THE UNIVERSITY OF MANITOBA

THE SETTLEMENT PATTERN IN SOUTH-EASTERN MANITOBA, 1870-1970; ITS ROLE IN REGIONAL PLANNING

by

RODERICK M. DRAKER

A THESIS

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ABSTRACT

This thesis is concerned with demonstrating the value of conducting a study of the evolution of a settlement pattern as part of a regional planning exercise. The study area is south-eastern Manitoba, an area bounded generally by the Winnipeg River, the Red River and the Ontario and United States borders. The development of the settlement pattern in this area was studied over the period 1870-1970.

Identified are a number of factors which are used to describe the evolution of the settlement pattern in south-eastern Manitoba. Briefly these are: basic needs (food, water and shelter), the natural environment (climate, soil and water) economic activity (agriculture, forestry and mining), ethnic groups, government land policy, transportation modes (rail and road) and technology. Each of these factors is employed to describe the existing pattern of settlement (1970) and the development of that pattern.

The relative significance of the settlement pattern to regional planning is discussed in detail. This is done specifically by illustrating how each of the identified factors influenced the settlement pattern and how each factor enters into the regional planning process both individually and systemically.

The conclusions reached concerning the value of conducting a study of settlement pattern in a regional planning situation are briefly: that such a study provides a description of how the present situation came to be which in turn provides the means to identify trends and project these trends into the future; that in order to better evaluate in a comprehensive fashion the present and the future, a review of the historical development of an area is a key

ingredient; that it adds another time dimension - the past - to the planning process; that it permits the planner to be more comprehensive in his approach to a particular planning situation; and finally, that the historical perspective clearly illustrates a process taking place, a process that involves relationships and linkages as opposed to a static, straight line cause and effect situation.

It is the author's thesis that there is value in including the historical viewpoint in regional planning and that a study of settlement pattern is an appropriate vehicle for so doing.

ACKNOWLEDGEMENTS

In the time it has taken to prepare this thesis, I have had the assistance, advice and encouragement of several organizations and individuals.

The staffs of the Manitoba Provincial Library, and the Documents Department and Rare Book Room in the Elizabeth Dafoe Library at the University of Manitoba made my research more a pleasure than a chore.

Professor John E. Page, now at York University, was initially my thesis supervisor and assisted in getting me started in the right direction. Professor Basil Rotoff at the University of Manitoba picked-up the supervision of this thesis in mid-stream and helped me see it through to a successful conclusion. Doctor Hans Hossē at the University of Western Ontario acted as my external examiner and advisor, and as always he was both a constant source of encouragement and a friend.

Mrs. Ruth Delaney typed an early draft of the first three chapters. Mrs. Loretta Waters willingly gave up many evenings and weekends to type and re-type the final draft of this thesis.

I am particularly indebted to my family. Judy, my wife, who by her patience, encouragement and sometimes not-so-gentle prodding was as responsible as I for the completion of this work. My two children, Amy and Matthew, were more tolerant of my many absences from their lives than I had a right to expect. Finally, the family's two Siamese cats were a welcome source of company through many long nights.

Notwithstanding these acknowledgements, I accept fully the responsibility for the organization and content of this thesis.

R. M. Draker
Sarnia, Ontario,
December, 1979.

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CHAPTER 1

INTRODUCTION

PURPOSE OF THE STUDY

The existing settlement pattern in South-Eastern Manitoba depends, to a large extent, upon the patterns created in the past. The pattern we see today had its beginning in the 1870's. It has evolved over the past 100 years through the interaction of man with his environment. It is by studying the interaction between the settlers and their environment that the story of the evolution of the settlement pattern in South-Eastern Manitoba will be pieced together.

This information will provide the basis upon which the evolution of the settlement pattern can be evaluated as a function of the regional planning process. It is the intention, therefore, to demonstrate the importance of the evolution of the settlement pattern as an input into the regional planning process.

SCOPE OF THE STUDY

In discussing the scope of the study, reference will be made to the study area, the period of time over which the study is to be conducted, and the themes by which the evolution of the settlement pattern in the study area will be handled.

The Study Area

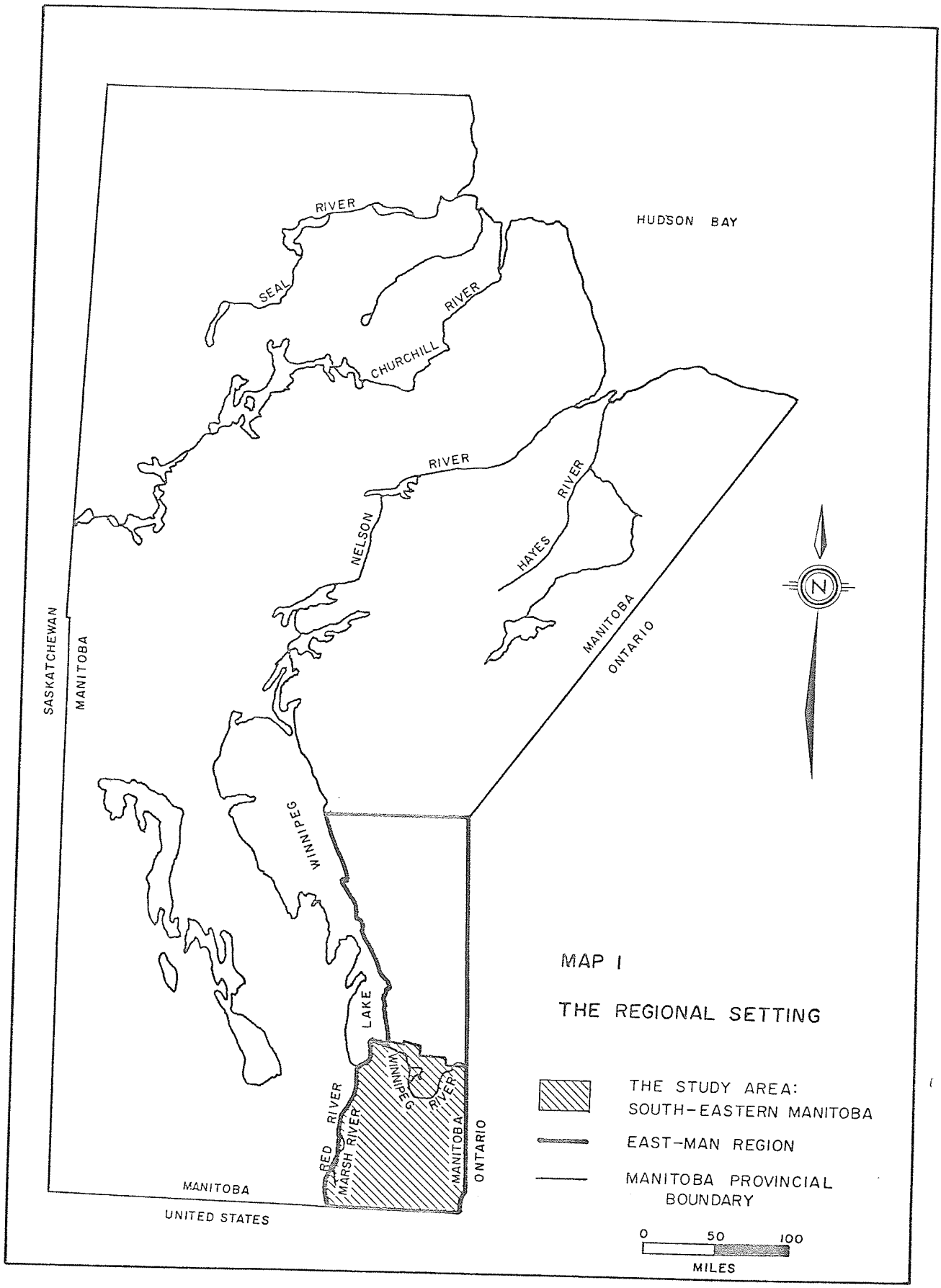
Previously, reference was made to the region of South-Eastern Manitoba; this is the area of study. More precisely, the study area consists of that area bounded by the Winnipeg River to the north, the Manitoba-Ontario boundary to the east, the Canada-United States boundary to the south, and to the west by Lake Winnipeg, the eastern boundary of Metropolitan Winnipeg and the Red and Marsh Rivers. The setting and boundaries of the study region are shown on Map 1.

The population of the study area was approximately 62,750 in 1966 (DBS). The area of the study region is approximately 8,470 square miles.

Time Period of the Study

The description of the evolution of the settlement pattern in the study area will cover the hundred year period of 1870 to 1970.

Small beginnings in settlement took place prior to 1870, and these will be dealt with briefly in Chapter 3. Major immigration to Manitoba did not occur until after Manitoba had entered Confederation in 1870. After this date, the Dominion government became actively engaged in a program of settlement for Manitoba and the North-West. Until 1870, South-Eastern Manitoba had been largely ignored by fur traders and settlers alike. With the opening of the West for settlement in 1870, South-Eastern Manitoba began to receive attention from prospective settlers. Thus, the study will cover the period of most active settlement of South-Eastern Manitoba: 1870 to 1970.


HUDSON BAY
SEAL RIVER
CHURCHILL RIVER
NELSON RIVER
HAYES RIVER
SASKATCHEWAN
MANITOBA
MANITOBA
ONTARIO
WINNIPEG LAKE
RED RIVER
MARSH RIVER
WINNIPEG RIVER
MANITOBA
ONTARIO
MANITOBA
UNITED STATES
N
MAP I
THE REGIONAL SETTING
THE STUDY AREA:
SOUTH-EASTERN MANITOBA
EAST-MAN REGION
MANITOBA PROVINCIAL BOUNDARY
0
50
100
MILES

Forces Affecting Settlement Pattern

In order to treat the evolution of the settlement pattern in South-Eastern Manitoba in as comprehensive and organized manner as possible, a number of themes will be used. These themes are the forces which have played a significant role in determining the pattern of settlement. These forces have not been chosen for this study at random; rather, they have repeatedly turned up throughout the author's research. They are briefly: basic needs (food, water and shelter), economic activities (agriculture, forestry and mining), natural environment (climate, soil and water), government land policy, transportation, influence of ethnic groups, and available technology.

In other studies of settlement pattern, these factors have been used in various combinations. In his study of settlement in Southwest Manitoba, Weir[1] employs natural environment, time of the land survey, accessibility and technology as the forces affecting the pattern of settlement. Also Gosselin and Boucher[2] employ most of these factors in their study of settlement in Northwestern Quebec and Northwestern Ontario.

The list of forces previously cited, although not necessarily an exhaustive list, will be used to handle the large amount of material describing the existing settlement pattern and the evolution of that pattern in South-Eastern Manitoba.

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[1] T. R. Weir, "Settlement in Southwest Manitoba, 1870-1891", Papers read before the Historical and Scientific Society of Manitoba, ed. Douglas Kemp, Series III, No. 17 (1964), 56-63.

[2] A. Gosselin and C. P. Boucher, Settlement Problems in Northwestern Quebec and Northeastern Ontario (Federal Department of Agriculture Technical Bulletin No. 49, publication No. 758, February, 1944).

DEFINITION OF TERMS

The previous sections have outlined the purpose of the study and the scope of the study. As well as these there are two important terms to be employed in this thesis that deserve special attention. They are settlement pattern and regional planning. The definitions of these terms which follow, are not intended to be rigid. Rather, they are put forward here to provide the reader with some notion of the term as it is to be used in this thesis.

Settlement and Settlement Pattern

The meaning of the term settlement pattern is rather vague. It would seem to conjure up the image of people settling and living on the land in response to some force, and by this process, effecting some type of pattern. The problem in attempting to define settlement pattern occurs when settlement is thought of as a single phenomenon. This, however, is not the case. Jones suggests that in studying settlement we should distinguish between three separate aspects: site, distribution and pattern.[3] The point is that while we may speak of settlement in terms of pattern, we should be aware that there are two other aspects to settlement and that we may be using the three interchangeably. The three are interrelated but they can also be distinguished from one another.

Jones defines site as"...the relationship between a dwelling or a group of dwellings and the immediate physical environment".[4] Thus the site may be part of a slope, a marshy area, or a level plain. Pattern of settlement is

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[3]Emery Jones, Human Geography (London: Chatto and Windus, 1964), p. 114.

[4]Ibid., p. 115

defined as "...the relationship of one dwelling to another, sometimes irrespective of site".[5] Pattern and site then may be considered as separate entities. Finally, distribution refers "...to the much wider aspects of settlement. Where are the settled areas, for example, and where the unsettled? What are the limits of settlement".[6] Thus it can be seen that these three aspects of settlement are interrelated but that for purposes of study and analysis they may be treated separately.

In this study there is no concious attempt to distinguish between these three aspects for purposes of analysis. Rather, the three are left bound together under the name of settlement pattern. It can be noted however, that the emphasis is on the notion of distribution while the aspects of pattern and site receive relatively light treatment in comparison.

For the purpose of this thesis, settlement will simply be defined as the place where people choose to live in the process of populating an area.

Regional Planning

Regional planning is not a new term or concept. It is somewhat recorded that the idea that a town or city should be planned in conjunction with its surrounding area was advanced by an Italian writer in the 1500's.[7] On the North American continent, however, one of the greatest surges of regional planning thought occurred in the 1920's with the creation of the Regional Planning Association of America. This interest in regional planning was also

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5. Ibid., p.115
6. Ibid.
7. Thomas Adams, Outline of Town and City Planning (New York: Russell Sage Foundation, 1935), pp.276-277.

shared by many Canadian planners.[8] The interest in regional planning began to subside during the Depression years, and with the exception of the creation of the Tennessee Valley Authority in the 1930's, it was not revived to any great extent until the early 1960's.[9]

In spite of this early beginning, the concept of regional planning has remained vague and elusive. Part of the reason for this is the vagueness of the term "region". Perloff states:

> In the scholarly texts and in popular usage, as well as in practical affairs, 'region'is a flexible, almost generic term, and there is general agreement that specific designation of regions must vary according to the needs, purposes and standards involved in the designation.[10]

A region, therefore, may be defined in terms of many criteria and there is no one general rule which can be followed. In another statement, Perloff provides another possible reason for the elusiveness of the regional planning concept. He states: "Regional planning has developed along pragmatic lines with relatively little attention to formal theory".[11] This suggests that regional planners have been too concerned with the day-to-day business that a common body of knowledge concerning regional planning has not yet been developed.

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8. The Journal of the Town Planning Institute of Canada between 1920 and 1931, published several articles on regional planning. Many of these articles dealt with Canadian attempts at regional planning; e.g. J. Clark Smith "Regional Planning in Western Ontario: Planning the Suburban Zone", Town Planning, Vol. III, No. 3 (June, 1924), 6-7.

9. John Friedman, "Introduction", JAIP, VOL. XXX, No. 2 (May, 1964), 82.

10. Harvey S. Perloff, Education for Planning: City, State, and Regional (Baltimore: John Hopkins Press, 1957) p.71.

11. Harvey S. Perloff, "Key Features of Regional Planning", JAIP, Vol. XXXIV, No. 3 (May, 1968), 153.

For the purpose of this thesis, at least, some operational definition of regional planning must be found. It will be useful here to include a brief survey of the descriptions of regional planning as they are proposed by prominent persons in the planning field.

Friedman suggests that: "...regional planning is concerned with the ordering of human activities in supra-urban space".[12] Settlement is a human activity and because we are interested in the interrelationships and interactions between man and his environment, this definition could be applied to this study. Woodbury defines regional planning as:

> ...the process of preparing, in advance of action and in a reasonably systematic fashion, recommendations for policies and courses of action (with careful attention to their probable by-products, side effects, or spill-over effects) to achieve accepted objectives in the common life of regional localities or communities.[13]

This suggests that the planner, in order to make recommendations, must have a knowledge of the workings of the region; he must have some insight into the past and present situation in order to prepare policies and a course of action. Ullman suggests that "regional planning is concerned with decisions only about certain things, up to now primarily about those with some effect on spatial arrangement".[14] In this thesis we are concerned with the

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[12]John Friedmann, "Regional Planning As A Field Of Study", JAIP, Vol. XXIX, No. 3 (August, 1963), 170.

[13]Coleman Woodbury, "The Role of the Regional Planner in Preserving Habitats and Scenic Values", Future Environments of North America, ed. F. Fraser Darling and John P. Milton (Garden City: Natural History Press, 1966), p.571.

[14]Edward Ullman, "The Substance and Scope of Regional Planning", Regional Planning: Challenge and Prospects, ed. Maynard M. Hufschmidt (New York: Frederick A. Praeger, 1969), p. 22.

spatial arrangement of settlement. Perloff suggests that "regional planning is concerned with the 'ordering' of activities and facilities in space at a scale greater than a single community and less than a nation,..."[15] Finally, Blumenfeld describes regional planning as "... the extension of planning into a new field. Like all planning it means exploring interaction and attempting to order all actions so that they will help rather than hinder each other".[16]

In the definitions previously cited there are several terms used which appear to be a part of regional planning: process, ordering of activities, interaction, systematic arrangements, and future action. Each of these definitions, in their own way, imply a procedure for regional planning: knowledge of the regional system (data gathering), ordering of the actions observed in gathering data, formulating policies and programmes for future development, and the achievement of objectives in the light of goals.

With these features in mind we can attempt to formulate a definition of regional planning for the purpose of this thesis. Regional planning is a process through which knowledge of past and present interrelationships between man and his environment is systematically arranged to formulate comprehensive policies and programmes by which the future development of a region can be directed towards a desired goal. It is within the context of this definition that the role of the evolution of the settlement pattern in the regional planning process will be evaluated.

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15. Perloff, "Key Features of Regional Planning", JAIP, Vol. XXXIV, No. 3 (May, 1968), 153.

16. Hans Blumenfeld, "News, Views and Reviews, "Regional Planning", Plan Vol. 1, No. 2 (1960), 122.

BRIEF OUTLINE OF THE STUDY

This chapter (Chapter 1) has attempted to set the scene for the remainder of the study. The purpose of the study, the scope of the study, and the definition of major terms used in the study have been outlined. Chapter 2 will deal with the description of the existing settlement pattern in South-Eastern Manitoba. Chapter 3 will trace the evolution of the settlement pattern from 1870 to 1970 in response to the question of how the existing pattern came to be. Chapter 4 will deal with the evaluation of the settlement pattern as a function of the regional planning process. Finally, the importance of considering the evolution of the settlement pattern in the regional planning process will be dealt with in the concluding chapter, Chapter 5.

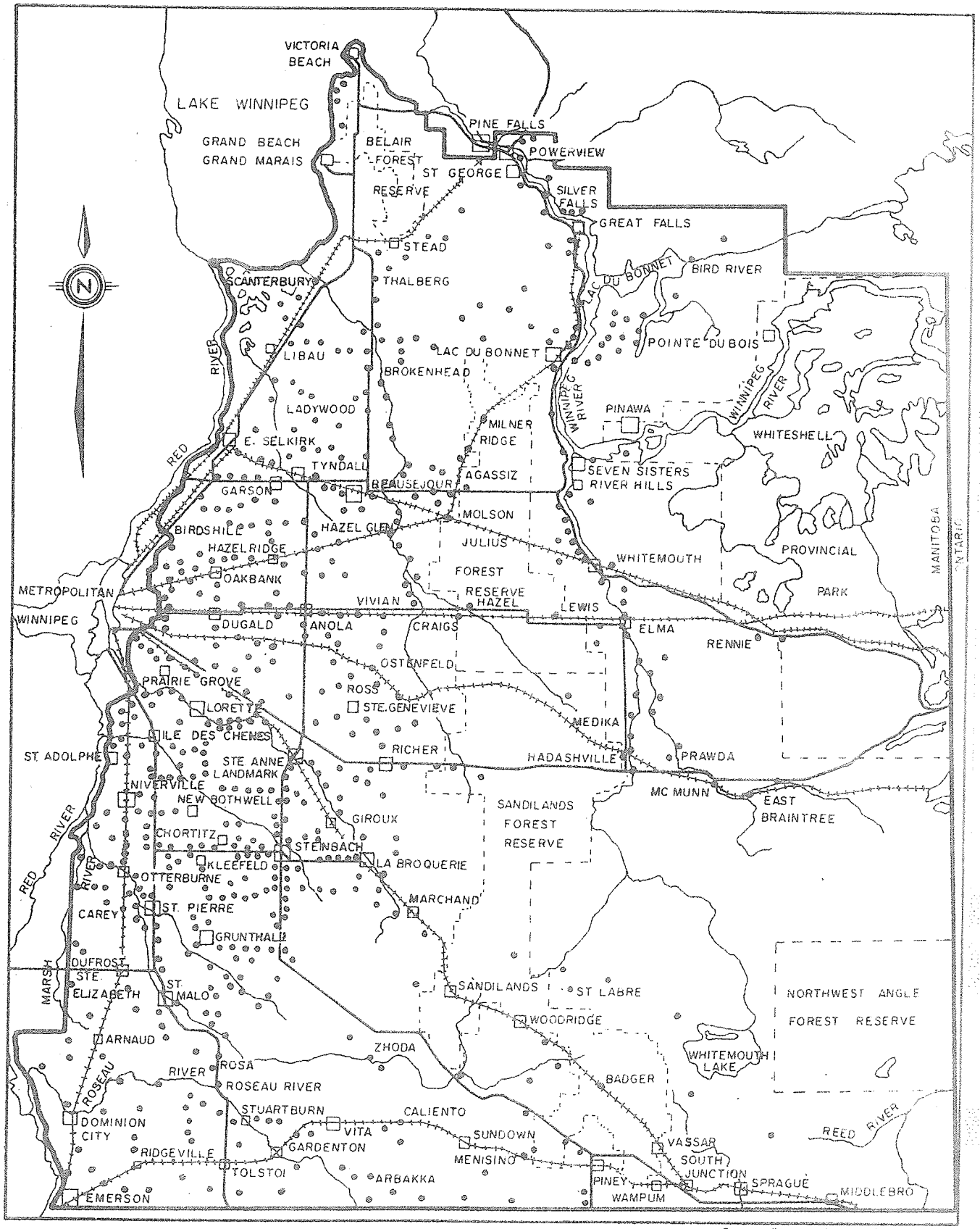
CHAPTER 2

THE EXISTING SETTLEMENT PATTERN

In Chapter 1, settlement was defined simply as the place where people choose to live in the process of populating an area. In the present Chapter, a description of the existing settlement pattern in South-Eastern Manitoba will be presented. It is intended here to describe the pattern of settlement in relation to the existing man-made and natural resources. The forces affecting settlement, outlined on page 3 of Chapter 1, will be used to handle the description.

POPULATION DISTRIBUTION IN SOUTH-EASTERN MANITOBA

Map 2 illustrates the distribution of population in South-Eastern Manitoba in 1966. The major portion of the study area's 62,750 people (1966) is concentrated in a half-annulet around the eastern boundary of Metropolitan Winnipeg. This half-annulet extends outward from Metropolitan Winnipeg approximately 20 miles to the north-east and east, and approximately 30 miles to the south-east. Within this area, the highest concentration of population occurs to the south-east around Ste. Anne, Niverville, Steinbach, Grunthal, and St. Pierre. Farther north-east, another area of relatively high population density appears along the lower Winnipeg River, around Lac du Bonnet, Great Falls, Powerview and Pine Falls. The remainder of South-Eastern Manitoba is characterized by a very low population density. With the exception of the belt of concentrated population around the eastern fringe of Metropolitan Winnipeg, the overall pattern of distribution is one of sparse settlement.



MAP 2 POPULATION DISTRIBUTION (1966)

SETTLEMENTS:
- 50–100
- 100–300
- 300–500
- 500–1000
- OVER 1000

- MAJOR ROADS
- RAILWAYS
- RIVER
- BOUNDARY OF STUDY AREA

RURAL POPULATION: @ – REPRESENTS 50 PEOPLE

(SOURCE: JOHN E. PAGE AND MARIO E. CARVALHO, EAST–MAN REGIONAL DEVELOPMENT STUDY (MANITOBA: EAST–MAN REGIONAL DEVELOPMENT INCORPORATED, 1970)

The eastward extension of settlement in the study area terminates rather abruptly at the western boundary of the Agassiz and Sandilands Forest Reserves. In the Whiteshell Provincial Park and the Belair Forest Reserve there is little settlement. In the Northwest Angle Forest Reserve no settlement has taken place. The absence of settlement is explained by the fact that the Provincial Government of Manitoba does not allow settlement to take place in these areas.

What are the reasons for this pattern? Why is settlement concentrated in a belt around Metropolitan Winnipeg and along the lower Winnipeg River; and why is settlement sparse in the remaining portion of the study area? The answers to these questions are found, to a large extent, in the physical, social, and economic characteristics of this area; the historical development of this area; and the legal enactments respecting settlement in this area.

This Chapter will consider the physical, social and economic characteristics as well as the existing legal enactments in relation to the existing settlement pattern. The third chapter will consider the historical development of this area.

BASIC NEEDS

Every man has certain basic needs; needs basic to his survival. Foremost is the need for water, food and shelter. The people of South-Eastern Manitoba are no exception.

The location of sources to satisfy these needs was far more important to the first settlers to this area than

to the present day inhabitants. Settlement in areas devoid or short of water can be maintained by trucking or piping water over long distances to the settlement. While such a procedure can be costly and inconvenient, the need for water is satisfied.

The need for food is relatively easily satisfied today also. For most people it means a trip to local supermarkets where a wide variety of food-stuffs are available provided the consumer has the necessary funds to purchase the food he or she requires.

Shelter is also an important requirement for survival; shelter from the physical elements of heat, cold, rain, snow, and perhaps even protection from one's fellow man. The early settlers were faced with the problem of finding materials to construct shelter. Today, building materials are readily available through the construction trade. Today's man need not build his own shelter; rather he may have one built, or purchase one that has already been built.

The point is that the basic needs of today's man are satisfied by commercial and industrial institutions geared to provide these specific services. The inhabitants of South-Eastern Manitoba, therefore, are not restricted in their choice of where to live by basic needs. These can always be supplied at some cost no matter where settlement occurs.

In Chapter 3, it will be shown that basic needs was a major factor influencing settlement.

NATURAL ENVIRONMENT AND SETTLEMENT

In this section the existing settlement pattern will be discussed in relation to such factors as: physiography, soils, climate, water resources, and agricultural capability of the land. The relationship between the natural environment and the pattern of settlement is well-defined.

Physiography

Map 3 shows the various physiographic regions in the study area. The major portion of the population of South-Eastern Manitoba is located on the lacustrine plain, a strip of land approximately 20 miles wide and 90 miles long, parallel to the Red River. This area was at one time covered by a glacial lake. The occupancy of this area by the lake resulted in the deposition of lacustrine clay, silt, and sand over the glacial drift.

The remaining settlement is situated on the till plains. The till plains were also covered by a glacial lake; however, it has been suggested that this area was occupied by the lake for a shorter period of time than the lacustrine plain because much of the surface has not been covered with lacustrine clay, silt and sand.[1]

The sand plains are the result of glacial melt-water carrying outwash material from the edges of the glacier. The Sandiland Forest Reserve was the result of this activity.[2]

The marshlands, which occupy a substantial portion of the study area, were probably formed when the last glacier finally retreated and the glacial lakes were drained. Minor depressions in the surface became small lakes and marshes. The marshlands

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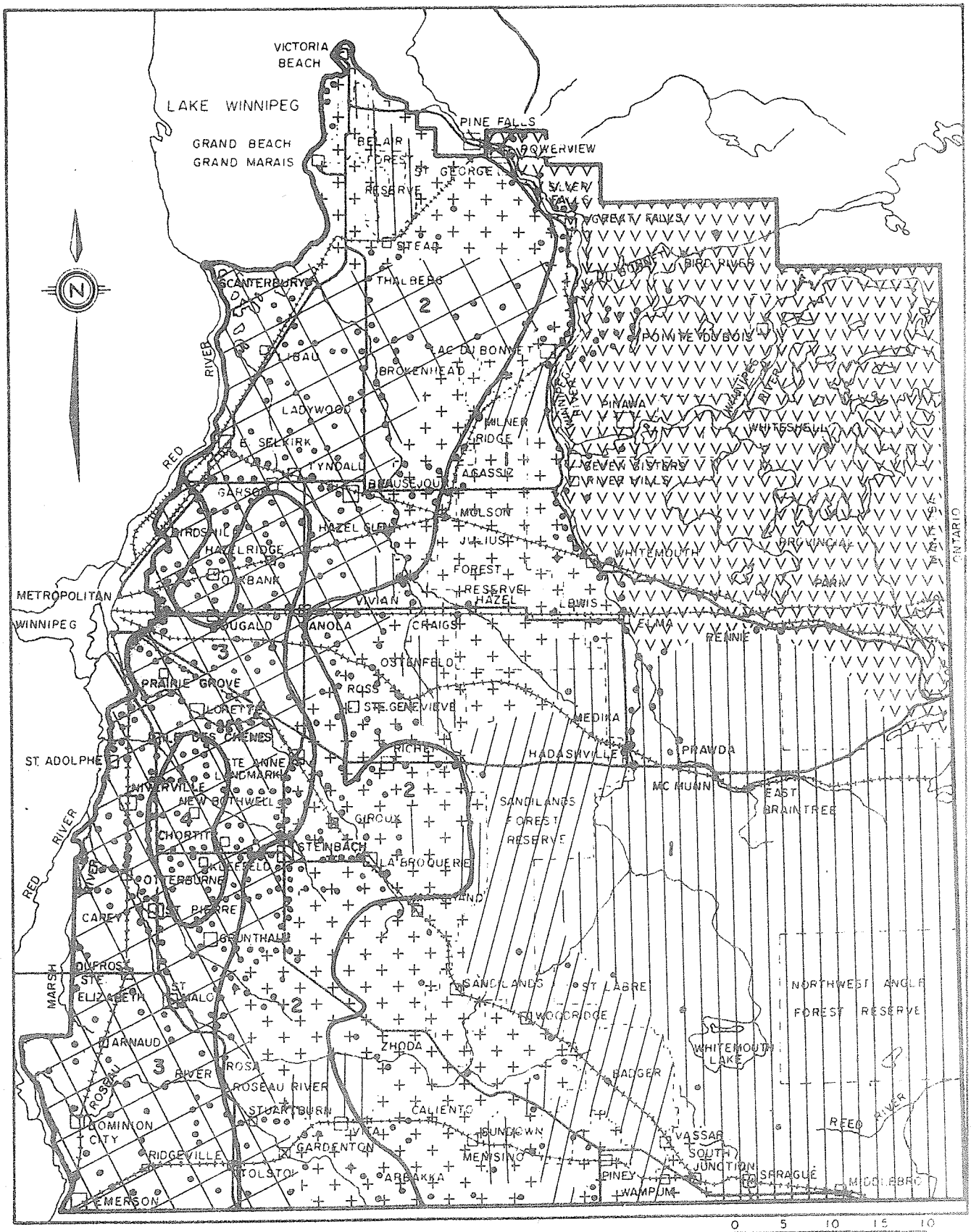
1. T.R. Weir (ed.), Economic Atlas of Manitoba (Winnipeg: Department of Industry and Commerce, Province of Manitoba, 1960), p.4.
2. Ibid.



MAP 3 PHYSIOGRAPHY AND SOILS

- LACUSTRINE PLAIN
- TILL PLAIN
- SAND PLAIN
- ICE-SCOURED UPLAND
- MARSHLAND

—— DENOTES SOIL ZONE BOUNDARIES

1 FOREST SOIL — GREY WOODED PODZOL

2 GRASS, WOODED — WOODLAND TRANSITION — BLACK-GREY

3 GRASSLAND SOIL — BLACK FINE TEXTURED

4 GRASSLAND SOIL — BLACK MEDIUM TEXTURED

(SOURCE: T.R. WEIR (ED.), ECONOMIC ATLAS OF MANITOBA, WINNIPEG: DEPARTMENT OF INDUSTRY AND COMMERCE, 1960), PP. 5 AND 13)

are characterized by poor drainage. As a result, settlement has tended to avoid these areas and has taken place along rivers, and small creeks and lakes.

The past physiographic area is the ice-scoured upland of the Shield area. This zone is located in the north-east corner of the study area, and east of the Winnipeg and Whitemouth Rivers. This area was scoured by glacial action leaving the area devoid of surface deposits except for several depressions which became filled with glacial drift. Like the marshlands, settlers have tended to avoid the ice-scoured uplands.

Soils

The soil zone boundaries are shown on Map 3. Three soil types are found in the study area: grassland soils; grass-woodland transition soils; and forest soils.

Zone 3 is a grassland soil; a Black fine-textured soil that developed on the lacustrine plain. This area was originally covered with prairie and wet-land grasses.[3] The flatness of the terrain resulted in much of this area being marshland prior to settlement.[4] Zone 4 is also a grassland soil. Whereas zone 3 is a Black, fine-textured soil, zone 4 is a Black medium-textured soil. The difference in texture is the result of different parent materials. The medium-textured soil developed on a shallow portion of the lacustrine plain[5] and forms an island with zone 3. Both of these soils are very fertile and being closely related to the lacustrine plain they are occupied by the greatest concentration of population in South-Eastern Manitoba.

3. J. H. Ellis, The Soils of Manitoba (Winnipeg: Economic Survey Board, Province of Manitoba, 1938), p.47.
4. Weir, op.cit., p.12.
5. Ibid.

North and east of the grassland soil is the grass-woodland transition soil running the length of the study area, some 112 miles. This zone (zone 2) contains a Black-Grey wooded soil. This soil zone originally developed under a grass cover and was a Black earth zone; however, the area was encroached upon by trees, predominantly broadleaf trees, thereby modifying the processes of soil formation. Grey areas now appear in the dark portion of the soil profile. Zone 2 is an area of Rendzina soils.[6] These soils have a high lime content as a result of the parent material over which they developed. The lime content has prevented leaching and as a result the Rendzina soils are considered to be relatively good agricultural soils.

