### A GEOGRAPHICAL STUDY

OF

HULLETT TOWNSHIP

A Thesis Presented to The Faculty of the Department of Geography McMaster University Hamilton, Ontario

In Partial Fulfillment of the Requirements for the Degree Bachelor of Arts

by

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#### PREFACE

To examine and describe the natural and cultural landscapes, to explain their areal differences, and to present their interrelationships constitutes the purpose of this Geographical Study of Hullett Township.

The most important source of information for this study was obtained through direct field observations during a series of traverses by automobile and on foot. Supplementing this field work were references to a number of books and periodicals which are listed in the bibliography. Of these books special mention must be made of three publications. The first of these was The Physiography of Southern Ontario written by L. J. Chapman and D. F. Putnam which was utilized as a guide for the physiographic study of the township but was expanded where necessary by field observations. Secondly, the Huron County Soil Survey was extremely valuable. Finally, the writer would like to mention the Dominion Census Reports which were essential in writing the account of settlement and evolution of land use. In addition to the field and library work mentioned above a final source of information was a series of interviews held with farmers, the Township Clerk, the Huron County Agricultural Representative, and also with store owners and operators.

The study has been divided into five chapters. The first deals with the physical geography of the township under six subheadings. The five periods of historical development from 1830 to the present are discussed in the second chapter. The third chapter deals with the agricultural conditions as they are found today. A brief study of the four urban centres in Hullett and a discussion of their retail trade areas constitutes the fourth chapter of this thesis, while chapter five presents a summary and the conclusions which have been reached in this investigation.

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#### HULLETT TOWNSHIP

CHAPTER I: PHYSICAL GEOGRAPHY

#### Introduction

Hullett Township is characterized by several contrasting types of landscape. As one travels eastward across the township, he passes through a three mile wide belt of strongly rolling and deeply dissected topography of the western and southern sections. (see Contour and Physical Features maps) The main river draining the township, the South Maitland River, divides this rolling land into two sections and makes its exit from the township at the western border, just north of a very small community known as Summerhill. Another community, the largest in Hullett, is also located on the rolling land of the township. This is the village of Auburn which occupies a site at the northern extremity of the "Base Line" and overlooks the high left bank of the Maitland River.

Travelling down the gentle east-facing slopes of the rolling section one enters a part of the township which is quite different from that which lies to the west and south. This is a flat stretch of clay plain characterized by imperfect internal drainage. This drainage condition is reflected in the large number of stream channels and drainage ditches found there. It is especially evident in the spring when many of the fields are dotted with various sized puddles. South-west of the hamlet of Kinburn these drainage problems rapidly grade into conditions of exceedingly poor drainage or muck. This area has long been known by the residents of the township as the "Hullett Bog". Although flat like the plain to the north, the bog landscape is much different from any other that occurs in Hullett. One notices that farmsteads are found only on the fringe of the area, and that the grazing of beef cattle on the coarse native grasses is the only economic activity. Where grazing does not take place the land is left either in woodlot, or in typical marsh vegetation.

Located at a point where the rolling landscape merges with the flat lying land is the village of Londesborough. Through this village, which occupies a fairly central position within the township, runs #4 highway, one of the two main roads serving the township. The second, #8 highway, forms the southern boundary of the township.

#### (i) Location, Size, and Shape of Hullett Township

Hullett Township is located in Southwestern Ontario in the County of Huron, approximately 43° 40' N latitude and 81° 30' W longitude. As indicated on Map 1, it occupies the central position within that county.

With the exception of Morris Township, Hullett is the only township in Huron which does not extend its bounds to those of the county. To the north it is butted by the townships of Morris and East and West Wawanosh, and on the south-east by

McKillop. To the south the township is bounded by Tuckersmith, while to the west the "Base Line", an extension of the London-Huron Road, and the Maitland River provide the boundaries between Hullett and the townships of Goderich and Colborne respectively.

Hullett is roughly trapazoidal in outline, the only irregularity occurring in the north-west where the boundary is extended to the Maitland River to include a parcel of land known as the Maitland Block. The township measures more than 12 miles from the Maitland River to its easterly limits, and 9<sup>1</sup>/<sub>4</sub> miles between its northern and southern boundaries. Areally 53,312 acres or 83.30 square miles of Huron County lie within this township.

## (ii) Geology

Sedimentary strata of the Palaeozoic era dominate the entire area of Southwestern Ontario. These strata lie almost horizontal, dipping slightly to the south-west, and rest on an unevenly eroded surface of Precambrian rocks. Hullett Township itself overlies two rock formations of the middle Devonian epoch. The Delaware formation is found under almost the entire township with the exception of the north-east and south-east corners. This formation consists of buff coloured, crinoidal and arenaceous limestone with numerous chert nodules. The thickness of this formation is about 69 feet. Only one outcrop of bedrock occurs within the township. This is found as a small west-dipping anticlinal fold in this formation. It





is located along the bed of the Maitland River, under the bridge which leads from Hullett to the village of Benmiller.

Underlying the north-east and south-east corners of the township is a belt of rocks identified as the Detroit River formation. This is also a formation which is light brown in colour but it is chiefly crystalline to granular in texture and is a dolomite chemically. The formation includes some interbeds of limestone and reaches a maximum thickness of 125 feet.

With the exception of the morainic features, the glacial debris covering the township appears quite flat with a slight inclination to the north-east closely following the inclination of the bedrock. The discussion of the geology is relevant to the investigation of this township not only because of its controlling effect on the topography of the eastern section but also because of its effect on soil development.

#### (iii) Glacial History, Physiography and Drainage

Although the present surface features of the township are to some extent due to stream erosion, the outstanding features have resulted from Pleistocene glaciation and its accompanying activities. It is generally accepted that during the Pleistocene epoch the area underwent four periods of continental glaciation. The most recent period, the Wisconsin, was responsible for the present drift cover which obliterates evidences of the three earlier advances.

The movements of a glacier are considerably influenced



FIG. 1 An outcrop of the Delaware formation along the Maitland River. This outcrop is actually the crest of a small anticlinal fold which dips slightly toward the west. It occurs near the bridge which leads from Hullett to the village of Benmiller, in Colborne Township. by the topography of the underlying bedrock. It will naturally follow the easiest route which lies through the lowlands and around the highlands. With the advent of the Wisconsin ice sheet into Southern Ontario it moved directly into basins which acted as local centres of activity. The ice that scoured the Township of Hullett was part of the Huron Lobe which was centred in the basin now occupied by Lake Huron. The ice moved out of this basin and over the western parts of Southern Ontario. The prime accomplishment of the advance of the ice was to modify the earlier topography both by erosion and deposition. Passing over the township in a south-easterly direction the ice not only removed the existing features, but also deposited a mantle of pulverized and unassorted material known as drift or boulder clay which it had produced from the local bedrock.

After a lengthy period of continued activity, the Huron Lobe finally began the long process of retreat. As the glacier melted enormous volumes of water were unleashed, a great proportion of which became dammed up and thus created glacial lakes. At the time of the formation of glacial lakes Maumee, Arkona, and Whittlesey,<sup>1</sup> Hullett Township was still deep under continental ice.<sup>2</sup>

One of the peculiarities which marked the retreat of

T	These were three	glacial lakes which covered much of the
	land south of	the Ontario Island and into which many of
	the spillways	leading from Ontario Island drained. They
2	are generally	looked upon as enlarged stages of Lake Erie.
2	C. H. Stockwell,	Geology and Economic Minerals of Canada,
	(Ottawa, 1957	), 472.

the Wisconsin ice sheet was the oscillation of its front or leading edge. During its retreat from Ontario Island<sup>3</sup> the front did not retreat evenly nor at a uniform rate, but by alternating retreats and advances in which the backward steps or retreats were always longer than the advances. Whenever the ice front halted a morainic deposit of coarse and fine rock materials was built up from detritus gathered from the surface of the ground or the rock over which the glacier moved. But the moraines formed at climaxes of Wisconsin retreat were over-ridden and obliterated by the next advance.

9

"From this fact it follows that the moraines which <u>occur on the Lake Huron side of Ontario Island</u> were made at successive climaxes of readvances during a general movement of retreat."<sup>4</sup>

Three of these readvances occurred before the general retreat began to uncover Hullett. Each of the advances was marked by the construction of narrow, but quite well defined terminal moraines. Moving in a westerly direction from the edge of Ontario Island, Putnam identifies them as the Milverton, Mitchell, and Lucan moraines respectively. They consist generally of pale brown calcareous clayey till which was produced from the local bedrock.

At the time of the building of the Milverton Moraine the centre of pressure of the Huron Lobe was located north of Goderich. Sometime between the construction of this moraine and the one which runs through Mitchell the centre of ice pres-

 <sup>&</sup>lt;sup>3</sup> Ontario Island refers to a region of high ground between the Lake Ontario and Lake Huron Basins. It is indicated on Map 1.
<sup>4</sup> F. B. Taylor, "Moraine Systems of Southwestern Ontario", <u>Trans.</u> <u>Roy. Can. Inst</u>. 10: 59.

sure shifted. Both the trend of the moraines and eskers formed subsequent to that of the Milverton Moraine indicate that the centre of pressure had been removed to a position south of Goderich.<sup>5</sup> It was during the retreat from this third advance that the deposition of two snake-like sand and gravel under-ice features known as eskers were laid down in the central part of the township. (see Physical Features Map on the following page) Constructed during the same retreat was the Wawanosh Kame Moraine, an ice contact feature which had been formed of material carried in melt water which issued from the retreating ice front.

The fourth readvance over-rode and modified the western part of the Wawanosh Kames and culminated in the construction of another terminal moraine which, as shown on map 3, trends generally in a north-south direction through the centre of Hullett. The northern limit ends just beyond the northern boundary of the township amid a cluster of kames of the Wawanosh Moraine. This is the Seaforth Till Moraine and is somewhat stronger and more bulky than those which were created earlier in the retreat.<sup>6</sup>

Finally, releasing the township from its clutches, the ice retreated some distance into the Huron Basin. The fifth readvance laid down yet another till moraine known as the Wyoming which lies adjacent to the Wawanosh Moraine and imme-

<sup>&</sup>lt;sup>5</sup> L. J. Chapman and D. F. Putnam, <u>The Physiography of Southern</u> <u>Ontario</u> (Toronto, 1951), 29.

F. B. Taylor, "Moraine Systems of Southwestern Ontario", <u>Trans.</u> Roy. Can. Inst. 10: 67.

PHYSICAL FEATURES AND DRAINAGE

SCALE: 1 inch to 1 mile

PHYSIC	CAL FEATURES	
WAWANOSH	KAME MORAINE	[]
SEAFORTH	TILL MORAINE	
TILL PLAD	EN	
SPILLWAY		
ESKER	• • • • • • • • • • • • • • • • • • •	
BOGLAND.		
		Map 3

N

DRAINAGE DIVISIONS

- AREA DRAINED BY THE MAITLAND RIVER
- AREA DRAINED BY THE BAYFIELD RIVER
- AREA DRAINED BY THE SOUTH MAITLAND RIVER

diately to the west of Hullett. This moraine is the strongest one of the series. The low level trough which existed between the Wawanosh and Wyoming Moraines was occupied for much of its length by various branches of the spillway which channelled melt water from the north to the glacial lakes in the south.

Up to this point a few remarks have been made concerning the general distribution and formation of the till plain, eskers, moraines and spillways in order to facilitate the interpretation of the glacial history of Hullett Township. Several distinct types of landforms were recognized and have been outlined on the Physical Features and Drainage Map. Referring to this map the surface features will now be described in greater detail.

The Hullett Till Plain and its associated bog and eskers comprise a small part of the western portion of what Putnam designates as the Stratford Till Plain.<sup>7</sup> As indicated on the Contour Map, the Hullett section of this plain slopes gently from an elevation of 1100 feet above sea level in the north-east to 1000 feet in the south-west. It is an area of ground moraine the northern part of which is separated from the southern by the presence of the Seaforth Moraine. Throughout the entire area the till is fairly uniform, being a light brown calcareous silty clay. Most of the materials which comprise the till plain were derived from the Delaware limestone of the local bedrock.

Since the northern section of the till plain is 7 Chapman and Putnam, 156.

# HULLETT TOWNSHIP

CONTOUR INTERVAL - 100 FEET



Map 4

generally quite level to undulating, drainage problems are a common occurrence. These are revealed by the fact that the country is usually muddy in the spring and that late seedings are often necessary. Most of the soils need artificial drainage and municipal ditches are an integral part of the landscape. Tile drains have been installed on many farms and more are being laid each year.

It is on this northern section of the till plain that the sub-glacial stream deposits or eskers of Hullett Township are located. They are found in a part of the till plain that is bounded on the west by the Seaforth Moraine, and on the north and south by two tongues of Wawanosh Kame. The larger of these eskers, the Hullett "Hogback", extends through concessions VII, VIII, and IX and is located on the west side of the South Maitland River. It was the presence of this esker which forced the South Maitland River to veer sharply to the north-east after breaking through the junction of the Seaforth and Wawanosh Moraines.

The Hogback extends for about 12 miles and rises approximately 50 feet above the surrounding till plain. (see map 4) It serves as an important source of sand and gravel for road building in the township. At present this esker is one of the most extensively worked pits for this purpose in Hullett.

The second esker is found to the north of the Hogback and  $l_2^1$  miles south-east of the village of Londesborough. Since it is much smaller than the Hogback it is of no commer-



5.47

FIG. 2 The "Hullett Hogback" is about  $l\frac{1}{2}$  miles long and slightly more than 50 feet high. The esker is being used as a source of road building materials. Note the stand of pines which have become dominant on the well drained sand and gravel.



FIG. 3 Another esker which is found on the Hullett Till Plain. It is too small to be of any value as a commercial source of sand and gravel. cial importance and is thus quarried only for individual farm requirements. The ridge is detrimental to farming in that it divides the fields making their use for cropping less efficient.

A fairly large area of bog and marsh land occurs west of the hamlet known as Kinburn. Since the slope of the till plain is to the south-west drainage from the north and eastern parts of the plain flows toward this region. Continued drainage along this natural slope is however blocked by the presence of the Seaforth Moraine. Once the glacier had built the Seaforth Moraine and had withdrawn to the west this became a small pond of slowly moving or still water. Lacustrine material was laid down until the pond finally drained through a trough between the Seaforth and Wawanosh Moraines. This pass coincides with the present location of the channel occupied by the South Maitland River. Today this area which was once a pond has typical lacustrine features -- characteristically level topography, medium to highly organic soils, and usually poor drainage conditions. Three areas of marsh occur in this bog region but are mainly caused by the blockage of natural drainage by fillings which are necessary for road construction.

The southern section of the Hullett Till Plain<sup>8</sup> is much different from that which lies to the north. In contrast to the nearly flat lying land which occurs beyond the Seaforth Moraine much of the topography in this section of Hullett is classified as strongly undulating to rolling. (see <sup>8</sup> This is the area of till plain which is found between the Seaforth Moraine and #8 highway.



