

AGRICULTURAL LANDSCAPES OF THE SUDBURY AREA, ONTARIO¹

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Two distinct agricultural landscapes are developing within a few miles of each other in the Sudbury Area of Ontario, Canada, namely the "Agricultural Landscape of the Sudbury Pocket"² and the "Disseminated Agricultural Landscape Among the Ice-scoured Hills." These landscapes represent the two types of agriculture most prevalent on the Laurentian Highlands.

As it is true elsewhere in the Canadian Shield the best agricultural land of the Sudbury Area is confined to pockets. The Sudbury pocket is the middle one of "five areas more or less fit for settlement"³ which are located in the portion of the Shield contiguous to the north shore of Lake Huron and Lake Superior. These pocket areas, as briefly described by Lower,⁴ are from east to west: North Bay, Lake Nipissing, Sudbury, Sault Ste. Marie, and Fort Williams and Port Arthur.

The Disseminated Agricultural Landscape Among the Ice-scoured Hills resulted from the scattered and often persistent attempts of pioneers to hew farms among the glaciated hills of the Canadian Shield.

Although both of these agricultural landscapes developed under the same climate and produce crops for the saxicultural markets, differences in landforms, soil, and stage of development result in a different cultural landscape. Because of physical and cultural dissimilarities these two landscapes will be treated separately, although they do have many characteristics in common.

AGRICULTURAL LANDSCAPE OF THE SUDBURY POCKET

By driving seven miles northwest of Sudbury through a cut-over forest land-

scape, one enters an agricultural pocket by means of a water gap at Azilda (fig. 1). Here agricultural features, patterns and associations are superimposed upon a lacustrine plain of an abandoned glacial lake. This pocket, about twenty-three miles long and eight wide, is roughly boat-shaped with a prow at the west end of Vermillion Lake and the stern about five miles southwest of Wanopetei Lake. This area represents roughly an old glacial lake bed in the central portion of the Sudbury basin.

All of the land in the Sudbury pocket is not in farms, and rather large tracts have never been cultivated. Near the center of the lake bed are several sandstone ridges, remnants of former anticlines. Parts of these ridges have never been cultivated and account for much of the wooded land in the pocket. Most of the few farms located on the sandstone ridges have been abandoned.

The islands of cultivated land in the northern part of this boat-shaped area are separated from the larger area of farm land to the south by cut-over forests. Clearing and settling have not been rapid in the northern part of the plain because the soil is too sandy, gravelly, and often too wet for agriculture. Moreover, in spite of a long period of development, there still exists near the center of the pocket islands of timber surrounded by cultivated land. These timber islands occupy the gravelly, rocky, poorly drained or most inaccessible parts. The reader should keep in mind, however, that this agricultural pocket contains more cultivated land and more farms than all the rest of the Sudbury Area.

On this plain the roads, although following a rectangular pattern, are not laid out in perfect square mile intervals.

¹ For practical purposes at present the writer uses the term "The Sudbury Area" when writing of that portion of Ontario included on the Sudbury Topographical Sheet which is published by the Department of Interior. The area is forty-eight miles long from east to west; thirty-four miles wide, and is named after its largest city, Sudbury.

Information in this paper is based upon six weeks' field work in the summer of 1939 and library research.

² The term *pocket* is used to designate small areas of arable land located in depressions in the Laurentian Upland.

³ Lower, A. R., "Settlement and the Forest Frontier in Eastern Canada," *Canadian Frontiers of Settlement*, Vol. IX, p. 12.

⁴ *Ibid.*

Often two parallel east-west roads one mile apart will only be connected by north-south roads at intervals of two miles. The dispersed rural dwellings are usually found along the principal east-west roads but seldom on the north-south connecting roads (fig. 2).

The rural homes are concentrated along the main gravel roads with usually six to twelve houses to a mile. There are about five hundred families with an average of four or five to a family in the pocket.⁵ The farms have the elongated strip shape of typical French Canadian land holdings. Often there are two houses in the same farmyard—the older dwelling may be occupied by the parents and the newer one by a son.