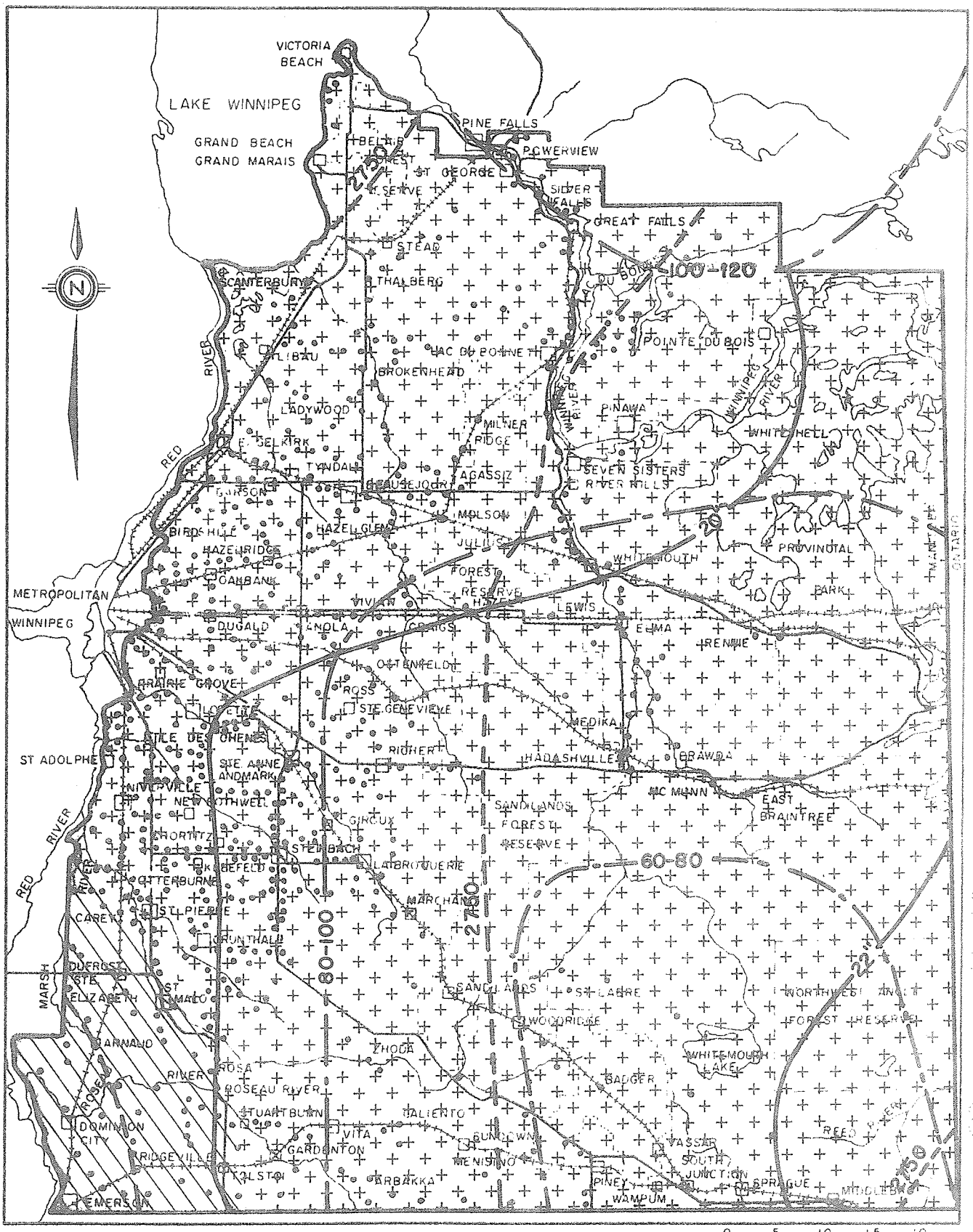
Zone 1 is the forest soil zone; a Grey Wooded Podzole. This zone corresponds fairly well with the physiographic areas of marshland, sand plain, ice-scoured upland, and portions of the till plain.

The Grey Wooded Podzol developed under rather humid conditions; the lime has been worked out and the soils are now quite acidic.[7] As a result the fertility of this soil is very poor and it cannot and does not sustain any extensive agricultural activity.

Climate

Several climatic characteristics of South-Eastern Manitoba are shown on Map 4: average annual precipitation, growing degree-days above 42° Fahrenheit (F), frost-free days, and moisture regions.

6. Ellis, op.cit., p.62
7. Ibid, p.65



MAP 4

CLIMATE

MOISTURE REGIONS

0 TO -11, MOIST FRINGE

-11 TO -22, TRANSITIONAL

(MOISTURE REGIONS EXPRESSED AS AN INDEX, 0,-11,-22)

AVERAGE ANNUAL PERCIPITATION

GROWING DEGREE-DAYS — ABOVE 42°F

FROST FREE DAYS

(SOURCES: MOISTURE REGIONS — WEIR (ED.), ECONOMIC ATLAS OF MANITOBA (1960), P. 17; AVERAGE ANNUAL PERCIPITATION AND GROWING DEGREE-DAYS — PAGE AND CARVALHO, EAST-MAN REGIONAL DEVELOPMENT STUDY (1970), MAP 3; FROST FREE DAYS — MERIT STUDENT ENCYCLOPEDIA, VOL. II (NEW YORK: CROWELL-COLLIER EDUCATIONAL CORPORATION, 1969), P. 499.)

Average annual precipitation in South-Eastern Manitoba varies from 19 to 22 inches: the western and northern parts of the study are receiving 19 to 20 inches and the rest of the area receiving 20 to 22 inches of precipitation. Settlement is concentrated in the area of the 20 inch isohyet, while the rest of the settlement is located between the 20 and 22 inch isohyets.

The highest concentration of settlement is also related to the area where there occurs the greatest number of frost-free days, 100 to 120 frost-free days. This is the growing period of vegetation. The remainder of the study area experiences 60 to 100 frost-free days. The frost-free period coincides with the period of maximum precipitation, April to the end of July.[8]

Also, the area of highest population density experiences 2750 to 3000 growing degree-days[9] above 42° F.[10] In the study area, therefore, the area of greatest population concentration receives about 20 inches of precipitation, has the longest frost-free period, and experiences the greatest number of growing degree-days.

The moisture regions shown on Map 4 are derived from a formula employing data for annual moisture deficits and moisture surpluses.[11] The regions are based on both positive and negative moisture indices. In the study area, the moisture indices are negative which means that vegetation growth is restricted by a lack of moisture.[12] With the exception of the south-west corner, settlement in the study

8. A. J. Connor, The Climate of Manitoba (Winnipeg: Economic Survey Board, Province of Manitoba, 1939), p.11.

9. Growing degree-days is defined as the accumulation of degrees of temperature above a daily mean of 42°F.

10. A temperature of 42°F. or 43°F. is usually considered to be a minimum for the growth of many forms of vegetation.

11. Weir (ed.), Economic Atlas of Manitoba (1960), p.18.

12. Ibid.

area is located in the moist fringe. The south-west corner, which includes some of the large settlements of Emerson, Dominion City, St. Malo, and Arnaud, is in a transition zone between the moist fringe and the dry fringe.[13]

Water Resources

Map 5 shows the surface and subsurface water resources of South-Eastern Manitoba. The area of highest population density occurs where water resources in the form of aquifers and flowing wells provide an adequate water supply for human activities. Also, the concentration of settlement along the Lower Winnipeg and Whitemouth Rivers is adequately supplied with water from aquifers. Aquifers and flowing wells occur also around Piney and Wampum in the south-east; however, settlement here is scattered and sparse.

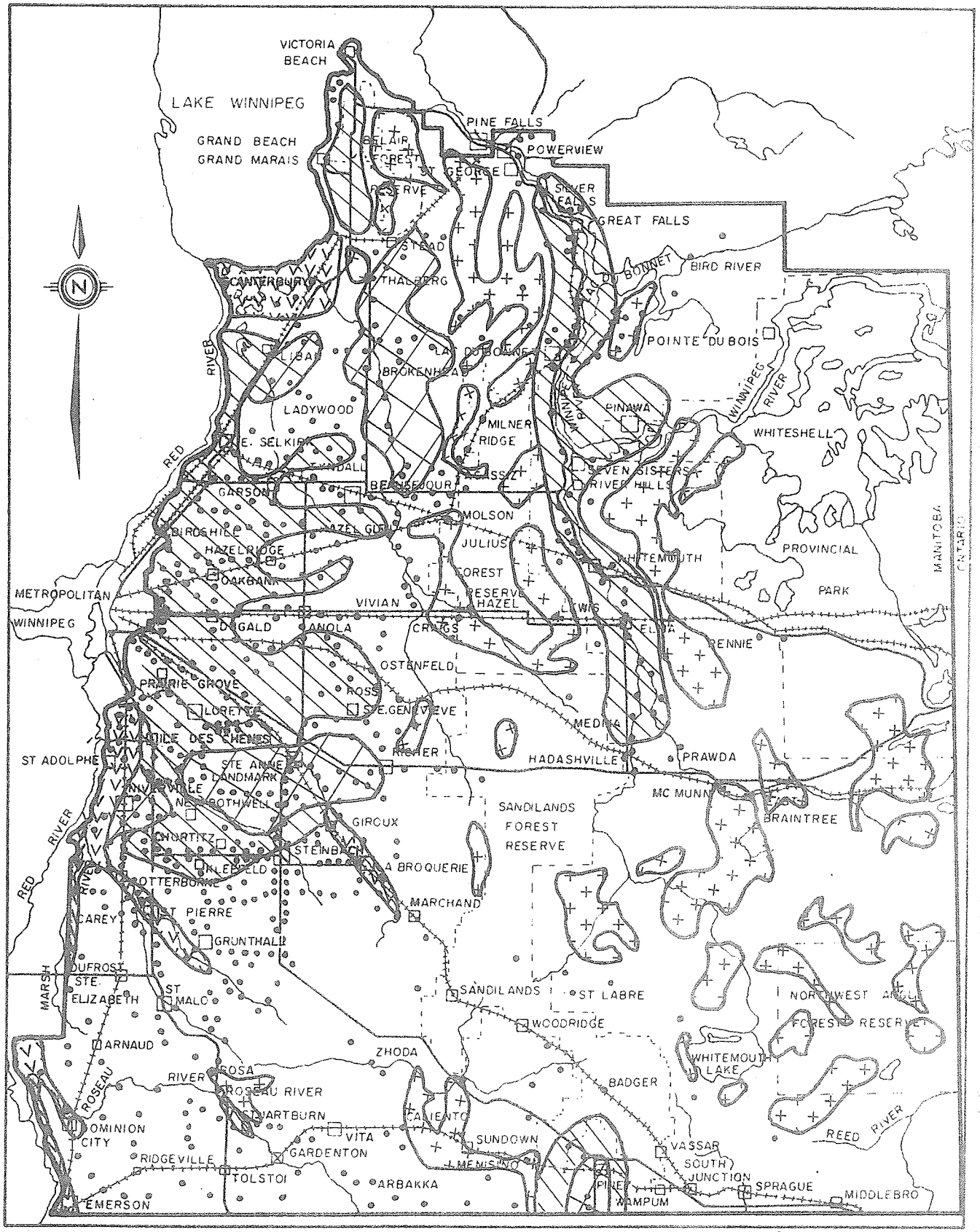
Settlement in the south-west portion of the study area have some sources of subsurface water, but these are very limited. As a result, much of the settlement is found around the rivers where a supply of surface water is readily available. This is true also of other areas of South-Eastern Manitoba which are not located in proximity to aquifers or flowing wells.

Agricultural Capability Of The Land

Map 6 illustrates the agricultural capability of the land in South-Eastern Manitoba. Three categories are used: arable land, marginal land, and unproductive land.

The largest area of arable land is a continuous belt east of and parallel to the Red River. This belt is closely associated with the lacustrine plain (Map 3), the most fertile soils (Map 3) and the area where water resources are

13. The dry fringe is a zone located west of Brandon.



MAP 5 WATER RESOURCES

FLOWING WELLS

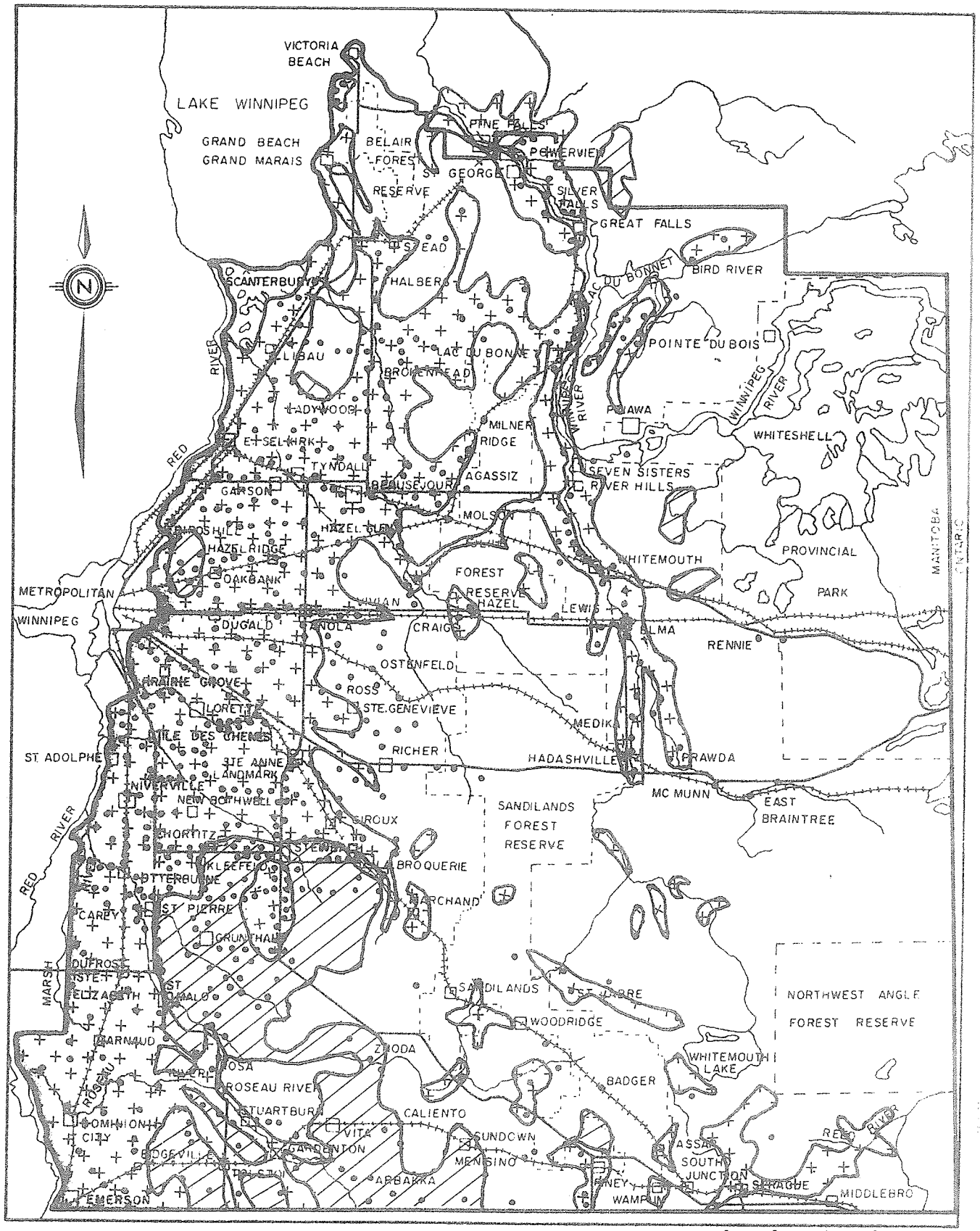
AQUIFER

MARSHLAND

FLOOD PLAIN

RIVERS

(SOURCE: PAGE AND CARVALHO, EAST – MAN REGIONAL DEVELOPMENT STUDY (1970), MAP 6.)



MAP 6 AGRICULTURAL CAPABILITY OF THE LAND

ARABLE

MARGINAL

UNPRODUCTIVE

(SOURCE: PAGE AND CARVAHLO, EAST-MAN REGIONAL DEVELOPMENT STUDY (1970), MAP 7.)

adequate (Map 5). The greatest amount of settlement occurs in this belt of arable land.

The area of settlement along the Lower Winnipeg and Whitemouth Rivers is also associated with arable land. Throughout the rest of the study area pockets of arable land can be found (around Woodridge, St. Labre, Piney, Sprague, and Middlebro).

The largest area of marginal land is found in the south-west part of the study area, bordering on the arable land. A substantial amount of settlement is found here.

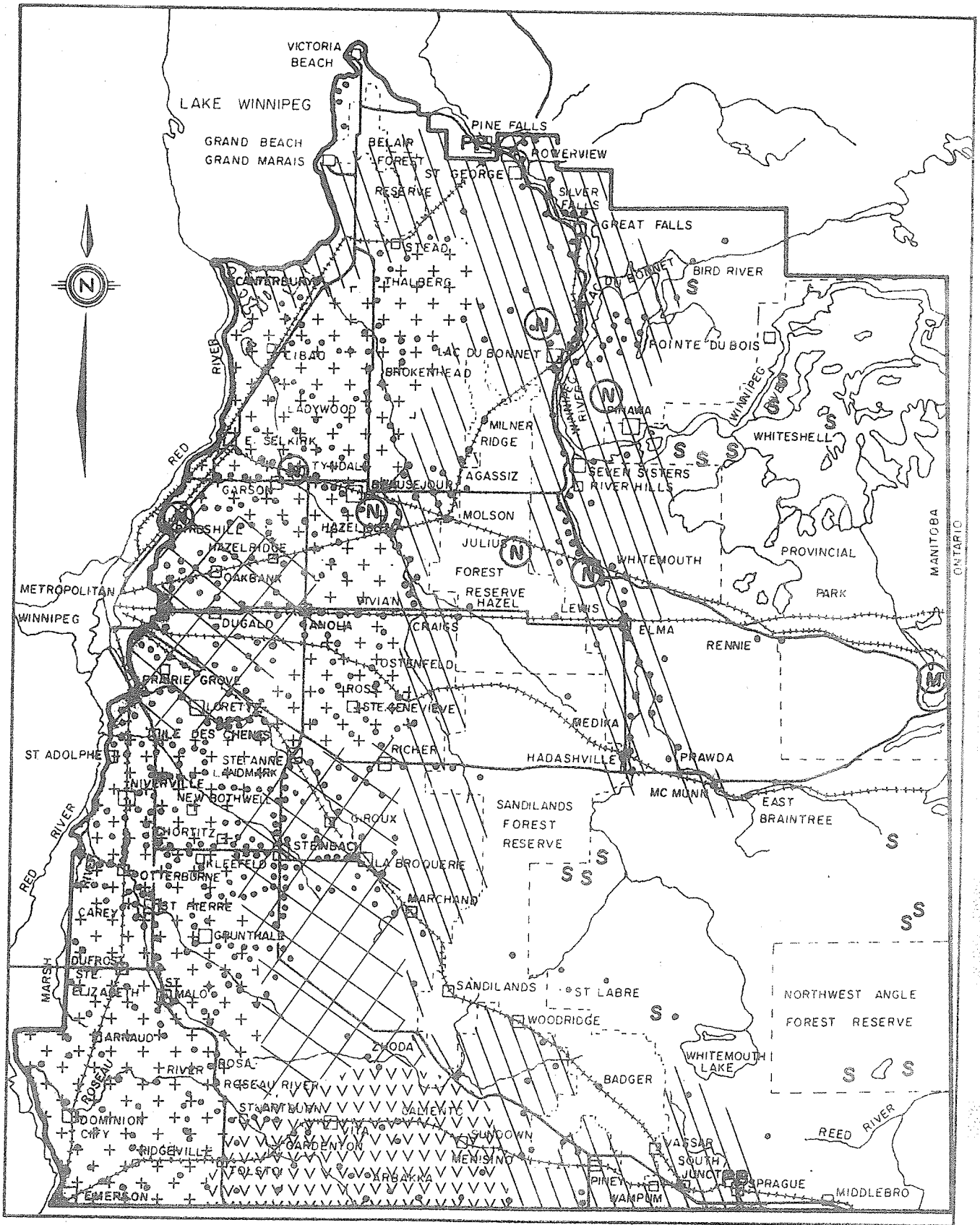
The central, south-east, and north-east parts of the study area are shown on Map 6 as being unproductive. Settlement in these areas is scattered and sparse. These areas of unproductive land are related to the sand plains (central part), the ice-scoured uplands (north-east), and the marshland (south-east). The soils in these areas are either low in fertility or infertile; therefore, agricultural activity is limited.

ECONOMIC ACTIVITY AND SETTLEMENT

In the previous section, settlement has been dealt with in terms of its relationship to the natural environment of South-Eastern Manitoba. In this section, settlement will be looked at in relation to the economic activities of the study area. An attempt will be made to bring out the relationships between the natural environment, the economic activities, and the settlement. The economic activities to be considered are: agriculture, foresty and mining.

Agriculture

Map 7 shows the types of agricultural land use in South-Eastern Manitoba. The agricultural zones shown on Map 7 represent the type of agriculture that predominates in the area.



MAP 7 ECONOMIC ACTIVITIES

0 5 10 15 10
MILES

AGRICULTURAL TYPES

- PREDOMINANTLY GRAIN
- PREDOMINANTLY DAIRYING
- PREDOMINANTLY BEEF CATTLE
- PREDOMINANTLY LIVESTOCK (EITHER DAIRYING OR BEEF RAISING)

NON-AGRICULTURAL

MINING — (M) METALLIC MINERALS
(N) NON-METALLIC MINERALS

FORESTRY — PP — PULP AND PAPER MILLS
PB — PARTICLE BOARD PLANT
S — SAWMILLS

(SOURCE: WEIR (ED.), ECONOMIC ATLAS OF MANITOBA (1960), "AGRICULTURAL TYPES", P. 41; "FORESTRY", P. 61; AND "MINING", P. 63.)

The land in agricultural use is located between the western boundary of the study area and the western boundary of the Agassiz and Sandilands Forest Reserves. Agricultural use of the land also occurs north of the Agassiz Forest Reserve and along the Lower Winnipeg and Whitemouth Rivers. The agricultural zones are, for the most part, located in the lacustrine and till plains. These areas also have the most fertile soils, the most adequate water supplies, and the longest growing season found in the study area.

Map 7 indicates that most of the settlement is associated with the agricultural area: the greatest concentration of population (belt of land east of Metropolitan Winnipeg) being in the grain and dairy farming zones; and the concentration of population along the Lower Winnipeg and Whitemouth Rivers being in the Livestock zone.

The non-agricultural lands are associated with the ice-scoured uplands, sand plains, and marshland (see Map 3). This zone contains soils that are low in fertility and experiences larger amounts of rainfall and a shorter growing season than does the eastern half of the study area. The non-agricultural lands, because of their physical characteristics, are more suited to forest growth than for agriculture.

Foresty

The area designated as non-agricultural on Map 7 is the area where commercial timber stands are located. Other forest areas occur north of the Agassiz Forest Reserve, and in and around the Belair Forest Reserve.

The area in and around the Agassiz and Belair Forest Reserves contain stands of jack pine and black spruce. Fire and overcutting have severely reduced the productivity

of this area.[14]

The Whiteshell Provincial Park and Forest Reserve is a second source of commercial timber. Several sawmills are located in this area. Lumber and pulpwood are the main products.

Finally, the south-eastern quadrant of the study area is the main producer of forest products. The commodities produced here are spruce and pine pulpwood, and pine and cedar posts, poles and ties.[15] Also, located at Sprague is a particle-board plant which resumed production in 1969.[16]

All of these forest areas receive 22 inches of precipitation annually which is sufficient to support most tree species. The forest resources are also found in areas which are unfit for agricultural use (see Map 6). As a result, settlement in these areas is extremely sparse and much of the settlement that does exist is related to the forest and tourist industry.

Mining

Map 7 also shows the location of mineral resources in South-Eastern Manitoba. Most of the minerals are non-metallic, the exception being a source of molybdenum near West Hawk Lake in the Whiteshell Forest Reserve.

Some settlement is associated with areas of mineral extraction. Near Garson and Tyndall, dolomitic limestone is quarried and used as a construction material. South of Beausejour, sand and gravel pits are found. Clay deposits are located near Whitemouth and are used in the making of bricks. In the Agassiz Forest Reserve, near Julius, is the

14. Weir (ed), Economic Atlas of Manitoba (1960),p.58
15. Ibid
16. Manitoba to 1980, Report of the Commission on Targets for Economic Development (Winnipeg, 1969), p.70.

Julius Bog where peat is cut for horticultural use. West of Pinawa and south-east of Lac du Bonnet is a granite quarry where stone is cut for decorative purposes.[17]

In summary, relatively little settlement has taken place in response to mineral resources, primarily because of the fact that sources of minerals are few and these are mainly non-metallic.

The previous sections have dealt with the settlement in South-Eastern Manitoba in relation to the physical and economic characteristics of the region. The following sections will consider settlement in relation to ethnic groups, transportation, technology, and government land policy.

ETHNIC GROUPS AND SETTLEMENT[18]

Map 8 shows the dominant ethnic groups in the study area by rural municipality and local government district. Only those groups which represent either a majority (over 50 percent of the population) or a plurality (largest single group, but not a majority) are shown.

A comparison of Maps 8 and 2 shows that the belt of high density population around Metropolitan Winnipeg is dominated by the British Isles, French, and Netherland (Mennonite) ethnic groups. The greatest concentration of settlement in this belt occurs in the south-east. The majority of people in this area are French and Mennonite.

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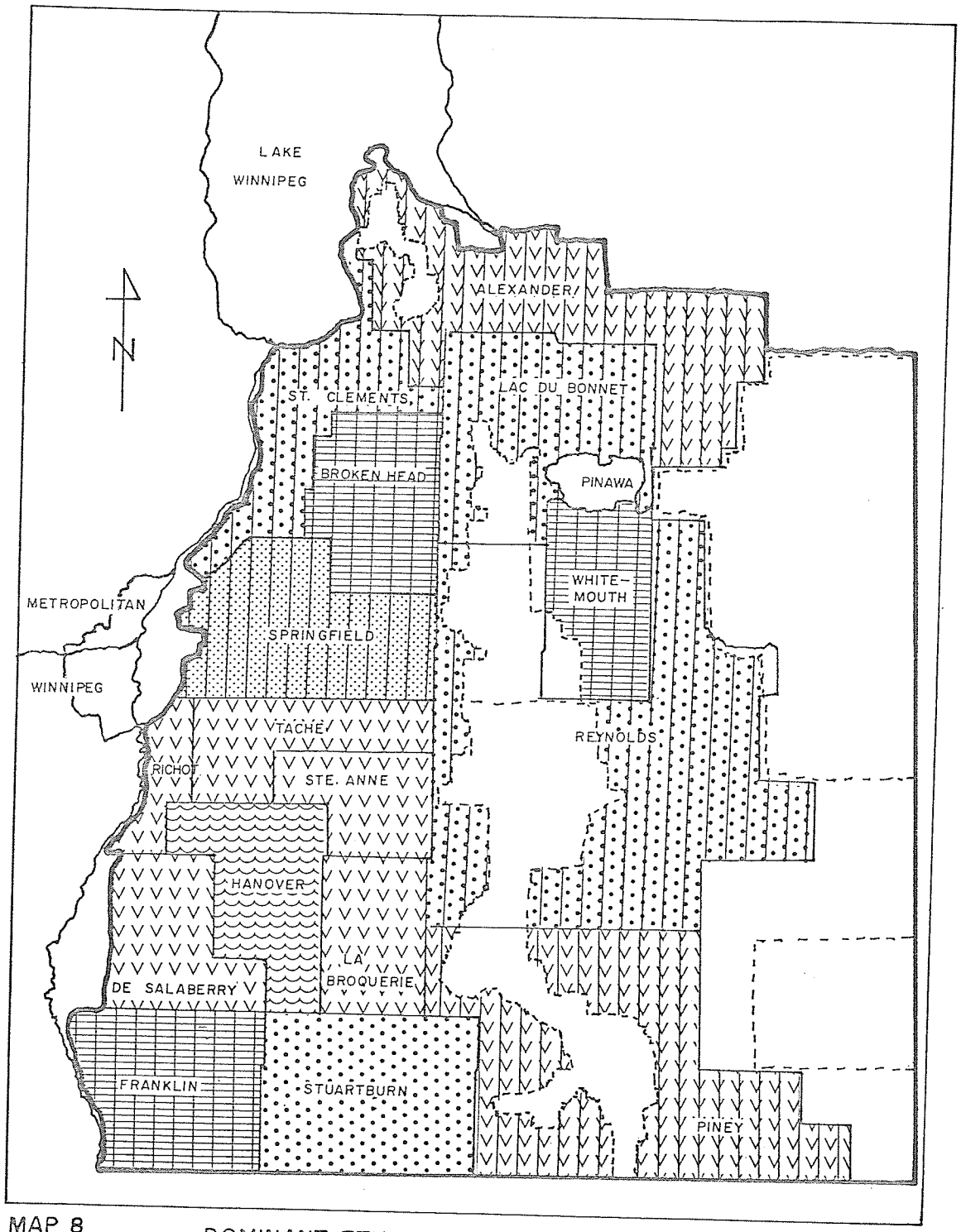
17. Department of Mines and Natural Resources, Province of Manitoba, Annual Report for the year ending March, 1970.

18. The author believed that, while this topic could have been considered earlier in this Chapter along with population distribution, there was some merit in viewing the ethnic groups in relation to some of the physical and economic characteristics of the study area.



MAP 8

DOMINANT ETHNIC GROUPS BY RURAL MUNICIPALITY AND GOVERNMENT DISTRICTS

0 10 20 30 40
MILES

ETHNIC GROUPS: MAJORITY

- BRITISH ISLES
- FRENCH
- GERMAN
- NETHERLAND (MENNONITE)
- UKRANIAN

- INDICATES THAT AN ETHNIC GROUP IS A PLURALITY
- BOUNDARY OF STUDY AREA
- MUNICIPAL BOUNDARIES
- FOREST RESERVES

NOTE: MAJORITY MEANS 50 % OR MORE
PLURALITY MEANS LARGEST GROUP
IN THE AREA BUT NOT 50% OF POPULATION

(SOURCE: PAGE AND CARVALHO, EAST-MAN REGIONAL DEVELOPMENT STUDY (1970), APPENDIX A, TABLE II.)

Settlement along the Lower Winnipeg and Whitemouth Rivers is dominated by the Ukrainians and Germans. Areas of sparse settlement are occupied by the French, Germans, and Ukrainians.

The French, Mennonite and British Isles groups occupy the most fertile soils (Black earths) and consequently a large portion of the arable land (Maps 3 and 6 respectively). Map 7 shows that these three groups are predominantly engaged in grain and dairy farming.

Settlement along the Lower Winnipeg and Whitemouth Rivers is dominated by the Ukrainians and Germans. In this area, livestock farming has been highly developed by these people.[19]

Much of the remaining settlement in the study area is confined to pockets of arable and marginal land.

In Stuartburn, beef raising on marginal land is the predominant economic activity. The Ukrainians form a majority in this area. Piney and Reynolds, in the southeast part of the study area, are predominantly French and Ukrainian, respectively. Livestock and mixed farming are carried on here. Some of the people in these two areas augment their income or work exclusively in the forest industry.[20]

This rather brief description of settlement and the distribution of ethnic groups cannot bring out the real importance of the impact that the various ethnic groups had on the pattern of settlement. This aspect will be demonstrated more fully in Chapter 3.

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19. Weir (ed.), Economic Atlas of Manitoba (1960), p.24.

20. Ibid.

TRANSPORTATION AND SETTLEMENT

During the period of early land settlement, accessibility to homesteads, service centres, and markets was of major importance. Accessibility in this context is of no lesser importance today. The people of South-Eastern Manitoba still require access to areas upon which their social and economic well-being depend. In earlier times markets were either local or located in Eastern Canada. Today, owever, local markets are limited in what they can consume, so that external markets must be sought. As a result, transportation is vital to the economic development of not only South-Eastern Manitoba, but to all of Manitoba.[21]

In South-Eastern Manitoba, two modes of transportation will be considered in relation to settlement: road and rail.

Road

Map 9 illustrates the location of major roads (Provincial Trunk Highways) in South-Eastern Manitoba. There is approximately 590 miles of major roadway in the study area. It can be seen from the map that much of the settlement is related to this road network.

On Map 9 the areas within 10 miles of the major roads are shown. The designation of this 10 mile zone reveals that virtually all settlement is within 10 miles of a major motor vehicle route. Access to major urban service centres is readily available. The relationship between roads and settlement is a reciprocal one; that is, while it is true that settlement took place in close proximity to roads, it is also true that much of the road system followed settlement. It has been suggested, in fact, that most of the road network has been fitted to the existing pattern of settlement.[22]

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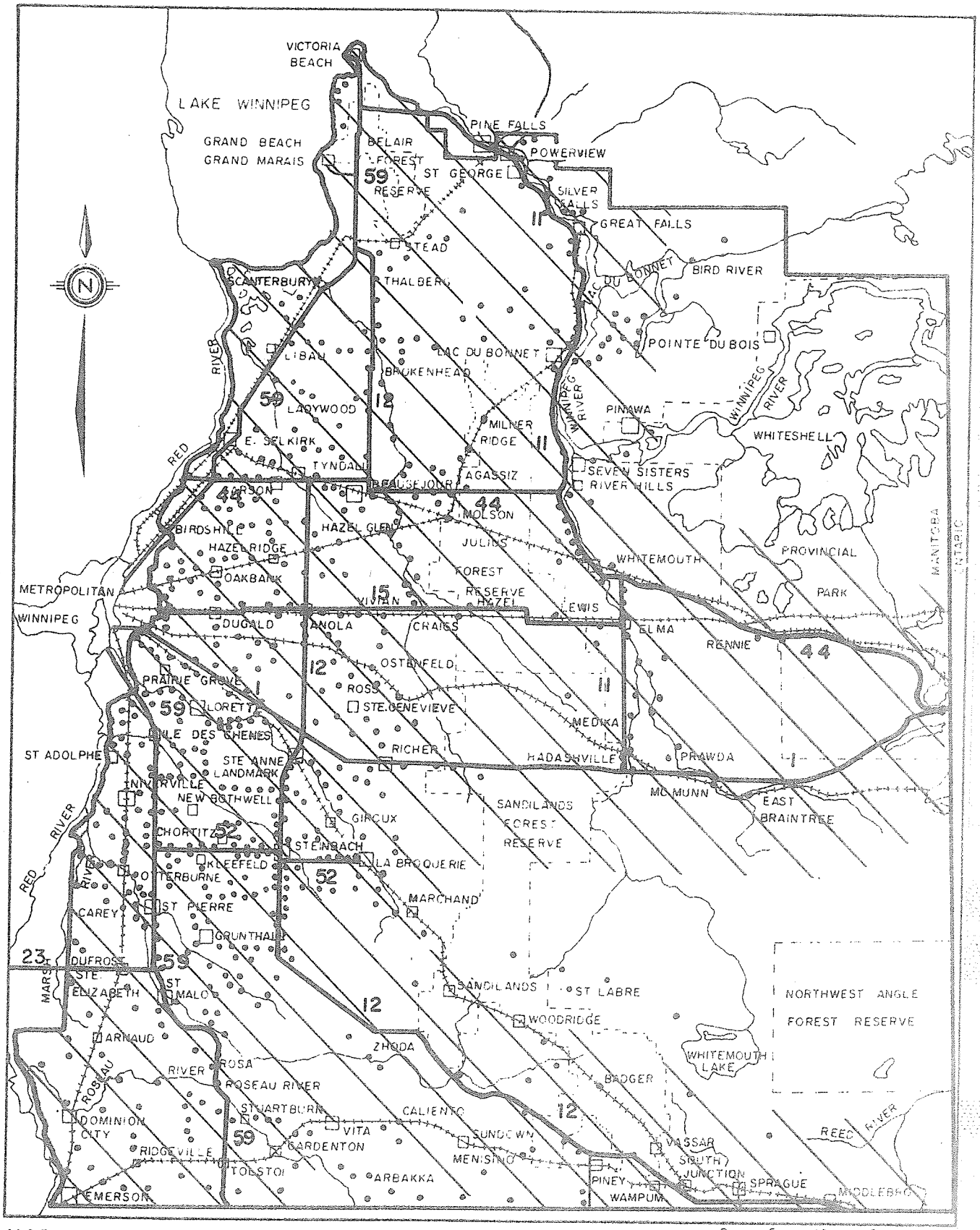
21. This is clearly expressed in Manitoba to 1980, Report of the Commission on Targets for Economic Development (1969), p.363.