FIG. 4 The level to gently undulating till plain north of Kinburn. This flock of sheep grazing on Huron clay loam was the only flock noted in the township.



FIG. 5 Cattails and other marsh grasses growing in muck soils, lot 15, concession V. The white streak in the background represents a field of timothy growing on Parkhill loam which has been tiled for better drainage. Contour Map) Although it is genetically a till plain, this section is actually much more closely related to the morainic systems of the township than to that part of the Stratford Till Plain which lies to the south.

The Seaforth Till Moraine as seen on the Physical Features and Drainage Map is a narrow strip of till entering the township at the south-east corner and extending through its entire length in an approximate north-south direction. It ends quite abruptly just beyond the northern limits of the township at the spillway now occupied by the Blyth Brook. The moraine has a general height of between 50 and 75 feet. Although knob and kettle topography occurs it is not so rugged as to prevent clearing and use as fair to good agricultural land.

The Seaforth Moraine and the Blyth Brook spillway serve to divide the feature known as the Wawanosh Moraine into four separate sections. Each is, of course, a part of the moraine which extends from Clinton northward through the western portion of Hullett, and into the southern part of Grey County. Generally speaking, it is five miles in width and is composed of a complex belt of glacial till and coarse fluvial materials. The highest peaks in the township (elevations of 1050 to 1100 feet) are found within the limits of this morainic system and stand out as gravelly knobs.

Two of these knobs deserve special attention. The first is located on concession III, lots 19 and 20. At the time that the field work for the Land Use Map was being done

part of the land in the vicinity of this knob was idle. The remainder, with the exception of the upper-most parts, was planted in oats. Between this date, which was approximately the second week in August, and the time of the last traverse of the township in November the land occupied by the gravel knob had been taken over by the Radford Construction Company. At the present this well-sorted gravel deposit is being quarried extensively and is being used for maintenance of both the "Base Line" from Summerhill to Auburn and road #25 from its junction with highway #4 to the eastern limits of Hullett.

Another large knob of Wawanosh sand and gravel occurs to the south-west of Blyth. This was the first site within the township to be used for quarry purposes. It has not been used extensively since the sorting of sand and gravel is very poor.

The eastern border of the Wawanosh Kame merges gently with the adjacent landscape whether it be with the Seaforth Moraine or the till plain. In contrast, the western edge is quite distinct since it forms the left bank of one of the branches of the spillway now occupied by the Maitland River.

Two spillways or glacial stream channels were found in Hullett both occurring in the north-western corner. The larger of the spillways forms the boundary of the western appendage of the township from Auburn to concession X. The channel is about 75 feet deep and at Auburn is just over 3/10 of a mile in width. Two miles downstream the channel widens



FIG. 6 This photo shows the knob of Wawanosh sand and gravel on lot 25, concession III. This well sorted kame deposit is being excavated for road building purposes by the George Radford Construction Company of Blyth.



FIG. 7 Another knob of Wawanosh Kame. This was one of the first gravel quarries in Hullett. Extensive operations were soon abandoned due to the fact that the deposit was very poorly sorted.

to over one mile where it has cut into its left bank of Wawanosh Kame in an attempt to make a sharp right-angled bend to the right in order that it could join the main spillway channel9 further west. This it accomplished by flowing through the low level pass found to the west of the Maitland Block and now utilized by the C.P.R. This deflection of the majority of the glacial waters into another route resulted in much less water flowing in the remainder of the channel adjacent to the Maitland Block. Consequently the width of the channel decreases to about 2/10 of a mile. In its course through Hullett, the lower portions of the river channel are characterized by flatfloored, gravelly wastelands with an intermixing of swamps and rough pasture land. A large portion of the Maitland Block is included in that part of the channel which was enlarged by the spillway in its attempt to join the Sharp Creek channel. The Land Use Map indicates that only a small proportion of this section of the spillway is actually wasteland. Crops are able to grow in this part of the spillway because most of the area is above the flood plain of the Maitland River.

The second glacial channel is the valley which the misfit stream known as the Blyth Brook now occupies. In glacial times this channel carried meltwater to the Maitland spillway from such areas to the north of Hullett as East Wawanosh, Morris, and Grey Township. Since the channel is flat-

<sup>&</sup>lt;sup>9</sup> This channel is in Goderich Township and is the depression which is now occupied by Sharp Creek.



FIG. 8 The Maitland River flows in a valley which was cut by glacial meltwater. Note the flat floor of the valley and marshy conditions in the foreground. Note also the cedars and small willows on the "flats".



FIG. 9 The spillway now occupied by the Blyth Brook. Note once more the flat floor of the valley. In this instance, the Bottom Land is being utilized for the growing of corn. floored, gravelly and much too large to have been produced by the present stream there is no doubt as to its identification as a spillway. It is about  $\frac{1}{4}$  mile wide and 30 feet deep. Although the pasturing of cattle is the main agricultural activity carried on in this spillway, some hay and other feed crops such as oats and corn are grown on the well drained portions.

Hullett Township is drained by two main river systems, the Maitland and the Bayfield. The influence of the Bayfield is felt only in a small portion of the township. The Physical Features and Drainage Map indicates that four small tributaries of this river collect the runoff from the south-facing slopes of the Seaforth and Wawanosh Moraines. Due to the exceedingly small watershed of these streams they flow for only a short period after each rain. They transport their loads for only a short distance across the till plain and enter the Bayfield River just south of #8 highway.

Although the Maitland River is by far the larger of the two systems, the actual direct drainage into this river covers only a slightly larger portion of the township than does that of the Bayfield. The drainage area for the Maitland can be designated as that area north of a line drawn from a point on the "Gase Line" one mile north of a line drawn from a point on road #25 one-quarter mile east of its junction with #4 highway. (see Physical Features and Drainage Map)

At Auburn the Maitland Valley is approximately 75 feet deep. Much of this depth has been cut through local drift by the present river rather than by spillway activity. The river

has cut down to bedrock at only one place in the township. This occurs just west of the "Base Line" at the small anticlinal upheaval under the bridge leading to Benmiller. From the point where the river departs from Hullett it flows south as far as Homesville before it swings north and enters the main spillway channel along the Wyoming Moraine. Upon entering this spillway the river flows northward to Benmiller thus reversing the direction of flow of the original glacial waters. From Benmiller to its outlet at Goderich the Maitland is marked by numerous incised meanders which indicate a rejuvenation of downcutting activities.

The Maitland itself has not been used for transportation because of its shallowness, but numerous power sites have contributed to the location and growth of such towns as Benmiller, Auburn and Wingham. The river did have a notable influence on settlement further to the west since its mouth at Goderich forms the only good harbour for Great Lakes shipping along the whole west coast of Lake Huron.

The South Maitland, which is the largest tributary of the main Maitland River, runs through a large part of the township and serves as the main collecting channel. The head waters of this river rise to the east of the township in the highly cleared till plain to the north-east of Seaforth. Many branches of the river often take the form of county ditches which have been cut to drain the flat, wet areas of the till plain. The trunk stream of the South Maitland enters the township at its eastern boundary in concession II. From this point

it flows over the till plain, through the bog area and along the eastern face of the Seaforth Moraine. Flowing northward, it threads its way through a gap between the Seaforth Moraine and an isolated section of the Wawanosh Moraine. It is then deflected to the north-east by the Hullett Hogback and is forced to flow in the confines between that esker and the section of Wawanosh Moraine mentioned above. Escaping from this restriction, the South Maitland veers sharply to the east and after flowing through the township for 12 miles it finally finds a gap in the Seaforth Moraine just south of Londesborough and proceeds westward to join the main Maitland River.

The South Maitland has been unsuccessful in its attempt to downcut at the same rate as the Maitland itself. For the lower 4 miles its channel is marked by "V"-shaped side slopes and a fairly steep gradient of about 25 feet per mile.

#### (iv) Soils

Soils found in Hullett Township have not developed from direct weathering of bedrock but have evolved from materials which have been transported into the area either by glacial activities or by the deposition of present day streams and rivers. These soils belong to two Great Soil Groups depending upon the prevailing conditions of climate, vegetation and drainage.

The first group of soils which occur in Hullett are the

Grey-brown Podzolic Soils which have developed on calcareous parent material under a cool, moist climate with a natural vegetative cover of a hardwood and mixed forest. These soils are podzolic in nature because precipitation is sufficient to create a pronounced leaching, a chemical process which leads to the depletion of bases, the development of acidity, and the formation of eluvial A horizons and illuvial B horizons. Water which passes through the mat of organic material on the surface of the ground becomes acidic and removes iron and aluminum in solution from the upper horizons of the soil. This leaves a relatively small proportion of silica in the eluvial layer of the soil, thus giving it its characteristic ashy-grey colour. The iron and aluminum oxides are deposited in the illuvial horizon which is found at the depth at which percolating water ceases to move downward, thus creating a layer of aluminum, clay and organic colloids.

The second soil group represented is the Dark Grey Gleisolic Great Soil Group. These soils are also developed upon calcareous drift materials, but because of their poor drainage conditions the soil forming processes have been inhibited. As a result they lack the well defined layers of leaching and accumulation which are so characteristic of the former group. Dark Grey Gleisolic soils are distinguished by the rusty specks and bluish streaks and mottlings in the subsoil.

The material upon which the account of the soils of Hullett Township is based was derived from the Soil Survey of
# SOIL MAP

# GREY-BROWN PODZOLIC SOILS

Ds	Dumfries sandy loam
Hl	Harriston loam
Hs	Harriston silt loam
Ll	Listowel loam
Ls	Listowel silt loam
Huc	Huron clay loam
Pc	Perth clay loam
Dos	Donnybrook sandy loam
Bg	Burford loam

# DARK GREY GLEISOLIC SOILS

Pal	Parkhill loam	
Pas	Parkhill silt loam	
Bc	Brookston clay loa	r
Ts	Toledo silt loam	

B.L. Bottom land M Muck

SCALE -- 1 inch to 1 mile.

after, ONTARIO AGRICULTURAL COLLEGE SOIL SURVEY OF HURON COUNTY. Huron County as well as from several field checks made during the general reconnaissance of the township. A description of the soil types follows.

#### (a) Grey Brown Podzolic Soils

#### (1) Dumfries sandy loam

The topography on which this soil type is situated is irregular and steeply sloping. The runoff which results from these slopes causes serious damage through sheet and rill erosion. This erosion along with the excessive number of stones contained in the soil present serious problems to cultivation. Although most general farm crops can be grown with moderate success when commercial fertilizer and barnyard manure are applied, the best use to which this land can be put is either that of permanent pasture or woodlots.

# (2) Harriston loam and silt loam

Map 5 indicates that this soil type occupies by far the largest area of all the soils in Hullett. A medium textured till soil it is well drained and fairly well supplied with plant nutrients although they can be improved by additions of organic matter, phosphate and potash. It is characterized by long smooth regular slopes which are moderately susceptible to sheet erosion. Erosion can, however, be decreased not only by contour ploughing but also by the use of cropping systems which will keep the land under vegetative cover for as large a proportion of the time as possible. Since the texture of the loam allows for rapid percolation of



Ao

A2

B

Thin layer of partially decomposed litter from deciduous trees.

- 0-6 inches of dark greyish brown loam, fine granular structure, friable consistency, few stones.
  - 6-19 inches yellow brown loam, fine platy structure, friable consistency, few stones.
  - 19-28 inches brown silty clay loam, medium nuciform structure, friable consistency, stony.
  - c light yellow brown silt loam, hard consistency, many stones.

FIG. 10 The above profile description is representative of the Harriston series which is classified as a Grey-brown Podzolic Soil. moisture, early spring cultivation is greatly facilitated. As it is well adapted to the production of corn, cereal grains, alfalfa, hay and pasture, general farming is the usual agricultural activity pursued on Harriston loam. Although the soil is easily worked in most instances hilliness and stoniness may interfere with cultivation in some areas. Harriston silt loam occurs in that part of the township which is nearest Seaforth. The profile of this silt loam contains a larger proportion of silt and plant nutrients than does the loam profile above. Danger of sheet erosion is also prevalent in this soil type. (3) Listowel loam and silt loam

Confined chiefly to the till plain, Listowel loam and silt loam are characterized by gently undulating to almost level topography. The Listowel series is the imperfectly drained member of the Harriston catena and does not suffer from erosion. The crops commonly found in the general farming system which is common on Listowel loams and silt loams are winter wheat, oats, barley, timothy, red clover and alsike. Drainage is the limiting factor for other crops such as corn and alfalfa. Where drainage is improved these and other valuable crops are grown. As in the case of Harriston loams and silt loams, Listowel silt loam contains a higher proportion of silt and plant nutrients than does Listowel loam.

#### (4) Huron clay loam

The topography of Huron clay loam varies from gently sloping to steeply sloping. Since these soils are extremely well drained they are susceptible to erosion. Organic matter should be added to Huron clay loams to build up the soil structure and prevent puddling conditions. Good yields of cereals, alfalfa, red clover and timothy can be obtained from these soils. Farm management programmes should include practices such as contour cultivation, grassed waterways, use of cover crops, and long rotations to prevent soil erosion.

#### (5) Perth clay loam

Perth clay loam soils are found on smooth gently sloping topography of the till plain where natural drainage is imperfect. They are usually neutral to slightly alkaline and quite fertile. These soils are well adapted to the growth of oats, pasture, and turnips and are fairly well suited for such crops as barley, wheat and clover. Since late spring planting is often necessary on these slow draining soils buckwheat, which has a short growing season, is often planted on them.

# (6) Donnybrook sandy loam

Donnybrook sandy loams, which are related to the moraine and esker deposits of Hullett, are characterized by irregular steeply sloping topography and good to excessive drainage. Soil profiles which have developed on esker materials have very poorly defined horizons. In most cases these soils consist of a dark coloured surface layer underlain by a dark brown sandy loam which grades into pale brown parent material. The natural fertility of these soils ranges from medium to low and the organic content is also low. Because of the texture and excessive drainage conditions of the Donnybrook series these soils suffer extensively from erosion. Consequently good soil management stresses that the soil be kept under cover for long periods with a minimum of cultivation. Since the complex topography which characterizes these soils is not suited to contour cultivation or strip cropping, much of this series is found under permanent pasture. Where these soils are not too steep they do possess advantages over the heavier textured imperfectly drained soils. Due to the fact that they have rapid internal drainage they permit early spring cultivation.

#### (7) Burford loam

The soil known as Burford loam is developed on gravelly materials largely of dolomitic limestone. This soil type occurs as outwash plains along the channels of the Maitland River and the Blyth Brook. The cultivated surface is a greyish brown gravelly loam which extends to a depth of six inches. The organic content is medium. The chief fertilizer requirements are potassium and phosphorus. These soils are well suited to hay and pasture crops and fairly well adapted to small grains, corn, and alfalfa. Good yields of field beans are realized on these soils.

