

The Historical Geography of Agriculture in Nova Scotia, 1851-1951

By

Robert Alexander MacKinnon

B.A. Mount Allison University, 1978
M.A. Memorial University of Newfoundland, 1981

A Thesis Submitted In Partial Fulfilment of

The Requirements For The Degree Of

Doctor of Philosophy

in

The Faculty of Graduate Studies

(Department of Geography)

We accept this thesis as conforming
to the required standard

The University of British Columbia

March, 1991

© Robert Alexander MacKinnon

In presenting this thesis in partial fulfillment of the requirements for an advanced degree at the University of British Columbia, I agree that the Library shall make it freely available for reference and study. I further agree that permission for extensive copying of this thesis for scholarly purposes may be granted by the head of my department or by his or her representatives. It is understood that copying or publication of this thesis for financial gain shall not be allowed without my written permission.

Department of Geography
The University of British Columbia
Vancouver, Canada

Date 26 April, 1991

Abstract

This thesis examines the changing geography of agriculture in Nova Scotia between 1851 and 1951. Its aims are to establish and explain the patterns of farm settlement and agricultural production in Nova Scotia during a century of enormous change. During the late nineteenth and early twentieth centuries the economy and society of Nova Scotia became closely integrated with those of the rest of continental North America. Improvements in ocean and inland transportation reduced the time and costs of movement over vast distances, and changing aspirations and opportunities accompanied the shift from a predominantly rural to a predominantly urban society. Particular attention is devoted to the influences on agriculture of these changes. Three settlement zones are identified -- fishing, lumbering and farming -- and patterns of farm production and trade are examined in three time eras: the 1850s, the 1890s and the 1940s. Representative farming districts and sample farms are examined to illustrate how regional patterns manifested themselves at the community and farmstead scales.

Although mixed farming emphasizing livestock production prevailed in most districts of Nova Scotia during the century under investigation, agricultural holdings varied enormously in size, market orientation and crop and livestock mix in all three settlement zones. In the mid-nineteenth century few districts in the fishing and lumbering zones produced agricultural surpluses; indeed most failed to produce enough food to feed their populations. Agricultural production was concentrated in a farming zone that stretched across Nova Scotia's northern tier of counties, and small zones of specialty production were already visible in the landscape (potatoes in the Annapolis-Cornwallis Valley, wheat and grains in Pictou and Sydney/Antigonish Counties). Farm surpluses entered the small domestic markets of the colony, or they were exported to New England and to nearby colonies which were more dependent on fish and timber than was Nova Scotia (Newfoundland, Saint Pierre and New Brunswick). Agriculture contributed to provincial exports at a level similar to that of forestry and three times that of mining.

Between 1851 and 1891 the number of farms in Nova Scotia doubled to 60,122, and the amount of improved land increased by 240 per cent (to almost 2,000,000 acres). By the 1890s Nova Scotia's fishing and lumbering zones were far more self-sufficient in agricultural products than four decades earlier, and some hardscrabble commercial farms were regularly supplying the mines and woodworking establishments that had been established in these zones. In the farming zone new specialty products appeared (apples in the Annapolis-Cornwallis Valley, milk and cream in the districts of Hants and Colchester Counties close to railway lines), farmers continued to contribute to provincial exports at a level similar to that in the mid-nineteenth century (even though total trade had expanded considerably between 1851 and 1891), and due to the growth of the province's urban system during the last quarter of the nineteenth century the domestic market was a more important outlet for provincial farm surpluses than had been the case in the mid-nineteenth century. However, as a consequence of growing interregional connectivity Nova Scotian farmers were experiencing stiff competition from distant, well-endowed agricultural regions in local and external markets and farm families adjusted their operations to the changed circumstances. Dairying, fruit and poultry farming expanded while the production of beef cattle, sheep, potatoes and most grains declined. Marginal operations were abandoned.

Between 1891 and 1941 the number of farms in Nova Scotia fell by almost half and a larger proportion of the 24,000 farms remaining in the province in 1951 (25 per cent fewer than in 1851) were "subsistence", "part-time" or "idle" operations than in the nineteenth century. Nonetheless, the gross value of agricultural production remained remarkably stable during this period despite declines in farms and farmland. Remaining commercial farms were more capital-intensive and specialized than in the nineteenth century and they were more concentrated in the central and western portions of the farming zone where the best soils and climatic conditions for agriculture were found. Peri-urban dairying zones encircled Nova Scotia's several urban/industrial regions. Although

provincial farmers continued to contribute to exports in the twentieth century, by 1950 the relative position of agriculture in provincial exports had declined considerably, and the domestic markets were the most important outlets for surplus agricultural products. Yet Nova Scotian farmers supplied only about one-third of the food consumed in the province and the population remained dependent upon distant agricultural regions.

This is essentially a case study of one important segment of Maritime Canada. However, it demonstrates a process of rural change that was repeated in nearby New Brunswick and Prince Edward Island, and in parts of New England, Quebec and Ontario. Changes in the efficiency of ocean and inland transportation in the late nineteenth and early twentieth centuries transformed the costs of transporting food from distant regions and the resulting interregional competition in domestic and external markets forced adjustments on farms in all of these areas. In general, as interregional competition increased, there was a gradual shift from the production of high bulk, non-perishable commodities for export to perishable, low bulk, high value commodities for sale in local markets. Distant specialty production regions -- in Western Canada, the United States, New Zealand, Australia, and Central and South America -- became the principal sources of supply of many agricultural staples for consumers all along the eastern fringe of the North American continent, and rural outmigration and farmland abandonment accompanied rising farm productivity and agricultural specialization in nearby agricultural regions. As the twentieth century wore on, farms in Nova Scotia increasingly concentrated on products that retained a competitive advantage in domestic markets because of their perishability (fluid milk, cream, poultry eggs, market garden vegetables, apples and berries). This cycle of agricultural expansion in the nineteenth century, followed by a rapid loss of farms and farmland in the twentieth century, and the increasing concentration of capital-intensive, specialized farming in a few nodes with physiographic or market advantages over distant producing regions, was common to many long-settled agricultural regions in eastern North America.

v
Table of Contents

| | Page |
|--|--------|
| Abstract | ii |
| Table of Contents | v |
| List of Tables | viii |
| List of Figures | x |
| Acknowledgements | xiii |
| Chapter 1: Introduction | 1 |
| Chapter 2: Setting the Scene: Mid-Nineteenth Century Nova Scotia | 15 |
| Demographic Patterns | 15 |
| Physiography, Climate and Soils | 18 |
| The Forest Cover | 20 |
| The Economic Geography of Nova Scotia | 24 |
| The Commercial Network | 30 |
| The Transportation System | 36 |
| Chapter 3 : Parameters of Change in Nova Scotia, 1851-1951 | 40 |
| Demographic Trends | 40 |
| Agricultural Trends | 49 |
| Agricultural Trade | 52 |
| The Market Hinterland | 55 |
| Agricultural Specialization | 56 |

| | Page |
|--|------|
| Chapter 4 : Nova Scotian Agriculture in the Mid-Nineteenth Century | 69 |
| Nova Scotia's Settlement Zones | 71 |
| The Fishing Zone | 72 |
| The Lumbering Zone | 74 |
| The Farming Zone | 75 |
| The Potato Belt | 78 |
| Central Nova Scotia | 81 |
| The Grain Belt | 82 |
| Eastern Cape Breton | 87 |
| Hardwood Hill (Pictou County) Case Study | 89 |
| The New Rhynie and Woodworth Farms | 102 |
| The Seasonal Round | 109 |
| The Domestic Market | 121 |
| Export Markets | 125 |
| Summary | 128 |
| Chapter 5 : Nova Scotian Agriculture in the Late Nineteenth Century: | |
| The Critical Years | 131 |
| The Fishing Zone | 132 |
| The Lumbering Zone | 139 |
| The Farming Zone | 152 |
| The Fruit Belt | 153 |
| The Emerging Central Dairy Belt | 157 |
| The Mixed Farming Belt | 162 |
| Eastern Cape Breton | 171 |
| Summary | 175 |

