

HURON TOWNSHIP

A STUDY IN GEOGRAPHICAL EVOLUTION

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A THESIS

submitted to the Department of Geography  
in partial fulfilment of the requirements  
for the degree of Bachelor of Arts.

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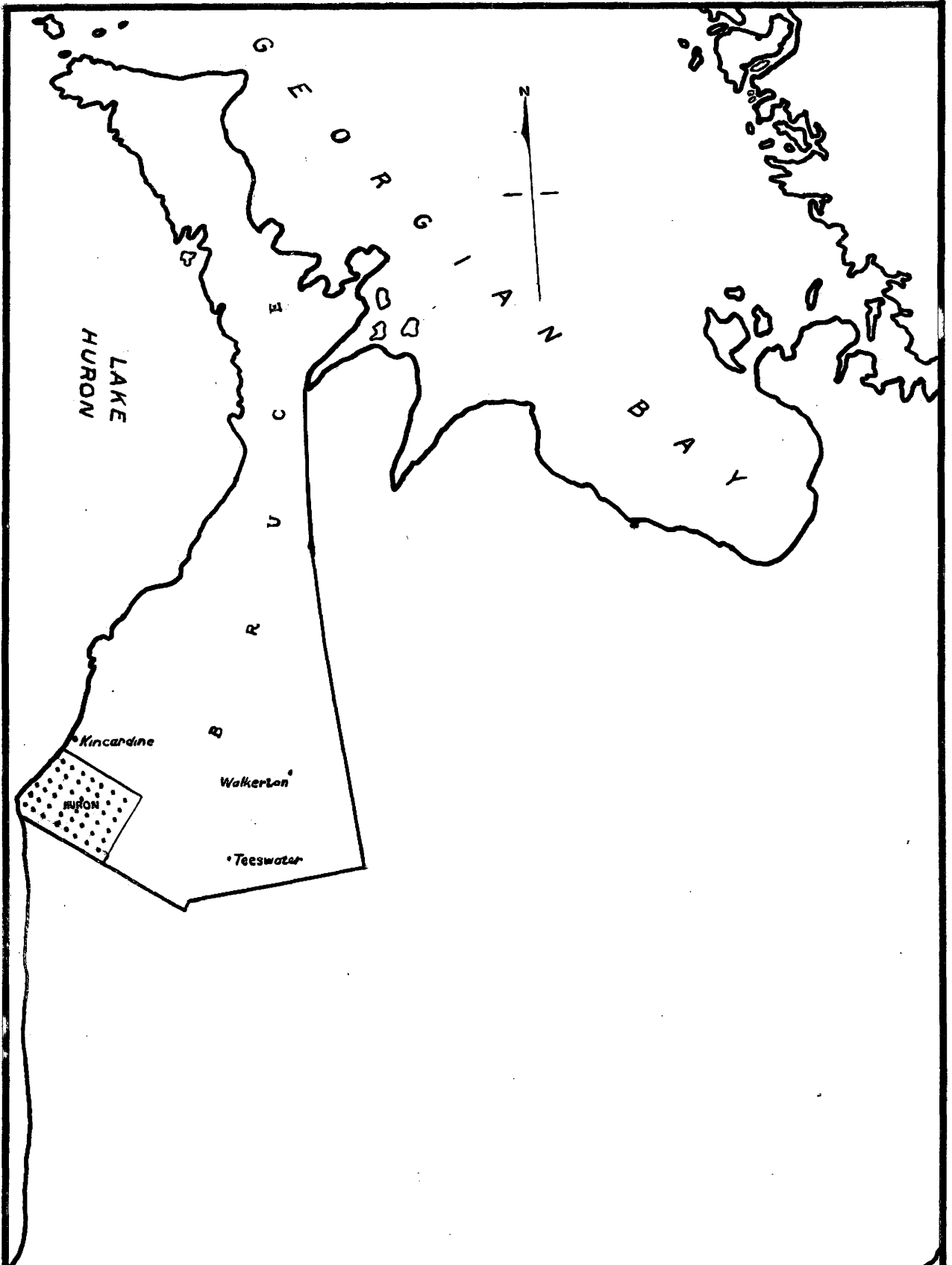
*L. G. Reads.*

## INTRODUCTION

The purpose of this theses is to present an Evolutionary Geographical account of the development of Huron Township. From the beginning Huron Township has been dominantly agricultural. The scope for industrial development has been very limited and so this study will be a treatise on the evolution of the township, from an agricultural point of view, from its beginning in 1851 up to the present day.

In order to get a true picture we must go back to the beginning and see in our minds eye the formation of the land, the coming of the massive ice sheets, the deposition of parent materials, the formation of the glacial lakes, and finally the emergence of the land, later to be called Huron Township, under the influence of the climate and natural vegetation. Thus we can picture and understand the land to which the first settlers came.

From this point onward the account deals with man's effect on the environment as he clears the land to make a livilihood from the rich good earth. We must follow the pioneers in their struggle to wrest from this heavily wooded, comfortless, potentially rich environment, a satisfactory life not only for himself but for his children. We must follow the surveyors as they spread out from the first settlements, showing the way to the farmers who came after them. The development of the farming communities under changing and imporving conditions; the coming of the railroads and the development of the townships major farm service centre; the development and regression of a variety of small industries; the changing pattern of agricultural land in accordance with the shifting needs of and demands on, the farmer; the fluctuation of the population in the township; the coming of the tourist providing a large local summer market; the improvement of communications and



# LOCATION MAP HURON TOWNSHIP

Hamilton •

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the increased farm mechanization; all these factors must be taken into consideration and the inter-relations noted before the propose of this thesis may be attained. Therefore I have divided this paper into two parts the first dealing with the Physical environment and the second dealing with man's attempt to cope with this environment.

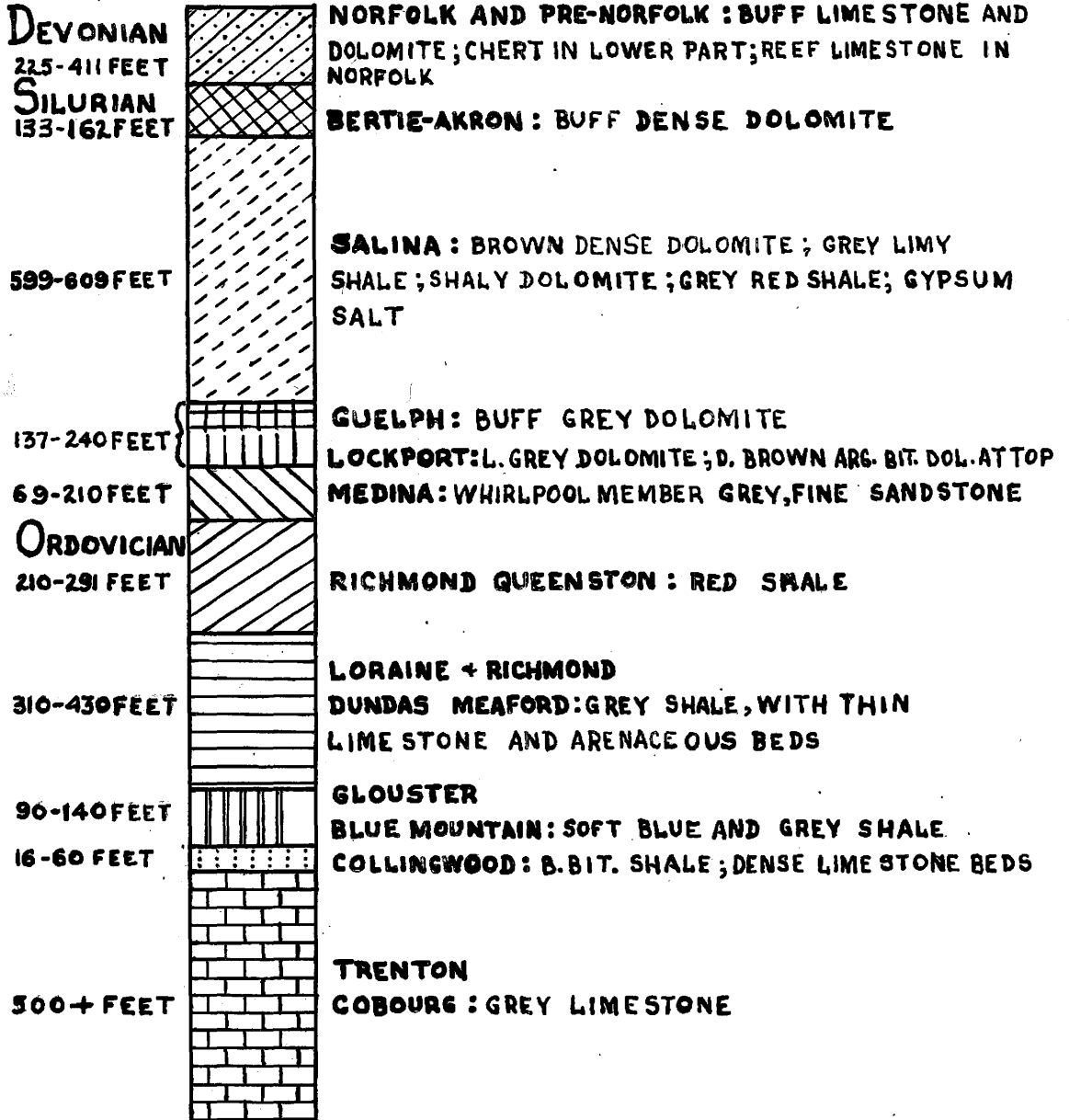
The great majority of the field work for this paper was done in the late summer of 1954 when the author spend several weeks moving in and about the township collecting the necessary data. At this time unseasonal rainfall was a great drawback particularly as far as taking pictures was concerned. The job had to be done then because of the distance of the township away from the university in Hamilton, Ontario. Conditions were by no means perfect for the sketching of maps and noting land use. The people of the township were very kind and co-operative and I would like to take this opportunity to express my thanks to Mrs. W. Steele, the librarian of Ripley, Ontario, Mr. Carl Tout, the township clerk, Mr. Walter Needham, the township clerk of Ripley, Mr. and Mrs. W. C. McKeeman, and many others who were very kind and helpful to me while working in the field. My particular appreciation goes to Professor W. H. Parker who has inspired me.

#### THE PHYSICAL SETTING

In dealing with the development of any area we must be cognisant of the Physical environment as it existed when man first came upon the scene.

The physical setting of an area is made up of several parts and in this study I shall first look at the Geology, both bedrock and surface. This is followed by a study of Climate, Natural Vegetation, and Soils. In conclusion I shall attempt to point out the inter-relationship of these physical factors and present a clear picture of the whole.

# PALAEOZOIC FORMATIONS



## GEOLOGICAL COLUMNAR SECTION HURON TWP.

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## THE BEDROCK GEOLOGY

Huron township is underlain by very uniform, almost horizontal, strata there being a very slight downward slope in a westward direction towards the lake. The upper-most stratum is Norfolk and Pre-Norfolk limestone of Devonian age. Although this is the bedrock closest to the surface its effect on the development of existing soils is very limited because of the very deep overburden. The only place where this bedrock appears at the surface is at point Clark where the wave action of the lake has exposed the Akron dolomite formation. Below the Norfolk and pre-Norfolk limestone we find the following formations respectively: Bertee-Akron Dolomite, Salina Dolomite, Guelph and Lockport Dolomite and Medina Sandstone all of which are Silurian in age. Because of the depth at which these formations are found, the uniformly and undisrupted nature of the strata, and the heavy overburden these strata have had no recognizable effect on the development of the surface soils. Below the Silurian strata are found strata which are Ordovician in age. It is interesting to note here that these strata may be oil bearing and the search is going on in the township.

The gentle westward slope of the uniform underlying strata has determined to a large degree the general drainage pattern of the area toward the lake and it is thought that the bedrock was a source for the parent material of the overburden.