#### (b) Dark Grey Gleisolic Soils

#### (1) Parkhill loam and silt loam

This soil type which belongs to the Dark Grey Gleisolic Great Soil Group is characterized by level to slightly undulating topography and possesses poor internal and external drainage. When cultivated the surface soil of this poorly drained



FIG. 11 The above photo shows a field of oats which has been grown on Burford loam. This gravelly soil, consisting chiefly of dolomitic outwash, occurs along the left bank of the Maitland River. The sloping field in the foreground is idle land located on Harriston loam. member of the Harriston catena is alkaline loam which is black in colour and high in organic content, reflections of its poor drainage. Fair yields of hay and pasture crops as well as buckwheat are often obtained, the latter often being grown on this soil since it can tolerate a later spring planting than other cereal crops. Less stones and higher fertility are present in the areas where silt loam is found.

## (2) Brookston clay loam

The poorly drained member of the Huron series is Brookston clay loam. Although the soil is fairly well supplied with plant nutrients unsatisfactory drainage conditions limit the number of crops grown. Moisture conditions on these soils can, however, be improved by the use of tile drains or openditches both of these methods being quite common in Hullett Township.

### (3) Toledo silt loam

Toledo silt loam is a soil which has developed on lacustrine materials which were laid down when the Hullett Bog was covered by waters of a glacial pond. It exhibits the characteristics of the Dark Grey Gleisolic Soil Group. Since the soil materials are very fine grained and the topography is level to undulating, permeability and runoff are very slow. Where there has been no artificial drainage this soil is either left in forest cover or is used as rough pasture. If drainage is improved hay and oats are grown. When drained the toledo silt loam is well suited to the production of most crops commonly grown in the township.

#### (c) Bottom Land and Bog Soils

### (1) Bottom Land

Bottom Land lies along stream courses and is subject to periodic flooding. These soils are the most recently deposited with accumulation still taking place during floods. The profile is made up of successive layers of silt, sand, and clay intermixed with layers of organic matter. There is a lack of horizon development since the materials have not been in position long enough for a true soil to evolve. A gradual gradation of light coloured surface material to dark material at greater depths is characteristic of Bottom Land soils. These soils are moist at all times and the abundant growth of grasses provide good grazing. Where flooding does not interfere with the growth of crops good yields of general farm crops can be grown. Much of this soil is, however, used for pasture.

### (2) Bog soils

Organic or bog soils are formed mainly by the decomposition of grasses and woody debris. These soils occur in only a few small areas of the township and consist of one to three feet of organic accumulations. They are found under very poorly drained conditions occupying depressional areas which receive considerable seepage. Well decomposed bog soils are referred to as "muck". A characteristic arrangement of layering is rarely found on these organic soils as compared to those soils developed on mineral material.

### (v) <u>Climate</u>

No detailed analysis of the climate of Hullett Township can be presented. The pertinent data necessary for such an analysis is not available due to the fact that no weather station is located in the township. Some interpretation of the climate can however be gained through a regional analysis of existing climatic conditions as presented by Chapman and Putnam.<sup>10</sup> The township is located in the south-western section of the climatic region designated as the Western Uplands which vary in elevation from 1000 to 1700 feet above sea level.

The climate of Hullett is uniform throughout for there are no very significant variations in relief, the general differences in elevation throughout the township being about 100 to 125 feet. Any change in the pattern of land use cannot therefore be related to the climatic factor.

The mean annual temperature ranges from 41° F to 44° F. While the mean winter temperatures are approximately 18° F to 21° F, the mean summer temperature averages are 64° F to 65° F. Fall and spring mean temperatures for the region are recorded at 46° F and 41° F respectively. The mean daily range in temperature for the year is 19° F to 21° F, the range often increasing 3 to 4 degrees in July. The frost-free season is around 130 days, 2 to 3 weeks shorter than in the milder parts of Southern Ontario which are adjacent to the Great Lakes.

The township is characterized by fairly heavy preci-10 L. J. Chapman and D. F. Putnam, "The Climate of Southern Ontario", Scientific Agriculture, 18:8 (April, 1938), 440.

# CLIMATIC DATA FOR WESTERN UPLANDS

Altitude	1000:-1800:
Mean Annual Temperature	42
Mean Winter Temperature	16
Mean Spring Temperature	41
Mean Summer Temperature	66
Mean Fall Temperature	46
Extreme Low Temperature	-43
Extreme High Temperature	102
Daily Range of Temperature	19
Average Date of Last Frost in Spring	May 23
Average Date of First Frost in Fall	Sept. 26
Average Length of Frost-Free Period (Days)	126
Beginning of Growing Season	April 19
End of Growing Season	Oct. 25
Average Length of Growing Season (Days)	189
Average Annual Precipitation	36.0"
Average Annual Slowfall	100.0"
Average Rainfall April 1-Sept. 30	17.5"
Average Summer Rainfall (J.J.A.)	8.9"
P-E Index (June, July, August)	13.5
Frequency of Droughts	18
Percentage Possible Sunshine in Growing Season	45

After Chapman and Putnam The Climate of Southern Ontario Table 2 pitation amounting to 38 inches annually. Of this total annual precipitation snowfall amounts to 100 inches or approximately 10 inches of rainfall. Precipitation in the form of summer rainfall approximates 18 inches and occurs between April 1 and September 30. Between 8 and 9 inches of this rain is received in the months of June, July and August. The precipitation is mainly cyclonic and numerous thunderstorms occur in the summer months. Although these storms occur at the most opportune time with respect to the water requirements of crops, they often have an adverse effect on agriculture. In the first place the heavy rains often cause considerable amount of damage through stem breakage. Secondly, they tend to pack the soils. Finally, the usefulness to plants of water received during thunderstorms is much less than that received in gentle showers because of the increased runoff. The precipitation-effectiveness index for this region during the three summer months is 12.0 to 14.5 indicating that the climate of the township is moderately humid. Hullett Township, according to the Koppen climatic classification, possesses a Dbf type, or a humid microthermal climate, which is marked by warm summers, cold winters, and a precipitation regime which will support general farming.

# (vi) Vegetation

The type of natural vegetation which results in any region is due to a combination of local climatic factors, the general physiography, and the soils which occur in the

region. It is well recognized that of the three agents mentioned above climate exerts the principal influence on the presence and form of natural vegetation. A forest classification for Canada has been devised by W. E. D. Halliday.<sup>11</sup> This classification has been based on the principle that the natural climax type of forest is closely allied to climate which is, of course, a reflection of geographic position. According to Halliday, Hullett Township falls within the Great Lakes-St. Lawrence Forest Region.

Although the natural forest which originally covered the township has been much reduced since the advent of white settlement, there is sufficient evidence gleaned from early descriptions of the area as well as from the analysis of present forest cover to indicate that it was composed chiefly of hardwood deciduous trees. The vegetative cover observed today is a mixed forest composed predominantly of broadleafed trees. Sugar maple (Acer saccharum) and beech (Fagus frandifolia) are the dominant species. Occurring with these are basswood (Tibia americana), white elm (Ulmus americana), and some white ash (Fraxinus americana). Small groups of hemlock (Tsuga canadensis), and the occasional white pine (Pinus strobus) occur within the association. Large-toothed aspen (Populus grandidentata), bitternut hickory (Carya cordiformis), butternut (Juglans cinerea) and ironwood (Ostrya virginiana) are found in a scattered distribution. Slippery elm (Ulmus fulva) and rock elm (Ulmus racernosa) as 11 W. E. D. Halliday, <u>A Forest Classification for Canada</u>, Bulle-tin 89, Dept. of Mines and Resources, Ottawa, 1937.

well as black ash (<u>Fraxinus negra</u>) and sycamore (<u>Platanus</u> <u>occidentalis</u>) are found locally on specialized sites such as Bottom Land and swamps. Often associated with this condition is Eastern white cedar (<u>Thuja occidentalis</u>) although it is also found in many other environments. White pine and red pine (<u>Pinus resinosa</u>) stands are found on the lighter soils associated with the kames and eskers.

Unfortunately, because of the dominance of hardwood species, the forest was not of great commercial importance in earlier days, but the hardwoods of commercial value that were cut and are still being cut<sup>12</sup> are hard and soft maple, beech, elm, and basswood. Utilization of the cut timber was in the form of firewood, furniture and railroad ties. The forest was one factor which greatly impeded the early development of the township.

A little more than  $6\frac{1}{2}\%$  of the entire area of Hullett is classified as forest cover. The natural forest now occupies only 3,540 acres of a total township area of 33,312 acres<sup>13</sup> and is found in the form of woodlots and swampy or waste lands.

# Summary of the Physical Geography

The depth of glacial drift left by Wisconsin glaciation is quite thin in the eastern portion of the township. In this area the melting ice simply dropped the debris onto

13 Census of Canada, 1956.

<sup>12</sup> Timber which is being cut at the present time will be discussed in the section dealing with the industries of Hullett.

the underlying bedrock in a fairly even sheet of till which assumed the same south-westerly dip as the bedrock itself. In the west the influence of the bedrock is not felt since glacial material was piled up in the form of moraines. The debris in this section is much deeper than that which occurs on the till plain to the east. Physiographically, the eastern part of the township is made up of part of the western section of what Putnam designated as the Stratford Till Plain. The western portion, on the other hand, falls within the Wawanosh and Seaforth Moraines.

The southern slopes of the above moraines are drained by short, south flowing tributaries of the Bayfield River. Runoff from the northern parts of the township are collected by the main Maitland River. The largest branch of this river, the South Maitland, traverses the central and largest portion of the township, and is the collecting channel for this area.

There is a great variation in the soil types of Hullett Township. Both Grey-brown Podzolic and Dark Grey Gleisolic Great Soil Groups are found within its bounds. Also present are Bottom Land and Muck, azonal soils which have not been in situ long enough for a true soil to develop. Soils characterized by both good drainage and productivity are found chiefly on the morainic materials of the western part of the township. Fertile but imperfectly drained soils are usually found in the eastern part of the township, on the till plain. Poorly drained soils also occur on the till

plain, but are confined to that area lying between Kinburn and the foot of the Seaforth Moraine.

Warm summers and cool winters persist throughout the township. The climatic type which has been classified by Köppen as cool microthermal possesses a precipitation regime which provides sufficient moisture for general farming. The natural forest which once covered Hullett has been reduced greatly since the days of early settlement. Only  $6\frac{1}{2}$ % of the total area of the township is covered by forest at the present time.

# CHAPTER II: THE HISTORY OF SETTLEMENT AND AGRICULTURAL DEVELOPMENT

# (i) <u>The township and the surrounding area</u> at the time of the Indians

Long before the advent of the white man in the area of Southwestern Ontario the agricultural potentials of the land had been recognized by a group of Indians. These Indians were the Attawandarons or Neutrals as they were called by the French explorers. The Neutrals were the most southerly of three small tribes which lived between the Iroquois and the Hurons. To the north, around Owen Sound, was the High Hairs tribe and further east around Collingwood the third tribe, the Petuns or Tobacco Indians, were located. The Neutrals were not nomadic but possessed a village culture. Brebeuf and Chaumonot estimated that the tribe dwelt in forty villages with a total population of approximately 1.200. These Indians were well advanced in the art of cultivating the land, growing crops of tobacco, corn, beans, squash and pumpkins on the better drained soils of the area. The forests and poorly drained areas, on the other hand, abounded with wild life thus providing the aborigines with a ready supply of meat to supplement their diet.

In 1648 the Iroquois once again took up their never-<sup>1</sup> J. Scott, <u>Huron County in Pioneer Times</u>, (Seaforth, 1954), 9.

ending feud with the Hurons. This time spurred on by their resentment against the French who had sworn to protect the Hurons, the braves from the south prepared for an all-out attack. For the next two years their fury against both the Hurons and the French was unabated. When the fighting was over the Hurons had been virtually eliminated and the French mission settlements to the north had been razed one by one.

During this period of bloodshed the Neutrals had once more tried to maintain their traditional role of impartiality. The Neutrals had for a long time lived independently and at peace with both the Hurons and the Iroquois. This had been possible because the Neutrals were in possession of the country surrounding Ipperwash where nature had exposed bedrock rich in silica, a material which was as important to prehistoric man as steel is to modern man. Since the Neutrals controlled these chert outcroppings, a valuable source of arrowheads, neither the Hurons nor the Iroquois could afford to make the Neutrals their enemy. But after the Hurons had been defeated the Iroquois' lust for battle was difficult to quell. Moreover, the Iroquois had heard the French traders cry for the good beaver pelts of the Neutrals. With the thrill of victory still with them they attacked the small band of peace-loving Neutrals. It was a pitifully uneven battle and by the autumn of 1650 the Their once prosperous Attawandaron Indians were annihilated. neutrality had been insufficient protection against the bloodthirsty, fur-hungry Iroquois.

With the massacre of the Jesuits and the elimination

of the Hurons and Neutrals, no white man ventured into the territory where Huron County is now situated for a hundred and fifty years. The Iroquois themselves did not make great use of their newly acquired land but allowed a small band of Mohawks and Chippewas to roam the territory. These new inhabitants possessed an economy that was based entirely on hunting and as a result the agricultural land reverted to forest. The civilization that these tribes established never came anywhere close to that which was established by the ill-fated Neutrals. Such were the conditions which existed in Hullett Township and the rest of Southwestern Ontario when it was transferred from French to British hands in 1763.

#### (ii) Blueprint for Settlement

The first white man<sup>2</sup> to see Huron County had been eaten by the Indians; the first French missionaries had been burned at the stake; the native Indians had themselves been wiped out. All that was left were the itinerant hunters of the all-victorious Iroquois and it was a long time before anything like a permanent settlement was again made in the region.

It was many years before white men became interested in the western parts of Southern Ontario and an examination of the map of Southern Ontario will help to explain why this was so. The first route into this fertile area near the shore

The first white man to come to what is now Huron County was Etienne Brule. He visited the area in 1610 but was later, in 1633, killed and eaten by the Hurons.

of Lake Huron was by water, the usual route taken by explorers. In this case, however, there was no direct water route. To approach it from the south via the St. Lawrence and the Great Lakes it was necessary to surmount that formidable barrier Niagara Falls. The route from the north was long and circuitous involving not only the grand portage from Mattawa to Lake Nipissing but also the long and hazardous trip through Georgian Bay and along the Lake Huron shore. Explorers, traders and settlers flowed west, both to the south and to the north, but Western Ontario was neglected.

During the War of 1812-14 a road was built from Lake Simcoe to the Georgian Bay port of Penetanguishene thus eliminating the long haul around by the Ottawa River and Lake Nipissing and making it more feasible to reach Lake Huron directly from Toronto. The reason for building this road was military. While the War of 1812-14 was still being decided British strategists determined to set up a dockyard at Penetanguishene and build a heavy warship to sail down Lake Huron and thence into Lake Erie to confound the American flotilla stationed there. A convivial army doctor named William "The Tiger" Dunlop<sup>3</sup> was called in to direct the building of the road to Penetang.