| | Page |
|--|------|
| Chapter 6 : The 1940s: Change and Persistence in Rural Nova Scotia | 177 |
| The Fishing Zone | 179 |
| The Lumbering Zone | 186 |
| The Farming Zone | 192 |
| The Fruit Belt | 195 |
| The Central Dairy Belt | 203 |
| The Eastern Dairy Belt | 209 |
| The Mixed Farming Belt | 215 |
| The Domestic Market | 224 |
| Export Markets | 233 |
| Summary | 235 |
| Chapter 7 : Conclusions and Wider Implications | 239 |
| Bibliography | 263 |
| Appendix | 289 |

viii
List of Tables

| | Page |
|--|---------|
| Table 2-1 Farm Production Per Capita, Nova Scotia, New Brunswick, Canada West and Canada East, 1851 | 29a |
| Table 2-2, Principal Stage Coach Routes in Nova Scotia, Circa 1850 | 38a |
| Table 3-1, Percentage Change in Nova Scotia's Population, By County, 1851-1901 | 44a |
| Table 3-2, Percentage Change in Nova Scotia's Population, By County, 1901-1951 | 44b |
| Table 3-3, Demographic Change in Pictou County, 1871-1901 | 44c |
| Table 3-4, Nova Scotia's Male Labour Force, By Sector, 1851-1951 | 50a |
| Table 3-5, Nova Scotia's Exports By Sector, 1851-1937 | 52a |
| Table 3-6, Nova Scotia's Agricultural Balance of Trade 1854-1900 | 54a |
| Table 3-7, Nova Scotia's Agricultural Exports By Destination, 1885 | 56a |
| Table 4-1, Average Production Per family in Nova Scotia's Farming Zone, Principal Crops and Livestock, 1851 | 81a |
| Table 4-2, Movement of People and Commodities at Ten Mile House, Onslow Bridge and Fort Lawrence, 1848 | 122a, b |
| Table 5-1, Average Production Per Family, Principal Crops and Livestock, The Fruit Belt, 1851-1891 | 155a |
| Table 5-2, Average Production Per Family, Principal Crops and Livestock, The Central Dairy Belt, 1851-1891 | 157b |
| Table 5-3, Average Production Per Family, Principal Crops and Livestock, The Mixed Farming Belt, 1851-1891 | 163a |
| Table 5-4, Average Production Per Family, Principal Crops and Livestock, Eastern Cape Breton, 1851-1891 | 171a |
| Table 6-1, Average Production Per Family, Principal Crops and Livestock, The Fruit Belt | 195b |
| Table 6-2, Summary of Apple Orchard Census, The Annapolis-Cornwallis Valley, 1939-1940 | 195c |
| Table 6-3, Geographical Branch Survey of Nova Scotia's Fruit Belt, 1953 | 201a |

| | |
|---|------|
| Table 6-4, Average Production Per Family, Principal Crops and Livestock, The Central Dairy Belt | 203b |
| Table 6-5, Average Farm Earnings in the Farming Zone, By Subregion, 1941 | 203c |
| Table 6-6, Average Production Per Family, Principal Crops and Livestock, The Eastern dairy Belt, 1891-1941 | 211a |
| Table 6-7, Land Use and Livestock Per family in the Eastern Dairy Belt, By Region, 1939 | 212a |
| Table 6-8, Average Family Income in the Eastern Dairy Belt, By Region, 1939 | 213b |
| Table 6-9, Average Production Per Family, Principal Crops and Livestock, The Mixed Farming Belt | 216a |
| Table 6-10, Value of Farm Products Marketed in Sydney and Vicinity, 1937 | 225b |
| Table 6-11, Vegetables and Fruits Marketed in the New Glasgow Region, 1949-1950 | 229a |
| Table 6-12, Meats Marketed in Halifax, By Volume, Value and Type, 1947-1948 | 231a |

X
List of Figures

| | Page |
|--|--------|
| Figure 2-1 Population Distribution in Nova Scotia, 1851 | 17a |
| Figure 2-2, Soil Capability for Agriculture in Nova Scotia | 20a |
| Figure 2-3, Forest Zones in Nova Scotia | 21a |
| Figure 2-4, Nova Scotia Exports By Port, 1854 | 25a |
| Figure 2-5, Coal Mining Settlement at Lingan, Cape Breton, circa 1870 | 25b |
| Figure 2-6, Fishing Premises on Nova Scotia's South Shore in the Mid-Nineteenth Century | 25c |
| Figure 2-7, Improved Land in Nova Scotia, By County, 1851 | 27a |
| Figure 2-8, Improved Land in Nova Scotia in Pasture, Crops, and Marsh, 1851 | 28a |
| Figure 2-9, 'Great Roads' and 'Bye Roads' in Nova Scotia, Circa 1850 | 37a |
| Figure 3-1 Population Distribution in Nova Scotia, 1891 | 41a |
| Figure 3-2, Population Distribution in Nova Scotia, 1941 | 47a |
| Figure 3-3, Demographic Change in Nova Scotia, 1851-1951 | 47b |
| Figure 3-4, Farms and Farmland in Nova Scotia, 1851-1951 | 49a |
| Figure 3-5, Grain Crops in Nova Scotia, 1851-1951 | 51a |
| Figure 3-6, Other Field Crops in Nova Scotia, 1851-1951 | 51b |
| Figure 3-7, Livestock and Animal Products in Nova Scotia | 51c, d |
| Figure 3-8, Livestock in Cape Breton Island, 1851-1951 | 64a |
| Figure 3-9, Livestock in Halifax and Pictou Counties, 1851-1951 | 64b |
| Figure 3-10, Livestock in Kings, Annapolis and Digby Counties, 1851-1951 | 64c |
| Figure 3-11, Livestock in Hants, Cumberland and Colchester Counties, 1851-1951 | 65a |
| Figure 3-12, Livestock in Queens, Shelburne, Lunenburg and Guysborough Counties, 1851-1951 | 65b |
| Figure 3-13, Principal Crops in Kings and Annapolis Counties, 1851-1951 | 67a |

| | Page |
|---|------|
| Figure 3-14, Principal Crops in Pictou, Colchester and Cumberland Counties, 1851-1951 | 67b |
| Figure 3-15, Principal Crops in Antigonish and Inverness Counties, 1851-1951 | 67c |
| Figure 4-1, View From Retreat Farm, Windsor, Nova Scotia, Circa 1840 | 69a |
| Figure 4-2, Lochaber Lake, Sydney County, Nova Scotia, Circa 1830 | 69b |
| Figure 4-3, Settlement Zones in Nova Scotia, 1851 | 71a |
| Figure 4-4, Improved Land Per Family in Nova Scotia, 1851 | 76a |
| Figure 4-5, Potato Production in the Annapolis-Cornwallis Valley, 1851 | 79a |
| Figure 4-6, Butter Production in Nova Scotia's Grain Belt | 84a |
| Figure 4-7, Cattle Per Family in Nova Scotia's Grain Belt | 84b |
| Figure 4-8, Improved Land in Hardwood Hill, Pictou County, 1851 | 90a |
| Figure 4-9, Demographic Profile of Hardwood Hill, Pictou County, 1851 | 92a |
| Figure 4-10, Farm Size and Average Farm Value in Hardwood Hill, 1851 | 97a |
| Figure 4-11, Average Cropland and Livestock in Hardwood Hill, By Farm Size, 1851 | 100a |
| Figure 4-12, John Murray's New Rhynie Farm Sales, 1853 | 104a |
| Figure 4-13, Nathan Woodworth's Farm Sales, 1850 | 105a |
| Figure 4-14, Seasonal Farming Activity, An Upland Farm in the Mid-Nineteenth Century | 109a |
| Figure 5-1, Farming Zones in Nova Scotia, 1891 | 133a |
| Figure 5-2, Maurice Harlow's Annual Activities, 1880 | 146a |
| Figure 5-3, Timber Shanty in Nova Scotia's Lumbering Zone, Circa 1910 | 148a |
| Figure 5-4, The Harlow Farm, North Brookfield, Queens County, Circa 1910 | 150a |
| Figure 5-5, Improved Land Use on the Harlow Farm, 1880 | 151a |
| Figure 5-6, Improved Land Per Family in Nova Scotia, 1891 | 152a |
| Figure 5-7, Nova Scotia Apple Sales, 1880-1910 | 154a |
| Figure 5-8, R. J. Whitten and Company Accounts (Halifax), 1899-1900 | 157a |