22. John E. Page and Mario E. Carvallo, East-Man Regional Development Study (Manitoba: East-Man Regional Development Incorporated, 1970), p.9.



MAP 9 **MAJOR ROADS AND SETTLEMENT**

MAJOR ROADS

(44) ROAD NUMBER

SETTLEMENT WITHIN TEN MILES OF MAJOR ROADS

There are few areas in the study region that are not within easy reach of major roads. The largest areas are in the north-east and south-east portions of the study area.

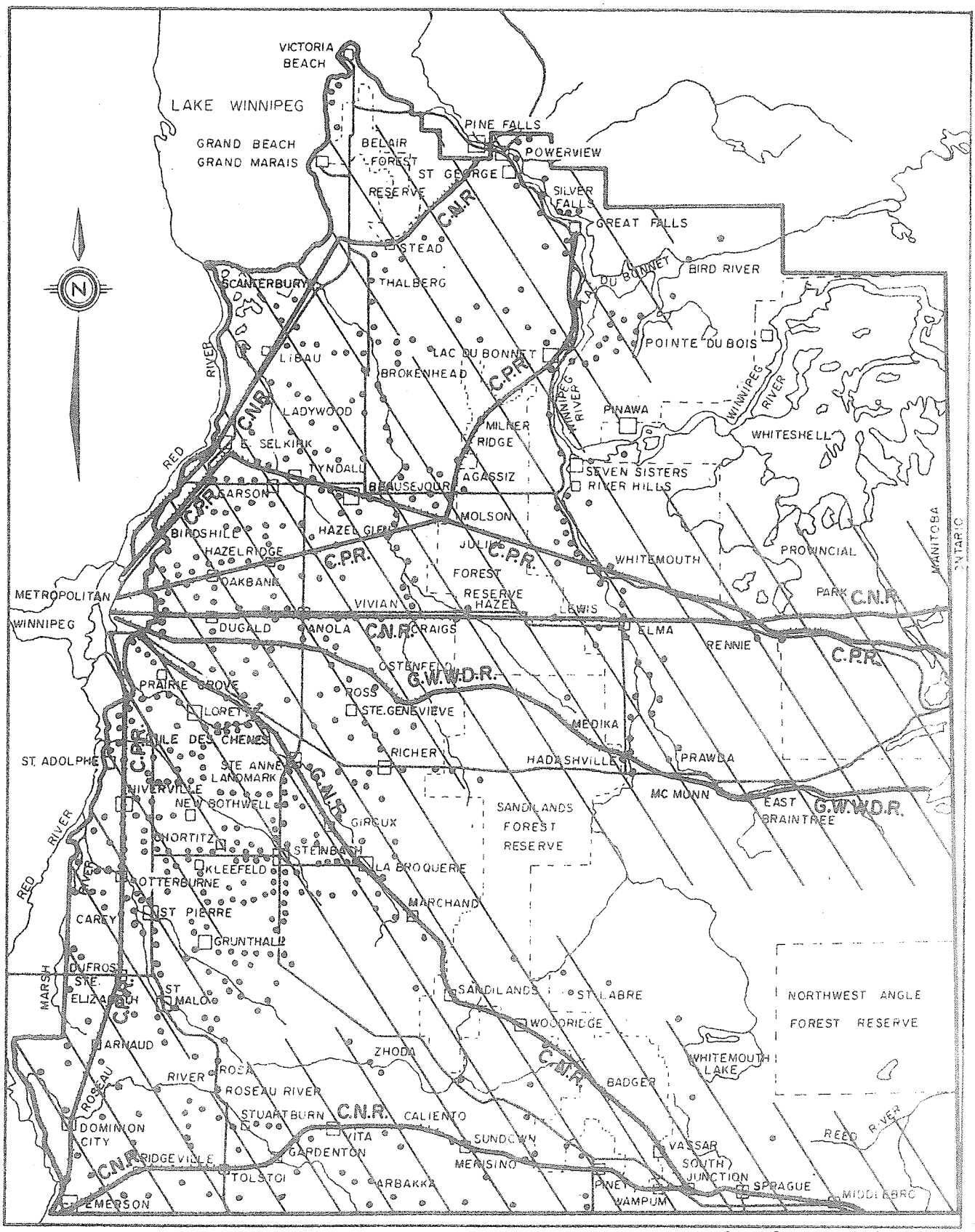
Another area not within 10 miles of a major road is found in the southern part of the region around Arbakka. All of these areas are characterized by either a sparse population or no population at all; the expense of constructing a major road would not appear to be justified at the present time.

All settlement not situated on or near a major road has access to such roads by means of a network of minor or rural roads. These roads are usually gravel or packed mud roads. All major roads provide access to Metropolitan Winnipeg either directly or indirectly.

Railways

Map 10 shows the location of railways in South-Eastern Manitoba. The rail lines in the study area are: The Canadian Pacific Railway (CPR), the Canadian National Railway (CNR), and the Greater Winnipeg Water District Railway (GWWDR).

As with the major roads, a 10 mile zone was drawn around all of the rail lines. As with the roads most settlement lies within 10 miles of one of the railways. The areas not within the 10 mile zone are: the north-east corner of the study area; a rather large area in the south-east part of the region; a triangular area in the south-west; and two small areas in the north-west: one in the vicinity of Brokenhead and the other just south of and including Victoria Beach.



MAP 10 RAILWAYS AND SETTLEMENT

RAILWAYS

SETTLEMENT WITHIN TEN MILES OF RAILWAYS

Writing in 1934, W. A. Mackintosh stated that "... areas lying more than 10 miles from the railway have low population density and are not characteristcally grain-shipping districts".[23] His comment on population density is true of the north-east, south-east, and north-west portions of the study area. The triangular area in the south-west, however, contains a large number of people (approximately 1800 persons). This is partly explained by Mackintosh's reference to grain-shipping districts. Map 7 indicates that over one-half of this area is predominantly dairy farming and not a grain producing area. The roads, therefore, are of greater importance in transporting dairy products to the markets. The remaining portion of the triangle, a grain producing area, is within 15 miles of the railway, not an excessive distance. Also, Map 7 indicates that the areas in the north-west and south-east not within 10 miles of a rail line are non-agricultural lands.

Map 7 shows too that much of the mineral wealth of the study area is closely related to the railways and major roads.

In summary, it can be stated that both rail and road transportation are closely linked to the settlement and economic activities of South-Eastern Manitoba.

TECHNOLOGY AND SETTLEMENT

Technology is understood here as the means by which material things are produced or the means by which some

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23. W. A. Mackintosh, "Prairie Settlement: The Geographical Setting", Vol.1, Canadian Frontiers of Settlement, ed. W.A. Mackintosh and W.L.G. Joerg (Toronto: The Macmillan Company of Canada, 1934), p.55.

endeavour or activity is carried out.

In South-Eastern Manitoba technology will be considered briefly in terms of agriculture and transportation and its affect upon the settlement pattern.

Agriculture

The existing agricultural technology has its foundation in the inventions and developments that began in the late nineteenth century and continued on into the early twentieth century. Thus modern agricultural technology can be viewed in terms of innovation and modification of the technology of an earlier period. With respect to agricultural technology, Drucker states that "...the technological revolution in agriculture had begun well before 1913. Most of the 'new' agricultural technology - tractors, fertilizer, improved seeds and breeds - had been around for many years."[24] Drucker also suggests that the field of agriculture is the economic sector that has been most affected by technological change.[25]

The modern farmer has at his disposal tools such as high-powered tractors, combines, and threshers. This machinery is more powerful and capable of performing more complex tasks more rapidly than any previous machinery. Improved seed and chemical fertilizers are also a part of the new farm technology.

The machinery has permitted the farmer to cultivate larger tracts of land farther away from his dwelling place. The use of chemical fertilizers has resulted in an improved and increased crop yield, thus providing an economic benefit

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24. Peter F. Drucker, The Age Of Discontinuity (New York: Harper & Row, Publishers, 1968), pp.5-6

25. Ibid., p.112

to the farmer. It has also allowed some marginal land to be settled and cultivated with a reasonably good crop yield to be expected.

Transportation

As with the agricultural technology, transportation technology has made great strides forward: the development of more powerful locomotives for rail service capable of great speeds; and the development of larger and more powerful motor vehicles in the trucking industry. The development of refrigerated cars and containers, bulk carriers, and containerization means that producers of agricultural, forest, and mining products have a greater and more rapid access to the markets. Newer and larger trucks provide greater accessibility either to markets or to rail depots from which produce can be shipped. This means that the people do not have to live in close proximity to railways or major roads but can, if they wish, live in more remote areas.

In summary, it is difficult to determine exactly the affect of modern technology on the existing pattern of settlement. Some of the suggestions are: it has permitted the cultivation and settling of less fertile land; it has provided greater accessibility to service centres and markets; and finally, it leads to a lower population density because larger land areas can be farmed with a small amount of labour.

GOVERNMENT LAND POLICY AND SETTLEMENT

Until 1930 land settlement was regulated by the Federal government through the Dominion Lands Act. In July of 1930,

the Federal government relinquished control of provincial lands to the provinces concerned. The Dominion Lands Act had as its purpose, the inducement of settlement in Manitoba and the other prairie provinces. For most of southern Manitoba, the days of mass land settlement are over. This is true of South-Eastern Manitoba.

Much of the land in the study area is now privately owned. The rest of the land is Crown land some of which is leased to resource oriented industries. The non-Crown land is administered by the rural municipalities, and incorporated towns and villages under several Provincial Acts such as: The Agricultural Act, The Land Surveyors Act, The Land Rehabilitation Act, The Land Acquisition Act, and The Highways Protection Act.

Crown lands in South-Eastern Manitoba form the bulk of the unsettled areas, most of which are designated as forest reserves. Crown lands are managed for agricultural use only and administered under The Crown Lands Act of Manitoba (RSM, 1970, C340). In this Act there are no inducements to settlement; there are no offers of free land as there were in the Dominion Lands Act of 1872.

Under the Crown Lands Act of Manitoba the Minister of Mines and Natural Resources is empowered to do several things related to settlement.

Section 9 (6) of the Act allows the Minister to grant haying or grazing leases on Crown land. This permits a farmer to extend his individual land holdings to some degree.

Under Section 10, the Minister may subdivide Crown land into lots to be leased or sold. A plan of survey must be approved prior to subdividing the land unless such a plan was under the Dominion Lands Act prior to July 15, 1930. The Minister, therefore, does have the power to extend the settlement pattern in South-Eastern Manitoba.

No illegal settlement or erection of buildings on Crown land is permitted. Any such activity can be dealt with by the Minister under Section 34 of the Act.

Finally, the Act provides that the regulations of the Dominion Lands Act still apply to all lands purchased, leased, or granted under the Dominion Lands Act, unless the regulations are inconsistent with the Provincial Act (Section 38 of the Crown Lands Act of Manitoba).

In summary, the Crown Lands Act of Manitoba, 1970, provides a basis upon which limited settlement of unsettled lands may take place. The alternative is that privately owned land may be purchased and settled, but opportunities here are limited.

CONCLUDING REMARKS

In this Chapter the existing settlement pattern in South-Eastern Manitoba has been described in terms of its relationship to the existing natural and man-made environment. An attempt has been made to give some idea of the interrelationships between man and his environment; however, the Chapter is predominantly descriptive and not interpretive. The question that is to be raised at this point is how this existing settlement pattern came to be. This question is the basis for Chapter 3 in which the evolution of the settlement pattern in South-Eastern Manitoba will be traced from 1870 to 1970.

CHAPTER 3

EVOLUTION OF THE SETTLEMENT PATTERN, 1870 to 1970.

In Chapter 2 it was noted that the settlement pattern in South-Eastern Manitoba is, to a large extent, directly related to its physical, social and economic characteristics, as well as its historical development. In that Chapter the relationship between existing settlement and the natural and man-made environment was discussed. This however is only a part of the total picture. The pattern that exists today depends in large part on the patterns created in the past, and in order to understand the settlement pattern today requires a knowledge of what has happened in the past. Mitchell suggests that:

> Any attempt to understand the settlement patterns with only modern machines, power supplies and construction material in mind is foredoomed to failure. If we are to appreciate our villages and towns, we must try to see the country with the eyes of the first settlers and with those of the long line of heirs that link them to us.[1]

It is important therefore to have a working knowledge of the interaction between man and his environment in the past.

This chapter will now deal with the evolution of the settlement pattern in South-Eastern Manitoba. In order to handle the vast amount of material available the basic forces described in Chapter 1 and employed in Chapter 2

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1. J. B. Mitchell, Historical Geography (London: English Universities Press Ltd., 1954), p. 84.

will again be used in this Chapter. These forces are: basic needs, natural environment, economic activity, the land survey and Dominion Lands Policy, ethnic groups, transportation, and technology. Each of these factors will be discussed in some detail to demonstrate its role in shaping the pattern of settlement. As well as this, a description of the settlement that took place in response to these forces will also be included.

BASIC NEEDS

In Chapter 2 it was suggested that man has certain needs which are basic to his survival. While at the present time, the availability of resources to satisfy these needs is essential to man's survival, the close proximity to these resources is not; however, to the early settlers the close proximity to resources to meet their needs was essential. Everson and FitzGerald state it thusly:

> The first settlers, with their necessarily limited knowledge, made more or less rational judgments concerning choice of sites for their villages. Important to them was the availability of what could become arable and grazing land. In addition, a close supply of water was essential, as was the proximity of building material and fuel.[2]

Up until 1870, no settlement in Manitoba had taken place away from the river fronts. It was the need for access by water, a water supply, fertile land, hay, building materials, and social contact that resulted in the settlers confining themselves to the river lots. It was along the banks of the rivers that the settlers found a supply of running water; a supply of timber for building material and fuel; and social contact with their neighbours who also settled

2. J. A. Everson and B. P. FitzGerald, Settlement Patterns (London: Longmans, Green and Co., Ltd., 1969), p.9.

along the rivers. As well as these, each settler had a supply of hay at the rear of his lot, extending back for a distance of two miles, which only the owner of the lot could mow.[3]

Related to basic needs were several beliefs held by the early settlers that prevented them from settling away from the river banks. These beliefs were: that it was impossible to cultivate the prairie;[4] and, that it was impossible to sink wells on the plains.[5] As a result of these needs and beliefs, agricultural settlement was closely bound to the rivers.

Settlement Prior to 1870

Prior to 1870, Manitoba was of interest primarily to the seekers of the north west passage, and to the fur traders. The thoughts of these men were not oriented to the establishment of permanent settlements.

In the years 1811 to 1815, Lord Selkirk established the first really permanent agricultural settlement in Manitoba. Selkirk had obtained from the Hudson's Bay Company a substantial land grant which included the present study area of South-Eastern Manitoba.

By 1870 the banks of the Red River were solidly occupied as were the banks of the Assiniboine River to Portage La Prairie. Along the west bank of the Red and along the Assiniboine were the English and Scots, and English and Scot half-breeds. Along the east bank of the Red were the French and French Metis. Map 11 shows the settlement prior to 1870.

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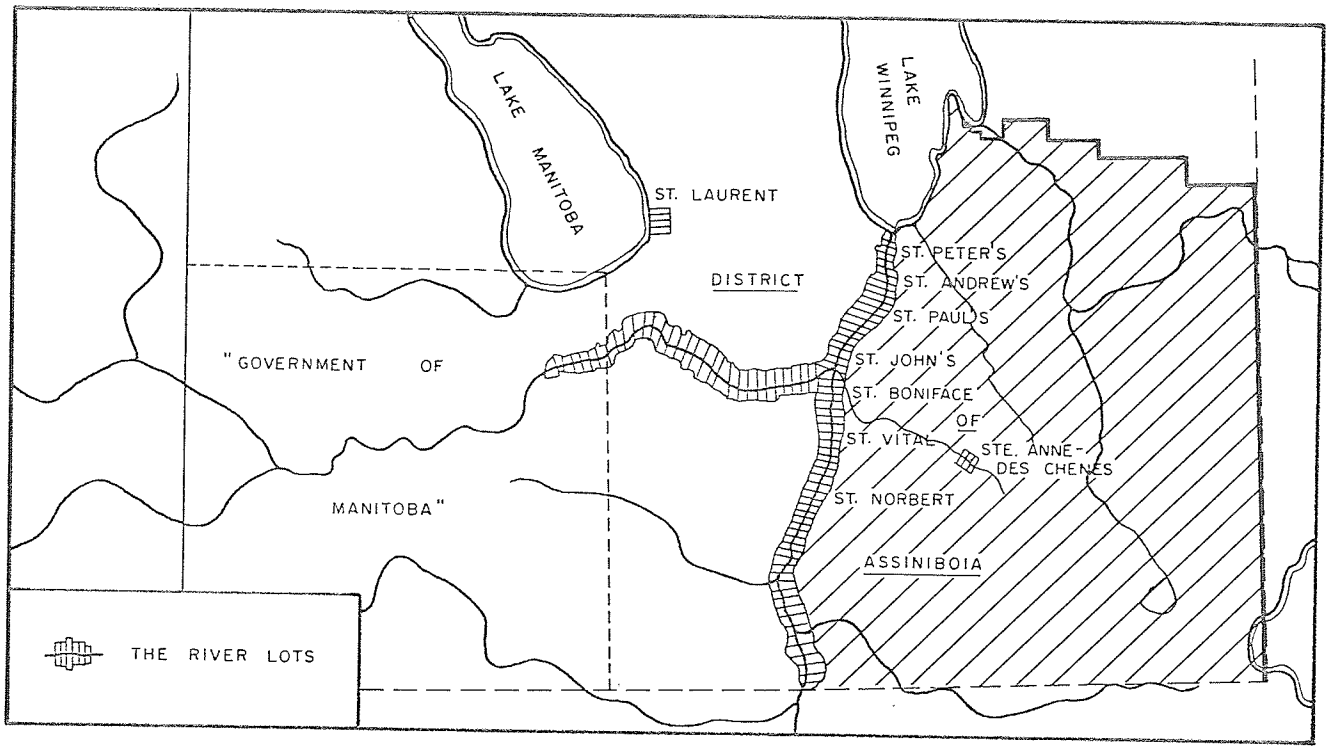
3. W. L. Morton, Manitoba: A History (Toronto: University of Toronto Press, 1957), p.86.
4. Ibid, p.85
5. Ibid, p.153



Map II THE SETTLEMENTS, 1811 - 1869

Study Area

(Source: Redrawn from W. L. Morton, Manitoba: A History (Toronto: University of Toronto Press, 1957), p. 89)

South-Eastern Manitoba, by 1870, had experienced little settlement. The Metis occupied St. Anne des Chenes on the Seine River, and Grand Marais was a fishing station but not yet a permanent settlement.[6] The Metis settlement at Ste. Anne des Chenes, like the Red River settlement, was in the form of river lots. Here the Metis found suitable sources of water and timber. In the 1850's the Catholic Church had established a mission and under the guidance of the Church a small number of Metis were turning to farming.[7] The majority of the Metis however continued to earn their living through the buffalo hunts.

Settlement: 1870 to 1874

In the early 1870's Ontario settlers, along with lesser numbers from the United States and the United Kingdom, made up the bulk of the immigration to the newly formed (1870) province of Manitoba. Many of the Ontario settlers chose to live on the periphery of Winnipeg. The first and largest of these settlements was north-east of Winnipeg at Springfield, followed later by Sunnyside[8] north-east of Springfield. They settled here because to the north there was an adequate supply of timber and to the south there was a broad expanse of prairie land suitable for ploughing and mowing.[9] Other Ontario settlers

6. Ibid.
7. Ibid., pp. 152-153
8. The name Sunnyside was changed to Dugald in the early 1890's; see Place Names of Manitoba, Geographic Board of Canada, Department of the Interior (Ottawa, 1933), p.29
9. W.L. Morton, op.cit., p.157

who followed the Dawson Trail, from Lake of the Woods to Winnipeg, simply turned off from the Trail and founded settlement at Clear Springs[10] and Prairie Grove.[11]

In 1874 a group of American settlers from Wisconsin and Michigan took up the two townships east of the Red River along the international boundary and thus founded the settlement of Emerson.[12]

Until 1874 new settlers continued to settle along the rivers in response to their basic needs and their knowledge of the suitability of the prairie land for settlement. In 1874, the Mennonites settled in the eight townships[13] south-east of Winnipeg. The Mennonite settlement on the plains demonstrated to new and old settlers alike, that it was possible to settle and survive away from the river fronts.[14] This does not mean that the settlers were not guided by their basic needs; rather,

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10. Clear Springs was located in the south-east quarter of township 7-6, one of the eight townships designated for the Mennonites in 1873. In 1873 the eleven Ontario and Scottish farmers who settled here petitioned the Dominion Government to remove the quarter from the Reserve. This was done and another substituted for it; see John H. Warkentin, The Mennonite Settlements of Southern Manitoba, Vol. 1 (Doctor's dissertation, University of Toronto, 1960), pp. 31-32.

11. Mitchell, in Historical Geography (1954), p.23, says of place names: "Many names are descriptive of the place:...", and that "Many names tell something of the natural environment: ...". The name Prairie Grove suggests a wooded area while Clear Springs suggests an area where there is running water. It is probably safe to assume, therefore, that these settlements were established at least partially in response to basic needs.

12. W. L. Morton, op. cit., p.158

13. Now the Rural Municipality of Hanover.

14. W. A. Mackintosh, "Prairie Settlement: The Geographical Setting", vol. 1, Canadian Frontiers of Settlement, ed. W. A. Mackintosh and W. L. G. Joerg (Toronto: the Macmillan Company of Canada, 1934), p.59.

that the settlers realized that their basic needs could be satisfied away from the rivers.

NATURAL ENVIRONMENT

Another major force which influenced the pattern of settlement was the physical resources of the new land. It was not the actual qualities of the natural environment that were important, because the natural environment then was much the same as now. Of course changes have occured: marshlands have been drained; minor changes in climate may have occured; and, the soil has been modified by the ploughing and cultivating of the land. In general the physical characteristics of the land were much the same as they are now.

What was important were the knowledge and opinions that the settlers had of the physical environment.

Details of the physical resources of Manitoba and the North-West were published, in a series of pamphlets and booklets, by the Federal and Provincial governments to induce settlers from other countries and provinces to come and settle in Manitoba and the North-West.

Much of the information contained in these pamphlets and booklets was based on the reports of Henry Youle Hind and Captain John Palliser who explored the North-West in the 1850's. Both men had agreed upon the great agricultural potential of the Red and Saskatchewan River Valleys. The data on precipitation, temperature, and growing season, supplied by Hind, became a somewhat scientific basis for the optimism contained in the pamphlets and booklets. Hind recorded,[15] for example, that 48 inches of rain and 39 inches of snow was registered by Donald Gunn near Lower Fort Garry between June 1855 and May 1856. Hind compared

15. Henry Youle Hind, Narrative of The Canadian Red River Exploring Expedition of 1857, And of the Assiniboine and Saskatchewan Exploring Expedition of 1858, Vol. II (London: Longman, Green, Longman and Roberts, 1860), p.359.

this to 30 inches of rain and 72 inches of snow at Toronto for the same period. He concluded that the Red River settlements had an excess of humidity compared with Toronto. Also, Hind, speaking of the soil of the Red River Valley said that, "A subsequent closer inspection of the soil never failed to establish its fertility and abundance, as well as its distribution over areas as far as the eye can reach both eastward and westward, from the banks of this remarkable river."[16]

Much of Hind's optimism about the Red River Valley was reported in the pamphlets and booklets designed as an aid to the intending immigrants. Thomas Spence, Clerk of the Legislative Assembly of Manitoba, published a series of such booklets between 1872 and 1882. In his 1872 booklet he described the Red River and Winnipeg Basin as having the following characteristics: soil that was an argillaceous black mould, rich in organic deposits;[17] a climate in which summers were warmer than Northern Illinois, Western Wisconsin, Northern New York, and Ontario;[18] sixteen hours of sunlight during the growing season, so that crops grow and mature rapidly;[19] and, an abundant supply of moisture during the summer months.[20]

16. Ibid, Vol. I, p.129
17. Thomas Spence, Manitoba and the North-West of the Dominion, Its Resources and Advantages to the Immigrant and Capitalist, as Compared with the Western States of America; Its Climate, Soil, Agriculture, and Manufacturing Facilities; Its Unparalleled Salubrity, Growth and Productiveness, and the Elements of its Future Greatness and Prosperity; The Land Policy, Latest Information, Cheapest and Best Way to Get to Manitoba (Quebec: S. Marcotte, 1876), p.18.
18. Ibid., p.22
19. Ibid., p.24
20. Ibid., p.25

Thus the reports of Hind and Palliser, and the pamphlets and booklets created an optimism with regard to the West that Arthur S. Morton suggests was based on ignorance.[21] In fact, the settlers who came to Manitoba found themselves facing unfamiliar situations: extremes of temperature, scanty rainfall, and unfamiliar soils.

The settlement of South-Eastern Manitoba was slow. The fact that great expanses of marshland, not conducive to settlement, existed in this area was further emphasized by Hind. His general impression of the area was that a great area of marshland occupied the land between the Red River and Lake of the Woods.[22] A companion of Hind reported that twenty-two miles east of the Red River Settlement he encountered marshland that stretched as far as he could see. He suggested that the difficulty of draining the marshes, and the lack of timber, made this area unfit for settlement.[23]

The picture painted by Hind was not totally discouraging. The area around the Seine River was reported as being a rich grassland with an adequate supply of timber.[24] The Roseau River area for a distance of twenty miles east of the Red River was reported as being beautiful prairie land with timber stands along the river banks.[25] The next twenty-five miles showed the soil to be sandy and poor; beyond this was a vast marshland.[26] Hind also reported fertile soils along the Winnipeg River from Lac du Bonnet to

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21. Arthur S. Morton, "History of Prairie Settlement", Volume II, Canadian Frontiers of Settlement, ed. W. A. Mackintosh and W. L. G. Joerg (Toronto: The Macmillan Company of Canada, 1938), p.36.
22. Hind, op.cit., Vol. I, p.159.
23. Ibid, p.167
24. Ibid, p.168
25. Ibid, p.157
26. Ibid.

Lake Winnipeg. The general impression engendered by Hind was that the area east of the Red River for a distance of about twenty miles was fit for settlement; beyond this was poor soil and marshland. As a result, much of the early settlement took place in this twenty mile zone as is demonstrated by the Ontario settlement in the townships of Springfield and Sunnyside, [27] and at Prairie Grove and Clear Springs. Also, there was the Mennonite settlement south-east of Winnipeg.

South-Eastern Manitoba was really of little interest to Hind except as an area through which a road could be built from Lake of the Woods to the Red River Settlement. Hind, as did Palliser,[28] focused his attention on the Area west of the Red River as the area in which agricultural settlement would be greatest:

> The vast ocean of level prairie which lies to the west of the Red River must be seen in its extraordinary aspects, before it can be rightly valued and understood in reference to its future occupation by an energetic and civilized race, able to improve its vast capabilities and appreciate its marvellous beauty.[29]

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27. Even these two townships were described as containing a large amount of wet land which resulted in a sparsely populated area. David Currie reported this in 1880 and suggested that Sunnyside should have been called Marshyside; see David Currie, The Letters of Rusticus (Montreal: John Dougall and Son, 1880), p.23.

28. With the exception of travelling along the Winnipeg River, Palliser did not explore South-Eastern Manitoba, but concentrated on the area west of the Red River according to his instructions from the British Government.

29. Hind, op. cit., Vol. I, p.134.

The land survey was resumed in 1871.[30] The land surveyors also supplied information concerning soil, water, timber, and general fitness of the land for settlement. Each surveyor was to rate the soil according to classes. It is not known however what criteria were used to judge the soil. Apparently, the surveyors differed among themselves in their opinion of soil classes.[31] By 1880 most of the townships in Ranges 2 to 8 east of the Principal Meridian in South-Eastern Manitoba had been surveyed, and Ranges 9 to 17 had undergone a block outline survey. One of the important things to come out of the survey was that the surveyors who surveyed Ranges 2 to 8 (the west portion of the study area) generally indicated that most of the townships here had good quality soils that were fit for agriculture.[32] The other important item to come out of the survey was that the surveyors noted that water could be obtained by digging wells, sometimes only a matter of a few feet.[33] For example, the following is said of Range III, east of the Principal Meridian, Township 4;

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30. The survey had begun in 1869, but was stopped by Riel and the Metis because they believed that it meant the loss of title to their lands.

31. T. R. Weir, "Settlement in Southwest Manitoba, 1870-1891", Papers read before the Historical and Scientific Society of Manitoba, Series III, No. 17, ed. Douglas Kemp (1964), p.60.

32 and 33. These facts were apparent from reading the extracts of the surveyors reports in which most townships in the Ranges east of the Principal Meridian are described: See Extracts from Surveyor's Reports of Township Surveys in Manitoba and the North-West Territories, published by the authority of the Honourable Sir David Lewis Macpherson, Minister of the Interior (1884), pp.5-21.

> May be considered first class agricultural land. The soil is a black loam on a blue clay subsoil.
>
> The south-west sections are covered with a thick growth of scrub, poplar and oak. The Wet-Weather Creek in the south-west part of the township contained in several places on 2nd July, good, clear, fresh water. Good water can be obtained in nearly any part by digging.[34]

These reports demonstrated that it was possible to sink wells on the prairie and that at least the western portion of South-Eastern Manitoba was fit for agricultural settlement.

More detailed and accurate information was to be made available in the decades following the 1879's.[35] These reports provided the settler with more accurate information with which he could better choose his place of settlement. These reports also made it clear that South-Eastern Manitoba's physical resources are limited when compared with other areas of the Province. As a result, settlement in the study area will be confined mainly to the arable or marginal lands except in those cases where settlement is based upon forestry, mining, or some other industrial activity.

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34. Ibid., p.8

35. More reliable information concerning the physical resources was provided by many government sponsored surveys: see John Macoun, Manitoba and the Great North-West (Guelph, 1882); R. W. Murchie and H. C. Grant, Unused Lands of Manitoba (Winnipeg, 1926); J. H. Ellis, The Soils of Manitoba (Winnipeg: Economic Survey Board, Province of Manitoba, 1938); A. J. Connor, The Climate of Manitoba (Winnipeg: Economic Survey Board, Province of Manitoba, 1939); and H. I. Stevenson, The Forests of Manitoba (Winnipeg: Economic Survey Board, Province of Manitoba, 1938).

ECONOMIC ACTIVITY

Four areas of economic activity stand out as important forces influencing settlement in South-Eastern Manitoba: agriculture, forestry, mineral extraction, and recreation. These activities were related to the natural environment of the study area.

Agriculture

Since 1870 settlement in South-Eastern Manitoba has been mainly in response to the agricultural potential of the land. The most fertile soils, which occur in the western portion of the study area, were settled first, by the Ontario settlers, the Mennonites, the Metis and the French Canadians.

Hind had reported on a number of aspects of the agricultural potential of the Red River Valley which had the effect of attracting settlement. For example, he reported on the growing seasons for many crops: potatoes planted on June 1, were ready for eating between August 10 and August 15, while the winter supply was left in the ground until October;[36] peas sown on May 7 were harvested by September 25;[37] and wheat matured and was ready for harvesting three months from the day of sowing.[38] It was this information together with Hind's encouraging reports of the physical resources that influenced the settler's choice of a place to settle.

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36. Hind, Narrative of the Canadian Red River Valley Exploring Expedition of 1857 And of the Assiniboine and Saskatchewan Exploring Expedition of 1858, Vol. I (1860), p.148.

37. Ibid., p.165

38. Ibid., p.226; Arthur S. Morton suggests that these figures for wheat are "...suspiciously modern"; see Arthur S. Morton, "History of Prairie Settlement", Vol. II, Canadian Frontiers of Settlement, ed. W. A. Mackintosh and W. L. G. Joerg (Toronto: The Macmillan Company of Canada, 1938), p.35.

The agricultural potential of the Red River Valley, of which the western portion of the study area is a part, was also described in the government booklets and pamphlets designed to attract settlers to Manitoba and the North-west.

Thomas Spence, in one of his booklets, quotes Blodgett, an American Climatologist, who said, "...that the basin of the Winnipeg is the seat of the greatest average wheat product on this continent, and probably in the world."[39]

The knowledge of the potential for wheat in the Red River Valley resulted in many settlers moving away from the wooded areas and river lots. The settlers at this time realized that the acquisition of land upon which wheat could be grown was really the important consideration in choosing a place to live; their earlier emphasis on settling in proximity to wooded areas and rivers soon disappeared.[40]

The part of the study area that was settled first and most rapidly was the Red River Valley. The area east of the Red River Valley with its poor soil and extensive marshland was settled later and more slowly. This area became an area of mixed farming (some crops along with livestock raising), partly in response to the natural environment, and partly in response to the traditions of the ethnic groups that settled there.

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39. Thomas Spence, Useful and Practical Hints for the Settler on Canadian Prairie Lands, 2nd edition. Entered according to the Act of Parliament of Canada, in the year 1881, by Thomas Spence in the Office of the Minister of Agriculture (1882), p.24.

40. Weir, "Settlement in Southwest Manitoba, 1870-1891", Papers read before the Historical and Scientific Society of Manitoba (1964), p.59.

Forestry

In South-Eastern Manitoba, settlement that has occurred in response to the forestry industry has been of minor importance in comparison with the agricultural settlement of the land. The economy of the eastern half of the study area is based upon both agriculture and forestry.

The forestry industry became important as early as the late 1890's, by which time, settlement had invaded the forested areas north-east of Winnipeg. Here pine was cut and sent to Winnipeg.

After the turn of the century, settlers began to move into areas in which their livelihood depended upon both agriculture and forestry.

In 1901, a small group of French Canadians founded the settlement of Lac du Bonnet; their economy was based upon agriculture and forestry.[41] After 1905, Ukrainians were homesteading in the Lac du Bonnet area, and soon outnumbered the French Canadians.