The farms are small, usually comprising sixty to eighty acres with many small

fields devoted to potatoes, barley, truck crops, and hay. For example Rodolphe Paquette owns an eighty-acre farm on the southeast corner of the crossroads at Boninville. During the summer of 1939 he had thirty acres of potatoes, ten acres of hay, eight acres of oats, four and a half of truck garden, and the rest of the farm was in yards and pasture. Instead of having each cultivated crop in one field, the crops were planted in several small fields giving a patchwork field pattern. However, on most farms mixed hay occupies more of the land than any other crop, and on many farms it occupies more land than all the other crops combined. Farms, pastures and farmyards are usually enclosed with wire, rails, or poles, but cultivated fields within a farm are often not enclosed.

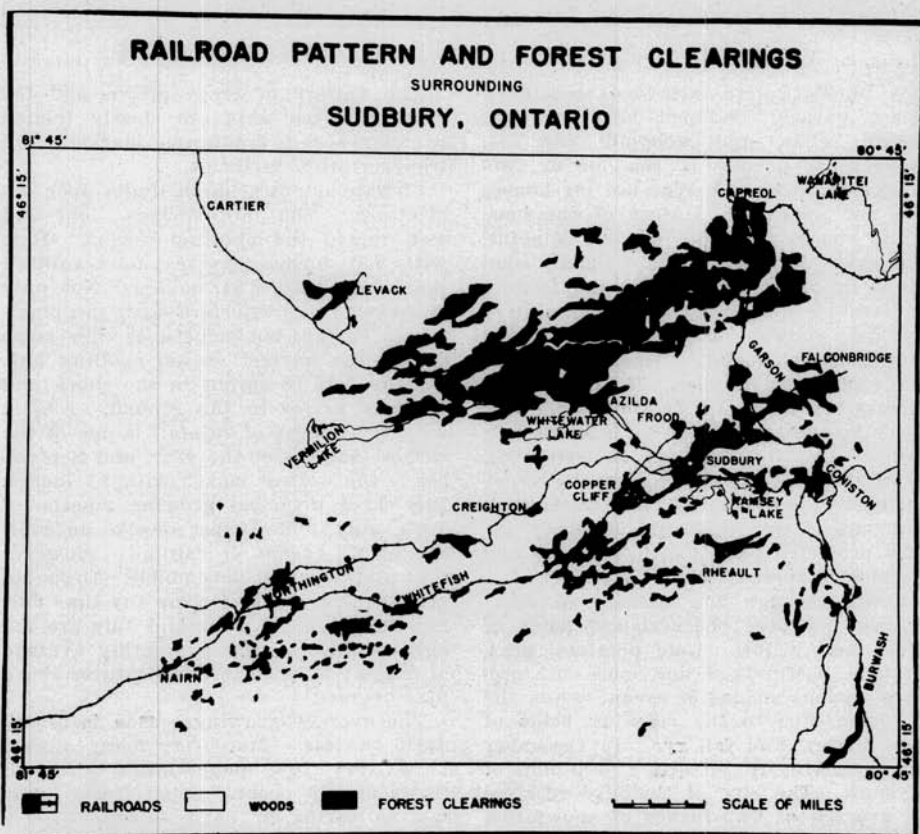


Fig. 1.

⁵ Data given by Romeo Leroux, agricultural representative of the Sudbury District, in an interview on August 8, 1939.