| | Page |
|--|------|
| Figure 5-9, Samuel Spares' Farm Sales, 1885-1890 | 166a |
| Figure 5-10, Spares Family Purchases, 1885-1890 | 167a |
| Figure 5-11, Total Transactions, Donald MacLean's Store, North River Bridge, Victoria County, 1886-1890 | 173a |
| Figure 6-1, Farming Zones in Nova Scotia, 1941 | 181a |
| Figure 6-2, Improved Land Per Farm Family in Nova Scotia, 1941 | 195a |
| Figure 6-3, Nova Scotia Apple Sales, 1915-1950 | 200a |
| Figure 6-4, Gaspereaux Valley, Circa 1925 | 202a |
| Figure 6-5, Former Orchard at Norwegian Bend, Circa 1955 | 202b |
| Figure 6-6, Abandoned Apple Warehouse at Port Williams, Kings County, 1985 | 203a |
| Figure 6-7, Milk and Cream Purchases, and Butter, Cream and Ice Cream Sales by Brookfield Creamery, 1895-1930 | 208a |
| Figure 6-8, Demographic Change in Cape Breton County, 1891-1941 | 210a |
| Figure 6-9, Farming Districts in Cape Breton County, As Defined By the Dominion Department of Agriculture, 1939 | 211b |
| Figure 6-10, Vacant Farms in Cape Breton County, By Polling District, 1939 | 213a |
| Figure 6-11 Vacant farms in Antigonish County, By Polling District, 1935 | 220a |
| Figure 6-12, Total Value of Farm Products Marketed in Sydney and Vicinity, 1937, By Source of Supply | 225a |
| Figure 6-13, Marketing Trips to Sydney By 140 Farmers, 1937 | 232a |

Acknowledgements

I am indebted to several people who assisted me in the completion of this study. The knowledgeable staff of the Public Archives of Nova Scotia were invaluable in guiding me through the rich archival sources upon which this dissertation is based. They also provided a social milieu that made my research time in Halifax extremely enjoyable. The staffs of the Dalhousie University Library and the Nova Scotia Legislative Library must also be thanked for alerting me to several theses and published works not readily accessible to a student based in British Columbia. Dr. James Morrison, of Saint Mary's University, who brought to my attention the utility of diaries and personal family papers for gaining an understanding of the rich complexity of local regions, must be thanked for the memorable field trip he led to New England during the summer of 1986, which sharpened my understanding of the similarities between New England and the Maritimes.

At U.B.C., Carol Mills, Mike Bradshaw, Gary Barrett and Ross Nelson were part of a large group of graduate students who contributed to the friendly and stimulating learning environment of the Department of Geography. My supervisor, Dr. Graeme Wynn was a model supervisor. He provided assistance and support at each stage of the dissertation process, and remained interested and excited about my work to the end. Our friendship remains.

Finally, the person to whom I owe the greatest debt is my wife Karen who put up with the transiency of a doctoral student whose study region was 3,000 miles away. Karen remained supportive during the entire process and sacrificed her own teaching career while I "finished my thesis". Only those who have been through the process can fully understand my sincere appreciation.

Chapter 1, Introduction

In the mid-nineteenth century Maritime British North America -- the colonies of New Brunswick, Nova Scotia and Prince Edward Island -- was a relatively insignificant, thinly peopled fragment of the British Empire. Together the population of these northeastern colonies barely exceeded 500,000. Maritimers -- if residents of these separate jurisdictions can be so called -- were outnumbered more than 3 to 1 by settlers of the Canadas. Their economic well-being was closely tied to a staples trading network established earlier in the century. Fish, timber, masts, spars, deals and ships, and, to a lesser extent, minerals, agricultural produce and local manufactures were sold in markets around the Atlantic: the West Indies, New England, Great Britain and Southern Europe. Salt, sugar, flour, molasses, rum, brandy, tobacco and a wide variety of other manufactures (including furniture, hardware, iron-mongery and machinery) were imported. And a large fleet of vessels -- built and financed in the 3 colonies -- participated in a carrying trade that circled the globe.¹

Measured by the nature of their exports the colonies differed considerably. New Brunswick depended heavily upon wood exports; its social and economic development was closely tied to fluctuations in world markets for timber and forest products, which frequently accounted for more than three quarters of its exports.² Prince Edward Island exported agricultural products to Nova Scotia, New Brunswick, St. Pierre, Newfoundland and the West Indies.³ Only the export base of Nova Scotia can be considered relatively diversified. Fish for West Indian and Mediterranean markets was clearly Nova Scotia's

¹ Together, Nova Scotia, New Brunswick and Prince Edward Island ranked fourth in registered tonnage of world shipping, Donald D. Smiley, ed., The Rowell Sirois Report, Book 1 (Toronto : Mc Clelland and Stewart Ltd., 1963), p. 16.

² Graeme Wynn, Timber Colony: A Historical Geography of Early Nineteenth Century New Brunswick (Toronto: University of Toronto Press, 1981), p. 43.

³ Andrew H. Clark, Three Centuries and the Island: A Historical Geography of Settlement and Agriculture in Prince Edward Island (Toronto: University of Toronto Press, 1959), p. 116.

leading staple, accounting for about forty per cent of its annual exports at mid-century, but in this more diversified economy, agricultural products, forestry, mining and manufacturing all contributed significantly to export.⁴

Yet almost everywhere in these colonies, and despite the distant reach of their external trade, lives were lived in extremely local circumstances. Four-fifths of the area's 530,000 residents lived in relatively isolated rural settlements scattered around the coast or along the river valleys stretching inland. The majority of them operated small farms typically with fewer than thirty cleared acres. Hay, potatoes, turnips, a variety of grains (oats, wheat, barley, rye) and especially cattle and sheep were raised in different combinations from county to county; butter, cheese, cloth, flannel, soap and candles were also produced, mainly for use in the household. The primary purpose of most farms was to raise a family. Much of the surplus of foodstuffs and goods that these families produced entered local trade to supply the region's small urban or non-farm population; some of it -- generally but a fraction of the whole -- entered official records when it was shipped along established trading routes to Newfoundland, the West Indies, New England or Great Britain.

Thus, two overlapping economic systems coexisted in mid-nineteenth century Maritime British North America -- one external and dependent upon international markets for fish, timber, and to a lesser extent agricultural products and minerals, the other domestic and based on local markets for foodstuffs and manufactured goods. Sawmilling and shipbuilding -- industries closely linked to the international economy -- dominated colonial manufacturing. In Nova Scotia they accounted for more than 60 per cent of the colony's manufacturing output, estimated at \$2,694,432.⁵ Industries dependent upon the

⁴ See annual export figures for Nova Scotia recorded in Colonial Office Blue Books of Statistics, Series 221 [hereafter CO. 221], Vols. 64-71, 1850-60, Public Archives of Nova Scotia [hereafter PANS].

