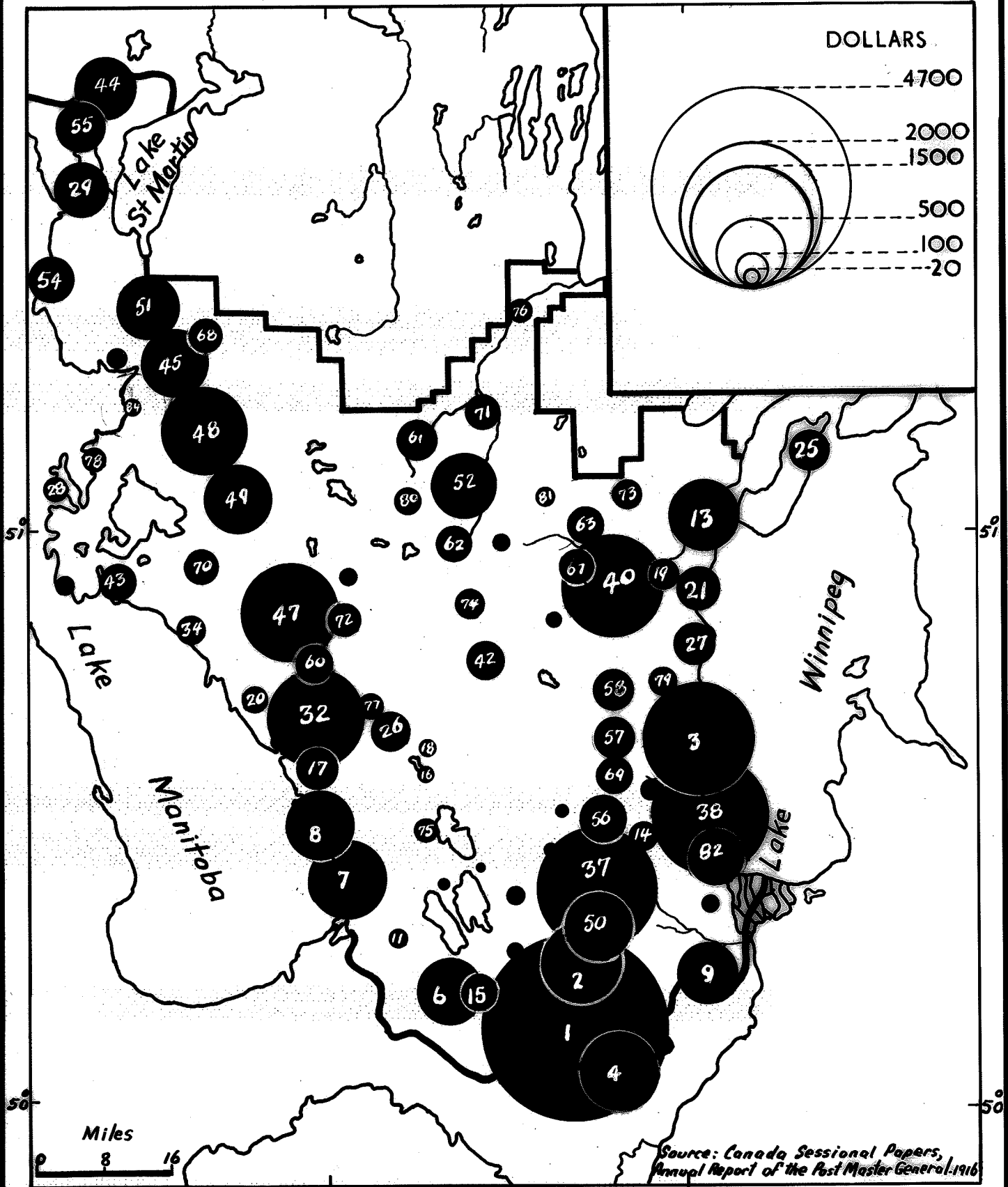


Figure 20.

LEGEND - Figures - 17, 18, 19, 20.