During the pulp and paper boom of the 1920's more forest-based industry located in South-Eastern Manitoba with a subsequent increase in population in the study area.

In 1925, The Manitoba Pulp and Paper Company opened at Pine Falls. A settlement developed here that predominantly depended on this industry.

During the 1920's Whitemouth became important. In this era many of the Ukrainians, Poles, and Germans who had come to the Whitemouth River area in the latter part of the nineteenth century and early part of the twentieth century made their living by combining agriculture with employment in the

41. Burke Gordon Vanderhill, Settlement in the Forest Lands of Manitoba, Saskatchewan and Alberta: A Geographical Analysis (Unpublished Doctor's dissertation, University of Florida, 1956), p.82.

foresty industry. Established in 1877, Whitemouth was situated at the junction of the Canadian Pacific Railway and the Whitemouth River. Logs from the area to the south were floated down river to Whitemouth, where they were milled and shipped to Winnipeg.[42]

As well as settlement taking place in response to the forestry industry, agricultural settlement was also pushed into the forested lands. The agricultural settlement of the forested areas was extremely slow because of the problem of clearing the land, and the absence of large areas of fertile soil. The movement into the forested areas was greatest during the Depression and drought years of the 1930's. Vanderhill suggests that this movement to the forested areas was not so much the result of an interest in the agricultural potential of the areas as it was the result of adversities elsewhere.[43] Here the settlers carried on a subsistence type of agriculture. As a result of this movement much of the inferior land in South-Eastern Manitoba was occupied.[44]

In general agricultural settlement in the forested areas was limited to the margins of previously settled areas or to pockets of fertile soil.

The development of hydro-electric power along the Winnipeg River was another force which produced some agricultural settlement in the forested areas.

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42. James Herbert Lovering, "Regional Geography of the Whitemouth Valley, Manitoba" (unpublished Master's dissertation, University of Manitoba, 1961) p. 96.
43. Vanderhill, op. cit., p.120.
44. Ibid., p.118

After 1905 Swedish, Finnish, and British immigrants came to the Winnipeg River area to work on the construction of the hydro-electric plans at Pinawa, Seven Sisters Falls, and Pointe du Bois. Later, many of them stayed on and homesteaded the nearby land.[45]

The forested areas of South-Eastern Manitoba, therefore, have had some affect on the settlement pattern.

Mineral Resources

Mineral resources have never been to any great extent responsible for influencing settlement in South-Eastern Manitoba. The reason for this would appear to be that the study area is not endowed with any valuable metallic minerals such as iron, nickel, or gold; therefore, settlement, in response to mineral wealth has not taken place as it has in the Flin Flon area, for example.

South-Eastern Manitoba, while not endowed with metallic minerals, has a supply of non-metallic minerals such as gravel, limestone, clay, and granite. With one exception, all non-metallic deposits were extracted after most of the settlement in the study area had taken place. The exception was Garson Quarry, opened in the early 1900's to quarry dolomitic limestone to be used as a construction material. The settlement called Garson was related to this activity.

Recreation

The area of land in what is now the Whiteshell Forest Reserve, along with the Lake of the Woods and Winnipeg River areas was not to be long neglected in terms of settlement. The settlement here however was not based upon agriculture, forestry or mining. It was recreational settlement in the form of summer cottages. It required only the

45. Ibid., p. 120

attainment of a particular level of social life and the wherewithal for the residents of Winnipeg to realize the recreational potential of these areas.

As early as 1881,[46] the residents of Winnipeg began to holiday in the Lake of the Woods area. In that year, a sanitary association was organized to develop a resort area there. The opening of this area was dependant upon the completion of the rail line to Kenora, which took place in 1880. It was the wealthy residents who built cottages and enjoyed this area of trees, and numerous small lakes and rivers.

Prior to World War Two, trains were taking vacationers to Grand Beach and Victoria Beach. Cottages were established at Victoria Beach, along the Winnipeg River, and around many of the small lakes.[47]

After World War Two, the demand for cottage sites in the Whiteshell area was great. The Department of Mines and Natural Resources surveyed lots and built access roads to many of the lakes.[48]

A few settlements have developed to serve the vacationers in these areas. Settlements such as Falcon Beach and Whiteshell, in the Whiteshell Forest Reserve serve the day-to-day needs of the cottage owners and visiting vacationers.[49]

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46. W. L. Morton, Manitoba: A History (1957), p.226

47. John Warkentin and Richard I. Ruggles, Manitoba Historical Atlas (Winnipeg: The Historical and Scientific Society of Manitoba, 1970) p. 352

48. Ibid.

49. Personal Field Survey of South-Eastern Manitoba in August, 1970.

Victoria Beach serves the vacationers to that part of Lake Winnipeg. The permanent population of these settlements is rather small, usually less than fifty persons.[50] Also, along Highway 307 which runs south of the Winnipeg River through the Whiteshell Provincial Park, service stations and general stores are present in several locations to serve the cottagers around the River, and the lakes in the area.[51]

Other settlements such as Grand Marais on Lake Winnipeg, and Beausejour, Whitemouth, and Rennie, while originally founded upon some other economic activity, now derive a part of their livelihood from tourists and vacationers travelling to the Whiteshell.[52]

Recreation, therefore, has been of some importance in influencing the settlement pattern in South-Eastern Manitoba. It is likely that more and more of the existing settlements will begin to depend on the recreational potential of the study area for their survival.

DOMINION LANDS POLICY

Under the heading of Dominion Lands Policy two items stand out as important forces influencing the pattern of settlement in South-Eastern Manitoba. These are: the system of land survey, and the Dominion Lands Act.

System of Land Survey

The system of land survey for Manitoba and the North-West was originally to be square townships consisting of 800 acre sections which were to be divided into quarter

50. Ibid.
51. This information was gleaned from a field survey undertaken by the author in October, 1970.
52. Personal field survey of South-Eastern Manitoba in August, 1970.

sections. In 1871, however, the United States survey scheme of townships six miles square and having 640 acre sections was adopted. It was believed that the immigrant would be more familiar with this system.[53] Between each section was to be a road allowance of ninety-nine feet. This was reduced to sixty-six feet in 1881. As a result, more land was available for cultivation and the cost of the survey was reduced.[54] The reason for the use of the rectangular township system was expressed clearly by J. S. Dennis in 1892:

> The primary consideration, having in view the future welfare of the country, was to devise a system under which the country could be rapidly and accurately subdivided into farm holdings.[55]

Thus came into being a system which did not consider the topography, soils, vegetation, or drainage so that the greatest benefit would accrue to the largest number of settlers within an area. Warkentin suggests that there were two reasons for this: first, there was little opportunity to conduct experiments on how best to divide the land; and second, that there was an apparent sense of urgency to survey the area, resulting from the belief that Manitoba and the North-West would be rapidly settled.[56]

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53. Arthur S. Morton, "History of Prairie Settlement", Vol. II, Canadian Frontiers of Settlement (1938), p.50.

54. Ibid.

55. J. S. Dennis, "A Short History of the Surveys Performed Under the Dominion Lands System, 1869 to 1889", Canada: Sessional Papers (1892) Annual Report of the Department of the Interior for 1891, Vol. XXV, No. 13, Part VI, Section 1, p.31.

56. John Warkentin, "Manitoba Settlement Patterns", Paper read before the Historical and Scientific Society of Manitoba, ed. Douglas Kemp, Series III, No. 16 (1961), 68.

The advantages of the system were: it was simple; it could be rapidly superimposed on the land; and, because of the designation by townships, ranges, and sections any plot of land was easily located. The Dominion Lands Act of 1872 described the system of land survey and made it the legal system of land subdivision.

Prior to 1870, no land outside of the settlements along the Red and Assiniboine Rivers had been surveyed.[57] The survey of the land then, was a prerequisite to settlement.[58]

Only surveyed lands were open to settlement.[59] As a result, the surveys played a major role in influencing the direction of settlement. By 1880, the land in South-Eastern Manitoba had been surveyed as far as what was then Manitoba's eastern boundary.[60] Settlement in South-Eastern Manitoba generally followed the survey. The major portion of the area surveyed by 1880 contained the most fertile soils and held the greatest agricultural potential in the study area.

By 1901 the remaining portion of the study area had been subdivided into townships. Weir suggests that the lands last to be surveyed were the last to be settled.[61]

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57. H. E. Beresford, "Early Surveys in Manitoba", Papers read before the Historical and Scientific Society of Manitoba, ed. R. B. Mitchell and P. Yuzyk, Series III, No. 9 (1954), 9.

58. Ibid.

59. Canada, Statutes, 35 Victoria, Cap. 23, Section 29 (1872), "An Act respecting the Public Lands of the Dominion".

60. This boundary was approximately 96 degrees west longitude, in the area of the present day Agassiz and Sandilands Forest Reserves.

61. Weir, "Settlement in Southwest Manitoba, 1870-1891", Papers read before the Historical and Scientific Society of Manitoba (1964), 56.

This suggestion together with the fact that the eastern portion of the study area was endowed with marginal, and in some cases unproductive land, resulted in a slow expansion of settlement into these areas.

In the early 1900's there occurred some reaction to the sectional system of land survey. The area along the Whitemouth and Birch Rivers was subdivided into river lots.[62] Also, in 1917, a planned community on the Birch River was proposed by the Greater Winnipeg Water District. The rectangle of the sectional system was to be replaced by diagonal or other type of road, and the community was to have sites for a school, community centre, and commercial enterprises.[63] This project along with others however was apparently considered impractical by the surveyors who believed that it would be difficult to devise a road system that would be as economical as the one provided by the rectangular survey system.[64] The river lots originally established however remained and were settled mainly by the East Europeans.

While the land survey system gave direction to settlement, it was the Dominion Lands Act which administered and managed the disposal of the subdivided land. Several policies of the Dominion Lands Act from 1870 to 1930 had a tremendous effect on the settlement pattern in South-Eastern Manitoba.

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62. Warkentin, "Manitoba Settlement Patterns", Papers read before the Historical and Scientific Society of Manitoba (1961), 75.

63. Thomas Adams, Rural Planning and Development (Ottawa: Commission of Conservation Canada, 1917), pp.58-59.

64. Warkentin, op. cit., 73

Dominion Lands Policy

In July, 1870, Manitoba became a province of the Dominion of Canada. The remainder of the North-West was purchased from the Hudson's Bay Company at this time. It was decided at that time that Manitoba and the North-West would be retained as public lands to be administered by the Dominion government. It was believed that no other solution existed to expedite the construction of railways and the settlement of the land.[65]

For sixty years (1870-1930) settlement in Manitoba and the North-West was controlled and directed by the Dominion Lands Act and the land policy contained in that Act. Its effect on the distribution of settlement was considerable.

Free land grants. The first Dominion Lands Act of 1872 provided much incentive to the prospective immigrants to come to Manitoba. One of the prime moving forces was the offer of free land to the homesteader.

Section 33 of the Dominion Lands Act of 1872 outlined the procedure by which such free land could be obtained. Any person who was the head of a family, or was twenty-one years of age, was eligible to apply for a homestead of 160 acres or a lesser quantity. Application was to be made to the local land agent within thirty days after settlement on surveyed lands, and within three months of settlement in unsurveyed areas. A fee of ten dollars had to be paid to the land agent. This insured the settler's right to homestead the land designated in his application. The title to the land remained in the hands of the Dominion government for three years. After this period of time a patent for the

65. Chester Martin, "Dominion Lands Policy", Vol. II, Canadian Frontiers of Settlement, ed. W. A. Mackintosh and W. L. G. Joerg (Toronto: The Macmillan Company of Canada, 1938), p.196.

land was granted to the settler provided that he could prove actual settlement and cultivation of the land. Admittedly, the offer of free land to the settler was an attractive inducement to settle the land. At this time however the settlers in the Mid-Western United States were experiencing problems with the small land holdings, particularly in the semi-arid areas where summer fallowing was necessary. In light of this the Dominion government decided that the 160 acre farm would never be adequate.

In 1874 an amendment to the Dominion Lands Act was passed. The amendment introduced a pre-emption[66] policy because of the American experience with the smaller land holdings. This policy permitted a settler applying for a homestead to obtain an interim entry for any adjoining quarter section (160 acres). After receiving the patent for the original homestead he could purchase the pre-empted land from the Dominion government.[67]

The pre-emption policy was, on the surface, a seemingly generous offer. This system however led to an isolated way of life. Murchie and Grant state:

> "The fact that settlers could thus control a half-section (320 acres) each produced a somewhat scattered population in the settlements and the natural result was excessive cost of construction and maintenance of roads, schools, public libraries, bridges, etc."[68]

Also, the fact that the pre-emption policy was playing a large role in speculation and that many settlers could not pay for their pre-emption caused the Dominion government to abandon the policy in 1890. The increase in immigration in the early 1900's resulted in the reinstatement of the

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66. The term"pre-emption" was not used in this amendment, and it did not appear in the Dominion Lands Act until 1879.

67. Canada, Statutes, 37 Victoria, Cap. 19, Section 8 (1) (1874), "An Act to amend the Dominion Lands Act".

68. R. W. Murchie and H. C. Grant, Unused Lands of Manitoba, Report of a Survey Conducted by R. W. Murchie and H. C. Grant (Winnipeg, 1926), p.60.

pre-emption policy in the Dominion Lands Act of 1908. The policy was again abolished in 1918 to make way for the new policy of Soldier Settlement.[69]

In 1930, the Dominion government gave over to the provinces control and administration of Dominion Lands. At that time the free land grant system was absolished by Manitoba because it was thought that the system had produced scattered settlement.[70] It was replaced by a system of land sales. In 1935 however, the free homestead system was reintroduced in an attempt to aid settlement and alleviate some of the conditions brought about by the drought and Depression. The result was a rush of settlers to the inferior lands of the forested areas and the realization by the government, much too late, that settlement should not have been permitted in some of these areas. With this in mind, the Provincial government did, in the late 1930's, commission several surveys[71] to be conducted so that better information about the characteristics of the natural environment would be available to both government and settlers to guide the future settlement of Manitoba.

Settlement during the Second World War virtually came to a standstill. After 1941, Crown lands were set aside in anticipation of the veteran settlement that would take place after the War.[72]

The War gave the Manitoba government time to undertake some planning, research, and policy making to guide the future veteran settlement. The studies undertaken generally

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69. Ibid.

70. Vanderhill, Settlement In the Forest Lands of Manitoba, Saskatchewan and Alberta: A Geographical Analysis (unpublished) Doctor's dissertation (1956), p.119.

71. See footnote 33, p.

72. Vanderhill, op. cit., p.145

concluded that the quarter section was not sufficient and larger settlement units were proposed.[73] After the War, the government permitted settlement to take place only on those lands capable of supporting agriculture in terms of soil and topography.[74]

Much of the settlement after World War Two was a filling-in process.

In the study area, population was sparse in the northern and eastern portions, so that settlement could take place in some of the unoccupied areas. Some filling-in did take place, part of it under government sponsorship.

In 1947, the Provincial and Federal governments initiated several land settlement projects in Manitoba. One of these was located in South-Eastern Manitoba just south-west of Pine Falls: The Catfish Creek Project. The area to be settled was originally 33,920 acres. This was increased to 84,548 acres in 1950 and reduced by 2000 acres, approximately, in 1957. (All figures taken from the Annual Reports of the Department of Mines and Natural Resources).

Most of the area was peat bog overlying clay. It had to be drained and the peat burned off. Most of the land that was sold was settled by the sons of Ukrainian and German farmers[75] of the more heavily populated areas of Manitoba.[76] The entire project was slated for completion in 1953 and was to accommodate about 300 families.[77] By 1954, however, only

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73. Ibid., p.157
74. Ibid., p.163
75. A limited amount of settlement had taken place here prior to the project. In the 1940's some French Canadian families had squatted here without official sanction. Their land holdings were legalized during the project.
76. Vanderhill, op. cit., p.216
77. Department of Mines and Natural Resources, Province of Ontario, Annual Report for the period ending March 31, 1951, p.26.

120 settlers had been located on 25,519 acres.[78] This was the maximum number of families ever to be settled here during the project. The number of families decreased to 115 between 1954 and 1957.[79] In the Department of Mines and Natural Resources' Annual Report for the period ending March 31, 1961, it was suggested that much of the land would be sold when adequate road and drainage facilities were provided. After 1960, there appears to have been no active effort to promote settlement on the project land. The Catfish Creek Project which began as an ambitious undertaking had, in the end, achieved less than the expected success. It also had little impact on the settlement pattern in South-Eastern Manitoba.

While the free homestead and pre-emption policies had brought about much scattering of settlement, there was another aspect of the Dominion Lands Policy that had an equally undesirable affect on the pattern of settlement. This was the system of land reserves.

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78. Department of Mines and Natural Resources, Province of Manitoba, Annual Report for the period ending March 31, 1954, p.26.

79. A clue to the fact that the project was in difficulty is given in a letter dated November 3, 1954, from Edmond Prefontaine, Minister of Municipal Affairs, to J. G. Cowan, Deputy Minister of Mines and Natural Resources. The letter indicates that things had been going badly for the past two or three years; that these years had been exceptionally wet years. As a result, the settlers could not cultivate their fields or use their machinery, and were, therefore, deriving little income. The settlers could not meet their payments for the land and the government was considering the underwriting of the interest due. Also, the drainage projects had not been going ahead as scheduled. (Source: Local Government Districts Office, Province of Manitoba, their file on Catfish Creek Project).

Land Reserves. When in 1870, the Dominion government assumed control of the lands in Manitoba, it set up a number of land reserves for a number of purposes.

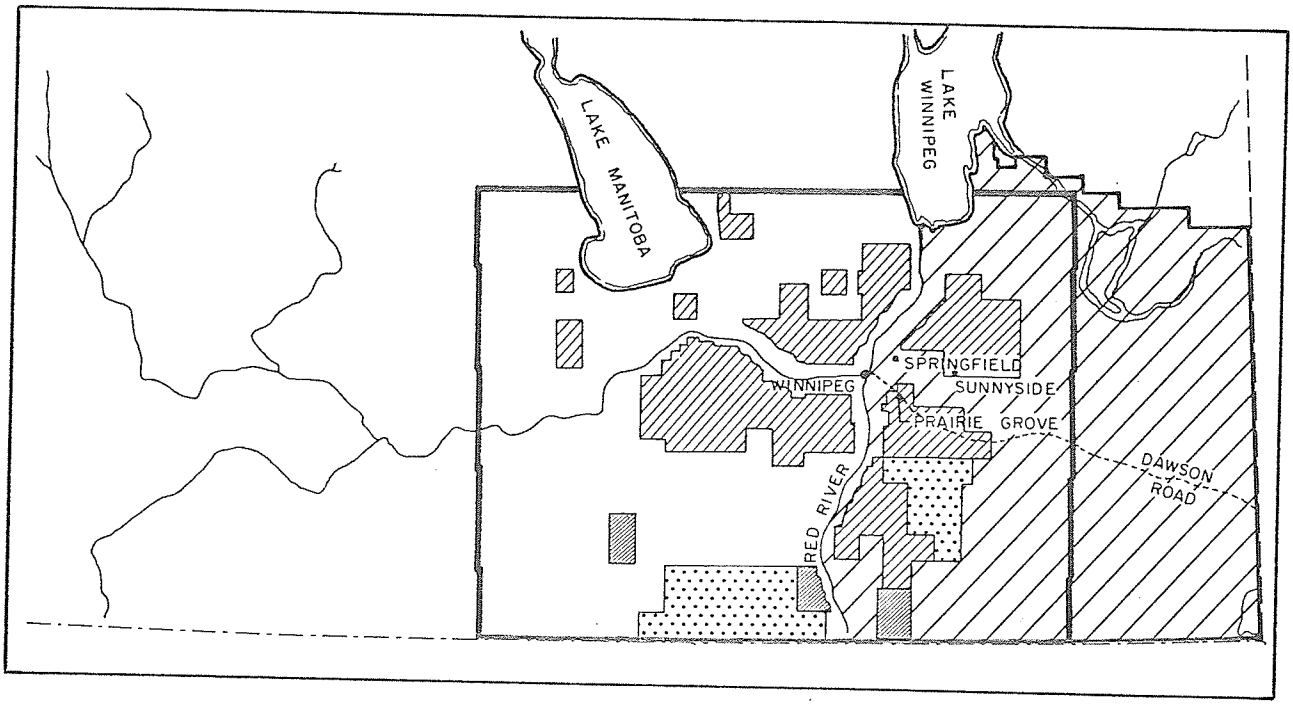
1. Half-breed reserves. Under the Manitoba Act of 1870 large blocks of land were set aside for the unmarried children of half-breed families. This was done to guarantee the land titles of these people who had been greatly concerned about losing such title when the land survey began in 1869. Three half-breed reserves and one French Canadian reserve were set up in the area east of the Red River. Map 12 shows the location of the reserves.
2. Mennonite reserve. The Dominion Lands Act of 1874 outlined the government's conditions for group settlement. Section 14 of the Act stipulated that any interested group of people who wished to settle large tracts of land, could obtain land "...in the proportion of one family to each alternate quarter section, or not less than sixty-four families in any one township,..."[80].

East of the Red River, such a reserve was established for the Mennonites prior to their arrival in 1874. The reserve consisted of eight townships which today is the Rural Municipality of Hanover.

A comparison of Map 12 and Map 3 (Chapter 2) shows that the reserves effectively controlled the area of most fertile soils in the study area.

3. Hudson's Bay lands. In 1870 the Hudson's Bay Company relinquished title to much of their land in Manitoba and the North-West. To compensate the Company the

80. Canada, Statutes, 37 Victoria, Cap. 19, Section 14 (1874), "An Act to amend the Dominion Lands Act".



Map 12

HALF-BREED, FRENCH CANADIAN AND MENNONITE RESERVES, 1875

LEGEND

- Half-Breed Reserve
- French Canadian Reserve
- Mennonite Reserve
- Boundaries of 1870 and 1877
- Study Area

(Source: Redrawn in part from: Arthur S. Morton, " History Of Prairie Settlement ", Vol. II, Canadian Frontiers of Settlement, ed. W. A. Mackintosh and W. L. G. Joerg (Toronto: The Macmillan Company of Canada, 1938), Figure 5., p. 46-47.)

Dominion government granted them title to one-twentieth of the surveyed lands in the fertile area. The land allotment was to be all of section eight and three-quarters of section twenty-six in every township. This provision was set out in Section 17 of the Dominion Lands Act of 1872.

4. School land. Section 22 of the Dominion Lands Act of 1872 designated sections eleven and twenty-nine in every township as an educational endowment. These sections were not open for homestead grants or purchases.

5. Railway land. In 1872 sections of land in every township were reserved for the use of the Canadian Pacific Railway. The lands were to be located in alternate blocks not more than twenty miles in depth and not less than six nor more than twelve miles of frontage along the railway.

   Figure 1 shows the disposition of railway, school, and Hudson's Bay lands in a typical township.

6. Reserves and the pattern of settlement. The entire system of land reserves had the effect of controlling the direction of settlement, "...holding one district empty and causing others to be filled."[81]

James Trow, writing in 1877, suggested that the system of reserves tended to retard settlement. He stated:

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81. W. L. Morton, Manitoba: A History (1957), p.156.

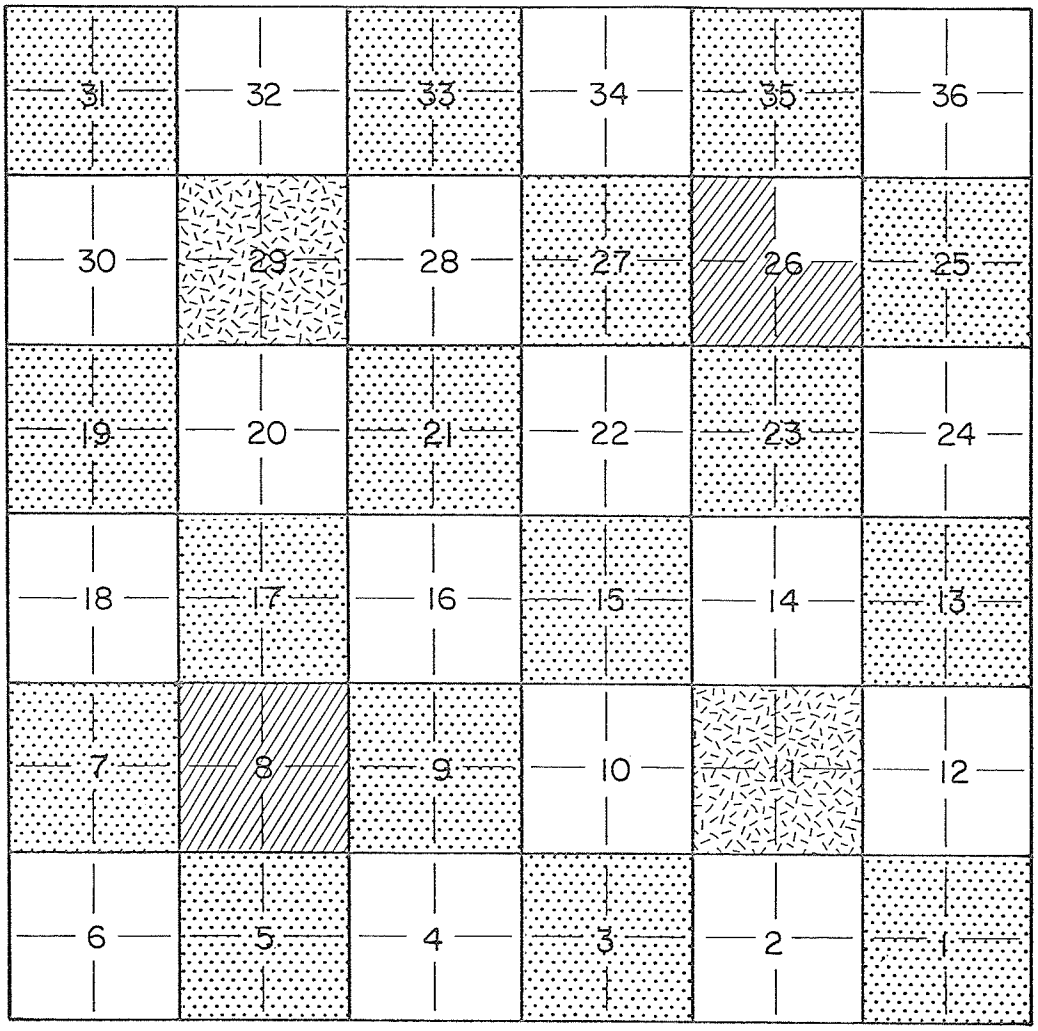

Fig. 1, DISPOSITION OF LANDS IN A TYPICAL TOWNSHIP

LEGEND

Railway Lands

School Lands

Hudson Bay Lands (in every fifth township all of section 26)

Free Homestead

(Source : Chester Martin, " Dominion Lands Policy ", Vol. II, Canadian Frontiers Of Settlement, ed. W. A. Mackintosh and W. L. G. Joerg (Toronto : The Macmillan Company of Canada, 1938), Figure 8., p. 233.)

> The Province of Manitoba contains about 9,000,000 acres, or 14,000 square miles, divided into 360 townships. A very large portion of the Province is set apart by reservations of various kinds which retard its progress and development seriously. I am persuaded that hundreds of intending settlers will not remain in the Province on account of these reserves. Leave the settled portions and passing through the reserves for miles to the new settlements without roads, cannot but be very discouraging. 1,400,000 acres of the most eligible locations in the Province were set apart for the half-breeds; 1,900,000 acres for the railway reserve; 500,000 acres for the Mennonites; several townships for Indians and repatriated French Canadians. Then there is the Hudson Bay Reserve of one-twentieth of the whole, or 450,000 acres; and there are sections 11 and 29 in each township for educational purposes and Indian reserves. Many of these reservations are not for the interest of the Province, and must and will retard legitimate colonization, unless thrown open for settlement.[82]

During the early years of settlement in South-Eastern Manitoba, the reserves successfully created large land-locked areas which a limited settlement to specific groups or shut-out settlement entirely. The result was dispersed settlement.

In 1878, the Dominion government opened the half-breed reserves for settlement by other groups. By way of compensation, the half-breeds were issued scrips which entitled them to a 160 acre farm wherever they chose, or in lieu of land, a cash settlement.

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82. James Trow, Manitoba and North West Territories (Ottawa: Department of Agriculture, 1878), p. 17.

The Mennonite reserve remained closed for about twenty-five years. In 1898, the Dominion government, seeing that the Mennonites were not particularly desirous of occupying the vacant lands, by Order in Council threw open the remaining vacant lands to general settlement.[83]

Railway lands and Hudson's Bay lands were sold by the respective companies, to the settlers, as a source of revenue. School lands were sold at public auctions. Most of these lands were disposed of during three periods: 1910-1913, 1917-1919, and 1927-1930.[84] Settlers on sections adjacent to school lands were thus afforded the opportunity of extending their holdings. The result was larger farms and more scattered settlement.

One of the policies followed by the Canadian Pacific Railway also tended to scatter settlement. They rarely sold land to new immigrants; rather, land was sold to settlers who had already established themselves. The result was the creation of larger farm units.[85]

In summary, the system of land survey together with the Dominion Land Policy produced a dispersed pattern of settlement and led to the isolated rural life which many people experience today. While the influence of the surveys and land policy on settlement has been dealt with here in terms applicable to all of Manitoba, their influence on the settlement pattern in South-Eastern Manitoba has been no less important than in any other area.

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83. John H. Warkentin, The Mennonite Settlements of Manitoba, Vol. 1 (Doctor's dissertation, University of Toronto, 1960), pp.193-195.

84. Chester Martin, "Dominion Lands Policy", Vol. II, Canadian Frontiers of Settlement (1938), p.346.

85. Ibid., p.317

ETHNIC GROUPS

The various ethnic groups that settled in South-Eastern Manitoba had a great influence on the pattern of settlement. Much of the influence exerted by these groups on the settlement pattern was a result of their skills and traditions.[86]

In the previous section, it was noted that the sectional system of land survey had tended to produce a dispersed pattern of settlement. Many of the ethnic groups that settled in South-Eastern Manitoba settled in a fashion that overcame the trend towards dispersed settlement.

Metis Settlement

Even though the Metis were granted large reserves of land in the study area, many of them were adamant about retaining the river lot system of survey. Ste. Anne des Chenes represents a case in point. The settlement was surveyed in 1872, prior to the sectional survey. As a result, "...Ste. Anne parish sits like a handkerchief in the midst of a checkerboard pattern;..."[87] Even after the sectional survey, Metis squatted in areas along the Seine and Rat Rivers refusing to conform to the new survey.[88]

In the mid-1870's some French Canadians came from Quebec and Massachusetts[89] to settle with the Metis along the Rat River in what were to become the parishes of St. Pierre Jolys and St. Malo; others went to the older settle-

86. Mitchell, Historical Geography (1954), p.42
87. Warkentin, "Manitoba Settlement Patterns", Papers read before the Historical and Scientific Society of Manitoba (1961), 71.
88. Ibid.
89. A number of French Canadians had left Quebec in the 1850's to work in the factories of Massachusetts.

ments of Ste. Anne des Chenes and Ile des Chenes.[90] Here, they too preserved their attachment to the river lot. In contrast to Ste. Anne des Chenes the rear boundaries of the river lots at St. Pierre Jolys and St. Malo were made to conform to the sectional survey lines.[91] Thus some concentrated settlement occurred in these areas.

Mennonite Settlement

In 1873, the Dominion government reserved eight townships south-east of Winnipeg for the Mennonites. The first group of Mennonites arrived and began settling the East Reserve in 1874. Other parties arrived in 1876. On the sectional pattern they superimposed the agricultural village to which they had been accustomed in Russia. Warkentin suggests that the Mennonites were the first to successfully establish nucleated settlements within the framework of the sectional survey.[92]

The village was laid out along a road, sometimes on both sides, and sometimes only on one side. The village thus consisted of one or two rows of houses usually 220 feet apart.[93] The average village housed ten families or about fifty people. Over the period of years that the Mennonites settled the East Reserve about fifty-nine villages were established.[94] Each farmer owned a lot in the village plus a number of narrow strips of land in the different fields around the village.[95]

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90. W. L. Morton, Manitoba: A History (1957), p.160.
91. Warkentin, op. cit.
92. Ibid., p.73
93. E. K. Francis, "The Origins of Mennonite Institutions in Early Manitoba", Papers read before the Historical and Scientific Society of Manitoba, ed. Clifford Wilson, Series III, No. 2 (1946), p.57.
94. Warkentin, The Mennonite Settlements of Southern Manitoba, Vol. 1 (Doctor's dissertation, 1960), p.56; Warkentin also suggests that there probably were never more than 45 villages in existence at any one time.
95. Francis, op. cit.

In South-Eastern Manitoba the nucleated Mennonite settlements contrasted with the dispersed settlement that was occurring in other areas. Approximately one-half of the original settlements still exist today.

Ukrainian Settlement

Groups of Ukrainian immigrants did not begin to arrive until the mid-1890's. After this they came at various intervals until the mid-1920's. When the Ukrainians did arrive in Manitoba they found that most of the best agricultural land was already occupied.

Until this time the eastern part of the study area with its marginal land, marshland, and wooded areas was largely avoided by settlers who naturally preferred the fertile belt immediately east of the Red River. It was left for the Ukrainians, along with a lesser number of Poles and Germans to settle this rugged area.

The Ukrainians went into the rugged areas of South-Eastern Manitoba largely out of necessity; however, they were also willing. The prospect of having to settle in the bush country did not deter them, for in some ways it resembled the wooded areas of the Carpathian Mountains from which many of them had come.[96] Also, Yuzyk suggests that:

> In choosing land, the Ukrainian pioneer settlers showed a decided preference for bush country and wooded lands in the vicinity of lakes, rivers or creeks. This gave them a sense of self-sufficiency, since in the old country they had sorely lacked wood which was the guarded monopoly of the landlords.[97]

In 1896, the Ukrainians settled the Stuartburn area in the South-West portion of the study area. The settlements

96. W. L. Morton, op. cit., p.309.
97. Paul Yuzyk, The Ukrainians in Manitoba, A Social History (Toronto: University of Toronto Press, 1953), p.43.

of Stuartburn, Vita, Sundown, and Tolstoi were established in the years that followed. Between 1896 and 1901 three other areas were settled: The Whitemouth-Birch River area; the Brokenhead area; and the area along the lower Red River around Libau, Lockport, and East Selkirk.[98]

The Ukrainians settled in fairly compact colonies of their own.[99] There were two reasons for this. The first was that they were in a strange land, unaware of its laws, customs and farming practices; therefore, they settled close together to be near their own kind. They usually settled in homogeneous blocks ranging from two to twelve or more communities.[100] The second reason was that they were accustomed to small parcels of land, averaging about five and one-half acres in size.[101] The offer of 160 acres must have been difficult for them to comprehend as they were not equipped either socially, or with the farming techniques, to farm the large units. In later years however many of them did acquire 160 acre tracts, and in some cases, even larger land units.