⁵ L.D. McCann, "The Mercantile-Industrial Transition in the Metal Towns of Pictou County, 1857-1931", *Acadiensis* 10, 2 (1981), p. 30.

domestic market were less important in overall economic terms. The output of grist mills, tanneries, shoemaker's shops, carding mills, blacksmith's smithys, carriage works, breweries and distilleries, which for the most part produced for the domestic market, totalled less than 25 per cent of Nova Scotia's total manufacturing output.⁶ While agriculture's contribution to the international staple economy of the region was modest, relative to fish, timber, and shipbuilding, farming was the backbone of the domestic economy.

Although stung by the repeal of colonial preferences for timber in the 1840's, the region's staples trading economy continued to grow during the 1850s and early 60s.⁷ The Crimean War inflated demands for lumber in Britain, gold rushes in California and Australia boosted shipbuilding and the carrying trades and the signing of the Reciprocity Treaty with the United States in 1854 opened new markets for lumber, fish, coal and such agricultural surpluses as were produced.⁸ At the same time colonial governments launched rather ambitious debt-financed railway construction schemes aimed at diversifying colonial economies.⁹ All of these developments, in combination with the price inflation and

⁶ L.D. McCann, "'In Accordance With the Law of City Growth', The Metals Industry and Urban Growth in Pictou County, 1858-1929", Paper Presented at Atlantic Canada Studies Conference, Dalhousie University, Halifax, Nova Scotia, April 25, 1980, p. 2.

⁷ S. A. Saunders, "The Maritime Provinces and the Reciprocity Treaty", Dalhousie Review 14, 2 (1934), pp. 355-71, and "The Maritime Provinces and the National Policy: Comments Upon Economic Regionalism in Canada", Dalhousie Review 16 (1936), pp. 87-97.

⁸ W. L. Marr and D. G. Paterson, Canada: An Economic History (Toronto: Gage Publishing Ltd., 1980), pp. 140-45; Between 1850 and 1861 exports of Nova Scotian coal to the United States grew from 180,084 to 472,788 long tons while the United States' share of the colony's total agricultural exports grew from 10 per cent to 27 per cent. Stanley Saunders, The Economic History of the Maritime Provinces, ed. T.W. Acheson (Fredericton, N.B.: Acadiensis Press, 1984), p. 126; Marr and Paterson, Canada: An Economic History, p. 143.

⁹ Rosemarie Langhout, "Developing Nova Scotia: Railways and Public Accounts, 1847-67", Acadiensis 14, 2 (1985), pp. 3-28; G.P. deT. Glazebrook, A History of Transportation in Canada, vol. 1 (Toronto: McClelland and Stewart Ltd., 1964), p. 152.

increased demands on fish, timber, mineral and agricultural products generated by the the disruption of production in the United States as a result of the Civil War meant that economic expansion continued through to the mid 1860s, producing what has long been described as a "golden age" of prosperity throughout the region. But, with the cessation of the war and the abrogation of Reciprocity, both in 1866, the expansion and prosperity of the previous decade and a half were undermined. Confederation appeared, at least in part, as a solution to problems created by the colonies' strong dependence on uncertain foreign markets.

Confederation was however a divisive issue that cut across traditional party lines.¹⁰ Pro-Confederates argued that the future of the Maritimes lay in the development of the continental interior. As the population of Canada West grew at a rate far in excess of that in the Maritime colonies they suggested that direct rail connections with Central Canada would stimulate economic diversification, especially around the coalfields of the region, and open a wider trading hinterland to all colonies involved. Furthermore, the traditional entrepot function of both Halifax and Saint John would be preserved and indeed expanded; because Central Canada's ports remained ice bound during several winter months Pro-Confederates argued that a railroad would inevitably stimulate commerce between the two regions. Not surprisingly, union support was most heavily concentrated in those districts which stood to gain the most from industrial development.¹¹

Anti-Confederates, on the other hand, greatly feared the loss of local control over resources, tariffs, and trade policy that such an arrangement would bring and predicted disastrous implications for the Atlantic-focused trading economy. They gained popular

¹⁰ P.B. Waite, The Life and Times of Confederation, 1864-67, Politics, Newspapers and the Union of British North America (Toronto: University of Toronto Press, 1962), pp. 193-228.

¹¹ Delphin A. Muise, "The Federal Election of 1867 in Nova Scotia: An Economic Interpretation", Nova Scotia Historical Society Collections 36 (1968), pp. 327-51.

support in those areas most tied into the traditional "wood, wind and sail" staples economy and gained the backing of local merchants and bankers.¹² Yet, in spite of the region's general suspicion of this political and economic arrangement, Nova Scotia entered Confederation in 1867 without an election and New Brunswick voted for the union, albeit, by a narrow margin. Only Prince Edward Island opted out, anticipating a renewed trading arrangement with the United States, but, when this did not appear, and railroad debts began to mount, Prince Edward Island entered Confederation in 1873.

This period has long been perceived as critical in the development of the Maritimes. As Innis and Fay had it in their treatment of the region's development in The Cambridge History of the British Empire "the economic history of the three provinces ... is one of prosperity so long as their face was toward the sea, and of struggle against adversity when the pull of the land increased as happened very shortly after Confederation".¹³ A trade recession followed close upon the heels of the loss of wartime stimuli in 1866, and a major international depression ensued in the 1870s which further constricted international markets for the region's staple products.¹⁴ At the same time technological changes that revolutionized both land and sea transportation began to influence internal patterns of trade within the Maritimes. In Nova Scotia, for example, a rail line linking Halifax and Windsor (Hants County) was completed in 1854, a line connecting Halifax and Truro (Colchester County) was finished four years later, and an extension was pushed through to Pictou

¹² Waite, The Life and Times, p. 208.

¹³ H. A. Innis and C. R. Fay, "The Economic Development of Canada, 1867-1921: The Maritime Provinces", in The Cambridge History of the British Empire, vol. 6, ed., J. Rose (Cambridge: The University Press, 1930), p. 670.

¹⁴ The dumping of American and European sugar on the world market during the 1870s reduced the ability of the West Indies' merchants to purchase fish caught in the waters off Nova Scotia, New Brunswick and Prince Edward Island, and thus contributed to the economic problems of the region in the post-Confederation era. T. W. Acheson, "The National Policy and the Industrialization of the Maritimes, 1880-1910", Acadiensis 1, 2 (1971), p. 6.

(from Truro) in 1866.¹⁵ Railroad expansion continued during the 1860s and 70s until in 1876, when the Intercolonial Railway reached Halifax from Quebec City, Maritimers could boast of almost 2,000 miles of railway in the region, five times that which was in place at Confederation.¹⁶ In addition, steamships were crossing the Atlantic far more quickly and consistently than sailing vessels by this date, and the screw propellor had replaced sidewheel housings on many vessels, thus raising their cargo capacity.¹⁷ The overall effect of these technological developments was to reduce international freight rates.¹⁸ This brought distant regions into competition with domestic products in local and international markets. Traditional exports of fish, timber and related products declined (masts, spars, deals, ships), new industries, protected by the National Policy of 1879 sprang up, and trade with Central Canada increased rapidly.¹⁹ By the end of the nineteenth century more than 60,000 persons were employed in Nova Scotia's industrial sector; a decade later the urban population stood at 35 per cent.²⁰ A new industrial nation had been "forged" from

¹⁵ G. P. deT. Glazebrook, A History of Transportation in Canada, Vol. 1, Continental Strategy to 1867, (Toronto: Ryerson Press, 1938; reprinted Toronto: McClelland and Stewart, 1964), pp. 151-2.

¹⁶ Gordon MacKay Haliburton, "A History of Railways in Nova Scotia", M.A. Thesis, Dalhousie University, 1955, p. 383.