Nos	Figure 17	Figure 18	Figure 19	Figure 20
	1881	1899	1905	1916
1.	Stonewall	Stonewall	Stonewall	Stonewall
2.	Balmoral	Balmoral	Balmoral	Balmoral
3.	Gimli	Gimli	Gimli	Gimli
4.	Stony Mtn.	Stony Mtn.	Stony Mtn.	Stony Mtn.
5.	Meadow Lea	Meadow Lea	Meadow Lea	-
6.	Woodlands	Woodlands	Woodlands	Woodlands
7.	St. Laurent	St. Laurent	St. Laurent	St. Laurent
8.	Oak Point	Oak Point	Oak Point	Oak Point
9.	Clandeboye	Clandeboye	Clandeboye	Clandeboye
10.	Hoosavick	Hoosavick	Hoosavick	Hoosavick
11.	Lake Francis	Lake Francis	Lake Francis	Lake Francis
12.	Argyle	Argyle	Argyle	Argyle
13.		Icelandic R.	Icelandic R.	Icelandic R.
14.		Pleasant Home	Pleasant Home	Pleasant Home
15.		Oswald	Oswald	Oswald
16.		Vestfold	Vestfold	Vestfold
17.		Clarkleigh	Clarkleigh	Clarkleigh
18.		Markland	Markland	Markland
19.		Geyser	Geyser	Geyser
20.		Minnewakean	Minnewakan	Minnewakan
21.		Hnusa	Hnusa	Hnusa
22.		Monar	Loch Monar	Loch Monar
23.		Erinview	Erinview	Erinview
24.		Woodroyd	Woodroyd	Woodroyd
25.		Hecla	Hecla	Hecla
26.		Otto	Otto	Otto
27.		Arnes	Arnes	Arnes
28.		The Narrows	The Narrows	The Narrows
29.		Fairford	Fairford	Fairford
30.		Harperville	Harperville	Harperville
31.		Isafold		
32.		Lundar	Lundar	Lundar
34.		Scotch Bay	Scotch Bay	Scotch Bay
35.		Netley Lake	Netley Lake	
37.			Teulon	Teulon
38.			Wpg. Beach	Wpg. Beach
39.			Foley	
40.			Ardal	Ardal
42.			Chatfield	Chatfield
43.			Dog Creek	Dog Creek
44.			Gypsumville	Gypsumville
45.			Moosehorn Bay	Moosehorn Bay
47.				Ericksdale
48.				Ashern
49.				Camper
50.				Gunton
51.				Grahamville
52.				Fisher Branch
54.				Steeprock
55.				Ste. Martin Str.
56.				Komarno
57.				Kreuzburg
58.				Meleb

LEGEND - Figure 20.

Nos.	1916
60.	Deerhorn
61.	Fisherton
62.	Broad Valley
63.	Vidir
67.	Frammes
68.	Speerhill
69.	Malonton
70.	Oatfield
71.	Hodgson
72.	Kilkenny
73.	Okno
74.	Poplarfield
75.	Ideal
76.	Dallas
77.	Stony Hill
78.	Dolly Bay
79.	Berlo
80.	Scotland Farm
81.	Sylvan
82.	Whytewold
84.	Silver Bay