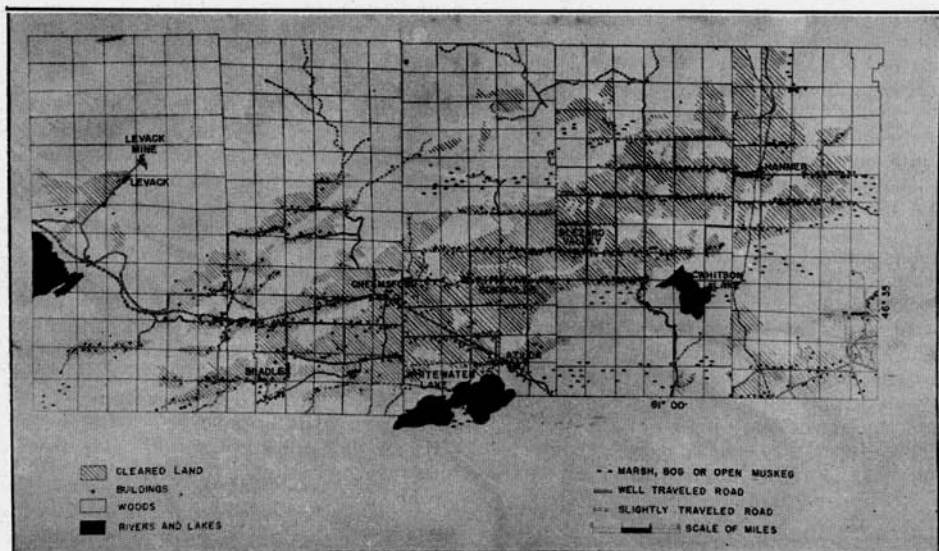


Fig. 2.—Agglomerated Agricultural Settlement in Sudbury Pocket, Sudbury Area, Ontario.

A representative farmyard contains a house, garage, combined barn and crib, potato cellar, and woodpile (fig. 3). Houses are usually of the one or two-story square wooden type but log houses are not uncommon. Most of the once white houses are badly in need of paint. The grain crib and barn are usually combined in order to facilitate the feeding of livestock during the long cold winters and deep snows. This structure is either large and well made, or small, crude and made of rough lumber. If large, it indicates the farmer is in the commercial dairy business; if small, he only keeps a cow or two for his own domestic use. Protruding through the roof of the larger barns are the windmills. The water tank and part of the windmill machinery are thus protected from the deep snows and freezing temperatures.

Going through the country in early August one sees checkerboard fields of green and yellow. Late potatoes, peas, hayland, pastureland, and some corn produce various shades of green; while the yellow is due to the ripening fields of oats, barley, and fall rye. In December the fields are covered with a deep blanket of snow (The city of Sudbury receives an average of 63.2 inches of snowfall a year).

The variety of crops grown and the production per acre are closely related to climate, soil, landforms, markets, and transportation facilities.

Climate imposes harsh limits upon agriculture. The late springs, cold and wet, retard the planting season. June with 2.91 inches receives more rainfall than July with 2.54 inches.⁶ Not only do heavy rains interfere with the planting in spring, but sometimes they come during the harvest season spoiling hay, causing oats to sprout in the shock and potatoes to rot in the ground. August with 2.85 inches of rainfall is one of the wettest months of the year, and September is the wettest month with 3.1 inches. The three principal growing months of June, July, and August receive an average of 8.3 inches of rainfall. However the rainfall is not dependable. Droughts are frequent and may come any time during the summer. June and July are the only months having a monthly average of normal daily mean temperatures above fifty degrees.⁷

The average growing season is ninety days or less. Moreover, many nights have very low temperature although frosts do not occur. Often frosts occur late in spring or early in fall with a possibility of frost any time during the

⁶ Conner, A. J., "Meteorological Tables" reprinted from the Canada Year Book, 1931, p. 21.

⁷ *Ibid.*, pp. 12-13.



Fig. 3.—View of farmstead in August. Notice dwindling wood piles, and entrances and ventilators to earthen potato cellars. Jacked up hind wheel of old-modeled car furnishes power for potato grader.

year. June, July, August, and September are the only months free of snowfall. Thus, it is not surprising to find crops that are adapted to a high latitude interior continental climate. Buckwheat, barley, and potatoes are suited to a short season, and oats, hay and pasture to cool temperatures.