¹⁷ C.F.J. Whebell, "The Effect of Transport Innovation on the Countryside", in Second Annual Agricultural History of Ontario Seminar Proceedings, ed., T.A. Crowley (Guelph: Office of Continuing Education, University of Guelph, 1977), p. 39.

¹⁸ Douglas North, "Ocean Freight Rates and Economic Development, 1750-1913", Journal of Economic History, 18 (1958), p. 569.

¹⁹ T.W. Acheson, "The National Policy and the Industrialization of the Maritimes", pp. 3-28.

²⁰ Census of Canada, 1901, 1911.

the formerly isolated and diverse colonies of mid-nineteenth century British North America.²¹

Despite impressive urban and industrial growth in Nova Scotia in the last twenty years of the nineteenth century, industrialization was not sustained long after the turn of the century. Fierce competition among consumer goods industries located in eastern and Central Canada resulted in the transfer of ownership and capital of many industries out of the region beginning as early as the 1890s, and when industrial infrastructures were later rationalized it was often done at the expense of Maritime plants.²² These developments were paralleled by changes in the structure of the region's banking and financial community. Ownership and control of several local banks passed into the hands of Central Canadian shareholders and head offices were moved to Montreal and Toronto.²³ By the end of the first decade of the new century much of the industrial activity which remained was centred on the coal and steel producing regions of Nova Scotia, stimulated by railroad expansion and protected by tariffs and preferential freight rates.²⁴ Yet, like the dwindling consumer goods industries, organization and control over these industries was by now

²¹ Graeme Wynn, "Forging a Canadian Nation", in North America: The Historical Geography of a Changing Continent eds., R.D. Mitchell and P.A. Groves (Totowa: Rowman and Littlefield, 1987), pp. 373-409.

²² T.W. Acheson, "The Maritimes and Empire Canada", in Canada and the Burden of Unity, ed. David J. Bercuson (Toronto: MacMillan of Canada, 1977), pp. 95-6; McCann, The Mercantile-Industrial Transition", pp. 62-3.

²³ James D. Frost, "The 'Nationalization' of the Bank of Canada, 1880-1910", Acadiensis 12,1 (1982), pp. 3-38. This undoubtedly had a profound impact on the ability of local entrepreneurs to finance new industrial concerns.

²⁴ Coal produced on the coal fields of Cape Breton, Pictou and Cumberland Counties tripled again between 1900 and 1920. By this latter date over 12,000 men were employed directly in the Province's mines, and a further several thousand in related iron and steel manufacturing. Saunders, The Economic History of the Maritime Provinces, p. 125; Dominion Bureau of Statistics, The Maritime Provinces Since Confederation: A Statistical Study of their Social and Economic Conditions During the Past Sixty Years (Ottawa: F. Acland, 1927), pp. 64, 75.

being wielded from outside of the region, and decisions made from afar frequently had inimical consequences for local industrial workers.²⁵

The 1920s profoundly influenced the twentieth century development of the Maritimes. The international recession which began in the Spring of 1920 provoked a protectionist response by the United States which severely constricted export markets for many Maritime products.²⁶ At the same time, with the revival of fisheries in Britain, France and Portugal at the end of the war, and growing competition from Norway and Iceland in international fish markets, Nova Scotia's fishery faced an uncertain economic future.²⁷ The price of fish dropped steadily during the early 1920s and at the end of the decade there were 25 per cent fewer fishermen in the region than in 1920.²⁸ Coal as a source of industrial energy was facing competition from oil and hydro electric power and, as national railroad expansion declined, the region's steel mills (whose main products were rails and ingot steel) were worked well below their capacity. Nova Scotia coal was also facing competition in Central Canadian markets from cleaner burning coal mined in

²⁵ David Frank, "Class Conflict in the Coal Industry, Cape Breton, 1922", in Essays in Working Class History, eds. Gregory S. Kealey and Peter Warrian (Toronto: McClelland and Stewart Ltd., 1976), pp. 161-84; Idem, "The Cape Breton Coal Industry and the Rise and Fall of the British Empire Steel Corporation", Acadiensis 7 (1977), pp. 3-34; Don MacGillivray, "Cape Breton in the "1920s: A Community Besieged", in Essays in Cape Breton History, ed. Brian D. Tennyson (Windsor, Nova Scotia: Lancelot Press, 1973), pp. 49-63; and Idem, "Henry Melville Whitney Comes to Cape Breton: The Saga of a Gilded Age Entrepreneur", Acadiensis 9 (1979), pp. 44-70.

²⁶ The Emergency Tariff of 1921 was followed by the avowedly protectionist Fordney-McCumber Act of 1922 which placed new duties on fish, lumber, coal and agricultural products, the principle products of the three Maritime Provinces. Thomas A. Bailey and David M. Kennedy, The American Pageant: A History of the Republic (Lexington, Massachusetts: D.C. Heath and Co., 1987), p. 725.

²⁷ For further comments on the recession of the 1920s and its consequences for the Maritimes see Ernest Forbes, The Maritime Rights Movement, 1919-1927: A Study in Canadian Regionalism (Montreal: McGill-Queen's University Press, 1979), pp.54-72.

²⁸ Forbes, Maritime Rights, p. 55; Graeme Wynn, "The Maritimes: The Geography of Fragmentation and Underdevelopment", in Heartland and Hinterland: A Geography of Canada, ed., L.D. Mc Cann (Scarborough: Prentice-Hall Inc., 1987), p. 195.

Pennsylvania and Virginia.²⁹ These developments, along with freight rate adjustments in 1918 -- which effectively raised rates on Maritime goods carried on the Intercolonial between 140 and 216 percent -- threw the industrial economy of the Maritimes into chaos.³⁰ Between 1918 and 1921 employment in manufacturing fell by about 40 per cent and by the mid 1920s the net value of regional manufacturing output was less than one-half its 1919 level.³¹ In many communities these job losses were permanent.³²

Following a brief resurgence in the economy of the Maritimes during the late 1920s based on pulp and paper, hydroelectricity, tourism and related construction developments, the economy languished during the 1930s. While employment levels across the region declined, the population of Prince Edward Island showed an increase for the first time in five decades during the 1930s and Nova Scotia and New Brunswick recorded the largest percentage increases in their populations since the mid-nineteenth century.³³ These trends reflect the lack of economic opportunities at home and abroad during the "Great Depression" which severely curtailed outmigration and led to the return of many "Maritimers" who were living in the United States to the communities in which they were

²⁹ Average coal production per worker in Pennsylvania and Virginia was almost double that of Nova Scotia's mines, providing United States' operations with a significant cost advantage over Nova Scotia's mines. In 1926 Nova Scotia's mines averaged 2.26 tons per worker per day while those in Pennsylvania and Virginia respectively averaged 4.37 and 4.9 tons. Forbes, Maritime Rights, p. 58.

³⁰ Ernest Forbes, "Misguided Symmetry: The Destruction of Regional Transportation Policy for the Maritimes", in Canada and the Burden of Unity, ed., David J. Bercuson (Toronto: Macmillan of Canada, 1977), pp. 66, 71.

³¹ Wynn, "The Maritimes: The Geography of Fragmentation and Underdevelopment", p.195.

³² Forbes, "Misguided Symmetry", p.71.