John Galt, a Scottish essayist and playwright who had a keen sympathy for the plight of humble Scottish crofters, was the first man to conceive a scheme to encourage land settlement in Canada. It was Galt's firm conviction that the

<sup>&</sup>lt;sup>3</sup> Dunlop was nicknamed "The Tiger" for some never documented adventures he was supposed to have had with the wild life in India.

only salvation for his depressed countrymen would be emigration. He interested a group of Scottish and English capitalists in a gigantic undertaking which involved the acquisition of large tracts of land in Upper Canada from the British Government at a nominal sum. The group then planned to open up this land and service it for settlers. It was Galt's dream that in this way he could not only make money for himself and for the company but at the same time could provide good quality but cheap land for the thousands of poverty-stricken crofters who had so attracted his sympathy.

Galt's company was incorporated in 1824 as the Canada Company and properly organized in 1825 when the first series of acts was passed by which it was to obtain the whole of the ungranted Crown Reserves and one-half of the Clergy Reserves in Upper Canada. Things did not, however, proceed as smoothly as had been planned. When Bishop Strachan of Toronto became aware of what was happening he promptly mustered all his considerable influence to prevent the sale of any of the Clergy Reserves. It was left to Galt and the Bishop to try to work out an agreement which would satisfy the British Colonial Secretary. The result was that one year later, in May 1826, it was recommended that instead of conveying the sections of the Clergy Reserves to the Canada Company as was originally planned, the British Government would sell the Company a block of land containing one million acres in the territory lately purchased from the Indians in the London and Western Districts. This block was to be known as the Huron Tract. For all the land thus acquired the Company was to pay 295,000 pounds in seventeen years. This sum did not, however, include the sums which the Company was to invest in public works and improvements.

Galt knew from his first exploratory trip into Southern Ontario that a road would be the key to opening up the Canada Company's million acres. To build this road he engaged William Dunlop whose knowledge of road building had been gained in connection with the 1812-14 Penetanguishene project. Under "The Tiger" all the woodsmen that could be assembled from among the first settlers were employed. First an explorer was sent out, followed by two surveyors, and then a band of trail blazers. Next came a group of axemen who felled the trees and cleared the way and in the rear came wagons carrying the supplies and provisions. It was an efficient operation and the road went through with great haste. Inns were set up at seven mile intervals along the road to feed and sleep the settlers who began moving in to take up their new land as early as 1829. The headquarters of the Company was at Guelph and subsidiary offices were set up at Goderich and Stratford to handle the business of selling the land. A leasing system was adopted by the Company to meet the problem of buyers without ready money.

Settlement was slow at first. The 1830's witnessed the first wave of settlers into Huron County. Five years after the Huron Road was completed there were only 685 persons in the entire Huron Tract. One year later there were 1, 168, and by the time Upper and Lower Canada were united, in 1840, there were 7,190.

One of the first settlers to arrive in Hullett Township was Jonas Gibbings. This man who was originally from Peel County set up his estate along the Huron Road at a site now absorbed by the town of Clinton. By 1844 William Rattenbury had purchased most of the land on all four corners which the Huron Road made with the newly constructed Huron and London Road. This road, the present #4 highway, was later extended northward through Londesborough to Wingham. Settlement was very slow in the Hullett section of the County because that part of the Huron Road which passes Hullett is, for much of its extent, located on the till plain, a comparatively low tract of country. This, in the early days, must have seemed very uninviting to those emigrants who were used to gazing upon the more undulating British landscapes. Apart from the well drained sections along the "Base Line" and along the Huron Road the portion along the road from Clinton to Londesborough was the first to be settled in the township.

Once the first wave of settlers had become established each year saw more and more people entering the township. There were rapid advances in the clearing of the land and the number and quantities of crops harvested. More crops meant that the settlers needed to be able to market their surplus products. This could only be accomplished by good transportation facilities, yet the Company was almost at a standstill as far as its road building programme was concerned. Since Goderich was the chief town, marketing centre, and main transportation terminal for the County all surplus crops from the

township went to that town. In 1850, twenty years after settlement, although there was much productive land the exports of surplus crops from Hullett were very small. In that year the total agricultural exports from the entire Huron district were only a little over five thousand pounds in value. Such a small export trade can be explained in terms of the condition of the Company's harbour facilities at Goderich. It seems that they were in a very dilapitated state, nearly all the wharves being covered with water. It was very dangerous for a ship to attempt to enter the harbour. There is little doubt that the growth of the town of Goderich and the surrounding area including Hullett Township was much retarded by this failure to encourage shipping.

## (iii) Life in the Pioneer Period

Although the pioneer received land cheaply<sup>4</sup> a life of toil and hardship lay ahead of him in his task of carving a homestead out of the virgin forest. It is true that settlement in the Huron Tract progressed peacefully and was not characterized by skirmishes or scalp hunting by the Indians as in other frontier areas. The pioneers did, however, have to cope with the monstrous task of clearing the land. Unless some attempt is made to recall the problems faced by the frontiersmen of Hullett it is impossible to measure the achievements of those first years.

<sup>&</sup>lt;sup>4</sup> The very best land was sold for \$1.50 to \$2.50 per acre. This was a thoroughly reasonable price and still allowed the Company an excellent profit.

Even a man with a considerable sum of money could do little with it. There was no such thing as a labour force of experienced woodsmen for the simple reason that no one had had any experience in the forests of this particular region. Secondly there were no mills to grind the flour, saw the boards or weave cloth. There were no stores at which to buy materials. Anything a man wanted he had either to take with him when he settled or make it after he got there. Again, since there were but two roads there were transportational difficulties and it was not easy to bring in much of anything. There was no regular means of communication set up either on the lake or over the roads. If one used the lake and the rivers, as some of the earliest settlers did, the capacity of a dugout cance limited the amount which could be carried. If one chose to use the road he quickly discovered that oxen were both scarce and expensive, that horses were not yet in use, and that the road was so rough that large loads were difficult to manage.

Upon reaching his parcel of land the first task was to erect some sort of temporary shelter, usually a lean-tostructure of the simplest design. The erection of permanent structures was postponed until the pioneer had cleared enough land to support himself and his family. The second task was to insure plentiful supplies of fuel and food. Dry wood for kindling purposes was always kept on hand. For food, the pioneer had to depend on what nature provided. The streams abounded in fish; in season, berries were plentiful in the

woods. For meat he depended upon his skill with the musket or the trap. Game was plentiful and so were birds.

In clearing the land the practice was to fell as many trees as possible during the winter months when other jobs requiring heavy labour were fewer in number. It was then necessary to get the cut trees into piles, seven or eight feet high and ten or twelve broad, in order to fire them. In those early days conservation was unknown, but a valuable by-product was produced from the burned logs. This was potash, and was used in soap-making.

The wives of those hardy men who carved their homes out of the wilderness were also well adapted to this frontier life and undertook such domestic tasks as baking, making candles, soap-making and the preserving of fruits. When wool became available they took over the work of carding and spinning to provide the universally worn homespun. Until grist mills were established the pioneer wife was not too proud to take a lesson from her Indian predecessors and make flour using the wooden mortar and pestle or, in some cases, two rocks of suitable shape and size.

Each family became a closely-knit unit which out of necessity became closely integrated with the similar units of their neighbours. These neighbours would help each other build their houses, barns, or make tools, thus giving rise to a surge of "bee" activity. This led to the promotion of a high degree of co-operation among the settlers, a spirit which is still present today in many sections of Hullett.



FIG. 13 Soap-making -- an operation using lye which was obtained from leaching the ashes of burned hardwood trees. In the early days of settlement this was the only use, other than for fuel, that was made of the trees cut in the land clearing process. The art of soap-making persisted throughout most parts of Hullett until the years immediately following the Second World War. (This photo was taken in 1919.)

#### (iv) Period of Growth: 1850-1881

A period of considerable development began in Hullett Township after 1850 due to a new influx of settlers which, as indicated on Chart 2, continued until approximately 1880. This inflow of people was due not to the fact that the Canada Company had mended its ways or that its policies had become more attractive, but rather that the British Government decided to open for settlement the Crown lands to the north of the Huron Tract. Although many settlers were attracted to the new lands and continued to the north along present day #4 highway there were others who were contend to settle down in Hullett. Clinton, the last stop for these pioneers before they reached their new homes, was the village where they purchased the provisions for their frontier future. Obviously this community benefited to a great extent from the immigration.

With this increase in population there was a substantial local market for the products of artisans. Cabinetmakers, shoemakers, weavers, tailors, millers, carpenters, blacksmiths, and carriagemakers all found employment for their skills. Without these people towns do not arise. However as craftsmen moved into Hullett and the surrounding countryside towns gradually began to appear. There followed changes and improvements in the life of the settler. The farmer could soon boast of considerable labour-saving machinery as part of his equipment. Harrows, ploughs and then binders were used by the farmers. Much of the back-breaking labour previously performed by hand was done by machines.



POPULATION CHART OF HULLETT TOWNSHIP

(1851 - 1956)

CHART 2

56



FIG. 14 Shown in this photo, which was taken about 1920, are the remains of a saw and grist mill which was operated by Mr. John Sprung. The mill site is located on the Blyth Brook, near its junction with the Maitland River. (see map 6) It supplied the sawing and milling requirements for nearby inhabitants from 1870 to 1905. As time passed one rarely saw a crop sown, cultivated, cut and threshed, and then ground into flour entirely by hand. With the new settlers there came also an increase in the livestock numbers, especially with respect to horses, sheep and cattle.

The period 1850 to 1881 was a prosperous one for the Hullett farmer. Many of the farms in the older sections particularly could boast of many cleared acres. It was at this time also that one saw the log cabins being replaced by dwellings of either frame or brick. Many of these homes still stand proudly today. Inside the home there were numerous changes. For instance the open fire gave way to stoves and ranges while the handmade tallow candles were supplanted by wax candles and lamps.

To supply all these commodities to an expanding population merchants opened up shops throughout the township and provided a nucleus for town settlement. A new kind of community life came to be associated with the towns. Churches and schools sprang up in them and at many convenient crossroads besides.

This period of growth also saw great improvements in communications. The lack of transportation had, from the very beginning, been almost as big a barrier to settlement as the thick woods itself. The major interest of the early settlements was to get better communications with the outside world so as to bring in additional equipment and to send out crops and produce. The advent of the railways marked the effective solution to this problem. The first railway line



The photo at left shows one of the original dwellings erected in the township. During the prosperous farming period from 1850-1881 most of these log houses were torn down and replaced by those constructed of timber or brick as shown in the lower two photos.

FIG. 15





BRANTFORD - GODERICH RAILROAD, 1869

into the County was the Buffalo, Brantford and Goderich line which was later, in 1869, amalgamated with the Grand Trunk System. Although this line does not traverse the township it is only one-half mile south of its southern boundary. It had a tremendous influence on the growth of the township. Another railway which was probably even more important as far as Hullett's development was concerned was the London, Huron and Bruce line of the Great Western Railway. This railway, which began operations in 1876, serviced the villages and towns of Blyth, Londesborough, and Clinton, as well as Brucefield and Exeter to the south of the township. Roads were extended and improved linking the rural areas of the township with the nearby markets of urban centres. Together these improvements in communication reduced the isolation and hardships which had plagued the early pioneers.

Although the forest was still being cleared during this period many of the lots that remained in forest were located on very poorly drained soils. By 1881 the maximum population, a total of 3,875, was reached.

#### (v) Period of Depopulation: 1881-1931

Following 1881 the population of Hullett Township began to decrease fairly rapidly and within a span of forty years it had been reduced to 2,081, almost one-half the 1881 figure. (see Population Chart) It has been claimed that the depopulation of this township, like that of many other areas of Southern Ontario, resulted either from abandonment of

submarginal farmland which had been occupied too hurriedly in the pioneer advance, or from the physical deterioration of the land through deforestation and soil erosion. However, since rural depopulation occurred in Hullett before the maximum amount of land was occupied it could not have been due to the abandonment of submarginal land. Again, it could not be due to deforestation and the accompanying ills of flooding and soil erosion because the migration took place before the maximum acreage of land was cleared.<sup>5</sup>

This sudden reversal in rural population trends can be attributed to at least two factors. Rural depopulation can be said to have started with the movement of non-farm population from villages and towns that could not compete with the more attractive urban standards. Since the spread of notions concerning city life was conditioned by roads, railways, and commercial connections a social rather than a geographical factor was involved. Influenced by the possibilities of employment in such rapidly growing industrial cities as Hamilton and Toronto the non-farm population was the first to emigrate. A drift in farm population also occurred and seems to have begun between 1881 and 1891. Shortly after 1880 the lands of the Canadian West began to be opened up. Ontario was soon unable to compete as favourably for world grain markets as could the Prairies with their newly introduced hard

J. W. Watson, "Rural Depopulation in Southwestern Ontario", <u>Annals of the Association of American Geographers</u>, Vol. 37 (1947), 145.

winter wheat.<sup>6</sup> As a result many of the farmers in Hullett and the surrounding territory caught "prairie fever" and left their farmsteads to start life anew in the West.

Influenced by, and coinciding with this depopulation and the rapid growth of urban centres was a marked improvement in the methods of farming. Subsistence and small general farms were declining. Because of the improved transport facilities and markets, livestock assumed a greater importance. Crops grown for sale were being replaced by coarse grains and fodder crops which were grown for feed. As time went on the demand of the urban centres for large quantities of fluid milk did much to increase the dairy industry of the township. As the need for larger farm units increased with this new type of agriculture there was frequent absorption of the smaller farms.

Shortly after the end of the First World War several major developments occurred which helped overcome the shortage of labour due to migration. The most outstanding of these developments was the use of the tractor. Then came the advent of the motor truck and with it an extension of the dairy industry. In pre-truck days dairying had been concentrated within a short distance of the railways. Once trucks were used extensively the industry could be developed anywhere in the township. Along with the increase in dairying came the development of the egg and poultry industry. Thus by the beginning of the 1930's two new and prospering industries had

<sup>6</sup> Watson, "Rural Depopulation in Southwestern Ontario", 147.


FIG. 18



FIG. 19

The above photos depict two farming scenes which were typical during the early decades of the twentieth century. Both the horsedrawn plough and the steam traction engine disappeared from the landscape with the coming of the gasoline powered tractor. assumed an important role in furthering the economy of Hullett Township.

## (vi) The Township since 1931

From 1931 to 1941 the population continued to decline but it was rapidly levelling off. After 1945 it began to climb once more, but very slowly. By 1960 the township had attained a population of 1,961, a gain of only 143 persons since 1941. During the period 1931 to 1961 poultry and dairy farming continued to grow steadily. (Chart 3a) Beef cattle also continued in high numbers as did hogs. Sheep however took a tremendous drop from 2,036 at the beginning of the period to 215 in 1956.