Table 22

The Early Movement of Settlers

- 1823-25- French voyageurs who were located around the forts at Pembina moved northward after the area was ceded to the U.S.A. in 1820. A group of these followed the Fairford trail and settled on the shores of Lake Manitoba in the vicinity of present day Oak Point and St. Laurent. This area is the oldest settlement in the Interlake.
- 1866- More French Canadians moved into this area increasing the size of the already established settlement.
- 1870's- An influx of Ontario settlers in the Stony Mountain area, and to the southern portions of present day Rockwood and Woodlands municipalities.
- 1870- First settlers to Stonewall area and Grosse Isle district.
- 1872- First settlers to Balmoral and Greenwood areas.
- 1873- Movement of Ukrainians into the north part of present day Rockwood.
- 1874- Building of Stony Mountain penitentiary and movement of people to Erinview area.
- 1875- Site of Stonewall purchased by "Stonewall" Jackson, and town lots surveyed. That very year, the Gimli Icelandic settlement started, and some colonists moved into the Glanbeoye area.
- 1876- Additional Icelanders colonized the coastline of Lake Winnipeg from Husavick to as far as Hecla Island.
- 1880's- By 1880, there were post offices at Oak Point, St. Laurent, Stony Mountain, Greenwood, Stonewall, Balmoral and Argyle.
- 1886-1887- Icelanders moved into the second Icelandic reservation set up around the Lundar-Mulrihill district.
- 1890- Settlers moved up along the east shore of Lake Manitoba as far north as Dog Creek area.
- 1895-98- The Pleasant Home district was occupied by Ukrainians and Polish.

(In 1898 the railway came to the Teulon district and in 1901 a new colonization road was cut leading to Fisher river.)

1898-90- Swedes and Norwegians located homesteads in the Crescent Lake, and later the Norris Lake districts.

Early 1900's- Ukrainians, French and Anglo-Saxons were making use of the Colonization road and moving into the Komarno, Chatfield and Broad Valley areas.

1901- Two new districts were settled by Icelanders around Ardal (Arborg) and Vidir.

1906- Bender Hamlet (T19 R 1 W) a colony of Russian Jews based on a communal system was established.

1909- Anglo-Saxons went to the Ashern area; and Germans to the Dog Lake-Grahamdale districts.

This brief outline of "settlement movements" in the Interlake gives us a general picture of the trends of colonization movement at different periods.

Settlement in general preceded the coming of the railway, hence the railway usually was located where it would best serve the surrounding settlements. Stony Mountain, Stonewall, Balmoral, Oak Point and St. Laurent were established market centres before the railway, almost in all other instances however settlements which were widely dispersed became more consolidated and compact shifting their location to the railway when it came. The railway brought supplies, mail, building materials, and settlers, so the railway depot and the nearby post office became focal points and service centres grew up along what became later to be known as Railway Avenue.

⁷ Today, the main streets of Teulon and Arborg, are still called Railway Avenue.

Table 23

Railway Advancement in the Interlake

C.P.R.

Stonewall Branch

Winnipeg to Stony Mountain and Stonewall	- 1880
Stonewall - Teulon	- 1898
Teulon - Komarno	- 1907
Komarno - Arborg	- 1911

Selkirk Branch (opened to passenger service)

Winnipeg to Selkirk	- 1883
Selkirk - Winnipeg Beach	- 1904
Winnipeg Beach - Gimli	- 1906
Gimli - Riverton	- 1914

C.N.R.

Gypsumville Branch

Winnipeg to Grosse Isle	- 1886
Grosse Isle - Lake Francis	- 1903
Lake Francis - Oak Point	- 1904
Oak Point - Clarkleigh	- 1906
Clarkleigh - Gypsumville	- 1910

Hodgson Branch

Grosse Isle to Inwood	- 1912
Inwood - Chatfield	- 1913
Chatfield - Hodgson	- 1914

N.B. These dates were taken from the three sources mentioned at the beginning of the chapter, Woodland Echoes, - Rockwood Echoes, Geography or Roads west of Lake Winnipeg. In instances, dates given by different authors conflicted.

In order to illustrate the impact of the railways on the location of centres, four maps showing the postal revenues of centres are drawn for 1881, 1899, 1905 and 1916. (Refer Figures 17,18,19,20). Although postal revenue does not indicate the size of a centre or the services available, it is a useful means of indicating the volume of trade handled by the centre especially as no other accurate data is available. Years 1881, 1899, 1905 and 1916 were specially chosen so that a direct relationship between the coming of the railway and the location of trade centres could be traced.

By 1881 - the railway was established as the primary mode of communication up to the Stonewall area. Stonewall was the distributing centre for nearly all the municipality of Rockwood and the surrounding area.