³³ Census of Canada, 1931, 1941.

born.³⁴ Incomes dropped by as much as 75 per cent in some areas and subsistence activities replaced wage labour.³⁵

Towards the end of the decade economic conditions began to improve. Lumber production revived with the introduction of imperial preferences and renewed trade agreements with the United States. The coal industry was stimulated by the introduction of bounties and bonuses for the use of Canadian coal in the production of coke (for the manufacture of iron and steel).³⁶ And the expansion of the pulp and paper industry and associated hydroelectric developments provided some respite from the "hard times" of the 1920s and 30s for some industrial workers. In general, the war years (1939-45) provided an unprecedented domestic market for Maritime primary and manufactured products. But this disappeared as rapidly as it had emerged. Chronic economic problems reappeared after 1945. By the 1950s, the Maritimes were quickly becoming a "client economy", incapable of producing goods for sale in Central Canada but forced by national policies that had earlier promised economic security to purchase most consumer requirements from Central Canadian industry. Even the region's wholesaling industry, which by this decade distributed mainly manufactured goods produced outside of the region to local customers, was gradually being undermined by the national merchandising firms which experienced enormous growth in the post-war era.³⁷

³⁴ Between 1931 and 1941 32,574 Canadians who had been living in the United States returned to the Maritime Provinces. Dominion Bureau of Statistics, The Maritime Provinces in Their Relation to the Maritime Provinces of Canada (Ottawa: Dominion Bureau of Statistics, 1948), p. 6.

³⁵ W.A. MacKintosh, The Economic Background of Dominion-Provincial Relations, Appendix 3 of the Royal Commission on Dominion-Provincial Relations, ed. J.H. Dales (Toronto: McClelland and Stewart Ltd., 1964), p. 134.

³⁶ Saunders, The Economic History of the Maritime Provinces, pp. 45, 50.

³⁷ Acheson, "The Maritimes and Empire Canada", pp. 99-100.

This outline of the region's economic history is now well known. But all accounts of it focus, in the end, on the effects of industrial, financial and transport adjustments. We know little about the adjustments made in rural areas of the Maritimes to the sweeping economic changes of the late nineteenth and early twentieth centuries. Demographic and migration studies have shown that overall outmigration from the area, which began as early as the 1850s and 60s, reached "epidemic proportions" during the last two decades of the nineteenth century and that 100,000 Maritimers left the region in each of the first three decades of the twentieth century, but few have ever considered how rural communities responded to this loss of population and to the new circumstances of rural life.³⁸ It has long been perceived that industrialization, "destroyed a magnificent achievement, an integration of capital and labour, of lumbering, fishing and agriculture, on which rested a progressive community life".³⁹ Yet, to date there are few studies of the Maritime's rural economy which will allow an accurate appraisal of this statement.

This thesis, therefore, examines the historical geography of agriculture in Nova Scotia between 1851 and 1951. It begins by describing the physical base upon which agricultural settlement took place, by outlining in broad terms the patterns of settlement and economic activities in the mid-nineteenth century, and by delimiting the commercial and transportation networks that linked rural Nova Scotia to the wider Atlantic world of trade and commerce. This is followed by a chapter which establishes the parameters of geographical change in Nova Scotia between 1851 and 1951 by focussing on demographic trends, farm production trends, changing patterns of agricultural trade, and the rise of specialty farming in different parts of Nova Scotia. The explicit "vertical themes" approach

³⁸ Alan A. Brookes, "Outmigration from the Maritime Provinces, 1860-1890: Some Preliminary Considerations", *Acadiensis* 5, 2 (1976), pp. 26-55; Patricia A. Thornton, "The Problem of Outmigration from Atlantic Canada, 1871-1921: A New Look", *Acadiensis* 15, 1 (1985), pp. 3-34.

³⁹ Innis and Fay, "The Economic Development of Canada, 1867-1921: The Maritime Provinces", p. 663.

of this chapter presents a broad overview of the changing form and character of rural Nova Scotia between 1851 and 1951, and provides a context for the closer investigation of patterns of settlement, work and trade in Nova Scotia's farming districts in subsequent chapters.⁴⁰ Chapters 4, 5 and 6 are organized as cross-sectional views of rural Nova Scotia in three time eras: the 1850s, 1890s and 1940s. They illuminate the geography of crop and livestock production in three settlement zones (fishing, lumbering and farming), patterns of farm work, and domestic and external market conditions for Nova Scotian farm products. An explanatory narrative deals with developments and changes that occurred in the intervening time periods and assesses the contribution of farming to Nova Scotia's economy. Representative farming districts and sample farms are examined to illustrate how changes in political, technological and economic conditions manifested themselves at the district and farmstead scales. Chapter 7 outlines the conclusions and wider implications of this study in the context of the historical and geographical literature that deals with agriculture in eastern North America in the nineteenth and twentieth centuries.

This is essentially a case study of agricultural development in one important segment of the Maritimes. However, it outlines a process of rural change that is central to our understanding of the evolution of eastern North America in the late nineteenth and early twentieth centuries. The growth of large urban and industrial "core regions" in western Europe, in the eastern United States, and in Central Canada in the late nineteenth and early twentieth centuries created ever-increasing demands for a wide array of foodstuffs, which stimulated the "protracted expansion" of agricultural production in nearby and distant geographical areas.⁴¹ These "core regions" supplied manufactured goods to outlying

⁴⁰ For a succinct summary of the development of North American Historical Geography, which outlines several of the methodological approaches developed by early practitioners of the discipline, including "vertical themes", see Graeme Wynn's "Introduction" to People, Places, Patterns, Processes: Geographical Perspectives on the Canadian Past, ed. Graeme Wynn (Toronto: Copp Clark Pitman Ltd., 1990), pp. 1-37.

⁴¹ J. Richard Peet, "The Spatial Expansion of Commercial Agriculture in the Nineteenth Century: A Von Thunen Interpretation", Economic Geography 45, 4 (1969), pp. 283-301.

regions and became important markets for food and raw materials from the hinterland regions. Thus, agricultural imports to these growing metropolitan regions rose quickly during the last quarter of the nineteenth century, as new areas of supply came into production and as changes in the efficiency of ocean and inland transport facilitated the movement of agricultural and other goods across vast distances.⁴² At the same time technological developments in agricultural production and processing favoured the concentration of production in areas which were best suited for the production of specific crops, and large specialty zones of production appeared.⁴³ Extensive livestock grazing and grain producing regions in the interior plains of North America, in New Zealand, and in Australia gradually became principal sources of meat, wheat and wool for these markets, and urban consumers became dependent upon a range of other products from California, Mexico and South America. Farmers in the vicinities of these "core regions", who had once been the primary suppliers of these markets, were forced to adjust their operations to the changed circumstances of increased interregional competition. Marginal farms were abandoned, and those who continued to work the land concentrated on commodities which retained a competitive position in domestic markets either because of their perishability (milk, cream, eggs, poultry, berries) or their low value or bulky nature (cabbage, market garden vegetables, fuel, pit props, pulp wood).

⁴² As Michael Chisholm points out, "it was not just a matter of steamships replacing sail, and the expansion of railway networks across the major land masses". The completion of the Suez and Panama canals (in 1869 and 1914 respectively) "reduced the distance of many ocean routes dramatically", the development of the telegraph promoted international commerce by making possible "the world-wide transmission of information about commodity needs, supplies, prices and shipments", and international freight rates "fell dramatically" during the late nineteenth and early twentieth centuries. Modern World Development: A Geographical Perspective (London: Hutchinson and Co., 1982, 1984), p. 82.

⁴³ Michael Chisholm, Rural Settlement and Land Use: An Essay in Location (New York: John Wiley and Sons, 1962, 1967), pp. 189-91.