During the war years beef cattle gained slightly but this had little or no effect on the dairy industry for its products were still in high demand. Since the war Hullett Township has enjoyed an unparalleled era of prosperity. The towns in the proximity of the township have been increasing in population. These together with the large cities to the south-east of the township which are experiencing a tremendous growth have increased the demand for fluid milk. Dairying became the outstanding phase of general farming in the township and still occupies this position.

The second new industry that developed after 1931, that of poultry raising, has undergone a complete reversal. In the years before the war there had been a heavy emphasis on laying hens and egg production while poultry for eating

## POULTRY FIGURES FOR HULLETT TOWNSHIP

Year	Hens	and Pullets	Broilers
1941		68,975	2,521
1956		34,650	68,071

## LIVESTOCK FIGURES FOR HULLETT TOWNSHIP

Year	Horses	Total Cattle	Beef Cattle	Milk Cattle	Sheep	Hogs
1931 1941 1951 1956	1,677 1,497 762 304	8,611 8,258 10,670	1,215 1,990	2,659 2,895 2,988 3,092	2,036 1,139 355 215	4,370 6,044 7,880 7,490

CHART 3



LIVESTOCK IN HULLETT TOWNSHIP

CHART 3a

purposes had occupied a secondary position. The period after the war saw a change in this pattern and by 1951 the positions had been completely reversed.

The population increase since 1945 can be traced to another increase in agricultural population. This time however the immigrants entering Hullett Township tend not to be Scots, Irish, or Englishmen as were the majority of settlers in the days of the Canada Company. Today many of the new farmers entering the township are families migrating from the crowded agricultural regions of the Netherlands. The numerous farms which had been abandoned during the cityward migration are now being purchased by these Dutch families who work them very industriously.

Thus, since the early days of settlement when agriculture was based on cash crops of wheat, there has been a complete transformation to that of general farming with some specialization in poultry raising. Throughout this period, however, agriculture has always remained the dominant activity in Hullett Township.

#### CHAPTER III: PRESENT DAY AGRICULTURAL CONDITIONS

As it has been in the past so today Hullett Township is dominated by agricultural activities. Productive soils, a favourable climate, and a group of progressive farmers have made possible the prosperity which accompanies this activity. Agriculture has, however, changed from its initial form, that of wheat production. Contemporary farm activities are highly diversified and general farming predominates. In addition to this general farming there has recently been introduced the more highly specialized poultry farming.

An examination and explanation of the differences in agricultural conditions and activities occurring in Hullett forms the theme of this chapter. Several charts, tables and maps have been prepared to assist the reader in observing trends which have occurred in the past and which exist to-day. It is hoped that from this material the reader will gain an insight into the present agricultural conditions.

It should at this time be noted that much of the data employed in this chapter does not apply to the year 1960, but was obtained from the Dominion Census Report of 1956. Although there has been a lapse of five years since these statistics were compiled no force that would lead to a great change in the land use pattern has been observed. This pattern varies by only small amounts from year to year. It is probable there-

fore that proportions of agricultural activities have not changed by any marked degree in this five year period. Where changes have occurred they will be noted in the course of the discussion. The Land Use Map which accompanies this chapter and was compiled in the summer of 1960 is found in the pocket attached to the back cover.

## (i) Farm Sizes

A great variation in farm sizes exists in Hullett Township, the range being from just under ten acres to one thousand acres. The smaller farms are found scattered throughout the township and bear no significant correlation to physical conditions of the land. Part-time farmers who work in nearby towns usually occupy these farms. The majority of the small farms are planted in hay, a crop which requires very little labour. The largest farms are associated with either dairy or beef activities. Three of these farms were found to exceed 400 acres. Although each of these is owned by one man they do not consist of one single parcel. The largest farm plot which is made up of parcels which are adjacent to one another amounts to only 300 acres. This is part of the 1000 acres belonging to Mr. William Dale who operates a dairy farm located about one mile north-west of Kinburn. The majority of farms however range from 100 to 150 acres. Farms of 100 acres are found to be dominant in all concessions from I to XII. The remaining two concessions of the township consist chiefly of 150 acre farm plots. This

difference in size of farms has nothing to do with any physical characteristics of the northern part of the township but is due to the fact that the roadway between concessions XIII and XIV was never constructed in Hullett. This results in lots of greater depth in these concessions and thus accounts for the increase in acreage.

## (ii) Farm Values

The total 1961 land assessment for Hullett is \$1,616,025. Within the township land values range from under \$20 per acre to over \$40. These values not only indicate land which has felt the effect of good roads and the proximity of Clinton, but also reflect many of the physical features of the township. The Farm Values map found on the following page shows the assessed value per acre of land as set down in the Assessment Role for the year 1961.

The most regular occurrence of land assessed between \$30 and \$40 per acre is found in the eastern section of the township. This is generally the area which coincides with the till plain, and consists chiefly of Listowel loams, Huron clay loams, and Perth clay loams. Although the largest part of this area is in the Listowel and Perth series which are imperfectly drained, the land is quite fertile and is highly valued for its gently undulating surface which can be easily worked by modern agricultural machinery.

From the vicinity of lot 23 westward the land is generally evaluated at between \$25 and \$35 per acre. No homo-



geneous assessment is found over any extensive area of this part of the township as is the case on the till plain. The largest percentage of the area west of lot 23 occurs on the strongly undulating to rolling land of the Wawanosh and Seaforth Moraines. The soils there consist chiefly of well drained Harriston loams and silt loams which are fairly well supplied with plant nutrients. The farms tend generally to be rated lower than those which occur on the till plain because of the rolling nature of the topography. This rolling topography is somewhat more difficult to work with the larger farm equipment produced today than are the level stretches of till plain. Another factor which influences the evaluation of land in the western section of the township is that the north trending road known as the "Base Line" was so laid out that it cuts diagonally through the concession blocks. This creates irregularly shaped fields on those farms adjacent to this road thus lowering the aesthetic appeal of the farms as well as hindering the use of large agricultural machinery.

Low land values, under \$20 per acre, are commonly associated with either poor drainage conditions in depressional areas or with sandy and gravelly materials related to moraines and eskers. Farms assessed on the low end of the land values scale because of poor drainage reach a maximum density in the area of Parkhill loam soils which lie to the west of the community of Kinburn. This block of land marked by level topography and extending from lot 10 to 15 of concessions IV and V is one square mile in area. The primary

use of the land is as rough pasturage for beef cattle. Much of the land found adjacent to and on the east side of this area is classified as Toledo silt loam and is also poorly drained pasture land. Located on the fringe of the Parkhill area and having slightly better drainage it is assessed at \$25 per acre. Another but smaller block of land located on lots 21 and 22 of concession VI and lots 21, 22, and 23 of concession VII is also an area of wet soils which do not allow seeding early enough for grain crops.

Between these two areas of poor drainage and paralleling the South Maitland River for much of its extend, is a fairly large area of excessively drained Donnybrook sandy loam much of which also rates at less than \$20 per acre. (Farm Values map) Although this land allows early spring seeding due to its good drainage characteristics, much of it is subject to erosion. Also tending to devaluate this land is the fact that it is characterized by complex topography, and as a result contour cropping techniques are impractical. Similar problems occur on the Dumfries loam located on lots 36 and 37 concession X, but in this case values are lowered still further due to the excessive stoniness of the soil.

In the northern part of the township west of Blyth another large area of lowly assessed land occurs. There both physical features of the land and the work of man have combined to lower the value of farm land. A large part of the area is marked by the occurrence of Donnybrook sandy loam. Since this area is not so rugged as the previously mentioned



FIG. 20 Strongly undulating to rolling topography of Harriston loam on the Wawanosh Moraine of the Maitland Block. This property is assessed at \$25-\$30 per acre.



FIG. 21 This is the Canadian Pacific Railway just before it passes under the bridge at Road #25. The railway has divided many fields and made connections from one part of the farm to another difficult. This division has done much to lower the value of adjacent farms to under \$20 per acre. area of Donnybrook loam it is for the most part classified as \$25 to \$30 per acre. Land values toward Blyth reach a minimum on the scrub land occupying lot 26 concession XIV. This decrease in value eastward is due to the presence of the C. P. R. which has been deeply down graded in order to underpass road #25.

The influence of the abandoned C. N. R. line on the farms adjacent to it is almost negligible. This is partly due to the fact that it was, for much of its length, laid out along the lot lines between the farms. Thus its effect with respect to field division is not as great as that of the C. P. R. The C. N. R. line was abandoned in 1941 and the tracks were removed two years later. Since that time much of the land has once again become part of farms whose owners have proceeded to level it for cropping purposes.

The only connection that can be drawn between land assessed at \$40 and over per acre and the physical characteristics of the landscape is that farms evaluated in this category are always found on well drained soils. However, since all the better than average farms are found on soils with good drainage the latter does not seem to be the determining element in their assessment. The important factor must be a reflection of man made influence in the form of either high management practices or the proximity to good roads or urban centres. In the land use survey it was noted that the four farms located on lots 1, 7 and 8 on concession I, lot 25 concession V, and lot 26 concession XII stood out as examples of extremely well managed



FIG. 22 One of the better farms in the township. This farm is extremely well managed and profits not only from its location on the productive Harriston loams, but also from its position along #8 highway. The assessment value is over \$40 per acre.



FIG. 23 Steeply sloping, sandy soils handicap agricultural activities on this farm which is located on Donnybrook sandy loam of the Wawanosh Moraine. This farm is located on lot 25, Concession XIV. Its assessment value is under \$20 per acre. units. As well as being operated on a scientific basis, these farms profit by their location along the main transport routes of the township. The high valued land found in the south-west corner of the township is of course related to the presence of Clinton. This town is expanding fairly rapidly and is presently attempting to annex land in this area. Hence there are high values placed on the farm land adjacent to the town.

It is interesting to compare the Farm Values map with the Crop Potentialities Map which was constructed from material supplied in the Soil Report of Huron County. Together these two maps indicate quite clearly the areas of poorest farming land which are the locations of muck and poorly drained sections of the township. While the first is not used at all the second group is used chiefly for the pasturing of cattle. These maps also point out the poor to fair farmland which occurs along the eskers and on parts of the Wawanosh and Seaforth Moraines. Soils here are not the most desirable for cultivation since they are infertile and prone to erode.

Similarities in the two maps break down, however, with further comparisons. With the exception of the over \$40 per acre land class which is culturally induced, the Farm Values map indicates that the largest area of high quality land is located on the till plain, while second class land is situated on the Wawanosh and Seaforth Moraines. On the Crop Potentialities Map the situation is reversed and one finds the best cropland on the moraines with second grade land on the till. The explanation for this difference is as follows. Although

# HULLETT TOWNSHIP

CROP POTENTIALITIES MAP

	GOOD	CROPLAND		
·	GOOD	то	FAIR	
	FAIR			
-	FAIR	то	POOR	

CROPLAND SUBMARGINAL

BOTTOM LAND MUCK

SCALE : I INCH TO I MILE

FROM DATA CONTAINED IN THE SOIL SURVEY OF HURON COUNTY

BASED ON THE ABILITY OF THE SOILS TO GROW CROPS COMMONLY GROWN IN THE AREA, (WHEAT, OATS, BARLEY, CORN, BEANS, TURNIPS, HAY CROPS, & PASTURE)

11

# LIMITATIONS TO CROP PRODUCTION

- DRAINAGE
- . DRAINAGE & FERTILITY
- FERTILITY & EROSION

. VERY POOR DRAINAGE

. PERIODIC FLOODING



the two maps point out the areas of poor farmland, the basis for classification of good cropland varies. The Crop Potentialities Map, as its name signifies, indicates groups of soils which have a common ability to produce yields of crops commonly grown in the township. The scale varies from the best cropland through to submarginal cropland and depends upon the fertility of the soil, the natural drainage, and the resistance to erosion. The Farm Values map, on the other hand, indicates groups of farmland which have a common assessment based upon the general appearance of the farmland, the amount cleared, and the ease with which it can be worked by modern farm machinery. Although the grouping is influenced by the general drainage conditions of the farm, considerations of the soil, fertility, resistance to erosion and the speed at which the soil dries in the spring are not taken into account. It is because of this difference in purpose that the Farm Values map depicts the level, imperfectly drained but easily cultivated till plain as the best farmland, while the well drained, more fertile, land of the moraines with its complex topography is classified as second class farmland.

#### (iii) General Farming

Of the total land in Hullett Township by far the greatest proportion is devoted to general farming. Within this broad category there exists a strong emphasis on the raising of livestock. The raising of dairy and beef cattle represents the most important phase of general farming in Hullett while hog, sheep and general poultry production play

a much less dominant role. The production of broiler chickens and turkeys will be discussed separately in a later portion of this chapter.

Cool microthermal climate and large amounts of good pasture contribute to the emphasis on cattle raising. As a result of this marked dominance of livestock nearly all the areas not occupied by woodlots have been given over to pasture or to the growing of forage and fodder crops which are used as feed in the livestock industry.

A general reconnaissance of the township will show that almost every farmer, other than those who specialize in the raising of beef cattle or broiler chickens and turkeys, possesses a herd of dairy cattle. The dominant breeds in Hullett today are Holsteins and dual purpose Shorthorns. Jerseys are considerably less popular as are Guernseys and Ayrshires.

The raising of dairy cattle had its origins in the mid 1800's when the decline of wheat as the dominant crop encouraged farmers to diversify agricultural production. The number of dairy cattle has continually increased ever since the close of the wheat era and the rise of large urban centres with their great demand for dairy products. In the early part of the twentieth century dairying in Hullett, as in other parts of Southwestern Ontarion, was restricted to a small area of a few miles on each side of the railroad lines and to the immediate vicinity of the larger towns. The introduction of the truck as a vehicle of transport has, however, ended this isolation and dairying has spread throughout the entire township.

The number of milch cows rose to an all time high of 2,895 during the Second World War. (see Chart 3) After the war the industry declined slightly as only 2,376 dairy cattle were recorded in 1951. Between 1951 and 1956 the number rose to 2,588 and it is probable that the 1960 figure closely approximates this number. Ten to twelve milch cows per farm is the average number for Hullett Township.

Dairy farming is extensive and not intensive land use and therefore considerable acreage, about 100 acres, is needed to provide a comfortable income. Since most of the farms are of this size or even larger this poses no problem. Some of the larger, more specialized dairy farmers however manage two to three times this much land.

The largest dairy herds found in Hullett are located in those areas where there is a relatively high proportion of the land devoted to the growing of grains for these crops present a large and costly part of the livestock feed. Hay, although an important factor in livestock raising, is not so much a controlling factor in their distribution as is grain, for one field of hay can produce two crops per year. Grains, on the other hand, can be reaped only once. With the exception of the area of bog, grain and dairy production is distributed fairly evenly throughout the township. A slightly heavier density is found in the north-east sections of the township on the highest portions of the till plain where several farmers keep slightly larger herds of cattle.