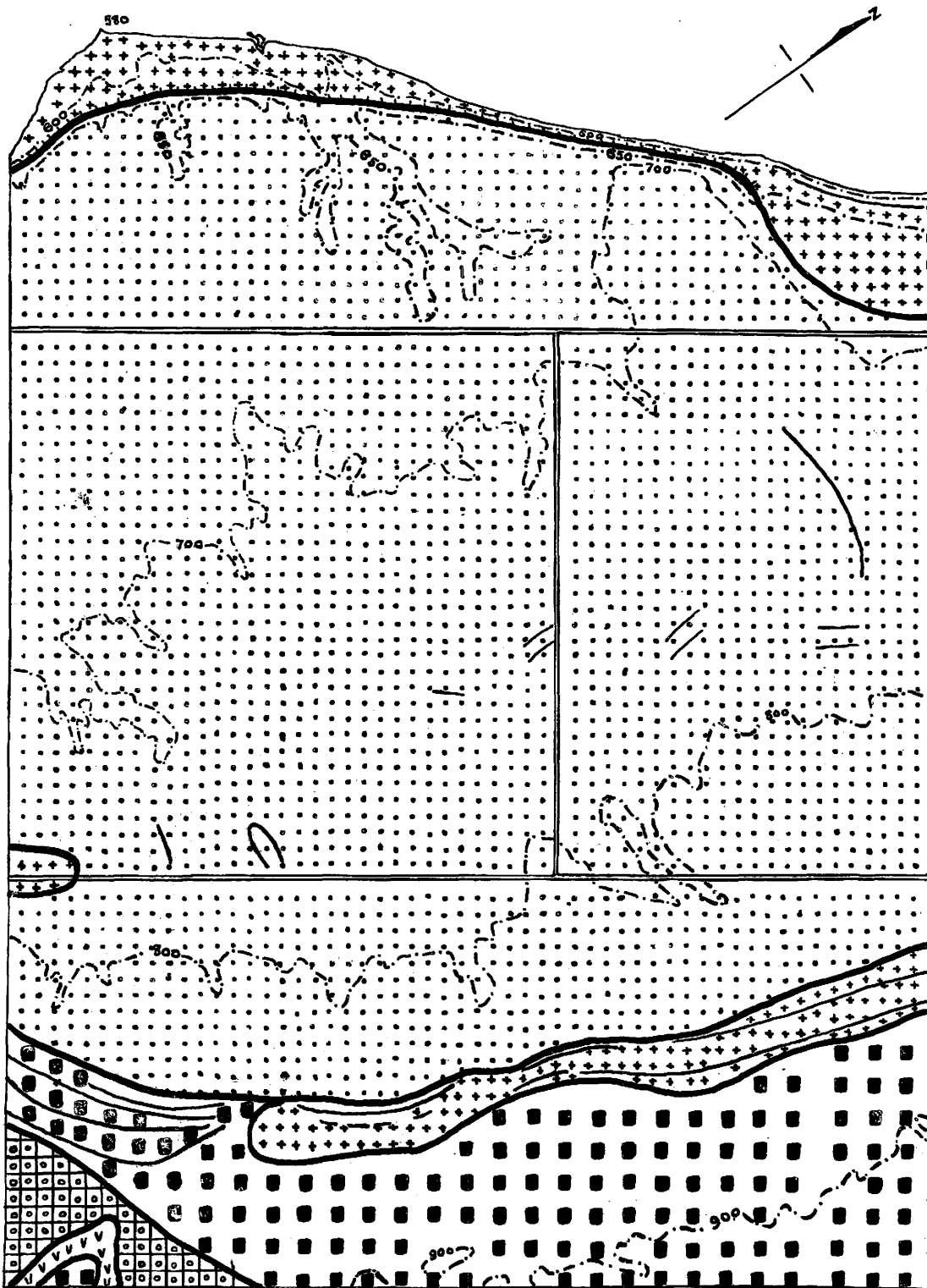
## SURFACE GEOLOGY<sup>†</sup>

The normal features expected in a glaciated area such as terminal moraines, outwash plains, eskers and drumlins etc. are quite noticeable by

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† Putnam and Chapman, - The Physiography of Southern Ontario

Putnam, D.F., and Chapman, J., - The Physiography of Southwestern Ontario



## PHYSIOGRAPHY of HURON TWP.



TILL MORAINE



CLAY PLAINS



SPILLWAYS



SAND PLAINS



TILL PLAINS (UNDRUMLINED)



CONTOUR LINES



BEACHES & BLUFFS

SCALE: 1 1/2 MI. = 1 IN.

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TYPICAL STEEP STREAM-CUT BANKS



AWAY FROM STREAMS- LEVEL TO  
UNDULATING PLAINS



their absence. The greatest influencing factor on the surface Geology of this area has been the encroachment and recession of the glacial lakes.

In the pre-Wisconsin era it is quite likely that lacustrine sands silts and clays were laid down in the great lakes area. With the coming of the Wisconsin glacier the ice overrode these sediments. It is quite probable that the heavy boulder clays are the result of the glacier overriding the stratified clays and mixing them with imported rock. The brown clayey till of Huron township is a good example. The heavily warped clays are quite noticeable in the deeper river gullies.

As I have already stated, the glacial lakes exerted a very strong influence on the laying down and formation of the existing soils of Huron Township.

Glacial Lake Warren almost completely inundated Huron Township and it has left its characteristics on the land i.e. twin beaches parallel to one another about 850' ASL as can be seen on the Physiographic map. Between the Lake Warren beaches and those of Lakes Algonquin and Nipissing there are several fragmentary beaches at several levels but these were probably formed by shortlived temporary lakes. The two parallel beaches spoken of above are very feebly outlined but quite continuous, about 15 ft. apart in height and not more than 200 yards distant from one another. These beaches are quite shallow in depth seldom going beyond two feet. The Warren beaches stand at the edge of level clay plains, which were rolling till plains laid down in the pre-Wisconsin era but have been clay filled since, and the moderately rolling lands which were beyond the water level. The gravel found in the beaches is, for the most part, limestone in origin.

When the waters of Lake Warren began to recede they moved back toward the present Shore Line and halted along a line coincident with the present bluff that extends along the Shore Line at approximately the 650 ft. contour. This was the Shore Line of Lake Algonquin which persisted much longer than any other lake up to this time judging by the developments of the bluff and beaches. There were several recognizable stages, which were created by the lowering of the water outlets South of North Bay. The Algonquin Shore Line consists mainly of a bluff rising between 50 and 100 feet above the present lake level. In Huron Township the bluff is a boulder pavement modified by gravel ridges and Sand dunes.

Lake Nipissing was the name given to the next relatively stable water level. In the period of its existence bluffs and beaches were produced second only to those of Lake Algonquin. The Nipissing Shore Line has been under cut by the wave action of Lake Huron for the most part, but is clearly discernible in the form of gravel strands and sand dunes in some spots.

To the east of the township lie the Moraines of the interior and in the western edge of the township we find the bluffs of Lake Algonquin and Lake Nipissing; in between is a gently sloping clay plain the lower part of which is modified by the deposits of Lake Warren. Between Ripley and Pt. Clark deep silty clays are found. Above the Warren beaches the surface is without the modifying influence of the stratified clays and becomes moderately rolling. This brown calcareous till contains a minimum of pebbles and boulders and is only six to ten feet thick resting on similarly coloured, stratified clay. The till is probably material from below that has been reworked.

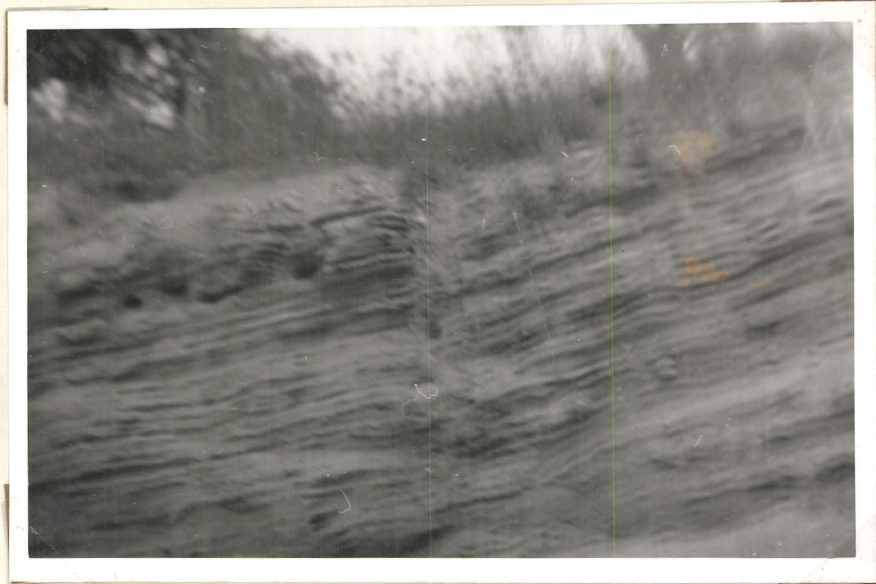
The sandy strip on which the Lake Warren beaches are found is quite shallow in this area and the water table is quite close to the surface. This sandy strip is generally poor for agriculture but here the soil has been built up and is quite suitable for grazing and the growth of fodder crops. About half of the cattle in this area are beef cattle and the remainder are dairy cattle, supplying the cheese factories at Pine River and North of Ripley and the Kincardine Dairy. Summer rainfall is fairly reliable and good crops of oats and barley for hog and cattle feed are grown.

The Algonquin bluff drops about 75 feet in this area. With such a head the streams, large and small, have cut deep gullies and just above the bluff there is a much and deeply dissected fringe. This has forced Highway 21 back from the shore. These gullies also present a problem to the farmer whose land is being spoiled by their growth. These streams are largely intermittent and are subject to flash floods at any time of year.

With the exception of the "V" shaped valleys the general slope in no place exceeds 8% and this only in the South East corner. Because of the silt clay nature of the soils over 90% of the land has been cleared and is in active use. The swamp area of the township is almost negligible.

Thus in summing up we find that Huron township is made up of an extensive very gently sloping, clay plain which is dissected deeply by streams as they approach the Algonquin bluff which is fairly close to the present Shore Line. To the east the old Shore Line of Lake Warren is quite distinct. Beyond these beaches there is a comparatively narrow strip of land that varies in slope from very gently sloping to moderately rolling.

The resources of area are for the most part agricultural but there are gravel quarries along the Algonquin bluff. The area is best suited for the raising of livestock mainly beef and dairy cattle.



EXPOSED WATER-LAID SANDS  
15<sup>th</sup> SIDELINE S. OF RIPLEY



ALGONQUIN BLUFF AND XII CONCESSION  
GRAVEL PIT

†  
CLIMATE

Another fundamental factor that affects the agricultural development of an area is the climate. The amount of precipitation, the manner in which it falls, and its distribution throughout the year has a very definite effect on the development of the soil materials present and the type of agriculture that may be practiced. There are, of course, other factors that must be noted in conjunction with precipitation to fully appreciate the capabilities of the area. These are temperature, and amount of sunshine.

Huron Township lies within the climatic region described by Putnam and Chapman as the "Lake Huron Georgian Bay" Region. This is quite a distinctive region in that it varies sharply with the "Western Uplands" Region to the interior. In the Lake Huron Georgian Bay Region temperatures are more moderate, the growing season longer, and frosts come later in the fall and cease earlier in the Spring. Although the rainfall is less along the lake shore than in the interior the western uplands are more susceptible to drought. The main reasons for the climate may be attributed to the fact that the township lies within the cyclonic belt and the proximity of Lake Huron which is a modifying influence. Another influential factor is that the topography slopes upward gradually as we move inland.

The mean annual precipitation in Huron township is 35 inches which compares to 38" as received in the "Western Uplands". In the winter months (Dec., Jan. & Feb.) the precipitation is 10.15 inches, in the spring months (March, April, May) 8.02 inches, in summer months (June, July, August) 8.29 inches and in the fall months (Sept., Oct., Nov.) 10.88 inches. † This would indicate

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† Putnam, D.F., and Chapman, H.J., The Climate of Southern Ontario Scientific Agriculture 1938 (Reprint)

† These figures were taken from the weather station Luknow which is just to the east of the township.

that the fairly adequate rainfall is evenly distributed throughout the year. Deficient as this rainfall may seem drought frequencies is about 20 while the index of precipitation effectiveness is around 12. The average annual snowfall in the township is 100 inches.

The mean annual temperature of  $44^{\circ}$  is similar to that of the Lake Ontario shore as is also the winter temperature of  $23^{\circ}$ . The average spring temperatures is  $39^{\circ}$  while the summer temperature averages  $64^{\circ}$ . These latter two temperatures are slightly lower than that of land surrounding Lake Ontario while the fall temperature of  $49^{\circ}$  is slightly higher. Relatively speaking this area does not suffer the extremes of temperature with winter temperatures never going below  $-35^{\circ}\text{F}$  and summer temperatures never exceeding  $100^{\circ}\text{F}$ . These temperature conditions, particularly in the summer, are very beneficial to the tourist trade that exists and is expanding in the township. The fact that the last frost may be expected no later than May 10th and the first frost no sooner than October first, make conditions very suitable agriculturally. The average length of the growing season has been estimated as 196 days in this region.