Balmoral was also established, but other settlements were scattered and dispersed to the north and north east of Stonewall.

1899- The railway reached Teulon the previous year, and within one year settlements began shifting within the vicinity of the railway line.

1905- The railway was already at Oak Point and Winnipeg Beach. At this period, settlements north of the railway were dispersed and scattered, but in the area to the south, the railway had already determined the location of centres.

By 1916, the railway network of the present day had been in existence for two years. At this early period, we see the spatial arrangement of service centres that is identical with the locational pattern we visualize today.

The Locational Pattern of Centres as Determined by Transportation Routes:

The earliest road map available (dated 1928) clearly indicates that roads were inadequate and that they did not affect the location of service centres as the railway did in the 1880's 90's and early 1900.⁸ Today however, the road system is adequate for all current requirements, road construction is proceeding at a reasonable rate and in the near future there should be a suitable network of good roads which will provide easy access to all centres in the area. But road transportation has still not influenced the development of any new centres.

There is no centre worthy of investigation that has developed since the last rails were laid in 1914. Some centres along the railway line have decayed within the last 10 years, but upon close scrutiny of the morphology of these decayed centres, it is evident that the focal point when that centre prospered was within the vicinity of the railway depot.

Highways have never exerted an appreciable influence on the locational pattern of centres. Today highways parallel the railway line, (Highways 6, 8, 9, and parts of 7), but they by-pass most centres, and turn offs must be made in order to arrive at the business districts of the centres. If there is any region where Christaller's "system of central places after the marketing or supply principle," is not fully applicable, it is in the Interlake.

The pattern which Christaller devised, suited the conditions that prevailed in Southern Germany. This was a densely populated region, which produced a system of central places before the development of modern transportation.

⁸ Taken from - W.J. Russell, Geography of Roads West of Lake Winnipeg (Interlake Area), p.193.

The logic of this locational pattern was that it provided the region with a coverage of central facilities with the least number of centres and under the circumstances of limited travel, this was an overriding consideration. With the advent of modern mechanized transportation, roads and railways were adapted to the pattern of location already established.⁹

In the Interlake, this was not the case, for as was indicated earlier, few service centres existed before the coming of the railway and these were commercially insignificant by present standards. Thus when route locations were selected, marketing points for the dispersed and scattered settlements in the vicinity were located on the railway line. The extension of the railway northward in its various stages was a prime factor in the opening of the country. The railway brought mail, supplies and settlers. Marketing points developed conveniently on the railway line, with the result that a pronounced linear pattern of service centre location coinciding with the railway line developed. This linear pattern was further reinforced by the practice of many of the early settlements of shifting their location to the railway when it reached their vicinity, (Teulon sprung up after the railway came, when settlers from the surrounding Dundas and Pleasant Home districts shifted their location to the railway line.)

Today, there is virtually no passenger service by train, and rail service is confined mainly to general freight with emphasis on heavy equip-
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ment northward, and grain, pulpwood and crushed stone. Unlike the early days, the area is now adequately served by road transportation, yet this change in emphasis on the mode of transportation has exerted no appreciable influence on the development of new centres. The pronounced pattern of

⁹Royal Commission on Agriculture and Rural Life, "Service Centers,"
Report No. 12, submitted to the Government of Sask. 1957, p.69.

¹⁰ Heavy equipment from Winnipeg to the radar site at St. Martin and the power plant at Grand Rapids.

linearity in the location of the centres related to the railway line which was established since the last rail was laid in 1914, has survived till today.

Prior to the coming of the railway, road transportation was completely lacking. Records indicate that in 1900, grants were given to the municipalities by the provincial government, for grading and construction of colonization roads.

1918- The province began to assist financially in the construction of market roads to market centres and trunk highways.