Soil presents both physical and chemical handicaps. Much of it is too sandy, gravelly and rocky. The better drained loam soils are underlain with fine sand to a depth of six to twelve feet.⁸ However, where clays predominate, the soil retains its moisture long after the heavy blanket of snow has disappeared. Thus an already dangerously short growing season is further handicapped by wet soils, delaying the planting period. Typical of the podsols these soils are high in humus content. Being friable and well drained, they make good potato land if properly fertilized. The soils are high in potassium and magnesium, but low in lime and nitrogen.⁹ Crop yields soon decline where cultivation is carried on year after year without adequate fertilization. Clover is grown to restore vegetable matter and nitrogen to the soils. Limestone and nitrogen fertilizers are shipped into the area from Niagara Falls.¹⁰

Because of the irregularity of the land surface in the Sudbury pocket, much of the total area is unfit for cultivation. In

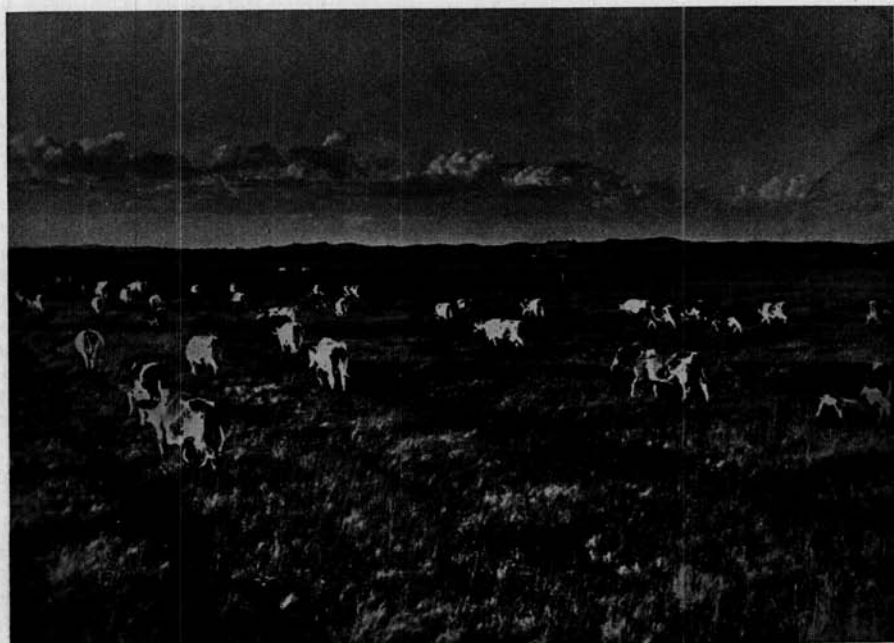


Fig. 4.—Holstein herd near Blezard Valley. Looking north, note large barn, silo, wooded tree line, and profile of the sandstone hills which occupy the center of the Sudbury pocket.

⁸ Interview with Romeo Leroux on August 8, 1939.

⁹ *Ibid.*

¹⁰ Interview with Romeo Leroux on August 8, 1939.

the southeastern portion the lake plain gives way to moraines and small pitted outwash plains. Sand and gravel terraces are located in the southwestern part of the pocket along the margin of the lacustrine plain. The flood plain of the Vermilion River with its numerous oxbow lakes is too wet for cultivation. The sandstone ridges near the center of the pocket, although partially cleared and farmed in the past, have now been mostly abandoned. The undesirable landforms and associated soils prevent the agricultural pocket from developing a more perfect boat-shaped area.

In addition to the physical factors of climate, soil and landforms, markets also influence agricultural development. The demand for fresh milk and vegetables created by the mining towns and Sudbury help explain why dairying and truck farming predominate in the area. Milk, potatoes, and baled hay are the principal cash products.