The percentage of sunshiny days received in this area is fairly high and quite adequate agriculturally, and in reference to the tourist business, - 45% of the days have bright sunshine.

In many instances climatic regions are crop regions and this was no truer in Huron township than anywhere else. There was a time when the apple crop was the outstanding crop in this area. This is not the case today. At a date, which I have been unable to determine, the apple orchards were hit by a severe frost which ruined the crop for the coming year. Because of this heavy loss and the time, money and care consumed in looking after the orchards the farmers of the township have given up

apples as a commercial crop. Actually the orchards are abandoned and used as grazing land.

As has been stated earlier the closest weather station to Huron Township is found in the town of Lucknow which is about five miles to the East of the Township.

It is impossible to illustrate fully the significance of Lake Huron on the climate of Huron Township as the weather station at Lucknow is far inland and thus the modifying influence of the Lake does not register. To illustrate my point we find that the average annual rainfall at Kincardine right on the shore line, is 34" and mean annual temperature is 45° F. The official precipitation and temperature figures of Lucknow and Walkerton are given below.

		<u>Precipitation in Inches</u>		<u>Temperature</u>	
		<u>Lucknow</u>	<u>Walkerton</u>	<u>Lucknow</u>	<u>Walkerton</u>
Winter	December	3.82	3.49	25	25
	January	3.65	4.10	20	20
	February	2.68	2.87	18	19
Spring	March	2.41	2.78	27	29
	April	2.57	2.91	41	41
	May	3.04	3.00	53	52
Summer	June	2.69	3.09	62	63
	July	2.99	3.00	67	67
	August	2.61	2.68	65	65
Fall	September	3.26	3.27	59	59
	October	3.71	3.58	47	48
	November	3.91	3.67	35	36
		—	—	—	—
	ANNUAL	37.34	38.44	43	44

†  
NATURAL VEGETATION

Let us now look at the natural vegetation of Huron Township as it was when the settlers first began to move into the area.

The type of natural vegetation is determined to a large degree by the climate and the soil capabilities of the area. Of course once the growth is established the vegetation plays a very definite part in the formation of the soil. The natural vegetation provides a natural fertilizer and under most conditions produces a very fertile virgin soil. This is the case in Huron Township where the prevailing association is broad-leaved. This is in contrast to an area under coniferous forest which produces a comparatively infertile and highly leached soil. Another effect of the natural vegetation is that it increases the water retention capabilities of the soil and at the same time holds the topsoil on slopes thus limiting soil erosion. Although we are unable to determine exactly the role of natural vegetation in this study, an analysis allows a more careful and accurate interpretation of the soil profile and soil types.

†  
According to Halliday Huron Township lies within the Huron Ontario Section of the Great Lakes - St. Lawrence Region. As stated earlier the association is broad-leaved. Elm, ash and cedar are dominant. This association occurs on the very gently sloping clay plains which are generally speaking poorly drained under natural conditions. In the very few swampy depressions (due to the overall gentle lakeward slope of the land) in the township the Eastern white cedar is dominant while on the coarse textured soils some tamarach is found. Poplar trees are also

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† Soil Survey of Bruce, Country

† Halliday, W. E. D., A forest Classification of Canada - Forest Service





CEDARS ALONG LAKE SHORE



POPLARS AT POPLAR BEACH



HEMLOCK STUMPS

scattered thinly throughout the township most of the remaining trees being found along the lake shore.

The second most important association in Huron Township is the Soft Maple, elm, ash association which is dominant on the well drained fine textured soils and on the imperfectly drained soils. also. Within this association are found small amounts of bass, wood, hemlock and ironwood.

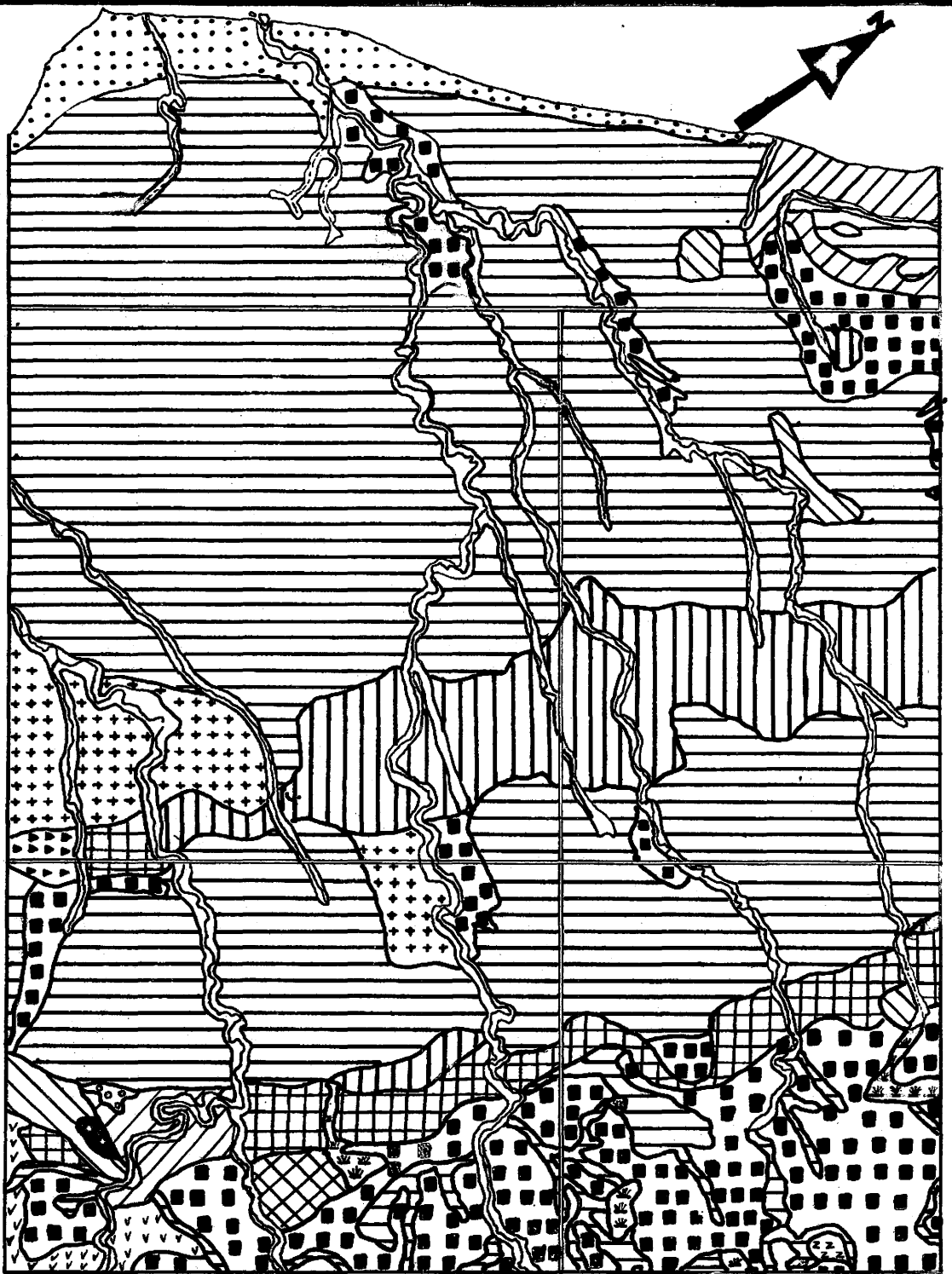
The tree associations, as has been pointed out, had an important function in the development of the soils of Huron Township. They also had a very definite effect on the agricultural and cultural development of the township. This point is well illustrated by the fact that today the land is almost totally cleared of forest for agricultural purposes and such trees as remain standing are along the edge of fields or in wood lots. In the early days the trees acted not only as an obstacle to development but also as a source of building material and income. Lumbering provided the new farmers with a winter income and the ashes resulting from the burn-clearing of the land were sold as potash for which there was a ready market. This was a main cash crop.

#### SOILS†

We have now considered the bedrock geology the surface geology, the climate, and the natural vegetation all of which, acting in conjunction with each other, have produced the soils of Huron Township. I shall now discuss the various soils of the township in the order of their real importance and relate them to the various uses to which they are put today.

















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† Soil Survey of Bruce County



## SOILS OF HURON TOWNSHIP

SCALE:  
1 1/2 MI. = 1 IN.

- |   |                      |   |                         |
|---|----------------------|---|-------------------------|
|  | BROOKSTON LOAMS(S+C) |  | SULLIVAN SAND,(LOAM)    |
|  | BERRIN SANDY LOAM    |  | GILFORD LOAM            |
|  | PERTH SILT,CLAY LOAM |  | DONNYBROOK SANDY LOAM   |
|  | LISTOWEL SILT LOAM   |  | HURON (SILT)CLAY LOAM   |
|  | BRADY SANDY LOAM     |  | GRANBY (SAND)SANDY LOAM |
|  | FOX SANDY LOAM       |  | LISTOWEL SILT LOAM      |
|  | BURFORD LOAM         |  | MARSH                   |
|  | BOOKTON SANDY LOAM   |  | BOTTOMLAND NE SWANN     |

There are soils in Huron Township that occupy a fairly extensive area. The largest and most extensive of these is the (a) Brookston Clay Loam.

Brookston clay loam is a mixture of lacustrine material belonging to both the Huron Vincent Catena. This is the poorly drained member and thus the profile is poorly developed and the horizons are not well defined.

It is a Dark Grey Gleisalic Soil. The profile is as follows: †

- A<sub>0</sub> - A then, partially decomposed layer of leaves and twigs.
- A<sub>1</sub> - 0-7 inches of clay loam, black in colour, with a fine granular structure, friable consistency, occasional stones and a pH of 7.2.
- G - 7-24 inches of clay, grey brown in colour, strongly mottled, massive in structure, hard in consistency when dry, plastic when wet and a pH of 7.2.
- C - Clay till, pale brown in colour, massive in structure, very hard consistency when dry, very plastic when wet, strongly mottled, few stones, and pH of 7.6.

This soil is found in smooth to very gently sloping topography.

Both the internal and external drainage is poor and the dominant trees are elm ash and cedar. The natural fertility is high but decreases rapidly under excessive cropping.

The Brookston clay loams are used mostly for beef raising and dairying plus general farming, raising crops of oats, timothy, alsike pasture and hay. The best utilization of the soil demands that the soil be drained and today tile drainage is quite common. Under these conditions the land is adapted to a much wider range of crops and cash crops of beans, flax, and wheat are raised. The normal rotation used in this area is grain, hay and pasture or grain, corn and hay. Timothy, alsike and

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† All profiles are taken in woodlots where conditions are as normal as possible.

red clover produce satisfactory crops while the grain crop varies from year to year depending on the rainfall. In dry years the crops are better. In the pasture land the big problem is weed control and the planting of water tolerant plants.

Early crops cannot be produced because the soils do not dry and warm up fast enough. The main fertilizer requirement is superphosphate in addition to which green manure must be added to keep up the organic content in the soil.

The Brootston silt loam is very similar to the above. It differs only in that it has a lighter texture surface soil.

## (2) Perth Clay Loam

This soil belongs to the Grey-Brown Podzolic Great Soil Group and has developed on fine textured calcareous till. It has the following profile:

- A<sub>0</sub> - A thin layer of decomposed leaves and twigs etc.
- A<sub>1</sub> - 0-5 inches of clayloam, dark grey in colour, with medium granular structure, friable consistency, stonefree and a pH of 6.8.
- A<sub>2</sub> - 5-13 inches of brown clay loam, slightly mottled, medium muciform in structure, friable consistency, stonefree and a pH of 6.5.
- B<sub>2</sub> - 13-25 inches of dark greyish brown clay; mottled, coarse bloky structure, hard consistency stonefree and a pH of 7.0.
- C - Brown Clay Till massive in structure, hard consistency; calcareous stonefree and a pH of 7.8.

This soil is highly fertile and not subject to erosion because of its smooth gently sloping topography and its slow internal and external drainage. Most of this land has been cleared but woodlots indicate the presence of soft maple and elm mainly. Some ash, ironwood, basswood, and beech are found.

Farms on this land are mostly occupied in general farming and the raising of beef and dairy cattle. There is some general farming. Both the internal and external drainage in the Perth Clay Loam is imperfect and consequently the best results are obtained where artificial (tile) drainage is applied. This offsets to a great degree the climatic conditions which have an adverse effect on the natural high fertility. Under these conditions the field crops grown are oats, silage, corn, fall wheat, clovers and timothy. Alfalfa when grown is grown in mixtures of clover and timothy to maintain the stand. The pea crop in this area used to be an important cash crop but today there is very little grown. In 1954 there was only one field of peas in the whole township. The fall wheat crop is the big cash crop at present. Crop yields are best in the average rainfall years. Crop failures are due to rainy springs which delay seeding, time germination and growth.