1921- The creation of a provincial trunk highway system with control over these roads vested in the provincial government, rather than as previously in the municipalities. Today the railway network is supplemented by an extensive mileage of trunk highways and as great a mileage of municipal roads. These roads run parallel to and at right angles to the railway lines adding considerable flexibility to the transportation system. This intricate road pattern which can be considered satisfactory for most current requirements resulted for a variety of reasons as W. John Russell suggests, the demand for better transportation facilities on the part of the farmers for the purpose of marketing their produce; the need of townspeople for cheaper foodstuffs;
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and the prospects of increasing the land value of the backlying areas.

In spite of an extraordinary development in road transportation since 1900's, the linear pattern of centres related to the railway line is still markedly pronounced.

In conclusion, the actual linear locational pattern of centres along the railway line as established in the early 1900's still exists today. Road

¹¹W.J. Russell, op.cit., p.211

transportation which was developed later, supplemented the railway network in order to meet the requirements of the residents, but the location of most centres remained the same. The railway, and to a lesser degree, ethnic groupings, - Icelanders, Ukrainians, Anglo-Saxons - and historical events such as (French voyageurs around St. Laurent district) have all contributed to the present locational pattern of service centres in the Interlake.

CHAPTER IX
SUMMARY AND CONCLUSIONS

I How do functions or service units vary in relation to the size of centres?

Based mainly on an analysis of the data collected in the field and from other reliable sources, it is evident that there is some correlation between the diversity of service units in centres and population. As Table 24 (in the back pocket) indicates, the most densely populated centres are also those with the greatest diversity of service units. Gimli, Stonewall and Arborg, the largest centres with populations of 1841, 1420, and 811 respectively, also have the greatest diversity of service units (Gimli-73, Stonewall-68, and Arborg 63-diverse service units), while the smallest centres with populations less than 20- Rembrandt, Mulvihill, Lake Francis, Clarkleigh, Malonton - all have less than five diverse service units. Although this generalization does not hold true when the population and diverse service units of all centres are compared, yet Table 24 indicates that this rough correlation does exist.

It can also be suggested that there are ranks among the centres in the Interlake. In arriving at this classification or ranking of service centres, criteria such as population, the assessed value of business establishments and postal revenue which are examined, all prove to be inadequate for a number of reasons. Finally, it is decided that the recording of the diversity of service units supplemented with information from the alternative possibilities considered is the most appropriate means of ranking the service centres, and that within this hierarchy of centres a four-fold classification designated as towns, greater villages, villages and hamlets can be discerned. In the same way that there is a range of service units from those of an elementary nature (general store, post office, school) to those of a more specialized sort (women's clothing store, physician, lawyer, bank etc.) so also in the Interlake the hierarchy of centres ranges from hamlets, which provide primarily "lower-order" goods and services to towns which provide goods and services of a much more specialized sort.

II What is the relationship between small and larger service centres?

Are they complementary or competitive?

In investigating the relationship between the small and larger service centres, intensive interviewing was carried out at Broad Valley (hamlet), Fisher Branch (greater village) and Arborg (town). It was found that the higher and lower ranking centres do not compete with each other at the level of elementary services and that the role of the large centre in relation to the nearby small centre is mainly to provide additional services.

The residents of Broad Valley travel weekly to Fisher Branch but primarily to obtain the more specialized services or grocery products which do not exist locally. Interviewing revealed that bread, tinned vegetables, milk and potatoes are usually purchased at the local general store rather than at Fisher Branch. The reasoning attached to this is that local residents tend to patronize the proprietor of the local store with whom they have established a long standing relationship and from whom they can obtain credit when needed, while at Fisher Branch they have to buy for cash these very products which can be obtained locally at the same price. The shoppers of the Broad Valley area do visit Fisher Branch, but primarily to pay taxes, visit the doctor, purchase lumber, utilize the creamery etc., all more specialized services which do not exist locally.

Similarly the residents of Fisher Branch travel to Arborg, but mainly to make use of the additional services of that town (jewelry store, credit union, egg grading station, funeral home, drug store, "Interlake News") which are highly specialized and only exist on the larger markets of larger centres.

III What is the relation between the size of a centre and the size of the surrounding area which it serves?

