

A GEOGRAPHICAL STUDY OF BERTIE TOWNSHIP

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by  
MALCOLM E. LEWIS



A Thesis

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The student expresses his sincere appreciation to  
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## Introduction

### Purpose of the Study

The study was undertaken for the purpose of examining the present geography of Bertie Township, the way it has changed since the area was first settled, and factors of the geographical environment which have affected the physical and cultural landscape.

### Definition of the Study Area

The area studied is Bertie Township, which is taken to include two incorporated places: Crystal Beach and Fort Erie.

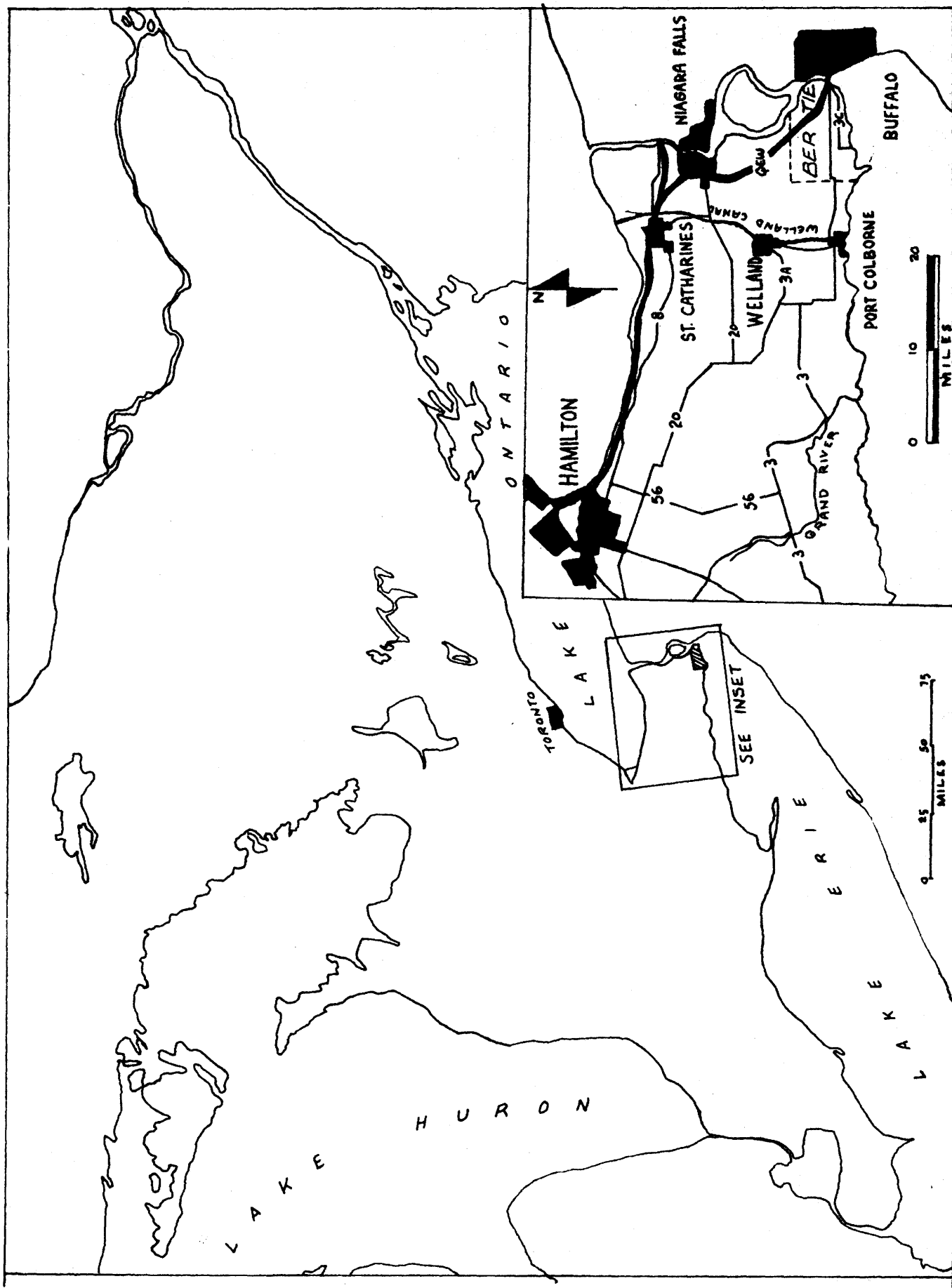
The area totals 39019 acres, located<sup>1</sup> in the southeast corner of the Niagara Peninsula bordering Lake Erie and the Niagara River. The township is roughly rectangular, its southern and eastern sides being irregular. On the north it is bounded by Willoughby Township; on the west by Humberstone Township.

The population totals, according to the 1961 Census of Canada are; Bertie Township, 8,595; Fort Erie, 9,027; Crystal Beach, 1,886. Of this population, 566 people are located on farms, the rest comprising urban or rural non-farm population.

In addition to this permanent population, the area has approximately 25,000 summer residents.

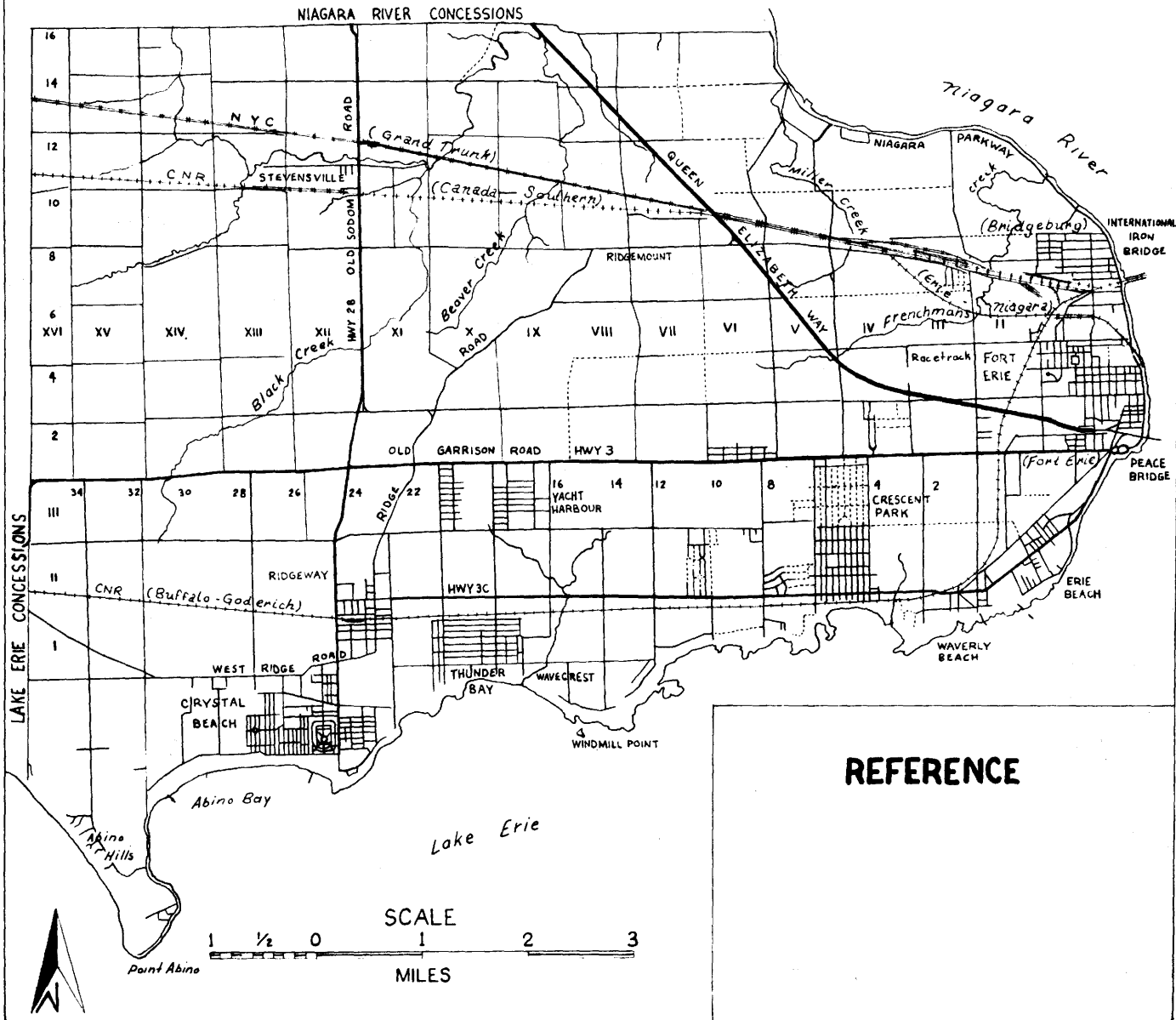
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<sup>1</sup>See map 1.



BERTIE TOWNSHIP LOCATION

# TOWNSHIP OF BERTIE



**REFERENCE**

**PHYSICAL GEOGRAPHY  
OF  
BERTIE TOWNSHIP**

## The Physical Geography of Bertie Township<sup>1</sup>

### Bedrock Geology

Bertie Township is underlain by Palaeozoic sedimentary strata, in a monoclinial structure dipping gently, at about twenty-eight feet per mile, to the South. Along the northern boundary of the township, the rock surface elevation varies from about 530 to 550 feet a.s.l., along the southern edge, the shore of Lake Erie, from 520 to 560 feet a.s.l. This apparent contradiction is accounted for by the presence of an escarpment which runs roughly east-west through the middle of the township.

Four formations, two Silurian and two Devonian form the bedrock surface in roughly parallel lands of different widths oriented east-west across Bertie.<sup>1</sup> The formations are listed below, in descending order.

Devonian - Onondaga Formation	- grey to blue cherty limestone
Devonian - Oriskany Formation	- light grey sandstone
Silurian - Bertie-Akron Series	- argillaceous dolomite
Silurian - Salina Formation	- calcareous shale, argillaceous dolomite, gypsum

The Salina Formation, oldest of the four, underlies a belt running across the north part of Bertie, and varying in width from one and one-half to three miles. This formation is of little significance to the landscape of Bertie, as it is deeply buried beneath a mantle of drift, and rarely exposed.

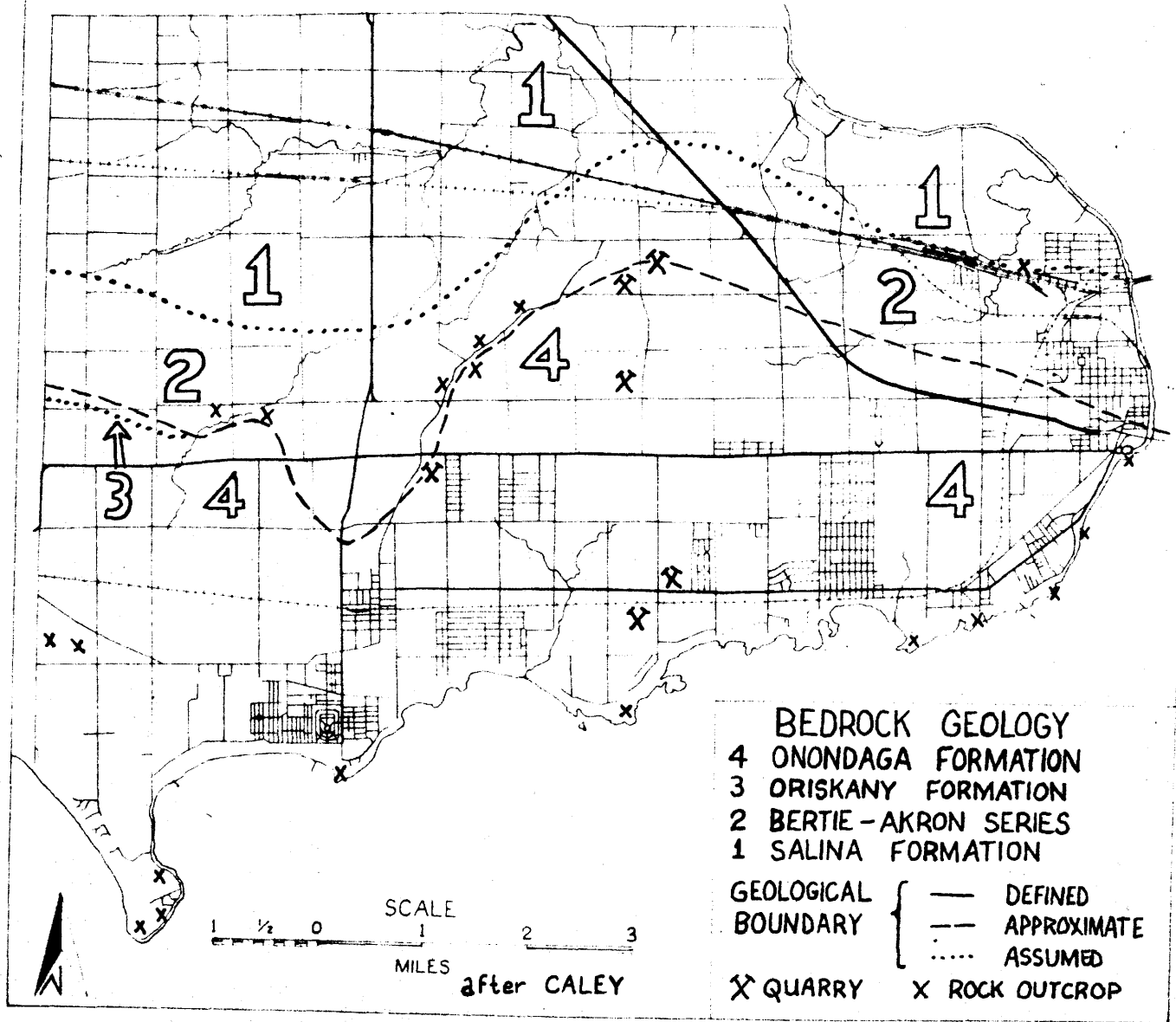
The Bertie-Akron Series is the surface bedrock for a strip of land averaging one and one-half miles wide. It is believed to be lying unconformably on the erosion surface of the Salina Formation, and is

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<sup>1</sup>See map 3.



# TOWNSHIP OF BERTIE



exposed at a number of quarries as well as along the escarpment face between Highway 3 and Ridgemount.

The Oriskany Formation lies atop the eroded surface of the Bertie-Akron Series. It too has been eroded, in places being entirely removed such as at the face of the quarry at Ridgemount where a thin dark layer of shale, the top of the Silurian Formation is directly overlain by Onondaga limestone. Only fragments of sandstone, remaining in cracks in the dolomite indicate the former presence of the Oriskany Formation. Due to the heavy erosion of this formation, relatively thin to begin with, it now underlies only a small portion of the land surface. Nowhere does the sandstone outcrop.<sup>1</sup>

The Onondaga Formation forms the bedrock floor for approximately the Southern half of the township, and appears on the surface in a multitude of places. It is well exposed along the lakefront, and on the faces of several quarries. The low Onondaga escarpment is formed by the hard limestone of this formation. As drift cover is relatively thin throughout much of Bertie,<sup>2</sup> the altitude of this, the youngest bedrock formation exerts a strong influence on the present topography. Hence, the Onondaga escarpment, exposed on a diagonal course through the center of Bertie, is one of the most prominent topographical features, in a township generally lacking in local relief. Above the cuesta, the southerly dip of the sedimentary rock is clearly indicated by bedrock contours.<sup>3</sup> Reflecting the underlying bedrock structure, the land surface

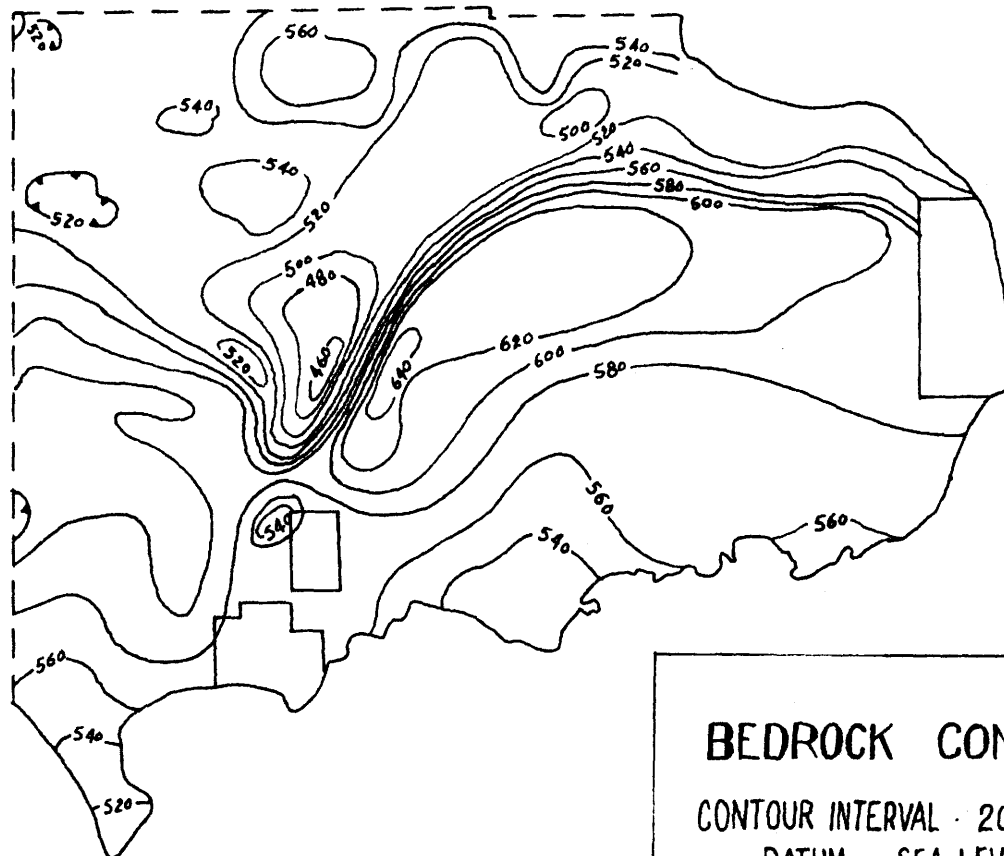
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<sup>1</sup>The author was unable to locate the outcrop referred to by Caley.

<sup>2</sup>See map 5.

<sup>3</sup>See map 4.

# TOWNSHIP OF BERTIE



## BEDROCK CONTOURS

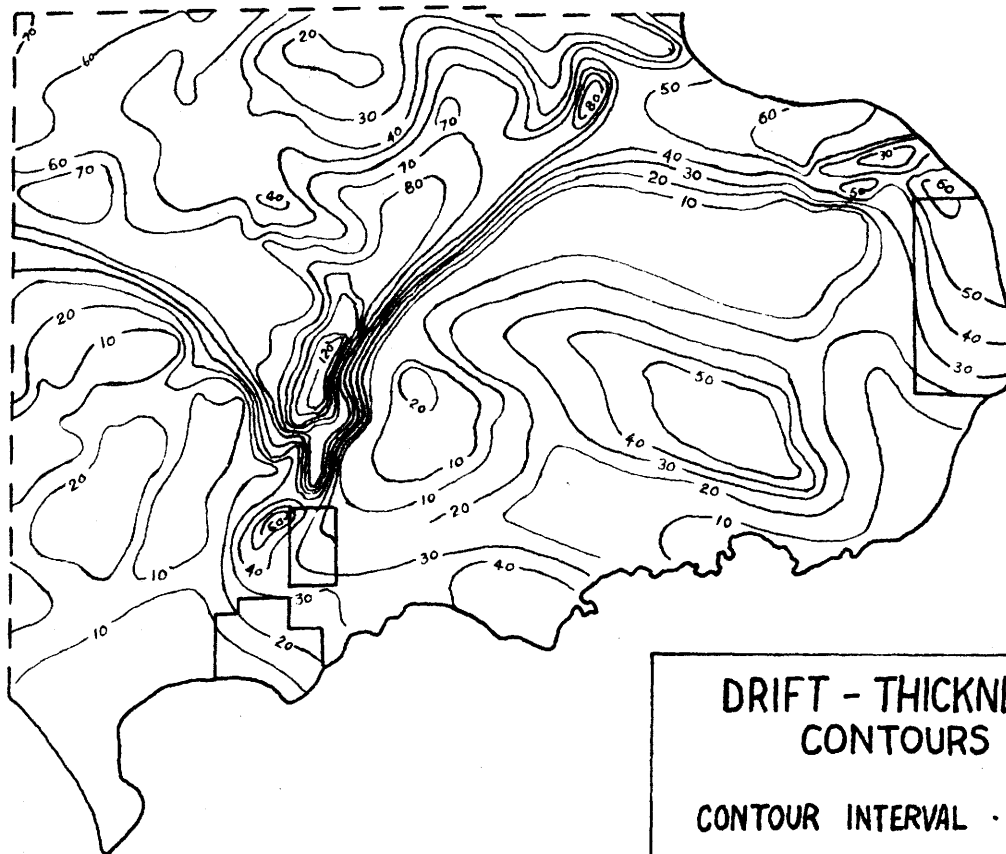
CONTOUR INTERVAL - 20 FEET

DATUM , SEA-LEVEL



AFTER B. V. SANFORD

# TOWNSHIP OF BERTIE



DRIFT - THICKNESS  
CONTOURS

CONTOUR INTERVAL 10 FEET



0 1 2  
MILES

AFTER B. V. SANFORD

above the Onondaga limestone also dips noticeably to the lake.

The boundary of the Onondaga formation is especially significant as it represents the major drainage divide for Bertie Township. North of the formation, which acts as a barrier to southward drainage, streams are forced to flow sluggishly northward and eastward over a plain having no more than about twenty feet local relief, to the Niagara River. Black Creek, the largest stream winds sluggishly for more than eight miles, descending only twenty-five feet. Beaver Creek, one of its tributaries, drains the area in the vale of the scarp, but because of the lack of relief is incompetent for its task. Much of its headwater area is thus swampy and susceptible to flooding. In general, the area above the Onondaga Formation is more efficiently drained, for here the surface water flows unobstructed to the lake, following the dip of the land surface. One exception is provided by a section in the southwest where drainage is impeded by a beach ridge which blocks southward flow.

Active stream capture is taking place in Bertie. The headwaters of Frenchman's Creek, Miller's Creek and Black Creek are cutting into the steep slope at the edge of the Onondaga Formation, thereby capturing some of the lakebound drainage carrying it instead to the Niagara River. By draining against the overall slope of the surface, these streams have cut relatively deep incisions. However, by increasing their drainage basins headward, the streams have further compounded the problem of drainage in their lower courses. Frenchman's Creek for example meanders noticeably upon reaching the surface below the Onondaga Formation.

#### Pleistocene Geology

This area has been glaciated four times in the past. The fourth, or Wisconsin Glacier notably influenced the present landscape.

(a) Apparently approaching from the north or northeast<sup>1</sup>, the glacier overrode the Niagara escarpment and continued south over the present location of Bertie Township. According to Putnam and Chapman the Wisconsin ice front probably overrode lacustrine clay deposits laid down in the preceding englacial period. The glacier displaced the clay deposits, and, together with detritus from the ice sheet itself, in turn deposited them as a heavy textured till plain. This till filled in depressions which had formed on the underlying bedrock.

During the subsequent intermittent retreat of the ice, this area was inundated by a series of post-glacial lakes. J. L. Hough<sup>2</sup> has listed what he considers the lake stages for the Lake Erie Basin. His chart<sup>3</sup> shows that the Bertie area was submerged during the regimes of at least six of these lakes. The lakes varied in depth; those below 650 feet above sea level would have left parts of the township exposed.

The till here, during the presence of the lakes, was covered with a thick veneer of well sorted lacustrine clay.<sup>4</sup> The unconsolidated deposits tend to reduce the topography to that of a gentle lake plain.

The combined covering of till and clay is generally thickest where it covers depressions on the bedrock surface. Above the Onondaga Formation, especially near its northern limits, the drift cover is thin,

(a) <sup>1</sup>See Putnam and Chapman; Physiography of Southern Ontario; pp. 26-33.

<sup>2</sup>J. L. Hough; Geology of the Great Lakes, pp. 140, 141.

<sup>3</sup>See table 1.

<sup>4</sup>See map 6.

TABLE 1

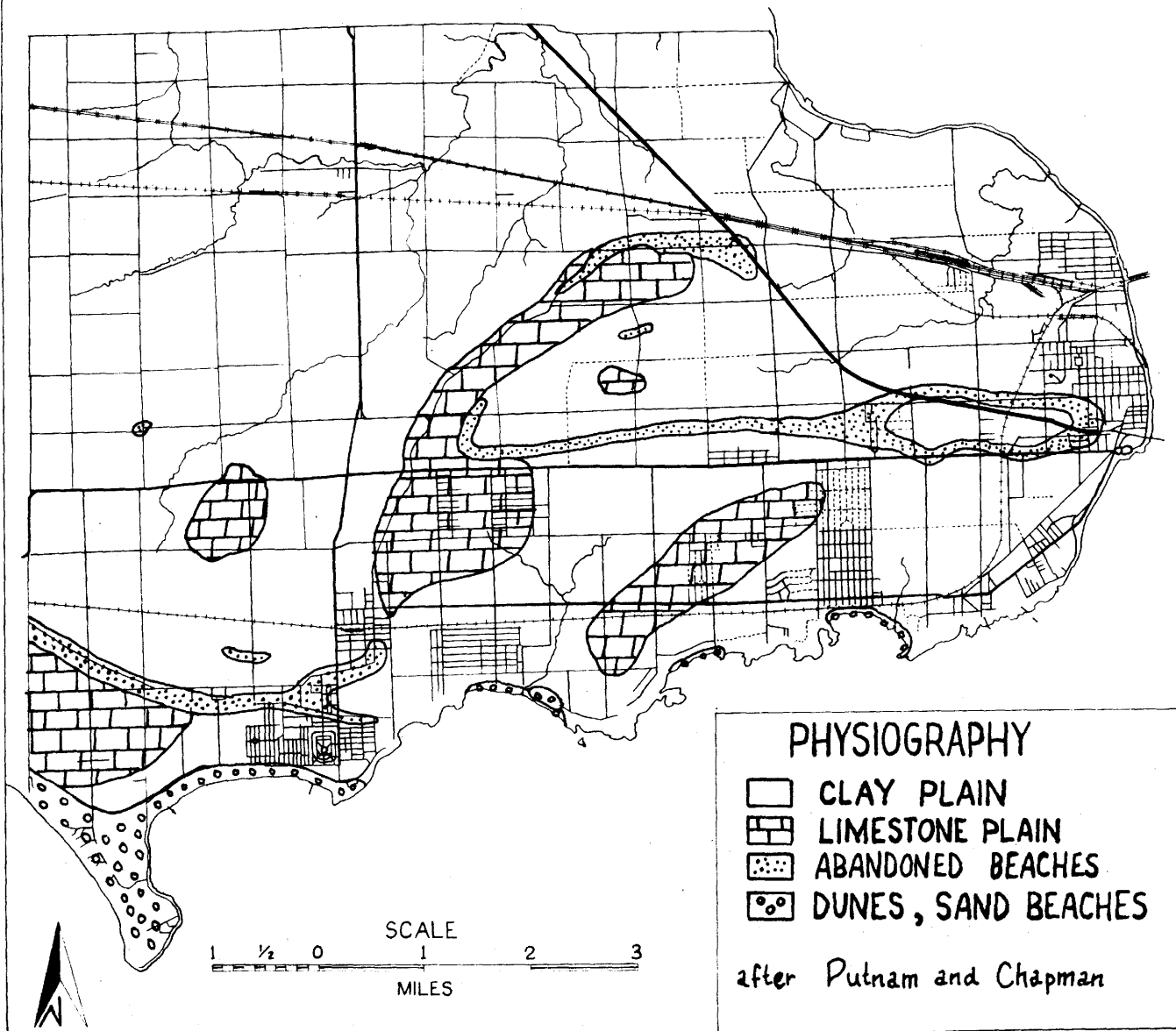
## Lake Stages in the Erie Basin

Name (in order of altitude)	altitude	order of occurrence	condition of Bertie Twp. area <sup>1</sup>
Highest Maumee	800	1	ice covered (retreat, advance)
Middle Maumee	790	3	ice (advance)
Lowest Maumee	760	2	ice (retreat)
Whittlesey	738	9	ice (retreat
Highest Arkona	710	4	ice
Middle Arkona	700	5	ice
Lowest Arkona	695	6,8	ice
Highest Warren	690	10	ice (retreat)
Middle Warren	682	11	-
Lowest Warren	675	14	water covered
Wayne	655	13	water covered
Grassmere	640	15	water covered
Landy	620	16	water covered
Early Algonquin	605	17	water covered
Erie	573	19	?
Early Erie	573	18	south edge water covered
Two Creeks (interval low stage)	?	12	?
Cary-Pt. Huron (interval low stage)	?	7	?

source: J. L. Hough: Geology of the Great Lakes

<sup>1</sup>As denoted by J. L. Hough's maps.

# TOWNSHIP OF BERTIE





and erratics and outcrops are frequently visible. Apparently where the bedrock surface was highest, the till was well sorted by the lake water, leaving only massive boulders and a thin cover of clay, resulting in the limestone plains. The erratics are largely granitic, their source being the Canadian Shield. A notable area of thick drift occurs in the southeast where a prominent mound of glacial origin, perhaps a moraine, remains atop the gently sloping clay plain. Here too though, the till is largely clay in content.

North of the escarpment the clay plain is not perfectly level, but is dotted with minor depressions which stand out clearly on aerial photographs. These depressions are quite possibly the result of a disturbing of the stratified clay deposits by an interval of ice advance.

Two less extensive types of physiographic features are present in the topography of the township.

Prominent are the glacial lake beaches. They occur at different elevations indicating some of the various lake levels during deglaciation, and often forming noticeable breaks in the otherwise subdued topography. Most notable is the beach running west from Ridgeway<sup>1</sup> at just over 600 feet a.s.l., indicating possible formation during the time of Lake Algonquin. This beach, a smoothly curving strand in plan, is sharply demarcated, rising about ten feet above the ground level. Gravelly in texture, it includes many smooth water worked pebbles which can be seen on roadbeds on its flanks. Another beach extends east from Ridgeway to Fort Erie, though much less prominent, providing only a

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<sup>1</sup>This beach is followed by West Ridge Road.

gentle rise on the lake plain. A gravel beach at Ridgemount, recorded by Putnum and Chapman is especially hard to distinguish from its surroundings, being located at the edge of the Onondaga Formation. There are a number of smaller beaches in the township. At Crystal Beach, for example there is at least a second beach level below the one followed by West Ridge Road.