Dalevista farm, owned and operated by William Dale, is worthy of special mention. This highly prosperous enterprise, the headquarters of which comprises lots 9, 10, and 11 of concession VII, is the largest and best equipped dairy farm in Hullett. The home farm is mainly in high grade permanent pasture and provides grazing land in close proximity to the milking equipment. The remainder of the farm, 700 acres, is made up of a series of smaller farm parcels scattered throughout the neighbourhood. These parcels located away from the homestead are used for the production of oats, wheat, and hay for feed purposes. William Dale usually manages 35 to 40 head of milking cows of the Guernsey breed. This farm is equipped with bulk coolers and the milk is shipped by truck to Toronto.

Another dairy farm of slightly smaller magnitude is found about four miles to the north on the Kinburn side road. This farm stocks the same number of cattle as the Dale farms but of the Jersey breed. Since this farmer does not possess sufficient land to produce all the required feed, supplements must be brought in from other sources. The large Howson grain elevators and chopping plant in Blyth supplies the required feed. Possessing bulk coolers, this farmer also ships his product to Toronto markets.

A large percentage of the milk produced elsewhere in the township, chiefly from Holsteins which have become popular in the last five years and Shorthorns, is purchased by three concerns. These are Stacey's Dairy in Mitchell, the Carnation Evaporated Milk Company in Homesville which is located on



FIG. 24 This photo shows part of the herd of Guernsey cows owned by Mr. William Dale, one of the most prosperous farmers in Hullett. Fluid milk produced on this farm is stored in bulk coolers, then shipped by truck to Toronto. #8 highway about five miles west of Clinton, and the Blyth Milk Co-operative. On the remainder of the dairy farms the cream is separated from the milk by the farmer. While the skim milk is fed to calves and pigs the cream is sold to smaller dairies located in Clinton, Goderich, Blyth and Seaforth.

Fortunately, now as in the past, dairy farmers are not limited to quotos and can sell as much milk as they can produce. There are ten bulk coolers on farms in Hullett and of these five are on the two dairy farms mentioned above. The remainder are also on larger than average farms from which milk is sold to Toronto markets. Since many of the small dairy farms would have to drop out of the business if the small, local dairies insisted upon the installation of bulk coolers, the fact that they have not done so has done much to prevent the decline of dairying in the township.

Beef cattle are also very important to the economy of Hullett. Although commonly found throughout the township since around 1860 they did not really become important until the turn of the century when white-faced Herefords were introduced. Since that time there has been a slow but steady increase in the beef cattle population. In the ten year period between 1941 and 1951 the number of cattle rose from 1,215 to 1,990. Although no figures are available for the succeeding period, interviews with several farmers in the business indicate a considerable increase.

Beef cattle, mainly white-faced Herefords and Polled

Angus, generally have a distribution pattern similar to that of dairy cattle. Many of the beef cattle raised are in small herds and are a supplemental income to dairy cattle.

Two large blocks of land are shown on the Land Use Map as producing no harvested crops. The grazing of beef cattle presently supplies the chief form of income in these areas. First among these two areas is the section of rough pasture which delineates the Hullett bog of concessions IV and V. Since the area is characterized by a high water table with resulting marshy conditions in spring and early summer, seeding for either grains or hay crops is prohibited. The prevailing vegetation along the drainage ditches is various types of poplars, willows and cattails. Away from the drainage canals the prevailing grasses are of the rank and not too palatable varieties. Beef farming is therefore the only enterprise which can use this land. After remaining on this pasture throughout the summer and fall the animals are moved to the owners' farms where they are fattened and sold in the early spring. Interviews with owners indicate that this area will, in the future, become more important as a beef producing district. More and more of the land is being drained and this will soon lead to the seeding of good pasture grasses and alfalfa to replace the wild varieties. One farmer has already been successful in this operation on one part of the bog and intends to expand the area under drainage in the future.

The second of these beef producing areas is a section of improved permanent pasture found chiefly on lots 21 and 22



FIG. 25 This photo shows the chief economic activity on the Hullett Bog. This kind of pasturage gives only a minimum of food nutrients and does not fatten the cattle quickly. When winter arrives, they are moved to sheltered quarters where they are fattened on grain feeds.



FIG. 26 Most of the beef cattle are raised either in small numbers along with dairy cattle, or in large numbers in the bog region. However, a few farms producing only beef cattle are found centring on lot 22, concession VI and VII. This is the area of improved permanent pasture on Listowel loam. The area shown above is much more productive than that of the rough pasture in the upper photo. of concession VI and lots 21, 22, and 23 of concession VII. Because this land is characterized by exceptionally slow draining Listowel loam, cultivation of grain crops is unprofitable. The area has for the most part been invaded by beef cattle raisers who seed the land in alfalfa and mixed hay crops for pasture. This section is carefully protected against the hazard of overgrazing and since it produces a hay crop which fattens cattle quickly it is many times more productive than the previously mentioned rough pasture to the south.

As there is no abbatoir in Hullett Township the movement of beef cattle is directed toward the Clinton stockyards. There some of the animals may be sold directly to the Canada Packers finishing plant which is located in the town or they may be sold and shipped by rail to meat packers in Toronto. The remainder are sold at community auctions for further fattening.

Hog and sheep raising is also carried out as a phase of general farming. Sheep, once very important, have declined steadily since the turn of the century. In the period between 1931 and 1951 the sheep population dropped from 2,036 to 355 due to the lack of markets for mutton and because other livestock can be raised more profitably. The figure for 1956 is 215 animals. Since only one small flock was noted during the traverse of the township, the present number is assumed to be even less, probably under 100 head. However hogs have persisted in high numbers, between 6,044 and 7,880 since 1941. Chart 3 indicates that a slight decline of 390 animals occurred between 1951 and 1956 just before the price of pork reached a very profitable level. It is quite probable that since 1956 there has been an increase in the number of hogs in Hullett due to the relatively good prices for pork. Fattened hogs are taken to Clinton and, as in the case of beef cattle, some are used by Canada Packers while the majority are shipped to Toronto packers for finishing.

Mechanization has largely replaced the horse in the township. At one time this animal was the only aid the farmer had in doing a great deal of the work connected with general farming. As late as 1931 there were still 1,677 horses in the township. The decade between 1941 and 1951 appears to have been the period when most of the farmers restrained their sentiments and finally sold their draft animals. One farmer who still possessed a team estimated that there would be less than 100 horses in Hullett at the present time.

Egg production has long been important in Hullett, but since the Second World War this phase of general farming has rapidly declined until at present the number of eggs produced is one-half the prewar level. (Table 3) The main breeds of laying hens found in Hullett are such hybrid varieties as Highlines and Newhauser as well as the non-hybrid birds, White Rocks and Rhode Island Reds. The majority of the chicks for laying purposes are purchased from hatcheries in either Bluevale or Brussels. Eggs are usually produced by flocks of about 50 to 75 hens per farm. They are sold mainly to Canada Packers in Clinton although creameries located in that town as well as in Blyth, Wingham, and Seaforth also purchase large quantities. After one season of laying the hens are sold either to the Campbell Soup Company of Listowel or the Imperial Poultry Company of Watford.

## (iv) Specialized Farming

The production of broiler chickens and turkeys is the only specialized farming in the township which is completely independent of general farming. Before the Second World War this type of farming was integrated with general farming, but now it is a completely separate enterprise characterized by mass production and specialization. During the prewar period this activity was only of slight importance. In 1941 hens and pullets outnumbered the broilers by 68,975 to 2,521. Then at the close of the war a few of the more adventurous farmers began to realize that a profitable living could be made by raising broilers. In the decade between 1941 and 1951 it was found that broilers led other chickens by 62,652 to 39,301, an increase of 60,131 in broilers. The 1956 census figures show a further decrease in hens and pullets to 34,650 while broilers continued to increase to 68,071.

In the period from 1956 to the present, production has tended to level off somewhat although expansion is still taking place. Evidence of the latter is the construction of a new broiler plant within the last year and the present remodelling of others. At the present time there is no concentration of this industry in any one section of Hullett.

Being a large scale operation, broiler raising involves the farmer in considerable expense before he can establish himself as a broiler producer. In most instances the farmer can no longer afford the time necessary to produce and prepare the feed required by his birds and must therefore purchase it. Also involving considerable expense is the installation of automatic heating and water systems which are necessary to accomodate several thousand birds. The greatest expense which would act as a deterrent to this type of farming is, however, the cost of constructing buildings which are large enough to house a profitable number of birds. These extremely long and well ventilated buildings are usually constructed on a cement block foundation with three to four stories of timber construction.

The dominant breeds in this new agricultural industry are New Hampshires and Sussex--cross-breeds which have been developed for their meaty qualities. The chicks are purchased from hatcheries in nearby Zurich or Brussels and are then kept in the broiler plants for twelve to sixteen weeks. During this time they reach their maximum size and are fattened for market. The birds are then purchased by either the Riverside Processors located in London or the Clinton branch of Canada Packers Limited. Both of these companies pick up the birds directly from the producer thus eliminating for him the problems of slaughter, storage and transportation.

The greatest threat to the poultry business is illness

among the birds. Chickens are extremely susceptible to diseases especially those which affect the respiratory organs. Where there is such a high concentration of birds as those which exist in the broiler plant the entire flock may be wiped out by sickness in one day. Obviously steps must be taken to prevent the occurrence of respiratory diseases. One of these is the necessity for having well ventilated quarters. Most producers also give their flock specially prepared antibiotic feeds during the chick stage. These antibiotic substances, aureomycin or terramycin, are placed in the water supply for the older birds.

One producer, Mr. William McMillan who operates a farm on lot 1 concession V, began experimenting in turkey raising about twelve years ago and has been in this line of business ever since. Having witnessed this man's success his brother, who occupies the adjacent farm, also decided to enter into this activity. The latter has, for the last six years, stocked a new five storey broiler plant (Fig. 28) with 15,000 white turkeys which are acquired from Beaty's Hatchery at Thamesford. The Tend-R-Flesh Turkey Limited purchases, transports, and slaughters the birds for both of these producers. The two brothers work together in the turkey raising business and by engaging outside help are able to supply enough wheat and oats for the birds once they no longer require the specially prepared feeds. It is possible that this industry, like that of raising broiler chickens, may also expand throughout the township.

Since profits per pound in the broiler industry are



FIG. 27 A plant producing "Sussex" broilers on the eastern section of the till plain. This plant has been in operation for only one year. It was built by modifying an already existing barn. Note the large number of open windows -- a necessity to successful poultry raising.



FIG. 28 This picture shows the McMillan white turkey broiler plant on lot 2, concessionV. It is a five storey structure, and has been in operation for 6 years. It houses 15,000 birds annually. small large scale operations are not only preferred but are of a prime necessity. Production per plant ranges from 5,000 to 15,000 birds annually.

## (v) Crops

Of the total area within the township 81.5% is classified as improved or as land which has been cleared for crops and pasture. The remaining 18.5% is composed of woodland, scrub, and other non-agricultural uses. Chart 4a indicates the proportion of total land occupied as compared with cropland, pasture and unimproved land.

Hay is grown on 9.8% of the improved land in Hullett. In nearly all cases it is a mixed type composed of alfalfa, timothy and red clover. Alfalfa produces two crops a year and the practice of cutting hay twice could deplete the fertility of the soil. Management is, however, good on the whole and this does not become a serious problem in Hullett. It is quite a common practice to allow cattle to graze the fields after a hay crop has been harvested and this does a great deal to maintain fertility. In addition to maintaining fertility of the soil, alfalfa is characterized by an early and prolific growth which makes it invaluable for weed and erosion control purposes.

Most of the hay crops grown are used for feed rather than as cash crops. In instances where cash hay crops are grown they generally occur on a small farm operated by a city worker. The hay produced there is usually sold to neighbouring

# LAND USE FIGURES FOR HULLETT TOWNSHIP (in acres)

Year	Total Area Occupied	Improved Land	Under Crops	Pasture	Unimproved Land
1851	19,434	1,978	1,618	357	17,456
1871 1881 1891 1901	48,323 50,475 52,153	27,836 36,308 42,960	20,095 28,129 31,065	7,291 7,440 11,173	20,487 14,167 9,193
1911 1921 1931 1941 1951 1956	52,530 52,608 52,934 52,936 55,784 52,152	42,988 43,514 43,622 41,605 46,216 43,263	28,316 27,130 27,366 24,956 26,438 25,008	14,674 14,431 14,901 14,871 18,313 16,772	7,800 9,094 9,312 11,331 9,532 8,889

# MAJOR CROPS IN HULLETT TOWNSHIP (in acres)

Year	Hay	Oats	Wheat	Mixed Grains	Barley
1881 1891	5,514 7,642	6,673	9,665 3,977	1,018	2,556
1911 1921 1921 1931 1941 1951 1956	8,029 9,686 9,755 9,383 9,355 8,553	9,148 9,134 5,779 3,144 2,928 2,991	2,840 1,252 1,001 1,129 1,324 604	1,891 3,953 7,264 9,379 9,342 9,226	1,976 1,064 1,308 689 2,187 860

HULLETT TOWNSHIP





CHART 4a

after; DOMINION CENSUS REPORT



# MAJOR FIELD CROPS IN HULLETT TOWNSHIP

(In Acres)

CHART 4b

dairy farmers who do not have large enough acreages to grow sufficient hay to keep their cattle through the winter. With the exception of two blocks of pasture land utilized for beef production, hay crops are quite evenly distributed throughout the township. Observation of the Land Use Map will indicate that the amount of hay grown in 1960 was fairly small when one considers the number of cattle supported in the township. It must, however, be remembered that hay can be cut twice a year as compared to the single harvesting of grain crops. Again, many of the fields marked as pasture are actually fields which had produced one crop of hay and were then turned over to pasture for the rest of the season.

Improved pasture covers 16,772 acres or 38.8% of the improved land of the township. To this figure must be added the acreage of rough pasture and the fields pastured after the hay has been cut. Most of the hay fields that have been given over to pasture contain alfalfa which greatly increases their carrying capacity. The greatest areas of pasture occur where the concentration of beef cattle is heaviest. Outside this beef raising region pasture occurs in an evenly scattered pattern throughout the township.

Fields designated as oats on the Land Use Map are those which have been planted in pure oats as well as those whose crop consists predominantly of oats but with admixtures of wheat and barley. As indicated on Chart 4b these mixed crops began replacing the pure oat crops between 1921 and 1931. This change in crop emphasis was related to the decline



FIG. 29 This field of pure oats being harvested by combine was located on the northern part of the till plain -- on the well drained and fertile Harriston loam.