The findings of this study reveal that there is an all-important interdependence between the farm population and service centres. In the nearby centre, the farmer markets his products, buys commercial goods, and patronizes the host of other services which do not involve a physical product. These services also attract customers from within the compact settlement in which they occur (the internal service area) but in an essentially agricultural environment the external service area or farm hinterland is of much more importance to the service centre. John W. Alexander in referring to this external service area suggested that it "constitutes the city's economic foundation"¹. Mark Jefferson put it more forcefully by saying that the city's life depends upon it, "It brings money into the city and is termed basic"².

In investigating this relationship between service centres and their hinterlands an attempt is made to determine the purchasing power of the farmers by examining the factors which influence farm income, such as, the acreage available for crop production, the present use of the land available for crop production, yield performance over a period of years, production costs and the prices received for grain, cattle and other farm products. It was found that centres (Arborg, Stonewall, Teulon) supported by farm hinterlands with a moderate to high annual net value of agricultural production are generally more prosperous than those supported by hinterlands with a low annual net value of agricultural production (Refer Figure 14). Also, townships with a moderate to high annual net value of agricultural production are closely

¹J.W. Alexander, - "The Basic-Non Basic concept of Urban Economic Functions," in Readings in Urban Geography, edited by Harold M.Mayer, Clyde F.Kohn, p.87

²Mark Jefferson, "The Distribution of the World's City Folks:A Study in Comparative Civilization," Geographical Review, XXI:p453,1931

associated with lacustrine clays and silt deposits of high natural fertility, while areas of low natural fertility within "the limestone till plain" are connected closely with those townships which have a low annual net value of agricultural production.

Declining smaller centres is the general trend throughout the area, but more particularly of those located in areas of low annual net value of agricultural production. Field observations revealed that small centres within the more productive agricultural areas are not necessarily much better off, as there are many other factors accelerating the waning of small centres, such as the development of improved highways which by-pass most small centres, the universal use of cars by farmers and the general trend of rural depopulation. There are however, a few small centres (Arnes, Camp Morton, Hnausa) which are thriving on the business provided by the transient car population and by the summer vacationers who cluster along the shores of Lake Winnipeg (from Winnipeg Beach to Hnausa); the additional sources of income that the residents obtain from fishing, from working during the summer at the Winnipeg Beach Amusement Park, or from a permanent job at the R.C.A.F. Station - Gimli. But, the general trend is that of declining small centres and the only role left for the majority of them to play within their small communities is the provision of elementary goods and services and of a convenient meeting place for farmers.

IV What factors influence the location of centres?

The service centres of the Interlake adhere to a strict linear locational pattern conforming closely to the railway routes. As Figures 17,18,19,20 illustrate, whenever service centres were established before the railway came, the railway lines headed towards these centres, but in most cases earlier settlements such as those around Teulon had to shift their marketing centre

to the railway route location when it reached their area. Many marketing and supply points therefore developed conveniently on the railway route with the result that a pronounced linear pattern of service centre location coinciding with the railway route developed in the Interlake. The actual linear locational pattern of centres along the railway line, as established in 1914 when the last railway track was laid, still exists today. Service centres on the railway route have decayed, but no urban communities commercially significant by present standards have developed away from the railway route since 1914.

GLOSSARY OF TERMS

Service Area:

The service area is that area which is served by either a single central function (Einzugsgebiet), or by a group of central functions (Erganzungsgebiet). A central place serves the population of its own settlement, the internal service area (internes Ergänzungsgebiet), and the area adjoining that settlement, the external service area or umland (externes Ergänzungsgebiet, Umland).¹

Internal Service Area:

In addition to serving the surrounding rural area, a service centre also serves the population of its own concrete settlement (its urban or local market). This is its internal service area.

The limestone processing centre of Spearhill, is an example of a service centre which has only an internal service area.

External Service Area or Hinterland:

Zone of Dominance: The area adjoining or contiguous to a service centre within which day to day (elementary) economic and cultural activities are essentially one with those of the primary centre.