The shoreline of Bertie Township is particularly significant. It is a combination of rocky headlands formed by the limestone dipping into the lake. Where the bedrock is lower, thereby reaching water level sooner, shallow indentations occurred on the shoreline. These shallow bays have been sites for the deposition of fine sandy beaches, the source of the sand being along the shore of Lake Erie to the west. The sand which has formed the beaches, has in some places been blown up into dunes. These aeolian deposits are especially notable at Point Abino where they are collectively named the Abino Hills. The dunes rise to 100 feet a.s.l., oriented so as to indicate wind direction from the southwest. Other smaller dunes are observable at Crystal Beach and Wavecrest. Largely covered with foliage on their leeward side, the dunes appear securely anchored.

#### Climate<sup>1</sup>

The climate of this area falls into the Humid Microthermal (Dfb) climate of Köppen's classification. This means that the mean temperature of the warmest month is less than 72°F., though at least four months average greater than 50°F. The coldest month is below

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<sup>1</sup>As no weather stations operate within the township, data must be used from the stations at Welland, Ontario and Buffalo, New York.

27°F. Precipitation is generally sufficient each month. In short, the area experiences cold winters and warm, rather than hot, summers.

Winter is especially stormy as this area lies in the path of westerlies crossing the Great Lakes. Winter temperatures are higher than in most parts of Southern Ontario, due to the moderating influence of the lake.<sup>1</sup> The extreme low temperatures experienced here are quite moderate, though colder than those occurring below the Niagara Escarpment. February is the coldest month due to the freezing of the lake, compared to January for much of Ontario. A notable contrast in the amount of snow falling during the four winter months, is apparent between Buffalo and Welland.<sup>2</sup> Snowfall is especially heavy near the lake where the moist winds coming off the water are quickly chilled. In terms of total snowfall, this area receives less than many parts of the interior of Ontario. Within the Niagara Peninsula, the total snowfall decreases to the north.

Lake Erie also has the effect of retarding temperature increases in the spring. This part of Ontario for example warms more slowly than Eastern Ontario. The moderating influence of the lake can also be seen with regard to the average date of last spring frost. At Buffalo, the date is April 30; at Welland, May 7. Precipitation is somewhat less at Buffalo than Welland during this season.

Summer is cool here, compared to most of Southern Ontario. The cooling effect of the lake probably causes variation even within the township, in the form of cool temperatures near the water. Buffalo

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<sup>1</sup>Many of the comparisons are taken from climatic maps produced in Putnum et. al.: Canadian Regions.

<sup>2</sup>See Table 3.

TABLE 2

## Mean Monthly Temperature (°F)

	J	F	M	A	M	J	J	A	S	O	N	D	YR
Welland	25.6	25.4	32.6	94.6	55.9	66.3	71.6	70.2	62.9	52.2	40.4	29.3	
Buffalo	25.5	24.7	33.0	43.8	55.4	65.5	70.6	68.9	62.4	51.2	39.9	29.0	47.5

TABLE 3

## Mean Monthly Snowfall (inches)

	J	F	M	A	M	J	J	A	S	O	N	D	YR
Welland	13.9	15.2	14.4	3.4	0.1	0.0	0.0	0.0	T	0.2	6.8	9.4	62.4
Buffalo	19.1	16.6	10.6	3.1	0.2	0.0	0.0	0.0	T	0.4	7.8	17.6	75.4

TABLE 4

## Mean Monthly Precipitation (inches)

	J	F	M	A	M	J	J	A	S	O	N	D	YR
Welland	2.93	2.96	3.16	2.82	2.99	2.09	2.46	2.74	3.17	2.83	2.85	2.57	33.87
Buffalo	2.78	2.59	2.72	2.55	2.47	2.70	2.43	2.54	3.01	2.49	3.09	2.92	32.29

consistently records lower summer temperatures than Welland, farther inland.<sup>1</sup> Rainfall is somewhat greater inland during the summer<sup>2</sup>, possibly indicating less convectional rainfall near the lake where temperatures are lower. In general drought conditions are not common to the area, though droughts do occur occasionally.

The influence of proximity to Lake Erie is again noticeable in the fall. This area is particularly notable for a prolonged mild Autumn in comparison with more 'Continental' upland Ontario. Comparison of mean temperatures of the fall months fails to show any significant difference between Buffalo and Welland. However, the occurrence of first fall frost comes much later close to the lake. At Buffalo, the mean date for first frost is October 30; at Welland it is October 11. Minimum daily temperatures are lower at Welland than Buffalo in the fall.

The length of the growing season (taken as being between the last spring frost and first fall frost) is longer for this region than most of Ontario. A difference of twenty-five days occurs between Buffalo (179 days) and Welland (154 days).

The climate here permits the cultivation of a wide range of crops, including the common field crops, wheat and oats. Winter snow cover is sufficient to protect young plants such as fall-planted wheat. However, winter temperatures can be low enough to kill tender-fruit plant. In the past, the growing season was short for the growth of grain corn, but this has been partly overcome with the development of hybrid types. The long fall may be a definite advantage to farmers here,

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<sup>1</sup>See Table 2.

<sup>2</sup>See Table 4.

providing an extension of the growing season, as drainage conditions often delay spring planting.

## Soils

A cool humid climate and an original cover of forest vegetation have combined to produce acidic soils in Bertie. This acidic condition is the result of the leaching out of bases from the surface layers of soils by downward percolating water. The physiography has provided the parent materials for the soil processes to act upon, thereby influencing the texture and drainage conditions of the soils which have evolved.

Bertie's soils have been surveyed by the Ontario Agricultural College, and classified as follows; Welland Clay, Niagara Clay, Jeddo Clay, Ontario Loam, Farmington Loam, Newton Sandy Loam, Berrien Sandy Loam and Eastport Sand.<sup>1</sup>

Clay soils are by far the dominant type here. Developed over lacustrine parent material they are extremely heavy in texture. The clays are moderate to strongly acid in reaction and deficient in lime, phosphorous and, with the exception of the Jeddo Clay, in organic matter. Their separation is based largely on drainage differences.

The Niagara Clay<sup>2</sup> is best situated in this respect. In some parts of Bertie, the occurrence of the youngest bedrock formations to the South is marked by the Onondaga Escarpment; in other parts, where the bedrock does not rise as high, it is marked merely by a rolling land surface that is drift covered. In two of the latter areas of rolling

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<sup>1</sup>See Table 5.

<sup>2</sup>See map 7.

TABLE 5

## Soils of Bertie Township

	Welland Clay	Niagara Clay	Jeddo Clay
Description of Surface and Subsoil	dark greyish to reddish brown clay and clay loam over compact, mottled reddish brown gritty clay; few stones	light brownish to reddish brown clay and clay loam over compact reddish brown gritty clay; few stones	dark grey clay and clay loam over compact grey clay subsoil; few stones
Topography and Drainage	smooth to undulating with some low swales and pond holes; fair to poor natural drainage	rolling to smooth uplands; fair to good surface drainage	nearly flat, very poor natural drainage
Fertility Needs	organic maller, lime and phosphate	organic maller, lime and phosphate	lime and phosphate
Reaction	moderate to strongly acid where not eroded	moderate to strongly acid where not eroded	moderate to strongly acid where not eroded
	Ontario Loam	Farmington Loam	Newton Sandy Loam
Description of Surface and Subsoil	light brown loam over grey to reddish brown stoney clay loam, frequent stones and boulders	shallow light brown stony loam over limestone bedrock	dark grey or blackish mucky sand over grey water-soaked sand; stone free
Topography and Drainage	rolling to hilly good natural drainage	smooth; fair to good drainage	nearly flat, poor natural drainage
Main Fertility Needs	organic matter, lime (nitrogen) phosphate and potash	organic matter	lime
Reaction	moderate to strongly acid where not eroded	near neutral to alkaline	moderate to strongly acid where not eroded
	Berrien Sandy Loam	Eastport Sand	
Description of Surface and Subsoil	brown sandy loam over yellow and then mottled sand with clay at about 3 to 6 feet; stone free	loose greyish sand along the lake shore, back of the beach stone free, very little humus	

continued

## Berrien Sandy Loam

## Eastport Sand

topography and  
drainage

smooth to rolling  
good to poor drainage

smooth to hilly, mostly  
good natural drainage

soil Fertility  
elements

organic matter, lime,  
(nitrogen), phosphate and  
potash

organic matter

soil reaction

moderate to strongly acid  
where not eroded

alkaline

## Bottom Land

## Muck

description of  
surface and  
subsoil

low-lying land along stream  
courses subject to occasional  
flooding; variable texture

black, well decomposed  
organic material of varying  
depths over sand or clay;  
stone free

topography and  
drainage

smooth, variable drainage  
subject to flooding

nearly level; very poor  
natural drainage

soil Fertility  
elements

quite variable

lime, phosphate and potash

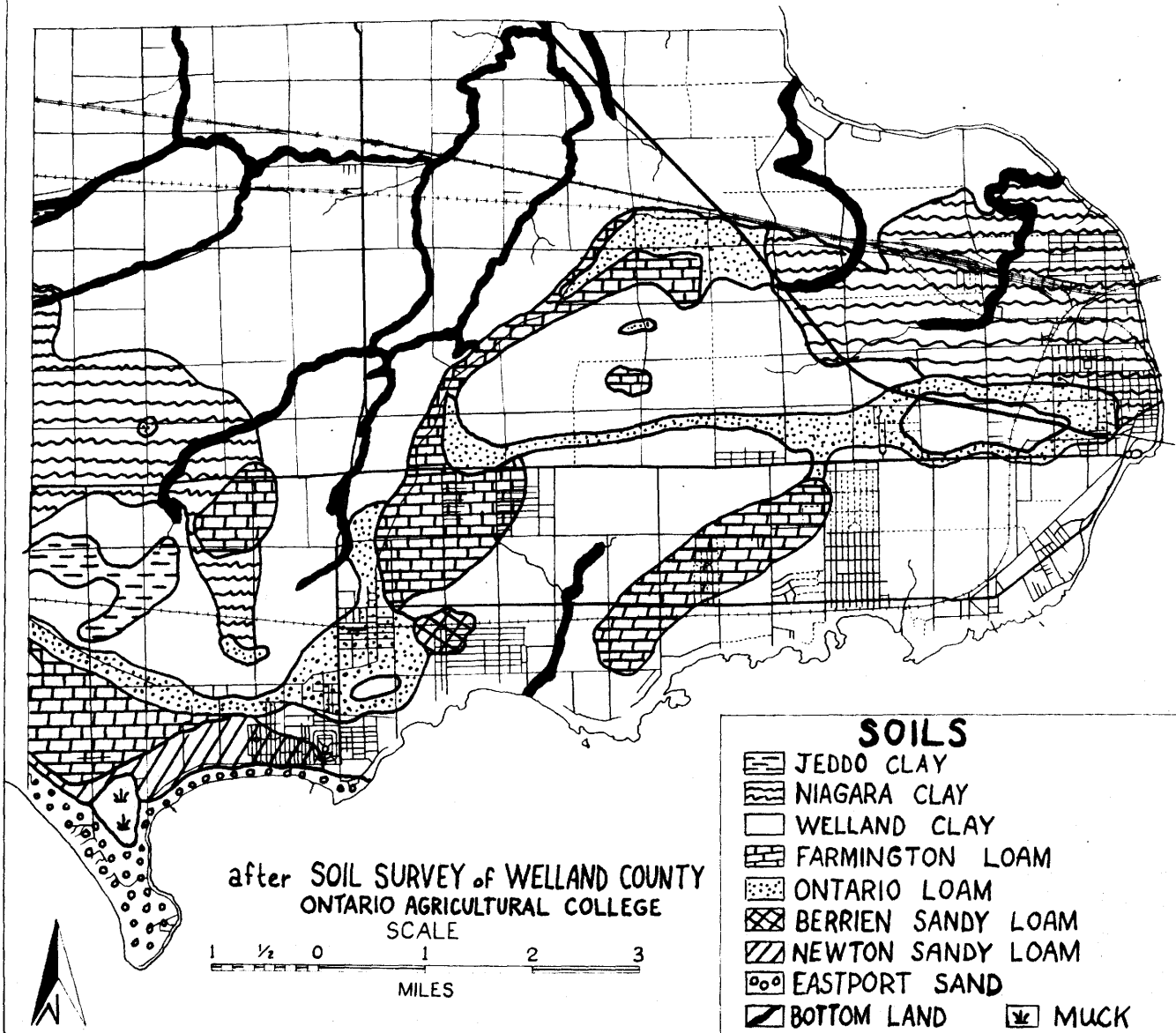
soil reaction

variable

mostly strongly acid



# TOWNSHIP OF BERTIE



topography, the Niagara Clay has formed, having a surface drainage that is 'fair to good'.

The Welland Clay, covering the greatest acreage of all Bertie's soils, has developed on the smooth to gently rolling surface of the clay plain above and below the escarpment; particularly below, where the surface is dotted with numerous depressions. It is fair to poorly drained. The dark mottled lower horizons attest to its poor internal drainage, and often several weeks after a rainfall, water ponded in the swales remains between swells that are 'high and dry'.

The Jeddo Clay occurs in a small low-lying part of the clay plain, in the Southwest of the township, where drainage is very poor. The site is a kind of catchment basin where the southward slope of the land is interrupted by a beach ridge. The very poor drainage and the high content of organic matter in the surface horizons here produce a spongy black soil.

Internal drainage of the clays is poor, and this problem is compounded by the lack of lighter textured subsoil. Because of the heavy subsoil and the low relief, tile drainage is impractical on these soils. Thus virtually all drainage must be surficial. As a result, deep roadside ditches appear in the township, and field patterns are almost everywhere fragmented by drainage ditches. Ditching is expensive for the farmer and maintenance, including keeping them clear of weeds, requires continual attention. Where the land slopes naturally, as in most places atop the Onondaga Formation, the drainage system is relatively easy to install as the ditches need only to be shallow and follow the slope. However where land is level, or where depressions occur, they must be quite deep, especially toward the trunk of the system.

Deficient in lime, phosphorous and organic matter, the clays must be heavily fertilized. Lime is especially important to maintain good soil tilth thereby preventing the soil from becoming hard and dense.

The clays can only be worked efficiently during a short period each year. Early in the spring the soil stays too wet and mucky to work. Being finely textured, they warm slowly and hold water on the surface much longer than lighter textured soils. As it dries out, the clay soil becomes hard and even bricklike. If it is worked too late, the soil will remain in hard clods for the whole season. Farmers, because of the water, are kept from working the soil for three weeks or more in the spring, after lighter soils can be worked. Fall cultivation may also be hampered by the soil which under dry conditions will dry out and become too hard to plough.

The crop suitability ratings of these soils are given in table 6. The clays are best suited to pasture and grass crops such as timothy. They are too finely textured for tree fruits and too acidic for crops such as alfalfa or clover which tend to 'burn out' during the summer. Where drainage is successful, these soils can be put to good use for such crops as corn, wheat and oats. The table gives better ratings for the better drained clay soils, and shows that when the clays are drained properly their suitability for crop growth is improved.

The non-clay soils of Bertie Township occur in much smaller acreages.

Ontario Loam, most valuable of the soils has developed over gravilly parent material formed by the beach ridges left by the glacial lakes. Thus the soil occurs only in relatively small acreages, in narrow strips. Though deficient in organic matter lime and phosphorous, this

TABLE 6

## Crop Suitability Ratings of Soils

Soil Type	Wheat		Oats & Barley		Alfalfa		Red Clover		Timothy & Alsike		Corn	
	U	D	U	D	U	D	U	D	U	D	U	D
Ontario Loam	G	.	G	.	F	.	F	.	G-F	.	G-F	.
Agara Clay	F	G	F	G	F-P	F	F	G-F	G-F	G-F	G-F	G
Illand Clay	P	G-F	F-P	G	P	F	F-P	G-F	F	G	F	G
Carrier S.L.	F-P	F	F-P	F	F-P	F	F-P	F	F	F	F	G-F
Edo Clay	F	F-P	F-P	F	P	F	F-P	F	F	G-F	P	G-F
Armington Loam			F		F		F		F			
Winton S.L.									P	F-P		
	Tree Fruit		Canning Crops		Pasture							
	U	D	U	D	U	D						
Ontario Loam	G	.	G	.	G	.						
Agara Clay	F	F-P	F-P	F	G	G						
Illand Clay	P	F-P	F-P	F-G	G-F	G						
Carrier S.L.	F	G-F	F	G-F	F	G						
Edo Clay	P	P	P	F	F	G-F						
Armington Loam					F							
Winton S.L.					P	F-P						

Legend: U - undrained

D - drained

G - good

F - fair

P - poor

soil is not handicapped like the clays by poor drainage. External drainage is good due to development on a more rolling topography. Lighter texture allow good internal drainage. Thus the Ontario Loam is much more suitable to most crops.

Farmington Loam has developed on the limestone plains, where the bedrock is covered by only thin drift. It occurs along the edge of the Onondaga escarpment, and several other locations. Where the soil is more than three feet deep, it is regarded as being almost as productive as the Ontario Loam which it then resembles. However, where mapped in Bertie<sup>1</sup>, it is quite thin and generally unsuitable to the raising of crops. Referring to it as a "Sunday Soil" - wet on Saturday and dry on Sunday - one farmer noted that the loam dries out very fast making it difficult to maintain sufficient grass cover.

Berrien Sandy Loam occurs only in one small area southwest of Ridgeway, thus is of little significance. It is imperfectly drained and relatively infertile having developed over shallow yellow sand washed over clay.

The loose grey Eastport Sand is not a soil in the common sense of the word. It occurs as beaches and sand dunes and is not used agriculturally.

The Newton Sandy Loam may also be considered non-agricultural. It is a mucky, in some places swampy soil developed over watersoaked sand located behind the sand dunes, at Crystal Beach, which block drainage to the lake. In Bertie it is left wooded where not built over.

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<sup>1</sup>See map 7.

Bottom land, low-lying ground along stream courses, is of little use agriculturally because of its susceptibility to flooding. Much is left in woodland, though some areas are devoted to hay or poor pasture.

The small area of Muck is left wooded.

Among the most important characteristics of any soil are its texture and drainage. In Bertie, both these considerations have worked to disadvantage in the use of the soil.

### Natural Vegetation

The natural vegetation of Bertie is that of a dense deciduous forest, part of the Niagara Forest of Halliday<sup>1</sup>, which is a subdivision of the deciduous forest region of Eastern North America. This area favored the growth of a great variety of trees. On the lowlands, which were often quite swampy, the most common were the elm, the black and white ash, the swamp, white and pin oak. A few pines prospered on the better drained uplands. Other specimens included hickory, beech and silver maple.

Robert Gourlay, in his famous survey of 1817, also noted the presence of stands of white and red oak, sugar maple, basswood, black and white walnut and tamarack.

This dense forest provided the early settlers of Bertie with material for construction of homes, fences and implements. Later it was the basis of a prosperous timber industry.

Now, however, little of the original forest cover remains. The 1961 Census of Canada recorded only 1260 acres of woodland in the township.

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<sup>1</sup>Halliday, W.E.D. A Forest Classification for Canada.

Dense bush still remains; on Point Abino, and the poorly drained area of Eastport Sand; along the main stream courses; in the northeast of the township, and in many small woodlots.

A considerable part of Bertie, generally where the land has gone out of agricultural use is now slowly reverting to bush and is covered with scrub grassland, dotted with numerous young trees. Mostly, this vegetation occurs in the Lake Erie Concessions east of Ridgeway, and on the outskirts of Fort Erie and Stevensville.

**HISTORICAL GEOGRAPHY  
OF  
BERTIE TOWNSHIP**



## The Historical Geography of Bertie Township

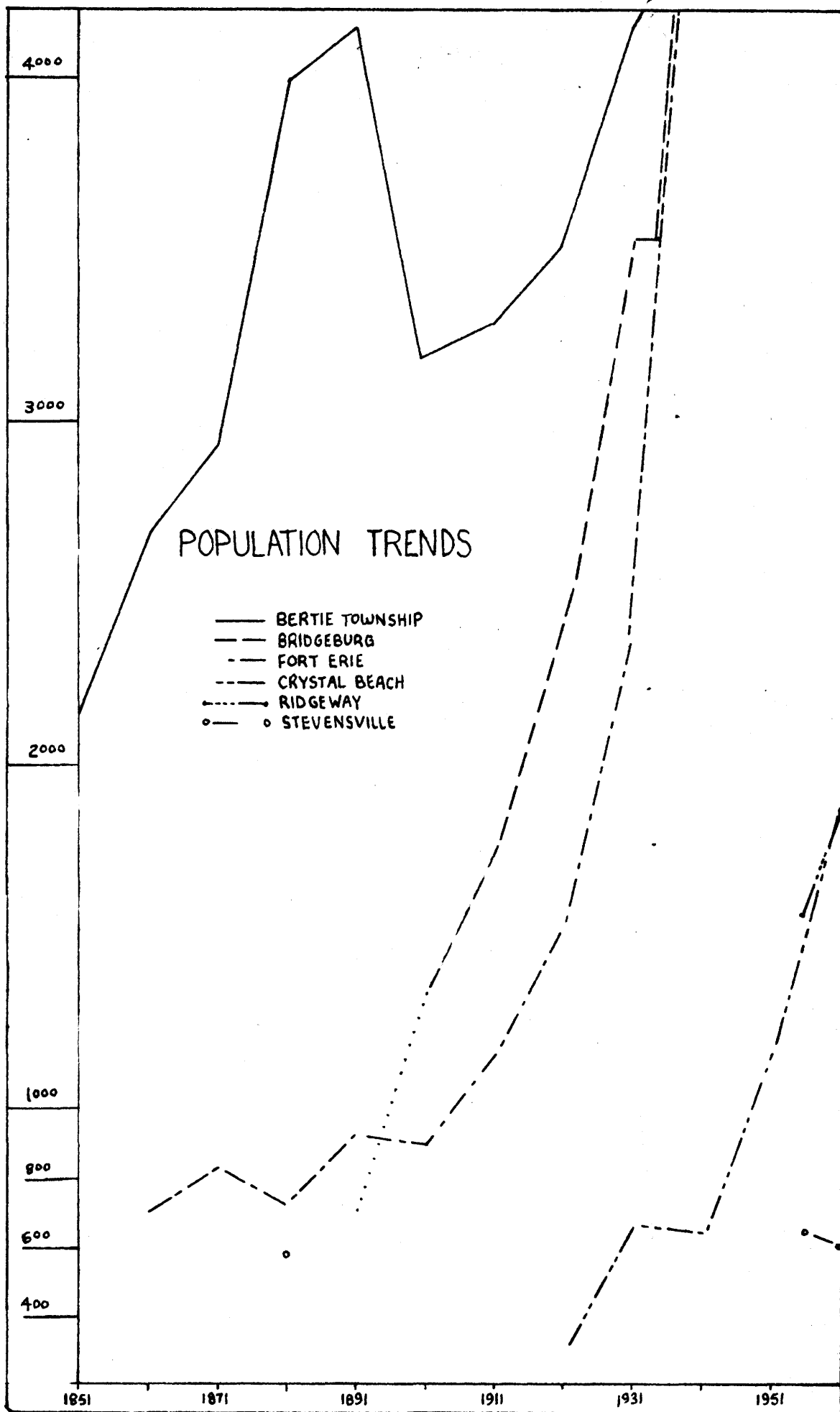
### The Beginnings of Settlement: to 1784

#### Early Inhabitants

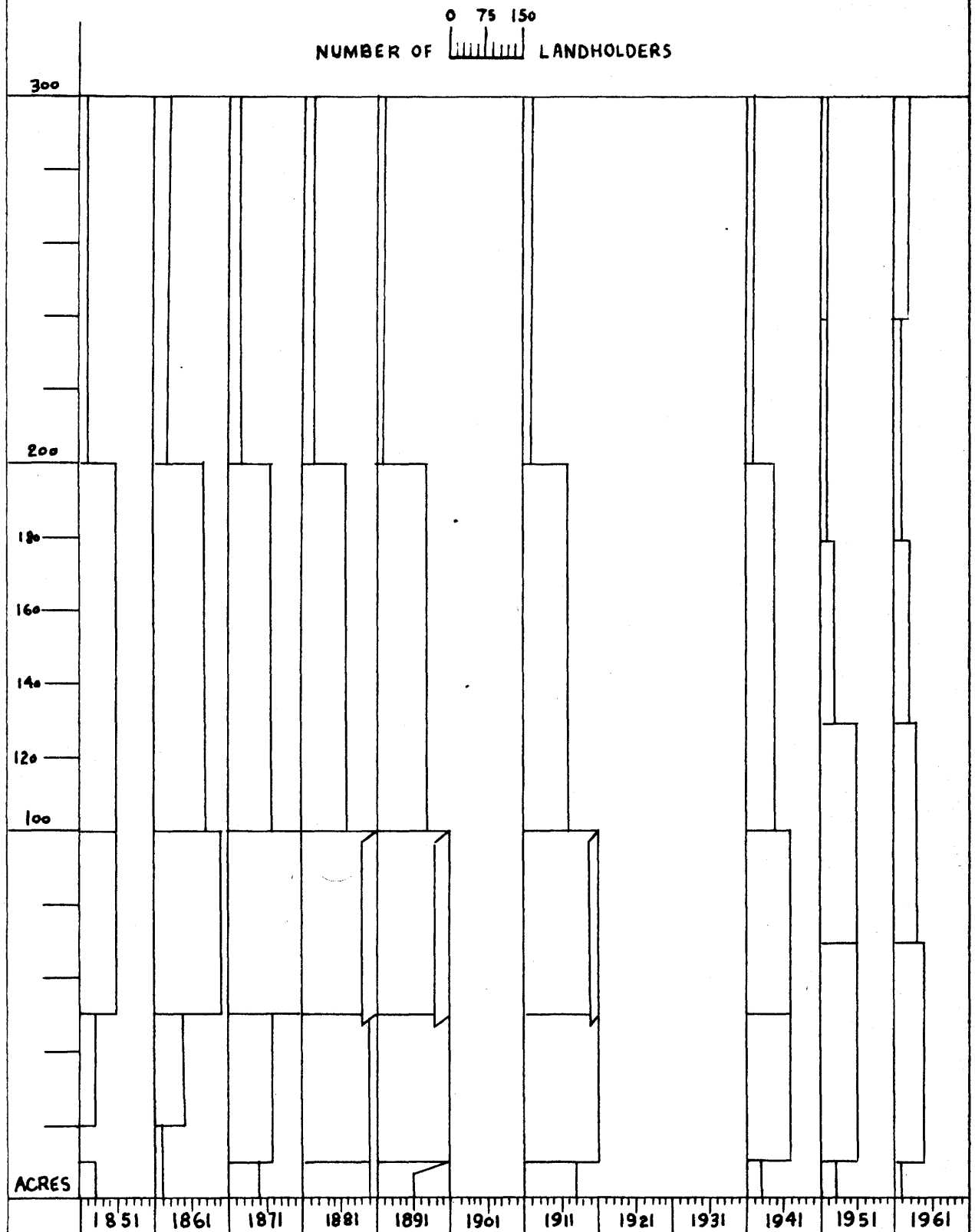
The first known inhabitants of Bertie Township were the Neutral Indians. Their use of the land was uncomplicated; they raised a little corn, perhaps some tobacco and gathered nuts, berries, fruits and maple sugar. Two ancient cemeteries discovered at Ridgeway and Point Abino indicate that considerable numbers lived there once. Among the artifacts uncovered are a number of chert arrowheads, chipped from the exposed bedrock near Fort Erie, and various pieces of pottery. However, the indian did little to change the physical landscape, which was left almost in its natural state until the coming of the white man.