During the period of Ukrainian settlement there occurred minor settlement by other groups. The Poles arrived in small numbers and unlike the Ukrainians were not organized for group settlement. As a result they were easily assimilated into the Ukrainian Colonies.[102] Some Germans also came at this time and they settled in the Whitemouth-Birch River area and in the area east of Ridgeville.

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98. Ibid., p.39
99. Ibid., p.43
100. Ibid., p.38
101. Ibid., p.32
102. W. L. Morton, Manitoba: A History (1957), p.309.

The various ethnic groups then, had a considerable influence upon the pattern of settlement in South-Eastern Manitoba. The pattern that they effected was largely due to their skills and traditions. As a result, the river lots of the Metis and French Canadians, the agricultural villages of the Mennonites, and the colonies of the Ukrainians were superimposed on the sectional survey. It has tended to reduce much of the dispersed and isolated type of settlement brought about by the sectional survey system and the Dominion Land policy.

TRANSPORTATION

The pattern of settlement in South-Eastern Manitoba has been greatly influenced by the modes of transportation available in both the early period of settlement and in later periods. Transportation was a major force influencing settlement pattern for two reasons: first, the settlers required some means of access to the free homestead land; and second, they required some means of access to trading centres where they could market their goods and purchase needed supplies.

Routes of the Immigrants

The original route to the Red River area was the Eighteenth Century route used by the explorers and fur traders: Lake of the Woods to Lake Winnipeg via the Winnipeg River, and finally to the Red River.

In the 1870's, the European as well as the Ontario immigrants who came to Manitoba had several routes to choose from: the route from Hudson Bay to Lake Winnipeg to the Red River; the Great Lakes to Duluth, by rail to Moorhead and from there by stagecoach or riverboat to Winnipeg:

the all rail route from Detroit to Chicago to St. Paul to Winnipeg;[103] and finally, the all-Canadian route via the Great Lakes to Thunder Bay to Lake of the Woods and from here by road to Winnipeg. This last route was the famous Dawson Trail.

The Dawson Trail was probably the most important land route in South-Eastern Manitoba in the early years of settlement.[104] The route consisted of a 45 mile cart trek from Thunder Bay to Lake Shebandowan; then a 310 mile journey over water and portages to Lake of the Woods; and finally, a 95 mile road from Lake of the Woods to Winnipeg.[105] The location of the Dawson Trail in the study area is shown on Map 12.

The Dawson Trail was recommended by S. E. Dawson, an engineer, who accompanied Hind in 1857. Construction of the route itself began in 1869 and was completed in 1871 at which time it was used by many of the Ontario immigrants.

By providing an all-Canadian route, at a low cost, to the immigrants, the Dominion government hoped to accomplish two things: first, to stimulate settlement in Manitoba; and second, to prevent, as much as possible, the passage of immigrants through the United States where American land agents often persuaded the prospective Manitoba settlers to remain in the United States. The route however proved too

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103. Hertha Evelyn Jahn, "Immigration and Settlement in Manitoba, 1870-1881; The Beginnings of a Pattern" (Unpublished Master's dissertation, University of Manitoba, 1968), p.47.

104. A number of cart trails had been established both east and west of the Red River in the 1840's. To the east was the Crow Wing Trail. Apparently it was never used to transport immigrants from the Emerson area to Winnipeg. The reason for this was that it was caught between the stagecoach and riverboat era; the first steamboat being introduced on the Red River in 1859 and the stagecoach line being extended from Pembina to Winnipeg in 1871. The immigrants of the early 1870's, therefore, did not have to travel over the arduous cart trails. To-day, Highway 59 closely follows the old Crow Wing Trail.

105. Jahn, op. cit., p.51

arduous to the immigrant who frequently lost his belongings and did not have enough to eat during the journey. The number of settlers that it carried indicates the small effect it had on settlement: 1872-604 passengers; 1874-100 passengers; and 1876-2,172 passengers.[106]

In 1878 the Dawson Trail was closed because of the difficulties encountered by the settler and because of the completion of the rail line connecting Emerson to Winnipeg in 1878. This latter route became the preferred one. After this date it was the railways which influenced the direction of settlement in the decades that followed.

Local trails and roads were still important to the homesteader who required access to his land, to the railways, and to the market centres.

In 1912 Manitoba established the Good Roads Act through which the Province co-operated with the municipalities in building and maintaining trunk highways and other roads.[107] In 1926 Murchie and Grant reported that most of the municipalities had good dirt roads, thus reducing the cost of transporting farm produce to markets.[108]

With the introduction of trucks in the late 1920's, the need for better roads proved more important for the dairy farmers, and some grain farmers, than proximity to the railways.

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106. Arthur S. Morton, "History of Prairie Settlement", Vol. II, Canadian Frontiers of Settlement (1938), p.52; Morton also notes that these figures include passengers that were both, coming and going.

107. Warkentin and Ruggles, Manitoba Historical Atlas (1970), p.398.

108. Murchie and Grant, Unused Lands of Manitoba (1926), p.44.

In 1925 a number of highways east and west of the Red River were made Provincial Trunk Highways. This was the beginning of the provincial road system which was extended eastward through Beausejour and Whitemouth to the Ontario Border between 1928-1930.[109]

Thus, with the general introduction of cars and trucks, proximity to the roads was becoming necessary as a means of access to trading centres and to Winnipeg.

In the 1940's there began a trend in South-Eastern Manitoba which has persisted to the present. Within the Winnipeg milkshed there has been a tendency for farmers to settle small lots along main roads in order to be close to feed mills, poultry dressing plants, and cheese factories.[110]

Thus, the roads have and are now playing a more major role in influencing the pattern of settlement in specific parts of the study area. Much of this is due to changes in land use. Also the movement towards smaller lots has resulted in some modification to the sectional land survey.

Rail Transportation

Until the 1880's Manitoba was the primary market for its own agricultural produce. By the late 1870's however, Manitoba wheat had made a name for itself in some of the wheat markets outside of the Province. In

109. W. L. Morton, Manitoba: A History (1957), p.401.

110. Warkentin, "Manitoba Settlement Patterns", Papers read before the Historical and Scientific Society of Manitoba (1961), p.75; in this article Warkentin also points out that there is a limited movement towards long lots along rivers and provincial trunk roads.

1876 and for a few years immediately following, there was a surplus of wheat. The wheat was milled, usually for local consumption and export to the North-West territory; but only a railway connecting Manitoba and Eastern Canada could effectively handle the increasing harvests.[111] MacKintosh suggests that:

> Only with modern railways and cheap ocean transport can the frontier produce bulky staples, such as wheat, for metropolitan markets, and, without markets, the pioneer fringe is condemned to a low and crude standard of living,...[112]

Grain was being produced both east and west of the Red River, and its markets were far distant in Eastern Canada and across the Atlantic Ocean. Railways therefore became a basic necessity in order that the grain could be shipped to external markets and thus raise the standard of living of the settlers.

As a result, the railways were to play a major role in determining the pattern of settlement. The settlers in the 1870's, realizing that proximity to a railway was a necessity, settled in areas where rail lines were projected, or in the decades after the coming of railway, where rail lines already existed. In some cases the railway followed the settler if a new community could offer an adequate amount of traffic.[113] MacKintosh suggests that it was economical for the railway to bring the productive areas within ten miles of their line; the maximum hauling distance for the farmer being twelve to fifteen miles.[114]

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111. W. L. Morton, op. cit., p.182

112. W. A. MacKintosh, "Prairie Settlement: The Geographical Setting", Vol. I, Canadian Frontiers of Settlement, ed. W. A. MacKintosh and W. L. G. Joerg (Toronto, The Macmillan Company of Canada, 1934), p.44.

113. Ibid., p.55

114. It can be noted that in the early period of settlement, grain was often hauled fifty miles, or more, to the railway.

In South-Eastern Manitoba, the physcal resources and the agricultural capability of the land combined to produce a settlement pattern that was directly related to the railway. In the fertile belt, immediately east of the Red River, villages and hamlets sprang up at regular intervals along the railway to collect the agricultural produce. In the eastern portion of the study area the villages and hamlets are more irregularly spaced because much of the area is unsuited to agriculture.

Settlement Pattern and the railway. The Dominion government had committed itself to a trans-continental railway to be completed between 1871 and 1881. The railway was to cross the Red River at Selkirk. Construction of the first section of the Canadian Pacific Railway (CPR) eastward began in 1876[115], and settlers began to locate around the projected line in the Brokenhead and Ladywood areas.

The Dominion government had also decided to build a branch line south from Winnipeg to the international boundary, there to connect with an American line. This branch, the Pembina Branch, was authorized in 1874[116] and was completed in 1878.[117] Prior to the completion of this line, settlements developed along its route: Otterburne, Dufrost, Arnaud, Dominion City, and Niverville. All of these settlements were founded between 1877 and 1878.[118]

115. W. L. Morton, op.cit., p.175
116. Ibid.
117. Arthur S. Morton, "History of Prairie Settlement", Vol. II, Canadian Frontiers of Settlement (1938), p.53.
118. Place Names of Manitoba, Geographic Board of Canada, Department of The Interior (Ottawa, 1933).

The site of Niverville was chosen in 1879 by William Hespeler to be the trading centre for the Mennonite East Reserve.[119] By 1879, Niverville had a store, hotel, and grain elevator.[120] The Village however never developed into the trading centre it was intended to be. The reason for this was that most of the Mennonites had to travel a considerable distance west to reach Niverville, and there existed south-east of Niverville an expanse of marshland which effectively blocked off trade from the east.[121] Agriculturally, Niverville was an unsuccessful venture until the low lying marshland was drained in 1907 and the fertile black earth made available for cultivation.[122]

The other hopeful in the 1870's was Emerson. Emerson had begun in 1874, growing rapidly along with the townships to the north and east.[123] The town began to think in terms of becoming a port of entry to Manitoba and the North-West. To the south, the St. Paul, Minnesota and Manitoba railway was being built to Emerson.[124] In 1879 Emerson was incorporated and the town was attempting to obtain a charter for a railway, the Emerson and North-Western.[125] The hope for a railway had resulted in a

119. J. H. Warkentin, "Development of Trading Centres in the Mennonite East Reserve of Manitoba", offprint from The Shield, No. 7 (June, 1956), 3.
120. Ibid.
121. Ibid.
122. Ibid.
123. W. L. Morton, Manitoba: A History (1957), p.178.
124. Ibid.
125. Ibid., p.201.

rapid subdivision of the town as well as the incurrence of a large debt in constructing a bridge across the Red River. In 1882 the Emerson rail charter was disallowed and it was becoming increasingly obvious that Winnipeg was to be the rail centre for the west; the Emerson boom came to an abrupt end.[126]

Settlement in South-Eastern Manitoba during the 1880's was in some respects related to the railway: the Canadian Pacific Railway from Fort William to Selkirk was completed in 1881; and the Pembina Branch from Winnipeg to Emerson was completed in 1878.

Settlement continued to take place around the CPR trans-continental line and around the Pembina Branch. Settlement in the predominantly French and Metis areas continued to develop along the margins of the already existing settlement. With the stagnation of Niverville in the 1880's, Steinback took advantage of the opportunity to become the trading centre of the Mennonite East Reserve.[127]

In the 1880's few people ventured into the area east of the French and Mennonite enclaves. The completion of the CPR line in 1881 had provided access to and from a part of the Whitemouth River area. It was only in 1890 however that the first few homesteads were taken up in this area: townships 12 and 13, Range 11, East of the Principal

126. Ibid.

127. In the late 1870's, a number of ambitious Mennonites established a store, a blacksmith shop, and a grist mill. These activities continued to expand, and by the late 1890's Steinback had a five storey flour mill, a large machine shop, a tannery, and two sawmills; see Warkentin, The Mennonite Settlements of Southern Manitoba (Doctor's dissertation, University of Toronto, 1960), p.162.

Meridian (that area south of Seven Sisters Falls).[128] This area was not to experience much in the way of settlement until the Ukrainian immigrants arrived in the mid-1890's.

In the 1890's another railway was added to the South-Eastern Manitoba: the Manitoba and South Eastern Railway. This line was completed in 1900 from Winnipeg to Sprague, then south through Minnesota to connect, eventually, with Fort Francis. This rail line stimulated settlement at Woodridge, Badger, and Vasser in the South-east corner of the study area.[129] Other settlements also benefited from this new line.

The established settlements of St. Anne des Chenes, La Broquerie, and Lorette now had an east-west connection. Giroux also grew in importance with respect to the Mennonite Reserve. The railway had by-passed Steinback, and until the completion of this new railway Steinback freighted all of its wares from Otterburne. In 1899, with the coming of the Manitoba and South Eastern Railway, the Steinback merchants began freighting their goods from Giroux. Giroux began to grow and by 1910 it had several stores and a milk collecting station. Its growth and livelihood depended upon the railway for the shipping of milk and livestock to Winnipeg.[130]

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128. James Herbert Lovering, "Regional Geography of The Whitemouth Valley, Manitoba" (Unpublished Master's dissertation, University of Manitoba, 1961), p.5.

129. Ibid.

130. Warkentin, "Development of Trading Centres In the Mennonite East Reserve of Manitoba", offprint from The Shield, No. 7 (June, 1956), 8.

With the introduction of trucks in the 1920's, however, Grioux began to decline. By 1930, no milk was being collected or shipped from Giroux and most of the population had moved out.[131]

With the exception of Giroux, no other rail centre developed along the Manitoba and South-Eastern railway because most of the area was still sparsely settled and was not prosperous enough to support such a centre.[132]

Between 1900 and 1921 South-Eastern Manitoba experienced an expansion of settlement into its eastern half, much of it the result of the construction of several new rail lines; the Canadian Northern line from Emerson east through the Ukrainian colony in Stuartburn, meeting the Manitoba and South Eastern Railway immediately west of Sprague; the National Transcontinental Railway through the central portion of the study area in 1910; and in 1914 the Greater Winnipeg Water District Railway from Winnipeg to Shoal Lake.

The National Trans-continental Railway actually influenced the settlement pattern to a very small extent. Some settlement did occur in the Elma area and in the Medika area, just south of Elma.[133] It also provided the existing settlements, around Dugald and Anola, with a rail line from which agricultural produce could be shipped to the markets.

The Greater Winnipeg Water District Railway was completed in 1914, south of the National Trans-continental line. It was constructed for two reasons: first, a service

131. Ibid., p.9
132. Ibid., p.7
133. Lovering, op. cit., p.6.

and repair inspection line for the aqueduct to Shoal Lake; and second, to further the colonization of the area east of the Red River. In this latter regard it was reasonably successful in that it did provide some means of transportation to those settlers close to the line. Also, in the years after its construction, some new settlement did occur along the rail line; stations were established at Hadashville, McMunn, and East Braintree.[134]

In the fifty year period, 1870 to 1920, the railways had played a major role in influencing the pattern of settlement in South-Eastern Manitoba. In the decades following the 1920's, with the general introduction of automobiles and trucks, much of the emphasis on proximity to railways shifted to an emphasis on proximity to roads. The railway today, however, continues to support the settlement pattern in South-Eastern Manitoba.

TECHNOLOGY

In an earlier Section of this Chapter, it was noted that the basic needs of the settlers, and their rather limited knowledge of their physical environment resulted in most of the settlement occurring along the river fronts. As well as these, the settlers in the 1870's lacked the equipment necessary to the successful cultivation of the prairie soil. As early as the 1870's however there was developing an agricultural technology that would result in the successful settlement of the prairie soil, away from the rivers.

In the early 1870's, the Ontario settlers brought with them the ploughs that they had used in Ontario. These ploughs worked poorly in the heavy clay and tough sod of the Red River Valley.[135]

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134. Ibid., p.5
135. W. L. Morton, Manitoba: A History (1957), p.164

During this same period of time an American firm, John Deere, developed the steel mould board plough which was specifically designed to turn the prairie sod and clay. From that point on, the development and use of agricultural machinery continued to grow. In the 1880's, the self-binder was replacing the reaper; seed drills were more widely used, and threshers powered by a steam engine had been introduced into Manitoba.[136] The trend initiated in these years continued into the 1890's and the decades that followed. The rapid improvements in machinery permitted the settler to more rapidly improve and increase his acreage.

Strains of wheat were also being rapidly improved. In the 1870's the main variety of wheat was the Prairie du Chien[137] which had an average period of maturation of 130 days.[138] In the 1870's the Red Fife strain was introduced and dominated the scene until the turn of the century. Red Fife had an average maturation period of 115 to 125 days.[139] In South-Eastern Manitoba, as well as Southern Manitoba in general, this was particularly important as the growing season in the most fertile areas averaged 120 to 140 days.

In the early 1900's, Marquis wheat was introduced. It had an even shorter growing period than the Red Fife. The Marquis wheat made it possible for settlement to expand into the eastern portion of the study area where the growing season is relatively short. With the general introduction of the Garnet and Reward strains of wheat in the 1920's, settlement was able to push farther north.

136. Ibid., p.207
137. Ibid., p.86
138. J. Friesen, "Expansion of Settlement in Manitoba, 1870-1900", Papers read before the Historical and Scientific Society of Manitoba, ed. Thelma Jean Call, Series III, No. 20 (1965), 40.
139. Ibid.

Improvements in agricultural machinery and in wheat strains therefore has had a decided influence on the pattern of settlement in South-Eastern Manitoba.

CONCLUSION

In this Chapter, the major forces which have influenced the pattern of settlement in South-Eastern Manitoba have been discussed in some detail. For the convenience of analysis, each force and its particular influence on the settlement pattern has been dealt with separately. Although the role played by each was significant, it was not any one of these forces alone that gave rise to the pattern of settlement. Rather, it was a coming-together of all of these forces at specific periods of time that resulted in the pattern which exists today. More specifically, it was man interacting with these forces who influenced the pattern of settlement.

The next chapter will deal more specifically with the interaction which took place with a view to showing what role is played by the evolution of the settlement pattern in the planning process.

CHAPTER 4

THE RELATIVE SIGNIFICANCE OF THE SETTLEMENT PATTERN TO REGIONAL PLANNING

The two previous chapters provide a reasonably good picture of the settlement process that occurred in South-Eastern Manitoba: Chapter 2, a description of the existing pattern; and Chapter 3, the evolution of that pattern over the past one hundred years. For ease of study, individual parts of the settlement process were identified: basic needs, physical resources, economic activity, land policy, ethnic groups, transportation, and technology. The influence of each of these on the settlement process was then described. These parts, however, were not independent of one another; rather, they were a complex of factors. All of the parts fit together because they actually were together in the on-going historical reality of the settlement process.

The purpose of this chapter is to show how this knowledge of the existing settlement pattern and how it came to be, and the development of the pattern itself now fits into the regional planning process assuming that such a process is going on.

Gillie, in his book Basic Thinking in Regional Planning, suggests several points of importance in any regional study; it is useful to note one of these points at this time:

> Thirdly, and supremely important, a plan seeks to mould the future and the team's work is only of value insofar as it succeeds in throwing light on what might best be done in the future. They will be obliged to study both past and present. In particular, they will need to understand how the present situation has come about and what forces are currently at work.[1]

Explicit in the above statement is a concern for the proper, future development of a region which depends, in part, upon a knowledge and understanding of the past and present situations. In this regard, Chapters 2 and 3 have provided information on the existing settlement pattern in South-Eastern Manitoba and how it came to be. In this chapter, the task will be to evaluate the role of the evolution of the settlement pattern in the regional planning process.

Two questions form the basis for this chapter: how did each part of the settlement process affect the settlement pattern?, and how does each part now enter into to the regional planning process, both individually and systematically assuming that such a process is going on.

To carry out this evaluation of the role of the evolution of the settlement pattern in the regional planning process, each part or factor of the settlement process, identified previously, will be dealt with in turn as in the previous two chapters; the difference being that now each factor will be dealt with in terms of the complex of which it is a part.

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1 F. B. Gillie, Basic Thinking in Regional Planning (The Hague: Mouton and Company, 1967), p.12.

BASIC NEEDS

In Chapter 2 it was noted that man has certain needs which are basic to his survival: water, food and shelter are but a few of these needs. It was also noted that, today, most of these needs are attended to by commercial, industrial and governmental institutions specifically geared to providing these services. As a result man might live wherever he chooses and have his basic needs attended to by any or all of these organizations. Water can be piped, trucked, or flown to any area lacking potable water and food may be purchased at the nearest grocery store. Man's basic needs, therefore, can be met regardless of where he lives as long as he is willing and able to pay the cost and bear any inconvenience because of his choice.

For the early settlers to South-Eastern Manitoba, however, this was not the case. They were limited to their choice of a place to live by their basic needs. The close proximity to sources that would satisfy these needs was essential to their survival.

These early settlers made more or less reasonable decisions in choosing a place to live. Primarily they sought areas in which certain commodities were readily available: water for drinking, cooking and transportation, timber for fuel and shelter, fertile soils for farming, and social contact with neighbours. The result was river lot settlement, at first along the banks of the Red River, and later other rivers and streams. It was there that their basic needs could be attended to and their

biological existence[2] assured.

Operating at the same time, however, were other forces that reinforced the pattern of river lot settlement brought about initially by the settlers' basic needs.

To South-Eastern Manitoba came people who held strong values and beliefs about their new environment: that the land away from the rivers was a great desert where nothing of any worth would grow; that water could not be obtained on the prairies by digging wells; and that timber was not readily available for constructing homes and fences, or for use as fuel. The latter, to a large extent, was true. Mitchell sums it up in this way: "The strong belief bred in Europe in the infertility of land that would not grow trees held the settlers back on the edge of the prairie soils as firmly as the lack of suitable ploughs and building material"[3] The settlers had entered an environment with which they were entirely unfamiliar. Their firm adherence to the belief that the land could not support their basic needs only strengthened the tendency toward river lot settlement.

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2 Biological existence, as it is used here, refers to man's physical survival which requires that the body's natural needs be met. MacKaye suggests that there are two aspects to biological existence. The first is the preservation of organisms already in existence. This requires, in the case of man, clothing, shelter, and certain industrial equipment as well as a supply of food. The second aspect is the propagation of organisms. This involves mating and the acquisition of the necessary means to care for the organisms before and after birth. See Benton MacKaye, The New Exploration (Urbana: University of Illinois Press, 1962), pp.120-121.

3 J. B. Mitchell, Historical Geography (London: English Universities Press Ltd., 1954), p.84.

Even had they decided to venture out onto the grassland, technical difficulties would have been encountered; they simply were not geared for prairie living and farming in a technological sense. Most settlers employed a wooden plough with which it was almost impossible to break the tough prairie sod. Crops which grew well elsewhere faired poorly in the shorter growing season and the lesser amount of precipitation experienced on the prairie. The use of buffalo chips for fuel or mud huts for shelter were probably unthinkable or, at the least, unknown possibilities at the outset. The settlers, therefore, were not prepared for prairie living in either a psychological or a technological sense.

The Dominion Government itself gave further impetus to river lot settlement. Government policy, which encouraged settlement also dictated that no land could be settled unless it had been surveyed. Little of the land away from the rivers had been surveyed prior to or during the arrival of the early settlers.[4]

The land survey was later to provide useful data about the physical characteristics of the land: soil characteristics, availability, quality, and depth of underground water supplies, and other notes about topographical conditions. Had such information been available basic needs might not have played so significant a role in the settlement process. As it happened, however, their choice of location was somewhat limited.

Collectively, these aspects resulted in a subsistence economy for the early settlers. They were bound to the rivers by their need for water, timber, and transportation, by their values and beliefs about their environment,

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4 The land survey was started in 1869 but soon was interrupted by the conflict with the Métis over land titles. It was resumed in the summer of 1871.

and by their technological limitations. They cultivated small parcels of land, raised some stock, and hunted and fished to provide food for themselves and their families. In many respects they were hunters and gatherers, somewhat primitive in their way of living, geared primarily to surviving in their new environment. There was no commercial farming to speak of; the potential of the prairie land was yet unknown and transportation facilities to potential markets were poor in any case. The settlers' economic activity then consisted of growing and gathering food for their own consumption. The result was a rather low and crude level of living.

With this knowledge of how basic needs influenced the situation there is a basis for some understanding of the existing situation and how it came to be: the concentration of settlement along the rivers and streams, and the sparse settlement elsewhere. Other factors certainly influenced this pattern but initially the motivating force was the basic needs of the people. Necessarily, they perceived their environment in a particular way that directly influenced where they would live. They had certain needs necessary to ensure their continued existence. They had specific attitudes toward their new habitat, a certain level of technology, a certain level of living, and they were guided to some extent by government land policy. All of these factors worked in conjunction with basic needs to initiate a particular pattern of settlement.

Of what value then is such knowledge of basic needs in the regional planning process?

Basic Needs in Regional Planning

The role of basic needs in the regional planning process is a fundamental but salient role and there are several facets to it. These start to become clear with the awareness that such needs do exist and can influence man's way of living and use of the environment. The primary value of conducting a study of basic needs in a regional planning situation is the awareness aspect. With such an awareness other aspects of value become evident.

Perhaps the most obvious aspect of value in the regional planning process is the predictive value of basic needs. Another involves understanding the survival aspect of life and that it must be attended to in some fashion. Finally, related to the aspect of survival is one that goes beyond an understanding of mere survival and touches upon the meaning of "living" and its importance to the regional planner.

Predictive value of basic needs. It has been previously stated that upon entering a new area the settlers made more or less reasonable decisions about choosing a place to live: proximity to water, to stands of timber, to transportation modes, and to other people. If the ideas presented in this locational decision-making process are of any value it should be possible to predict possible sites of settlement in both known and unknown regions to-day.

This predictive role may be of more value to-day in relatively unsettled regions rather than settled areas. If there is some understanding of the elements which in the past induced people to gravitate to a particular area, then it should be possible to select those areas that are, by these same criteria, likely to be attractive as living spaces.

Those areas selected on this basis may or may not be, of course, the most ideal; however, they would provide a point of beginning from which further assessment of areas suitable for habitation could take place. Practically, other variables must be taken into account: the type of livelihood to be pursued, the suitability of the physical environment, the availability of a suitable technology, and accessibility to friends, places of work, and amenities. For example: an area so selected may be too far removed from areas of economic activity. The costs involved in constructing transportation facilities to link such areas and providing duplicate services for both living areas and working areas may be prohibitive. It may indicate that alternate, more suitable areas should be sought. On the other hand, it may be that ecological considerations would dictate that such areas should be preserved and less delicate areas used for settlement. Perhaps river bank areas should be reserved for recreation purposes rather than dwelling purposes since such areas are no longer necessary to fulfill the basic needs of the people. Such a policy of river bank preservation, however, would prove difficult to implement as people are still greatly attracted to these areas, not out of necessity, but,for reasons of aesthetics, recreation amenities, investment opportunities, and status. Here, knowledge of the present situation and its historical development indicate that the trend toward river lot settlement is still with us to-day, but for different reasons. Any desired change to this trend would likely require some innovation that would persuade people to act differently. This points out the importance, in a regional planning situation of knowing what is happening and what has happened in order to anticipate and evaluate what may happen. With such an assessment of the situation, possible delays, problems and mistakes in the settlement of the region might be avoided. The necessary technical equipment could be foreseen thereby limiting pot-

ential harships for the inhabitants.

Even in regions in which settlement has taken place, such as South-Eastern Manitoba, these same criteria can be used as a starting point to determine the appropriate direction of future growth. Knowing why the situation is as it is permits some evaluation of whether existing trends should be allowed to continue and under what conditions, or whether alternate growth patterns should be explored. Some policy of limiting existing tendencies may be desirable as in the case of waterfront settlement. Or, it may prove advisable to encourage people to relocate if it is found that those factors which were operating in the past are no longer of significance in the present. Under these circumstances areas might be returned to land uses they might well have been left in originally: natural and/or recreational areas in the case of waterfront areas.

The early settlers to South-Eastern Manitoba had some choice of a place to live but this was limited by their biological needs. An understanding of these choices and how they were limited provides a basis for avoiding a duplication of such limitations in the present and the future. It provides a basis for planning a living environment that is varied and flexible, and avoids past problems and mistakes. Into this decision-making process enters the predictive value of basic needs.

Survival aspect. The second aspect of basic needs - survival - reveals some of the implications of the element of survival in a regional planning situation.

The point of value, to the regional planning process, brought out by a study of basic needs is that nature has imposed on man certain biological requirements which in turn set minimum limits for survival. Wagner states:

> Biological requirements set minimum limits on livelihood needs. Any organisms which does not make sufficient and appropriate provision for survival must perish. At almost all places and times, human standards of consumption have lain well within the biological limits for survival; any standard otherwise conceived would soon disappear along with those who held it.[5]

The evidence of the early form of settlement in South-Eastern Manitoba would suggest that upon moving into a new area man first seeks the means to satisfy his basic needs and ensure continuance of his biological existence.

Of major significance to the regional planning process is the fact that these needs do exist and can influence what people will do in a particular environment. Also of importance is that these needs will be met in some manner; the questions are how and how quickly. It is to these items that regional planning can apply.

If people are expected to live in a particular region, it is only reasonable that their basic needs be satisfied easily and quickly. The region in which the regional planning process is operating then may hopefully be expected to develop in some rational manner. Otherwise, development is likely to occur in a haphazard manner that is based upon imaginary or misconceived notions about

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5 Philip Wagner, The Human Use of the Earth (London: The Free Press of Glencoe, Collier - MacMillan Limited, 1964), pp.27-28.

the potential of the region. If people are left to their own design they will act in accordance with their acquired customs and beliefs, as well as bodily necessities. Such was the case in South-Eastern Manitoba. The result was a massing of settlement along the river fronts, a by-passing of areas that held equal if not more potential for satisfying their needs and raising their level of thinking. With this type of background knowledge it may then be more desirable to channel the people to suitable areas that may be available.

People then, may have to be convinced that a particular area is desirable for living and working. Their first concern would be to have some assurance that an area can support their basic needs and a desired level of living. The process of convincing them might simply be accomplished by a good public relations programme to promote the area. It may happen that the only means of convincing them is by a practical demonstration. This of course is what occurred in South-Eastern Manitoba in the early 1870's; however, it was not a planned demonstration. The Dominion Government had published somewhat exaggerated accounts of the salubrious nature of Manitoba to lure immigrants to the area. Government land agents were also available to provide a more personal form of propaganda. The settlers, however, continued to settle along the rivers because of their belief that beyond the rivers was a vast desert which would support no way of life of any consequence. It required, therefore, a practical demonstration by the Mennonites to change these beliefs. The Mennonites settled out on the Prairie, in what is now the Rural Municipality of Hanover, because this was the physical environment to which they were accustomed. It may not be possible today to have a specific group first settle an area; however, the example of the Mennonites illustrates that there may have to be developed some technique

to direct people to suitable areas.

Also of significance to the regional planning process is that people must have available the technology to make settlement of an area, at a reasonable level of living, possible. The early settlers to South-Eastern Manitoba did not have the proper equipment to settle and work the prairie land. Their wooden ploughs turned the tough prairie sod poorly; and even had they known the land's potential for wheat their lack of knowledge about the shorter growing season, temperature and precipitation would have rendered traditional seed useless in many areas. In the regional planning process, therefore, it must be assured that the proper level of technology is available to make the region something more than just inhabitable.

All of the factors related to survival provide some of the background knowledge necessary to the regional planning process to understand how basic needs did influence the situation in the past and how it may influence the future situation.

Survival plays yet another major role in the regional planning process.

In a study of basic needs it rapidly becomes apparent that the survival aspect can be a retarding force to the physical, social, and economic development of the people in a region. If the energies of the people are directed only to a quest for existence, a better way of life remains remote. The result is a low or primitive level of living. In this regard regional planning is concerned with the task of firstly attending to the basic needs of the people and secondly, and more importantly, providing the

opportunities for a higher level of living if desired by the people. MacKaye states:

> This problem is basic for the regional planner - indeed it is for him the (italics in the original) basic problem, the problem of minimizing existence, or concern with the means of life, and maximizing living, or fulfillment of the ends.[6]

It is clear then that at least part of the task of regional planning is to limit the concern of a population for matters of mere survival and to provide some direction aimed at a higher level of living. This higher level of living may mean many things to many people: access to and pursuit of an education, ways of occupying leisure time, access to and participation in the fine arts, or it may simply mean the opportunity to contribute and participate in the work of society in a way that lends to a degree of satisfaction for the participant and a measure of good for all or part of society. As Mumford states: "...all these things lie outside the provide of animal necessities:...

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6 Benton MacKaye, The New Exploration (Urbana: University of Illinois Press, 1962), p.120.

they are functions which must be included in a human existence even to satisfy the belly, to say nothing of the emotional and intellectual needs of man."[7] Whatever the interpretation of living it seems to imply a pursuit of life that compliments the act of survival and at the same time goes beyond the mere act of keeping the body alive.

Also important in this regard is the notion that opportunities for a higher level of living depend on basic needs being satisfied. The pursuit of a more meaningful and rewarding life and the fulfillment of more fundamental needs are not independent of one another.

Maslow suggests that there is a hierarchy of needs for every human being[8] and that as each level of need is fulfilled, an individual strives to fulfill the next level.[9] It is not intended here, however, to debate whether or not the needs of South-Eastern Manitoba's inhabitants fit such a hierarchy, although a general adherence to such a hierarchy might well exist. The purpose, rather, is to emphasize the importance of attending to the basic needs of a population so that they may grow and develop toward whatever level of living they desire. This requires that the means for satisfying such basic needs be maintained at an adequate level at all times.

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7 Lewis Mumford, Technics and Civilization (New York: Harcourt, Brace and Company, 1934), p. 395.

8 The hierarchy of needs established by Maslow is briefly: 1) basic physical needs (food, water), 2) need for safety, 3) need for love, 4) need for self-esteem and, 5) need for self actualization. The pursuit of any higher level depends on the lower level(s) having been fulfilled first; see Abraham Maslow, Toward a Psychology of Being (Princeton, New Jersey: D. Van Nostrand Company, Inc., 1962).

9 Abraham Maslow, Toward a Psychology of Being (Princeton, New Jersey: D. Van Nostrand Company, Inc., 1962), p. 145.

Any danger or threat to one or more of the more fundamental needs could result, as Maslow suggests, in a regression backward to the more basic needs.[10]

If then the task of regional planning, as stated previously, is to provide an environment in which opportunities for "living" are possible, it would appear necessary to have some notion of what needs dominated the past, what are the prevailing needs and from these what needs are likely to develop in the future. Conducting a study of how basic needs influence settlement pattern in a regional planning situation can provide the necessary information from which future needs might be anticipated and a strategy developed to guide a population along a smooth course toward the realization of these needs

NATURAL ENVIRONMENT

In Chapter 3 it was noted that the actual qualities of the natural environment were not the issue during the period of early settlement. More important initially was what the settlers knew or thought they knew, or what they were told, or what they read about the qualities of their new environment. There was very little real understanding of the limitations and opportunities offered by the natural environment of South-Eastern Manitoba.