A Zone of Influence is also part of the external service area of a centre, with the difference that this area is only influenced by the centre rather than dominated by it as in the case of the zone of dominance.

Functional divisions:

All functional activities are classified in one of the nine major categories termed functional divisions:

1. Transportation and Communications.
2. Wholesale Trade.
3. Retail Trade.
4. Banking, Finance, Business.
5. Manufacturing.
6. Professional and Community activities.
7. Trades and Personal Services.
8. Public Services.
9. Recreational Services.

¹Hans Carol, "The Hierarchy of Central Functions within the City", A.A.A.G., 50: p.420, Dec., 1960

Functional groups:

Since each functional division covers such a wide field of activities, all functional divisions are subdivided into functional groups. For example,

1. Transportation & Communications:- Air, Trucking, Mail, Railroad, Telecommunications, Passenger Service, Printing and Publishing.

Service units/Functional units:

The actual functions or services which are available to the customers are referred to as "service units". For example, the functional division, transportation and communications, refers to anyone of the six functional groups under that category - air, trucking, mail, railroad, telecommunications, passenger service, printing and publishing. The services which are however directly available to the customers, that is, the "service units", are freight trucking, livestock trucking, local milk delivery under trucking; post office under mail; bus service and taxicab service under passenger service; and weekly newspaper, printing establishment under printing and publishing.

Typical service units of towns (greater villages, villages, hamlets) occur in more than 75% of all towns (greater villages, villages, hamlets).

Common service units of towns (greater villages, villages, hamlets) occur in more than 25% and less than 75% of all towns (greater villages, villages, hamlets).

Uncommon service units of towns (greater villages, villages, hamlets) occur in less than 25% of all towns (greater villages, villages, hamlets).

Urban population refers to those people who live within the concrete settlement of the service centre.

Rural population refers to those who live on scattered farmstead in the surrounding area or external service area. In the Interlake they are engaged primarily in farming activities.

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" " Coldwell - 1962	" 1" = 3 "
" " Ericksdale - 1959	" 1" = 3 "
" " Gimli - 1962	" 1" = 2.5 "
" " Rockwood - 1962	" 1" = 3 "
" " St. Andrews - 1960	" 1" = 3 "
" " St. Laurent - 1962	" 1" = 2.5 "
" " Siglunes - 1961	" 1" = 4 "
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	Funeral Home	1	1	1	1	1			1															
	Photographer							1												1				
CONTRACT CONSTRUCTION	Carpenter		3																					
	Painter + Decorator	1	5					1																
	Contractors - Road + Earth Moving - Building	3	7	1	1	3		2	6	3	2								1					
	Well Drilling																					1		
	Plumbing + Heating	3	6		2			1	1															
	Electrician		3																					
PUBLIC SERVICES:																								
UTILITIES	Water Supply System	1						1																
	Sewage + Disposal Service	1																						
	Transformer Stn	1	1	1	1			1		1	1	1	1					1	1	1	1	1		
PROVINCIAL GOVT.	Agricultural Rep.		1	1	1	1																		
LOCAL	Village Office				1					1														
	R.M. Office	1	1	1				1		1	1							1	1			1		
	Town "	1	1																					
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	R.C.M.R. Stn.	1	1	1	1																	1		
RECREATIONAL FACILITIES:																								
RECREATIONAL FACILITIES:	Winter Sport Premises	1	1	1	1	1		1	1	1	1	1	1	1	1	1	1	1	1	1	1	1		
	Summer "	1	1	1	1	1		1	1	1	1	1	1	1	1	1	1	1	1	1	1	1		
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MEMBER ORGANIZATION	Organizations	4	4	5	3	8	1	2	2		2	3		2							1	1		
Diversity of Service Units		73	68	63	63	46	46	45	43	40	35	31	20	23	22	19	18	18	14	14	13	13	13	12
TOTAL SERVICE UNITS		123	123	106	98	82	76	67	65	54	43	45	26	28	30	30	24	19	21	19	17	14	14	16

Summer Only.