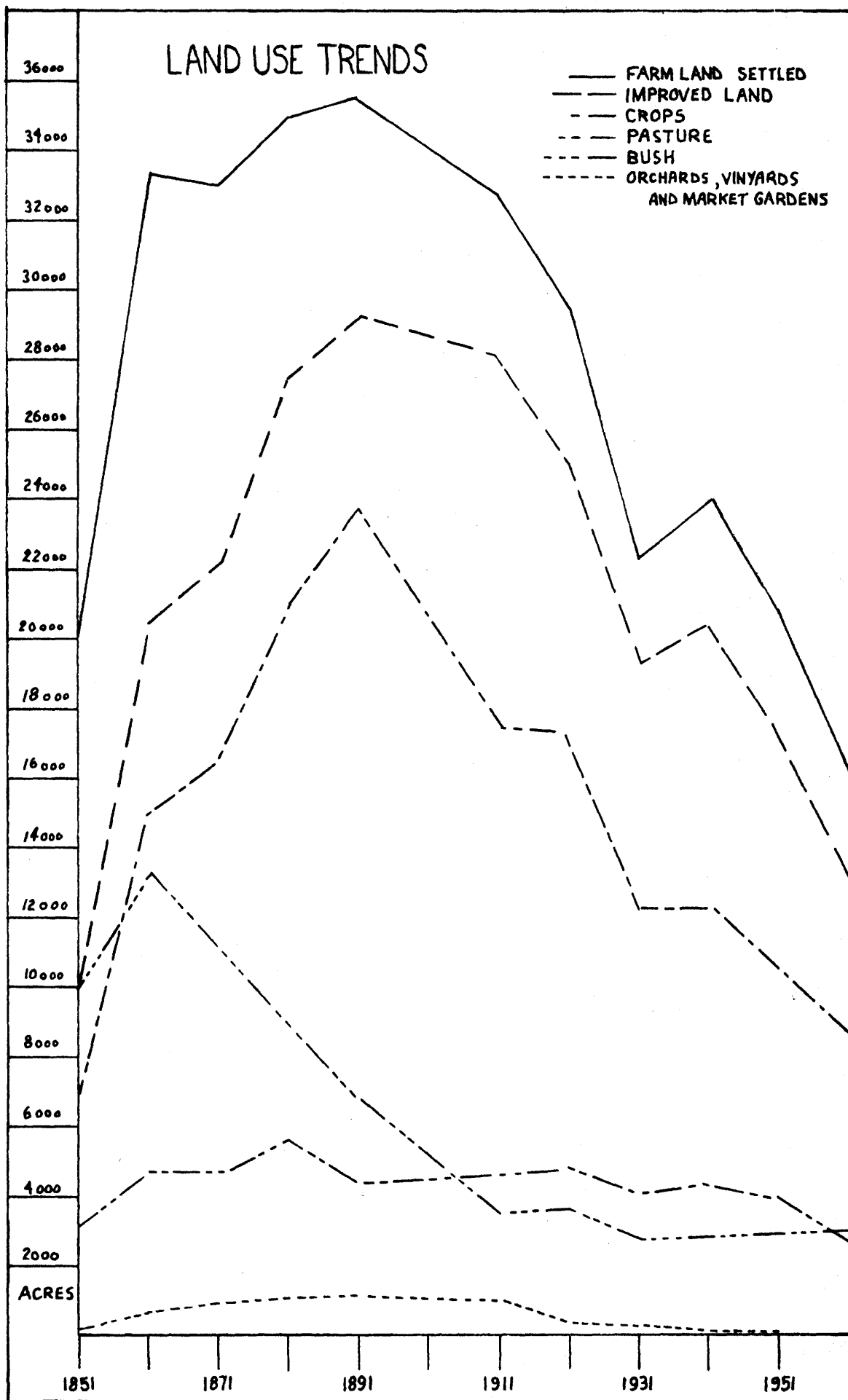
#### The Coming of the White Man

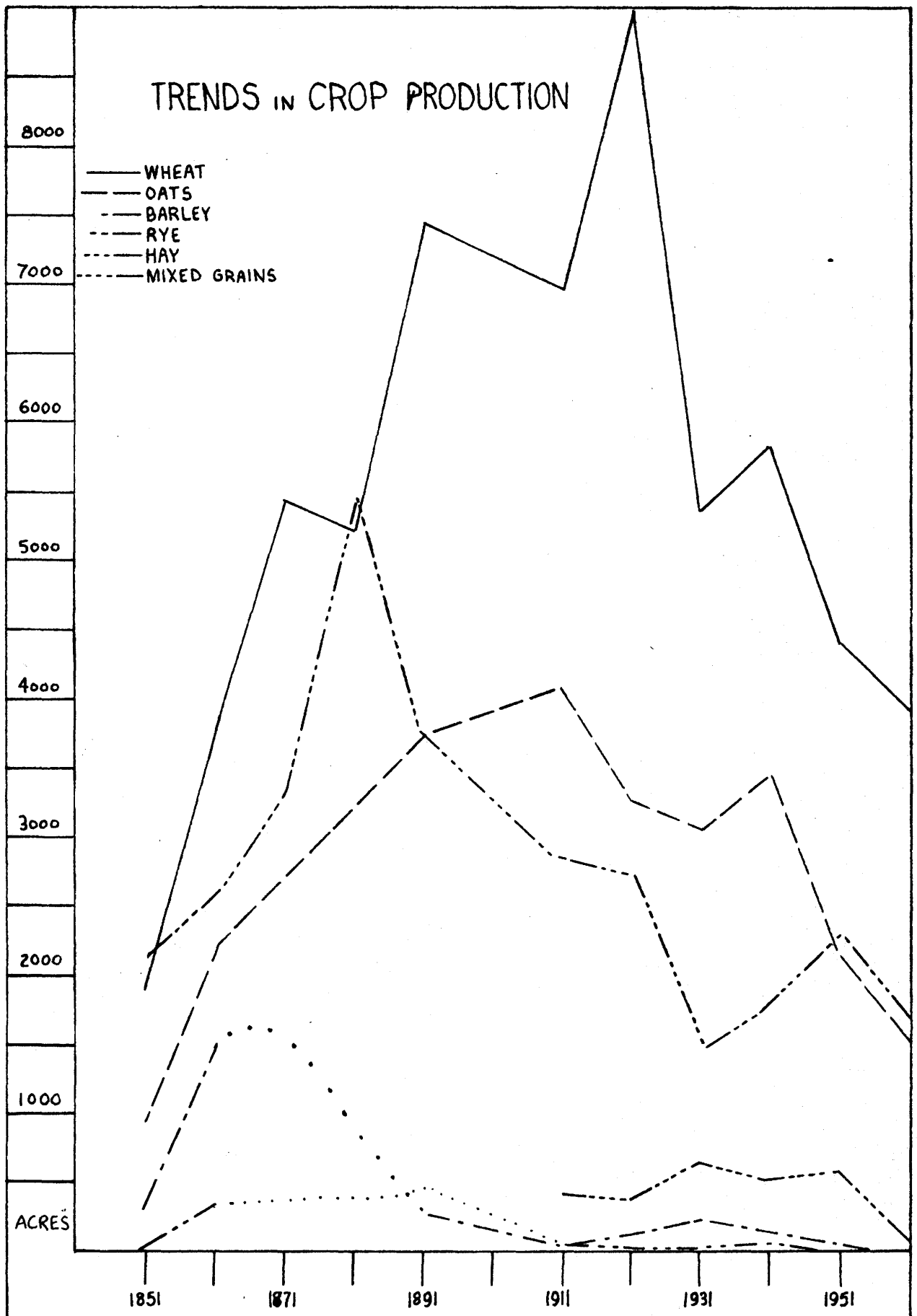
The famous explorer, Father Hennepin wintered on the Erie shore in 1678-9, and later, the equally renowned coureurs-de-bois crossed Bertie on the quest for furs. It was not until 1750 that actual white settlement began with the establishment of a French trading post at the entrance to the Niagara River. This stockade was later destroyed in the conflict for North America between the French and British, but location on the route to the west was soon to prompt another settlement at the site. In 1764, the British then in control of 'Canada' selected the present site of Old Fort Erie for one of their posts. A strip of land, four miles wide on either side of the Niagara River between Lake Erie and 'the falls' was bought from the Senecas. A clearing was made and the stockade erected. The post became a strategic military establishment, wharves were built nearby and extensive trading activity grew under its protection. Vessels were loaded here with merchandise and supplies



# TREND IN THE SIZE OF FARM UNITS







destined for settlers and traders farther west at Michilimackinac, Detroit, and Sault Ste. Marie. Return voyages brought furs, ginseng and maple sugar. The activity at the post attracted settlers and by 1784 there were about ten families located near the fort along the waterfront. That year, Butlers Rangers, organized earlier in defence of the British settlement were disbanded, and the rest of the penninsula was purchased from the Indians. Hence two ingredients necessary for intensive settlement were combined; available, accessible land, and people willing to settle it.

#### Settling the Land: to 1812

##### The Process of Settlement

During and after the American Revolutionary War, large numbers of settlers forsook their homes and migrated to the remaining British colonies of North America. The Niagara Penninsula, being the only accessible British domain between the head of Lake Erie and the foot of Lake Ontario, was a natural point of entry for many of these 'displaced' colonists. Bertie Township, at the Southern end of this land bridge, received its share of settlers. Most of the local settlers were Pennsylvania Dutch from the Susquehanna Valley, though Loyalists also came west from the Mohawk Valley. Some migrated from as far east as New Jersey.

The immediate result of this influx of land seekers was the provision for dividing the penninsula into surveyed townships to promote organized settlement. One important feature of the survey was the government retention of a strip one chain wide along the west bank of the river, to be kept for the construction of a road or towpath. In

addition, about 1000 acres of woodland extending one mile north and west of the fort were reserved for fuel and timber for the garrison. The rest of the township was available for public occupation. Baseline of the Township of Fort Erie ran west from the northwest corner of the military reserve, being marked by a road allowance which later became the site of Garrison Road. Later, in 1793, the Township of Fort Erie was divided into two separate townships, Bertie and Willoughby. The latter considered, in the words of the surveyor, "too wet for settlement" was left unsurveyed for many years. Even in Bertie, the actual surveying was not begun until after the beginning of settlement, and by 1787, only two concessions had been completed. Population however was increasing steadily.<sup>1</sup> As a result the land was surveyed sporadically. Surveyors laid out places where people were settling so they would not have to wait for the whole township to be laid out before improving their land. The work was completed in 1789.

Settlers obtained land free, on condition that they would improve it, and according to the following schedule.

100 acres per head of family, plus 50 acres per member  
of family  
200 acres per non-commissioned officer, plus 50 acres  
per member of family  
100 acres per private of disbanding regiment, plus 50  
acres per member of family

Larger grants were made to higher ranking officers.

Up to 1795, various means were used to designate title to property. Some people were given 'tickets' or certificates of occupation. After 1795, all settlers were ordered to present their varied

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<sup>1</sup>There were 147 families in Fort Erie by 1780 - Welland County Historical Society, Vol. 5.

claims for, or titles of, ownership to the Attorney General in order to become the rightful owners. However, people were tardy in responding as the following table indicates. Some claimants received grants

year	1796	1797	1798 - 1801	1802	1803	1804 - 12	
no. receiving patents	15	20	37	13	20	18	23

source: Welland County Historical Society Report, Vol. 5.

as large as 3000 acres, but most families gained only a few hundred acres.

#### Directions of Settlement

Apparently settlement spread out from Fort Erie, along the waterfront, north along the river past Frenchman's Creek, and west along the lake to Point Abino; where in 1793 there were at least 29 residents.<sup>1</sup> Water transportation was easier than cutting one's way through dense forest, so it seems only natural that settlement would occur on the southern and eastern limits of the township first. A military chart of the late 1700's<sup>2</sup> indicates the following settlements: a cluster of houses around the fort and landing, nine farms between the ferry and Frenchman's Creek along the river, and seven between Frenchman's and Black Creeks. Along the south shore, six homesteads were recorded between the fort and Point Abino. Settlement had also begun to move inland, there being three houses near the Garrison Road, another three along the Ridge Road and seven dwellings west of Ridge Road toward the lake. Three or four isolated dwellings appeared elsewhere in the

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<sup>1</sup>Indicated by a petition.

<sup>2</sup>Reported in the "History of the County of Welland Ontario"; Welland Tribune Printing House 1887.



township. Cultivated land was limited to a narrow strip along the river, and isolated clearings amidst the woods. Low lying, marshy ground was avoided.

The early roads give some idea of the direction settlement took as many of the first settlers located along them. Possibly the first road cut through Bertie was that followed today by the Niagara Parkway. This was the upper part of the route connecting Lakes Erie and Ontario. Goods were portaged from Newark, near Lake Ontario, to Fort Welland (Chippawa) and from there, either carried to Fort Erie or towed upstream in flat bottomed bateaux. Another early route, left the river at the mouth of Millers Creek heading southwest to the vicinity of Ridgmount, then following the edge of the Onondaga escarpment to Point Abino. Sections of this road can still be seen at its northern end, and where it is followed by Ridge Road. In addition, several horse paths wound through the township, one apparently following the beach ridge west from Fort Erie to the Ridge Road, paralleling the present Garrison Road. The high gravel ridge followed now by Ridge Road West, was also an early roadsite.

By 1812, there was little land in the township left unclaimed. Because much of the land was settled before petition for ownership was made, and because many petitioners did not give the date or location of their initial occupation, it is impossible to gain an exact picture of the spread of settlement in Bertie. A few claimed to have arrived as early as 1776, but the bulk of petitioners stated that they first settled here between 1786 and 1789. The petitions indicated most settlers had arrived by 1797.

## Pioneer Agriculture

The pioneers of Bertie Township were faced with no small task. Their new home was thickly wooded and in places poorly drained and swampy. Yet here they had to provide for themselves or face starvation. They were not unprepared. These 'New Canadians' had faced similar hardships in their previous homes in the American colonies and knew through that experience how to make a wooded land productive.

They sought out the best drained land, cleared a few acres in the bush, using the timber to erect simple homes and planted their crops. Fields of wheat, rye, oats and buckwheat, and indian corn were complemented by plots of common vegetables squashes, pumpkins and others. They fished along the shore, gathered berries and hunted game in the dense forests, thereby managing a rough self-sufficiency.

Some of the settlers that were fortunate, had been able to bring some livestock with them. Records<sup>1</sup> show that one family drove their small herd of cattle north from Pennsylvania. Others brought a few sheep, hogs, oxen or horses. Some, less fortunate, had lost their livestock to the 'rebels' and had to accumulate a little capital in order to buy new stock. The pioneers had neither time nor capital to afford much attention to their animals which consequently had to forage for themselves, often in marsh grass. Little shelter was provided even in winter.

In some ways the settlers of Bertie were fortunate. Soon they were producing small surplusses which found a ready market in the garrison at Fort Erie, or were sold to the merchants there who for a

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<sup>1</sup>See list of petitions for land grants, in Welland County Historical Society, Papers and Records.

few years bought provisions, corn and flour, for fur traders farther up the Great Lakes. Wheat soon became the most important crop and was generally a staple for Upper Canadian Farmers after 1800. In addition, some farmers were able to sell livestock and records indicate cattle were transported as far east as Albany.

#### Pioneer Industry

Loyalist activity was not limited to agriculture alone. At first the farmers could only turn their grain into flour or feed by hand mortars, or haul it overland to the mills at Niagara Falls or Port Colborne. But in 1792, a grist mill was erected on the riverbank at Fort Erie in township lot number one. In later years flour mills were built at Doans Ridge (near the present site of Ridgeway) and on Black Creek at the site of Stevensville.

The products of the forest also stimulated the early industry of the township. Timber was needed for homes, implements and boats, for example, and the demand soon warranted the construction of a saw mill on Black Creek. This mill likely provided the initial impetus for the development of Stevensville.

Potash was also important as early as 1797<sup>1</sup> and merchants bought field and house ashes for delivery to the potasheries, one of which was at Stevensville. In the early years of the nineteenth century, to 1811, potash brought high prices in Montreal whence it was transhipped overseas.<sup>2</sup>

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<sup>1</sup>Jones, R. C., History of Agriculture in Ontario 1613-1880.

<sup>2</sup>Ibid.

By 1812, the Township of Bertie had the appearance of a long settled country. Much of its land was occupied if not cleared. One hundred forty-six people had received land grants ranging from 100 to 3000 or more acres each. Including those without grants, there were likely well over 200 families in the township.<sup>1</sup>

### The Development of Villages

Commerce and industry had helped spur the development of nucleated settlements where people engaged in milling, tailoring, merchandising, shoemaking and the like. As early as 1795, a visitor to Fort Erie had noted a number of houses near the fort. Nearly were four large log structures used as storehouses and barracks for workmen, and at the wharf, voyageurs were seen busily loading and unloading vessels. The initial settlement of Bertie, Fort Erie was on its way to becoming a commercial center. By 1807, it included about 25 houses around the fort, and downriver, a few taverns. The main activity had, however, centered a mile downstream from the fort where a mill and ferry operated. Many settlers on the American side of the river ferried grain to the mill at Fort Erie. The village thus was a local center as well as a bulk-breaking point for goods portaged between Lakes Erie and Ontario.

### 1812-1851 Development Before the Railroad

#### Interruption by War

The War of 1812-14 made Bertie part of the battleground between American and British forces. The Niagara Peninsula was once more a focus of activity between the two countries.

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<sup>1</sup>One historian estimated 180 families in the 1790's.

↳ Who? (Whence came this information?) x

Life in the township was disrupted. Many of the residents had to leave their farms or businesses to defend the frontier, others were obliged to evacuate the area due to skirmishes and continual harassment by soldiers of both sides. When the fighting ended, people began to rebuild their burned out homes, recultivate their neglected fields and seek a return to their prewar prosperity. By 1817, when Robert Gourlay took his crude census, much of the work of restoration was completed and the people of the township were again progressing.

#### Agricultural Development

After the interruption, agriculture continued to develop as a commercial enterprise. More land was continually being brought into production and by 1851, one half of Bertie's 36000 acres were improved. Wheat became increasingly important as the basis of agriculture in the township. Other crops, including indian corn, oats, barley, buckwheat were grown in smaller quantities than wheat, but these were probably used on the farm as they were too bulky, and hauling to market was uneconomical.<sup>1</sup> Oats, which could be grown on wet soil were primarily used as feed for horses, animals essential for the work of ploughing, hauling and the like in this pre-mechanized economy. The coarse grains such as buckwheat were often sown down to prepare the land for wheat. As Jones<sup>2</sup> has stated regarding most of Upper Canada in this period, "everything revolved around wheat".

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<sup>1</sup>Jones, R. C., op. cit.

<sup>2</sup>Ibid.

With only comparatively small local markets available, farmers turned to exporting. Most of the exports went by way of Montreal to the United Kingdom, though in some years markets were available in the United States. Construction of the Welland Canals, in 1824-30 and 1845-50 aided farmers by reducing the transport costs to Lower Canada when the canals were completed, and by providing a local market among the workers during construction.

Animal husbandry was a secondary part of the agriculture of this period. There was little improvement of cattle until the later years. R. Gourlay reported that cattle were generally turned into the bush in May to feed on young growth and then taken into the yard in December.

#### Industrial Development

Industry in this period developed at three main sites: Stevensville, Ridgeway and Fort Erie. Most numerous were water-driven mills located where water power was available, though in Bertie, lack of relief was a drawback to such development. In addition to the two mills established in the 1790's, a number of other mills were also constructed before 1850. Apparently another grist mill was added at Fort Erie, others being constructed at Stevensville, Ridgeway and a site near Windmill Point, bringing the total for Bertie to five. This period saw the greatest extent of flour milling within the township. Later, decline set in, for the trend once the Welland Canal was opened, was to locate mills there where they could take advantage of continuous water supply and supply of grain from outside the Niagara Peninsula. By 1851, the number of flour mills in Bertie had dropped to two.

The forest resource was still plentiful during these years.

Saw mills were established at Ridgeway<sup>1</sup> and at least one shingle mill, this at Fort Erie. Other mills, referred to in the 1870's and 1880's by various historians, may have been constructed during this period. Timber, as well as being an important domestic product was also exported to the United States.

Though flour and saw milling were the most important industries of the period, there were others. As early as 1817, there was a wool carding mill at Ridgeway.<sup>2</sup> Bog ore had been discovered in the marshes, possibly at the head of Beaver Creek, and limestone was quarried in considerable quantity for building stone. According to Watson<sup>3</sup> there were no metal industries in Bertie Township prior to 1840, though two were established between that date and 1871. However blacksmiths are known to have worked iron that was brought to their shops.

#### Urban Development

The years before the railroad saw considerable development in the three urban places of Bertie Township. Fort Erie, at the intersection of the Garrison and River Roads, the two most important routes in the township, remained ahead of its rivals if only slightly.<sup>4</sup>

<sup>1</sup>According to Welland County Historical Society, Vol. 5; two mills were established in Ridgeway in the 1880's, though one may coincide with the mill presently within the Crystal Beach town limits.

<sup>2</sup>Census of Canada 1851.

<sup>3</sup>Watson, J. W., The Changing Industrial Pattern of the Niagara Peninsula.

<sup>4</sup>1851: *Source* population of Fort Erie, 722; Ridgeway, approximately 500; Stevensville somewhat less.

This was the terminus of travel from other parts of the peninsula to Buffalo, and passengers and mail from Newark and even Montreal for example, stopped here before crossing the river to Buffalo. By 1817, there were a number of stores and at least two taverns built along the riverbank, catering to residents and travellers alike. This period did not bring continual advancement to the border town. Its role as a port or breaking point for grain or other products bound for Lower Canada, was dealt a double blow. First, the opening of the Erie Canal in 1825 transferred much of the commerce of Fort Erie to Buffalo, its rival across the river. Soon gone were the days when Fort Erie merchants consigned goods to be sent to Havana, Amsterdam, Lisbon, Bristol and other European ports.

Then the Welland Canal, finished by 1830 drew the Canadian trade along its route, bypassing the end of Lake Erie. Whereas Fort Erie had been situated at a commanding position on the main route for shipment from much of Upper Canada and the American Midwest, it sat between two competing systems which deprived her of her former trade.

Ridgeway in this period became a center for considerable activity. Located on a well-drained site on the main east west route through Bertie,<sup>1</sup> it had attracted numerous small industries. Flour, saw, woolen mills, as well as a number of commercial enterprises.<sup>2</sup>

Stevensville too had become an active hamlet developing around at least two saw mills, a large flouring mill, a blacksmith shop and a number of stores widely known throughout much of Welland County.

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<sup>1</sup>Garrison Road has become the main link to Port Colborne and places farther west.

<sup>2</sup>Various reports list twenty stores, three hotels, a wagon maker, a harness maker and many others.



## 1852 to 1891

During the latter part of the nineteenth century, the development of Bertie Township in many ways reached its peak. Population increased rapidly from 2737 in 1851 to 4222 in 1891, of whom the most were located on farms. The beginning of the period brought an exceptional influx of people who entered the penninsula on their way to the American west, many of whom decided to remain. They raised the amount of settled farm land to 33000 acres. Nevertheless the census records, an increase in the wood and wild land between 1851 and 1861. This possibly indicates that these new settlers occupied uncleared land, which, since it had not previously been claimed had thus been omitted from census records. Later increases in the number of farm units relates to the breaking up of larger farms as well as settling new land.<sup>1</sup> By 1891, there were over 600 farms in Bertie, and almost the whole of the township was occupied. Most farms were 50 to 200 acres in size, though the latter decades show an increase in small land holdings.

## Agricultural Development

Agriculture changed in this period. A greater percentage of the occupied land was improved as the period progressed; the percentage of bush decreased steadily after 1861. Most of the increase in improved land, which was greatest in 1891, represented land used for crops. There was an addition of a few hundred acres of orchards, market gardens and vineyards, and also an increase in the amount of pastureland.

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<sup>1</sup>See chart - Trends in Size and Number of Farms.

The production of wheat continued on the upward trend of the previous period until 1881. After that date it began to decline. A large portion of this grain must have been exported to the United States, for the loss of the British Preference in 1846, and the establishment of Reciprocity in 1854 both tended to strengthen the tie between the Canadian wheat grower and the American domestic market. The Erie Canal and the railroads of this period provided means for easy access to this market. From 1855 to 1859, five times as much grain from Upper Canada went to Buffalo as to Montreal.<sup>1</sup>

Although the farmers during this period grew increasing quantities of wheat, its importance in the farm economy waned. Wheat was no longer the staple that it had been previously. In 1851, wheat occupied 1/3 of the crop land of Bertie, by 1881, the acreage was down to 1/4, and ten years later, to less than 1/6 as wheat growing had begun to move west to new lands. The trend through this period then was to diversified farming. By the 1870's, almost every farm had a few acres of fruit trees or grapes.<sup>2</sup> One farmer near Stevensville had about 1500 fruit trees, and 15 acres of grapes which were reportedly well known for their quality in London and Toronto. Indeed, many orchards dating back to this period can still be seen in Bertie, some still bearing small quantities of edible fruit, though abandoned and uncared for.

But even more important was the development of livestock as a part of the township farm economy, as indicated by the expansion in

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<sup>1</sup>Jones, R. C., op. cit.

<sup>2</sup>Historical Atlas of Lincoln and Welland Counties shows an orchard on almost every farm in Bertie.

acreage devoted to hay and grains such as oats. The number of milk cows and hogs doubled from 1851 to 1891. There was a rapid development of sheep husbandry, encouraged by the demand of American mills, though the number of sheep decreased after 1885.

Reciprocity, increasing demand for farm products in American cities like Buffalo, and the advent of the railroad all helped spur international trade, and much of Berties farm produce was shipped across the Niagara River. Large quantities of cattle including milk cows, sheep and hogs could be shipped to New York State economically by rail. Peas, sold generally for seed could bring good prices in the United States, and for awhile during this period, considerable acreages of peas were grown in Bertie.<sup>1</sup> It seems that almost anything Bertie's farmers could produce; butter, poultry, oats, seed, could be sold on the other side of the river. Acreages of rye, never very large here, rose to four or five hundred by 1861 and apparently maintained that level throughout this period. The production of barley, based heavily on American demand increased rapidly to 1500 acres. During Reciprocity, Canadian barley earned a fine reputation among American brewers and even after 1866 could be exported profitably. However, 1890, brought the McKinley Tariff which priced Canadian barley out of the American market. Consequently, by 1891, barley acreage in Bertie fell to 291 acres.

Though Buffalo and other American centers were important markets for Berties farmers, they were not the only ones. The railroads that carried Ontario farm produce to the United States, also spurred the development of local towns and villages. The urban places within the

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<sup>1</sup>Census of Canada 1861.

township included over 3000 residents by the 1880's, a significant market for agricultural goods.

Farming apparently did not develop uniformly throughout the township, there being a noticeable difference in the quality of farming depending to some extent on soil and drainage conditions. In 1856, an agricultural specialist noted some contrasts during a tour through the township.<sup>1</sup> Proceeding upriver from Niagara Falls, he observed "little good farming, the soil is heavy clay needing much deeper and cleaner cultivation and in many places draining, the essential conditions of all subsequent improvements....which appears to have been little attended to in this section".<sup>2</sup> On the Farmington Loam, presumably, crops looked "promising...above average", and the observer noticed "excellent cattle". Near Ridgeway on "lighter soil", probably a beach ridge, he saw "fine fields of grain, barley and wheat". Evidently, the farms situated on the loams or better drained sites were superior to those on the heavy clay.

#### Urban Development: the Influence of the Railroad

The period after 1850 brought a major innovation to Bertie in non-agricultural as well as agricultural aspects. Perhaps the single most important development was the coming of the railroad. The first line, the Erie and Niagara was laid down between Newark and Fort Erie shortly after 1850. About 1855 the Buffalo to Goderich Railroad was completed. As mentioned above, these and later railroads had a

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<sup>1</sup>Welland County Historical Society, Vol. 5.

<sup>2</sup>The observer is likely refering to the Welland Clay.

considerable effect on agricultural trade by opening up markets in the United States for Southern Ontario farmers.

The two railroads met at Fort Erie where they combined to generate urban activity. Fort Erie became the railroad terminus with repair shops and other associated developments, plus a ferry for transporting railroad cars across to Buffalo. By 1857, Fort Erie had incorporated as a village, containing approximately 700 residents.<sup>1</sup>

Ridgeway, the only other township center on the railroad also felt its effect. Commercial activity was apparently stimulated, and soon the village boasted a population of over 600, 3 hotels, and about 20 stores.<sup>2</sup> Two foundries were established before 1871, and by 1876 there was a wide range of small industries located here.<sup>3</sup>

A second stage in railroad development took place in 1873. That year the International Iron Bridge was opened, linking the village of Victoria, developing as the northern part of Fort Erie, to Buffalo. Two railroads crossed the bridge, the Canada Southern, an American financed line to Windsor, and the 'loop line' of the Grand Trunk, swinging northwest through Welland to Toronto.

These two lines also spurred development at the eastern end of the township, but now the focus was at Victoria. Later the Buffalo and Goderich Railroad was diverted north to cross the bridge. The Erie and Niagara, the last railroad to operate in the southern part of Fort Erie, and part of the Gt. Western System fell into disuse with the

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<sup>1</sup>Estimates of Fort Erie's population at this time range from 700 to 900.

<sup>2</sup>Coombes, A. E., History of the Niagara Peninsula.

<sup>3</sup>Historical Atlas of Lincoln and Welland Counties lists the following occupations and businesses: foundry, saw mill and foundry harness maker, carriage maker, stove tin, copper and sheet manufacturer, shingle mill.

merger of the Gt. Western and Grand Trunk Railroads.

The loss of its railroad function caused Fort Erie proper to decline. On the other hand, Victoria, to be incorporated as Bridgeburg in 1895, blossomed with the railroad and associated activities such as customs offices and hotels. The population of Fort Erie declined from 841 in 1871, to 722 in 1881, while Victoria's climbed to 700.

Stevensville was now astride two railroads. After declining at the beginning of this period, its population returned to about 600, and new mills were constructed.

#### Industrial Development

During the period between 1851 and 1891, the industry of Bertie differed in many respects from that of the previous period. The development of pioneer industries virtually ceased. The number of flour mills had dropped to two by 1851, and in 1887, only three were in operation. The business of the sawmills apparently diminished, and no new mills were established. At least one sawmill had ceased operation by 1887. After 1850, according to Watson<sup>1</sup> sawmills tended to concentrate on the Welland Canal which provided unsurpassed facilities, for power and supply of timber. This tendency was later reinforced as production of square timber gave way to pulp and paper production. The only textile mill in the township had apparently closed by 1880.<sup>2</sup>

Many of the small businesses of the earlier period were still evident throughout this period, including carriage and harness shops,

<sup>1</sup>Watson, J. W., op. cit.

<sup>2</sup>The carding and fulling mill is not referred to in any descriptions of Ridgeway after 1851.

and potasheries. Cobblers, and blacksmiths shops were still common.

However, new industries became important in the latter 19<sup>th</sup> century. These were the first 'heavy' industries spurred by the railroad. Two foundries were established at Ridgeway, plus an establishment dealing in stove, copper, tin and sheet iron. Machine shops and other small businesses developed at Ridgeway and Fort Erie. These early foundries and workshops were located in Bertie as here materials and capital could be obtained close by, and of course, transportation was available. Agricultural implements were among the important articles produced at these small factories.

During the years 1851 to 1891, there was an active exploitation of the natural resources of Bertie Township. In addition to the processing of timber, which had earlier become important, large quantities of sand were quarried at Point Abino and exported to the United States. An old pier indicates transportation by water, and the Atlas of Welland County in 1876 shows a horsedrawn railway leading to it. Lime and building stone were also exported though some were used for local purposes. The afore mentioned atlas shows a rail line running to Windmill Point from the Buffalo and Goderich mainline.

The main features of this period then are the attainment of a maximum of agricultural settlement, and of wheat production. Agriculture became diversified and catered to a growing local market and a large American demand. A stabilization in the development of old type industries, especially those related to wheat and timber, occurred, and also the development of new kinds of manufactures.

While the non-agricultural population increased during the period, the development was not identical in the different urban places.

Stevensville first declined, then regained its former population; Ridgeway and Victoria grew consistently the latter very quickly after 1873. Fort Erie grew, then declined somewhat, before resuming its development. In the last few years before 1890, the village of Crystal Beach came into existence as a resort, situated behind a fine sand beach. The recreation industry which was to become especially significant in Bertie Township was beginning to emerge.

#### 1892 to 1964

The first half of the twentieth century has brought new trends in the development of Bertie Township, through agriculture, urban development and a new activity, recreation.

##### Agricultural Development

After reaching its peak at the end of the 1800's, agriculture in the township has declined in many respects. The acreage of farmland has diminished by almost 2000 acres, to one half its total at the outset of the period. Clearance of the bush, which progressed steadily through the previous periods has virtually ceased. In fact, the past few years have brought a slight increase in wood and wild land. This represents abandoned land, on part-time farms especially, which is being overgrown with young saplings.

The amount of improved land allowed to go out of production since 1891 is in excess of 1500 acres, also close to one half the previous peak. The decline in acreage of improved land represents a decrease of crop acreage, rather than of pasture. This indicates a change in the farm economy during this period. Cultivation of barley



and rye has been virtually eliminated probably through the loss of a market.<sup>1</sup> Wheat, the major cash crop has continued to decline through most of this half-century. The depression of the late twenties and early thirties produced an acceleration of the downward trend of most aspects of the farm economy. Apparently the Second World War, through increased demand for food stuffs, induced a slight resurgence of agriculture in the township. Acreage of improved land increased, as did pasture, wheat, oats and hay acreages. Wheat acreages continued to increase between 1941 and 1951, possibly because of the continuation of a demand in Europe; but by 1951 the decline began to reassert itself.

During this period, livestock have gained a more prominent place in the farm economy of Bertie. The number of milk cows and hogs, though well below the 1890 numbers, have been more consistent in this period than have crop acreages. A major exception, the once familiar horse has been replaced by farm mechanization. Hay and the feed grains have maintained greater acreages than wheat, though this is still the prime cash crop.<sup>2</sup> As a result Bertie Township is included in the dairy and mixed farming belt of Southern Ontario.