As the twentieth century progressed, families in many agricultural communities across eastern North America and western Europe adapted to the interdependency relationships which developed between distant regions.⁴⁴ The agricultural hinterlands of numerous, fragmented urban markets, like Nova Scotia's fledgling urban system in the nineteenth century, were reshaped as economic forces from distant markets and sources of supply influenced production and marketing decisions made by many individuals. With continuing improvements in long-distance ocean and inland transport -- refrigeration, diesel engines, trucks, paved roads -- the advantages conferred to farm families by proximity to local markets diminished until by the 1950s only fluid milk, fresh cream, and a limited range of other products (eggs, poultry, and some fresh fruit) remained competitive in domestic markets. Agricultural and other products from distant, specialty farming regions supplied most of the foodstuff and consumer requirements of "core" and peripheral regions. And, as the urban population grew, the local agricultural base shrank. These were characteristics of a modern, industrial society in which "world-wide interconnected systems" of exchange, communication and control promoted "much higher levels of adaptation" among farmers and more concentrated patterns of resource use than had prevailed during much of the nineteenth century.⁴⁵ The aim of this study is to explicate how these continental (indeed global) processes influenced people, landscapes, and local markets in a farming region on the periphery of the North American continent, distant from the developing urban, industrial "cores" of Western Europe, the United States and Central Canada.

⁴⁴ John Fogarty's "The Comparative Method and Nineteenth Century Regions of Recent Settlement", Historical Studies 19 (1981), pp.412-29; and William Norton's "The Relevance of Von Thunen Theory to Historical and Evolutionary Analysis of Agricultural Land Use", Journal of Agricultural Economics 30, 1 (1979), pp. 39-47 summarize some of the large literature on this topic.

⁴⁵ Harold Brookfield, Interdependent Development (Pittsburgh: University of Pittsburgh Press, 1975), p. 207

Chapter 2 Setting the Scene: Mid-Nineteenth Century Nova Scotia

In 1851, almost 250 years after the first European settlement of Nova Scotia, scarcely one quarter of the colony's 13,000,000 acres of land was occupied farmland. Barely six per cent (840,000 acres) of this was improved.¹ Then as now, trees dominated the landscape. Observers remarked upon "the widespreading and still unfelled forest"² and the "ragged appearance of forest and field borders".³ Yet a clear majority of Nova Scotia's 45,000 families depended upon agriculture. More than 70 per cent of them operated small farms, albeit often in association with other activities, and agriculture and its linked industries played a substantial role in the provincial economy. By mid-century, the jack of all trades Nova Scotian -- with "one hand ready to lay on the tiller of a fishing skiff and the other on a woodsman's axe" -- had become something of regional stereotype.⁴ Still, the farm was the base around which these other activities revolved. Forays into the woods or to well-known, nearby fishing grounds were supplementary to the successful operation of the family farm. For the majority of mid-nineteenth century Nova Scotians agriculture was clearly a "way of life."

Demographic Patterns

By 1850 immigration to Nova Scotia had slowed to a trickle and most Nova Scotians were native-born. Yet differences in origin, ethnicity and religion remained

¹ Census of Nova Scotia, 1851, RG1, Vol. 453, Public Archives of Nova Scotia [hereafter PANS]. Only Pictou, Sydney, Cumberland, Hants and Kings counties recorded more than 12 percent of the total land area as cleared and fit for cultivation at the 1851 census.

² Joseph Howe, Western and Eastern Rambles: Travel Sketches of Nova Scotia, ed. M.G. Parks (Toronto: University of Toronto Press, 1973), p. 143.

³ Abraham Gesner, The Industrial Resources of Nova Scotia (Halifax: A. and W. MacKinlay, 1849), p. 3.

⁴ Andrew H. Clark, Acadia: The Geography of Early Nova Scotia to 1760 (Madison: University of Wisconsin Press, 1968), p. 54.

strongly felt.⁵ Southwest Nova Scotia bore the clear mark of New England. Settled from that area in the 1760s, it continued to have strong ties with Boston.⁶ Ancestors of pioneer Yorkshire settlers who replaced dispossessed Acadians around the head of Chignecto Bay in the eighteenth century were settled on comfortable marshland farms.⁷ Intermingled with them were the grandchildren of several thousand United Empire Loyalists who occupied peninsular Nova Scotia in the 1780s following the American War of Independence.⁸ Most of Antigonish County in eastern Nova Scotia and Cape Breton Island were occupied by Catholic Highland Scots; Presbyterian Scots predominated in Victoria and Pictou Counties. Several other minorities were settled in discrete blocks. Nova Scotians of German and Dutch origin formed an enclave in Lunenburg County; Acadians resided principally in the post-expulsion settlements of the French Shore, Havre Boucher, Arichat and Cheticamp; and smaller groups of Irish, African and Micmac ancestry were scattered in and around Halifax, along Cobequid Bay, and throughout the colony's interior. Persons of Scottish descent comprised roughly one-third of Nova Scotia's population, those of English origin (or more accurately Anglo-American), just less than one-third, Irish, about one-sixth and German-Dutch and French about one-tenth each.⁹

⁵ Andrew H. Clark, "Old World Origins and Religious Adherence in Nova Scotia", Geographical Review 50, 3 (1960), pp. 317-44.

⁶ Graeme Wynn and Debra McNabb, "Pre-Loyalist Nova Scotia", Historical Atlas of Canada, vol. 1, From the Beginning to 1800, ed. R. Cole Harris (Toronto: University of Toronto Press, 1987), plate 31; Graeme Wynn, "A Province Too Much Dependent on New England", Canadian Geographer 31, 2 (1987), pp. 98-113.

⁷ Graeme Wynn, "Late Eighteenth-Century Agriculture on the Bay of Fundy Marshlands", Acadiensis 8, 2 (1979), pp. 80-9.

⁸ Graeme Wynn and L.D. Mc Cann, "Maritime Canada, Late Eighteenth Century", Historical Atlas of Canada, plate 32; Graeme Wynn, "A Region of Scattered Settlements and Bounded Possibilities: Northeastern America 1775-1800", Canadian Geographer 31, 4 (1987), pp. 319-38.

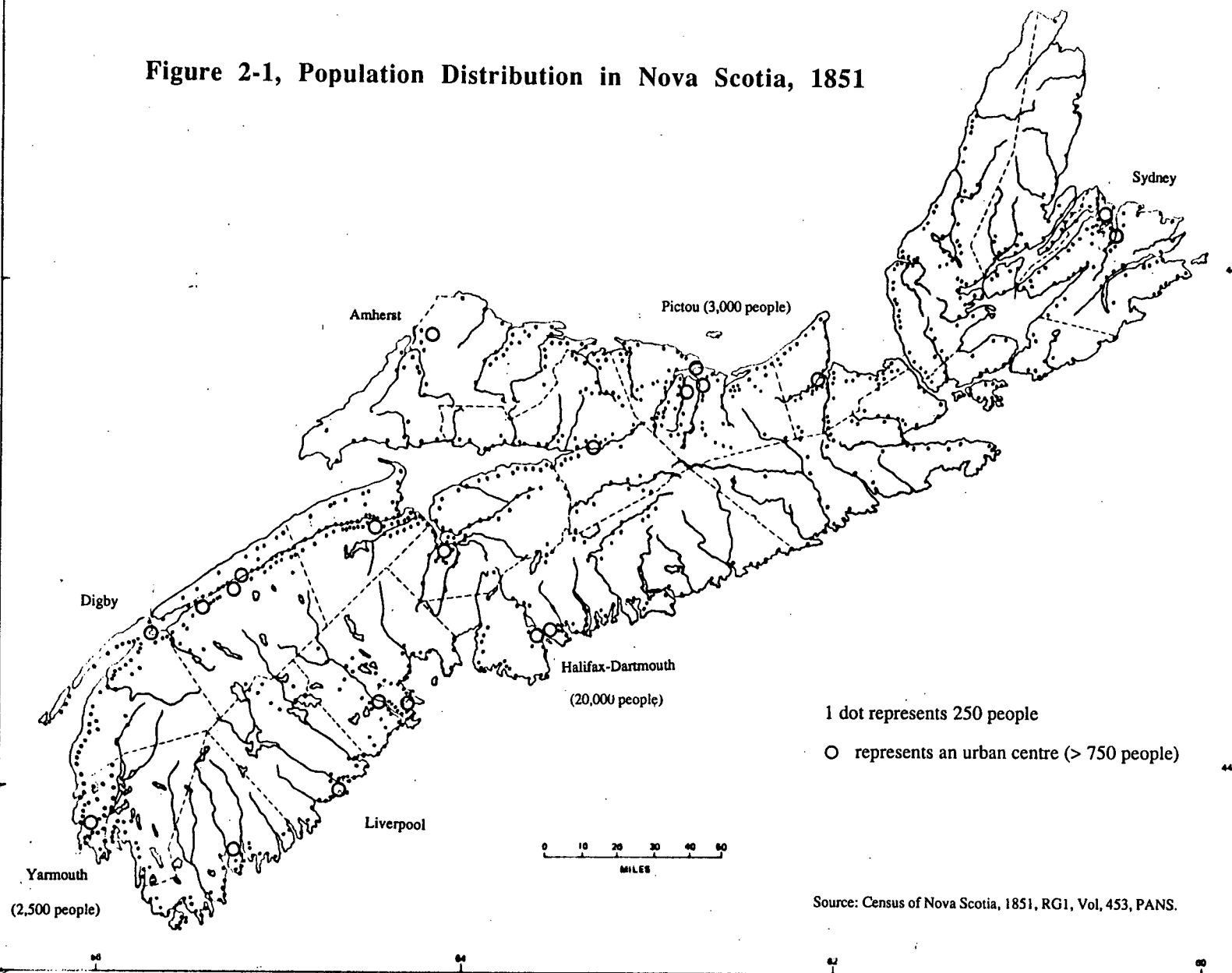
⁹ Census of Nova Scotia, 1851, RG1, Vol. 453, PANS.