Those settlers arriving in the early 1870's responded to their new environment in accordance with customs, beliefs and skills acquired elsewhere. These were, to some extent, supplemented by information provided by earlier explorers (Hind and Palliser) along with various Dominion Government publications based on the findings of these explorers. An optimism was generated by these

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10 Ibid., p. 47

reports which portrayed the West as having a "lugubrious" climate, an abundance of rainfall, adequate growing seasons and fertile soils. In fact, the people who came west in the early 1870's found themselves faced with extremes of temperature, scanty rainfall and shorter growing seasons than that to which they were accustomed. The optimism was, as Morton[11] suggests, based on ignorance. This, to a large extent, only served to reinforce the customs and beliefs about the unsuitability of the prairie land to support life and led to an emphasis on the limitations, whether real or imagined, of the natural environment and a virtual disregard of the opportunities. The result was a pattern of settlement that clung closely to the rivers.

Ecological Planning

The ecological planning method as practiced by McHarg has as a basic premise the following: "...that nature is process, that it is interacting, that it responds to laws, representing values and opportunities for human use with certain limitations and prohibitions to certain of these."[12] This proposition suggests that

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11 Arthur S. Morton, "History of Prairie Settlement", Vol. II, Canadian Frontiers of Settlement, ed. W. A. MacKintosh and W. L. G. Joerg (Toronto: The MacMillan Company of Canada, 1938), p. 36.

12 Ian L. McHarg, Design with Nature (Garden City, New York: Doubleday/Natural History Press, Doubleday and Company, Inc., Paperback Edition, 1971), p. 7.

an understanding of the natural environment in which one is operating - the regional planner in this case - is basic to revealing the opportunities for human use offered by that environment, as well as the constraints imposed by that environment to certain uses. Accepting this premise it can be suggested that the natural environment of South-Eastern Manitoba did impose constraints to human use while at the same time it did proffer certain opportunities. To reiterate, during the early period of settlement in the study area, there was little real understanding of the limitations and potentialities to human use of the natural environment. The emphasis was placed on populating the West as quickly as possible. Large areas of land were surveyed and thrown open to settlement with little or no regard to the uses that the land might or might not be capable of supporting. Little real planning was done by the Dominion Government to prepare the way for the settlement that would occur. The survey conducted by Hind was a start but it was too little over too short a period of time. The information provided was helpful in some ways but misleading or erroneous in others. Little more than a cursory research was undertaken into the characteristics and qualities of the natural environment. Little determination of the possible land uses and economic activity, other than agriculture, that could be reasonably accommodated by the environment was attempted. Only the suitability of the land for agricultural use was touched on and even here there was virtually no regard to the limits of some areas to support some or any agriculture. Here, even Hind gave some clear, direct guidance to the limited capability of some rather vast areas of South-Eastern Manitoba to support agricultural settlement. It was apparently

ignored by the Dominion Government in that such areas located in the eastern half of the study area were eventually thrown open to settlement.

Over a period of time limitations and potentialities of the natural environment were revealed by a number of factors operating in concert with the natural environment. It is this interaction between the natural environment and other factors that is to be looked at now to see how it influenced the pattern of settlement and what role it could play in a planning situation.

Influence of Individuals and Organizations

Much of the information concerning the natural environment was available to the early settlers through pamphlets published by the Dominion Government. These pamphlets were designed to entice settlers to Manitoba and other parts of the West. Much of the information provided by the pamphlets was based upon the findings of Henry Youle Hind and Captain John Palliser both of whom explored the West in the latter half of the 1850's. Only Hind spent time exploring parts of South-Eastern Manitoba.

Hind provided information on precipitation, temperature, growing season for various crops, and soil fertility. These data became the scientific basis for the optimism expressed in the Government publications. The reality was somewhat different as has already been noted.

Additional information was provided after 1871 when the land survey was resumed. The land surveyors provided information about soils, availability of water and timber stands, and general fitness of the land for settlement. By 1880 most of the townships in the west one-half of the study area had been surveyed. The surveys indicated the availability of good quality soils as well as the availability of good water by digging wells. How much of this information was actually conveyed to the settlers cannot be determined from the available information; but it can probably be assumed that some of it found its way into various Government publications.

While Hind and the land survey provided some much needed information about the natural environment, the information had both negative and positive effects on settlement. Much of this was due to problems inherent in the collection of information.

Hind, for example, had placed in his report precipitation data which he had received from a person named Donald Gunn. In the vicinity of Lower Fort Gary, Gunn had recorded 48 inches of rain and 39 inches of snow. This information had been collected over a period of one year, June, 1855 to May, 1856. Hind then went on to compare this with 30 inches of rain and 72 inches of snow at Toronto over the some period of time and concluded that the Red River area had an excess of humidity compared with Toronto.

The period of time involved, one year, was totally insufficient to establish any trend for the Red River area let alone permit a comparison with another area and reach a conclusion.

Hind also provided information about growing seasons for various crops. Of specific import was the growing season for wheat about which Hind reported that wheat

matured and was ready for harvesting three months from the day of sowing. Morton suggests that such a figure for wheat is "...suspiciously modern".[13] In Chapter 3 it was noted that Prairie du Chien was the main variety of wheat in the 1870's; it had an average maturation period of 130 days. It seems likely that whoever provided Hind with this information did so from a somewhat dim recollection or perhaps with some deliberate embellishment of the truth.

In any event, the information provided by Hind was certainly an attractive inducement to settlement,but scarcely accurate. The inaccuracies were repeated with some further embellishment by the Dominion Government. The people who came found somewhat different conditions.

Judging from the comfortable advantage of hindsight it would appear that the Dominion Government being set on encouraging settlement of the west might have spent the time gathering the necessary information which would have provided the settler with the necessary wherewithal to better cope with the environment. This would have meant commissioning the necessary studies, over long periods of time in some cases, to provide an accurate assessment of the environment for settlement purposes.

In addition the land survey which provided some information about soil conditions fell short of its potential because the land surveyors could not agree on the soil classes. Such agreement would have been beneficial to determining the capability of the lands in South-Eastern Manitoba to support various agricultural land uses and forms of economic activity. Of course other data covering such things as vegetation, topography and drainage would have also been required. If such detailed studies had

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13 Arthur S. Morton, op. cit., p.35

been carried out perhaps a better and more organized set of choices and opportunities might have been presented to the settler.

Hind also, to some extent, reinforced the negative attitude of settlers toward settlement away from the rivers. In describing areas he constantly made reference to the fertile soils and good stands of timber around various rivers. Such references served to reinforce the settler's desire for a river lot and the negative attitude toward settlement on the open prairie.

Hind may have been assessing the settlement potential in terms of standards he had acquired elsewhere, just as the early settlers had done. Hind's familiarity with the Ontario situation probably led him to judge the South-Eastern Manitoba environment in terms of the Ontario situation. While his report did direct settlement-to the rivers- it also retarded the spread of settlement away from the rivers and ignored the potential of the open prairie.

In general Hind ignored South-Eastern Manitoba except as an area through which a road could be constructed. The area east of the Red River was generally described by him as a vast marshland most of which was unfit for settlement. While the study area did not have the agricultural potential of the area west of the Red River, the area upon which Hind focussed his attention, the potential that the study area did hold for settlement was largely ignored. As a result the area was, to a great extent, passed over. The opinion of this one man had a great negative impact on a rather large area.

That water could be had away from the rivers, by digging wells - a vital, positive piece of information provided by the land survey - seems to have been largely

ignored. This information which might have helped to stimulate an early movement away from the river fronts was apparently not reported in any of the Government publications; this might have been the result of a lack of interest in the study area which started with Hind.

The effect of these early reports was much non-settlement of the study area. Other forces were required to reveal some of the potential of South-Eastern Manitoba.

Economic Activity

By 1880 Manitoba wheat had begun to make a name for itself in some external markets and the settlers had come to realize the importance of large land holdings away from the rivers. They had not as yet totally overcome their adherence to the rivers to support their basic needs, but the opportunity to move from a subsistence type of agricultural to a commercial one was motivation enough. In addition, the Mennonites had demonstrated in 1874 that it was possible to live away from the river fronts and perhaps the other settlers then began to take more notice of the Mennonites.

The necessary incentive having been introduced in the form of commercial agriculture, the people began to move away from the rivers and some of the potential for human use of the land was revealed. The revelation was somewhat of a windfall, certainly not foreseen and certainly not planned. Perhaps it could not have been otherwise.

The studies and surveys conducted earlier were done in apparent haste and were necessarily deficient. Had they been carried out in sufficient detail and over sufficient periods of time the establishment of such things as the characteristics of the soil classes, the climate, the topography and the vegetation would have been possible at an earlier date and could have been

used to reveal more completely the potentialities and the limits of the study area for human use. With such information, comparisons with other areas of the Earth might have been possible. It might then have been possible to discover what activities were being supported by those areas which exhibited similar characteristics. Possible uses and non-uses of the South-Eastern Manitoba environment might then have been foreseen and some direction given to settlement of the area. Various opportunities and choice of opportunities might have been provided to the settleer.

Wagner sums up much of this discussion rather well. He states:

> When necessary environmental circumstances are known the establishment of crop plants becomes possible in new areas; and, indeed, once the requirements of any artificial feature of environment are known, its development can proceed wherever the appropriate conditions are found.[14]

Wagner also suggests that such artificial features must be of use to society; there must be a market for the commodity.

Had attempts been made to survey other areas bearing characteristics similar to those of the natural environment of South-Eastern Manitoba to determine what uses were being made of the land - the crops grown - perhaps wheat could have been established as a commercial crop much earlier that it was. Some determination of external markets would also have been necessary and possible. In addition, the need for timber was a well known fact and the eastern half of the study area could have been employed to meet these needs thereby offering another form of economic activity in which settler's might have engaged at an earlier time.

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14 Philip Wagner, The Human Use of the Earth (London: The Free Press of Glencoe, Collier-MacMillan Limited, 1964), p.124.

While this was not done, and perhaps it is too much to expect that it could have been done, it is a point to be kept in mind in a planning situation in which it is desired that people make as reasonable use of the land as possible. Part of this task entails the acquisition of knowledge about the potentialities and limits of the natural environment and the formulation of choices for use by man.

Dominion Land Policy

The system of free land grants introduced in the 1870's by the Dominion Government continued intermittently until the late 1930's. The use of this system over that period of time illustrates the lack of knowledge or concern, at least on the part of the Dominion Government and later the Manitoba Government, about the potentialities and limits of the natural environment of the study area.

In the early 1870's the land survey was a prerequisite to land settlement; only those lands that had been surveyed were open to settlement. By 1880 the west half of the study area had been surveyed and by 1901 the remainder had been surveyed. With the land survey complete and the free land grant policy in operation the eastern half of the study area was thrown open to settlement; settlement that was predominantly based upon agriculture. There was no apparent concern for what or how much agricultural activity this area of land could support. As it turned out, the economy of the east half of the study area was based on agriculture and forestry. Spread of settlement into the forested areas was extremely slow because of the absence of large areas of fertile soil and the difficulty in clearing the land. Settlement in the area was sparse and scattered and has remained so because of the characteristics of the natural environment.

Settlement of the forested areas was greatest in the 1930's. This movement was not the result of an interest in agriculture but of greater diversity elsewhere brought about by the Depression. The result was the clearance and occupation of much inferior land in an agricultural sense. The Provincial Government of Manitoba had encouraged this with the reintroduction in 1935 of the free land grant system; a system that had been abolished in 1930 because it produced scattered settlement and an isolated way of life. The intention of the Government was good - to help alleviate drought and Depression problems - but many of the areas opened to settlement were poor choices. The Government realized too late that settlement should not have been permitted. It did, however, commission studies to provide better information about the natural environment to help guide settlement. After World War II settlement was allowed only on land that was capable of supporting agriculture in terms of topography and soil.

In spite of all this the Province promoted a land settlement program called the Catfish Creek Project in the study area. The Government had picked an area that was difficult and expensive to prepare. Because of high amounts of rainfall during a number of years of the Project's life and poor drainage resulting in the settlers being unable to work the land the Project was substantially less than a success. Apparently the Government had been aware that drainage was poor as several drainage projects had been proposed but had not proceeded as scheduled.[15]

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15 See Chapter 3, footnote 79.

The message in all of this clearly appears to be that some lands in South-Eastern Manitoba might better have been left out of agricultural production and settlement. In effect there were more appropriate uses for certain lands. This simply points up the need in a planning situation for an early investigation of the natural environment to determine as far as is possible the potentialities and limits offered for human use of the land. It also points out the need for monitoring the situation and introducing or encouraging correctives to the situation. It too, of course, requires that policies recognize and respect the findings of such studies.

Concluding Remarks

Thus far the discussion has centered on the natural environment and how other factors interacted with it to influence the settlement situation in South-Eastern Manitoba. In addition, some brief attempts were made to apply the knowledge gleaned from these interactions to a planning situation.

The fitting of this information to a planning situation is basically this: that as suggested by the McHarg statement, which was noted in an earlier section, an understanding of the opportunities offered by the natural environment of a region for human use as well as the limits imposed on such uses. In a like vein to that of McHarg, Benton MacKaye suggests that the task of the planner:

> ...is primarily to uncover, reveal and visualize - not alone his own ideas but nature's; not merely to formulate the desire of man, but to reveal the limits thereto imposed by a greater power. Thus, in fine, planning is two things:

> (1) an accurate formulation of our own desires - the specific knowledge of what it is we want; and (2) an accurate revelation of the limits, and the opportunities, imposed and bequeathed to us by nature. Planning is a scientific charting and picturing of the thing (...) which man desires and which the eternal forces will permit.[16]

In essence MacKaye is saying that the natural environment responds to certain laws and that the planner's job is to assess the practicability of man's desire to use the land in various ways within the framework, and with full knowledge, of those laws.

It has been previously noted that during the earlier period of settlement in South-Eastern Manitoba there was no accurate understanding of what the land might or might not support in the way of human activity. Even in the 1940's and 1950's the understanding remained incomplete. The result was the movement of people to, and imposition of certain human activities upon, lands that might better have been left unpopulated and out of use or at least limited to certain types of use. The cost was expensive in terms of the low level of living that was endured by many people and the misuse of a great deal of land; specifically within the eastern half of the study area. There were dollar costs too as was experienced in the Catfish Creek Project.

In the western half of the study area the same lack of knowledge exerted its influence during the initial period of settlement. Not until the discovery of wheat as a major

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16 Benton MacKaye, The News Exploration (Urbana: University of Illinois Press, Illinois Books, Paperback Edition, 1962), p. 147.

commercial commodity was the subsistence level of living lifted. The wheat boon was an unexpected corrective to the situation but it might have been anticipated with a better understanding of the environment and its similarity to other environments elsewhere.

To reiterate, perhaps it is too much to expect that such an accurate understanding of the characteristics of the natural environment was possible one hundred years ago; or that comparisons of habitats was feasible. The important thing now is that the South-Eastern Manitoba situation points up the importance of understanding the make-up of the natural environment and which human endeavours, if any, it will support. The value here is that some insight into what did happen in the past can be of help in better understanding what is going on in the present and in coming to some decisions about what should go on in the future in terms of land use.

ECONOMIC ACTIVITY

In an earlier section the settler's reliance on satisfying basic needs as a factor influencing place of settlement was discussed in some detail. This dependence produced an economy that was based in subsistence agriculture. Not until the late 1870's and on into the 1880's did this subsistence level of living give way to a higher level. With the realization of the economic gains to be made from the production and sale of wheat, the emphasis on place of settlement shifted from one of satisfying basic needs to one of realizing significant financial gain. Settlers sought sites away from the river fronts to which they had been tied. Commercial agriculture became the mainstay of the economy.

Today, there are several divisions of economic activity in South-Eastern Manitoba. These range from primary industry (agriculture, forestry, and mining) to secondary and tertiary industries such as manufacturing and construction (secondary) and public administration and transportation (tertiary). Of these, no sector of the economy has influenced settlement to the same extent as has agriculture.

Other aspects of economic activity, too, played a part. Aspects such as recreation and forestry, along with agriculture, interacted with one another, and with other major forces shaping settlement such as transportation that took place produced results that were important to the settlement process and are important aspects in the planning process.

Economic Activity and the Settlement Process

Agriculture. Since the days of early settlement, most settlement in South-Eastern Manitoba has been in response to agriculture. Until the boom ended in the 1920's, wheat was the mainstay of the farming community and served to entrench agriculture as the dominant influence on settlement.

Up until the mid 1870's, the former produced enough in the way of crops to see to the needs of his household and to have enough left to pay debts and taxes, and barter for necessary goods. His trading area was very localized. With the use of commercial agriculture, access to external markets became a must. To handle large quantities of a bulky staple, such as wheat, to serve external markets, required a means of transportation to link the resource area - Manitoba - with the area of consumption - Eastern Canada. Wagner suggests that "..., the necessary conditions for development of a

route of circulation are the presence of suitable natural conditions and of two or more sites to be connected."[17] If the necessary conditions for promotion of a transportation link are not present, suggests Wagner, the link by itself will serve little purpose.[18] In the case of Manitoba in general and the study area in particular, the necessary conditions appear to have been present: two areas to be connected, rugged but generally suitable natural conditions and an economic incentive to make the connection. These conditions, along with the need to unite the Country, gave strong support to the construction of a transcontinental railway.

As well as a need for transportation links, agriculture generated a need for technological improvements. Serving external wheat markets profitably meant better and faster equipment to cultivate larger acreages. Serving external markets also meant competing for those markets, competing with other wheat producing areas like Kansas and Nebraska where the growing season ranges from 120 to 190 days. In contrast, South-Eastern Manitoba has a growing season which ranges from 60 to 120 days. For the study area to compete effectively required new seed strains, seed strains that were hardier, faster growing and capable of high yields.

As well as interacting with elements of transportation and technology, agriculture influenced, or apparently influenced, other factors shaping the settlement pattern.

The Dominion government policy of creating large land reserves for various groups was discussed in Chapter 3. These reserves resulted in large land-locked

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[17]Philip Wagner, The Human Use of the Earth (London: The Free Press of Glencoe, Collier - MacMillan Limited, Paperback Edition, 1964), p.132.

[18]Ibid., p. 133

areas which effectively limited settlement or precluded it entirely. In the study area, the group reserves controlled a major portion of the area containing the most fertile soils. In 1878, however, the Dominion government opened the half-breed reserves, thereby making a large portion of fertile land available for settlement. While the research has not turned-up any suggestion that this "opening" was a direct result of economic consideration, it seems a strong possibility that this was the case.

The half-breeds were hunters, cultivated very little of the land and their use of the land could be considered less than profitable in monetary terms. The opening of the reserves coincided with the time when Manitoba wheat was growing in importance in external markets. More land meant more wheat, which in turn would generate more business for the railroad and water carriers, among others, and attract more settlers. That agricultural activity, in concert with other business concerns, exercised a large measure of influence in opening these reserves seems a plausible conclusion.

Also, in 1881, the road allowance between each section of land was reduced from ninety-nine feet to sixty-six feet making more land available for cultivation. The primary reason for the reduction was to reduce the cost of survey, but a likely second reason was to place more land under the plough.

Commercial agriculture and improvements in transportation and technology generated a need for agglomerated settlements, or service centres. With the shift away from subsistence agriculture and a more self-reliant way of life, there arose a need for services that required special skills and equipment and a place or centre that provided these services along with a variety of goods.

Prior to the coming of the railroad, agglomerated settlements tended to grow at random, providing their respective umland with necessary goods and services. Many of the established centres attracted the railway because it was economical for the railway to bring areas of production within ten miles of the line. As the maximum hauling distance for a farmer was twelve to fifteen miles, this decision by the rail companies was a rational one, especially as the farmer was, in all likelihood, already hauling his grain to these established centres.

New centres developed too with the coming of the railroad. These places opening up at fairly regular intervals along the routes or projected routes in the western half of the study area to collect the agricultural produce. In the eastern half of the study area, settlements are regularly spaced, for the most part, along the railways; however, away from the rail-lines, settlements tend to be irregularly spaced, reflecting the economic activity there which is based on less productive agricultural land. Measurements made from Map 2 indicate settlements to be approximately ten miles apart in the western portion of the study area and twelve to fourteen miles apart in the eastern portion.

With later adjustments in agricultural activity to dairy and poultry farming a road network became important. Virtually all settlements in the study area is within ten miles of a major road. Many of the area's dairy farms are located on or very near major roads, mainly because milk truckers would not take new and better equipment off the main roads. Similarly, poultry farmers required easy access to dressing plants and also

located along main roads. These activities also produced some minor adjustment to the system of land subdivision as both dairy and poultry farmers require plots of land smaller than the quarter section.

While agriculture dominated the settlement process, other forms of economic activity developed which served to reinforce the pattern of agricultural settlement and to a lesser extent added to it.

Forestry. The forestry industry did not become important until the late 1890's, probably for one main reason: the absence of an adequate labour force to work the logging and milling operations.

Up until the mid 1890's very few settlers ventured into the eastern half of South-Eastern Manitoba. Even with the completion of the Canadian Pacific Railway in 1881, little settlement took place.

It was not until the mid 1890's and early years of the Twentieth Century that the French moved into the Lac du Bonnet area, and Ukrainians, Poles and Germans immigrated to the Whitemouth, Brokenhead, Lac du Bonnet, Stuartburn, and later the Piney, areas that the population necessary to engage in forestry was present.

With the arrival of the Ukrainians, Poles and Germans, an economy based upon both agriculture and forestry took root. With these activities came more rail-lines such as the Manitoba and South Eastern Railway from Winnipeg to Sprague in 1900, and the National Transcontinental Railway through the central portion of the study area in 1910. The Manitoba and South-Eastern stimulated settlement at Woodbridge, Badger and Vassar. To these points agricultural and wood products could be brought for shipment to Winnipeg. This line

also gave settlements such as Ste. Anne des Chenes, La Broquerie and Lorette a rail connection. The National Transcontinental stimulated settlement of Medika and Elma, and provided the existing settlements at Dugald and Anola with a rail connection.

Later, in the 1920's, the pulp and paper industry came to the study area with the establishment of the Manitoba Pulp and Paper Company at Pine Falls.

The 1920's witnessed the end of the era of massive agricultural settlement and South-Eastern Manitoba had to look to development of other resources and new industries such as the pulp and paper industry to further its economic development. Recreation and tourism was one area.

Recreation and tourism. As early as 1881, the residents of Winnipeg who had sufficient wealth realized the recreation potential of the Lake of the Woods area. The opening of this area depended upon the completion of the rail line to Kenora. It was prior to World War Two that trains were taking vacationers to the Lake Winnipeg area. Following the Second World War, the demand for recreation sites in the Whiteshell area increased.

A few settlements developed in these areas to serve tourists and vacationers. Falcon Beach and Whiteshell in the Whiteshell Forest Reserve, and Victoria Beach on Lake Winnipeg. Other settlements such as Grand Marais, Beausejour, Whitemouth and Rennie,originally founded on some other activity, now derive part of their livelihoods from the tourist industry.

The impact of recreation on new settlement has been relatively minor, but it has helped to reinforce many existing settlements and it remains an important economic endeavour in the study area.

Other economic activity. Other economic activity, such as mining and hydro-electric power generation have also added to the settlement pattern in minor ways.

Mining has not been particularly significant, with the exception of Garson, in stimulating settlement. This is probably the result of an absence of valuable metallic mineral deposits. Non-metallic minerals such as gravel, limestone, and granite are present however, and are used in the construction industry or for decorative purposes. These activities focus on existing settlements.

In the early 1900's, immigrants came to the Winnipeg River Area as construction workers on the hydro-electric plants at Pinawa, Seven Sisters Falls and Pointe du Bois. After completion of these plants many workers stayed on to homestead nearby lands.

Other activities such as manufacturing plants have located in South-Eastern Manitoba. These however, have tended to locate in the existing settlements such as Beausejour, Steinbach and Sprague.

The pattern of settlement is now fairly well established; it was well established in the 1920's with the end of the agricultural settlement area. New settlements or adjustments to existing settlements as a result of forestry, recreation or the Provincially sponsored settlement projects of the 1940's and 1950's has been minor in comparison.

Economic Activity and the Planning Process.

The foregoing analyses of the influence of economic activity on the settlement process suggests a number of considerations which can be useful in a planning situation:

an apparent agricultural ethic, service centres, time of travel and socializing pattern.

Agriculture as a norm. It was stated earlier that no sector of the economy has influenced growth and development of the settlement pattern to as great an extent as has agriculture. The influence was formidable and continues to be. In 1961 and 1971, agriculture accounted for 43.7 per cent[19] and an estimated 40 per cent,[20] respectively, of the total labour force in the study area. In the light of this and the earlier discussion on agricultural influence on settlement, the question of why arises. Why was, and is, agricultural activity apparently held as a norm? Part of the answer is simply a matter of the historical development of South-Eastern Manitoba; but part of the answer would seem to lie in human values toward agricultural use. Some exploration of the question of agriculture as a norm will be useful in coming to an understanding of these values. It may also shed some light on why agriculture, in all probability, will remain an important aspect in any plan for the study area.

There are a number of likely reasons why agriculture was and is held up as a norm.[21]

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[19]Calculated from Dominion Bureau of Statistics data provided in the East-Man. Regional Development Study; see John E. Page and Mario E. Corvalbo, East-Man. Regional Development Study (Manitoba: East-Man. Regional Development Incorporated, 1970), Appendix B, Table V, p. B10.

[20]Percentage was estimated from 1971 Statistics Canada publication. Organization of the data did not appear comparable to 1961 data; therefore, a best estimate was made.

[21]Much of the discussion about agriculture as a norm is based upon: Harold L. Wilensky and Charles N. Lebeaux, Industrial Society and Social Welfare (New York: The Free Press, 1967), pp. 56-58.

In the first instance, and probably most important to early settlers, there was a sense of permanency. The farmer had the land and he established ties with relatives and friends. Together they formed a close-knit group. In times when general economic conditions might be poor, the farmer still had the land and the strong personal ties to family and friends; these represented a source of constancy is his life. As a result, there was usually little need or little to be gained in moving elsewhere. In contrast, a factory worker might find himself unemployed and in the position of having to move to find work. In so doing, he might have to sever long-standing ties with a neighbourhood or community of family and friends. Thus in times of stress, the farmer could fall back on friends and relatives for continued support and assistance; the factory worker might not be so fortunate. It would seem that the agricultural community as an economic unit tended to be a much more personal and permanent organization then did the industrial community.

Closely connected to this sense of permanency was the affect of technology upon the agricultural community. Generally, technological changes served to cement the farmer's ties to the land because they tended to make his life and work easier and more productive: better strains of seed, chemical fertilizers and machinery to make planting and harvesting of large acreages easier are a few examples. Again, in contrast, technological changes took place in direct competition with the factory worker and often made jobs obsolete. This all too often required the factory worker to seek new training, or a job elsewhere.

The strong tie to the land, in terms of ownership, also gives the farmer a sense of control over his destiny.

The farmer's working hours and conditions were for the most part his own. The hours may have been long and the work at times back-breaking, but it was for himself and his family and to their direct benefit. The factory worker's hours and working conditions were dictated by the factory owner. Whether this sense of control, on the farmer's part, was real or imagined - it was probably a combination of both of these - did not really matter. What was important was that he perceived his lot-in-life in this fashion and it seemed to give him an edge over workers in non-agricultural activities.

Finally, Mumford suggests the following comparison:

> Agriculture creates a balance between wild nature and man's social needs. It restores deliberately what man subtracts from the earth; while the plowed field, the trim orchard, the serried vineyard, the vegetables, the grains, the flowers, are all examples of disciplined purpose, orderly growth, and beautiful form. The process of mining, on the other hand. is destructive: the immediate product of the mine is disorganized and inorganic; and what is once taken out of the quarry or the pithead cannot be replaced. Add to this the fact that continued occupation in agriculture brings cumulative improvements to the landscape and a finer adaption of it to human needs; while mines as a rule pass quickly from riches to exhaustion, from exhaustion to desertion, within at most a few generations: they are the very image of human discontinuity, here today and gone tomorrow, now feverish with gain, now drained and exhausted.[22]

Mumford's notion of agriculture might be considered somewhat euphoric inasmuch as cultivation of the land can be as effective as mining in destroying the landscape. It does have, however, a fundamental element of realty running through

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22 Lewis Mumford, The Culture Of Cities (New York: Harcourt, Brace and Company, 1938), p.150.

it and it certainly captures the essence of what the farmer probably feels for the land and the use he makes of it.

This brief foray on the question of why agriculture was and is held-up as a norm serves a dual purpose. In the first instance, it is an attempt to emphasize the importance of agriculture in the study area, as well as to partially explain this importance in terms other than the obvious one of financial gain. The second purpose, simply, is to provide a measure of insight into the question. With respect to the latter, a number of aspects stand out: a sense of control over one's destiny, a sense of permanency, strong ties to the land in both social and financial ways, and a sense of balance and harmony between man and nature. These are rather important elements to be aware of. If these elements continue to operate in the future as they apparently have in the past, agriculture will continue to play a major, influential role in South-Eastern Manitoba and as such it must be given due consideration in any planning effort in the study area. While changes in agricultural activity have occurred, these mainly have been adjustments as a result of changes in market conditions and technology. Agriculture remains a staple in the economy of the region and must be recognized as such.

In this context, one specific illustration of agriculture as a norm in the study area deserves attention.

From the early days of settlement in South-Eastern Manitoba, agricultural settlement had very slowly pushed into the forested areas. This movement was most pronounced during the depression and drought years of the 1930's. It has been suggested that this movement was not so much an interest in agriculture as it was a reaction to economic adversity elsewhere. It is interesting to note, however, that agriculture was the chosen endeavour, that agriculture in some way represented the thing to do, and that, perhaps, agriculture was a norm.

In a planning sense, this presents a couple of important considerations.

The first is that the agricultural settlement of forested lands was in a sense a return to a more basic way of life and perhaps it was a regression to a more basic need as per Maslow's hierarchy of needs. It was a means of survival. All striving to fulfill a higher level of need was abandoned because of a threat to the more basic need of survival.

Also implied, in this form of settlement, is some apparent feeling of security in possessing and being on the land. It is probable that there was some sense of control over one's destiny, as opposed to a trust in industrial society to provide the wherewithal for survival in the depression era.

In a planning context these things provide an awareness of the strong pull of the land, especially during difficult, economic times. It also indicates that a population, in times of economic stress, will regress to a more basic level of living in order to cope with that stress. This is not to suggest that the planner should place undue emphasis on these aspects of settlement because the depression related settlement of the 1930's is not likely to be repeated in any significant way. The availability of various forms of social welfare will minimize the need for specific action. Yet, there will be some individuals, proud and independent, who will decide to make it on their own and will return to the land to accomplish their objective. An awareness of what can happen and why it happens ought to help in anticipating and dealing with the effects of this action.

The second consideration is that the agricultural settlement of forested lands resulted in a great deal of agriculturally inferior lands being occupied. The same is true of Catfish Creek area, which, because of soil

conditions and drainage problems, was an unsuccessful attempt at government sponsored settlement. The point to be made is that market competition means that marginal agricultural lands cannot be farmed successfully, relative to the fertile soils of the western portion of the study area for example, so that they can be returned to land uses they might well have been left in originally. Implied is the return of the cultivated lands in the forest zone to forestry use or recreation and tourism. The Catfish Creek area might be allowed to return to a marshy state, or perhaps the peat that once existed there still exists in sufficient quantity and quality to justify a small peat extraction industry. Such an evolution might well be part of the task of preparing a plan for South-Eastern Manitoba.

It is to be made clear that the decision to return land areas to their original uses or to generate new uses cannot be made on the basis of historical development alone, but, it is important for part of the decision to be made on the basis and in the light of an historical perspective.

Service centres. While agriculture has produced some positive benefits to the study area, it has also had a negative influence on settlement.

At several points in Chapters 2 and 3, it has been noted that settlement in South-Eastern Manitoba is dispersed. The result of this dispersal has been a rather isolated way of life for the population, thereby tending to minimize the amount of social contact between neighbours. Much of this dispersal of population and the resultant isolation is due to agriculture, specifically, the cultivation of wheat requiring large tracts of land.

Technology, by providing better equipment, hardier strains of seed, and chemical fertilizer abetted agricultural in the dispersal of population by making it possible to cultivate larger and larger tracts of land. The need for social contact, part of the reason for the early form of river lot settlement, had been waived in favour of commercial agriculture and a more isolated way of life.

There were and are, however, correctives operating to offset the isolation.

Commercial agriculture generated a need for places where specialized services and skills could be had by those requiring these services and skills from time to time. Concentration on the production of wheat meant that other essential food-stuffs had to be obtained elsewhere. The technological improvements in farm equipment required the services of a person knowledgeable about such equipment. Such services and skills, because they could not be easily and efficiently moved or stored away, tended to be provided in central places, service centres that were reasonably convenient and accessible to all.

These central places or service centres also provided a location for schools, churches and other gathering places, which, periodically could provide some relief to the general isolation experienced by farmers and their families. The day-to-day isolation could not however be totally alleviated.

The advent and later the general use of motor vehicles did much to reduce this isolation. It was noted earlier that in the study area the service centres are ten to fourteen miles apart which today represents travel times of about twenty or twenty-five minutes. Travel times between neighbouring farms may be even less. Certainly, technological development in the form of the telephone did even more to reduce rural isolation.

Other correctives were operating too. Changes in agricultural activity from grain production to dairy and poultry products resulted in smaller parcels of land located along major roads. This has tended to bring some of the population in closer proximity to one another and provided relatively quick access to service centres. In addition, various ethnic groups, like the Mennonites and Ukrainians, because of their cultures, have tended to group in colonies or agglomerated settlements many of which became service centres.

If then, agriculture as a form of economic activity influenced time of travel, level of living and socializing pattern in particular ways, it follows that other forms of economic activity could produce similar effects. It also follows that knowing the effects engendered by forms of economic activity in the past, and what correctives operated to off-set these effects, can provide a base for anticipating future consequences of actions proposed to be taken in the present. Being able to anticipate consequences, we are in a better position to provide the means for alleviating negative aspects of those consequences. Such historical information would seem to be of value in carrying out a planning function in the study area.

Service Centres, while providing the opportunity for some relief from the rural isolation produced by economic activity in the study area, also provided a network of central places. These centres provided the frame over which much of the economic and social fabric of South-Eastern Manitoba could be drawn.

These nodes of settlement have evolved over the past 100 years, or so, in response to various stimuli. Over the years, many of these centres have declined in importance, their reason for being having disappeared. Other centres have continued to grow, some more rapidly

than others, to become relatively prosperous centres.