The orchards and vineyards of the previous period have fallen into disrepair as farmers have found commercial production unprofitable. A major decline occurred in the early 1900's due particularly to bad frosts killing a large number of trees. The township has not developed any considerable market garden probably due to the lack of suitable soil.

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<sup>1</sup>The slight, temporary, recovery of Barley production in 1931 may relate to the gaining of an illegal market in the U.S. during prohibition.

<sup>2</sup>However, in the last decade, wheat has regained a little of its previous importance.

The little that has existed has been situated on the loams or particularly well drained clay.

The decrease in number of farms has been notable in this period. This is an age when North America's farm population is decreasing, and it is especially true for Southern Ontario. Thus it seems natural that here, where the soil is hard to work, often poorly drained, and where alternative employment opportunities are abundant, there should be a particularly striking loss of farm operators.

Over the first 30 or 40 years after 1891, the main decrease involved farms that were less than 100 acres.<sup>1</sup> However, since then, farms of 100 to 200 acres have been included in those ceasing to operate.

Even though the number of farms and hence the farm population have decreased, the total population of Bertie Township has risen considerably due to the expansion of urban and other non-farm population within the township.

#### Industrial Development

The industrial development of the twentieth century has been influenced by a few important factors. The harnessing of Niagara Falls as a source for generating and transmitting electricity in 1895, and the first exploitation of the local natural gas resource in 1899 were significant milestones on the road of modern industrial development. Two especially important factors have been the application of national protective tariffs and the expansion of the domestic market. The latter, combined with advances in technology has encouraged the development of

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<sup>1</sup>See chart - Trends in Size and Number of Farms.

new industries. The United States, farther ahead than Canada in industrial development, has naturally tended to exploit the Canadian market. The tariff policy of the Canadian government, intended to reduce the marketing advantages of foreign located industries, has forced many American manufacturers to establish 'branch firms' or subsidiaries in Canada. In this development, Bertie Township, situated on the edge of the most populated area of Canada has reaped at least a small benefit.

The development of the new industries of Bertie took place only at the extreme eastern end of the township. The industries are no longer dependant on local raw materials, nor geared to the total market alone, so the focus of the major transportation routes, and in many instances, proximity to the industrial complex at Buffalo became the prime locating factors. These 'new industries' are mostly producers of secondary steel products, chemical products and a variety of minor items.

Among the first industries to locate here were the Horton Steel Company (1913), and Hart and Cooley (c. 1913). This was just prior to the First World War, the time of the greatest development of the Canadian Steel industry. The Second World War appears to have been a major impetus to manufacturing here as most of the industries are about 20 years old.<sup>1</sup> Fleet Aircraft, Irvin Airchute and Canadian Gasket Company are among the industries that produced war materials. The construction of the Queen Elizabeth Highway about 1939, undoubtedly increased Fort Erie's attraction to industry by greatly facilitating road communications to Hamilton, Toronto, and other points. Among the

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<sup>1</sup>According to Fort Erie Chamber of Commerce.

more recent industries, the service industries, manufacturing 'light products', predominate.

### Urban Development

The expansion of urban development has been one of the main features of this period. Whereas the total population of Bertie's towns and villages in 1891 approximated 3000, in 1961 it exceeded 15000.<sup>1</sup> The true rural population has been well eclipsed in numbers.<sup>2</sup>

Though all the settlements but Stevensville have grown in population, they have not developed identically. The combined villages of Fort Erie and Bridgeburg, amalgamated in 1932, have attracted the major industries and thus have grown much larger than their rivals. Ridgeway during this period has lost most of its former industries and now employs very few of its population. Though figures are not available, it seems probable that Ridgeway's growth was held in check for the early part of this period, and that its growth has been recent, made possible by the widespread use of the auto by a commuting population. Stevensville has not grown. It too has lost most of its industry, and its residents work elsewhere.

Crystal Beach has developed entirely in this period and now contains a population of 1886, largely made up of seasonal laborers and commuters. Incorporated in 1921, the village's growth has been based almost entirely on its function as a summer resort.

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<sup>1</sup>Including unincorporated places.

<sup>2</sup>The rural population (total township population - population of unincorporated places) = 4208: Census of Canada 1961.

This last period in the historical development of Bertie Township has seen many changes in the cultural landscape most obvious of which is the transformation of a large proportion of the townships residents from rural to urban in nature. Agriculture has declined, and the methods and types of farming have changed. The connections with the United States, which had been expressed through migration and agricultural exports, have been maintained though the relationship has changed somewhat. American industry has located here, Americans have come here for their leisure and an important recreation function has developed. Just as the improving of transportation through the railroad affected the geography of the latter 1800's, so the improvements in road transportation especially through construction of the Peace Bridge and the Queen Elizabeth Way has affected the geography of today.

**AGRICULTURAL GEOGRAPHY  
OF  
BERTIE TOWNSHIP**

## The Agricultural Geography of Bertie Township

The agriculture of Bertie Township has been declining for over fifty years, and the effects of this decline are strikingly evident both to the student and the casual observer. The township is dotted with abandoned or disused farm buildings, and many acres of land once farmed now lie idle, overgrown with weeds.

However, the decline has not affected Bertie uniformly throughout.<sup>1</sup> In some parts farming has completely disappeared, elsewhere it has instead, undergone changes in response to geographic and economic influences.

The distribution of idle land seems to relate to a number of factors.

Below the Onondaga Formation, the land, in a number of places is lowlying and very poorly drained. In this part of the township, much though not all of the land that has been abandoned for agricultural use is poorly drained. In contrast to the pock-marked surface in the vale of the Onondaga escarpment, the land above the Onondaga Formation is better and far more uniformly drained. Yet farm abandonment has occurred here as well as indicating that other than physical factors are significant.

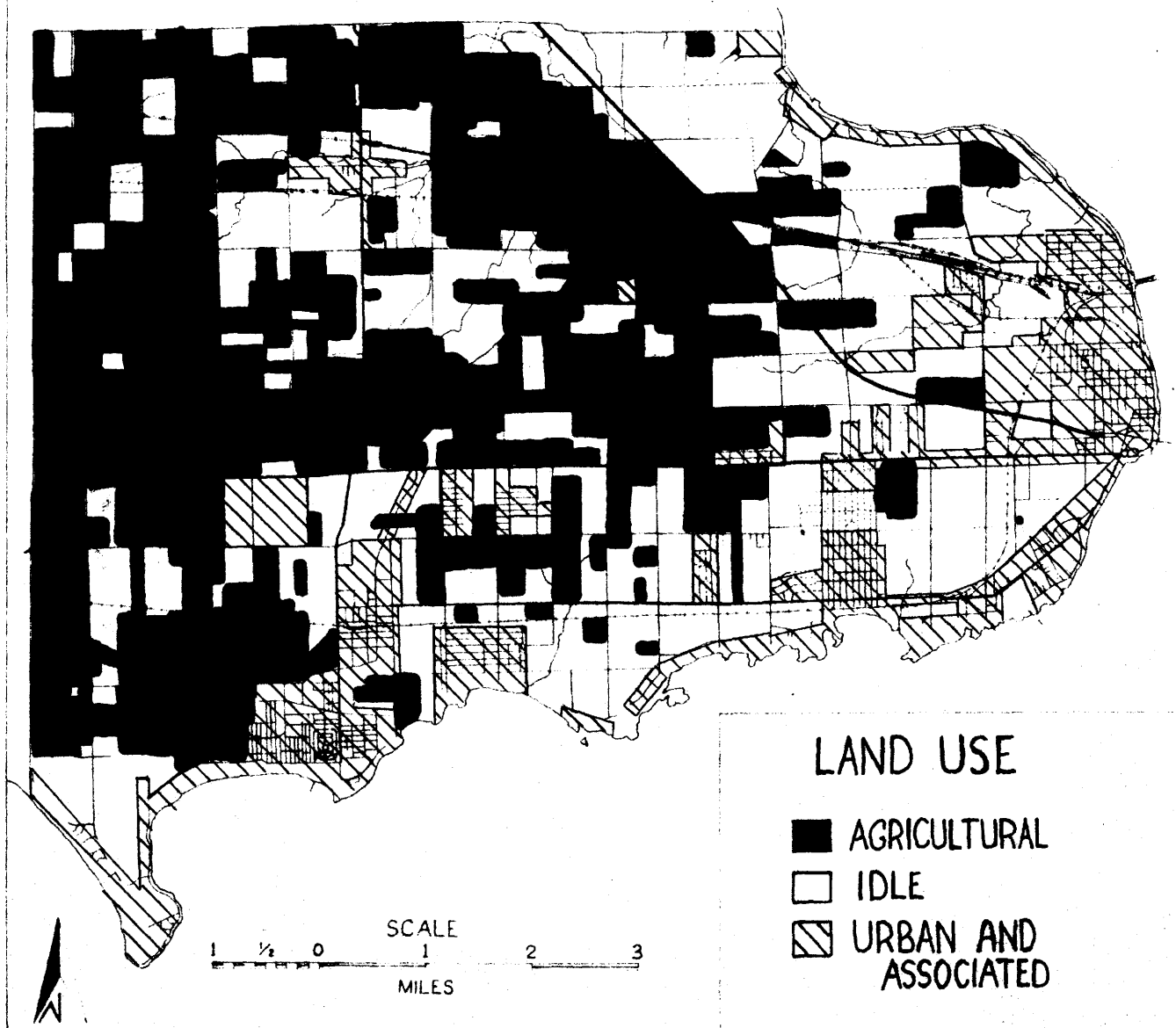
Other factors which have caused cessation of agriculture even where the land is quite suitable for farming. These may be termed human or cultural-geographical factors, and they seem to be significant to the distribution of idle land.

Fort Erie is bounded by a considerable amount of unproductive

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<sup>1</sup>See map 8.

# TOWNSHIP OF BERTIE





land for reasons dating to the construction of the Peace Bridge in the 1920's. During and after construction, people surmised that Fort Erie would become a greatly enlarged suburb of Buffalo. Thus large acreages of land were bought by speculators and a number of areas were subdivided and sold in small lots. The township records include many subdivision plans dated to this period, some of which were never laid out. The foreseen expansion never occurred, at least not to the extent it was expected, but the present landscape bears the effect of such optimism. In some areas, principally along the lake front and in some subdivisions such as Crescent Park, residential development has taken place, but much land, mainly in the Lake Erie Concessions west to Ridgeway, and the Niagara River Concessions west to the Queen Elizabeth Way, has been left unused. Eastern, and South Central Bertie might be termed the non-agricultural part of the township.

Not all idle land represents speculation. Retirement of farmers due to old age is also important, and, of course, pays no heed to the physical condition of the land. Hence this factor has affected the area in a random fashion.

Despite the impression of wholesale abandonment of the land which one easily acquires traversing the township, agriculture still maintains an important place in the geography and economy of the area. Farming is still practised over most of the township though in differing degrees of intensity.

This chapter is an attempt to show the manner in which people are working the land, as well as what they are producing. For this reason, agricultural activity has been divided into two basic categories; first, farming as a full-time operation; and secondly, farming as a part-time operation.

### Full-time Farming

There are approximately fifty farms in Bertie Township, which provide full-time employment for their operators.<sup>1</sup> However, this number appears to be far from stable as some of the farmers are approaching the age of retirement and a few farms are presently for sale. Also, some operators are "New Canadians" who have been farming here only for the past few years. It is conceivable that many of this group may soon find farming unprofitable in this area. So it would seem that the number of full-time farms is still in a state of flux.

The map of full-time farms shows a seemingly random distribution within the agricultural part of Bertie. Of the land used for agriculture, no part has a notable concentration of full-time operated farms. There is thus, no separation of the two types of farming within the township. Perhaps if a larger area were studied, a regional division of the two might become apparent.

Almost all the farms of this type are 100 acres or more, and a large proportion exceed 200 acres, including rented land. The trend toward farms larger than the original ones which were about 100 acres, is prevalent among the full-time farms. Poor soil conditions, combined with modern demands for large capital investment, in machinery for example, render small farms unprofitable.

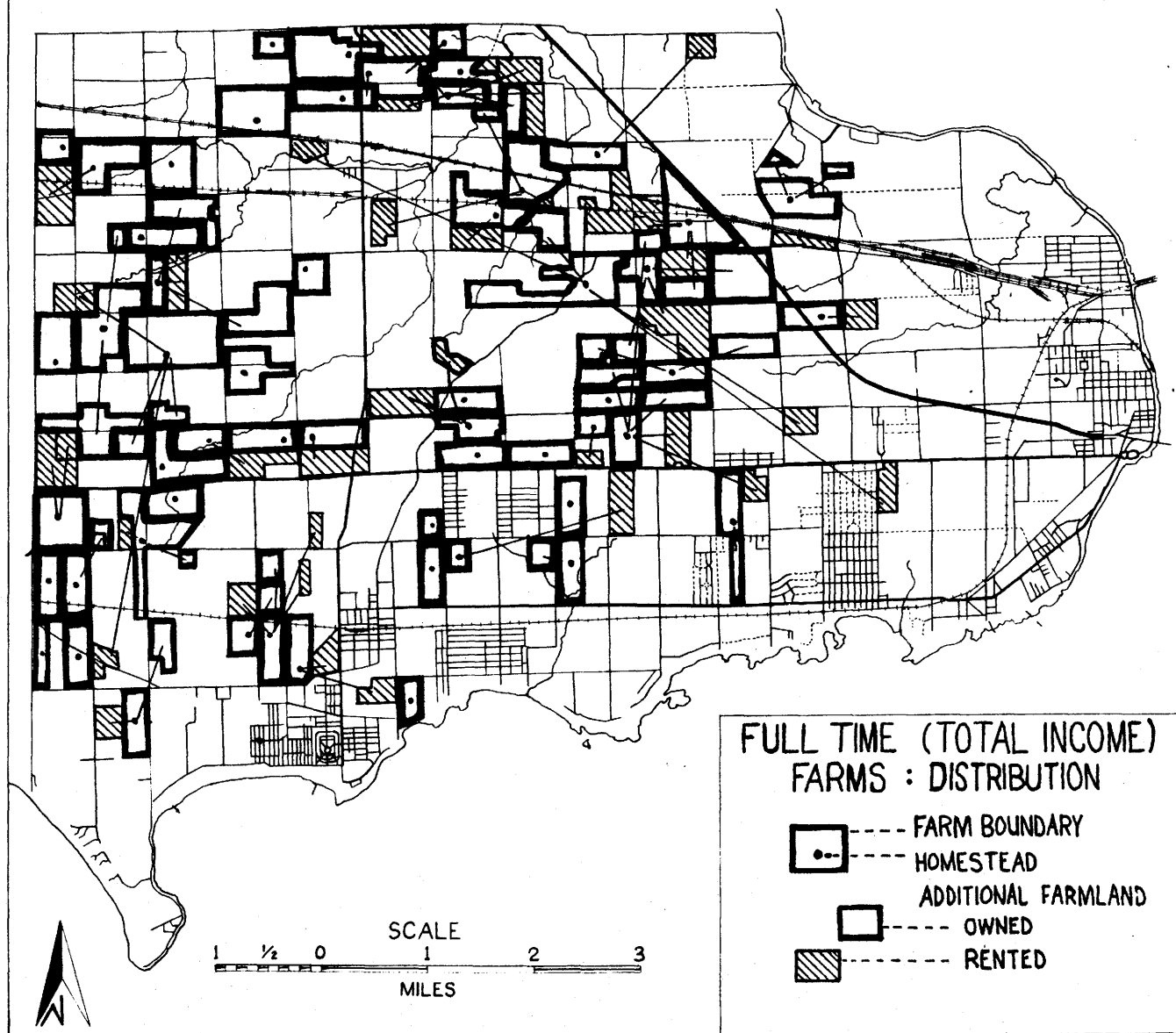
The increase in farm size is being achieved in three ways. In some instances, the needed land is obtained by renting from resident landowners, in others, by buying such land. At least one half<sup>2</sup> the

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<sup>1</sup>See map 9.

<sup>2</sup>There may be a few more farmers renting land than recorded by the interviewer, in some instances, the person renting the land is not known.

# TOWNSHIP OF BERTIE



full-time farmers make up for a shortage of land by renting. Five of the most prominent farms are run on a combined basis, that is to say, two or more farmers have joined to form one larger unit. In all five instances, the farmers were related to each other, indicating that this method of farm consolidation will unlikely become common.

This expansion of individual farms has meant that some farmers work scattered holdings, as much as four miles from the main holding.<sup>1</sup> Needless to say, this practise reduces the efficiency of the farms involved.<sup>2</sup> Renting of land seems fairly selective, as in most cases only the best land available is rented.

The basic soil problems in this clay plain, as mentioned earlier concern drainage and fertility. The heavy texture of the surface and subsoil delays spring planting by retaining surface water. Later in the summer, particularly after a dry spell, the soil dries out becoming difficult to work. These problems necessitate the maintenance of ditches, and heavy applications of lime. However, these practises only partly remedy the situation.

The crop ratings of Berties Soils show their generally poor adaptation to field crops. Hence, the most advantageous use of the soil is in a livestock program where the crops are marketed indirectly.

Thus, farming here has a heavy reliance on livestock,<sup>3</sup> and almost all Berties full-time farmers keep stock for commercial purposes. The township has been included by some authorities in the Western Dairy

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<sup>1</sup>See map 9.

<sup>2</sup>Such developments also complicates the task of determining land use on a farm unit basis.

<sup>3</sup>See map 10.

Belt of Southern Ontario<sup>1</sup> and certainly dairying is of major importance here.

### Dairy Farming

Twenty-nine of Bertie's full-time farmers are fluid milk shippers. These are well distributed throughout the agricultural part of the township.<sup>2</sup> Average monthly production varies by farm from about 6000 to 45000 lbs. Dairy herds are mainly Holstein though a few farmers milk Guernsey herds and one, a Jersey herd. It is common for a farmer to add one or more Jersey cows to his milking herd to increase butter-fat content of the milk, but generally Holstein and Guernsey are favored as they are considered more productive.

The dairy farmers market milk on a contract, or quota, basis, most being shipped to the two local dairies at Crystal Beach and Fort Erie.<sup>3</sup> Very little milk is sold to dairies outside the township, though a few farmers sell milk (or cream) to dairies in Port Colborne. A Niagara Falls dairy has one supplier in Bertie which it apparently acquired in response to a government regulation prohibiting the retailing of milk in any township which does not supply the dairy.

The demand for fluid milk and milk products presented by the large urban population in the Bertie area has encouraged a dairy emphasis on local farms. The great influx of summer residents results in a considerable increase in demand for milk during the summer

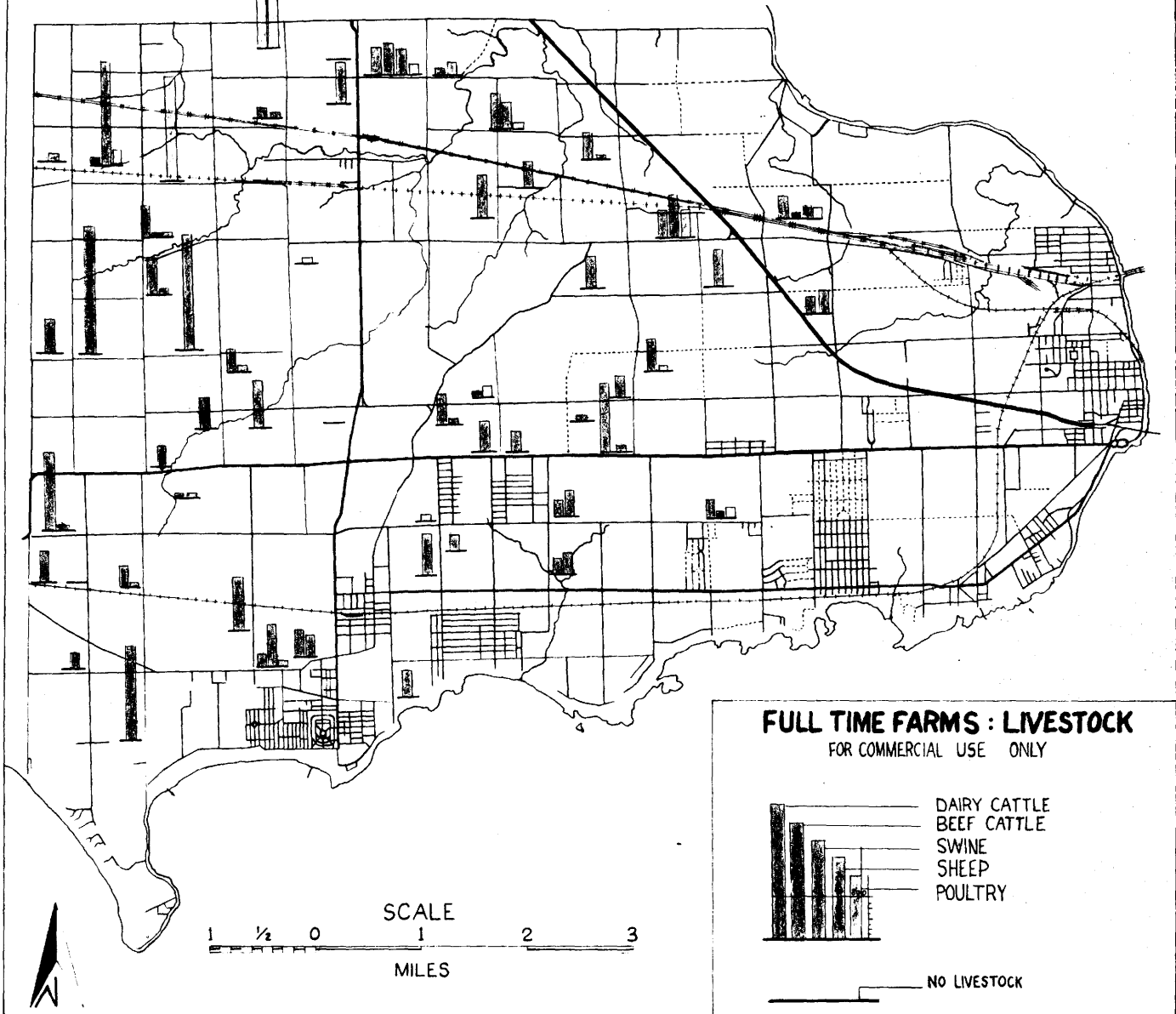
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<sup>1</sup>Putnam, D. F. (ed.), Canadian Regions.

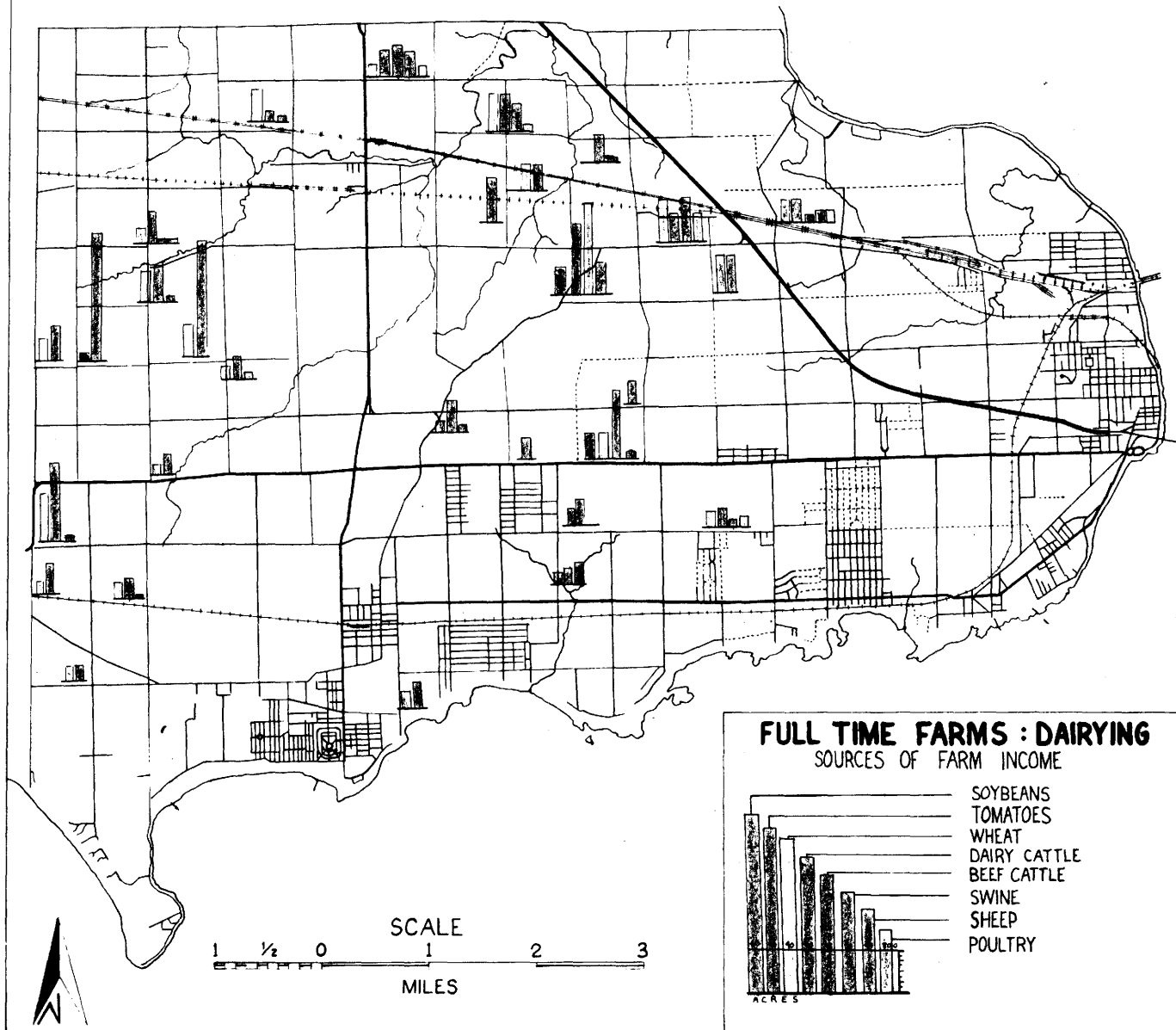
<sup>2</sup> See map 11.

<sup>3</sup>Both dairies have suppliers over the whole area, as one ships bulk, the other in cans.

# TOWNSHIP OF BERTIE



# TOWNSHIP OF BERTIE



months<sup>1</sup> even forcing the dairy in Crystal Beach to purchase milk for three or four months from producers in Cayuga, Rainham and Canberra Townships.

Despite the increasing need for milk production, the number of producers in the township has declined considerably in the last few years. Furthermore the decline represents not only farms which have ceased to operate, but also farmers who have turned to an alternative operation such as beef husbandry. For example, Ridge Dairy (Crystal Beach) until recently had 33 suppliers; it now has only 24, though its requirements have increased considerably.

It seems the main factor influencing milk production is financial. A few years ago, Ridge Dairy, along with several dairies in the vicinity changed over to bulk milk collection which reportedly saves labor at the dairy, and provides better quality control over the supply. However, bulk production involves considerable expense for the farmer, who must invest in one or more tanks at a cost of approximately \$3000 each. Many producers, unwilling to make a heavy investment, or believing it to be unprofitable, sold their herds and turned to some other farm program. To be profitable, bulk milk production necessitates milking at least 30 head, according to a local producer. Hence this factor has tended to decrease the number of producers and increase the amount of production per dairy farm as a number of farmers acquired the milk quotas and herds of 'retiring' producers.

A second problem faced by milk producers is the price regulations regarding dairy purchases. Each producer has a quota (in lbs. per day)

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<sup>1</sup>The Ridge Dairy requirements varied from 298000 lb. in May 1963, to 456000 lb. in July 1963.



of production which must be met. For this part of his production the price received is adjustable and has risen considerably in past years. However, dairy needs exceed their suppliers' total quota, hence surplus milk is accepted. In fact, a large proportion of the milk sold off the farms constitutes surplus milk. But the price of surplus milk is fixed at a level presently less than half the quota price. Consequently, farmers with a large quota can make a reasonable profit, while those with only a small quota cannot. This fact tends to discourage small dairy producers from continuing production. A number of farmers reported that they had either sold their herds and discontinued milk production, or intended to do so in the near future. In addition, this situation may discourage increased production even by the large farms.

These farms commonly show a diversified farm operation rather than a concentration exclusively on dairying.<sup>1</sup> Of the dairy farms only three do not include some other source of income such as cash crops or a second kind of livestock as a part of their operation.

Thus most of the dairy farmers grow some fall wheat as a cash crop. Acreages range from about 10 to 30 acres. The wheat is marketed exclusively in Port Colborne, though some may be fed on the farm. Certain factors make wheat a good crop for this area. It is a valuable cash crop, but one which can be fed if prices decline. With mills close by, marketing presents no problem. Perhaps more significant is its time of planting. The planting of wheat in the fall avoids the springtime problem of standing surface water. Only a short period in the spring

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<sup>1</sup>See map 11.

is suitable for planting. Fall wheat can be planted over a considerable length of time. Also, the clay soils tend to be slightly acidic, a condition which wheat can tolerate better than some other crops.

Hence the recent problems of dairy production and the fair suitability of fall wheat to local conditions seems to have accounted for the recent rise in importance of wheat relative to the field crops.<sup>1</sup>

A few farms also grow tomatoes or soybeans as a supplementary source of income. However these crops are generally limited to the sandier or better drained soils and many farmers feel that vegetables are too much trouble to be worthwhile. The tomatoes are marketed at Brights in Niagara Falls; the soybeans in Hamilton or Toronto.