Potatoes lead the list as a cash crop with about a quarter of a million bushels produced annually on about two thousand acres.¹¹ The early crop is harvested the first part of August and the second crop about the middle of September. In 1939 potatoes were selling for \$1.25 to \$1.50 per bag in Sudbury where the bulk of the crop is consumed.¹² In addition to climatic handicaps, the potato crop, if not treated in time may sometimes be damaged by the potato leaf hopper or blight.

In addition to potatoes a large variety of fresh vegetables are grown for the mining population. The importance of truck marketing is reflected in the urban landscape. Covered markets are maintained in Sudbury and Copper Cliff. Buggies, light wagons, and antiquated automobiles loaded with vegetables are common daily sights in the town and city streets.

The second most important cash product is milk. It is the dairy cow that changes the bulky grain, hay and grass into milk which can be more readily marketed. (Fig. 4.) Farmers from the northern and northwestern part of the pocket move milk into Sudbury by truck.

Fresh milk does not reach Sudbury from the central part of this area around Boninville for two reasons. Here the potato is the chief product. Moreover what milk is produced for sale goes to a small cheese factory at the Boninville crossroads. This factory gets most of its milk within a five mile radius. About three to four large Canadian cheddar cheeses are made daily throughout the year with a maximum production in spring. The minimum production is in August when only about a dozen farmers bring in milk once a day.¹³

Experimentation with corn and silos is associated with the dairy industry. During the summer of 1939 a new quick maturing variety of corn known as Dorinny was introduced.¹⁴ Planting was delayed by rains and the experiment could not be called a success. The area will likely continue to be used for experimentation with quick maturing varieties of corn. Silage would undoubtedly be of great aid to dairying if corn production were feasible.

In 1939 there were about 4,000 head of dairy cattle in this agricultural pocket. Most of the cows are Ayrshires. A cattle carload of Ayrshire cows was shipped in from Glengairy county in eastern Ontario in the fall of 1939 which would indicate that the dairy business continues to expand.¹⁵

In spite of the expansion of dairying within the Sudbury pocket and the dispersed agricultural settlements in the Sudbury Area, milk production is still insufficient to meet the demand created by the mining population. Consequently Sudbury dairies send their trucks as far as Bruce Mines, 160 miles west of Sudbury, and as far as Sturgeon Falls,¹⁶ 60 miles east of Sudbury, for milk and cream.

Not only does the Sudbury Area depend upon outside sources for milk but also for all food supplies. No phase of agriculture has developed to the extent where it meets the needs of the Sudbury Area. The growing mining population produces only a negligible part of its own food.

¹¹ *Ibid.*

¹² The Sudbury Star, August 18, 1939.

¹³ Interview with Arthur Legault, manager of the factory, August 18, 1939.

¹⁴ Sudbury Star, August 18, 1939, p. 11.

¹⁵ Sudbury Star, August 18, 1939.

¹⁶ Interview with O. L. Bingham of the Palm Dairy on August 23, 1939.

In spite of excellent markets nearby and improved roads connecting this agricultural pocket with the agglomerations of population in the Sudbury Area, most of the farms and farmsteads do not look prosperous and give ample evidence that the owners are having a hard time to eke out a living. In fact, there are few farms which have always been economically independent. The present development and economic status of many

farms is understood when one realizes that money made in mining, lumbering, or trapping has been invested in these farms. It is a common practice for one or more members of a family to work in the mines for a few years. This is especially true when crops fail or the mines are booming and wages high. It is also true that what prosperity exists is primarily explained by the markets the mining industry has provided.