Steinbach, for example, became the trading centre of the Mennonite reserve, whereas Niverville, aspiring to be the trading centre, never developed as such. The reason was that the majority of Mennonites had to travel long distances to reach Niverville only to encounter a swampy expanse of land blocking their path. Steinbach took the advantage and prospered. Niverville, though on a rail-line as early as 1878, the swamp area drained in the early 1900's, found that its advantages could be offered only far too late to be deciding factors. Niverville had to content itself with playing a minor role.

Another settlement, Giroux, became important as a trans-shipment point for agricultural produce and other goods and services as a result of its location on a rail-line. It became a major milk collection station for its surrounding area, including Steinbach. With advent of trucks in the 1920's however, Giroux's milk collection function rapidly faded as did its population. Its reason for being had been removed and its importance waned.

The point of value here is having seen how the various agglomerated settlements came to be, and what they are today, a decision about which settlements deserve continued encouragement to prosper and which do not can be more knowledgeably taken. For instance, a decision to promote growth somewhere in the study area may be more easily taken and narrowed down to a few locations, if we know where the growth centres are today, how they came to be, and from this, how they might go in the future. Again, the historical perspective can offer some added insights to the decision-making process of planning.

Economic activity. Regional planning, being concerned with human activities over a defined space, is concerned

with economic activity. So, by reviewing the evolution of economic activity, observing its effects both positive and negative, and seeing what counter-balancing forces operated to minimize the negatives, we gain some insight into what the tendencies might be in the future. The exercise of developing an historical perspective, then, has value to the regional planning process and the choices that must be made in that process.

SYSTEM OF LAND SURVEY AND DOMINION LANDS POLICY

Like economic activity, natural environment and basic needs, the system of land survey and the Dominion lands policy influenced the pattern of settlement in various ways. And, like economic activity, natural environment and basic needs, the sytem of survey and the lands policy interacted with other factors to influence the situation.

Lands Policy

Policy and use of inferior lands. The Dominion Lands Act of 1872 had made the sectional survey the legal system of land survey. In Chapter 3, it was noted that only surveyed lands could be settled. By 1880, the western half of the study area had been surveyed, the area containing the most arable land. By 1901 the survey of the eastern half of the study area was complete and open to settlement. Unfortunately, this area was not totally suitable to agricultural settlement which did take place. It was a forested area and much of it was part of the rugged Canadian Shield. Areas of fertile soil were few and difficult to clear. Fortunately, up until the 1930's these features acted as deterents to settlement, retarding the process greatly.

In 1935 however, the system of free land grants, a system abolished in 1930 by the Manitoba government because it believed the system had effected a scattered settlement pattern and an isolated way of life, was re-instated. It was re-instated to help alleviate hardship brought about by drought and economic depression. The result was movement of population to the much inferior agricultural lands in the study area. The Provincial government had re-introduced free land grants without giving direction to where settlement could take place. The Province realized, too late, that settlement should not have been allowed to take place in some areas. The Government did institute surveys to make available information about the physical attributes of an area so as to better guide settlement. Much of this type of information was available through the diaries of surveys and it is unfortunate that it was not used when the free land grant system was re-introduced.

As discussed in the section on economic activity, these inferior and marginal agricultural lands cannot be competitive in the market place and can therefore be returned to their original uses or turned to appropriate new uses. This being the case, two notions of importance in a planning situation emerge.

The first is that policies and programmes which are designed to encourage growth and development of certain areas by promoting settlement and specific lands, ought to consider the consequences of similar undertakings in the past. By so doing, the consequences of the past can shed light on possible future consequences which might best be avoided. The result might be the abandonment of any policy or programme that will lead to a permanent mis-use of lands, an effect that may prove too costly to change once the error is known.

The second notion concerns circumstances that might dictate the adoption of an action that will, over the long run, produce a marginal or inappropriate use of land. In such an event, the consequences of the past would suggest the adoption of a system of controlled management and direction. Required in this system, is the relinquishment of such lands when the circumstances which originally gave use to the need no longer exist.

Use of survey data. Related to land use, is the use, really the lack of use, of information gathered by the surveyors.

Carrying out the land survey, surveyors also noted the characteristics of the areas surveyed. Matters such as soil condition, availability of water and timber, topographic features and general fitness of land for settlement were recorded by the surveyors. Although the surveyors could not agree on, and did not follow a common system of classification, a great deal of data about sections were available. Judging from the settlement that took place - in areas of poor soils and bogs - apparently little use was made of the information in guiding settlement on the land. It took Provincial and Dominion governments sixty years to realize that the lands policy effected scattered settlement without providing compensating factors to alleviate the resulting isolation, and that much of land that was settled might better have been closed to settlement.

Two points are important here. In the first instance it seems that more time should have been spent assessing the fitness of the areas intended for settlement. It might have prevented much unwanted settlement. The fact that such information was available through the surveyors' reports and apparently not used suggests that gathering the information is not enough; the dissemination of it is

necessary. Further, that such data should be used to prepare policy is apparent.

The second point deals with areas from which settlement should have been precluded. Bogs that proved difficult and costly to drain were such areas. Many of these were drained. What impact drainage of such areas had on wildlife habitats and aquifer recharge areas is unknown; but, such areas better might have been left alone, directing settlement to concentrate in other areas. Had this been done two things might have happened. Firstly, many of these natural areas might have been preserved, and secondly, the tendency to dispersal of the population might have been lessened, favouring instead more population concentrated in other areas. One advantage of this could have been savings in the cost of providing road, bridge and drainage facilities to a population scattered over the study area.

Looking back over past happenings should provide some valuable lessons for any plan that might be developed.

The first lesson is that the gathering of information, dissemination of that information, and use of it in developing policy is essential to bring about a rational use of land. The second is that before any area such as a marsh or bog, or a forested area is open to specific development, these areas be carefully assessed to determine the implications of that development. The lessons of the past indicate that this should be done. As well, they indicate the results of not so doing.

These lessons of the past are valuable inputs into the regional planning process which requires the gathering of information, use of that information in formulating policy and programmes, and finally, assessing the possible consequences of those policies and programmes.

Land reserves and land sales. Free land grants of 160 acres, with the opportunity of adding the adjacent 160 acres through a pre-emption policy was thought to be a necessary and attractive inducement to settlement. Sources quoted in Chapter 3 suggest that while this was true on the surface, the effect was to disperse settlers and isolate them. This was recognized by the Dominion government which cancelled the pre-emption policy on several occasions only to reinstate it several times. It was recognized too by the Manitoba government which cancelled the free land grant system in 1930.

Superimposed on this system were the land reserves, blocks of land set aside for special purposes. Land reserves were set aside for various ethnic groups, the railway, the Hudson Bay Company, and for educational purposes. Source material in Chapter 3 suggests that in 1877, of the 9,000,000 acres that was Manitoba, about fifty per cent was tied-up in reserves. The noteworthy point is that group settlement reserves effectively controlled a major portion of the study area with the greatest agricultural potential. The reserves were not necessarily an undesirable action by themselves. They did however, tend to add to the isolation generated by the free land grant system by further separating settled areas with large tracts of land unavailable to settlement.

More important than the reserves in dispersing the population was the sale of reserve lands owned by the Hudson Bay Company, the Canadian Pacific Railway and the School districts.

Most of the education lands were sold between 1910 and 1930 at public auctions. Settlers were afforded the opportunity to enlarge their land holdings, precluding an increase in population density. The same is true of

Canadian Pacific Railway land sales, only in a more direct manner. The Canadian Pacific Railway rarely sold land to newcomers, preferring to sell to already established settlers.

The wheat "boom", started in 1870's, and the concomitant need for larger tracts of land to produce quantities necessary to supply external markets, went "hand-in-glove" with the free land grant system and sale of reserved lands. Following closely was technology with its improved equipment and seed strains, making the cultivation of large tracts of land physically possible, and economically viable.

The effects of all this were three-fold: the creation of larger land holdings further dispersing population, the possibility of speculation through such land sales, and the lost opportunity of bringing in new settlers who might have offered the area something positive in the way of agricultural innovation or new culture. While some of the above effects are necessarily undesirable, the thing lacking appears to be some cognizance and care for the social and psychological well-being of the people.

As with the effects of economic activity, correctives were operating to better the situation. The road system connecting neighbours to one another and to service centres, the service centres themselves providing opportunities for social intercourse, technological improvements in the form of motor vehicles and telephone communication, and finally, the cancellation of the free-land grant system, all acted to reduce the isolation. These correctives were not planned however; they were not anticipated nor was there any sense of need to anticipate them. They came about as a matter of course, and were not necessarily the result of a conscious effort to minimize the consequences of

previous actions. This is something to bear in mind in any planning undertaken for the area. Again the past, in the historical development of the study area, reminds one to be aware of possible consequences of actions taken and provides valuable information on what might happen in certain situations.

Influence of Surveyors

Along with the unplanned correctives were planned attempts to overcome the effects of the sectional survey and Dominion lands policy. One such attempt occurred in 1917 in the Birch River area.

A planned community on the Birch River was proposed. The rectangle of the sectional system was to be replaced by diagonal or other types of road. The community was to have sites for school, commercial activities and a community centre. This project, along with others, was considered impractical by surveyors who professed the difficulties of devising a road system as economical as the one provided by the sectional survey system.

Two things can be noted from this. The first being a possible relegation of social concerns in the face of economic considerations. The second is potential influence of special interest groups when attempts are made to modify or change long standing conditions.

The value of this review of past occurrences to the planning process is two-fold. One the one hand, there is clear indication that economics will be a prime consideration in any action proposed and it must be dealt with adequately. However, it is also clear that there may be objectives to be achieved, providing gains, that may rival or exceed financial considerations. On the other hand, there is an indication of the influence of special interest groups or individuals. Implied is the importance of being

aware that such individuals or groups can, and in all likelihood will, participate in the planning process, for better or for worse. The planner then, being aware, can then prepare to deal with these individuals or groups, either in an air of co-operation or compromise, or in an adversary-like fashion.

A review of past history again helps in anticipating what might occur as a result of proposed actions.

Government Organization

In South-Eastern Manitoba, as with Manitoba in general, the rural municipality become the basic unit of local government. The township and county system of Ontario never become the units of government.

Ontario settlers, accustomed to the township and county system attempted to settle a township with their own kind, so that the density necessary to support and control schools, churches and public affairs might be achieved. The demand, by Ontario settlers, for efficient units of government, in order to raise public funds for such things as roads, bridges and drains, resulted in the County Municipality Act of 1877.[23] However, the county system that was introduced in 1880 was altered in 1884 to the rural municipality, a compromise between the township and the county.[24] "The Ontario township never became a unit of local government, and the county was too costly for a thin population to support."[25]

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[23]The discussion to this point is based on W. L. Morton, Manitoba: A History (Toronto: University Of Toronto Press, 1957), pp. 187-189.

[24]Ibid., p. 225

[25]Ibid.

The sectional survey resulted in townships too small, while the lands policy had resulted in too sparse a population, to support a township-county system of local government. The result was a compromise, the rural municipality.

The rural municipality encompassed several sectional townships, and respected the boundaries of reserves such as the Mennonite reserve, originally encompassing eight townships, now the Rural Municipal of Hanover.

Whether the rural municipalities were logical units of government or if the boundaries were reasonable choices is arguable. In most cases the boundaries were probably arbitrary and based upon population. But, as Mumford suggests, these arbitrary units probably worked well enough for the simple reason that any boundary, which delimits the area of responsibility and interest, is better than no boundary at all.[26]

Of importance to the planning process is the availability and capability of an administrative unit to carry out effectively a plan. The ability of rural municipalities to do just this is unknown and will in part depend upon the details and direction of any plan prepared for the study area. If government reorganization is indicated, it should take account of population, as it did in the past. Additionally, it must consider the geography of the area, community of interest, location of growth nodes, economic activity and financial capability, among other matters.

In addition, this review suggests that there may be specific groups, like the Ontario settlers, accustomed to certain systems of government by tradition, who must be given consideration in establish units of local government.

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[26]Lewis Mumford, The Culture of Cities (New York: Harcourt, Brace and Company, 1938), p. 309.

The planner ought to try to assess and accommodate expressed preferences in the light of existing circumstances and those circumstances are thought should prevail.

To summarize, this review illustrates how the system of land survey and the Dominion lands policy influenced the settlement pattern: the dispersal of population and the isolated way of life, the inappropriate use of land, the influence of special interest groups, and the importance of gathering information at an earlier stage and then making use of it. In each case it has been shown how the knowledge and understanding gained from a study of these results can enter into the planning process.

ETHNIC GROUPS

The system of land survey and the Dominion lands policy had set the scene for a dispersed pattern of settlement and consequently an isolated way of life for many of the settlers. As noted in previous sections, correctives were operating to neutralize these effects. The various ethnic groups who came to South-Eastern Manitoba were one of these correctives.

The French and Metis clung to the long river lot system to which they were accustomed. Ontario settlers passed over the prairie land in favour of river front sites with stands of timber because this was the type of environment they experienced in Ontario. When the time came to settle the prairie land, these Ontario farmers accustomed to a pattern of dispersed farms focussing on service centres, probably adjusted well enough to the dispersed pattern of settlement. The Mennonites arrived in the mid 1870's and established nucleated settlements, agricultural villages, within the framework of the sectional survey. In the mid 1890's came the Ukrainians who settled in

compact colonies, partly because they were accustomed to very small parcels of land. Later though, many of the Ukrainians acquired 160 acre tracts of land.

All of these groups settled the land in accordance with their traditions, preferences and experiences inherent in cultural backgrounds acquired elsewhere. As Wagner puts it:

> Cultures differ. As they differ, so the Symbolic contexts in which men live and think and act will differ, and so the behaviour of men will take particular farms for each cultural troup...
> ...The patterning of sites of activity and routes of movement then tend to be characteristic...
> ...The net of sites and routes that marks a habitat of some distinct group of humans is produced by a manner of utilizaiton and modification of environment that is distinctive of that group.[27]

These ethnic groups did modify their environment in ways that were distinctive to each respective groups.

It is not, in any way, implied here that this was a deliberate and planned reaction to the sectional survey or lands policy; only that it did operate as a corrective to the dispersed pattern of settlement. The implication for the planning process however, is that people will respond to a situation natural or artificial, in a way that is characteristic of their values, preferences and experiences. It would seem appropriate then to come first to some awareness of these values and second, to find out how these values operated in the past and what consequences ensued. For instance, through

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27 Philip Wagner, The Human Use of the Earth (London: The Free Press of Glencoe, Collier - MacMillan Limited, Paperback Edition, 1964), pp.36-37.

this exercise it may be discovered that certain groups have not been receptive to certain practices in the past and that some special strategy might have to be developed as part of the planning process to win them over to a particular way of thinking, assuming this is desirable. In fact, a review of the historical development of the study might suggest what form the special strategy might taken. The adherence of the early settlers to river-lot settlement is an example.

Meeting their basic needs held the early settlers to the river banks where the needs could be satisfied. In addition, they had passed over the prairie land believing there to be no economic future on the prairie, let alone any means of surviving out there.

In 1874 the first group of Mennonites arrived and began settling what is now the Rural Municipality of Hanover. They established their agricultural villages, fueled their stoves with cow and buffalo dung and twisted grass, and introduced the practice of summer fallow. They had come to a new habitat, remarkably similar to the one they had left, and knew exactly what to do with it. Here was a practical demonstration of the possibility of living away from river fronts. What was needed was a further reason to forsake the river lot system. This came in the form of wheat in the late 1870's.

Although Mennonite settlement on the prairie did not itself result in a movement away from the river fronts, it did dispel misconceptions about the prarie lands. In so doing, it made the move to prairie settlement easier and more rapid than it might have been otherwise, when the economic incentive finally emerged.

This example of what was needed to effect prairie settlement, might suggest to the planner the need for a similar demonstration to bring about change in attitude or belief toward specific practices. Such a demonstration would be a planned one however, to show clearly the feasibility of a proposed action and the benefit to be realized. This pilot-type project might also provide the means of involving those persons most skeptical and eventually winning them over to activity in the desired manner.

Finally, this review of the role of ethnic groups in the development of the study area emphasizes that we are not dealing with a single-minded, homogeneous group; rather, it is a mosaic of cultures. They may have common interests, but very different ways of handling those interests. They may also have dissimilar interests, but common ways of dealing with these. This tends to complicate the planning process. Speaking about the environment surrounding planning, Davidoff and Reiner[28] postulate, in part, that individuals have preferences and behave in accordance with them; that there is variation in preferences; and the fact that individuals do not appraise things in a similar fashion complicates the allocation problem in society.

That the people who come to South-Eastern Manitoba behaved in accordance with cultural preferences is apparent. That these preferences have been modified from the original is likely. That these preferences did and do influence actions dictates their consideration in the planning process. The historical perspective then is of value in providing insight into what were these influences, how did they affect the situation and what might be anticipated

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[28]Paul Davidoff and Thomas A. Reiner, "A Choice of Theory of Planning", JAIP, vol. XXVLLL, No. 2 (May, 1962) 104.

in the way of future consequences from a decision taken now.

TRANSPORTATION

Accessibility, to homes, to places of work, to markets - local and external, to service centres and to neighbours, was as important to the early settlers as it is to present-day inhabitants of South-Eastern Manitoba. Transportation modes and routes in the early days of settlement, as now, provided the basic means of accessibility to those things. These modes and routes are and were the basic linkages which bind together the social and economic activities in the study area.

Transportation, in the form of rail and roads, has influenced the settlement in a number of ways. The nature of these influences and their value to the regional planning process is discussed below.

Competition: The Role of Transportation

Of the ways in which rail and road transportation influenced settlement in South-Eastern Manitoba, the area of competition stands as one of the most important.

In 1871, the Dawson Trail, the all-Canadian route for intending immigrants to the West, was opened. It was established to do two things: to stimulate settlement in Manitoba and to inhibit the passage of prospective Canadian immigrants through the United States which provided the preferred routes. It was ineffective in both, but it is the second purpose that is of interest.

The Dawson Trail was intended to attract settlers away from the United States routes, where American land agents often persuaded the settlers to remain in the United States. The Trail then was established to compete with the American routes. However, the Canadian route, over which a settler often lost his belongings, often did not have enough

to eat and which entailed cart treks and a 310 mile journey over water and portages, could not compete. The two American routes; one all rail, the other water and rail, were relatively safer, more comfortable and probably faster.

The point here is, to compete, alternate goods or services must offer at least the same advantages and opportunities as established goods or services. In terms of transportation, the Dawson Trail did not do this. Of note for the study area is that in order to induce economic and social growth, the road and rail links necessary to promote that growth must be put in place and they must be as good, if not better, than those in other areas.

In a like vein, transportation in the form of the railway allowed the Manitoba economy to compete with other areas for external markets.

In 1876 and for a few years following, surpluses of wheat were being produced. The largest markets were in Eastern Canada and overseas. Without a connection to these markets, Manitoba in general and the study area in particular could not compete with other wheat producing areas and would be consigned to a subsistence economy. This, with the construction of the Canadian Pacific Railway, the economy of the study area, along with other areas of Manitoba, was able to export large quantities of wheat to external markets, compete for those markets, and enter the arena of commercial agriculture with the concomitant opportunity for a higher standard of living. So it was a combination of land capability, economic opportunity and transportation which provided the necessary ingredients for market competition and the possibility of a better standard of living. All of this relates to two things.

The necessary ingredients for economic growth seem to be a resource to be exploited, people who recognize the potentialities of the resource, a technology capable of developing the resource, and an appropriate means of connecting the resource site to the marketplace. The second is that the appropriate link between areas of production and consumption or between markets and areas of production and consumption is crucial to the success of the economic endeavour. Without the link, the resource and the market for that resource remain only potentials which may never be realized. However, as Wagner[29] points out, the provision of an appropriate link is not a guarantee of success. If an area does not possess the physical and economic potential necessary for the production of a commodity, the transportation link may do little to improve the situation. The relationship between transportation and other elements basic to economic development is a reciprocal one.

A regional plan intent on bringing about economic growth in one or more activities must consider the ingredients necessary for economic development. While there may be other considerations in the present, like the availability of labour and capital, the historical development of the study area points out many of the necessary conditions, how they come together in the past and the role of transportation as one of these conditions. This in turn show the effects in the past, the effect on standard of living for example, which provide the means of anticipating the consequences of similar actions taken in the present.

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29 Wagner, op. cit., pp. 132-133.

Transportation and Settlement

In Chapter 3, it was noted that rail transportation both followed existing settlement and promoted new settlement.

The railways that were established attempted to bring settlers and wheat production areas to within ten miles of the lines; the maximum hauling distance for the farmer being twelve to fifteen miles. Settlers located in areas where rail lines either were projected or already existed. Villages and hamlets sprang-up at fairly regular intervals along these lines.

The existence of many agglomerated settlements initially depended upon their rail line location. They were collection points for various agricultural and forest products intended for rail shipment and their survival depended upon remaining so. Settlements like Otterburne, Niverville and Giroux grew initially because of their locations on rail lines.

Otterburne was on a rail line in 1878 as was Niverville. Niverville had aspirations to be the trading centre for the Mennonite Reserve. A store, hotel and grain elevators came into existence. But, a large expanse of marshland separated Niverville from the majority of Mennonites in the Reserve. As a result, Steinbach took the advantage and grew with the help of enterprising merchants. Niverville never developed into the large trading centre it had hoped to be.

Steinbach however, was not on a rail and therefore freighted wares from Otterburne and grain from the Reserve was shipped to Otterburne. In 1900, a railway from Winnipeg to Sprague to Minnesota was completed. The settlement of Giroux grew in importance. The distance to Giroux

was less than half the distance to Otterburne, so the merchants of Steinbach began doing business in Giroux. Otterburne's importance diminished. As well, Giroux became important as a milk and livestock collection station, the milk and livestock being shipped by rail to Winnipeg. With the introduction of trucks in the 1920's however, proximity to roads became more important to milk and livestock producers. The trucks allowed direct shipment of these products to Winnipeg. The need for rail shipment was eliminated. As a result, Giroux declined in importance.

Emerson was another growth centre hopeful in the late 1870's and early 1880's.

Established in 1874, Emerson soon began to think in terms of becoming a port of entry to Manitoba and the North-West. It would soon have a rail link to St. Paul, Minnesota. The town began working to obtain a rail charter. Emerson was rapidly subdivided. A bridge was constructed across the Red River and the town incurred a large debt for the construction. The rail charter was disallowed in 1882, it becoming increasingly apparent that Winnipeg was to be the rail centre for the west. The Emerson "boom" came to an abrupt stop.

Many settlements were like Giroux, Niverville and Emerson, and some were like Steinbach which continued to grow, even in the absence of a rail line.

A number of matters in the discussion thus far are of relevance in a regional planning situation.

People tended to settle in areas where rail lines were projected or where such lines already existed, and later, where there were roads. The hint here is if elements of the infrastructure necessary to support habitation in an area are provided or projected, development

of that area might take place. Whether the settlement is desirable, in terms of the land use activities and consequences of those activities, is another question. The answer can only be measured against a desired plan of action and the objectives to be achieved through that plan.

There was no overall, co-ordinated plan for South-Eastern Manitoba. Lands policy, natural resources, economic activity and technology interacted at various times, in varying degrees, to produce scattered settlement in most of the area, concentrated settlement in some parts, settlement of inferior lands in others, and cumulatively, much non-settlement. Transportation routes were superimposed on these other factors and added to their effects.

The lesson of note for any planning venture in the study area is that while an element of infrastructure, like transportation, might be provided to meet a specific development objective, it might also have some unexpected result such as the settlement which took place in South-Eastern Manitoba. This is not to say that this was necessarily good or bad, only that it happened, and knowing this may help in anticipating the consequences of planning future transportation routes. It also points out the need to carefully direct the establishment of a route toward a desired goal while at the same time to prescribe actions which will prohibit or minimize unwanted side-effects.

A second matter of importance is that both rail and road stimulated growth in some settlements for a period of time, later shifting the growth stimulus to other settlements with new routes. The first-mentioned settlements often declined in importance as a result.

The obvious occurrence here was the scattering of growth potential, raising hope and expectation one moment, dashing these in the next. In each case, substantial outlays of time, energy and capital was required, and all too often wasted. This produced little in the way of benefit to the study area as a whole.

Today, in South-Eastern Manitoba there exists a large number of settlements of various sizes, mostly small, in various stages of development. Many are capable of competing with the others should the opportunity arise; for what period of time and to what benefit for the entire region is open to question. The squandering of growth in the past suggests that not all of these centres can or should be encouraged to grow. Many of these have lost their economic reason for existence. Investment funds are normally limited and must be directed to where the greatest benefit will accrue to the greatest number, to the betterment of the region generally. Knowing how many of the settlements came to be, what purpose they served and what purpose they serve now, makes it easier during the planning process to decide which settlements deserve continued encouragement to grow and which do not; is it the Girouxs and Otterburnes or is it the Steinbachs.

Finally, several rail lines cross the study area. Originally located to bring agricultural production areas to within ten miles of the line, this principle of rail location hardly applies to today's situation. The truck and the tractor with piggybacked grain hoppers have replaced the horse and wagon for hauling produce to collection stations. The movement of products can now be done faster, over greater distances and done with economy. In

reverse, the motor vehicles available have made it possible for production areas to be located at distances greater than ten miles from the collection station or market. If greater distances between production areas and rail shipment points is economically feasible, then a question arises about the need for all rail lines and spur lines. What lines are absolutely necessary to the study area in economic and social senses requires far more study than is provided here. It does appear however, that a rail line like the Greater Winnipeg Water District Railway might be considered for a dual role. As well as providing the means of maintaining the aqueduct to Shoal Lake, the line might also be used as a recreation corridor. It might also provide transportation for vacationers bound for the Whiteshell areas. The latter would have to be evaluated in the light of competition from the automobile. In other cases there may be lines which could be abandoned and their rights-of-way converted to other uses, natural or artificial.

Thus, the value of this review of the role of transportation in the settlement process is not the determination of an answer to the question of rail line abandonment, but rather, it is in the fact that the question is raised that the value lies.

As with the role played by other factors in the settlement process, the historical perspective on transportation provides some insights into what has occurred and what might be expected to occur in the future. Again, the value to the planning process is in helping to anticipate future consequences of actions that might be proposed in a plan for the study area. As well, the transportation review has raised questions to which answers should be sought as part of the plan preparation. Such answers might lead to modifications in land use and improved growth patterns in the study region.

TECHNOLOGY

As noted in Chapter 2, technology is understood to be the means by which material things are produced, or the means by which some endeavour or activity is carried out.

Technology, in the form of implements and machines, has come along to support most human endeavours in the study area. It has interacted with and reacted to various needs to influence the development of the study area.

In South-Eastern Manitoba, technology has probably had its greatest influence in the areas of agriculture and transportation. Taken together, these have affected the settlement pattern, the level of living and the degree of isolation experienced by the region's inhabitants.

Innovations in Agriculture

While the attitude of the first settlers tended to preclude settlement of the prairie lands, it was also true that they were ill-equipped to so do. Their wooden ploughs faired poorly in the prairie sod, seed strains were not sufficiently hardy or did not do well in the growing period available. Even with the strong economic incentive provided by the wheat market, the cultivation of the grasslands would have been slow and difficult had it now been for the development of the steel mouldboard plough and the introduction of Red Fife wheat in the period of early settlement.

Technological innovation took place rapidly after this to accommodate the expanding wheat market and the set-

tlers' desires for larger land holdings and greater yields. The result was more rapid and powerful machines, better strains of seed and the introduction of chemical fertilizers. These permitted the cultivation of large tracts of land, greater crop yields and the cultivation of marginal lands.

Technological improvements brought both benefits and disbenefits to the study area. On the one hand, technology provided the implements and machines necessary for large-scale production of wheat and competition in international markets. This helped raise the settler from a subsistence form of agriculture to a commercial form, thus raising his standard of living. On the other hand, technology had made it possible to farm agriculturally marginal lands. The population movement into the forested lands, described earlier, was an example. As well, technological development tended toward a lower population density because larger land areas could be farmed with little labour. The result was a reinforcement of the tendency toward rural isolation.

A couple of points are important here. In the first instance, it would appear beneficial, if an area is to be developed in a certain way, to evaluate the technology available in terms of its adequacy to support certain endeavours, and what might be done if it is not. Implied in this is the need for some assessment of the assets of the area. It has been suggested previously that some assessment of the potentialities of the study area could have been undertaken prior to settlement. Such an assessment might have been done within the framework of activities carried on elsewhere in similar environments. Once the characteristics of an activity is known, its development can be considered

in new areas wherever suitable conditions are found. Knowing what activities were possible in the study area, an evaluation of the technology necessary to undertake development could have taken place. The implications for settlement might have been addressed as well.

In the second instance, it is apparent that technology can develop rapidly to support human endeavours and even give new direction to these endeavours. The new direction may harbour both positive and negative aspects. It may increase the standard of living and at the same time tend towards a more isolated way of living, or bring into use lands which might better have been left alone; this was the case in the study area.

Because something can be done does not mean that it ought to be done. Much depends on the goals and objectives established for the development of the area. It is important to know then, what impact technology has had in the past in order to better anticipate the impacts of further technological advances. Their likely positive aspects, their likely negative aspects and what might be done to emphasize the positives and alleviate the negatives are all matters which can be better dealt with knowing what happened in the past.

Transportation

One of the areas of greatest technological impact was transportation, specifically the introduction of the motor vehicle. Technoligical advances in agriculture tended to push settlement farther apart; the motor vehicle tended to do the same and at some time pull it closer together.

Whereas the railway had tended to centralize transportation along a small number of main corridors, the motor

vehicle made it possible to penetrate most parts of the region provided some form of roadway was present. Also possible was the dispersal of people over a wide area simultaneously providing a means of quick and easy access to neighbours, places of work, social events and service centres when these were sought or required. This push-pull effect of the motor vehicle reinforced the dispersed pattern of settlement but had provided the means of alleviating the effects of isolation that had prevailed for many years. The motor vehicle, along with the telephone and postal service operated as a corrective to isolated way of life brought about by agricultural activity, lands policy and agricultural technology.

With the railways, agglomerated settlements established at fairly regular intervals of ten to fourteen miles along the lines. Settlements along the rail lines had been established with the principle of making it economically feasible to haul grain, milk and other produce to collection points. With the general introduction of trucks to haul agricultural produce over most terrain and over any distance that was economically reasonable, the principle no longer applied. The motor vehicle had changed this, giving new life to settlements that were not on a rail line, settlements like Steinbach. It was possible to bypass many settlements here-to-fore indispensible as points from which agricultural products were shipped to markets. Direct shipment of many agricultural products to markets was possible and more profitable with the truck. For instance, milk producers in the Winnipeg milkshed began to truck milk to Winnipeg. Many settlements were by-passed, like Giroux whose livelihood depended on its rail location and its function as a milk collection station.

Similarly, in recent years, many prairie towns and villages built around grain elevators have been declining. Grain collection points are being concentrated in fewer central places as truck transportation becomes more efficient and as the production of grain becomes more of a corporate business affair than an individual one.

As these towns and villages decline in function and in population, it becomes increasingly difficult to provide up-to-date community services. It also becomes increasingly difficult to justify any infusion of public funds into a declining centre, unless other factors are present which would dictate doing otherwise. Again, the question arises as to which settlements deserve continued encouragement to grow and which do not. Technological innovations, as with transportation modes, has brought into question the economic and perhaps social role of many service centres. A study of the historical development of the study area and the role of technology in that development can help in coming to some reasonable conclusions about the future of these settlements and the consequences for the region as a whole.

In general, looking at the future development of South-Eastern Manitoba, it would seem pertinent to undertake some study of prevailing technology, to attempt to anticipate new technologies and new markets. These new technologies and markets must then be assessed in the light of opportunities available in the region. The impact of applying new technology and markets to these opportunities must be part of the assessment. That there will be both negative and positive influences has been demonstrated in South-Eastern Manitoba. That correctives, in the form of technological advances, operate to reduce problems has also been demonstrated. If the study area is to develop in the

as a cohesive unit in which all parts are integrated to the general betterment of the area, these matters must be addressed in the planning process.

SUMMARY AND CONCLUSIONS: THE FUTURE, A DIMENSION OF REGIONAL PLANNING

"We enter the future through the gateway of the past".[30] And so, it is the future development of South-Eastern Manitoba that we now seek, having glimpsed the past through a study of the evolution of the settlement pattern. The format for discussion in this work generally has taken the form of responses to four questions, namely: what is the present situation? (Chapter 2), how has this situation come to be? (Chapter 3), what tends to be going on? (Chapter 4) and what ought to be going on?. It is the latter question with which we are now concerned. Having seen how things have come together and having some idea of the implications then, what is, and what ought to be, the future of South-Eastern Manitoba.

Applying the ecological planning method to the Potomac River Basin, McHarg states:

> Now this is not a plan - a plan is a determination to achieve certain goals, related to the power of society to accomplish these. No: this exercise seeks only to reveal nature as a working storehouse, with implications for land use and management.[31]

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30 Japanese proverb. Source unknown.

31 Ian L. McHarg, Design With Nature (Garden City, New York: Doubleday (Natural History Press, Doubleday and Company, Inc., Paperback Edition, 1971), p.127.

In the same vein, the discussion which follows is not a plan for the study area; it cannot be a plan. It lacks important ingredients, such as goals, goals that are inherent in the region and can be identified only by involving the residents of the study area in the planning process. Other ingredients are missing too. Things such as demographic characteristics, economic characteristics and service centre characteristics also must be brought into the process of preparing a plan. While the findings of the study thus far do not constitute a plan, like nature in McHarg's study they do represent considerations and implications for planning the future development of the study area.

The discussion thus far in Chapter 4 has provided insight into how the historical viewpoint can help in the process of anticipating consequences in the future resulting from a decision taken in the present.

Through a study and analysis of the evaluation of the settlement pattern in South-Eastern Manitoba, certain tendencies become apparent. Such tendencies may be desirable or undesirable.

An important task in the planning process is to identify the tendencies or trends of a particular system. It is equally important, if not more-so, to come to some decision about the desirability of continuing these trends. How to determine what is a desirable trend and what is an undesirable one is a difficult question.

In discussing the need for a proper therapy for human needs through settlement, Doxiadis touches upon the matter of past trends:

> In order to achieve this we have to find the balance between continuing the same order and solutions - which may be very wise -and changing them completely - which again may be very wise. The fact is that we need the past; also that, especially in our days, an increasing rate of change may be indispensible. We have to develop the ability to describe to what extent we will respect the past and to what extent we will change it.[32]

Without providing an apparent direct answer, Doxiadis has raised the critical question of how much of the past is to be maintained and how much is to be changed; that is, which trends are desirable and which are not. Whatever the total answer may be, part of it certainly is dependent upon a knowledge of the past and the forces acting there. Without this knowledge, trends cannot be discovered and consequently cannot be projected into the future. The planner has no way then of either perpetuating the system or redirecting it along another path.