FIG. 30 A field of mixed grain (oats, wheat, barley) growing on Harriston loam which has developed on the slopes of the Wawanosh Moraine.
in the number of horses which occurred at this time. At present pure oat stands occupy about one-quarter of the amount of land devoted to mixed grains. Altogether they total 25.8% of the agricultural land of the township. The cool moist climate characteristic of the township is favourable to the production of these crops and high yields are found on all soils which are well supplied with moisture and have good drainage. Highest yields are obtained on the heavy loamy soils that are moisture retentive. Barley as an admixture tends to drop out on the soils which are marked by poorer drainage. While most of the stands, both pure and mixed, are used as livestock feed on the farms on which they are produced a good quantity of the pure oats is grown in conjunction with poultry raising.

Although at one time wheat was an important cash crop in the township, production is now down to 604 acres. That is to say it occupies only 2.8% of the total land devoted to field crops. These figures, however, represent only the pure stands of wheat and are greatly augmented if one includes the wheat which is grown in combination with oats. As has already been stated wheat is no longer a (cash) dominant<sup>4</sup> crop and where it is found mixed with oats it is used as livestock feed. Many of the large wheat fields are connected with poultry enterprises. The wheat on lots 1 and 2 concession V are stands of wheat associated with the McMillan broiler plant.

Wheat is grown quite uniformly throughout the township but avoids the lands which are devoted to grazing. Worthy of mention is the only field of wheat being grown on the fringe of the bog. This is indicated on the Land Use Map on lot 6, concession IV. For the last two years excess moisture in this field has been removed by tiles to the municipal ditch which runs along its western border. As can be seen in Fig. 31 the field has produced a very good crop of wheat, one which can compete with any other in the township.

Since the wheat grown in the township is of the hard winter variety the amount produced each year fluctuates with the moisture conditions of the preceding autumn which is the seeding season. The Land Use Map indicates that the amount of wheat grown in the summer of 1960 was fairly small. This reflects the wet fall which prevailed throughout the township in 1959. Since the autumn of 1960 was considerably drier it is reasonable to expect that the acreage of wheat will be substantially larger next summer.

The climatic requirements of barley are quite similar to those of wheat, but the crop demands better drainage conditions. Approximately 800 acres of this grain were grown throughout the township in the summer of 1960 although more was grown mixed with oats and wheat. This crop is also grown primarily for feed.

A crop of minor importance in Hullett Township is buckwheat. This is a crop which will grow under moist conditions and is tolerant of poor soil. The largest fields of buckwheat are found on the light, well drained sandy loams and silty loams. It is produced mainly for feed but is also



FIG. 31 Wheat growing on land which up until two years ago was a bog. It has been underdrained and cleared of its scrub. The yield now rivals that of wheat grown on many of the best soils in Hullett. Note the scrub vegetation in the next field which lies on the other side of the county ditch. That field has not been drained.



FIG. 32 A field of seed flax growing on the till plain. This grain is usually grown and harvested in much the same manner as wheat. Sometimes, as is represented in the above photo, it is cut with a hay mower. When it has thoroughly dried it is threshed in the field by a combine harvester. used as a soil improvement crop.

There is a limited quantity of corn grown in Hullett Township, the total production amounting to only 982 acres. The best yields are obtained on well drained loams and silt loams as the wetter soils remain cold too long in the spring and hinder germination. A corn crop fits very well into a rotational scheme. Since it is itself a cultivated crop no fall or spring ploughing is necessary before planting the next crop.

Flax is a spring grown crop and in Hullett consists entirely of the variety grown for seed. It is usually handled in the same manner as wheat. The seed is planted with grain drills, the plants are quite often cut and tied with a grain binder, the bundles are stacked to dry in the field just as the grains, and the threshing is done by grain-threshing machines. Where there is a large acreage the crop is cut with a hay mower and left on the field to dry. It is later picked up by a combine and threshed in the field.

In the summer of 1960 around 500 acres of flax were grown in this township and of this total well over 400 acres were grown on the till plain north of Seaforth. Flax grows well in the cool moist climate prevailing in Hullett and is not exacting in its soil requirements. The greatest problem to the production of this crop would seem to be weed control which can however be aided by good crop rotation practices.

Almost all the flax is grown as a cash crop with only small amounts being used on the farms where it is grown. After being harvested the yield is sent to the flax mill in Seaforth where it is reduced to linseed oil and linseed meal. The oil is shipped to Toronto chemical plants where it is used as a drier in paints and varnishes. The residue left after the extraction of the oil is sold by the mill at Seaforth as linseed meal, a highly valued feed for dairy cattle and young growing animals.

Only a limited number of turnips are grown. The fields are usually small and are not restricted to any section of the township. Although some of the root crop is sold in Blyth to the waxing plant, turnips are grown primarily as feed for cattle. This crop is steadily being replaced by grains as feed.

One small field of sorghums was found in the township. This was on the farm of Mr. Thomas Lee, concession XI, just east of Londesborough. Mr. Lee explained that although soil and climatic conditions did not necessitate the growing of sorghums he did so in order to provide a variety of feed for his cattle. The stalks of this plant are much more easily digested than those of corn and this makes them very desirable for calf feeds.

A few orchards occur, chiefly on morainic material, but they are not large nor are they highly productive. Up until 1934 the orchards were quite profitable and supplied apples to a flourishing apple butter, dried apple, and cider-making industry at Auburn. Many of the choicest apples were exported to Britain. In 1934, however, a severely hard winter killed most of the fruit trees in the township. The majority of farmers

did not take the trouble to replant their orchards and the ones which remain scarcely supply enough fruit for the farmers' own consumption. Much of the land formerly occupied by orchards now serves as rough pasture. One orchard worthy of note was, however, observed. It is located on the farm of Mr. William Lovett, lot 33 concession VIII. Apples produced on this farm were formerly reduced to dried apples but they are now sold as fresh fruit in the markets and stores of the surrounding towns and villages.

Beans and cucumbers are the only vegetable cash crops planted in Hullett Township. Common kidney or white field beans are the variety grown here and the total area so planted approximated 200 acres in the past year. Because soil aeration is an important factor in bean growth the organic soils of the marshy sections are not suited to this crop. Clay soils are too much subject to puddling and consequently are also poor bean producers. Beans are therefore usually planted on medium loams with moderate fertility. After being cut with a hay mower, the crop is either hauled to the barn for threshing or is threshed in the field with combines. Beans produced in Hullett are transported to Hensall where they are cleaned, graded and packaged for human consumption. A traverse through the township revealed only two fields of cucumbers. These were found on lot 39, concession X, and on lot 8, concession VIII. This crop is shipped for grading to either Clinton or Blyth. From the grading station the cucumbers go to Heinz Canning Co. in Leamington.



FIG. 33 Beyond the field of wheat in the foreground, is a narrow strip of sorghum. It is the only occurrence of such a crop in the township.



FIG. 34 Idle land is not found frequently in Hullett. When it does occur it is usually associated with poorly drained Parkhill soils, or in the case of the above example, with gravelly Dumfries soils. Parcels of idle land are not found very frequently in Hullett. When they do occur they are usually associated with the extremely gravelly Dumfries soils or the poorly drained Parkhill soil series.

### CHAPTER IV: NON-AGRICULTURAL LAND USE

# (i) Urban Land Use

Apart from that land which is utilized for agricultural purposes there are important sections of the township used for urban purposes. No large cities or towns are found within Hullett. The urban centres range, therefore, from a collection of homes about a general store to small villages of approximately two hundred inhabitants.

Beginning with the smallest and continuing to the largest the writer will refer to each of the four centres characterized by some type of commercial activity. The three larger centres, Kinburn, Londesborough, and Auburn, have been mapped according to the function that the land serves within the broad classification of urban land use. Retail service or trade areas of all centres have been delineated and are presented on maps 10 and 11. These service areas were obtained as a result of extensive interviews with the proprietors of various enterprises. Several cross-checks on this information were made at different points in the township by actual interviews with farmers and adjustments were then made.

The primary service areas indicate the drawing power of general and grocery stores for food goods only. The secondary service area delineates the area each urban com-

munity services in terms of non-food or specialty items such as hardware, shoes, feed supplies, appliances and banking facilities. The primary service area therefore indicates the greatest concentration of regular customers to each centre for all types of goods, and also represents the core of the secondary service area. The secondary service area, on the other hand, represents a greater dispersal of regular customers which increases radially away from the centre and finally succumbs to the influence of neighbouring urban centres.

## (a) <u>Summerhill</u>

Summerhill is located on the "Base Line" a little over four miles north of Clinton and overlooks the left bank of the South Maitland River. This is an extremely small settlement consisting of only one residence, a general store with a gasoline pump, an elementary school and a community hall. An examination of the map indicating primary trade areas reveals that the sphere of influence of Summerhill is exceptionally large. This unusual dominance, though partly explained in terms of the congenial nature of the store keeper, is really due to the fact that the store is open for business seven days a week, and in the evenings as well. This makes shopping for food convenient for nearby farmers and people travel to Summerhill from distances up to three and four miles away, that is from areas which normally fall within the trade areas of Auburn, Londesborough and even Clinton. The operation of a gasoline pump also enables the store keeper to capture trade from through travellers.

# (b) <u>Kinburn</u>

This tiny crossroads community of fourteen inhabitants is located on the till plain to the north-east of the Hullett bog, four miles north of #8 highway, and 1½ miles from the eastern boundary of the township. The name given to the site by its early residents was Kinburn. Its name was changed to Constance with the establishment of a post office in the hamlet, but in 1945 the post office was discontinued and the name once again became Kinburn. Today the community is known by either name and neither appears to be preferred by those who reside there.

The residences of this hamlet number only seven, three of which are in fair condition and two must be classified as poor. The remaining two dwellings were abandoned during the period of depopulation in the township and since Kinburn has not been able to attract new residents they have been vacant ever since. Apart from the homes of the hamlet, map 9 indicates that Kinburn possesses an elementary school, a Methodist church which was constructed in 1894, and two places of business. The latter are owned and operated by Mr. Borden Brown and consist of a general store plus a hardware and farmers' supply warehouse. The large shed which is located diagonally across the corner from the general store is a storage shed for Huron County Roads equipment.

The trade area for the general store is fairly small extending for one or two miles toward the south and west. Its influence in these directions is seriously curtailed by the

# KINBURN

# FUNCTIONAL PATTERN

SCALE - I INCH TO 420 FEET



LEGEND

RESIDENTIAL

N

PUBLIC

FAIR		ELEMENTARY	SCHOOL
POOR		CHURCH	
ABANDONED		CEMETERY	
	COMMERCIAL		

GENERAL STORE

BARNS AND SHEDS





CLINTON



FIG. 35 The Methodist Church at Kinburn has served as the religious and social centre for the community and the surrounding district since 1894.



FIG. 36 Borden Brown's general and hardware store. A farmer's supply warehouse where potatoes, fertilizers, fencing and posts, as well as tractor gasoline are sold is located across the road. presence of a greater choice of food products in the markets at Seaforth and Clinton. This primary service area does, however, expand to three or four miles toward the north and west. A great proportion of customers dealing at Mr. Brown's general store actually come from McKillop Township due to the fact that there is no comparable outlet for food supplies in the adjacent areas of that township.

According to the proprietor, the secondary trade area coincides generally with that of the primary. While sales of fertilizer extend somewhat beyond the majority of his hardware supplies, sales of cedar fence posts deviate greatly from this general pattern of trade. Sales of the latter are commonly made up to a radius of twenty miles. Two reasons were given to account for this large business. In the first place the posts are graded by Mr. Brown. In other words a person desiring a number of fence posts of a certain diameter gets the sizes he wants and not some small and some large ones. This grading is a feature which apparently is not common in the fencing supply centres in Clinton or Seaforth. Moreover, Mr. Brown is a very amiable person and is willing to deliver the posts for his customers up to distances of twenty miles. This latter service has been especially effective in building up his hardware business.

# (c) Londesborough

Located on #4 highway about six miles north of the town of Clinton and three miles south of Blyth is the small village of Londesborough. The village was laid out in 1850



# LEGEND

116



# LONDESBOROUGH FUNCTIONAL PATTERN

SCALE - I INCH TO 420 FEET

by an Englishman named Thomas Hagyard who had been a resident on the estate of the Lord of Londesborough in Yorkshire. Hagyard settled on lot 26, concession XI, the western section of the present village. For ten years the community which developed was known as Hagyard's Corners but the name was then changed in honour of Lord Londesborough.

At the junction of the Seaforth Moraine and the Hullett Till Plain, Londesborough, the second largest village in the township today, possesses fifty-four houses. The majority of these structures are in quite good condition. Although most of them are constructed of timber or insul brick and are fairly old they are usually well cared for. Although there are four dwellings classified as inferior only one of these is in a dilapidated condition. The rest are still solidly constructed but are badly in need of painting. Three superior homes are located on that section of #4 highway which links the village with the town of Clinton. (see Functional Map of Londesborough) The two houses farthest away from the centre of the village have been built within the last two years and are brick constructed ranch style dwellings. It is natural that they should have been constructed in this area since the only superior house in Londesborough was already located there.

Londesborough possesses three service stations, a feed mill with an associated seed cleaning plant, a bank, a hardware store and a blacksmith shop. Also present to supply

This is the superior dwelling which is located across the road from the Londesborough Cemetery. It is the wellkept farm house of Mr. Jack Armstrong a prosperous beef farmer.



FIG. 37 One of the two general stores in Londesborough. The post office is also located in this building.



FIG. 38 A view of the Londesborough feed mill. A seed cleaning plant and warehouse operated in association with this mill are found across the street.



FIG. 39 One of the average homes in Londesborough. Note that although this is a fairly old home it has been well cared for.



FIG. 40 One of the two new homes built in Londesborough within the last two years. It is one of the three superior dwellings in the village, and is located along #4 highway. the needs of the surrounding district are a post office, community hall, and a Methodist church. Up until 1941 Londesborough was served daily by the Canadian National Railway which skirted the village about one-half mile to the east. This line was opened in 1876 and prospered until 1930. Between 1930 and 1932 the total yearly earnings of the line dropped from \$10,161 to \$1,601. No longer making sufficient profit, the C. N. R. abandoned the line in 1941. The tracks were removed within the next two years and much of the property was sold to farmers. The loss of the railway did not, however, result in any decline within the village since the motor truck was already transporting much of the freight. Passenger traffic was also being drawn away by the Grey Coach Line which offered bus service twice daily between London and Wingham. It was indeed just these facts which made the operations of the C. N. R. unprofitable.

The primary retail service area varies from a little over two miles toward the north to four miles toward the west and south. The greatest extent of influence extends to the east where it finally succumbs to the influences of the village of Kinburn, and of Walton which is located two miles east of the township. The secondary service area, that which indicates the trade associated with the feed mill, is considerably larger than the primary and in contrast to it is elongated toward the west. The reason for this westward extension is that similar mills are located in Blyth, Seaforth, and Clinton, but none exists at Auburn. Consequently the farmers in the north-western section of Hullett as well as those in the north-eastern parts of Goderich Township look to the mill at Londesborough to supply their milling needs.