The topography of this area is well suited to machinery cultivation but a lot of power is needed. Phosphate fertilizers are those most commonly required to which barnyard manure must be added to maintain an adequate level of organic matter.

The Perth Silt Loam is similar to the Clay Loam in all respects.

### (3) Berrien Sandy Loam

This sandy loam belongs to the Bookton catena and in the imperfectly drained member because of its internal structure and consistency and because of its smooth gently sloping topography. It has the characteristics of the Grey Brown Podzolic Great Soil Group. The profile description is as follows:

- A<sub>0</sub> - A thin layer of leaves and twigs; partially decomposed.
- A<sub>1</sub> - 0-5 inches of dark greyish brown sandy loam with a fine crumb structure, a very friable consistency, stonefree and a pH of 6.8.
- A<sub>2</sub> - 5-9 inches of dark brown mottled sand with a single grain structure, loose consistency, stonefree and a pH of 6.6.
- B<sub>2</sub> - 9-19 inches of dark brown mottled sand, with single grain structure, loose consistency, stonefree and a pH of 7.2.
- B<sub>3</sub> - 19-29 inches of yellow brown sand with single grain structure, loose consistency, stonefree and a pH of 7.2.
- C - 29-32 inches of greyish brown sand and gravel with single grain structure, loose consistency, calcareous and a pH of 7.6.
- D - Brown clay till or clay of massive structure, hard consistency calcareous and a pH of 7.6.

Most of this soil type is used for cattle raising and general farming although it can and was used for the production of apples and vegetables where artificial drainage was applied. The fruit growing on a commercial basis has ceased today because of expense of upkeep and disastrous frosts. One of the chief limitations of farming this land is the imperfect drainage the run of being low and the permeability slow. Tile drainage is difficult because of the varying depth of the overburden. The high fertility required by field crops is also lacking so it is necessary to apply common fertilizer elements for adequate crop growth. Oats, red clover and timothy are the main crops. A wider range of crops is possible with artificial drainage.

(4) Brady Sandy Loam

This soil is formed from calcareous sandy outwash materials and has characteristics of the Grey-Brown Podzolic Great Soil Group. It has imperfect drainage. Under a forest cover of mainly soft maple and elm the profile developed is as follows:



- A<sub>0</sub> - A thin layer of decomposed leaves and twigs etc.
- A<sub>1</sub> - 0-5 inches of very dark brown sandy loam with fine crumb structure, friable consistency, stonefree, and a pH of 6.8.
- A<sub>2</sub> - 5-13 inches of yellowish brown mottled sand of single grain structure, loose consistency, stonefree and a pH of 6.5.
- B<sub>2</sub> - 13-23 inches of dark brown mottled sandy loam of fine nuciform structure, friable consistency, stonefree, and a pH of 7.0.
- C - Light grey sand of single grain structure, loose consistency stonefree, calcareous, and a pH of 7.8.

Brady sandy loam is imperfectly drained and is smooth very gently sloping in topography. External drainage is low and internal drainage is moderate and this may be further hampered by the presence of impermeable clay or rock layers at depths of five feet or more.

Fair crops of hay, red clover and pasture are grown and if artificial drainage is used a wider variety of crops may be grown. Apples were also grown on this soil as a cash crop but this is not the case today because of heavy frost damage and maintenance costs.

This soil is low in nearly all plant nutrients and nitrogenous, phosphatic and potassic fertilizers are required for adequate plant growth. Cash crops of oats and wheat require large amounts of fertilizer and manure.

(5) Listowel Silt Loam

The Listowel silt loam is the imperfectly drained member of the Harriston catena and have been formed from medium textured till. The horizons, described below, exhibit the characteristics of a weakly developed Grey-Brown Podzolic soil.

- A<sub>0</sub> - A thin layer of partially decomposed twigs and leaves, etc.
- A<sub>1</sub> - 0-5 inches of very dark greyish brown loam of fine granular structure, friable consistency, few stones and a pH. of 6.8.
- A<sub>2</sub> - 5-12 inches of yellowish brown mottled loam, of weak platy structure, friable consistency, few stones and a pH of 6.5.



B<sub>2</sub> - 12-21 inches of dark brown mottled clay loam, of medium nuciform structure, friable consistency, stony and a pH of 7.2.

C - Pale brown loam till of medium nuciform structure, hard consistency, stony, calcareous, and a pH of 7.8.

The topography is smooth gently sloping and the drainage is imperfect, consequently there is practically no erosion. Soft maple and elm dominate the woodlots.

On the listowel silt loams of the township general farming is mainly practised. Where artificial drainage is used cereal grains, hay, red clover, and pasture do very well. Under very efficient drainage Alfalfa may be grown. Superphosphate is the main fertilizer requirement but some potash is used to good advantage. Undrained areas are usually used for pasture or for crops of a more water tolerant nature.

The Listowel Loam differs from the Silt Loam in the texture of the surface layers. They both have about the same crop value but the loam has a slightly lower natural fertility.

(6) Sullivan Sand

Sullivan Sand is developed on calcareous sandy out wash material. It is considered to be a Brown Forest-Grey-Brown Podzolic Intergrade. Under a forest cover of hard maple beech and cedar the following profile develop:

- A<sub>0</sub> - a partially decomposed layer of leaves, twigs, etc.
- A<sub>1</sub> - 0-3 inches of dark grey sand of fine crumb-structure, very friable consistency, stonefree, and a pH of 7.2.
- B<sub>2</sub> - 3-10 inches of dark brown sand of single grain structure loose consistency stonefree and a pH of 7.4.
- C - Grey Sand of single grain structure, loose consistency, calcareous and a pH of 8.0.

In some spots gravel strata do appear. The topography is gently rolling and the drainage. There is a low level of natural fertility being low in phosphorous, organic matter, and potassium.

This area is found along the shore line of Lake Huron and because of the low fertility it has been left under forest and is now used as a summer resort district for people who have their own cottages. No industry of any sort is allowed in the district by law.

(7) Fox Sandy Loam

This is well drained soil on a smooth gently sloping topography, exhibiting characteristics of the Grey-Brown Podzolic Great Soil Group.

The Fox Sandy Loam has a distinct textural B horizon as seen below:

- A<sub>0</sub> - A thin layer of partially decomposed leaves and twigs etc.
- A<sub>1</sub> - 0-4 inches of very dark greyish brown sandy loam of fine crumb structure, friable consistency, stonefree and a pH of 6.5.
- A<sub>21</sub> - 4-24 inches of yellowish brown sand of single grain structure, loose consistency, stonefree and a pH of 6.3.
- A<sub>22</sub> - 24-26 inches of light yellowish brown sand, single grain structure, loose consistency, stonefree and a pH of 6.2.
- B<sub>2</sub> - 26-30 inches dark brown loam of fine nuciform structure, friable consistency, stonefree, and a pH of 6.7.
- C - Light grey sand of single grain structure, loose consistency stonefree and a pH of 7.8.

The sugar maple and the beech tree are the most numerous trees on this soil. The Fox series is also very susceptible to wind erosion particularly when left without cover.

In other areas this soil may be used for specialized crops but the danger of frost in the township makes tobacco growing a big risk. The good internal drainage, the workability of the soil, the light texture, and the uniformity make this soil especially useful for the raising of early.

crops. General farming is the main function of the Fox series in the township and oats, alfalfa, hay and pasture are grown for the livestock.

Crop production is limited by low fertility, susceptibility to erosion and drought. Nitrogen phosphate and potash levels should be increased and maintained. Organic matter should be maintained by cover crops and manure.

In this area of the township gravel pits have been developed.

The six remaining soils to be found in Huron Township are very small in extent but all the same they merit our attention. †

(a) Burford Loam

The Burford series is developed on well sorted gravelly materials derived largely from limestone containing smaller portions of siliceous and argillaceous materials. The Burford Loam is the well drained member of the Burford catena and has Grey-Brown Podzolic characteristics. Although most of the area has been cleared it appears that the soil developed under a tree cover of hard maple and beech. The surface is smooth to gently rolling and when cultivated the soil has a greyish brown colour, indicating low organic content. This soil needs phosphorous and potassium.

The Burford loam is well suited to hay and pasture crops and is fairly well adapted to fall wheat, oats, barley, alfalfa and sweet clover. When the soil is heavily fertilized potatoes and other vegetables do well. Low fertility is the big limiting factor in this soil but with adequate fertilization yields are good. Early spring cultivation is possible in this soil because of the porosity of the soil.

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† Soil Profiles - Appendix.

(b) Bookton Sandy Loam.

This soil has a gentle sloping to moderately sloping topography. A wide range of profiles appear depending on the depth of the sand overburden. The heavy clay till or clay may occur at depth of 6 to 36 inches. The wood lot trees indicate that the natural vegetation was mainly hard maple, beech and spruce.

Most of this area was taken up by one farm and here the man's occupation was general farming with a few head of dairy cattle. Although the sandy topsoil lacks phosphorous and potassium this is found in the clay till below. This soil is fairly well suited to produce cereal grains hay and pasture.

The main problem is to maintain the fertility and organic matter content.

(c) Gilford Loam.

There is hardly 25 acres of this soil in the township. This is the poorly drained member of the Burford, Teeswater and Targent catenas and has characteristics of the Dark Grey Gleysolic Great Soil Group. This area is very gently sloping and drainage is poor and the area is found as a wood lot under its own natural vegetation of elm, ash and cedar for the most part.

(d) Granby Sandy Loam.

There is less of this soil in the township than there is Gilford Loam. This soil is the poorly drained member of the Fox Tioga and sullivan series occurring in level and depressional areas. Today this soil, because of its poor drainage and low fertility, is found under wood lot, of elm, ash and cedar with some maple, and rough pasture.

(e) Donny brook Sandy Loam

This soil consists largely of gravel materials which contain pockets of sand or till and is a Grey-Brown Podzolic soil. The soil is well drained but, contrary to the usually steep slopes of the Donnybrook series the area is only gently rolling. The natural vegetation was mainly hard maple and beech.

This soil is used for general farming and the raising of beef and dairy cattle. Fair yields of oats, alfalfa, hay, and pasture are raised and these can be increased with fertilizer. This soil has a low natural fertility therefore nitrogen, phosphorous and potassium must be added to increase the fertility level.

The presence of boulders is a problem but these have been cleared out. Another problem is erosion and consequently this area is under cover of some crop most of the time.

(f) Huron Clay Loam

Huron Clay Loam occurs on smooth moderately sloping topography and is formed from till deposits inter mixed with lacustrine material. It is a Grey-Brown Podzolic soil.

This soil is developed under soft maple and elm forest for the most part but some Iron Wood, basswood and ash are present. The soils are moderately susceptible to erosion and are particularly erodible. Both internal and external drainage is good and the soil is well supplied with plant nutrients. This soil is well adapted to the growth of cereal

grains, alfalfa, hay, and pasture but many other crops can be grown. General farming, beef and dairy cattle raising is practiced in this area and the manure is used in erosion control as well as fertilization. Potash, phosphate and nitrogen are also used in fertilizing.

(g) Bottomlands - because of the very narrow steep faced valleys of the streams of the township this land is used only for pasture except in the extreme upper reaches where the stream does not rise very high.

We now have had a glimpse of Huron township as it is today at least from the agricultural point of view. We can say that farming concerns itself mainly with the growth of foddes crops for the ever-present beef and dairy cattle. The main cash crops were at one time peas and apples but both these crops have disappeared; one because of a blight and the other because of the risk of frost. The big cash crop today is the grain crop plus the money obtained through the selling of beef cattle, and the selling of dairy products. Here lies the agricultural future of the township.