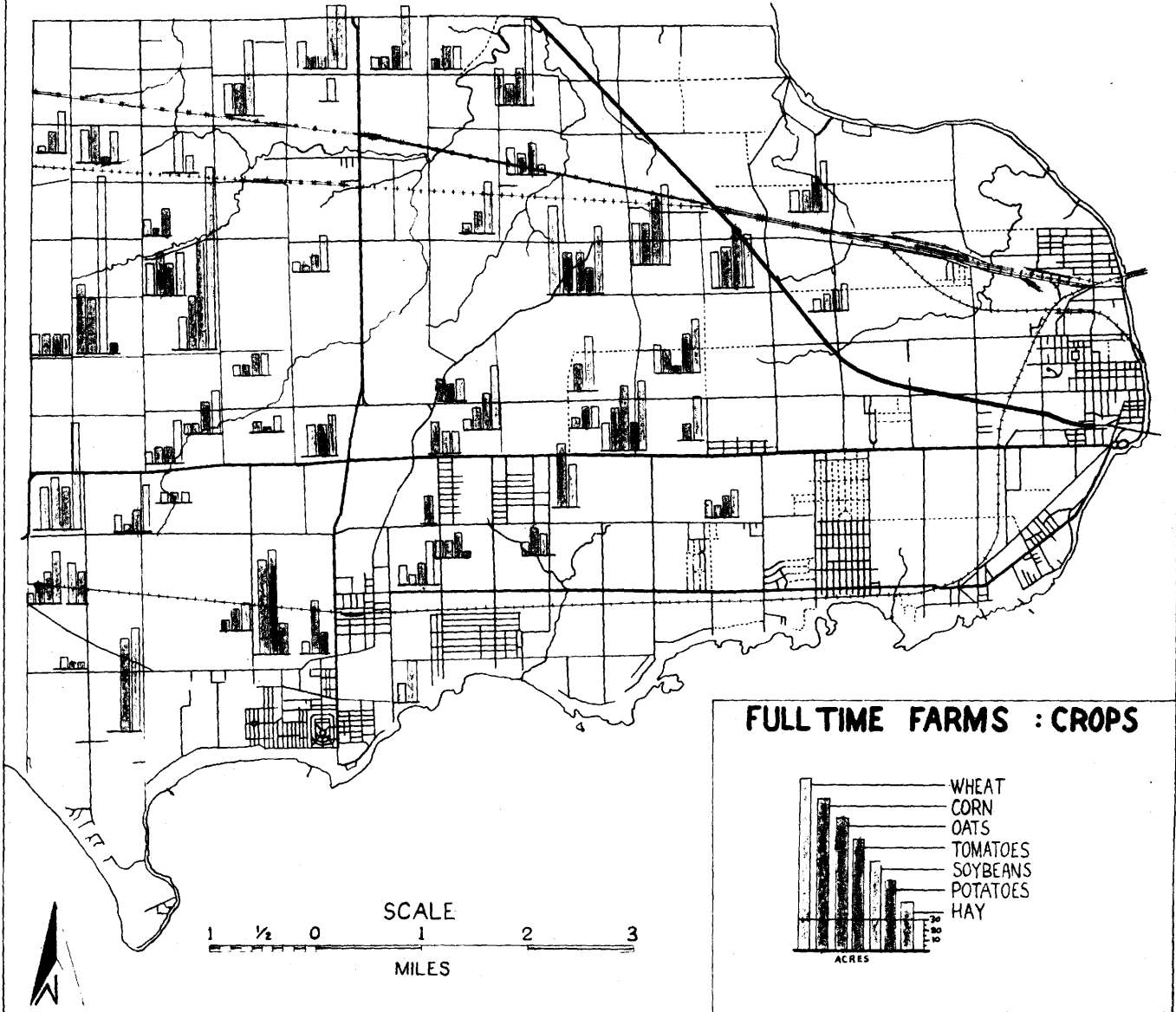
The cultivation of oats, corn and hay is common on the dairy farms.<sup>2</sup> Hay usually occupies the largest acreage and where drainage conditions differ on the farm, is cultivated on the poorer land. Farm requirements are sometimes met by purchasing hay from part-time farmers. Oats and corn are the major feed crops. Most farmers grow both though some rely on oats alone; and corn acreage is generally less than that of oats. Nevertheless, the growing of grain corn has apparently increased considerably with the introduction of faster maturing hybrid varieties. According to the crop ratings, corn appears to be well suited to the clay soils. Farmers use this corn as much as possible for feed, selling their surplus. Oats is used almost exclusively as a feed.

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<sup>1</sup>See chart: Trends in Crop Production.

<sup>2</sup>See maps 11 and 12.

# TOWNSHIP OF BERTIE



Many of the milk producers receive income from several other sources. Some raise hogs for market, and, or, keep fairly large numbers of poultry, generally selling the eggs locally. The combinations vary, as does the emphasis on the different items. One farmer, who ships about 20,000 lbs. of milk per month, sells 40 acres or more of wheat and keeps 75 chickens for eggs. He also markets veal calves occasionally. Though the individual farm program varies, almost all tend to include at least one source of income in addition to milk.

#### Non-Dairy Farming

Of the remainder of Bertie's full-time farms, most practise some form of mixed farming. These farmers generally receive income from three or more sources often embracing both livestock and cash crops.<sup>1</sup> The farmer located in Lake Erie Concession I, lot 27, receives income from the sale of hogs, poultry and a little sweet corn, while a neighbour sells hogs, veal calves and tomatoes. In contrast, the farmer in Niagara River Concession 15, lot 12, keeps sheep, veal calves, poultry, bees, and grows potatoes and wheat for sale.

The operators together include a mixture of aging and almost retired farmers, and New Canadians, especially Dutch. Both are more common as non-dairy farmers, as the elderly farmers find dairying too demanding, and new comers are rarely able to get a quota.

There are a number of specialty farms, though even these have a second source of income. About five farms concentrate on beef production, others, about two or three each, emphasize cash grains,

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<sup>1</sup>See maps 10 and 12.

poultry, sheep and market gardening.

In addition, there are two 'semi-agricultural' operations, a mink ranch, and a tree nursery. The latter is situated on the beach ridge in the extreme southwest of the township, extending into adjacent Humberstone Township.

With such small quantities it is unfeasible to designate regional distributions of the various types.

### Summary

The full-time farms of Bertie Township can be grouped into two main categories, approximately equal in number. First are the dairy farms (milk producers) which include most of the larger, more prosperous farm operations. Most are not exclusively dairy farms, as almost all have one or more alternative incomes. There is a considerable difference among them, some clearly deriving most of their income from milk, others closely approximating mixed farms.

Secondly there is the broad group of non-dairy farms which include a great variety of farm operations. Most derive income from a variety of sources, though there are a few 'true' specialty farms.

### Part-time Farming

This category generally includes those farms which provide only a part of the operator's income, though it has been extended to include those run by virtually retired farmers who gain a minor income from agriculture. So defined, this group is much larger than the category of full-time farms, and includes approximately 90 farms, though the average farm size is smaller.

The distribution of part-time farms shows a scattering throughout

the agricultural area of the township.<sup>1</sup> No specific sites seem more conducive to this type of operation as opposed to full-time farming.

In comparison with the previous one, this category is generally composed of smaller land holdings.<sup>2</sup> The units are usually 50 to 100 acres, seldom greater, and are not fragmented like the full-time farms. Renting of land, though found in this group, is not common.

Though a number of these farms are run by former full-time farmers now practically retired and farming very little, most of the operators hold permanent jobs elsewhere. Of these perhaps as many as a third could be classed as New Canadians, families who have immigrated into Canada in the present generation. Those classed as absentee-owner farms, about eight, are farms whose owners live outside the township.

The presence of part-time farming in Bertie seems to relate to a number of factors. First are the negative factors, those which tend basically to mitigate against full-time farming. These of course include the difficulties of farming in Bertie's poor drained soil. But this factor alone does not provide the answer, as part-time farms occur at random throughout the better and poor drained parts of the township.

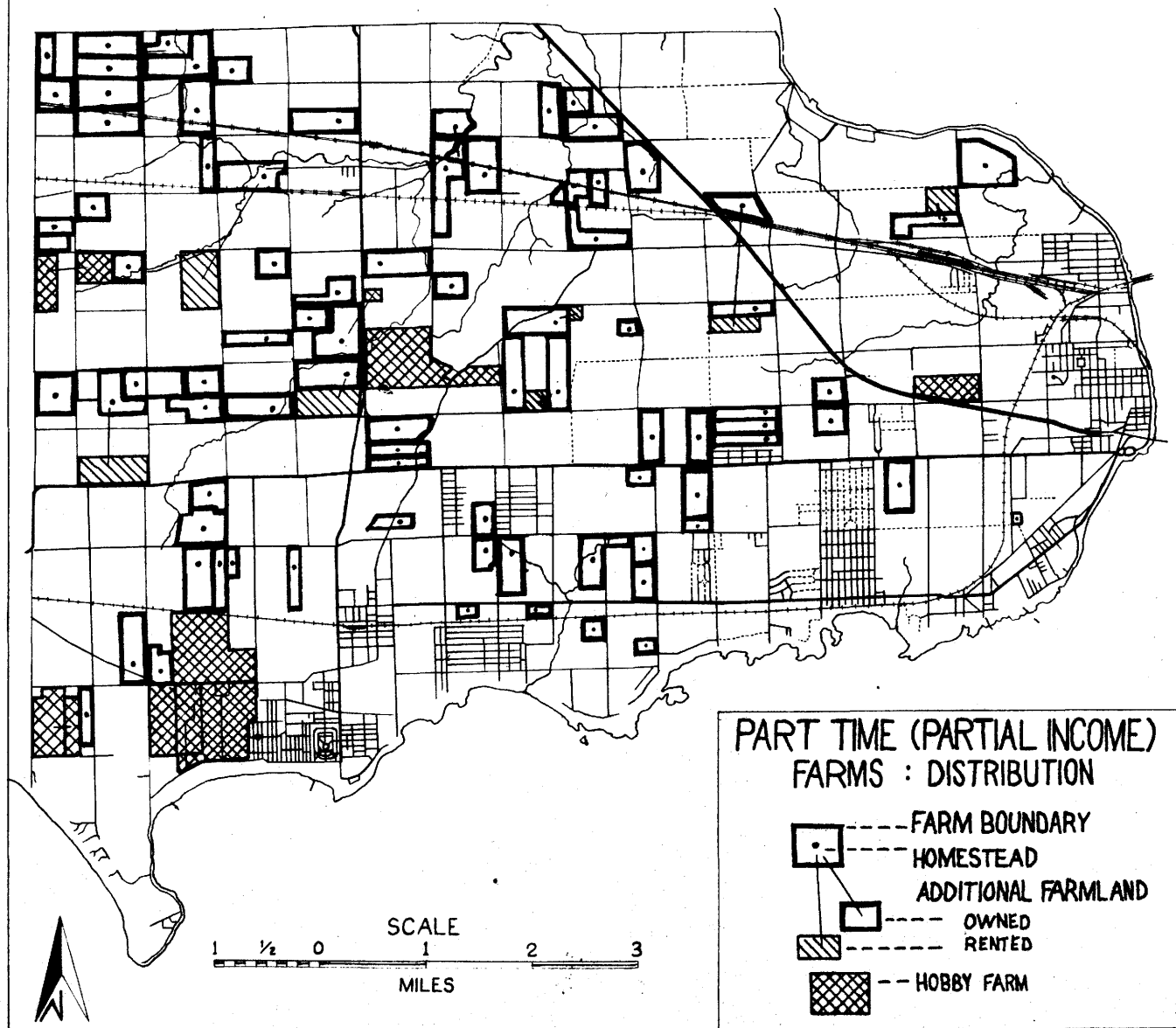
Alternative employment is readily available for those who seek it as Bertie is within commuting distance of no less than six urban centers. Fort Erie provides employment within the township for many residents, while Port Colborne, Welland and Niagara Falls are close

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<sup>1</sup>See map 13.

<sup>2</sup>See maps 9 and 13.

# TOWNSHIP OF BERTIE



enough to commute to from any part of the township. St. Catharines, and Buffalo are minor employers of local residents. Hence the farmer in Bertie faces the possibility of finding higher, steadier income off the farm, and within driving distance.

The prevalence of small holdings indicates this as another possible factor. However 100 acre farms can, and are being operated profitably and land is available for rental.

The simple process of growing old tends to reduce the number of full-time farmers in an area where children are brought up in a predominantly urban or suburban type of environment providing more attractive opportunities.

There are also positive factors, which favor part-time farming rather than complete abandonment of the land.

It is possible for a man to "work out" and carry on some kind of farm program simultaneously. It might be noted that the part-time farmers include those to whom either the farming or the other employment in the secondary source of income. Most of the part-time farmers are unskilled or semi-skilled workers who are likely in the low income groups of society. For them, part-time agriculture is a convenient way to raise their income.

Under the present assessment regulations, taxes for non-agricultural land are higher than those for land used for some farming purpose. Hence the landowner can literally save money by using the land, or letting someone else use it.

Many of the part-time operators are New Canadians, and this cultural factor may be important. These people quite possibly had an agricultural background which has led them to try some type of farming



here, even though they may need a steady income 'off the farm'.

The type of agriculture practised by part-time farmers seems, to take certain forms which relate not only to the physical environment but also to economic conditions. The very fact that they are part-time operators is an important factor.

Examination of the keeping of livestock for commercial use<sup>1</sup> reveals a number of facts.

Firstly, livestock are apparently kept by part-time farmers for the same reasons as full-time farmers, reasons which include soil conditions and large urban markets for livestock products. However, many part-time farmers unlike full-time farm operators keep no livestock.<sup>2</sup> The time and effort required in raising and marketing livestock tends to discourage this type of part-time farming.

Also, where stock are kept, the practices differ somewhat. Few part-time operators receive income from more than one kind of livestock.<sup>2</sup> Much less common to the part-time operation is the keeping of dairy cattle.<sup>3</sup> Very few of these farmers ship milk, probably because of the constant attention required by dairy herds, and the need for a large contract to make a reasonable profit.

On the other hand, beef cattle are common among these farms.<sup>3</sup> Though large herds are not generally kept<sup>4</sup>, it is quite common to keep

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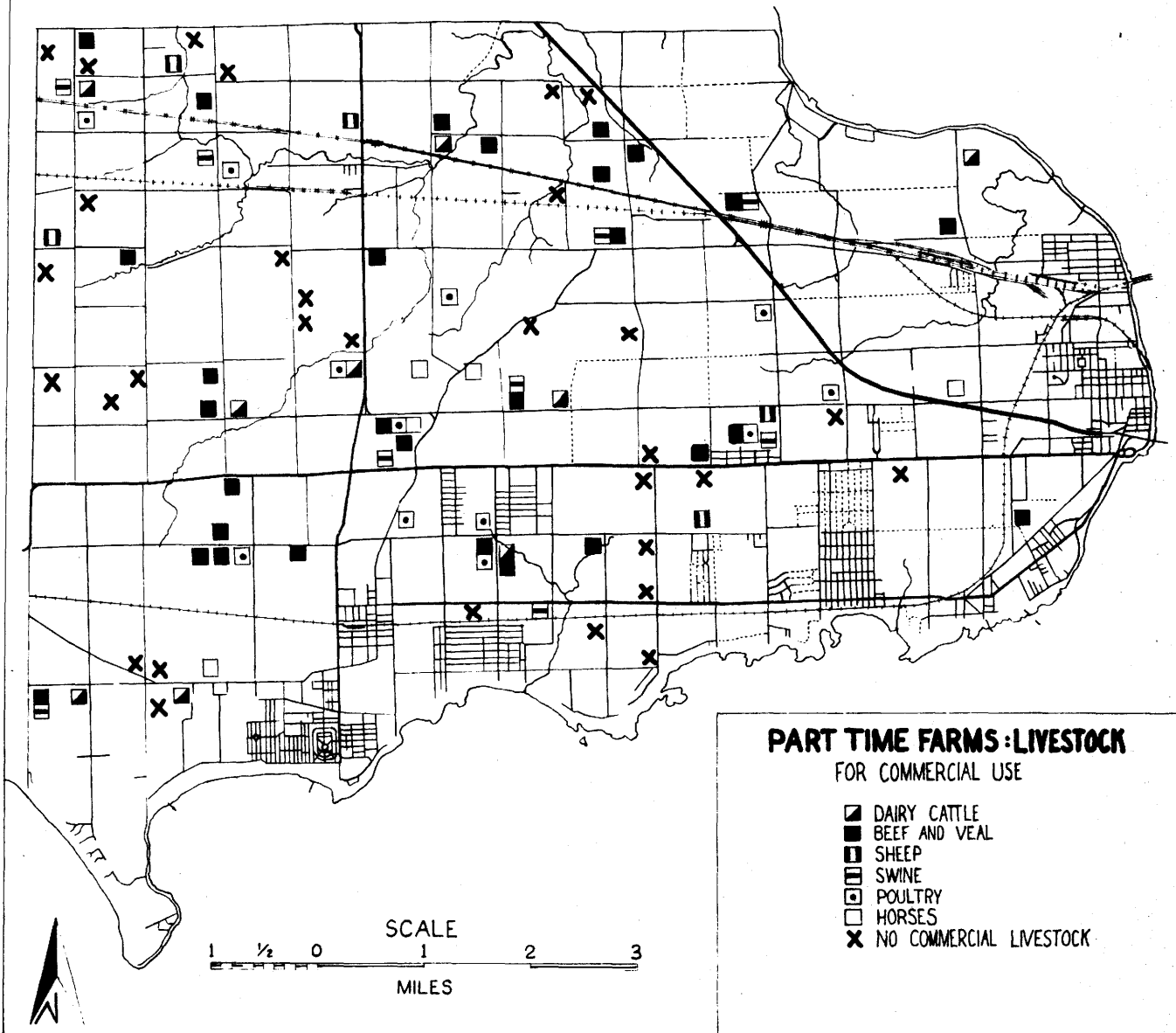
<sup>1</sup>No attempt was made to tabulate the keeping of livestock for domestic use, though it became apparent in the course of interviewing that such was common to the part-time farms.

<sup>2</sup>See map 14.

<sup>3</sup>See map 14.

<sup>4</sup>One reported 31 head; a more common figure would be from 5 to 10 head.

# TOWNSHIP OF BERTIE



at least a few cattle, especially veal calves. To raise and care for beef cattle and veal calves is much less time consuming than looking after dairy cattle. Also, beef or veal can be marketed easily in small quantities while milk production requires large quantities to be profitable. These livestock are generally marketed in Toronto, or Welland though a few are sold locally.

The keeping of swine and poultry are equally common but both are definitely secondary to beef.<sup>1</sup> About twenty farmers, scattered throughout the township, reported commercial raising of poultry or swine. Many more keep either or both for domestic use.

Swine are marketed mainly in Welland and Toronto, while poultry and eggs are almost all sold locally, often retailed by the farmers themselves. Although fewer part-time farms produce poultry or poultry products than full-time farms, and larger numbers are kept by full-time farmers, their total production is greater due to the presence of two very large part-time producers. Swine are much less common to the part-time farms, and occur in smaller numbers per producer. This is possibly due to the undesirable aspects of swine husbandry.

Sheep raising is found only on a few farms<sup>2</sup> and in smaller numbers than on full-time farms. They are kept mainly for wool which is sheared at the farm by a buyer from Preston Ontario. A little meat is sold to local butchers.

The distribution of the various livestock shows no regional differentiation, with the possible exception of sheep which are found

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<sup>1</sup>See map 14.

<sup>2</sup>See map 14.

mostly in the northern part of the township.<sup>1</sup>

Total production of livestock and livestock products is less for the part-time farms although there are approximately twice as many as full-time farms. Clearly, the keeping of all livestock types are more important to the full-time farms.

Almost all the part-time farms grow some crops.<sup>2</sup> About one half grow wheat as a cash crop. The long planting season for fall wheat would seem especially advantageous to part-time farmers. A few acres of the common feed crops, oats, corn and hay are also common on this type of farm operation, reflecting to some extent, the keeping of livestock. However, it is also common for a part-time farmer who keeps little or no stock, to grow feed crops to sell entirely, or in part, to the feed mills at Ridgeway and Stevensville, or directly to full-time farmers. Hay is often sold to farmers who cut it themselves, or to the operators of the Fort Erie Racetrack who buy large quantities.

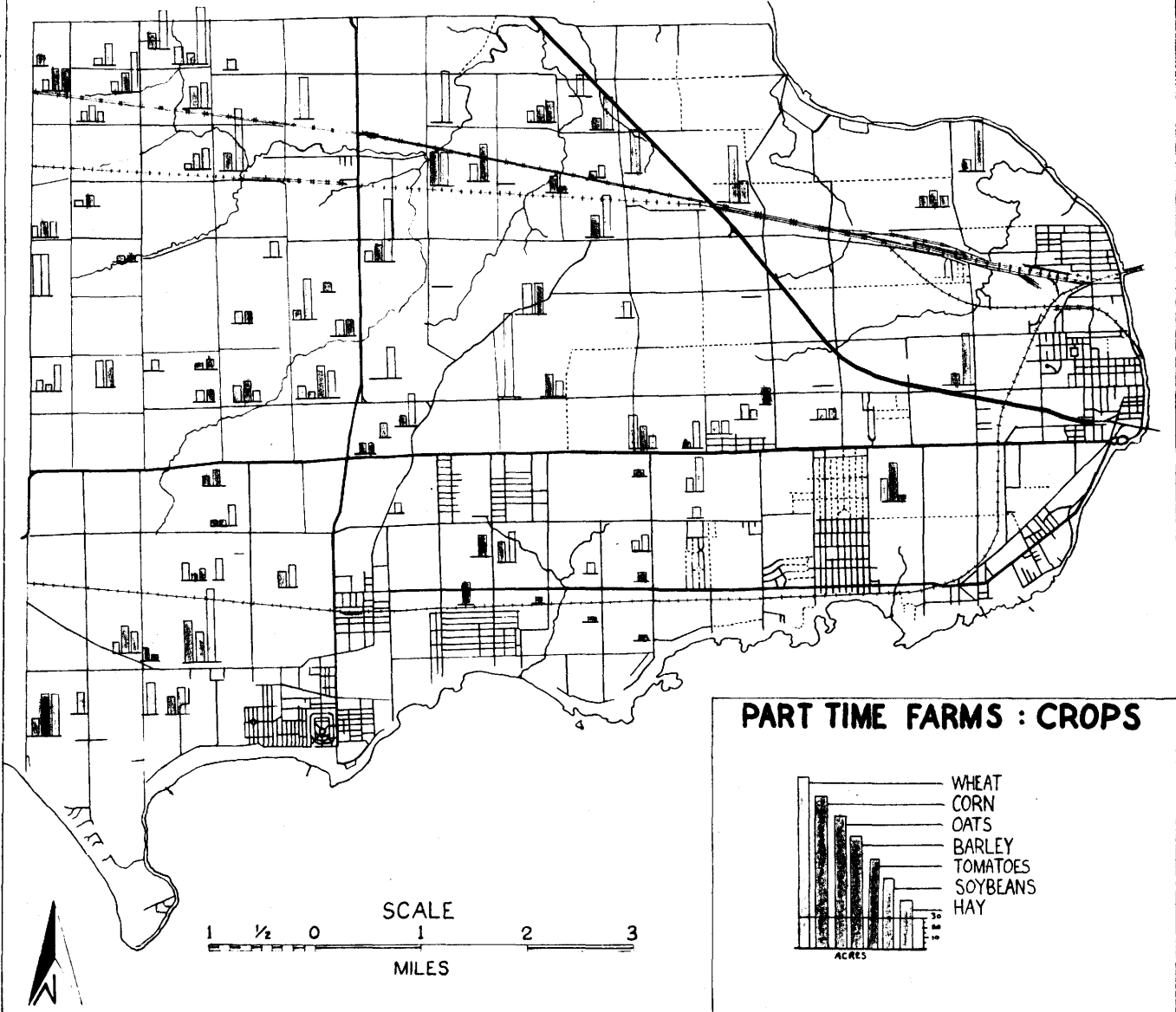
Several part-time farmers grow market-garden crops such as tomatoes or sweet corn, though the distribution of these is virtually limited to the lighter loams near the lake. A few people with very small holdings have turned to this intensive cultivation, selling their produce at roadside stands along the main routes. This type of agriculture seems closely tied to the trade of tourists or summer residents. In most cases, the market garden provides the main farm income.

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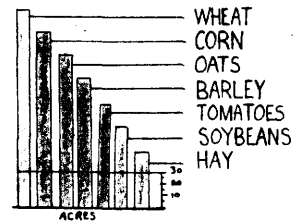
<sup>1</sup>See map 14.

<sup>2</sup>See map 15.

# TOWNSHIP OF BERTIE



## PART TIME FARMS : CROPS



The importance of the farm income in the operator's total income varies considerably within this group. Some farmers especially those with large poultry flocks, or with several agricultural pursuits, must receive a very large proportion of their income from farming. Others may sell but a few acres of wheat, or a half dozen veal calves periodically, thus making agriculture a very minor part of their income. It is impossible to generalize.

'Hobby farming' has made inroads into Bertie Township. Of the eight operations which are held by absentee owners, all could be termed hobby farms. The eight are similar in that the owners are all American citizens, probably from Buffalo, and the farms are run for reasons other than making a profit. Otherwise they differ. Two or three are primarily for raising horses, others are basically summer homes that pay for themselves. If anything, their distribution shows a concentration near the lake, perhaps a consequence of their recreational function.<sup>1</sup>

#### Summary

Part-time farming in Bertie involves a mixture of different types of agriculture. Its distribution shows little or no regional variation.

It might be summarized according to the four functions it performs, other than providing a source of income. Firstly it supplies both a local and external market with livestock or livestock products. Secondly it involves cash cropping, including wheat for sale at Port Colborne, and market gardening, concentrated near the lake and directed

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<sup>1</sup>See map 13.

at the influx of summer visitors. A third function is the supplying of hay or feed crops to the full-time farmers whose own production is insufficient. Lastly, there is the hobby farm, used both for agriculture and recreation.

## Agriculture

Bertie Township can be considered a single region in terms of its agriculture. This is indicated by the extent of the two basic types of farm operation over the whole of the township. Likewise, the various livestock and crops with the minor exception of market gardens occur 'everywhere'. Full-time farming, though less numerous than part-time, are the most important in terms of agricultural products, with the possible exceptions of veal calves and market gardens.

Agriculture here has declined, but this in general has only led to complete land abandonment where the physical condition of the land is especially poor, or where speculation has caused subdivision or the sale of land to absentee owners.

Mixed farming is practised in Bertie. Milk production is especially important, but it is becoming concentrated among a few producers as part of a general or mixed farm program. The cash cropping of wheat is common to most farms.

Almost any combination of crops and/or livestock may appear, and the only real specialty farms are the relatively unimportant ones such as poultry farms, or market gardens many of which are part-time operations.

**NON-AGRICULTURAL GEOGRAPHY  
OF  
BERTIE TOWNSHIP**



## The Non-Agricultural Geography of Bertie Township

### Urban and Rural Non-farm

Bertie Township (including Fort Erie) contains a non-agricultural population totaling 15,301<sup>1</sup>, including concentrations into two incorporated and a number of unincorporated places as well as scattered rural homes.

#### Stevensville

Stevensville is an unincorporated village of about 600 people<sup>1</sup> located in the middle of the lowlying plain which generally covers the northwest of the township.

Site: The village is built across the floodplain of Black Creek. Its center is the junction of County Highway 28 and Main Street, which runs one Concession east and west. Both Canadian National Railway (CNR), and New York Central Railway (NYC) pass through Stevensville.

#### Present Land Use

Industrial: The village contains very little industry. A planing mill, located on the bank of the creek, a feed mill north of the NYC tracks and an asphalt paving company are the only industrial enterprises. The planing mill, and perhaps the feed mill use the railroad facilities. The railways employ a few local residents, but only the CNR maintains station here, the old NYC yards being abandoned. The remains of an old potashery are visible at the creek's side.

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<sup>1</sup>Census of Canada 1961.

Commercial: A number of commercial enterprises<sup>1</sup> are located in the village, most on Highway 28 between the center of the village and the NYC tracks. A few businesses have been abandoned, including a meat market and a store for aluminum products, specialties which apparently could not survive profitably in so small a center. Commerce here appears to be stagnant or declining. Stevensville's trade area is very small, except for the feed mill, and the village lies within the trade areas of Niagara Falls, Port Colborne and Fort Erie.<sup>2</sup>

Residential: The quality of residences is generally good; there are few excellent or poor homes. In so small a village, no clear separation of residential areas exists. Older homes are located near the village center and along the few surveyed streets. Newer homes have been built along the two main roads though the quality is generally lower on the heavily travelled highway north-south. There is little construction taking place at present though the village does appear to be growing slightly, with several fairly new homes.

#### Historical Development

The site of Stevensville, and location in relation to early roads indicate why the village developed here. The first known industry here was a saw mill established, in 1792, on the creek which it could employ for power. The old Sodom Road, now Highway 28, connecting Chippawa and Lake Erie crossed Black Creek here. It also

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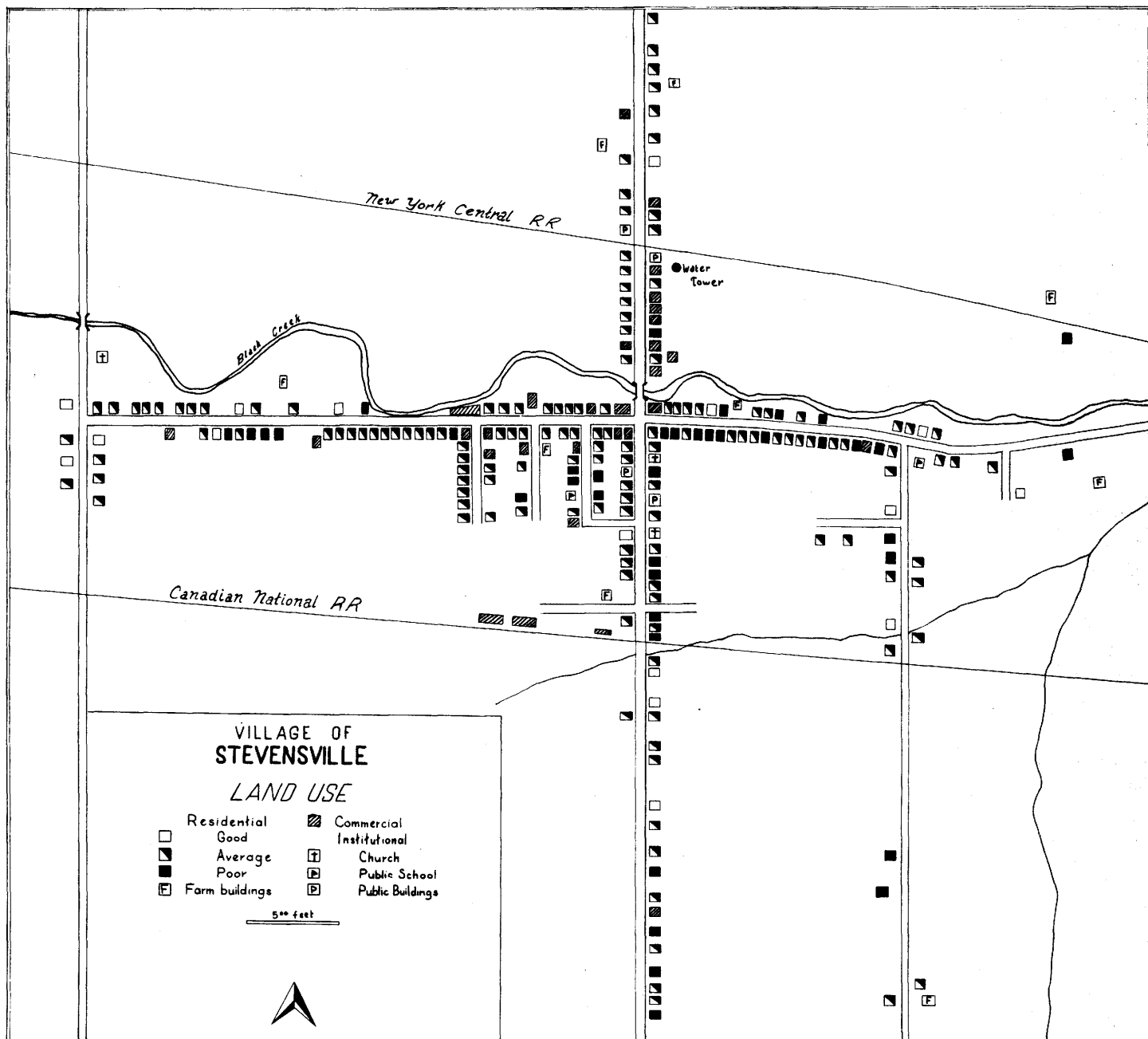
<sup>1</sup>See table 7.