# (d) Auburn

The plan for this village was laid out in 1848 by the surveyor Eneas Elkin who reached the township by travelling on foot from Hamilton. The site chosen for the village was atop a 75 foot high spillway bank at the bottom of which runs the Maitland River. Originally known as the Police Village of Manchester, it retained this name until 1895 when the name Auburn was adopted. The community is located at the extreme north-west corner of Hullett Township and spreads across the Blyth-Goderich road (road #25) into the Townships of East and West Wawanosh. Indeed the largest portion of the village falls within the latter township.

The residences of Auburn are, for the most part, well cared for buildings with the majority falling in the category of fair housing. Of a total of 86 dwelling places only four were found to be in poor condition. Four new houses, two timber and two brick, were erected this past summer. These, together with the late model brick house of Mr. Keith Arthur located immediately to the north of his furniture store, comprise the five first class houses in the village. Apart from serving as a residential centre for retired farm folk from the surrounding districts Auburn also serves as a place of residence for those people operating commercial enterprises within the village. The majority of commercial outlets are situated



FIG. 41 The home of Mr. Keith Arthur a superior dwelling located in the eastern section of Auburn. Mr. Arthur operates the village furniture store and a funeral parlor.



FIG. 42 This is an auto wrecker's yard located at the opposite end of town to the Arthur residence. It represents the only "blighted" section of Auburn. Although some parts of the autos are used in the local repair shops, the main portion of the scrap material is shipped to scrap yards in London. on the north side of the former main street or road  $#25.^2$ 

Growth of the village is indicated not only by the construction of the four new residences within the last year, but also by the addition of two new commercial activities. These are the auto body repair shop and Fina Service Station which are located in the eastern section. As the Functional Map reveals, Auburn now possesses three grocery stores,<sup>3</sup> two service stations, an auto body shop, a barber shop, a butcher shop, and an automobile wrecking yard. In addition to these commercial services Auburn can boast of four churches (Anglican, Presbyterian, Baptist, and United) a post office, banking services, a television repair shop, a funeral home and a furniture store as well as the Huron County Road Maintenance Headquarters. With the exception of the service stations and repair shops most of the commercial outlets are adjoined to the homes of the proprietors.

Although such early places of employment in Auburn as the blacksmith and harness shops, the apple evaporator and cider plant, the Telegraph Office, as well as the cooperage and stave manufacturing shops have passed away the people of Auburn have found new means of earning a living. Six of the inhabitants are presently working at a saw mill<sup>4</sup> located about

<sup>&</sup>lt;sup>2</sup> In 1956 a new bridge was constructed over the Maitland River and is reached by a new route of road #25 which by-passes the commercial section of the village.

<sup>&</sup>lt;sup>3</sup> In addition to groceries these also provide feed supplies, hardware, gasoline supplies and frozen food locker service for 185 customers.

<sup>&</sup>lt;sup>4</sup> This saw mill, operated by Mr. Bill Craig of Auburn, will be discussed in more detail in a later section of this chapter.



SCALE - I INCH TO 420 FEET

GROCERY STORE, FEED SUPPLIES AND FOOD LOCKER SERVICE GROCERY STORE, HARDWARE AND GASOLINE GROCERY AND SHOE STORE

FURNITURE AND APPLIANCE SHOP (ABANDONED) BLACKSMITH SHOP (ABANDONED)



FIG. 43

These two pictures show the commercial core on the north side of Auburn's main street. The upper photo shows the western half of the business section while the lower view depicts the eastern parts. Shown in the two photos are two general stores, the Auburn Fire Department, The Canadian Bank of Commerce, and a B/A service station.



FIG. 44



FIG. 45 Auburn's elementary school is located one mile beyond the eastern limits of the village. This is one of the better educational facilities found in Hullett. The other schoolhouses in the township are smaller and constructed of timber.



FIG. 46 St. John's Anglican Church -Auburn. This is only one of the four churches found in this village. one-half mile to the south of the village. Five are employed at the Bainten Tannery in Blyth and three of the women of the village are employed at the Clinton Hospital. The County Roads Depot which located in Auburn because of its central position within Huron County began operations there in 1945 and is the greatest single employer of men in the township. Of the approximately thirty-seven men employed, fifteen live in Hullett Township and ten of these are inhabitants of Auburn.

The retail service areas for Auburn within the township are small compared to those of the other settlements. The service areas of such secondary activities as hardware sales and banking closely follow that of food sales, and have a radius of approximately four miles. Influence is kept from expanding to the south and east by the presence of commercial enterprises in Summerhill, Londesborough, and Blyth. The service area for both primary and secondary activities expands greatly to the north and west into East and West Wawanosh and Colborne Townships where sales up to a distance of ten miles are common. The trade area of the Auburn Television Repair shop and auto body shop do, however, exceed the boundaries of most secondary commercial activities. Since similar shops exist in Blyth the commercial realm of these enterprises avoids this town but extends southward to include much of the area surrounding Summerhill.

## (ii) Industrial Land Use

Although no large scale manufacturing industries are

found in Hullett, one small processing enterprise using local raw materials does exist. This is the lumber mill which is located adjacent to the Canadian Pacific Railway and one-half mile south of the village of Auburn. Owned and operated by Mr. William Craig of Auburn the mill employs ten men in the winter months and twenty-five during the summer. Of the ten permanent employees, four live in Auburn and two live elsewhere in the township.

Mr. Craig obtains his raw materials from farmers' woodlots in Hullett Township and other nearby areas. In an interview with the owner it was disclosed that 90% of the logs obtained were gathered from within a radius of twenty miles. Hauls of up to thirty miles have been made but only if the timber is of especially fine quality and size. Beyond the thirty mile radius timber operations cease to be profitable.

The timber cutting operations of this mill are not those which completely destroy the woodlot. Cutting is strictly controlled by a Huron County Timber By-Law. No tree can be cut which measures less than seventeen inches in diameter (inside the bark) at stump height. The chief species of trees cut are hard and soft maple, beech, elm, and basswood. The mill operates on a seasonal basis, that is, the trees are felled, trimmed, and hauled to the mill in the summer and fall when transportation facilities are good. When winter arrives the main phase of sawing and planing takes place. It is because this latter operation is confined to the



FIG. 47 This picture indicates the only industry in Hullett Township. It is a saw mill which is owned and operated by Mr. Bill Craig of Auburn. The large supply of logs piled at the right of the photo will supply enough raw material to keep the small industry operating throughout the winter. Boards stacked on the left will be shipped chiefly to British markets. mill itself that the number of men employed drops to ten in the winter.

Even though last summer was marked by unusually large building projects in the vicinity of the mill very little lumber was sold for these purposes. The builders of the four new houses in Auburn bought their supplies from the lumber yard at Blyth where they could buy other necessities such as insulation supplies and window sashes as well as building lumber. The County of Huron engineers, who were constructing a new bridge over the South Maitland River at Summerhill, purchased their materials from yards where plywood, a necessary material for concrete form construction, could also be obtained. The Auburn mill sells such waste materials as slab wood and sawdust locally for fuel. Most of the lumber produced there is bound for more distant markets. Although some is shipped by C. P. R. to Toronto lumber yards, the majority is shipped directly to Montreal and from there finds its way to British ports.

#### CHAPTER V

#### (i) Summary

Hullett Township occupies the most central position in Huron County. The glacial drift which was deposited during the Wisconsin ice age is relatively thin in the easternmost reaches, while in the west this debris thickens considerably due to the presence of moraines. Bedrock control over glacial deposition is evident only in the eastern or till plain section of the township. Exposures of bedrock are unknown in Hullett except for one outcrop along the Maitland River. Physiographically the eastern part of the township occupies the western sector of the Stratford Till Plain, while the western portions fall within the Wawanosh and Seaforth Moraines. The external drainage of the township is accomplished by three river systems. Tributaries of the Bayfield River drain the runoff from the southern portion of the township, while the Maitland River collects excess moisture from the northern sections. The South Maitland River, the largest branch of the main Maitland River, drains the central and largest part of the township.

The soils of Hullett vary greatly. Both the Greybrown Podzolic and the Dark Grey Gleisolic Great Soil Groups are represented. Azonal soils (Bottom Land and Muck) are also present. The better drained and most productive soils (Harriston loams and silt loams) are found mainly in the western half of the township on morainic materials. Imperfectly drained soils are most commonly found on the eastern section of the till plain, while poorly drained soils occur in that part of the till plain which lies between Kinburn and the Seaforth Moraine. A cool microthermal climate characterized by warm summers and cool winters persists throughout the township of Hullett. This climatic type possesses a precipitation regime which provides enough moisture to support general farming. The natural forest has been greatly reduced to slightly over 6% of the total area of the township. It is composed chiefly of deciduous trees with an admixture of conifers.

Because of its location in the western part of Southern Ontario settlement was late developing in Hullett. Settlement did not really get under way until the first wave of British immigrants arrived in 1830. The first areas occupied were the farm parcels along the Huron Road in the vicinity of the present town of Clinton, along the Huron and London Road, and along the road forming the western border of the township. A second wave of immigrants landed in the township in 1850. These people came with the intention of settling in the newly opened Crown Lands to the north of Huron County. Passing through Hullett on the way to their intended destination, many of them were attracted to the landscape of Hullett and were content to settle there. The township reached its peak in population in 1881. A long period of depopulation followed and is related to a drift of the population either to the cities

of Southern Ontario or to the newly opened farm land in Western Canada. During this time crops which were formerly grown for sale were replaced by crops grown for feed and general or mixed farming increased. The trend of depopulation began to level off in 1931, and reached its minimum during the Second World War. A slight increase of 143 people has been experienced since this time and is accounted for mainly by an influx of Dutch families eager to take up land which was abandoned following 1881.

Agriculture is the principal industry of the township and consists of two main types. The majority of the farmers of the township devote their energies to mixed or general farming. Within this broad category there is a strong emphasis on livestock raising. The raising of dairy cattle constitutes the largest proportion of this activity and is found throughout the whole township with the exception of those areas devoted entirely to the raising of beef cattle. This latter activity is also carried on over most areas of the township but reaches its peak in those large blocks of the township which consist entirely of pasture land. Hogs are another important component of general farming and are distributed throughout the same area as dairy cattle. Another type of agricultural activity, quite separate from general farming, has grown up in Hullett since the Second World War. This is the highly specialized industry of raising broiler chickens and turkeys. Favourable physical factors for the growth of hay and forage crops have done much to aid the development of

the livestock industry. The greatest part of the acreage of Hullett Township has been devoted to the production of grain, fodder and forage crops which are necessary for this livestock raising.

Only two land use types other than agricultural were noted in the township. The first of these is that land occupied by villages and other settlement nuclei. Four small communities are located in the township and play an important part in the way of life of the people and the economy of the township. The largest of these centres is Auburn which provides a fairly wide variety of consumer goods and services.

The second type of land use that is non-agricultural falls within the category of light industry. Only one instance of this type of land use occurs in Hullett and is that associated with the saw mill located one-half mile south of Auburn. The majority of products from this mill are exported to Britain.

# (ii) Conclusion

From this study one is able to conclude that the present prosperity of agriculture is related to a combination of factors both physical and cultural. Warm summers, sufficient rainfall, generally productive soils, as well as an aggressive farm population have done much to further the development of agricultural activities in Hullett Township. The steadily increasing urban demand for fluid milk and other dairy products has done a great deal to stimulate the development of the dairy industry. As nearby cities and towns continue to expand it is highly probable that this urban growth will be accompanied by an expansion of dairy farming in the township.

The raising of livestock, other than dairy cattle, is another important phase of agriculture but it occupies a secondary position to dairying. These animals, chiefly beef cattle and hogs, are raised to supplement the income of the small dairy farmer and no force to end this mixed farming is seen in the near future. The raising of beef cattle will probably increase as artificial drainage is extended throughout the Hullett Bog. This land, after drainage, would be capable of producing a wide range of crops, but since the roads traversing the area are in only fair condition and since there are no houses or barns on the various parcels of land it is highly improbable that varieties of farming other than beef raising will enter the area for some time. Although this area will likely remain a beef region, production will gradually become intensified and of a much higher standard when more of the land becomes artificially drained.

More broiler chickens are being produced now than ever before in Hullett. Since the demand for poultry is steadily increasing it is likely that this specialized aspect of farming, already at a high and profitable level, will become more widespread in the future.

Because of its centrality within the County, Auburn has managed to attract the Huron County Roads Headquarters to establish their depot in the village. Apart from this instance the urban centres were found to have no strong features which
could induce the development of commerce on a larger scale. New enterprises that do begin in this part of Southwestern Ontario locate in such larger urban centres as Clinton, Seaforth, Blyth, or Goderich, all of which are outside Hullett.

This township, as well as Huron County as a whole, has witnessed a pattern of settlement that has not been interrupted by spectacular booms or mushroom growths. On the contrary, it has seen the steady progress of people who have placed more value on building for permanence than on speculation and quick profit. This was the realization of the dream held by John Galt, founder of the Canada Company. People in Hullett and the surrounding districts live well--they are not too rich and yet not too poor--but with space to stretch and breathe freely. Such will be the nature of this agricultural area for many years to come.

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U	UAIS
W	WHEAT
B	BARLEY
K	BUCKWHEAT
X	FLAX
C	CORN
SO	SORGHUMS
N	DEANC
	CUCUMPERS
0	CUCUMBERS
	IURNIPS
H	HAY CROPS
D	ORCHARD
Y	POULTRY
R	ROUGH PASTURE
Ρ	ROTATABLE PASTURE
F	WOODLOT
RF	REFORESTATION
S	SCRUB
1	FARMLAND UNDER NO APPARENT
	AGRICULTURAL
M	MARSH
0	SAND AND GRAVEL BIT
	CAND GRAVEL FI
	POST OFFICE
PU	FUSI OFFICE
PF	FIRE DEPARTMENT
PH	COMMUNITY HALL
PG	PLAYGROUND
PL	PUBLIC LIBRARY
PE	ELEMENTARY SCHOOL
PW	CHURCH
PD	CEMETERY
PR	DUMP
HR	HURON COUNTY ROADS HEADQUARTER
RG	FARMSTEAD
RA	ABANDONED FARMSTEAD
RU	NON - FARM RESIDENCE
2	GENERAL STORE
3	FOOD LOCKER
4	SERVICE STATION
	AUTO PODY CUOD
0	TELEVICION DEPART
0	FUDINTUDE
	FORNITURE STORE
8	BANK
9	ABANDONED TAILOR SHOP
10	BUTCHER SHOP
11	BLACKSMITH SHOP
12	ABANDONED BLACKSMITH SHOP
13	HARDWARE STORE
14	AUTO WRECKERS
15	BARBER SHOP
16	FEED MILL
17	SEED CLEANING PLANT
18	LUMBER MILL
19	CONSTRUCTION COMPANY
20	G P.R. STATION PRODERTY
21	RELL TELEPHONE DELAY OTATION
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4

----- ROAD

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RAILROAD

- ABANDONED RAILROAD

- STREAMS AND MAJOR DRAINAGE CHANNELS