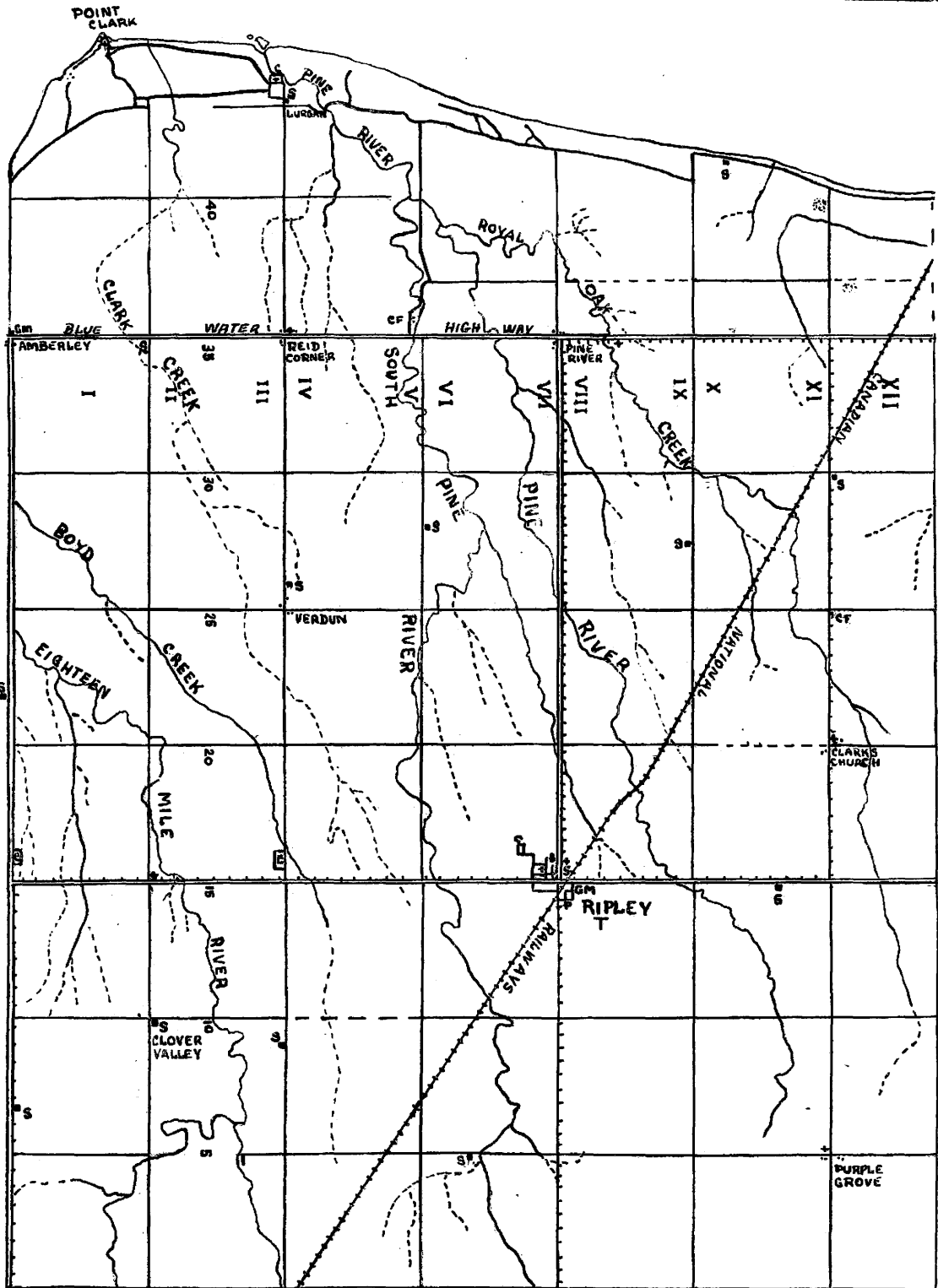
## THE CULTURAL EVOLUTION OF HURON TOWNSHIP

### THE HISTORY OF HURON TOWNSHIP

In order to write an adequate report on the History of Huron Township it is necessary to divide the subject into two parts for the township developed from two different sites, one at Pt. Clark around the villages of Lurgan and Alma and the other near the present site of Ripley. These two developments are of special interest to the geographer because they illustrate the effect of the environment on man, the effect of culture on the environment, and the effect of economic advance on the development of these two sites. The pioneers who settled around Lurgan and Alma were farmers and jacks-of-all-trades who were experienced in the art of living in the rough, raw, country of Southern Ontario while the people who made up the Lewis settlement (Ripley) were Scots from the Isle of Lewis who had a background of sailing, fishing, and sheep herding; they were relatively inadequately prepared for the hardships they were to face.

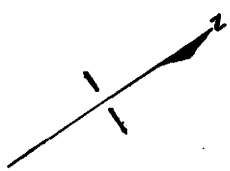
Lurgan and Alma - In the year 1847 the first survey party under A.P. Wilkinson came into Huron Township but they confined their efforts to surveying the lake shore lots. It was not till 1851 that the rest of the township was surveyed under the guidance of E.R. Jones.

The settlers were attracted to the area by the free land grants and because the lake promised easy access. The first known pioneer to settle in Huron Township was a man by the name of Louis Bellemore, a frenchman who was married to an Indian woman. In early 1848 Bellemore came into the township and built an Inn on the south bank of Pine River close to the lake. The next pioneer to arrive was an Irishman by the name of David Walden of London Township. He and his wife and family



## CULTURAL AND DRAINAGE MAP - HURON TWP.

- SCHOOL ----- S
- CHURCH ----- +
- GRIST MILL ----- GM
- CHEESE FACTORY ----- CF
- GRAVEL PITT ----- [Symbol]
- POST OFFICE ----- P
- TELEPHONE EXCH. ----- T
- LIGHTHOUSE ----- [Symbol]
- SCALE : 1 1/2 MI. = 1 IN.



- PAVED ROADS ----- [Symbol]
- GRAVEL ROADS ----- [Symbol]
- INCOMPLETE ROADS ----- [Symbol]
- TELEPHONE LINE ----- [Symbol]
- RAIL ROAD ----- [Symbol]
- STREAMS ----- [Symbol]
- INTEIMITTENT STREAM ----- [Symbol]
- CEMETARY ----- [Symbol]

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bought the inn which Bellemore had built to serve the "courer de bois" and settlers. Bellemore moved some distance north of the river to build another inn.

The settlers who followed these two pioneers into this settlement came by Indian trail from Goderich and were made up of people of varied origin (English, Welsh, Irish, Scots and German) and occupations. They had one thing in common - they had faced and conquered these same elements before and consequently their action toward development was more concerted and had definite direction. The land to which these people came was one of great hardship and they were not equipped with the best materials to meet the elements but they did find a land that was bountiful in game and wild berries. Fish, bear, deer, wild pigeon, and partridge plus lynx and wolves were quite plentiful and in the summer time wild berries were very profuse. These animals plus the small forest-clearing harvests supplemented the staple supplies which were brought in over the Indian trails by pack sack from Goderich and later Kincardine. As boats became more plentiful on the lake they were used more and more to bring in the bulky staples but landing supplies was difficult on the rocky shelving shore at Pine Point (Pt. Clark).

In the early 1850's there were about forty shanties between Pine Point (Pt. Clark) and the Pine River.

The first road, if it could be called that, was a sleigh road that was cut through the woods of Ashfield township Huron County, just to the south of Huron Township in 1849. This provided land communication of a sort with Goderich. In 1853 the lake shore road, following the Indian trail from Goderich for the most part, was cut out. Later on the

Goderich road through Amberley put this latter road into comparative disuse.

With the coming of better communications a wealthy Irishman by the name of Captain H. Gamble arrived in Huron Township. It was this man who founded the village of Lurgan in the late 1850's. In order to give the settlement a good start Capt. Gamble built a steam saw mill, a flour mill, and a lime kiln. It was this lime kiln that provided the lime for the building of the lighthouse at Point Clark and for the houses that were built at Lurgan and Alma. The new village of Lurgan attracted many settlers at first and to each fell a specific job besides that of farming. There were builder- engineers, blacksmiths, carpenters, sawyers, tavern keepers, store keepers, and lumbermen. The most important of these men was the carpenter, Mr. Robert Jardine, who made windows, doors, and frames by hand. He served Huron, Ashfield, and Kincardine townships. Before these comforts were available openings were covered by quilts and quite often bears proved to be quite troublesome nocturnal guests. Lurgan was a busy centre. Ashes from the clearing burns were shipped to Kincardine by boat to make soap and potash. This served as one of the early cash crops for the settlers. As late as 1885 cedar trees were cut out from the forests around Lurgan to be used in the streets of London, Ontario. The logs were cut and rafted up to Kincardine and shipped from here to their destination by rail. Another industry appeared in this district in 1885. Mr. William Blair and his two sons built a dam and a saw mill just up river from the present lake shore bridge across pine river. In 1860 Mr. John Hicks bought out Mr. Blair and added a flour mill to the site but in 1868 the project met with disaster when the dam was washed out by a flash flood.

The mail, at this time was carried by horse and rider and since

Largan was situated along the trail between Kincardine and Goderich the district was well served in this respect. Mail arrived at the Post Office of John Gamble three times a week and this post office remained even after the village had disappeared.

Promising as this settlement was at the beginning it lasted only a few years . The village of Alma was also founded on a site south of Pine River at the foot of the Algonquin bluff but this too proved to be an unpopular village although a few houses were built and grants were given for a school and church. Thus it is that the descendants of these settlers are to be found scattered over Ashfield, Huron and Kincardine townships. This dispersal may be attributable to the poor sandy soils surrounding the town sites and to the more attractive conditions that existed around Ripley and other places then and later on.

#### RIPLEY -

The second settlement with which we are concerned is that one which developed into the town now known as Ripley. The people who made up this settlement were Scots who had been evicted from their homes on the Isle of Lewis some time in the 1840's and had made their way to Canada. After some fruitless wandering around, these hardy people, had to split up and 109 families came to Huron township over the old sleigh road and Indian trail from Goderich. In 1852 they settled around the site of present day Ripley.

These people of Scotland had a fine hard working, though frugal heritage and this plus their ability to learn new ways was their only weapon with which to fight the elements of the harsh new world. Before coming to Canada these people made their livelihood from the sea and from

herding sheep on the treeless Isle of Lewis. They were not farmers yet they had to be farmers to live. They had no knowledge of how to handle an axe, clear the land, plant, raise, and harvest crops, hew timber, cut trees for houses, or handle farm animals. With the guidance of friendly neighbours, with whom they communicated by a mixture of sign language, gaelic, and broken english, these stubborn hardy folk slowly developed the land that was theirs.

The Lewis settlement got supplies from Goderich, most of which they packed in on their backs since horses were very scarce and the few that they had were needed on the farms and could not be risked on the dangerous rough trail to Goderich. The township of Huron was officially formed in 1855 and in 1856 the post office at Ripley was established on lot 4 concession 8. With each successive post master, a farmer, the post office site shifted until it was finally moved to lot 15 concession 7 and there the town of Ripley developed. Ripley was named in 1856 after a town of Derbyshire England but when Mr. P. McInnes came to office he agitated for and obtained a change of name to "Dingwall" in 1874 which was more in keeping with the names of the surrounding populace. In 1873 the Wellington Grey and Bruce Railway had come through Ripley on its way to Kincardine and in 1874 a station was built at Ripley. This name stuck to railway station and in 1880 the post office name reverted to Ripley.

With the coming of the railway to Ripley in 1874 the business of the township and surrounding area focussed, and new buildings rose. The following year it was reported to have a grist mill, a saw mill, a Presbyterian church and six stores. Shortly after 1876 the town hall was built and at the same time three grain stores were added to the town since

the grain buyers had made Ripley a grain centre. Ripley was made a police village but after a petition in 1898 the first board of Trustees was selected.

From the very early days the people of Ripley and Huron Township did most of their banking and financial business with Mr. S. T. Jackson in Ripley. In 1903 Mr. Jackson was bought out by the Bank of Hamilton who retained Mr. Jackson as agent. In 1904 a competitive bank, the Traders Bank, opened in Ripley.

The first printing press in Huron Township was brought in by H. P. Chapman in 1889. Most of his work, of course, was job work printing posters etc. In 1892 Mr. Chapman started the weekly paper "The Enquirer" but this was later changed to the "Ripley Express". In the 1930's the "Ripley Express" amalgamated with what is today the "Kincardine News" and the paper today is produced with a Ripley news section. With the coming of the railroad in 1874 the expansion of Ripley as the farm service centre of Huron Township took on new proportions and a new age of prosperity for the township began but the scope for development was very limited. Today the town is very much the same as it was then with the exception that the roads, sidewalks and towns services of power, water, and sewage are far superior. In 1931 the population of the town was 431 and today the population is only 465. In 1900 a flax mill and a planing mill were erected in the town but these burned down in 1930 and 1935 respectively. Since this was a time of depression these businesses were not rebuilt and today most of the flax grown in Huron Township goes to the Anderson mill in Lucknow.

Some of the early settlers grew up with little or no formal education. Some of more fortunate children had parents who after dark, and through the long winter days, passed on their generally meager learning. It was not till the late 1850's that the first school was built on the sixth concession near the lake where Capt. H. Gamble was the teacher. The next school was built west of the river opposite the fourth concession but in 1886 this was shifted to the north side of the fourth concession just below the Algonquin bluff where it still stands today. This school was erected by Mr. James Bradley.