More than this, it is seeing what has happened to date; what effects have been produced as a result of these forces acting upon one another. These effects provide reference points which in turn provide the means by which some determination of the desirability or undesirability of continuing certain trends can be made. Ultimately, it permits decisions to be made about what ought to happen. With this in mind then, what might be the

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32 Constantinos A. Doxiadis, Ekistics, An Introduction To The Science Of Human Settlements (London: Hutchinson and Company Ltd., 1968), p.404.

future of South-Eastern Manitoba?

Continuing the Trends

Discussion in previous sections of this Chapter centred on an evaluation of the evolution of the settlement pattern, how the factors shaping the pattern came together to produce certain effects and the implications of those effects. Through the evaluation process certain tendencies become apparent. Projecting these tendencies into the future, a particular picture of the study area, several years hence, emerges.

What can be expected in future years, if the past dictates the future, is pretty much what now exists. Certainly, minor growth will take place and minor modifications to the environment and land use pattern will take place, but basically the study area's position in the scheme of things will remain unchanged. The attractiveness of the area as a place to live and work will be no greater than it is now.

The present pattern of settlement will likely persist with minor adjustments occuring from time to time.

Population density in the rural, agricultural areas will decline as the trends toward technological improvement and large corporate farms continue. Some marginal agricultural lands will likely continue to be used with no concerted effort to return such lands to their original uses or more appropriate uses. One result will be a continued mis-use of some lands. Another will be a continued low population density because of the inability of the land to support a large population. The small population will be insufficient to provide

much in the way of market opportunities for nearby agglomerated settlements. These agglomerated settlements will find it increasingly difficult to survive unless other economic opportunities present themselves. Any decline in these settlements will result in a diminution of whatever social fabric exists.

Some agglomerated settlements will continue to grow. Others will continue to decline with changing transportation needs and technology. Settlements will likely continue to compete with one another, as they did in the past, without an overall strategy for economic development and growth. As a result, the tendency to scatter growth potential will continue, with minimum benefits accruing to the region as a whole.

Most settlements will probably receive some continued encouragement to live or at least to maintain their status quo simply because people live there and have ties to the community, and because expenditures have already been incurred to support life in the settlement. The tendency to spread available investment capital will continue.

Settlements in close proximity to Winnipeg will likely remain unchanged and may find it increasingly difficult to survive unless some effort is undertaken to redefine their role.

Individual industries will continue to locate in the region, wherever they choose. This is not necessarily bad inasmuch as it will provide employment opportunities and stimulate the economy. Without a co-ordinated plan for development however, such industries will do little more than provide sparks where fires are needed.

The tendency to greater use of the motor vehicle

for personal and commercial use will continue. Road transportation will continue to compete with rail transportation at an increasing rate. Rail lines or spurs will be abandoned and perhaps sold with the increasing competition. Trains will make fewer stops in the region as collection points for agricultural produce tend to be concentrated in fewer locations. Those settlements originally dependent upon their role as collection points will decline, their livelihood in jeopardy.

Increased use of motor vehicles will mean more roads and/or more improved roads. New routes or improved routes of circulation likely will attract people to settle along the routes. In many cases this settlement may take place in areas where it is not desirable, perhaps because of the possibilities of destroying natural features or creating new settlements which require services of various sorts. The region's growth and investment potential will be further discussed.

It should not be thought that the picture is entirely dismal. In spite of the sometime hap-hazard development of the area, it has survived and in some ways has not done badly. The area still has its agricultural base and its concomitant personal ties to the land. Agriculture as an economic activity will continue to provide growth opportunities for some time to come. The region still has its recreation base which can provide additional growth and development opportunities. The study area will continue to attract some industry which will provide scattered opportunities for employment and growth.

Overall however, the continuation of established trends does not augur well for South-Eastern Manitoba, not if betterment in economic opportunities and quality of living are the desired goals. The area is not likely to fare a great deal better in the future than it does now.

The future prospects of South-Eastern Manitoba, while not entirely negative when taken in the context of unplanned development, could be far brighter if many of these tendencies were redirected by means of a comprehensive plan to develop the area's potential in appropriate ways. This type of study - evaluation of the settlement pattern - provides some guidance in this regard.

What Ought to be Done

Again, this is not a plan, it is however, a set of considerations for the future development of South-Eastern Manitoba. It is an ingredient in any plan for the study area.

Settlement pattern and settlements. In earlier chapters much was said about the study area's sparse settlement and the reasons for that sparseness. Thus far, it has been portrayed implicitly as a negative characteristic. This is not necessarily so; it can and ought to be treated in a positive sense. Specifically, it provides the planner the opportunity to re-work and re-direct the pattern if that is the desired goal.[33] In this sense it should be considered a positive element in the preparation of a

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33 Page and Carvalho in their study of the East-Man region came to a similar conclusion; see John E. Page and Mario E. Carvalho, East-Man Regional Development Study (East-Man Regional Development Incorporated, 1970), p.6.

plan for the study area.

In dealing with individual settlements however, some difficult decisions must be made. In particular, a decision must be made about which settlements deserve continued encouragement to grow and which do not. This study of the evolution of the settlement pattern has shown that most settlements were established on the basis of transportation and economic considerations. Necessary short hauling distances meant several small collection points in order to ship produce to the market place. Such considerations are no longer as significant as they once were and as the study indicated many of the settlements have lost their reason for being. A plan for the study area must contain provisions which recognize the possibility of decline for many settlements or, at least, recognize the possibility of their remaining static in terms of growth. Not only must the plan recognize these possibilities, it must identify those settlements affected and devise a strategy to deal with a non-growth situation or a situation of decline. While this present study of the historical development of the study area helps in identifying some of the affected settlements, more information is needed. What function they serve today in an economic and a social sense must be looked at in more detail than was possible here.

Land use and natural environment considerations. A review of the historical development of the study area reveals that the natural environment has both limitations and potentialities for use by man. The historical record suggests that these have been misunderstood or ignored at various times; this should no longer be the case. An understanding of what the land is, and is not, capable of supporting is of

great importance to the development of a plan that hopes to improve the quality of life of the region's inhabitants and erase the mistakes of the past.

1. General land use structure. Based upon an analysis of the population distribution, physiographic regions, soil regions, pattern of economic activity, land capability, water resources, the location of rail lines and roads contained in this historical study, the study area tends to break-down into three general sub-areas.

The first is an area adjoining the City of Winnipeg. It extends outward from Winnipeg approximately twenty to thirty miles. This semi-circular area contains the largest portion of the study area's population, the best agricultural soils and is within convenient commuting distance of Winnipeg. This area ought to remain devoted primarily to agricultural use inasmuch as agriculture has been, and in all likelihood will continue to be a mainstay in the area's economy. While this sub-area might serve a dormitory function to Winnipeg, care must be taken to ensure that the dormitory function does not jeopardize the ability of this area to economically support agriculture activity.

The second sub-area generally occupies the central portion of the study area, extending the entire north-south length of the area. This area is generally characterized by a more scattered population distribution and by poorer soils. Economic activity includes a number of agricultural uses along with resource based industries. This area would appear to be best suited to further industrial growth, preferably in pre-determined growth centres; Steinbach is certainly one of these. Industries related to agricultural activities would appear to be prime candidates

for this area. As well, other manufacturing industries along with resource-based industries should be encouraged to locate in this area.

The third sub-area occupies about one-half of the study area, the eastern half. It is characterized by a very sparse population distribution. The northern half of this area is part of the Canadian Shield and the southern half is marshland.

Agriculturally speaking, this area contains unproductive soils. Economic activity in this sub-area include forestry products, and tourism and recreation.

Because of the physiographic features and the absence of any large areas of arable land, this sub-area's greatest economic potential is with tourism and recreation and resource-based industries such as forestry and mining. The natural beauty of this sub-area must be protected. Growth and development of the tourist and recreation industry, and resource-based industries, should be carefully managed so as not to spoil the natural environment. Settlement growth should be controlled in this area and related only to the economic activities located there. Pollution from recreational activities as well as other resource-oriented industries is a constant threat. The impacts of development must be constantly monitored and preventative measures taken to minimize damage to the natural assets of this area.

It is suggested that this rather broad framework can be used as starting point for the development of a more detailed plan for the study area.

2. Some specific land use considerations. In this section a number of specific land use issues are suggested for consideration in the development of a plan for South-Eastern Manitoba. These issues are not necessarily re-

lated one to the other, but they have arisen in the historical review of the area and ought to be addressed as part of the plan for the study area.

Earlier in this chapter it was noted that much land well might have been left out of use. The use of the less fertile soils of the forested areas for agricultural purposes in the 1930's is an example. It was also noted earlier that market competition means that marginal agricultural lands cannot be farmed successfully. Such lands then could be returned to their original use or some new use more in keeping with the characteristcs of the natural environment prevelent in these areas. Any plan for the area should incorporate policies to do this. While such policies might work a hardship on some people it would lessen the burden on the region and province as a whole and allow the resources and energies of the regional and province to be channeled to more productive activities. This approach would also make sense by recognizing and respecting the characteristics of the natural environment and encouraging land uses which are more in harmony with those characteristics.

In addition to this and in terms of the present, certain resource-based industries ought to be allowed to locate almost anywhere provided that when such industries no longer require the land, they be made to return the land as nearly as possible to the state in which they found it. Such a policy is desirable to further the economic development of the region and still retain the potential to preserve original, natural land uses.

As well as this, and somewhat related, is the drainage of swamps and marshes. In the past, several swamp or marsh areas were drained with little or no regard to the implications of such actions. These areas served as habitats for both animal life and plant life; many may also have served as aquifer recharge areas. The purpose and importance of these areas to man and the eco-system were not considerations when these areas were drained. That at least some of these areas, once drained, posed problems to settlement and development is obvious from the results of the Catfish Creek project. Had many of these areas not been drained and turned to agricultural use, population might have tended to be more concentrated in certain areas thereby reducing some of the dispersal that took place. As well, it is possible that the money eventually expended on roads, drainage, and bridges to serve a scattered population might have been better directed to other areas to the greater benefit of the study area as a whole. Any plan for the study area should prohibit further draining of swamp, marsh or bog areas without first a study of the implications of such actions. Such a study should deal with such matters as the need to drain the area, the economic gains to be realized versus the costs of drainage and development, the importance of the area to the natural environment and what will be lost in terms of diversity of environment, natural habitats, aquifer recharge areas, and aesthetics, all of those things which make up the less tangible wealth of the study area. While these things do not easily lend themselves to monetary valuations or to analysis by the scientific method, they must be addressed

so that as many issues as possible are put forward with as much understanding as can be mustered and the best possible decision made within the context of that understanding.

Another land use consideration arising from the analysis involves the rail right-of-ways and road allowances.

Many of the rail lines established prior to the universal use of the motor vehicle are now abandoned or relatively unused. It may also be that many of the road allowances established by the land survey are not now used nor will they be needed in the foreseeable future.

It may be possible then, and worthy of consideration, to attempt to assemble these presently not-needed rail and road allowances and turn them toward a different use. Specifically, these areas could lend themselves best to a development of a network of recreational corridors. This network could further the development of the study area's recreational potential. Such a web of interconnected corridors might be used by bicyclists and hikers and possibly motor vehicles if the potential for conflicts between the cyclists and hikers and the automobile can be eliminated and lead to such nodes as the Winnipeg River area, the forested reserves and the Whiteshell area. As well as providing the potential for an aesthetically pleasing diversion of the study area, the potential exists for the development of support services such as food and accommodation. Such support services might be provided by either the public or private sectors. The need for support services might also provide employment opportunities for some of the villages that are declining economically. It is also possible that the portion of the study area immediately ad-

jacent to Winnipeg may become part of that City's commuter-shed. Rail lines now abandoned may be used to transport commuters to and from Winnipeg.

Obviously the economics of this idea must be carefully analyzed. The cost of carrying-out the suggestion will be considerable and must be viewed as a long-term program. Whatever the economics, at present the idea seems a reasonable and desirable change in use of land from one which is obsolete to one that is functional.

Should such a land use change prove workable, one policy matter is crucial. The right-of-ways assembled must remain in the public domain; they must not be sold. With the rising prices of gasoline and vehicles, the day may soon be approaching that rail again becomes increasingly important for the transportation of goods and people. Public ownership of the network will ensure a relatively fast and inexpensive transition to a transportation use that might possibly be combined with the recreational function.

Transportation routes give use to another land use consideration. It has been shown that in the past, settlement tended to follow the transportation routes. As well, transportation modes followed settlement and give rise to further settlement adjacent to routes. It would seem that if certain elements of infrastructure, such as rail or roads and water and sewers are provided, development along their routes is a possibility. Whether this type of development is desirable or not ultimately depends on what is to be achieved in a plan for the development of the area.

Some development along transportation routes may be fine; the development of feed lots and dairy farms along major roads would seem to be a reasonable choice based on certain circumstances. If this use of the land, however, conflicted with objectives to preserve certain areas in their natural state, the choice might not be so good. Or, if the objective was to concentrate development in nodes rather than disperse it in a linear fashion, then development occuring along a service corridor would not be desirable.

The point really to be made is that transportation routes have dictated the direction of settlement in the past and can certainly do so now and in the future. In combination with other elements of infrastructure, transportation routes can attract a significant amount of urban-type development It would be wise then, to consider this aspect, and develop policies that will provide the control and direction necessary to achieve whatever objectives are set-out in the plan. The scattering of settlement and investment opportunities in the past has done little for South-Eastern Manitoba; it is not likely to do otherwise in the future.

In conclusion, land use policies are important in determining what areas are to be developed and in what manner. The results of past land policies - the reserves, the methods of land sales, pre-emption - have been to disperse population and to scatter investment opportunities and human energies. There must be adopted a system that controls and directs development in a way that respects the capability of the land to support certain uses, in a way that recognizes the limits and the opportunities of the natural environment.

Considerations for economic development. As with land use, a

number of considerations about the economic development of the study area have been revealed by the historical review.

The first consideration was touched upon earlier, but deserves repeating here. The influence and prominence of agriculture as an economic activity has been well documented. Agriculture has been and is a norm in the study area. While other activities may overtake and outpace it in the future, agriculture will remain an important ingredient in the economic structure of the study area.

Inherent in agriculture are some strong, human values - pride of ownership, close ties to a community of friends and relatives, some sense of control over one's destiny and financial gain - which ought not to be discouraged. Agriculture is an important ingredient in a plan for the development of the study area. It has been a large part of the economic back-bone of South-Eastern Manitoba for many decades. Its encouragement through a plan of development will provide not only a source of economic activity and financial gain which is beneficial to the area, but it will also provide a sense of continuity in the study area's development.

The second consideration, and perhaps the most important, concerns the future direction of economic development in South-Eastern Manitoba.

If the past is any indication, the potential of the region is not overly great. It is important then to make the most of what is has and what it can get to provide a benefit to the region as a whole. Economic development has proceeded haphazardly in the past with no unified effort to co-ordinate where it occurred to achieve the greatest benefits. The area has never been treated as an economic unit, but it must be treated as such if it is to

prosper in the future. To this end an overall planning strategy is needed.

Part of this strategy must acknowledge what has happened in the past. Factors, such as transportation routes and transportation modes, stimulated growth in some areas, only to shift this growth to other areas at a later time. Much time, energy and money was dispersed in this fashion with little overall benefit to the region.

Today, South-Eastern Manitoba is dotted with a large number of service centres. Most of these are small and their economic significance is debatable.. Only a few of these have historically maintained a relatively continuous growth pattern. What most of the settlements in the study area are today suggests that not all can or should be the focal points of the region's growth. If the study area is to evolve to a higher economic level than it now has, future growth incentives cannot be dispersed equally throughout the region. Such an action could only reinforce the present situation. Rather, the growth potential must be concentrated in a few centres, centres that presently have the infrastructure that can be added-to, to attract the desired growth opportunities. Investment funds, especially public funds, are normally limited and therefore must be directed largely to selected growth points to do the most good. A plan for the study area should do this, direct public investment to selected growth points and encourage the location of new industrial and commercial activity at or in close proximity to these points. From the review of this historical development of South-Eastern Manitoba, Steinbach stands

outs as a good choice for one of the growth centres. Lac du Bonnet is another. There may be other centres such as those identified by Page and Carvalho[34] - Emmerson and Sprague - which could be growth nodes.

Such a strategy of growth will require some difficult decisions and choices by the Provincial government. It necessitates making choices about priorities. Most, if not all governments, will prefer to disperse investment because it is politcally advantageous and popular to do so. Realistically, the plan cannot anticipate all future public investment to be directed to the selected growth nodes. As well as being politically unwise, it is impractical. Other areas will require investments for items such as roads, bridges, and drainge in order to maintain and perhaps improve what already exists. The plan, however, must encourage and direct the bulk of public and private expenditures to the growth nodes. The selected growth centres must be at the top of the list of spending priorities in order to do the most good for the region as a whole.

While directing growth to selected points, the plan must be flexible enough to accommodate growth elsewhere. There will be those industries such as the forest and mineral-based industries that will locate wherever the source of the raw material is, and there will be other industries such as manufacturers that for whatever reason will locate virtually anywhere in the region. These occurrences should not be discouraged; rather, they should be accommodated through the development plan. They represent investments in the region as well as providing employment opportunities and as such they should form part of the strategy for the development of the study area.

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34 John E. Page and Mario E. Carvalho, East-Man Regional Development Study (Manitoba: East-Man Regional Development Incorporated, 1970), p.26.

A third consideration concerns those settlements, the majority of them, that are not among the selected growth points.

As stated earlier, not all of the population centres in the study area are, can or should be growth centres. Moreover, many of these were earlier identified as declining centres, having lost their reason for being. Settlements such as Giroux and Niverville are examples. The question of what is to be done with these settlements must be addressed in the plan. Such an effort will require more study than is present here. An individual treatment of these centres to determine what roles they perform and what will be necessary in the way of investment to continue these roles, if that proves to be desirable. In general, however, it would appear that, for the majority of settlements, the plan ought to provide for stability or further decline. Many of the settlements in the eastern and northern halves of the region could play a supporting role in the tourism industry, thereby providing some economic opportunities. Others may continue as minor service centres to the agricultural industry, to what degree and for how long will have to be determined. Others, as mentioned previously, might serve a dormitory function, especially those in close proximity to the City of Winnipeg. These possibilities need to be explored further in preparing a plan for the region.

The plan should also recognize those factors which can affect the economic health of settlements, factors such as changes in technology, changes in economic activity and changes in attitudes and values. The plan should seek to monitor the situation over time with respect to the majority of settlements. Not all of them can be encouraged to grow or even to survive where there is no longer any reason

to do so. In such situations it becomes difficult to justify the provision of up-to-date community services or the infusion of public moneys to bolster a declining community at the expense of the region as a whole. As unpopular as they might be, these issues must be addressed in the plan, if the plan is to treat the study area in a comprehensive fashion.

Some considerations for transportation. In the past, transportation often led settlement and encouraged growth in various areas at various times. The settlers tended to locate where rail lines already existed or where they were projected. As cited earlier, this often led to a scattering of development potential. Transportation stimulated some settlements for a brief period of time, only to replace these in importance with other settlements at another period in time because of changes in transportation routes and modes.

The first consideration in a plan for the study area is that transportation routes and transportation modes are to be used to support the development and settlement of the region. No longer should transportation dictate where settlement and growth will occur; rather, it is to be treated as a back-up service to particular activities, albeit a necessary service.

Where new routes or changes to existing routes are planned, the implications for land use should be anticipated initially using the historical development of the area as the basis. Controls should be imposed to prevent undesirable or unwanted development in close proximity to the transportation routes.

Accessibility is another consideration. The plan must recognize the importance of accessibility to the development of the region. If the area is to compete for new industry, it must be able to do so effectively in providing good access to raw materials, finished products and markets. Good accessibility, however, is predicated on the existence of a

resource to be exploited. If the resource is not present, routes of access will do little to help the situation. The plan, then, must clearly identify the region's development potentials and then it must ensure that routes of access are in place to realize those potentials.

Some technology considerations. The historical review has shown that technology played a key role in improving the study area's standard of living; but, it also played a key role, especially in agriculture, in lowering the population density and allowing marginal lands to be brought into production. In effect, technology brings with it both negative and positive aspects. The plan for the study region, then, must recognize this dual role. The available technology must be investigated in the light of the region's development potential and the probable effects on the area's inhabitants, of employing a certain technology must be assessed. The negative aspects must be balanced with correctives just as the automobile and telephone tended to balance the insolation wrought by an agricultural technology that made possible the cultivation of large tracts of land by fewer and fewer people.

A second consideration is an assessment of up and coming technologies and their suitability for locating in South-Eastern Manitoba. There is at present a nuclear research facility in the eastern portion of the study area. In these days of the so-called energy crisis, it may be possible to attract other research, energy-oriented facilities to the region, thereby promoting the development of the region and providing employment opportunities. A plan for the study area should address this issue.

In general, technology should be treated carefully in a planning program. That potential exists to develop some aspect of the region does not necessarily mean that it ought to be done. It will depend upon the goals and objectives to be achieved. It will also depend upon the means being available to overcome any negative effects of a technology to be employed.

Some considerations related to human values. Many different groups settled the land in South-Eastern Manitoba. They did so in a way that reflected their cultural biases. The actions of the various ethnic groups in the past clearly illustrates we are dealing with a cultural mosaic. Since settlement of the area began, several generations have passed by; however, the enclaves of the Ukrainians, the Mennonites and the French still remain. While some issues may be common to all groups, ways of dealing with or reacting to them may be different. The actions of those groups in the past influenced the area's development in various ways. This suggests that they may do so in the future in accordance with their cultural values, however modified over the years. It is important then that the plan for the region take into account the values and attitudes inherent in the region to give the plan that is directed toward the needs and wishes of people. In addition, knowing how various groups reacted to new situations in the past will provide some insight and advance warning of how they might react in the future. This can be useful to the planner in developing a special strategy to overcome particular biases, if this proves necessary and desirable.

In addition to the cultural groups, those individuals and organizations influential in providing direction to the region's development. Various individuals and organizations- Hind and the surveyors - did this in the past. It is highly

probable that similar individuals and groups are at work in the study area today. In the preparation of the plan these should be identified in terms of their goals and objectives; their biases and their capabilities. Some of these may prove useful in lending support to the plan or in actually implementing parts of the plan. Some, too, may be negative and it would be well for plan implementers to be aware of these so that an appropriate strategy can be developed to deal with their biases.

A final consideration here concerns the basic needs of the population.

Obvious from the past is how people reacted initially to their environment, in a way that was designed only to meet their basic needs. It is logical to assume that certain basic requirements must be provided today, at least the means of acquiring the basic necessities must be provided. If one of the objectives of the plan is to be a pursuit of a higher level of living - it is suggested here that it ought to be, although this will depend on the wishes of the people - the means of meeting the basic needs of the people must be provided, through the plan. The concerns for mere existence must be minimized if the region is to develop further in an intellectual, and a community-minded way. The plan should draw the region in this direction, if this is what is desired by the people.

A final consideration. The plan for South-Eastern Manitoba should give attention to the government organization there; specifically, the capability of the existing local government system to implement the plan. Unfortunately, the historical review provides little in the way of conclusions that might be reached about that capability. The fact, however, that there was a great deal of competition between individual settlements for growth might suggest that the existing structure is too fragmented to co-operate in a regional

planning effort. Whether or not East-Man Regional Development Incorporated, a regional development corporation established in 1968, can implement a plan in a satisfactory manner remains to be seen. In any event, there is too little information available in this study to reasonably assess the situation. This will require a further study as part of the plan preparation. Such a study must be predicated on a philosophy of a local government system which will provide a sound basis for a reasonable assessment of the existing set-up.[35]

Concluding Remarks

The historical review of the study area revealed a number of trends. Some examination was made of the results by simply allowing the identified trends to continue. The conclusion reached was that a continuation of the trends would likely result in little change and little improvement in economic development and quality of life. As a result and based upon the analysis earlier in this chapter, recommendations were made about what should be done, this is, what should be included in a plan for the development of the region. The contention was and is that

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35 Such a philosophy might include the following: "...as clear and complete a distinction as possible between provincial and municipal responsibilities, with shared responsibilities kept to a minimum. ...boundaries and financial resources appropriate for carrying out its assigned responsibilities. ..., the internal organization ... should facilities the assignment of responsibility and accountability, citizen access and effective response to the preferences of local inhabitants. ..., this internal organization ... should also contribute to leadership, effective decision making and co-ordination of local government activities." See C. R. Tyndal, "Structural Changes in Local Government: Government for Urban Regions", Monographs on Canadian Urban Government - No. 2 (Toronto: The Institute of Public Administration of Canada, 1977), pp.3-4.

a plan for the area which incorporated the recommendations would result in more significant improvements than a mere continuation of identified trends. What ultimately happens, however, will depend upon the attitudes of the region's inhabitants and their elected representatives.

The purpose of this Chapter was to demonstrate how the knowledge gained through a study of the evaluation of the settlement pattern could be used in regional planning situation, assuming that such a process is going on in South-Eastern Manitoba. The analysis demonstrated that the historical viewpoint helped in the process of anticipating possible consequences in the future of a decision made in the present. The historical viewpoint provided a body of knowledge which demonstrated the past and present interrelationships between the forces - both man-inspired and natural - which shaped the study area. This in turn made possible the identification of trends. The historical viewpoint, by illustrating the results of those forces at work, permitted some assessment of the trends. All of this made possible the construction of a set of recommendations directed toward one goal, improving the quality of life in South-Eastern Manitoba. All of these, in some form, are parts of the regional planning process as defined for the purpose of this thesis.

That the information provided by this type of study alone cannot result in a comprehensive plan was clearly stated earlier. However, the information provided through the review of the evolution of the settlement pattern can form a part of the planning process as has been shown here.

The next chapter will deal with some general concluding remarks on the value of conducting such an exercise.

CHAPTER 5

CONCLUSION

The task with which this thesis began was the demonstration of the value of conducting a study of the evolution of a settlement pattern as part of the regional planning process; that is, the role that could be played by such a study in a regional planning situation. To that end, Chapter 1 set out the scope of the study in terms of the area to be studied, the time frame, and the factors to be considered in studying the evolution of the settlement pattern. Chapter 2 provided a description of the existing settlement pattern in terms of these forces influencing the settlement pattern identified in the first chapter. Chapter 3 examined the evolution of the settlement pattern in South-Eastern Manitoba in terms of those same forces. Chapter 4 set out the value of the information contained in the preceeding two chapters as part of the regional planning process. This required a pulling-together and analysis of the data in Chapters 2 and 3 to provide some insights into what has happened and then fitting these to a regional planning situation. The findings were then used to show how, in a regional planning situation, they could give direction to the future development of South-Eastern Manitoba. In this final chapter, Chapter 5, the effort is directed toward some general considerations of the value and importance of such an exercise to the planning process.

THE VALUE OF AN HISTORICAL PERSPECTIVE TO THE REGIONAL PLANNING PROCESS

"The first important idea to grasp in studying history is that in the world in which we live, the contours we accept as part of our modern world are in reality the outcroppings of layers laid down in the past."[1] When one approaches a situation from the viewpoint of history then, it soon becomes apparent that the present status of the situation had its roots in the past, that the present situation evolved over time. When the evolution of a situation such as settlement pattern is viewed over a period of time, it is not a set of unrelated and remote happenings that is seen. Rather, it is a series of happenings related to and dependent upon one another. It is a complex of elements that over time produced the present situation. By identifying the elements and understanding how they interacted, one can see what leads to certain pattern characteristics and trends can be discerned.

The historical perspective, then, "...answers the question "How did we get to this point?" and gives a good indication of the answer to "Where do we go from here?" "[2] The study of the evolution of the settlement pattern in South-Eastern Manitoba did these things. It provided a good description on how the present situation came about, which in turn provided the means by which

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1 Carl G. Gustavson, A Preface to History (New York, Toronto, London: McGraw-Hill Book Company, Inc., 1955), p.22.

2 Ibid., p.79

trends could be identified and projected into the future. More importantly, by seeing what did happen at certain stages in the evolution and knowing the final result, the historical review provided the grounds for recommendations about what ought to happen in the future.

In attempting to come to grips with the value of the historical perspective in the regional planning process, the question that should be asked and answered in this: Has the historical viewpoint been considered? In asking the question, one is asking for a review of the planning situation in the light of the historical development or evolution of a particular area. In other words, the present situation may be understood and what some of the implications for the future might be based on the present situation might also be understood, but in order to further evaluate in a comprehensive fashion the present and the future, it would be wise to review the entire situation in the light of the historical development of the area.

The value of this approach to the planning process has a number of facets.

In the first instance, it adds another time dimension to the planning process. To the present and future time elements is added the past. A review of the history of the area reveals what happened, how it happened and why it happened. This added dimension carries the potential to augment the planner's perception of an area and thus to bring a depth of understanding to the present situation that makes the future direction of an area a little clearer. If there is some understanding of a present situation and to it is added an understanding of the circumstances which gave rise to the situation, a more comprehensive basis for assessing the implications of a decision taken now

is presented. A comparison of similarities and differences in past and proposed situations is possible, and more probable conclusions about the future implications of decisions can be drawn. In other words, the infusion of the historical viewpoint into the regional planning process helps in the process of anticipating consequences in the future resulting from a decision taken in the present.

Another value of the historical viewpoint in the planning process concerns the notion of comprehensiveness.

Comprehensiveness in the planning process can mean different things to different planners who are dealing with different issues. But, a review of the literature leaves little doubt that the notion of comprehensiveness has been with the planning profession for some time and the idea of what is relevant to the planning process has been enlarged over time. Page, in treating the notion of comprehensiveness over time, discusses the data-gathering stage and at one point states:

> What has happened over the period has been an enlargement of the notion of what is relevant to the planner. From the topographic, geologic, soil, water and ground cover surveys of the landscaper and engineer, the information gathering for planning has ranged out to include the inner motivation and value systems of people themselves. There has been a gradual but steadily widening range of considerations needed in order to get a grasp of just what the planner has to deal with, what the administrator has to work out a policy for, what a national government must try to regulate, initiate or control.[3]

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3 John Edward Page, The Development Of The Nation Of Planning In the United States, 1893-1965 (Doctoral dissertation, University of Pennsylvania, 1965), p. 218.

To this widening range of considerations relevant to the data-gathering stage in the planning process, the historical perspective can be added. It adds another layer of comprehension to the planning process. Understanding not only the present interactions between man and his environment, but, also the interactions in the past and having seen the results, better conclusions about what should go on in the future can be arrived at. This enlargement of the notion of comprehensiveness to include the historical viewpoint, specifically, the evolution of the settlement pattern, is not a call to mirror the past in the future; rather, it is an attempt to broaden the outlook on the system for which a plan is to be prepared. Giedion suggests the following:

> ...we consciously examine the past from the point of view of the present to place the present in a wider dimension of time, so that it can be enriched by those aspects of the past that are still vital. This is a matter of concerning continuity but not imitation.
>
> For planning of any sort our knowledge must go beyond the state of affairs that actually prevails. To plan we must know what has gone on in the past and feel what is coming in the future. This is not an invitation to prophecy but a demand for a universal outlook... .[4]

So that by widening the time dimension through a review of an area's historical development the planning process is enriched with an outlook that is more comprehensive. The historical viewpoint serves to increase the breadth

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4 Sigfried Giedion, Space, Time And Architecture (5th ed.; Cambridge, Massachusetts: Harvard University Press, 1970), p.7.

and depth of the planner's knowledge and understanding of the system with which he is dealing. In turn, a better understanding of the possible future implications of certain actions is possible which can lead to the development of policies and programmes more comprehensively reflect the on-going reality. Chances of success are increased for those policies and programmes developed along these lines.

In summary, a study of the evolution of the settlement pattern of an area lends a new element of comprehensiveness to the regional planning process. The historical perspective provides a comprehensiveness not only through a broadening of the time frame but also through a broadening of the data base necessary to take rational decisions.

Finally, the historical viewpoint is of value in regional planning in that it demonstrates that there is a process taking place.

In many fields of endeavour, and most certainly regional planning is one of these, the emphasis has shifted from a static, straight line cause and effect viewpoint to a dynamic view based upon change. The tendency now is to think in terms of relationships, linkages and on-going activities rather than things, objects and items. Drucker suggests that this new view assumes process. "Every single one of these new concepts embodies in it the idea of growth, development, rhythm or becoming.[5] The idea of process then has become a basic part of the regional planner's thinking. It is expressed in terms such as interrelationship, interdependency, interaction, continuity and feedback.

The historical perspective provided by a study and analysis of the evolution of an area's settlement pattern clearly shows that there is a process going on in the present which had its beginning in the past. The historical

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5 Peter F. Drucker, Landmarks of Tomorrow (New York: Harper & Brothers, 1957), p.8.

viewpoint provides the element of continuity; the links which bind the present to the past. More specifically, it identifies the interaction between various elements which created certain pressures which operated to induce change to the evolving pattern. It helps to more clearly establish and comprehend the process that was on-going and has continued to the present. It thereby enables an assessment of that process in a planning situation to determine what, if any, correctives are needed to integrate the elements of that process in a better way.

Writing in 1934, W. A. MacKintosh stated:

> The history of settlement in Canada is not closed. Though the volume and momentum of pre-war settlement may never be duplicated, the margin of settlement will continue to move into new areas.... The areas which will be settled will not be areas of superior land but of marginal land previously passed by.... Here the costs of haphazard settlement are certain to be heavy. The difficulties of land selection and of land utilization will be greater.... Transportation and governmental services can be provided in the area of sparse settlement only at the expense of the mature communities with greater density of population. The need for the systematic planning and control of settlements, if heavy financial and human costs are to be avoided, is likely to be greater in the future than it has been in the past.[6]

Indeed some four decades later the history of settlement in Canada is not complete. It is interesting to note the costs and problems of haphazard settlement noted by MacKintosh. These are similar to many of the elements identified in Chapter 4 of this thesis.

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6 W. A. MacKintosh, "Prairie Settlement: The Geographical Setting", Vol. 1, Canadian Frontiers Of Settlement, ed. W. A. MacKintosh and W. L. G. Joerg (Toronto: The MacMillan Company of Canada, 1934), p.Xv.

If the mistakes of the past are to be avoided and those aspects of the past which are still vital continued, then indeed the need for the systematic planning of settlements is of prime importance. But only through a more comprehensive understanding of what has happened in the past to bring about the present situation, and only by assessing the implications of the past for the future can the regional planning process hope to avoid duplicating past mistakes and the accompanying costs, and thereby meet the need for the systematic approach suggested by MacKintosh. More importantly, only in this way can the regional planning process become more comprehensive and more reliable in its approach to the future. It is here then that a study of the evolution of the settlement pattern in a region enters into the regional planning process, and it is here that the value of such a study to the regional planning process lies.

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