<sup>2</sup>See map 21.

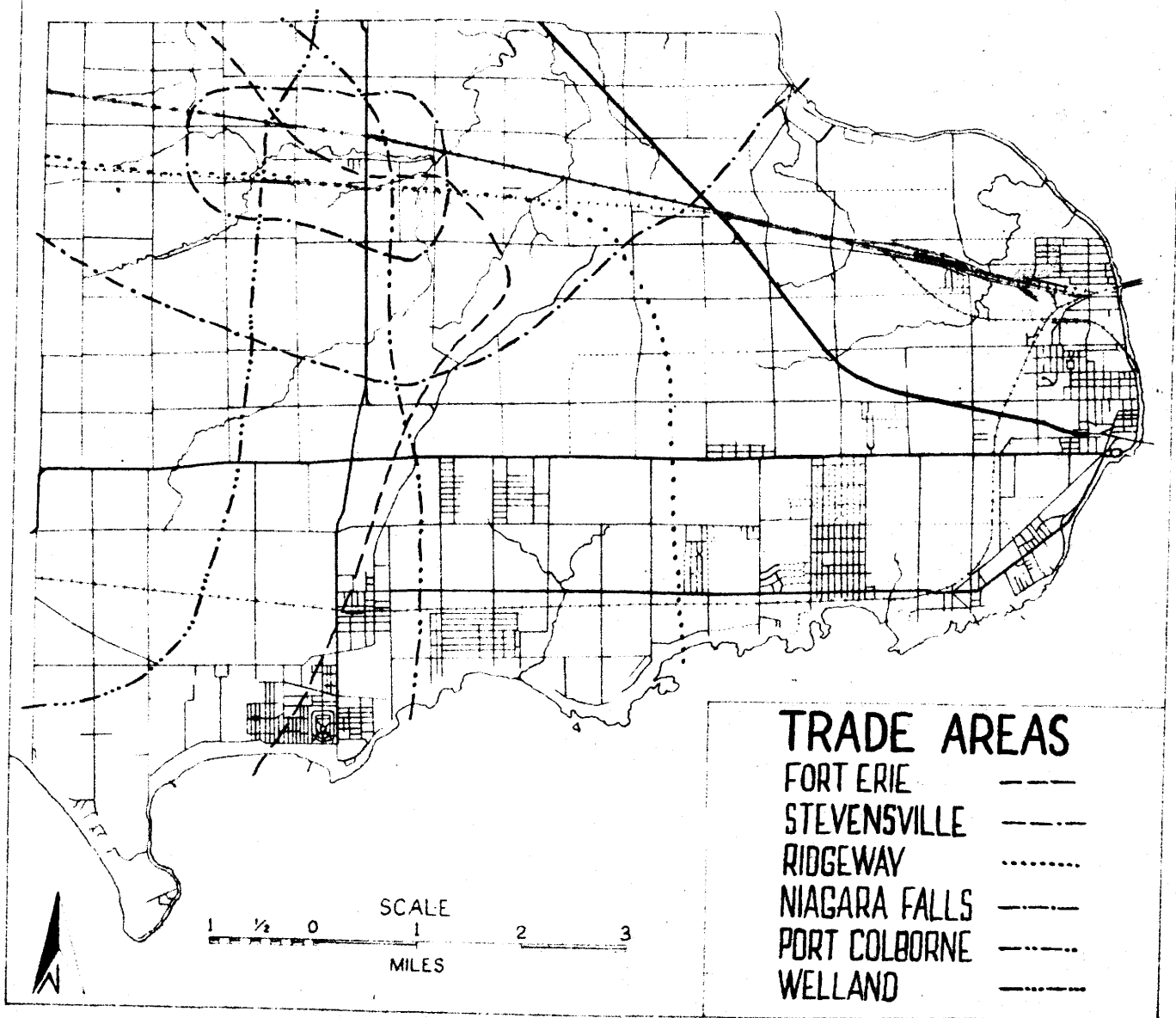
TABLE 7

## Commercial Enterprises of Stevensville

<u>type</u>	<u>number</u>
general store	2
electrical appliances	2
plumbing and heating	1
farm equipment	1
planing mill and hardware	1
feed mill	1
ornamental iron	1
gas station	3
restaurant	2
auto body shop	1
real estate	1
bank	1
barber	1
hotel	1



# TOWNSHIP OF BERTIE



intersected another early road, the one which ran Southwest along the south side of the creek, from the hamlet of Black Creek at its mouth; presumably to the lake. Only small sections of this latter road remain, being visible at the mouth of the creek, (in Willoughby twp.), in lots 15 and 16 of Concession X, Main Street in Stevensville, and possibly in lot 8, Concession XIV. These two roads were used by farmers hauling grain to the mills at Black Creek and Niagara, and were also portage routes between the Niagara River and Lake Erie. Thus, it seems that roads focused traffic here, while the millsite attracted early industries. Potash manufacturing, common in the early 1800's likely developed utilizing domestic ashes. Industry and accessibility undoubtedly generated the activity which soon blossomed into the village of Stevensville, a center for the surrounding farm population. By 1850, the village had grown through the business of timber and flour milling, tanning and potash manufacturing, and had attracted a number of businessmen common to villages to the day, including various merchants and blacksmiths.

But Stevensville's prosperity came to an abrupt halt in the 1860's when a series of fires destroyed most of its stores and industries. The village had already been placed in a disadvantageous position, as the Buffalo and Goderich Railroad (B. & G. R.R.) had taken a southerly route through Ridgeway.

Two factors must be noted, concerning railroad construction in the township as elsewhere. First, is the desirability of making the track as direct as possible between its intended stations. Second is the desirability of avoiding steep climbs.

The B. & G. R.R. was begun at the ferry depot north of the old fort at Fort Erie, and swung southwest avoiding the ridge at Fort Erie in favor of the gently rising ground nearer the lake. It swung far enough south to bypass the west facing ridge near the center of the township, thus passing through Ridgeway, missing Stevensville completely.

With no railroad facilities available, there was little incentive to reconstruct the businesses destroyed by fire. Stevensville thus stagnated, its commerce and industry depleted.

In 1873, the village residents found themselves located between two railways, the Grand Trunk and the Canada Southern. Both these lines entered Bertie by the International Iron Bridge and, in heading West and Northwest, found it more convenient to bypass the escarpment at its northern end thus passing near Stevensville. Activity in the village was revived; the railroad carried passengers, farm products and possibly timber, and by 1876 new grist and sawmills had been constructed. By that date there were two hotels, a tailor shop, boot and shoe makers and various lumber craftsmen in the village and in 1887 it included 15 stores and shops of various descriptions. The population in and around Stevensville was estimated at 600.<sup>1</sup>

From this apparent peak in Stevensville's development, the village has declined in commercial and industrial importance. The old potasheries and tannery have gone, so has one of the hotels. Several of the stores have closed as well and now only one railroad maintains a station here. Main Street, once a through road has become exclusively a village street. The old Sodom Road has maintained its

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<sup>1</sup>History of the County of Welland.

importance, as part of the main route to Crystal Beach from the Niagara Area and the village has tended to grow along it, adding a few commercial establishments such as gas stations, and offices of the Bell Telephone Company and the local Credit Union. Most commercial establishments are now on this north-south route.

The trade area of the village is small, as very few items are available here. Only the feed mill and lumber dealer draw customers from any distance.

Stevensville clearly cannot employ its population. Thus its size must have been maintained only by the ability of its residents to commute to work in Niagara Falls, Welland, Port Colborne or Fort Erie. Even the railroad, which employs a number of local residents has cut back its staff.

Stevensville can be considered a satellite village, favorably located near a number of large urban centres which provide most of the employment and all but a few commercial needs of its people and a few minutes' drive from the Lake Erie beaches.

#### Ridgeway

Ridgeway is an unincorporated village of 1871 people, located in the southwest of Bertie Twp. It is the western terminus of Highway 30 and is on the former route of Highway 28. The CNR cuts through the center of the village. Crystal Beach, an incorporated village, adjoins it on the Southwest.

Site: The physical features of site are complicated and thus best



shown diagrammatically.<sup>1</sup> In plan the boundary of the Onondaga formation dips south to Ridgeway, partially exposed as a low west facing escarpment, and partially buried beneath unconsolidated material. Thus north of Ridgeway, lies a broad valley whose sides formed by the southerly dipping Onondaga limestone, decrease in height to the south, disappearing beneath ground level in the village. Farther south, two major beaches break the gently topography. One angles northwest to southeast passing Ridgeway on its south side; the other, much shorter but higher is roughly L-shaped, concave to the northwest.

The edge of the escarpment is followed by Ridge Road, which rises onto the shorter beach, turns west and, as West Ridge Road, curves slightly northwest along the lower beach. The importance of these features in the development of Ridgeway will be discussed later.

#### Present Land Use

Industrial: Ridgeway, like Stevensville contains very little industry. The Commonwealth Shoe Company, employing 53 people is the largest and only true industry; others are two feed mills, a lumber yard and a welding and steel company. All are located near the railroad.

Commercial: Ridgeway contains an especially fine business district, one which gives no impression of decay. It includes a good variety of commercial establishments<sup>2</sup>, reflecting a trade area of considerable size.<sup>3</sup>

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<sup>1</sup>See figure 1.

<sup>2</sup>See table 8.

<sup>3</sup>See map 21. 7

TABLE 8

Commercial Enterprises in Ridgeway<sup>1</sup>

## Ridge Road (south of Dominion Road)

food	6
clothing	6
furniture and appliances	5
hardware	5
drugs	2
gifts	2
restaurants	2
beauty salons	1
hotels	2
banks	1
real estate etc.	4
gasoline and auto repair	3
T.V. repair	1
miscellaneous	8

## Ridge Road West

restaurant	2
gifts	1
motel	2
photos	1

## Dominion Road

furniture	1
beauty salon	3
barber	1
auto sales and service	3
T.V. and appliances	1
L.C.B.O.	1

## Ridge Road (north of Dominion Road)

food	1
restaurant	1
beauty salon	1
bank	1
real estate	1
gasoline and auto repair	1
auto sales	2
shoe repair	1
electrical contracting	1
trenching company	1

## Highway 28

motel	1
telephone service	1
auto sales and service	1
laundromat	1
garden center	3
furniture and appliances	1
beauty salon	2
bowling alley	1

<sup>1</sup>Compiled from field observations plus telephone listings.

The trade area covers the southwest corner of Bertie, reaching the CNR tracks to the north, and Windmill Point Road East, to the east. Of particular importance is the proximity of Crystal Beach which is within the trade area. In effect, Ridgeway and Crystal Beach, which is almost devoid of all-year commercial establishments, could be considered as one urban place, thus totaling almost 4000 premanent residents. Considered in this light, the commercial area of Ridgeway does not seem quite so surprisingly large. The heavy influx of summer residents and transients undoubtedly increases business here, as indicated by the large number of American-owned autos parked in the area on most summer days.

The location of the CBD is of some interest.<sup>1</sup> Most of the commercial establishments of the village are located within it. Gorham Road (Hwy. 28), West Ridge Road and Dominion Road contain some commercial establishments, but most are geared to passing traffic. The CBD bears a close relationship to the main routeways. It is situated on Ridge Road, being best developed between Highway 3C and the CNR tracks. Extension south or north is quite meagre and there is vitually no extension east or west.

Ridge Road was the main north-south road in the past, though its importance has declined somewhat with the recent construction of the new part of Hwy. 28 diverting of the through traffic past on the west end of the village. Originally, traffic moving east or west along the main routes, West Ridge Road, or Hwy. 3C had to jog onto Ridge Road. Hence the stretch of Ridge Road between the two became a focal point for traffic.

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<sup>1</sup>See map 17.

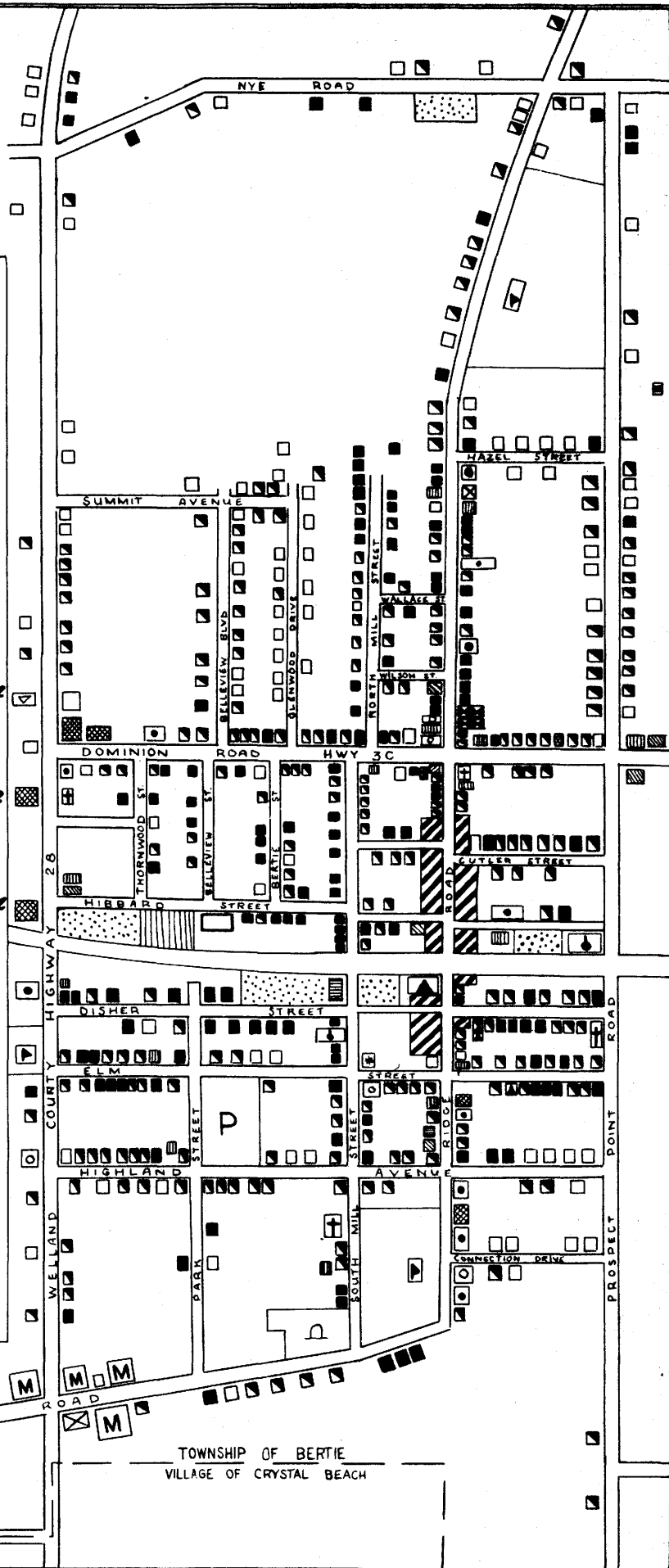


UNINCORPORATED VILLAGE of  
**RIDGEWAY**

URBAN LAND USE

- Residential good
- average
- poor
- Apartments
- Commercial CBD
- Retail food
- Clothing & Appliance
- Hardware
- Feed Mill
- Auto Sales & Service
- Restaurant
- Motel
- Banking & Real Estate
- Recreation
- Institutional - Church
- School
- Municipal Bldg.
- Industrial
- Park
- Cemetery
- Storage
- Club Buildings
- Retail Services

200 100 0 FEET 200 400



Very little commercial development has taken place on Ridge Road west of Highway 3C. The railroad tracks may have formed a barrier to commercial development southward, though the tracks are almost unnoticeable and some development has spanned them for a short distance. The recent commercial extension along Gorham Road indicates its importance now as part of Highway 28. Ridgeway is the administrative capital for Bertie and as such has become the site of various institutions including the Township Hall, Police Offices, and Firehall. It also contains a number of banks, real estate offices, churches and the district high school.

**Residential:** Residential areas of different quality are distinguishable in a village this size. The poorest homes are generally located in the old parts of the village, behind the CBD and along the railroad tracks to the west. The better housing includes both old and new homes. An area of fine homes is located in the northwest corner of the village where a well-drained and attractively wooded site has prompted recent development. The well-drained area atop the ridge, on Prospect Point Road, north of Highway 3C, is a second prime residential area. Small concentrations of high class housing also appear on Connection Drive, and on or near the ridge in the extreme north of the village.

The main factors controlling quality of housing seem to be drainage, and location off the main thorough fares.

#### Historical Development

It seems probable that throughout its development, Ridgeway has been strongly influenced by the physical features of its site. Firstly, the site has led to a focus of routes here. Ridge Road, an

important north-south route followed the brow of the escarpment. The Old Sodom Road, running south from Chippawa was joined to Ridge Road in order to avoid the swampy ground below the scarp. Dominion Road, an important east-west routeway to and from Fort Erie intersected Ridge Road, and from that point, the main road to the west, West Ridge Road, followed the well drained gravel beaches.

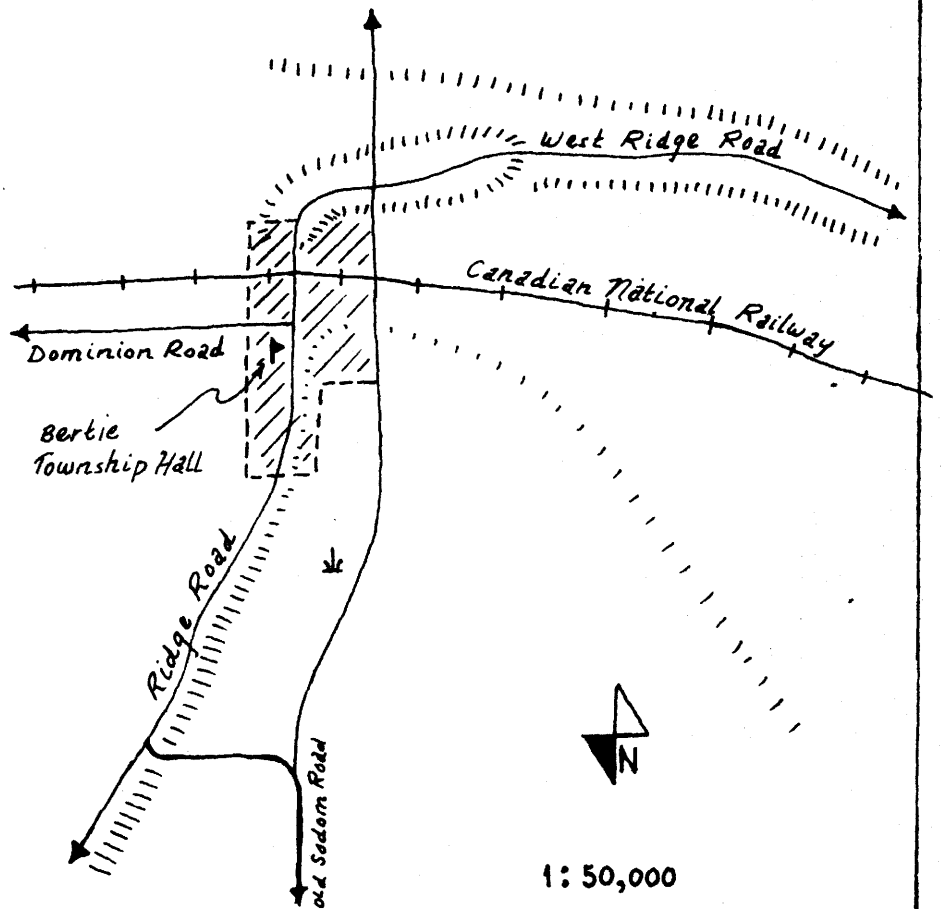
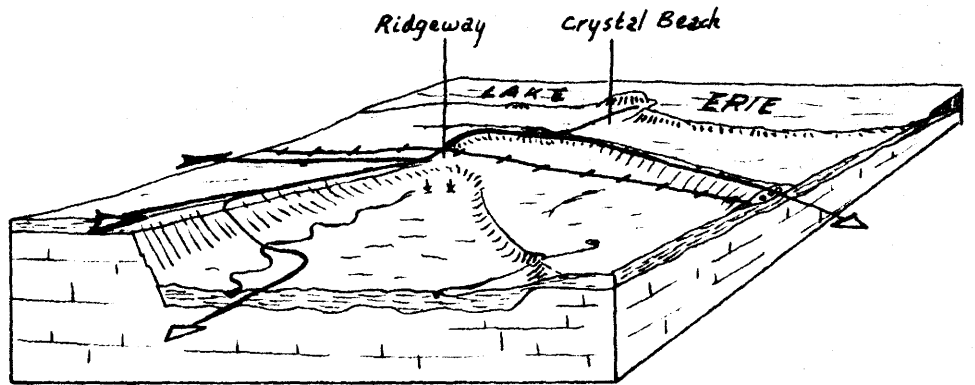
Sometime in the early 1850, a number of mills were constructed along the beaches which were collectively known as Doan's Ridge. The exact location of these first mills is not known. They may have operated only part of the year due to a lack of permanent streams. In 1817, there was a wool and carding mill at Ridgeway, and before the 1850's there were apparently a few flour and sawmills here.

The main spur to the development of the village came in the form of the Buffalo and Goderich Railroad in 1855. Again the physical factors of the site played an important role. An important function of the railroad was to capture the trade of the Grand River Valley for Buffalo, and thus was laid down westward toward that river. The eastern terminus was just north of the old fort and from there, following a southwesterly course along the gently topography along the lakefront, the line passed through a level corridor between the gravel beaches and the slope of the Onondaga formation boundary.<sup>1</sup> From there it curved slightly inland, gradually crossing the gravel beach west of Bertie.

A station on the Buffalo and Goderich Railway, Ridgeway prospered with increased activity. It soon outranked Stevensville and by 1876 its population exceeded 600. About twenty varied businesses,

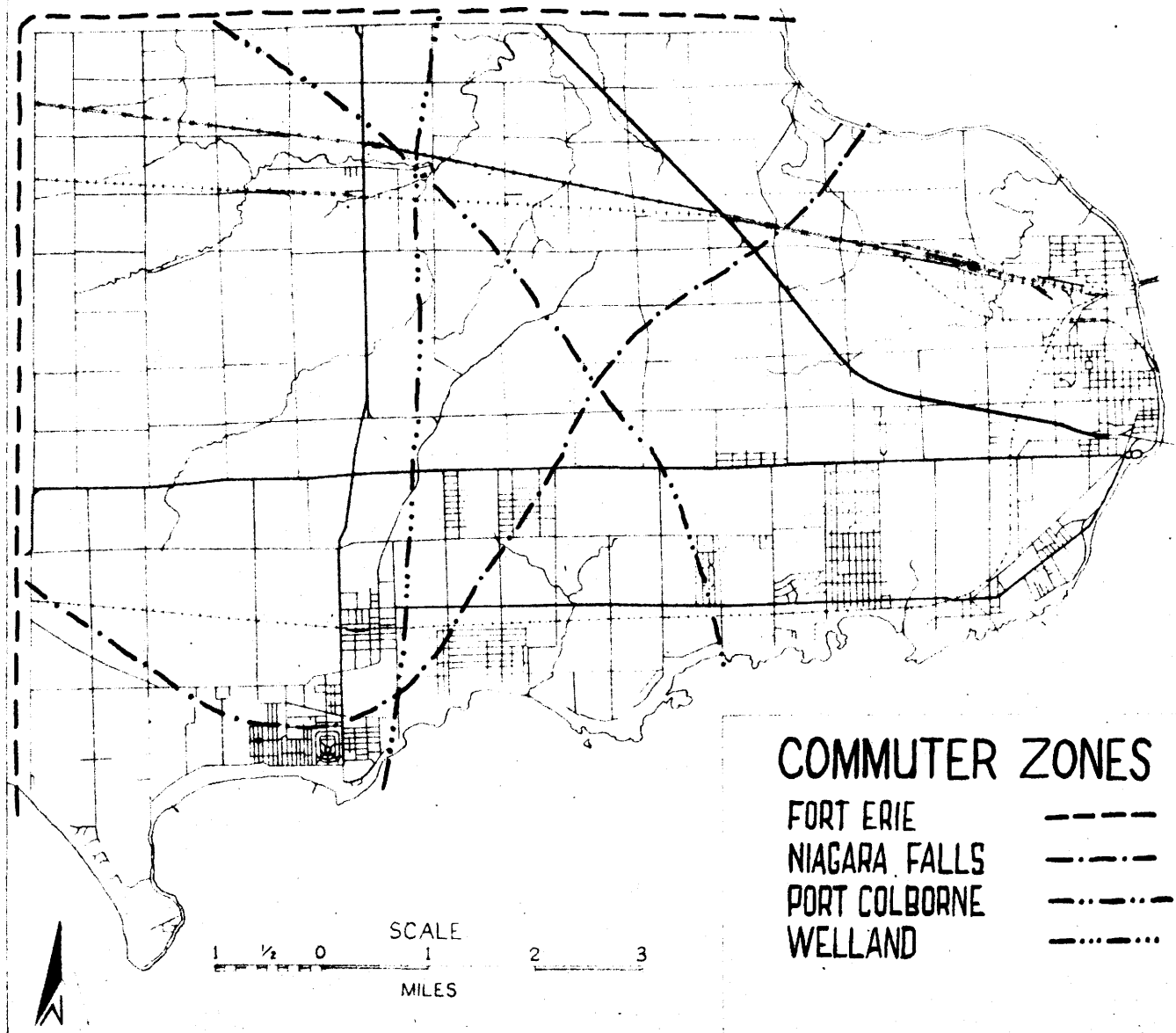
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<sup>1</sup>See figure 1.



HISTORICAL DEVELOPMENT of RIDGEWAY  
THE SITE

# TOWNSHIP OF BERTIE





a number of small metal industries two foundries and several mills were located in the village.

Sometime after 1887<sup>1</sup> the village reached its peak of independent development and began to decline. Today, most of the industries are gone, though the commercial core remains vibrant.

The village may have declined in size and importance in the early 1900's, but the widespread use of the auto and the development of Crystal Beach have since enabled it to grow. Today it is a commercial center of note, though lack of industry forces most of its population to find employment elsewhere, mainly Fort Erie, Niagara Falls, Welland and Port Colborne within whose commuting areas it lies.<sup>2</sup>

#### Crystal Beach

Crystal Beach is an incorporated village of 1876 permanent residents, in Southwest Bertie Twp. It is located at the eastern end of shallow Abino Bay.

Site: The site is a fairly level plain sloping gently to the lake. A large gravel beach cuts thru the northern part of the village, its summit followed approximately by Rebstock Road. Other smaller beaches, roughly parallel to the lake shore, give the site a step-like appearance. Between the village itself and the lake are a number of elongated sand dunes. These dunes, paralleling the shore, vary from 25 to 75 feet in height, and are broken only by a narrow gap before ending abruptly in the southeast corner of the village. The shore itself

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<sup>1</sup>The last reference available that recorded the presence of industries was dated 1887.

<sup>2</sup>See map 22.

is a broad bay with a fine bay head beach terminating to the east where the limestone bedrock forms the bay mouth.

#### Present Land Use

**Industrial:** There are no true industries in Crystal Beach, with the possible exception of a planing mill which is basically a commercial enterprise.

**Recreational:** Summer recreation is a major source of livelihood for Crystal Beach. The amusement park, reputed to be one of the largest in North America, containing many rides, including the Comet Coaster and a 'Million dollar Midway', is the focal point of activity during its brief three month season. A fine sand beach provided the initial attraction to the site, and eventually the park was constructed immediately behind it, in a gap through the high sand dune.<sup>1</sup>

**Commercial:** The commercial development of Crystal Beach presents a sharp contrast to that of the other urban places in Bertie Township. At first glance, the village appears to have a sizeable business district, but this is misleading. The business area is strictly geared to summer trade, as indicated by both its content and the number of businesses that are open only during the summer months. Summer trade reportedly accounts for 90% of the local business.

The CBD, perhaps better designated as the 'Summer Business District', is located on Erie Road between Ridgeway Road and Schooley Road, with an extension north along Derby Road. The Erie Road

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<sup>1</sup>It is not known whether the gap is natural or man-made.

establishments face the amusement park and are geared almost exclusively to the business that the park attracts. The importance of being close to the park is seemingly borne out by the fact that of the twelve businesses that were advertised 'for sale'<sup>1</sup>, nine were west of Elmwood thus facing private cottages well beyond the park entrance, which is opposite Derby Road. This fact likely accounts for the extension of commerce along that road to Queens Place. For the permanent residents of 'the Beach', this circle is a natural center, with the Post Office located on it, and a number of year-round commercial establishments adjacent to it in Derby Road where they can also capture some summer trade.

The only other concentration of commercial establishments occurs along Ridgeway Road, the main north-south road for tourist and local traffic.

The year-round businesses which Crystal Beach does maintain seem scanty for a village of almost 2000 people. Only a few restaurants, gas stations and general stores are open for more than a few summer months, probably because of the close proximity of Ridgeway with its large, well established 'downtown'.

The trade area of Crystal Beach, except for the Ridge Dairy and the planing mill appears to extend little if any distance beyond the village limits. The dairy, one of two dairies in the Bertie-Fort Erie Area delivers its products over the whole of the township and just beyond the northern and western boundaries. Of the milk received at the dairy, about 78% remains as fluid milk. The dairy (as well as the

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<sup>1</sup>September 1963.

dairy in Fort Erie) buys various products from dairies in Niagara Falls and Dunnville. The importance of the summer trade is evident as milk requirements at the dairy varied from 298000 lbs. in May 1963 to 456000 lbs. in July 1963.

Commerce in Crystal Beach is predominantly a summer proposition. All-year businesses amount to little more than a few 'corner stores'. The people of the village shop in Ridgeway, and also Port Colborne and Fort Erie.