The demand for more schools and better schools grew with the expanding population and since the population was widely scattered throughout the township many small one room schools were built in strategical positions in order to satisfy the demand. The students of those early days were quite different from those that we find in the schools today for the older children could attend only during the winter as they were required at home in the spring, summer and autumn to help with the farm work. Thus it was that many adults and older children attended school with the young children in winter.

Today as in those early days the small one room school houses are scattered over the township in strategical positions so that they are within walking distance for the young children. There is only one high school and that is in Ripley. A new system of school buses has been set up in Kincardine by which children of Kincardine and neighbouring townships are transported to a very modern new school in Kincardine which provides the best facilities. Maybe someday

these facilities will be available to all the children of Huron Township.

Closely connected to the schools were the churches and many were built to serve the farming community. The first church to be erected in the township was St. Lukes Anglican church just north of the Pine River on the present site of the Anglican and Presbyterian cemetery. As the population of the township grew and more and more land was cleared new churches representing the various religious denominations were erected to satisfy the scattered population. This emphasizes the religious nature of the people and the following table will give some indication of the percentage of population belonging to the various denominations from 1861 onwards.

	<u>Roman Catholic</u>	<u>Church of England</u>	<u>Methodist</u>	<u>Presbyterian</u>	<u>Baptist</u>	<u>United Church of Canada</u>
1851 †	-	150	-	-	-	-
1861	69	492	278	1393	26	-
1871	98	566	856	2506	19	-
1881	63	732	1520	2808	53	-
1891	24	424	1192	2440	104	-
1901	13	380	1244	1840	12	-
1911 †	-	-	-	-	-	-
1921	11	384	1027	1498	8	-
1931	4	205	-	382	2	1157
1941	6	176	-	281	4	1122
1951 †	-	-	-	-	-	-

These figures illustrate clearly the early numerical dominance held by the Presbyterian church in Huron Township and it is not till after 1900 that the Methodist Church had a comparable number of members. It was not long after this that the Methodist church and the Presbyterian church came into union to form the United Church of Canada. There still remains a Presbyterian Church in the township today. The village of Ripley today has four churches; United Church of Canada, Presbyterian, Anglican, and Pentacostal.

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† Figures unavailable for township.

To conclude the History of Huron Township let us look at the overall population trends and the origins of the people who came to the township from its beginning to the present time as shown in the table below:

<u>Year</u>	<u>Total</u>	<u>English</u>	<u>Scotch</u>	<u>Irish</u>	<u>German</u>	<u>Ontario New Brunswick</u>	<u>Other Places</u>
1851	236	21	54	62	5	‡	6
1861	2429	72	726	325	43	88	115
1871 <sup>†</sup>	4079	108	946	365	35	1079	113
1881 <sup>†</sup>	5175	-	-	-	-	2513	-
1891 <sup>†</sup>	4125	-	-	-	-	-	-
1901	3539	379	1629	1410	107	-	14
1911	2951	406	1248	1171	72	-	54
1921	2572	360	1069	1055	54	-	44
1931	1753	224	664	794	57	-	14
1941 <sup>†</sup>	1603	220	553	779	40	-	11
1951 <sup>†</sup>	1464	-	-	-	-	-	-
1954	1448	-	-	-	-	-	-

As can be seen from the above figures the maximum population of Huron township was reached around 1881 when there were 5,175 people in the township but from that time on there has been a steady decrease in population to the present figure of 1,448. In the early days of the township the majority of the population came from other parts of Canada but there were a fair number of Scots and Irish to swell the ranks. Up to 1921 there were more Scots than Irish in the township but after this time the Irish are more dominant.

The question arises - why did these people leave? The people were first attracted to this land because of the free grants and of the many who came several left because of the hard existing conditions in this peripheral area of Ontario. After 1881 the number of people leaving the

† Include 17 French

† Figures not available.



township exceeded those entering the township. Thus there was rural depopulation. Of course there were other reasons for this movement of people away from the country to the city and it must be remembered that what took place in Huron Township was only part of the general exodus that was taking place all over the province of Ontario at this time. The first great fertility of the virgin soil had worn off and only the best farmers with enough land, experience and knowledge were able to maintain a satisfactory life. The less able farmers sold out. Another reason for the depopulation of the township was the advent of farm machinery which increased the area that one man could farm and machinery was cheaper than taking on extra hired hands. The younger generation was also growing up at this time and they heard about the big cities of Toronto, Hamilton, London and Detroit to the south. The glitter of the cities and the comparatively high wages to be obtained there were irresistible.

#### LAND USE

In 1851 there were 43 people who held 5,153 acres of land in Huron Township. Of this 317 acres were in cleared land and the remaining 4,836 acres was in woods and wild land. Today the total land area of Huron Township is 57,827 acres, of this 55,651 acres are cleared land, 1,756 acres are wood lots, 337 acres are slash, and 83 acres are waste land. Most of the latter is found along the shore where the land is useless agriculturally but where a large summer cottage settlement is developing.

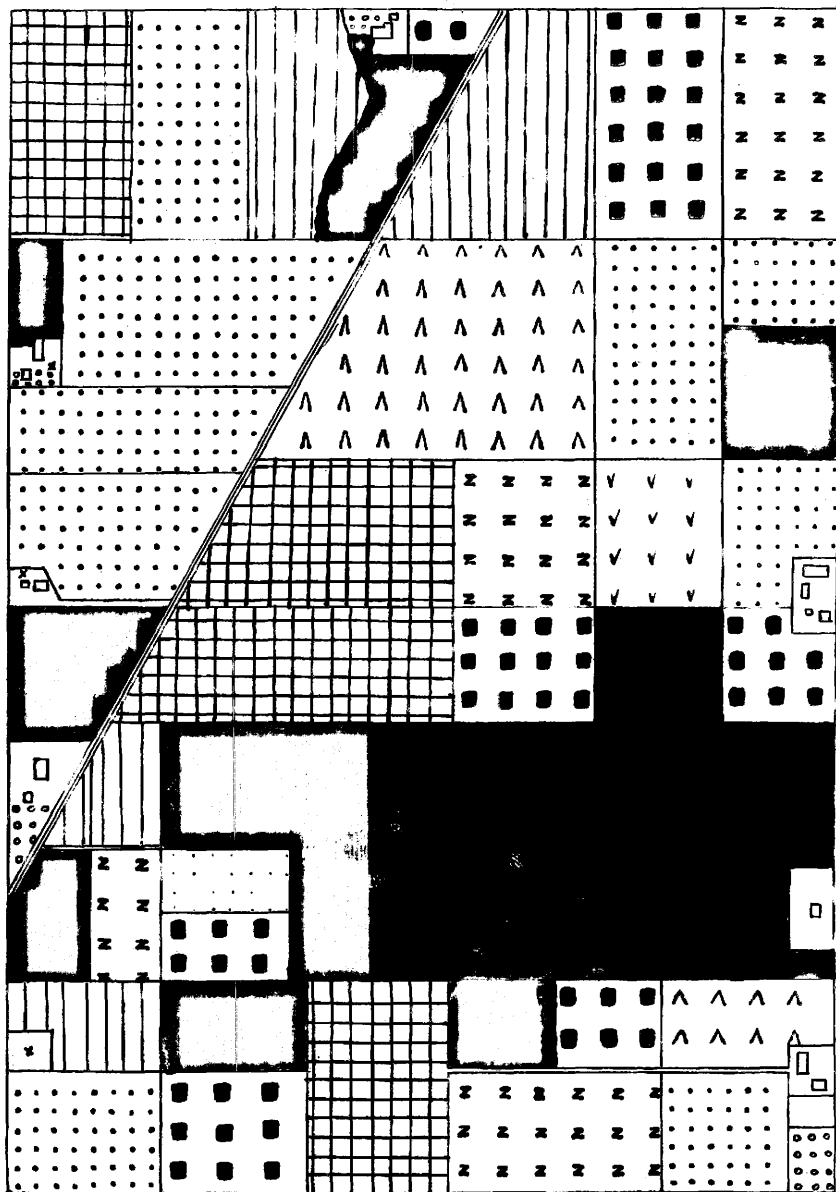
On the cleared land the farm houses fall into three definite categories, yellow brick, frame (clapboard) and veneer brick. All the old log farm houses and barns are now gone and the oldest structures are















OLD YELLOW BRICK FARMHOUSE  
PLUS ADDITIONS



OLD STONE FARMHOUSE  
VERY FEW INTWP.



## LAND USE HURON TWP

- |   |               |   |                 |
|---|---------------|---|-----------------|
|  | SPRING WHEAT  |  | CLOVER          |
|  | FALL WHEAT    |  | HAY             |
|  | OATS          |  | PASTURE         |
|  | OATS & BARLEY |  | ABANDONED ORCH. |
|  | CORN          |  | WELL            |
|  | ALFALFA       |  | RAILWAY         |

SCALE: 1056 FT. = 1 IN.

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the square yellow brick farm houses. Of course many of these houses have additions both of frame boarding and veneer brick over two ply lumber. Of the farm buildings built after this time most were frame buildings which have been very well kept. Most new private buildings going up today are made of the veneer brick over two ply lumber with asphalt tile roofs. The majority of houses are brick structures. Most of the new barns are large wooden structures built on a foundation of concrete or stone and roofed with aluminum or synthetic tile. Of the few old barns that remain standing most are sided with hemlock and roofed with the new substitutes that have replaced the cedar shingles.

Farms were surveyed originally into 100 acre lots each concession being one and a quarter miles square and each farm going back half way to the next concession road. This gave ten farms per block of land. Each 100 acres is assessed at \$2,500.00. The barns and house are assessed \$2,500.00 - \$4,000.00 and \$5,600.00 - \$6,300.00 respectively. The new equalized assessment is based on area increase and the mill rate goes down with the increase assessment. This is an encouragement for the farmer to expand his buildings.

The value of the farms of Huron Township today have increased a great deal due to the application of modern scientific farming methods and this could be best demonstrated by a table of figures. Unfortunately the records, that are usually available in the township, were lost in a fire. Thus I am limited to giving only the figures as found in the 1951 census report.

<u>Year</u>	<u>Total Value of Farms</u>	<u>Land and Buildings</u>	<u>Implements and Machinery</u>	<u>Livestock</u>
1951	\$7,600,192.	\$3,612,725	\$1,427,791	\$2,559,676

These figures are superseded by only three other townships in Bruce County and they are Brant, Carrick, and Kincardine Townships. Culross township also surpasses Huron Township in the value of its livestock.

Before going into a detailed study of the land use in the township, during the last hundred years, let us first look at a table of figures on the township land use which will give us some idea of the agricultural trends which are discussed later on. In reference to the table the upper figure under each crop is in acres and the lower figure is in bushels.

Year	Land Held	Land Cultivated	Crop Land	Pasture	Garden Orchard	Wheat	Barley	Mixed Grains	Peas	Oats	Corn	Potatoes	Turnips	Hay	Woods	Flax
1851	5153	317	235	46	36	95				24						4836
						1842					17					
1861	47104	9983	7406	2543	34	3487	26		601	794	3	418	434	1295	37121	
						65249	639		11916	21966	38	35380	65235	tons		
1871	54819	26112	2158	4460	394	-	-		-	-	tons	557	-	4314	28707	
						68361	12007		27141	44097	468	30059	11692	4723	t	
1881	57896	47073	38452	7825	796	11634	-		-	-	tons	460	-	6732	10823	
						151485	22931		51193	102275	880	43414	31382	8169	t	
1891	57889	53593	39554	13137	901	3991	3431		-	7462	tons	451	230	10753	4296	
						74583	81332		90903	193924	4427	56503	72021	16330	t	
1901																
1911	57635	53770	34504	-	731	3059	2222		3831	9246	482	332	70	11988	3865	101ac
						65038	71462		60605	330481	4046	36081	32369	14872	t	
1921	56993	52291	29684	18941	374	2102	2307	1897	354	9121	862	288	85	12002	1643	205
						44023	75008	66801	6013	303154	7733	26729	27205	13395	t	
1931																
1941	57104	53260	29811	18518	-	2411	2191	5810		5672		109	-	ton	1459	481
						-	-	-		-		-	-	11448	t	-
1951	57373	53528	31493		-	2399	3452	6544		4038		17				2055 ac
						-	-	-		-		-		12426		

In the first years of the development of Huron township farming was, for the most part, on a subsistence level. Crops were grown to feed the farmer, his family, and the livestock with maybe a bit left over with which to barter for store goods in the closest town. When most of the land was still under forest cover the big cash crop was the ashes obtained from the clearing-burns and the timber sold to the small saw mills scattered about the township. From the very beginning some wheat and peas were grown and sold in order to obtain products which the farmer could not obtain by barter. A fairly high proportion of the land was planted with potatoes and turnips which were a food staple. Oats, barley and hay were also grown as fodder for the farm animals. In 1851 of the 236 acres under cultivation 95 acres were in wheat, 24 in oats, 17 acres in Indian corn, 46 acres in pasture, and 36 acres in gardens. In 1861 we find that of the 7406 acres in crop land 601 acres (11,916 bu) were in peas. This gives some indication of the importance of the pea crop particularly when we see that only wheat and oats have a greater acreage.