DISSEMINATED AGRICULTURAL LANDSCAPE AMONG THE ICE-SCoured HILLS

Two primary districts of dispersed agricultural settlement in the Sudbury Area create a distinctive landscape. The writer has named this landscape the Disseminated Agricultural Landscape among the Ice-scoured Hills. Of the two districts in this landscape, one is the Kelley Lake-Long Lake district, east of the Whitefish Lake Indian Reserve No. 6 and just south of Sudbury and Copper Cliff in Waters and Broder Townships. The other is the Beaver Lake-Vermilion River district west of the Whitefish Lake Indian Reserve No. 6 and south of Worthington and Whitefish in Lorne and Louise townships. The two districts are separated from each other by the Whitefish

Lake Indian Reserve No. 6 on which white settlement cannot take place.

These two districts differ from the Sudbury pocket in many ways. A melange of road types weaving in and out among the hills, lakes and swamps results in a serpentine road pattern in contrast with the rectangular one of the Sudbury pocket. (Compare figs. 5 and 6). Ferries and fords are numerous here; they are seldom found in the Sudbury basin. Fourth class roads (local roads slightly traveled) are more prevalent in the Disseminated Agricultural Landscape Among the Ice-scoured Hills than in the Agricultural Landscape of the Sudbury Pocket. The population pattern is also irregular

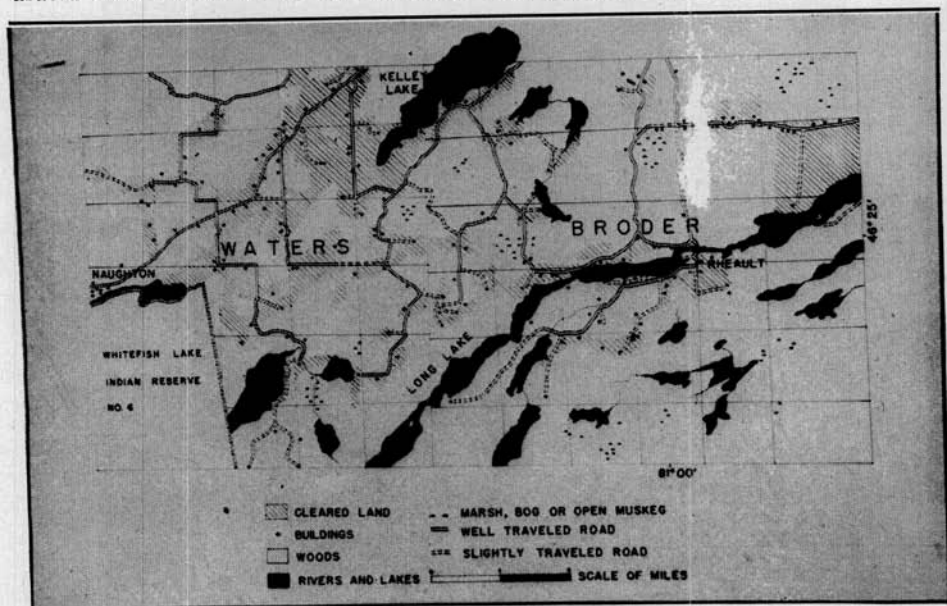


Fig. 5.—Dispersed Agricultural Settlement, Kelley Lake-Long Lake District, Sudbury Area, Ontario.

and the population density is not as great as that in the Sudbury pocket. There are only three or four houses to the square mile.

There are many evidences of pioneer farming in these districts, such as patches of cultivated crops interspersed in the second growth forest. A predominance of hay fields in which rock piles and stumps may still be seen. Whereas many of the farms in the Sudbury basin have been four-fifths or completely cleared, here the amount of cleared land is very small. These clearings appear like small islands in a sea of cut-over forest land. The cultivated fields of one farm often do not join the fields of the adjacent one. Sometimes a second growth forest of jack pine, birch and yellow poplar may completely hide one farm from another. Buildings are small and crude, and are constructed from poles, logs, and rough lumber obtained in clearing the land.