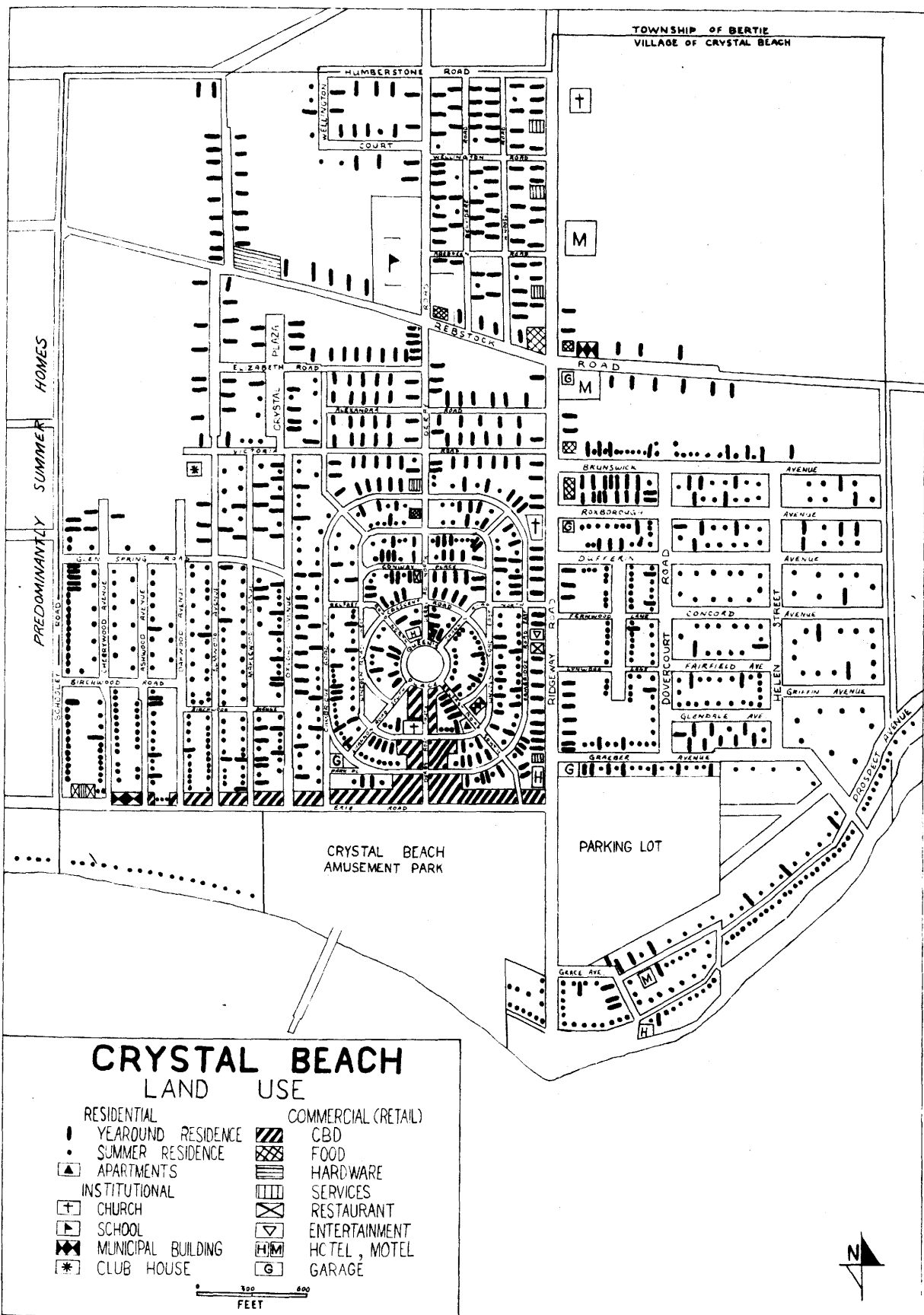
Residential: The winter population of Crystal Beach is approximately 1850, but an influx of vacationers raises the summer total to about 10,000. Hence, the bulk of residences here are summer cottages. In determining the quality of housing one must consider whether it is to be inhabited all or part of the year. Distinguishing cottages from permanent homes is exceedingly difficult as cottages are often quite substantial, while many buildings originally constructed for summer use, have since become year-round homes. The writer has attempted to overcome this problem by observing residences during the fall when most summer residents had departed. However, one must realize that due to the subjective method of observation, the number of permanent and summer residences were only denoted approximately.<sup>1,2</sup>

No areas of exclusively permanent or summer homes appear within the village limits. However, certain generalizations can be made.

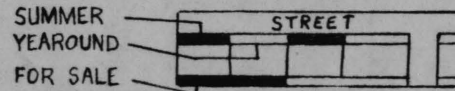
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<sup>1</sup>See map 18.

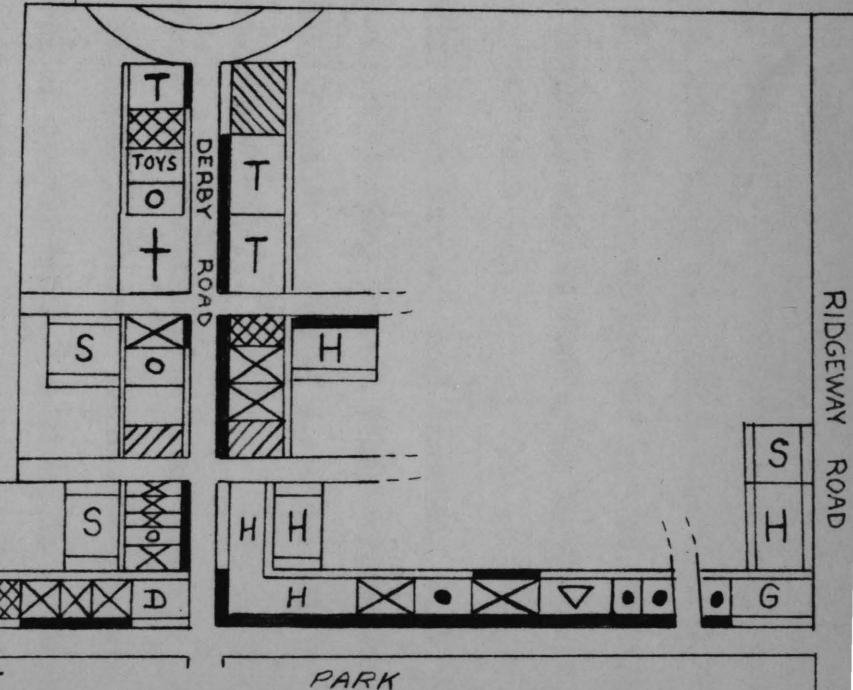
<sup>2</sup>Where possible, figures were checked with those supplied by the Department of Municipal Affairs.



# CRYSTAL BEACH C B D



- |                 |                        |
|-----------------|------------------------|
| ◻ RESIDENTIAL   | ◻ S RETAIL SERVICES    |
| ◻ COMMERCIAL    | ◻ H HOTEL              |
| ◻ FOOD          | ◻ T TOURIST HOME       |
| ◻ CLOTHING      | ◻ O BANK, REAL ESTATE  |
| ◻ APPLIANCES    | ◻ INSTITUTIONAL        |
| ◻ D DRUGS       | ◻ + CHURCH             |
| ◻ X RESTAURANT  | ◻ ◆ MUNICIPAL BUILDING |
| ◻ G GAS STATION | ◻ ▽ ENTERTAINMENT      |
|                 | ◻ OPEN SPACE           |



A concentration of permanent homes is located in the vicinity of Victoria Road, rising up the slope of the gravel beach. Close to Ridgeway Road most buildings are small, of frame construction, and appear to have been originally built as cottages. Their quality is fair to poor. The quality improves toward the west and the homes on Wellington Court, Huntington Court and Elmwood Avenue North are newer, often large and of brick construction.

Along Ridgeway Road the homes are mostly permanent. The buildings are quite substantial, some large old frame houses located toward the south. However the quality deteriorates toward the amusement park at the lower end of the village, and many of the houses there advertise 'rooms for tourists'.

The old part of the survey, the park centered on Queens Circle also includes many permanent homes. Here, crowded together on narrow streets are small frame dwellings originally used for summer habitation only. Their quality as permanent residences, or even as cottages is now very poor.

The summer homes are dominant to the east and west. These areas represent a later development than the central area and the buildings are somewhat larger, better spaced and generally well kept. These are of average quality for summer homes.

Along the lakeshore to the east of the park, the cottages are fairly old and close together. Generally speaking, only those facing the waterfront are well kept. The quality improves toward the eastern village limits.

The sand dunes have been the site for construction of quite large frame cottages. These appear to have been built early in the

development of the village. Despite the attractiveness of an elevated site and waterfront location, these cottages are average to poor in quality. This feature could reflect the fact that this location has become less desirable due to the huge crowds that congregate here during the summer. As is noted below<sup>1</sup>, seclusion seems to be a major factor in determining the quality of cottage development. Toward the west, away from the public beach, the waterfront cottages are of much better quality.

There seem to be a number of trends operating in the development of residential land use in Crystal Beach. While the early cottages facing the lake remain as summer homes, those in the central part of the village, now unattractive for summer habitation, are being taken over by permanent residents. To the east and west, the new developments are primarily cottages, but to the north, away from the lake they are mostly permanent homes.

#### Historical Development

The development of a municipality separate from Ridgeway is a reflection of the main feature of the site - 'Crystal Beach'. But it was largely the initiative of one individual that made possible the development of a resort here, rather than just a strip of cottages without a public beach. J. E. Rebstock, who owned property near the bay foresaw as early as 1890 the potential for recreation at this site. Organizing the Crystal Beach Steamboat and Ferry Company, he began steamboat service to and from Buffalo. Hence the development of

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<sup>1</sup>See page 135



recreational land use 'leap frogged' the stretch of shoreline from Erie Beach to Crystal Beach passing a number of fine though smaller beaches.

In 1899 the resort warranted a summer Post Office, but Rebstock's designs for a large resort seem to have been premature, as for several years, little development occurred.<sup>1</sup> In 1908, however, capitalists from Detroit and Cleveland bought into the company, which then with greater financial backing was able to 'push' the resort and add the amusement park. New boats brought large numbers of vacationers, and possibly the first extensive building of cottages took place.

In 1921, Crystal Beach became an incorporated village with a population of 298 people. The completion of the Peace Bridge in 1927 opened the door to even greater development. The auto rendered Crystal Beach less than thirty minutes drive from Buffalo. By 1931 the population reached 661, indicating the increased activity there. Development did not continue uninterrupted; in 1941 the village contained only 618 residents, likely an indication of reduced patronage during the war years.

After the war, as the automobile came into widespread use, the resort grew, reaching a permanent population of 1204 by 1951. The auto has also enabled residents of the village to work elsewhere thus allowing greater population.

However, recent years have also brought problems. Rapid auto transportation has negated the desirability of being located within the center of the village. The small old cottages crowded along narrow streets are much less attractive than newer, larger and more spacious

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<sup>1</sup>Coombs, A. E., History of the Niagara Peninsula.

cottages on the edges of the village. Combined with the presence of a large unskilled or seasonal labor force seeking low cost housing, their presence has caused an infiltration of the old part of the village by permanent residents. A veritable slum is developing in the heart of Crystal Beach.

The village of Crystal Beach serves a dual function. Most important is its role as a resort catering to both transient and summer residential trade. The second function is that of a residential center for a commuting population.

It provides little more than low cost housing and seasonal employment for many of its full-time residents. Employment presents a problem for the labor force of Crystal Beach,<sup>1</sup> as there is no industry, and the commercial establishments, including the amusement park, operate only for a short season. Thus many residents must seek employment in Port Colborne, Welland and other urban centers. Some residents commute to Niagara Falls and Fort Erie, but few work in Buffalo. Reportedly, 10 to 12% of the permanent residents are retired. In 1961, the 396 male wage earners in Crystal Beach, 167 worked less than 40 weeks. Wages received by seasonal workers are low, and the season often is too short to entitle them to unemployment benefits. As a result, Crystal Beach has a very high percentage of welfare recipients, the highest for Welland County.<sup>2</sup>

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<sup>1</sup>Labor force = 679 (Census of Canada 1961)

<sup>2</sup>March 1963, 139 people were receiving welfare assistance.

## Fort Erie

Fort Erie is an incorporated town of 9027 people located at the extreme eastern end of Bertie Township, directly opposite Buffalo, New York. Both railways and highways funnel traffic through this southernmost border town of the Niagara Penninsula.

Site: The site of the town is generally level except for bedrock, which runs roughly north-south not quite paralleling the river.<sup>1</sup> In places the ridge rises to about 30 feet, in places it disappears into the general surface level. The ridge has not been a barrier to development as the town is built right across it, but it has apparently influenced development in ways that will be discussed later.

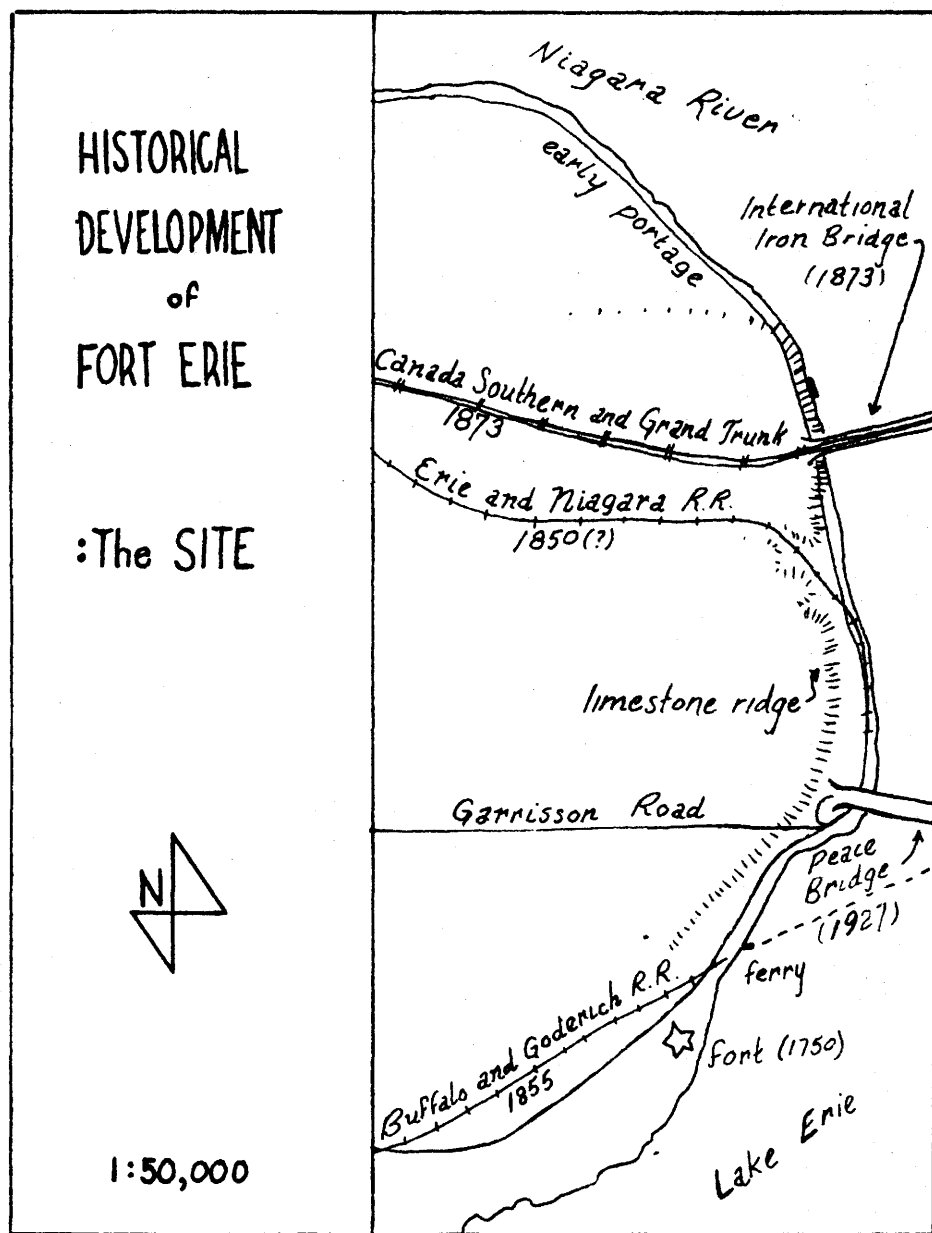
## Present Land Use

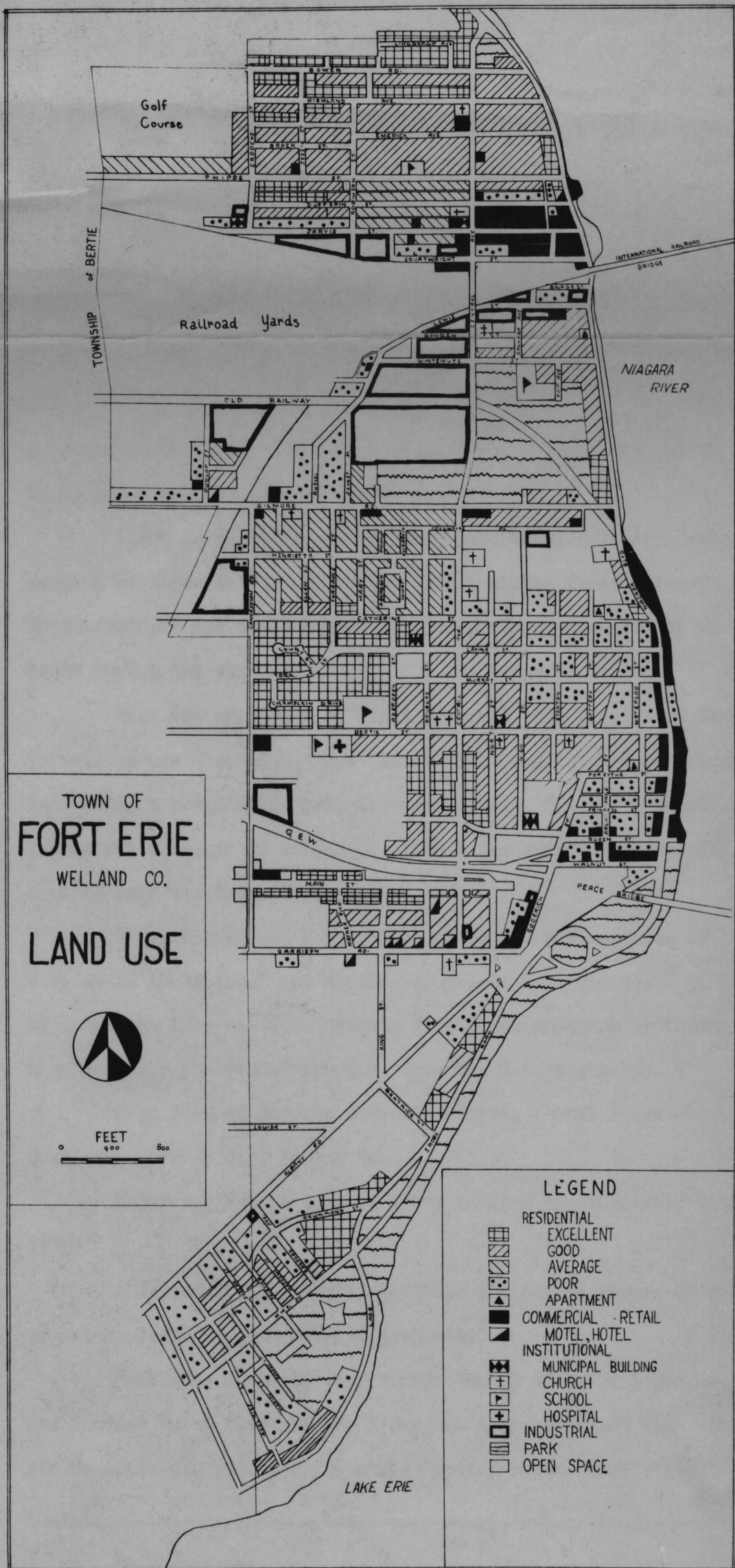
Industrial: Almost all the industries present in Bertie are located in or around the town of Fort Erie. Most could be classed as small industries, only Horton Steel and Fleet Manufacturing employ more than 200, most employ less than 100. These industries lend themselves to broad categorization.

The major category includes producers of various steel and metal products. Among the manufactures are steel storage tanks, registers, gaskets, aircraft and aircraft parts. A number of industries apparently related to these, include the manufacture of machined component parts, industrial plastics, batteries (for aircraft, trucks etc.) parachutes and pressure suits. Various small sheet metal works, and tool and die manufacturers are also located here. Two producers

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<sup>1</sup>See Figure 2.





of aluminum products, and a manufacturer of metal alloys, might also be included in this general category.

There seems to be, or at least have been, a relationship among several of these metal industries. For example, Fleet Aircraft, Irvin Airchute and Gould Batteries have produced aircraft or aircraft parts during the war years.

With the exception of Fleet Aircraft, the largest of these industries are located adjacent to the railroad tracks or sidings indicating a reliance on rail transportation. The small manufacturers, though not necessarily dependant on rail transport, are generally located near the larger factories.

Some, though not all of this group are subsidiaries of U.S. owned companies,<sup>1</sup> and depend, or depended in the past, on imports of materials from the U.S. Horton Steel, now supplied by Stelco of Hamilton, was reportedly supplied from the U.S. originally.

Most produce for the domestic market, though Fleet Aircraft does some work on U.S. contracts.

Total employment in this group totaled approximately 1000 in 1962.<sup>2</sup>

A second broad category includes the manufacturers of chemical products, medicines and related products.<sup>1</sup>

Fort Erie contains four manufacturers of medical products, the largest being Strong-Cobbs Arner, an American owned firm. Arner and Mentholatum, both old industries dating before World War II, are

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<sup>1</sup>See table 9.

<sup>2</sup>Information supplied by Peace Bridge Area Industrial Commission.

TABLE 9

## Industries of Fort Erie (and adjacent area)

<u>Name</u>	<u>Product</u>	<u>Location</u>	<u>No. of Employees</u>	<u>Parent Company</u>
(A) Steel and Metal Manufacturing (plus related industries)				
Horton Steel Company	steel stowage tanks, steel fabricating	on railroad	240	Chicago
Hart and Cooley	grilles and registers	" "	150	Michigan
Canada Gasket Company	gaskets	" "	32	Fort Erie
Fleet Aircraft	aircraft parts	not on railroad	325	Fort Erie
Acorn Manufacturing	machined components parts	" " "	20	" "
Sterling Limited	aluminum grilles, railings, windows	near railroad	27	Erie Pe
Harber Mfg.	tubular aluminum, furniture, metal fabricating	not on railroad	45	Fort Erie
Gould Batteries	truck, railroad and aircraft batteries	near railroad	45	Minneso
Irvin Airchute	parachutes, pressure suits	on tracks	40	Kentuck
Industrial plastics	fittings, valves, machine parts	behind CBD	10	Buffalo
Trico Products	windshield products	Dominion Road	<10	?
Twin Coach Company	service centre	behind CBD	<10	?
Williams Gold Refining	metal alloys for dental, fishing lures	Courtright	14	Buffalo
(B) Chemical and Medical Products (and related industries)				
Strong Cobb Arner Company	medical products	at railraod bridge	85	Clevela
Knox Company	mailorder medicine	in CBD	10	Los Ang
Mentholatum	medical products	near tracks (Lewis Street)	10	?
Republic Drugs	" "	?	?	?
Pratt and Lambert	paints and varnishes	on railroad	37	Buffalc
Pierce and Stevens	laquers and adhesives	" "	20	Buffalc
EpoxyLite	resin compounds	Courtright St.	<10	?

(continued)

LaCledé Colour Card	-	CBD	<10	?
(C) Miscellaneous				
Markel Electrical Prods.	fans, heaters	Lewis Street	33	Buffalo
Review Printers	-	CBD	27	Fort Erie
Monarch Massage	therapeutic equipment	Q.E.W.	17	Penna.
Wallace and Tiernan	bleaches for flour	railroad	?	?
Maison and Blanche	cosmetics	Lewis	<10	?
Owl-Lite Company	flashing warning devices	outside town limits	12	Fort Erie
Rich Products	candy	?	?	Buffalo
Mar-Can	reconditioned athletic equipment	Courtwright	<10	?
Wildroot Company	hair tonic	on tracks	8	Toronto
Wilsonite Canada	printing supplies	CBD	<10	?
Setter Brothers	candy sticks	Niagara Blvd.	<10	?
Cameron Wood Wkg.	doors, cabinets	?	<10	?



located on Lewis Street adjacent to the railroad.

The manufacture of paints and varnishes is also an important industry in Fort Erie. Pratt and Lambert, is the oldest of four companies related to paint manufacturing, having located on the north side of the railroad yards in the early 1900's. Pierce and Stevens, about twenty years old is also on the railroad line, though farther south. Both are subsidiaries of plants in Buffalo. The remaining two manufacturers of resin compounds and colour charts (for paint advertising) are much smaller and are located in and behind the CBD.

This category of industries employs about 180 people. It is apparent that proximity to parent factories or laboratories in Buffalo is an important locational factor for the chemical industries.

Other industries employing more than ten workers include Markel Electric Products, Monarch Massage, and Review Printers. Many small industries, several located in or around the CBD produce various products such as cosmetics, wooden cabinets, candy, hair tonic, warning devices and printers supplies.

Fort Erie's industries are generally located in the north sector of the town on the railroad lines or nearby. They avail themselves of either or both rail and road transport. Both these facilities favor the town over the rest of the township as an industrial site. The main highways focus here, as do the railroads. Government regulations regarding importation of U.S. goods favor this location as they allow Canadian carriers to pick up U.S. licensed trailers and deliver them anywhere within 10 miles of the border. Also, within that distance, examination of goods by inspectors can be made at the factory itself rather than at the bridge.

The border seemingly has both aided and hindered Fort Erie's industrial development. Many of the town's industries are American owned, located here to take advantage of import regulations regarding import of raw materials as opposed to finished products. As well, a number of the Canadian firms, Fleet Acorn Mfg. for example seem to have established mainly to serve the large American industries here. But the great disparity in the amount of industry on the two sides of the river leads the observer to suspect that the border, and the regulations it entails has prevented Fort Erie from acquiring a greater expansion of industry from the 'other side'.

The border has however provided activity of other kinds. Transportation termini are abundant. No less than six trucking companies have terminals at the Peace Bridge, and the CNR and NYCR operate large terminals here employing 335 men.<sup>1</sup> Government offices, immigration, customs etc., and the Bridge Authority employ a total of 384 workers.

Industry in fact is revallied by the railroads and governmental functions, which both result in greater employment than any single industry.

Commercial: The trade area of Fort Erie covers approximately the eastern half of the township.<sup>2</sup> In the northern part of Bertie the influence of Fort Erie extends farther west apparently due to the good access to the town via the Queen Elizabeth Way.

There are two commercial districts in the town of Fort Erie,

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<sup>1</sup>Information supplied by Peace Bridge Area Industrial Commission.

<sup>2</sup>See map 21.

one on Jarvis Street, the other on the Niagara Parkway.<sup>1</sup>

The Jarvis Street, or North End Business District is dominant.<sup>2</sup> It is located on Jarvis Street between Niagara Parkway and Central Avenue, with very little extension at either end. The location of the CBD is difficult to explain. It is not on a through street. However, it is located between the two main north-south routes of the town, just north of the railroad yards and station. These are the only apparent locative factors.<sup>3</sup> The CBD tends to turn the corner at Central Avenue, rather than extend west along the less important access, Jarvis Street itself. Central Avenue is the only north-south route which crosses the railroad yards within the town limits (except for the Niagara Parkway).

The CBD seems surprisingly small for a town of over 9000 population, containing not a great deal more than the CBD of Ridgeway.<sup>4</sup>

The proximity of Buffalo is not apparently an important limiting factor. From all reports, people do not shop much in Buffalo because of the import restrictions. This claim is supported by the fact that Fort Erie's CBD does contain a variety of all the main types of businesses. The only noticeable absentees are entertainment facilities such as theatres. Obviously, Buffalo dominates in this function. It seems more likely that the border has allowed Fort Erie to maintain

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<sup>1</sup>See map 20.

<sup>2</sup>See map 20.

<sup>3</sup>There may be an historical factor. S. Jarvis was the person who owned the land at the townsite and made the first survey.

<sup>4</sup>See table 10.

TABLE 10

## Commercial Enterprises of Fort Erie

## CBD (Jarvis Street from Niagara Parkway to Central Avenue)

food	3
clothing	7
furniture and appliances	6
5 ¢ and 10 ¢	1
jewelry	2
drugs	2
hardware	2
stationery	1
gifts	1
restaurants	4
dry cleaner	4
beauty salon	2
optometrist	2
billiard	1
gas station	2
newspaper	1
real estate etc.	8
bank	2
government and administration	5
miscellaneous	2
dept. store order office	2
manufacturing	3

## West of Central Avenue on Jarvis Street

food	1
drugs	1
auto supply	1
institutional	1
Bell Telephone	1

## Niagara Parkway (Queen Street to Bertie Street)

food	3
clothing	2
furniture	0
T.V.	1
drugs	1
restaurant	3
hotel	1
china and woolens	1

(continued)

bank	2
auto parts	1
real estate	2
gas station	1
beauty salon	1
taxi	1
stamps	1
bus station	1

Niagara Parkway (north of Bertie Street)

food	2
printer	2
hardware	2
garage	3
hotel	2
motel	3
tourist homes	(numerous)

commercial independence despite its proximity to the larger city.

More important as a limiting factor is Fort Erie's penninsular location, at the edge of its potential hinterland. Port Colborne and Welland have been able to extend their trade areas into Bertie on the west, and Ridgeway has maintained a large trade area. Hence Fort Erie's trade area covers little more than half the township.

The CBD may have also been hindered by the presence of the second business center along the Niagara Parkway.

The Niagara Parkway shopping area is definitely secondary to the Jarvis Street Business District. It contains fewer enterprises and is more peripherally located than its competitor. It is located on the parkway, mainly between Queen and Bertie Streets, with a scattering of businesses north to the Jarvis Street Area. The parkway has always been an important routeway and this fact combined with the importance of Bertie Street, Garrison Road and Highway 30 which terminate at its ends and the early development of the town at this site, account for the location of a business district here.

Though geared largely to passing traffic now, it contains two banks and a number of food stores, thus competing with Jarvis Street in this respect. A number of the stores in this district are poor in quality giving the area an appearance of stagnation.

There is a scattering of commercial establishments throughout the town, including many small 'corner stores'. At Central and Gilmore, a main road junction, there is a small neighbourhood center, and there is strip commercial development west along Garrison Road, a major route east-west. The latter, consisting mainly of motels, hotels and restaurants is obviously geared to the tourist traffic.

Walnut Street contains a number of commercial enterprises worth mention. Immediately north of the Peace Bridge, this street has been virtually 'taken over' by brokerage firms, seeking proximity to the bridge.