By 1881 wheat acreage (11,634 acres) is more than tripled, the barley output (22,931 bushels) is more than doubled, and the oats output is 5 times as great (102,275 bushels). The pea crop has kept pace with these field crops with more than four times as much land under peas as in 1861. These bumper crops must be attributable to an agricultural boom for although in 1891 we find that the wheat acreage is cut in half, the output of oats, barley and peas has increased by more than half (193924 bu. 81332 bu. and 90993 bu. respectively.) The best part of all these crops were being sold as cash crops. It is unfortunate that no township figures are available from the census of 1901 but in 1911 the produce of wheat (65038 bu.) barley (71,462 bu.) and

peas (60605 bu.) are down while that of oats is up a great deal (330481 bu.). When the next census was taken the world had been through another war and the effects can be seen in Huron township not only in those who did not return to the farms but in the actual output. It was also in this period that the pea crop was hit by a disease. So hard was this crop hit that in 1921 only 6013 bushels were produced and then it no longer appears as a field crop in the census reports. In this year also wheat production was down (to 44022 bushels from 2102 acres); barley remained about the same (2302 ac. - 75008 bu.); oats was down to (9121 acres producing 30154 bushels). In 1921 we see the introduction of mixed grain to the census reports showing an acreage of 1897 producing 66801 bushels. Up to this time the production of potatoes and turnips keep a fairly steady pace fluctuating with the population and the demand. After 1921 turnips no longer appear and the potato crop is insignificant. It is not till 1941 that township figures are again available and these show that wheat (2411 acres) and barley (2191 acres) have remained fairly stable but oats has dropped from 9121 acres in 1921 to 5672 acres in 1941. This deficit has been taken up in mixed grains (5810 acres). The 1951 census shows that there has been an increase in barley acreage (3452 acres) and the mixed grain acreage while both wheat (2399 acres) and oats (403 acres) have dropped. After so much talk of quantity production I would like to say that prizes have been awarded to the grain producers of Huron township. One of the best showings was given by James Steele (Sr.) in 1878 when he received a gold medal for Flint wheat at the Paris Universal Exhibition. His was part of a joint exhibit representing Canada.

The reason for this gradual decrease in grain production and wheat production in particular may be attributed to the greater and greater



quantities of cheap grain coming out of the Canadian and American west. The Ontario grain farmers found it more and more profitable to grow other crops rather than compete in this market. It can be seen that the growth of mixed grain has taken over much of the acreage where oats were once grown.

Let us now look at the corn and flax crops. As early as 1851 17 bushels of Indian corn was produced in Huron township. Ten years later 38 bushels were produced and in 1871 468 bushels were harvested. Thus we see the gradual but constantly increasing output of corn. This trend continued till in 1921 there were 862 acres under corn and 7733 tons of corn were produced. At this point production ceased at least as far as the census reports go. The reason for this drop according to the older farmers, beside poor prices, was that it became cheaper to grain feed the animals than to raise corn on land that could be used to better advantage. In the township there are many empty and unused silos today. Some corn is still grown but this is of little consequence.

About the same time that the corn crop was reaching its peak the growth of flax appeared on the official census reports for Huron township. In 1911 there were 101 acres of flax in the township and it is quite likely that the crop had been grown before this time. By 1921 the flax acreage had doubled and in 1951 reached a high mark of 2055 acres. Most of this crop is used for the flax seed which is used to produce vegetable oil. Throughout the discussion so far I have purposely left out two crops: orchard crops (apples) and hay. I will now discuss the orchard crop and leave a

discussion of the hay crop till dealing with livestock.

The first appearance of the orchard crop in Huron township was in 1861 when it was listed along with garden acreage (34 acres). With each successive census the acreage of the land under this classification increased until in 1891 there were 901 acres in this category. Most of this applied to the apple orchards which were the only fruit crop in the township. In 1911 and 1921 the acreage dropped progressively to 731 acres and 374 acres respectively. After this the orchard crop is no longer mentioned in the census report for the township. In this respect the apple crop is very similar to the pea crop in that they both went out of existence at the same time although for different reasons. The apple crop had been hit hard by frosts in this period and the labour costs of maintaining the orchards were too high and the competition from more suitable areas too keen to make the business profitable. Also the trees in the township were getting old and needed replacement and the cost was prohibitive both in money and time.

When the settlers first came into Huron township threshing was done by flail and the cutting by scythe. The great farm mechanization of the 20th century began to have its effect and mechanical reapers appeared on the farms to be followed at a later date by binders and combines. Following the flail came the horse driven thresher to be followed by the modern threshing machine. At one time it took a week and twelve men to do the threshing and this meant expense because the farmer had to feed and house the men. Today the same job is done in one or two days on the average farm by two or three men. At one time the motive power on the farm was the horse and oxen; today this heavy-duty work is handled by the tractor and the truck. On the great majority of farms all the conveniences of the town are to be found in order to

lighten the work of the farmer. In 1910-11 the rural mail and telephone arrived in Huron township and in 1938-39 hydro was put in to all farms with the exception of some on the sixth line. This added source of power eased the farmers work considerably (milking machines etc.) and also made the job of the farmers wife easier and more agreeable. Water, admittedly, is supplied from wells but this is pumped right to the house. Today there are very few farmers without all the modern conveniences in addition to a fairly modern car.

The farmers of Huron township have gradually become conscious of improved scientific farming methods and breeding which has aided them remarkably in the rehabilitation of their farms. This is illustrated by an increased use of the facilities that are open to them at the Ontario College of Agriculture and other experimental agricultural institutions, adaptation of crops to the soils, their efforts to improve the breed of all types of livestock and the widespread use of the tile drainage wherever necessary. Many farmers have sent their sons to the Ontario College of Agriculture and other similar institutions where they have acquired some very practical information from the various courses given. The farmer of Huron township today is quite conservation conscious because he must produce more, of a better product, at a moderate price, in order to compete.

Let us now turn to a discussion of land use in terms of livestock. The earliest figures that are available are in the 1861 census and from that time onward they only appear periodically.

Year	Horses	Milk Cows	Beef Cows	Other Cows	Sheep	Swine	Turkey	Geese	Duck	Chickens
1861	96	796		1740	1164	1323				
1891	1504	3407		5201	5726	2834	387	847	509	19787
1941	1635	4029	1081	5187	1139	8815				67792
1961	648	3444	1819	4506	357	7524				20955

In the early days of Huron township the livestock expanded with the human population. As more people came into the township they brought farm animals and when they left they sold what they could not take with them. Cattle came in with early settlement and with time both the size and the breed of the herds improved. In 1890 Mr. Pete Cambell received a diploma for the best herd of cattle in Huron township. In 1931 Mr. L. B. Reid started raising pure bred Holsteins and now has a famous herd. Mr. J. Reid and Mr. Roy Geddes are also noted for their Holstein herds. As can be seen from the above figures the dairy herds have been increasing rapidly and it is not till recently that beef cattle, or at least cattle raised for that specific purpose, have appeared in the township. Most of the milk from the dairy herds goes to the two cheese factories in the township but some does go to the dairy in Kincardine.

Since it has not been until quite recently that beef cattle have been raised in Huron township the majority of the animals sold for beef are of high quality. Two breeds predominate - Short horn and Hereford. These are fine beef cattle. Most farmers have both beef and dairy cattle; only a few raise strictly dairy cattle.

With the majority of milk going to the cheese factory a great deal of whey is produced which provides a cheap food for swine. Thus, costing the farmer nothing, it is not surprising to find a fairly large swine population

in the township. The swine in the township are of a high quality and the numbers have risen steadily to a peak of 8,815 during the war. Since 1941 the swine population has once again settled into a normal increase pattern with the population up from 7524 as found in the 1951 census.

The poultry end of farming in the township has traditionally provided the farmer's wife with pin money but today that business has taken on large proportions. As can be seen from the livestock figures poultry was not even mentioned in the 1861 census although I do believe there was a sizeable population. In 1891 the poultry numbers were still down particularly when the high human population (4,125) of this period is realized. The increase in poultry so indicated by the 1941 figure may be attributed to the general increase in the population of Ontario. Also during the war chicken was a treat to be enjoyed thus the demand was high. Similarly the 1951 poultry figure is remarkably high although chickens are not as plentiful. Fresh eggs are sold within the township but the majority, after passing through the grading station in Ripley, go on to London and Toronto. It is very interesting to note that with the increasing herds of cattle there is more and more land being used for pasture and fodder crops. In 1861 there was a total of 2536 cattle in Huron township for which there were 2543 acres of pasture and 1295 tons of hay. This is in addition to 639 bushels of barley and 21966 bushels of oats. In 1891 the cattle population was up to 8608 for which there was 13,137 acres of pasture, 81332 bushels of barley and 193924 bushels of oats. This also had to feed 1504 horses but still there was quite a bit exported. Thus it is that the fodder crops keep pace with the growing cattle population. It should also be mentioned here that

both grass and clover seed were also raised in the township but the figures obtainable are for only two years 1911 (12664 lbs. grass, 22482 lbs. clover) and 1921 (50352 lbs. grass; 137040 lbs. clover). It will be noted from the livestock figures that in 1861 sheep made up 1/5 of the total livestock population in Huron township. At this time sheep herding, initiated probably by the Lewis settlement, was very important to the early settler for it provided him with a source of food as well as a source of fibre which was spun and woven into cloth and woolen household articles. It also provided a source of income in that the wool could be sold to the textile industry. In 1861 the 1164 sheep of the township produced 3019 lbs. of wool. By 1891 the sheep flocks had risen to 5726 in number producing 22715 lbs of wool. The next figure we have for the sheep population of Huron township is in 1941 and in that period the number of sheep in the township dropped to 1139 and by 1951 the number was down to 357. Today that figure is even further depressed.

This remarkable decrease in the once profitable sheep raising industry is attributed by Mrs. W. Steele in her history of the township to wolves killing the sheep. It is my belief that the reasons were more economic than anything else.

This plus the fact that the climate is not at propitious to sheep raising as other parts of the world such as Australia and New Zealand, has led to its decline.

The increase in the numbers and quality of the cattle in Huron township when noted along with the decrease in sheep and the decrease in acreage under cash field crops leads me to believe that the farmers of this area are turning more toward cattle raising as a means of livelihood. This



TYPICAL BARN AND FERTILE FIELDS



TILE FOR FIELD DRAINAGE



field of competition is more fluid than grain, the competition is less sharp, and the margin of profit is higher. Although the feed grains of the west can compete favorably with the Huron grown products in price and quality I believe that the township will remain a general farming district with the accent on beef and dairy cattle. I would also like to say at this time that any reasons that I have given for the increased or decreased production of any crop or product are over and above the economic laws of supply and demand.

The question now arises whether the crop and livestock landuse so far discussed is applicable to the whole township? From my own observation and from my talks with people in the township it is my opinion that the great majority of the township is used for the same purpose - general farming with a growing accent on the raising of beef and dairy cattle. It is for this reason that I have chosen a block of the township that I believe is representative of its landuse. The boundaries of this block of land are the township boundary on the north, the Blue water highway on the west, the twelfth concession road to the south and the thirtieth sideline to the east. (See Landuse map).

As can be seen from the map the great majority of the land is in forage crops, some of which can be sold through the facilities in Ripley or kept on the farms to feed the animals during the winter. It also can be seen that each farmer has a sizeable portion of his cultivated land in wheat which is used as a cash crop. The presence of a large area of pasture is indicative of a fairly high density of cattle. The distribution of the pasture land varies from year to year as crop rotation is put into practice.



Although many of the farms have silos not much corn is grown and many of the silos are not in use.

The above summary of land use is applicable to almost any block of land in the township.

Although the village of Ripley occupies a comparatively small part of Huron township, it is worthy of discussion under this section since it constitutes the largest urban landuse development in the township.