In these districts much of the land and

forests pass through three stages of development. Between 1900-1920 the large lumber companies removed the red and white pine. Then followed the French Canadian "wood chopper" or "bush farmer" who was more interested in cutting the jack pines for mine timbers and ties, the yellow poplar for pulp wood, and the birch for fuel, than he was in clearing the land for cultivation. The bush-farmer stage is followed by the Finnish farmer whose persistent efforts and frugal living made cultivation of the land possible (in these two districts the Finnish farmers outnumber the French Canadians).¹⁷

In contrast with the commercial agriculture of the Sudbury pocket, farming in these districts is chiefly one of subsistence agriculture with few cash products. Some milk and vegetables are marketed in Sudbury and the mining towns. Dairying is becoming more important as shown by an increase in the number of Ayrshire cows. In 1939 a carload of

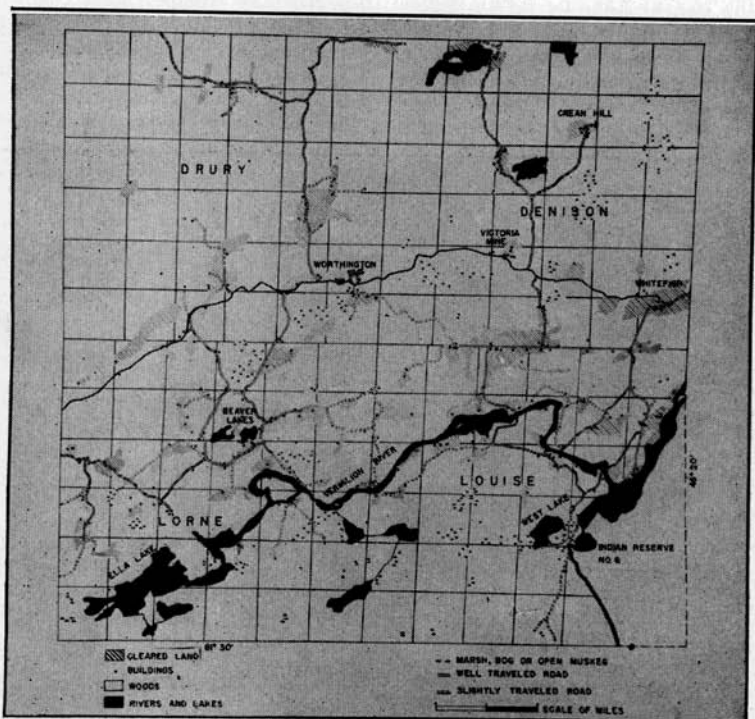


Fig. 6.—Dispersed Agricultural Settlement, Beaver Lakes-Vermilion River District, Sudbury Area, Ontario.

¹⁷ Interview with Tom Thorpe, assistant forester in Sudbury, on August 14, 1939.

Ayrshire cows were shipped from lower Ontario to Worthington for the Beaver Lake-Vermilion River district.²⁸ Money is also secured by the sale of baled hay, and both pulp and fuel wood. The money from these small sales is used to purchase meager necessities that cannot be produced on the farm.

Settlement gradually goes on in these two districts. New roads are cut through the forest and old roads improved. The number of families and farms increase and the areas of farm land become larger and more continuous. Rapid agricultural expansion is not likely, however, and boom periods only occur in the mining industry of the Sudbury Area.

Although the climate is the same and about the same kind of crops are grown in both agricultural landscapes, farming

in the Disseminated Agricultural Landscape among the Ice-scoured Hills is a battle against rougher land, poorer soil, and poorer drainage than in the Agricultural Landscape of the Sudbury Pocket.

SUMMARY

Two distinct agricultural landscapes are found in the Sudbury Area primarily because of a difference in landforms and soil. Associated with the differences in physical features are the differences in cultural forms such as road types and patterns, distribution and density of population, acreage of cleared and cultivated land per farm, crop production, and stage of economic development. Both of the agricultural landscapes are primarily dependent for their existence upon the saxicultural development of the Sudbury Area.

²⁸ Sudbury Star, August 18, 1939, p. 6.