**Residential:** Residential land use appears in three distinct concentrations.

In the South, an area of residences exists around the old fort, extending beyond the town limits to become the unincorporated place of Erie Beach. The homes here are average to poor in quality, most representing former summer homes now occupied permanently. Toward Fort Erie proper, is a strip of fine homes located on ravine lots or atop the limestone ridge facing the river. Open land separates this section of the town from the Central area.

The central area of residential development extends about a mile back from the river, from Garrison Road north roughly to the Steel plant. This is the part of the town which developed as Fort Erie. The limestone ridge runs northeast-southwest in this area, becoming less prominent to the northeast, approaching the river near the foot of Catharine Street. Below the ridge, and behind the commercial developments along the boulevard, the homes are quite old and generally poor in appearance. The ridge disappears for a short distance, perhaps where a former stream cut into it, forming an opening through which the old Erie and Niagara tracks curve down to the river. North of the tracks the ridge follows the river's edge. A few good homes line this part of the boulevard, giving way to poorer homes and industries near the railroad bridge.

Above the ridge, the residences are of better quality. Recent subdivisions of fine homes appear on Central Avenue and just east of the

racetrack. North of the latter subdivision, an area of somewhat 'below average' housing occurs, this being primarily wartime housing. North of Gilmore, bordering industry or railroad, poorer homes are to be found.

The third residential area is north of the railroad lines. This area is separate from Fort Erie proper, and has been known by various names, Victoria, Bridgeburg and Fort Erie North.

The road pattern here is considerably different from that of the rest of the town, a few blocks containing narrow lanes behind the houses. Residences are generally below average where they face the railroad tracks or approach the CBD. Moving west along Phipps or Emerick, for example, one notices a gradual improvement in the upkeep and quality of housing. A few good, old, homes appear, facing the river, though the first class housing generally represents new subdivisions, especially the fine homes in the wooded ravine-like site at the northern town limits.

The distribution of residential and commercial land use give some indication as to the development of the town. It did not develop as a single unit.

#### Historical Development of Fort Erie

Initial settlement took place at the site of the old fort about 1750. Beginning as a strategic military post on the Upper Great Lakes, Fort Erie soon attracted a few settlers and merchants. But as settlement began to take form, it did so not at the fort, but downstream. This fact apparently was the result of two factors. At the present site of the Peace Bridge the Niagara River narrows providing a convenient location for a ferry. Also, and perhaps more important, a grist mill was constructed here in lot one in 1791. At this point the village of Fort Erie developed, and by 1807 it contained about 25 houses. This was also



the junction of the portage (and towpath) along the river and the roads leading west, along the lake, or inland (Garrison Road).

The village became an important commercial center for settlers on both sides of the river who patronized the mill and other commercial establishments. It was also an important transshipment point for goods bound for Lake Ontario. Articles from Fort Erie were shipped to such parts as Lisbon, Amsterdam, Havana and Bristol.

However, Fort Erie's role as a port on the Great Lakes route soon ended. The year 1825 brought the completion of the Erie Canal and from then on Buffalo acquired the bulk of trade. The Welland Canal, finished in 1830 drew Canadian trade west from Fort Erie which now lay between two important trade routes, unaided by either. The village's role was relegated entirely to that of a local center and with Buffalo's development, its hinterland became restricted to the west side of the river.

Sometime in the early 1800's, another center of settlement began a short distance down river. There, in 1840 a ferry was operating from approximately the foot of Bowen Road to Buffalo. A customs office was constructed near the dock, and soon there were a few taverns and various enterprises located here.

Thus two settlements began not more than a few miles apart.

The 1850's spurred the development of southermost. Shortly after 1850, the Erie and Niagara Railroad was built between Newark and Fort Erie. It approached the river by means of the cut in the limestone ridge and terminated near Queen Street where a depot was constructed. Commercial development was increased.

In 1855 the Buffalo and Goderich Railroad was constructed west

from Fort Erie. It ran from a terminus near the present site of the Peace Bridge, southwest below the ridge then curved west over the gentle lakefront topography. Railroad yards, a depot and car ferries were established and Fort Erie grew quickly. It became a village in 1857 extending  $2\frac{1}{2}$  miles along the river, and by 1861 contained a population of 706 people. Apparently the northern settlement of Victoria was outranked. Ferry service there was discontinued from lack of business.

However, later years were to see a shift in the focus of activity to Victoria. In 1873 the International Iron Bridge was constructed across the Niagara River. The bridge may have been located here because the railroads were to head northwest, or perhaps since high ground bordered the river here removing the necessity of a steep grade to the bridge. Whatever the reason, activity was then concentrated on Victoria. Streets were laid out and many commercial enterprises were established.

While Victoria grew, Fort Erie declined. The car ferries were disbanded and moved to Windsor, the Erie and Niagara Railroad fell into disuse and the Buffalo and Goderich line was rerouted north to Victoria. Its railroad activity gone, Fort Erie's population fell to 722 by 1881. Victoria in 1887 contained twenty stores and in 1895 was incorporated as the village of Bridgeburg.

Bridgeburg continued to grow, as indicated by the construction of various enterprises. A race track was built in 1897. The Pratt and Lambert Company and the Hart and Cooley Company were operating by 1909, and soon after the Horton Company arrived. By 1911 it contained 1770 people compared to 1146 for Fort Erie. In 1916 it was incorporated as a town. With the railroad attracting industry, and with its population

increasing rapidly, Bridgeburg's commercial district became much more important than the older commercial district of Fort Erie.

In the early 1900's, renewed activity took place at the original site of settlement, near the Fort, in the form of a summer resort called Erie Beach.

The completion of the Peace Bridge in 1927 spurred further suburban development at Fort Erie. It also led to the decline of Erie Beach as a resort and its infiltration by permanent residents. Despite increased activity, Fort Erie still lagged behind Bridgeburg. In 1931, their populations were 2383 and 3521 respectively.

The two towns finally grew together and in 1932 were amalgamated under the historical name of Fort Erie.

The Peace Bridge likely aided commerce on the Niagara Parkway, which until the Queen Elizabeth Way was completed about 1939 was the only route to Niagara Falls. Even now a large number of tourists take the scenic route along the river, and this is reflected in the number of restaurants, tourist homes, hotels and motels extended along the parkway.

Thus Fort Erie has developed from the coalescing of settlement, focused at three different points. This development is reflected in part at least by the present landscape. Throughout its history, the town has capitalized on its border or riverfront location and in so doing has grown along the river rather than inland. Certain factors worked to the advantage of this site as the industrial center of Bertie. Many of these same factors have prevented it from dominating the commercial life of Bertie.

## Rural Non-farm Land Use

The rural non-farm dwellings of Bertie Township occur in two different associations.

First are the unincorporated places<sup>1</sup> which generally contain a great mixture of summer homes, permanent residences and empty lots. The quality of development is extremely variable. In general there is no commercial development beyond an occasional corner grocery, hence these unincorporated places are clearly tributary to the larger centers.

There are five such unincorporated places in addition to a few smaller subdivisions in Bertie, all located in the Lake Erie Concessions between Fort Erie and Ridgeway.

Erie Beach and Waverly Beach are quite similar. Both are old developments on the lakeshore near Fort Erie. They contain both permanent and summer homes few of which are above average in quality. They have little attraction as resorts, as the beaches are merely bare limestone. Neither have much commercial development<sup>2</sup> and to their more than 800 permanent residents they are merely suburbs of Fort Erie.

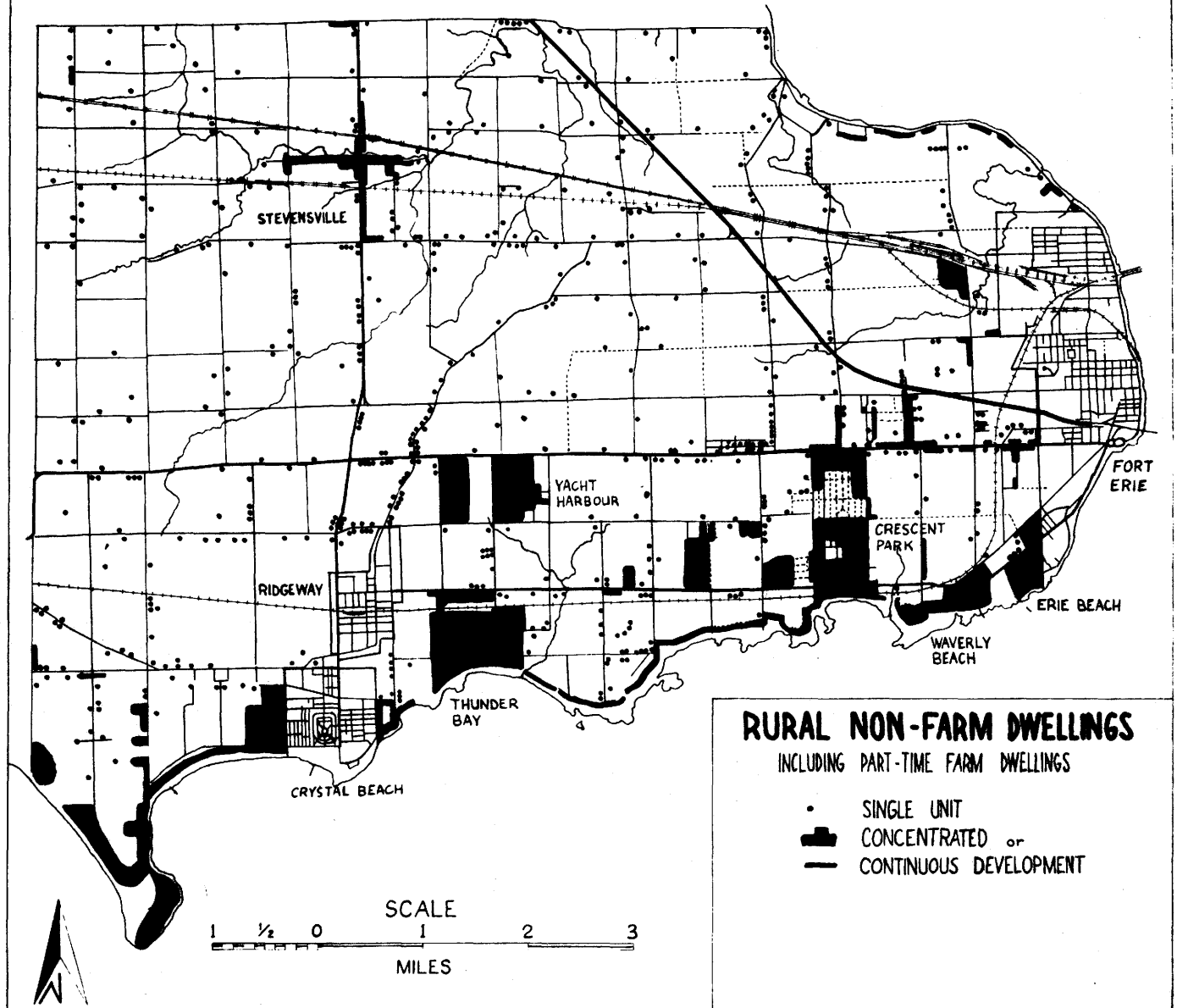
Crescent Park is a community of over 1000 permanent residents and a similar number of summer residents. Lying between Highways 3 and 3C, this survey can be divided into two contrasting parts. The northern part is less well developed; many streets are incomplete, most of the lots are vacant. Lack of trees and distance from the lake make this an unattractive location for summer cottages, and what development has occurred is almost entirely in the form of permanent residences.

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<sup>1</sup>See map 23, table 11.

<sup>2</sup>Each have one general store, Waverly Beach includes a hotel-tavern.

# TOWNSHIP OF BERTIE



Much more development has occurred in the heavily wooded southern half of the survey where many fine summer homes have been constructed, as well as a large number of permanent homes. A public, sand beach lying just south of the survey is an added attraction. The only notable commercial development of all these unincorporated places, is located in Crescent Park, and consists of a half dozen shops. The survey is within Fort Erie's trade area.

West of Crescent Park lie a number of small subdivisions containing both summer and year-round residences.

Thunder Bay lies just east of Ridgeway, a site marked by open woodland and a sandy shoreline, part of which is accessible by township residents. Unlike Crescent Park, Thunder Bay contains mostly summer residences. Fronting on the lake are especially fine summer homes; inland are cottages of average quality. Much of this subdivision is as yet undeveloped. Containing no commercial development, Thunder Bay lies within the trade areas of Fort Erie and Ridgeway.

North of Thunder Bay, and adjacent to Garrison Road is the unincorporated place of Yacht Harbour. A pleasantly wooded site, but far from the lake, it has attracted considerable development, mostly cottages of low quality. Yacht Harbour too lies within Ridgeway's trade area.

Also notable is the subdivision immediately west of Crystal Beach. Composed almost exclusively of average quality cottages, this unincorporated place is but an extension of the resort of Crystal Beach beyond the village limits.

A unique development is located just beyond Fort Erie's town limits, adjacent the railroad on an open site with thin overburden.

TABLE 11

## Population of Unincorporated Places

	<u>1961</u>	<u>1956</u>
Crescent Park	1030	729
Erie Beach	532	392
Waverly Beach	288	179
Thunder Bay	?	?
Yacht Harbour	?	?

source: Census of Canada 1961

Subdivided in the 1920's or 30's in anticipation of a suburban expansion of Buffalo, this area now includes a number of veritable shacks scattered along dirt roads.

In contrast to the concentrated developments, rural non-farm units also appear along some of the main roads.<sup>1</sup> These are almost entirely permanent homes. Strip developments are noticeable on Garrison Road, Highway 30, Highway 28 and the Niagara Parkway, though hardly any road in the township is devoid of some rural non-farm homes. These units vary from old farm houses to new homes of varying quality. The overall scattering of such dwellings reflects the fact that the Bertie-Fort Erie Area is within commuting distance of cities in all directions.

#### Summary of Urban and Rural Non-farm Land Use

Fort Erie, though the largest urban center, does not entirely dominate the area. It contains almost all the industry but is less dominant commercially. Its peripheral location at the junction of road and rail transportation makes it the focus for industry, but this location puts it too far off center to control commerce. As a result, Ridgeway, much smaller, has remained a strong competitor, aided by the presence of a large urban population nearby and a better location to serve most of the farm population than Fort Erie.

While the whole area is dependant to some degree on Port Colborne, Welland and Niagara Falls for employment and commerce, these towns are far enough away to allow both Ridgeway and Fort Erie some commercial independence. Stevensville is less fortunate. It has no large

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<sup>1</sup>See map 23.



population to draw on like Ridgeway, and it receives little benefit from the summer residents as it is too far from the lake. Yet it is maintaining itself as a residential satellite of the large urban centers.

Urbanization, aided by the development of summer homes, is rapidly filling in the Lake Erie Concessions from Fort Erie to Ridgeway, and spreading out along the main roads. In so doing, it is closely repeating the directions taken by the original settlement of the township.

#### Recreational Land Use

Certain geographical factors have favored significant recreational developments in Bertie Township.

Location is perhaps unsurpassed in importance. The area is close to the huge urban population of Buffalo, and access to the area is facilitated by the Peace Bridge. It is this population which has almost exclusively brought about the development of summer homes here. It was reported that 2500 American citizens reside in Bertie for the summer and of these, 90% are from Buffalo. To them, the fact that Bertie is in Canada, makes the township an attraction. Also within short driving distance are a number of Canadian cities, including St. Catharines and Hamilton. Hence the area can draw its summer visitors from a huge urban population nearby. In addition, Niagara Falls, 20 miles north of Fort Erie, attracts millions of tourists to the Niagara Area, many of whom are tunnelled into Bertie Township via the Peace Bridge and subsequently attracted to the well advertised amusement park at Crystal Beach. Thus recreation involves both a transient and 'resident' trade.

Climate also provides incentive for recreational development. The cooling effect of the lake breezes and Erie's refreshing though warm water exert a magnetic force on the sweltering city dwellers in the summer months.

Lack of competition from other land uses has also aided the development. The early decline of agriculture here had freed much of the shore and adjacent property for recreational or residential use. Industry, a strong competitor when it demands property, has not retarded recreational development. The old shipyards and quarries that depended on the waterfront have long since ceased to operate. The industries that now exist depend entirely on land transport and are located away from the shore. Thus neither industry nor agriculture has retarded recreational land use on the shoreline.

As implied above, the shoreline is of prime importance to recreation. Bertie is favored with approximately twenty miles of water frontage, though the same is far from uniform. The basic difference occurs between the Lake Erie and Niagara River shores.

#### The Niagara River Shore

The river bank generally rises sharply six to ten feet, a few feet back from the water. There are no beaches as the water moves too swiftly, and only large stones or reeds line the waters edge. Back from the river the land is generally level, well drained, drift covered with open woodland or grass vegetation.

Because this shore was, in 1874, set aside as a government reserve, all private property (except in the town of Fort Erie) ends at a considerable distance from the water. The reserve has since come under the administration of the Niagara Parks Commission (NPC) and the former towpath and portage has become part of the Niagara Parkway. The NPC has retained and enhanced the natural beauty of the shore, planting trees and keeping the grass well trimmed, and preventing the encroachment of

other land uses. A number of historic sites have been marked and picnic areas developed. Recently the NPC established a campsite at Millers Creek. All this development has been for public use and is virtually non-commercial.

Private development along the river has been meagre though recently, suburban expansion has been filling in open spaces behind the parkway. Urban development has taken over the river frontage in the town of Fort Erie.

The shoreline, though attractive, lacks beaches, the major incentive to recreational development. Activity is limited to swimming and boating and even these are hampered by poor access to the river in terms of a steep bank or the NPC property which separates any development from the river. These factors plus the proximity of beaches and safer swimming areas on the lake shore have relegated the river front, perhaps fortunately to the status of a scenic drive. Commercial development is meagre. This part of the river is beyond the commercially developed area of Niagara Falls, yet is too close to it to make an overnight stay here feasible for tourists enroute to the 'falls'.

#### The Lake Erie Shore

This shore is considerably different from the Niagara River frontage, and may be subdivided into two basic elements. The shore varies from sandy beaches at the head of shallow bays, to rocky headlands composed of limestone shelves dipping gently into the lake.

The lake bed dips gradually offshore, following the slope of the bedrock and hence is safe for swimming and wading. The lake is relatively shallow hence warms up earlier in the year than Lake Ontario, for example.

Onshore the land is level, though rising occasionally where dunes occur, and access to the water is no problem except where boats must be dragged over bare rock to the water. The wooded shore provides attractive sites for the construction of summer homes.

#### Commercial Development

Little commercial development has occurred other than Crystal Beach. A commercial beach is located on the outskirts of Fort Erie, where the Erie Beach Company owns a short strip of shoreline and the land behind. However, the 'beach' is comprised mostly of gently dipping limestone with little sand onshore. No other commercial exploitation of the shoreline exists; probably due to an early occupation of the shore for private recreational use.

Inland, the Fort Erie racetrack rivals Crystal Beach as a major recreational attraction. Constructed in 1897, the track has been modernized and now draws to its two annual meets patrons from Buffalo and surroundings and probably the entire Niagara Peninsula. Modern road transportation especially the Queen Elizabeth Way, has helped its rise in popularity.

Old Fort Erie, part of the NPC development and thus more a public than commercial development is also a significant recreational feature of the township. It caters almost exclusively to the tourist trade.

At present Bertie includes four golf courses within its boundaries, catering mainly to summer residents and 'Buffalonians'. This type of recreational development perhaps holds the greatest potential for future commercial development.

A number of minor recreational attractions are located along the main roads. Included among these developments clearly aimed at tourist and summer residential trade are a driving range, go-cart track and a few riding stables, and a 'game ranch'.

The main roads toward Crystal Beach, Highways 3 and 3C especially are the site of various urban developments, which are a few motels, hotels, a drive-in theatre and numerous drive-in restaurants.

Non-Commerical Development: Public

Along the lakefront, very little land is available for public use, the only exceptions being a small beach at Bertie Bay, and one at Thunder Bay (the latter is restricted to township residents) the almost complete lack of publicly owned shoreline is due to the sale at the beginning of settlement of waterlots to private landowners. Thus the shore has generally witnessed private development.

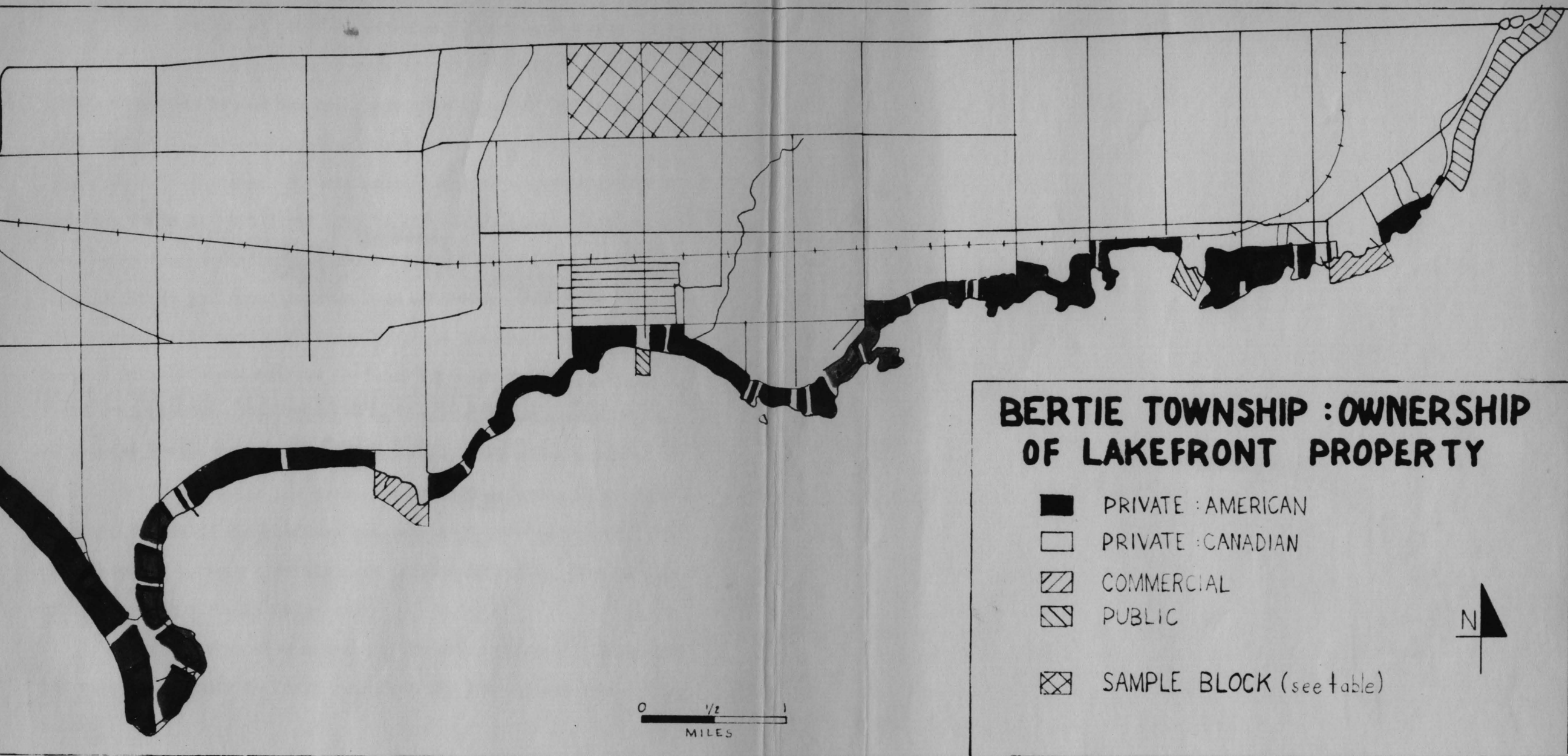
Non-Commercial Development: Private

This is by far the most extensive recreational development that has occurred in the township. Though perhaps second to commercial recreation as a source of township revenue, this development undoubtedly provides considerable funds in the form of taxes and increased summer business for the various commercial establishments.

Private development extends almost unbroken along the whole Lake Erie Shore of Bertie. The importance of the area's proximity to Buffalo is reflected by the overwhelming percentage of American-owned water frontage.<sup>1</sup> Not only the shoreline lots, but also a large proportion

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<sup>1</sup>See map 24.



of the rest of the residential and non-agricultural in the Lake Erie Concession is owned by residents of Buffalo.<sup>1</sup>

The quality of private development bears a noticeable relationship to certain factors of site. However it might be noted that the character of the shoreline itself has not apparently directly influenced the quality of developments, as some of the finest homes have been built where rock rather than beach marks the lakefront. Seclusion combined with water frontage seems to best favor high quality development. Many of the best homes are located within areas inaccessible to the public, especially Windmill Point and Point Abino. Most of the homes in these areas are fairly new, indicating that these parts of the shore both lacking in beaches were at first avoided in favor of beach fronting property.

A most notable influence on the quality or extent of development is exerted by the location of the roadways which often parallel the shore. While the shore has been completely developed, in many places the inland side of the roadways has been left idle or wooded. Where a roadway comes between a development and the shoreline, the quality of development is markedly inferior.

Summer homes also appear in the urban places.<sup>2</sup> In general, the quality of homes is lower away from the lake though some exceptions occur.

In addition to summer residences, private development has also taken the form of clubs or associations. Included among these are the Buffalo Canoe Club, and the Point Abino Yacht Club.

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<sup>1</sup>See table 12.

<sup>2</sup>See above p. 124

TABLE 12

## Land Ownership - Sample Block

Area: West of Central Avenue  
South of Garrison Road  
East of Burleigh Road  
North of Nye Road

Number of parcels<sup>1</sup> of land owned by: American citizens = 458<sup>2</sup>  
Canadian citizens = 91<sup>3</sup>

<sup>1</sup>A parcel of land varies from one to five lots.

<sup>2</sup>Approximately 400 of these are owned by residents of Buffalo and immediate area.

<sup>3</sup>Most are owned by township residents, though some are owned by local companies and land speculators.



The duration of American summer residence within the township seems to be generally three to four months. For many people, the closing and opening of school mark the beginning and end of continuous residence here. However, many of the Buffalo residents return on weekends throughout the fall.

Some, though only a small proportion of the American citizens have taken up permanent residence in Bertie. This however is not common because of the involved legal procedures that must be followed, such as bonding of cars and other property. Generally, six months per year is the limit, as government regulations prevent American citizens from living in the township for any longer period. Thus the private development of the shore is a markedly seasonal one.

#### Summary

Recreational land use in Bertie is primarily non-commercial, factors of physical and human geography have resulted in the basic difference between the development of the Niagara River and Lake Erie shores. The non-commercial and commercial recreational developments are largely the result of proximity to Buffalo.

Commercial development depends both on the local and tourist trade and is concentrated at Crystal Beach, the Fort Erie Racetrack and Old Fort Erie.

Development was first attracted to the shoreline, but since has moved inland, aided by the lack of competition for the land by other land uses.

**SUMMARY**

## Summary and Conclusion

Bertie Township lacks any great physical diversity. Its bedrock structure has produced a low escarpment, and it contains physiographic features such as gravel beaches, but the dominating landscape is that of a level lake plain of low relief. The soils of the township, mostly developed over lacustrine parent material are predominantly clays, heavily textured and fair to poorly drained.

The township was settled early, the first tide of immigration coming in the late 1700's following the American Revolution. Bertie's farmers soon passed from a self-sufficient economy, to commercial agriculture, with wheat becoming increasingly important until about 1850. Thereafter, farmers here began to diversify. By the 1890's, Bertie's agriculture reached a peak, and soon after, its importance waned. Though farming has declined throughout most of Southern Ontario, the decline has been especially notable here.

Physical difficulties, in terms of the heavy and often poorly drained soil, have encouraged the decline, as have other factors including land speculation and the opportunities of employment in the large urban centers nearby.

However, agriculture does remain a significant part of Bertie's economy, though the decline has split its farmers, on an economic basis, into those who receive their total income from agriculture, and those who gain only part from agriculture. Of the 'total income' or 'full-time' farmers, about one half are milk producers, the remainder comprised of a great variety. In fact, few true specialty farms exist in Bertie, as most derive income from a variety of sources. The more numerous, though smaller, 'part-time' or 'partial income' farms also vary, but perform an important function. They produce livestock,

cash crops, wheat generally, and also feed crops for many of the full-time farms.

The development of the urban places of Bertie reflect the importance of a number of aspects of geographic location. Fort Erie, the oldest settlement, became important as a military post guarding the Southern end of the Niagara Peninsula, and as a trading post strategically located at one end of the portage connecting Lakes Erie and Ontario. Ridgeway and Stevensville both developed due to the presence of millsites at important road junctions. After 1850, location on a railroad became of vital importance, and the first railroad constructed through Bertie thereby gave a competitive advantage to Fort Erie and Ridgeway. Later, railroads were built through Stevensville renewing its economic life. By bypassing Fort Erie in favor of Bridgeburg these later railroads brought about the latter's domination at the east end of the township.

As industry changed from small local enterprises, to larger factories, disconnected from local raw materials, the location of the combined villages of Fort Erie and Bridgeburg, at the junction of the railroads and closer to Buffalo, was better than that of Ridgeway or Stevensville. The latter two lost their industries; the former grew with new and bigger industries.

Three aspects of Bertie's location are significant - its border, penninsular and lakefront location. Early settlement was funneled into the Niagara Peninsula, one of the most easily accessible parts of Canada to American emigrants, and Bertie, on the Canadian side of the border was thus one of the earliest townships to be settled. The lake and river front property was first settled as travel was

easiest by water prior to the clearing of the dense bush.

The lakefront location was important to early commerce, as Fort Erie was right on the trading route between the Upper Great Lakes and Montreal, though the construction of the Erie and Welland canals diverted that trade away from Fort Erie.

The penninsular shape of Bertie has influenced the pattern of transportation facilities. The east end of the township is the hub for road and rail transport and the bridging point for traffic to Buffalo. As a result, industry and commerce dependant on transportation concentrated at this end of the township. The border has necessitated the development of various governmental and transportation features, including customs offices, brokers, rail and truck transport terminals, and coupled with the proximity to industries in Buffalo, and government import regulations, has encouraged a number of subsidiary industries to locate in Fort Erie. However, without the border, Fort Erie would undoubtedly have received greater industrial and residential growth as part of the Buffalo area. Considering the lack of large industrial development and the decline of agriculture, one must conclude that the location of Bertie in respect to outlying urban centers has been mainly responsible for its increase in population.

Though Fort Erie has had an advantage industrially, over the other township villages, it has suffered commercially. Ridgeway, better located to serve the retail needs of much of Bertie's population, has maintained a strong commercial function, preventing Fort Erie from becoming a regional center for the township.

Recreational development has been aided by the lakefront location, including some fine beaches. But location in respect to proximity to

Buffalo has encouraged a degree of development much greater than the landscape seems to warrant.

The geographical environment, in terms of location especially, as well as the physical landscape, has strongly influenced the development of Bertie Township.

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