Today Ripley serves as the shipping centre for all of Huron Township and parts of Ashfield and Kincardine townships. This is in particular reference to the handling of field crops, machinery and commercial goods. There was a time when the export of Huron township apples was of great importance but unpredictable conditions, have precluded the commercial development of this crop. Because of the small size of Ripley there is no hotel and all visiting businessmen and guests either stay in private homes or stay in the hotels of towns outside the township. By public plebiscite the town is "dry" and for this and business reasons most of the people of Ripley and Huron township patronize the towns of Walkerton, Hanover, and sometimes Kincardine and Lucknow depending on their needs and proximity.

Below are listed the business establishments and public and professional offices and buildings to be found in Ripley today.

Ripley Business (Section)

3 Grocery Stores	3 Dry goods store
1 Harness Repair Shop	1 Pool Room
1 Restaurant	1 Hardware

2 Implement Shops	3 Garages
1 Furniture Store	1 Under Taking Parlor
1 Hairdresser	1 Drug Store
1 Radio and Television Store	2 Grain Elevators
2 Feed Stores	1 Egg grading Station
2 Plumbing and Electrical Stores	2 Feed distributors (coal)
1 Road transport	2 Truckers
1 Butcher Shop	1 Royal Bank of Canada

Public and Professional Offices and Buildings of Ripley

1 Town Hall	4 Churches (United Church of Canada, Anglican, Presbyterian, Pentacostal)
1 Arena	1 Fire Department (12 volunteer men)
1 Public School	1 High School
1 Community Park	1 Doctor

1 Notary public

As can be seen from the above the town of Ripley is fairly small and it is highly unlikely that it will grow to any great degree even with the attempts that are being made to attract some of the summer tourist trade. It is quite probable that there will be a gradual increase in population with the general population increase in Ontario and Canada.



RIPLEY



GRAIN ELEVATORS - CHOPPING MILL

RIPLEY

## INDUSTRY

Industrially speaking Huron Township could hardly be poorer and there is very little hope that the situation will change unless the oil companies find something worth while. In the early days there was a small amount of grain milling, home weaving, shoe making, Saw-milling and until recently tailoring but none of these small businesses have lasted through to the present day with the exception of one - the cheese industry.

There are several hundred varieties of cheese but cheddar cheese is the base for most of them. Cheddar cheese dates back 250 years and came from the town of Cheddar in South Somerset County in England. This method of cheese making was brought to the New World (New York State) in 1850 and in 1864 Mr. Harvey Farrington brought it to Norwick township near Ingersoll. From this point the industry spread all over Ontario and eventually arrived in Huron township in 1885. Up to this time cheese had been made in Huron township in the homes of the farmers, for home consumption. In 1885 the Pine River Cheese factory was built just below the Blue Water Highway on the 6th Concession and there it still stands. Mr. Bell was the first cheesemaker but now Mr. Eckmeir is the cheese maker for the Pine River Cheese and Butter Co-operative.

Another cheese factory was constructed about the same time at the corner of the 12th concession and the 25th side line; the Huron Cheese and Butter Co-operative is still in operation today. The Pine River plant is the bigger of the two plants and produces 180 - 300 tons per year plus 400 lbs. of whey butter per week. Very little of this butter is sold commercially





THE PINE RIVER CHEESE AND BUTTER  
CO-OPERATIVE



THE HURON CHEESE AND BUTTER  
CO-OPERATIVE

most of it going back to the farmers who deal with the cheese factory.

Most of this fine cheddar cheese is sold in big lots to buyers who come around to the factories representing big firms throughout Ontario. The cheese is shipped by rail or road transport.

As a by-product from cheese making, besides whey butter, there is the actual whey. This is stored in a tank behind the plant and a tank truck distributes this to the farmers, as swine food, at no expense to the farmers.

The introduction of other dairy products and substitute synthetic products has caused a drop in cheese production but it still remains a very important part of the dairy industry particularly in the export branch.

#### TRANSPORTATION AND COMMUNICATIONS

As has been indicated earlier in this thesis the first settlers came into Huron township over indian trails, sleigh roads and by water. Any big bulky goods were brought in by water to the closest point to the destination and from here they were moved by pack animals or human muscle. As the population increased swaths were cut through the forest not only to clear the land for planting but also to make movement easier. In order to cover up the stumps and bog holes cedar corduroy roads were laid down over the more heavily travelled routes. With the discovery of fine road building gravels in the township a new surface was put on the roads of the township but because of the poor foundation spring heaving and erosion was bad. As the township became better organized a system of road work was introduced. Each farmer drew gravel in accordance with number of acres he held and this he used to look after a section of road for which he was responsible. The roads of the township were divided up into beats on which several farmers worked.

One man was placed in charge of each beat, and he was known as the "path master" and it was his responsibility to see that the road was well kept. The labour and gravel provided by the farmer went as part of his taxes. Gravel pits on Concession two owned by MacTavish's, McGuires, Roulstons and Wilsons on the fifteenth sideline were used. Gravel from the MacTavish pit is used by contractors today to gravel township roads. There are still men in charge of each beat to see that the roads are looked after winter and summer.

The only paved roads in the township are the highway along the southern boundary between Amberley, Lucknow and beyond, the Blue water Highway and the fifteenth sideline through Ripley up to highway No. 9 in the north and the Amberley - Lucknow highway in the south. Very recently the gravel road between Ripley and the Blue Water Highway has been paved in order to attract tourists and summer cottager at Pt. Clark to Ripley.

In 1874 Ripley was made a stopping place for the Wellington, Grey and Bruce Railway which was later taken over by the Canadian National Railways. This brought Ripley and the rest of Huron township within easy reach of the once far distant commercial and industrial centres of Ontario and both town and township developed accordingly. The train provides daily service with Palmerston and Toronto. To this commercial means of transport has been added in the last few years a weekly busline. On Saturdays and Sundays the Western Motorways busline makes a stop at Ripley but for the rest of the week bus travellers must go to Kincardine to make connections for Kitchener, Toronto, Hamilton and London.



LAKE HURON BEACH IN TWP.



PT. CLARK LIGHTHOUSE



As has been stated earlier the telephone reached Huron township in 1910-11 and the telegraph had arrived with the railroad in 1874. Thus it can be seen that Huron township is fairly well served in both transport and communications facilities.

### RECREATION

The big natural recreational asset of Huron township is of course Lake Huron and the fine beaches that extend north from Pt. Clark to the township limits. From very early days Point Clark, and neighbouring Blair Grove were used as picnic grounds by the people of the township. Mr. William Bradley built the first summer cottage north of Pt. Clark and today this has developed into a thriving summer resort area as far north as Poplar Beach. This little summer community attracts people from both United States and Ontario and in order to prevent the degeneration of the district all commercial and industrial business has been heavily restricted. Much of the later development has been pushed by P.V. Smith who has put through roads so that more of the beach has become accessible to prospective cottage builders and summer residents. This summer development is served by hydro, rural mails, and local stores but fresh water must be obtained from wells. In the last year a paved road has been put through to Ripley to attract a greater proportion of the summer population which previously did their buying in Kincardine.

### CONCLUSION

In conclusion let us picture Huron township as a whole as it now exists; let us also look to its future.

Huron township today is very much the same, physically, as it

was before man came into the area; the trees are gone, the fields are under crop and pasture, the land is dissected by road and rail, and houses and barns have been built but the broad, level, gently sloping, stream cut, clay and till plains remain, still bounded on the west by the Algonquin bluff and Lake Huron. The great epitaphs of nature's creation, before the coming of man, remain unaffected.

As we look at the farms we see that many of the same crops are being grown today that were grown when man first came to the township but today the crops are of better quality and are produced with less work by a farmer equipped with all the mechanical aids of modern agriculture. The livestock in the pastures and in the barns are of high quality most of them being raised specifically for beef or dairy produce. The poultry also has increased in numbers and quality. With his better agricultural education the farmer today is governed by what the land can produce and what the market demands. What does the future hold for Huron Township? Because of its peripheral position and the increased competition in grain farming from the Canadian West the dairy and beef herds will expand to meet the increasing demands of the rising population in urban centres.

The Industries of Huron township today are very small and the future development of new industries or the existing cheese industry is not very likely. Of course much depends on what the atomic age will bring us. It is my belief that this will bring about a wide dispersal of industry and population. Consequently, if transportation facilities develop, there is a possibility that small industries may evolve.

Huron township provides today much of what modern man seeks in the way of recreation - peace and quite away from the throbbing, busy urban centres.

Here, in a very pleasant setting, are to be found the basic essentials of happy living which have disappeared to a great extent from our modern way of life.

## APPENDIX

### Soil Profiles

#### Burford Loam

- A<sub>0</sub> - Thin layer of partially decomposed leaves, twigs etc.
- A<sub>1</sub> - 0-4 inches loam; very dark greyish brown, fine granular structure; friable consistency; few stones; pH -6.5
- A<sub>21</sub> - 4-17 inches loam; yellowish brown; weak platy structure; friable consistency; few stones 6.3.
- A<sub>22</sub> - 17-20 loam; light yellowish brown; weak platy structure; very friable consistency; pH 6.2.
- B<sub>2</sub> - 20-33 inches clay loam; dark brown; medium nuciform structure; hard consistency; gravelly; frequent stones; pH6.8.
- C - Gravel and Sand; light grey; single grain structure; loose consistency; calcareous; pH 7.8.

#### Bookton Sandy Loam

- A<sub>0</sub> - Thin layer of partially decomposed leaves, twigs etc.
- A<sub>1</sub> - 0-3 inches sandy loam; dark greyish brown; fine crumb structure; very friable consistency; stonefree, pH-6.6.
- A<sub>2</sub> - 3-8 inches of sand; yellowish brown; single grain structure, loose consistency; stonefree; pH - 6.1.
- B<sub>2</sub> - 8-16 inches sand; dark brown; single grain structure; loose consistency; stonefree; pH - 6.8.
- B<sub>3</sub> - 16-22 inches sand; brown; single grain structure; loose consistency; stonefree; pH - 7.0.
- C - Sand -greyish brown; single grain structure; loose consistency; calcareous; pH-7.6.
- D - Clay till or clay, brown; prismatic structure; hard consistency; calcareous; pH - 7.8.

#### Gilford Loam

- A<sub>0</sub> - Thin layer of partially decomposed twigs etc.
- A<sub>1</sub> - 0-6 inches loam; very dark brown; fine granular structure; friable consistency; few stones; pH 7.0.

G - 6-19 inches loam; greyish brown; mottled; medium block structure; friable consistency; stoney; pH-7.2.

C - Gravelly out wash; brown; single grain structure; loose consistency; calcareous; pH - 7.6.

#### Granby Sandy Loam

A<sub>0</sub> - Thin layer of partially decomposed leaves and twigs etc.

A<sub>1</sub> - 0-7 inches sandy loam; very dark brown; fine crumb structure; friable consistency; stone free; pH - 6.8.

G - 7-25 inches sand; light brownish grey; mottled; single grain structure; loose consistency; stonefree ; pH - 7.1.

C - Sand; light grey; single grain structure; loose consistency; stonefree; calcareous; pH - 7.8.

#### Donnybrook Sandy Loam

A<sub>0</sub> - Thin layer of partially decomposed leaves and twigs etc.

A<sub>1</sub> - 0-4 inches sandy loam; dark grey-brown; fine crumb structure; very friable consistency; few and frequent stones; pH - 7.0.

A<sub>21</sub> - 4-13 inches sand; yellowish brown; weak platy structure; very friable consistency; gravelly; pH-6.8.

A<sub>22</sub> - 13-17 inches sand; pale brown; single grain structure; loose consistency; gravelly; very stoney; pH - 7.2.

C - Sand and gravel; very pale brown; single grain structure; loose consistency; calcareous; very stoney; pH-7.8.

#### Huron Clay Loam

A<sub>0</sub> - Thin layer of partially decomposed twigs and leaves etc.

A<sub>1</sub> - 0-4 inches of day loam; very dark brown; fine granular structure; friable consistency; occasional stones; pH - 6.7.

A<sub>21</sub> - 4-9 inches clay loam; light yellowish brown; weak platy structure; friable consistency; stonefree; pH - 6.5.

A<sub>22</sub> - 9-11 inches clay loam; very pale brown; weak platy structure; friable consistency; stonefree; pH - 6.4.

B<sub>2</sub> - 11-25 inches clay; dark brown coarse blocky structure;  
very hard consistency; when dry; plastic when wet;  
few stones;pH-7.0

C - Clay till; pale brown; fragmental structure; hard consistency  
when dry; plastic when wet; few to frequent stones calcareous;  
pH - 7.8.