The Micmac and Black populations collectively comprised slightly more than two per cent of Nova Scotia's 280,000 residents.¹⁰

Population was either scattered around the coastal edge of the colony or confined to the main river valleys stretching inland (Figure 2-1). Most notably, the valleys of Annapolis and Cornwallis in Annapolis and Kings Counties, Avon and Salmon Rivers in Hants and Colchester, West and Middle Rivers in Pictou County and South and West rivers in Sydney (Antigonish) county were among the heaviest settled inland areas, although all major valleys contained sizeable populations. Of the 5,000 families enumerated in Kings and Annapolis Counties at the 1851 census all but 1,200 or so lived in the Annapolis-Cornwallis valley. This was the highest concentration of rural families in an inland location in the colony. In Pictou and Sydney Counties on the Northumberland Shore about half of the area's 6,000 families lived along the river valleys stretching inland. In general, the main concentrations of population in the interior of mid-nineteenth century Nova Scotia were in the northern half of peninsular Nova Scotia where the best agricultural soils were found. The distribution of population in southern and western Nova Scotia was markedly peripheral (ie. the counties of Digby, Yarmouth, Shelburne, Queen's, Lunenburg, Halifax, Guysborough and Richmond). Here the fishery predominated; local agriculture supplied only a fraction of the food demands of the people. Those residing in the interior districts of these counties devoted more time to farming, but local and international markets for timber, lumber and other wood products largely determined the economic welfare of these communities. The interior of Cape Breton Island was as well settled as its coastline, owing to the ease of access afforded by the Bras D'or lake and the island's major river systems (Northeast and Southwest Margaree rivers, Mabou River,

¹⁰ The total Micmac population of Nova Scotia was estimated to be less than 1,500 according to a census taken in 1847, Journals of the House of Assembly of Nova Scotia [hereafter J.H.A.N.S.], 1848, Appendix 24, pp. 114-20 while 4,908 "colored persons" were recorded in the 1851 census; Statistical summary of the 1851 census, in J.H.A.N.S., 1851-52, Appendix 92, p. 419.

Figure 2-1, Population Distribution in Nova Scotia, 1851



Middle River, Sydney River and Mira River). Here family farming prevailed, though families often supplemented their incomes through off-farm employment.

Physiography, Climate and Soils

These broad patterns correspond closely to the physiographic features of the colony. The physiography of Nova Scotia was not particularly favourable for agriculture, with more than one-half of the colony comprised of heavily glaciated uplands underlain by hard crystalline and metamorphic rock. The extensive belt of granites, slates and quartzites stretching along the Atlantic coast from Cape Canso to Cape Sable and extending inland for up to twenty miles limited settlement on these "southern" and "eastern" shores, so called, to the bays and inlets that provided small pockets of alluvial soils, protection from Atlantic storms and access to the relatively rich inshore fishery and beyond it the banks. Similarly, the several upland zones formed by the northern extension of the Appalachian mountain range--North and South mountains, Cobequid mountain, the Pictou-Antigonish uplands and the Cape Breton Highlands and surrounding hill country -- were relatively inaccessible and uninviting to early settlers who found the Fundy marshlands and fertile alluvial flood plains in the major river valleys far more attractive. Marshlands and river valleys provided both easily cultivable land and access routes into the forested interior. The only significant exceptions to this pattern are the pockets of settlement in interior Queens and Lunenburg Counties developed on a drumlin field that was far more fertile than the surrounding hard bedrock belt.¹¹ Here farming developed in close association with lumbering as the colony's largest commercial stands of white pine in 1850 were found in this area.¹²

Prevailing wind and storm patterns give Nova Scotia's climate a continental character in spite of its Maritime location. Annual temperature ranges are greater than those

¹¹ J. Lynton Martin, "The Land", The Occasional 7, 3 (1983), pp. 12-3.

¹² J. Lynton Martin, "The Settlement of Queens and Lunenburg Counties", unpublished paper, presented at Seminars 85, A Training Programme of the Federation of Nova Scotian Heritage, 17 April, 1985, pp. 7-12, Nova Scotia Museum Library.

found in other coastal locations.¹³ Coupled with relatively abundant precipitation levels (40-55 inches or 1,000-1,400 millimetres) these conditions favoured the cultivation of hay, grasses and roots over grains. The relatively short frost-free period which ranged from just under 100 days in upland zones to 160 days along the Annapolis-Cornwallis Valley made it difficult for such important crops as wheat and corn to ripen properly and only hardier grains such as buckwheat, rye, oats and legumes could be raised without difficulty. Where rotation was practised in the mid-nineteenth century, barley was sown as it was generally considered to be, "a good nurse to young grasses."¹⁴ The warmer summer climate of the Annapolis-Cornwallis Valley, protected by North and South Mountains from the winds and fogs of the Atlantic and the Bay of Fundy, was especially favourable for agricultural production in general and especially for fruit (apples, pears, cherries and berries); orchards had been planted here since the seventeenth century.¹⁵

These climatic conditions also produced highly leached, podzolic soils, low in fertility and requiring generous applications of natural and artificial fertilizers to be productive. According to a recent survey of soil capability for agriculture only 22 percent of Nova Scotia's land area (2.8 million acres) is considered suitable for multi-crop or limited crop production.¹⁶ With few exceptions these areas are in the northern half of the province where the principal concentrations of rural population were found in 1851 (Figure

¹³ D. F. Putnam, "The Climate of the Maritime Provinces", Canadian Geographical Journal 21, 1 (1940), p. 146. The average July temperature ranges from 11 degrees celcius to 20 degrees celcius while that of January varies from -2 degrees celcius to -7 degrees celcius; Robert J. McCalla, The Maritime Provinces Atlas (Halifax: Maritext Limited, 1988), plate 6.

¹⁴ Annual Report of the Nova Scotia Central Board of Agriculture for 1851, RG8, Vol. 9, #227, PANS.

¹⁵ F.G.J. Comeau, "The Origin and History of the Apple Industry in Nova Scotia", Collections of the Nova Scotia Historical Society 23 (1936), pp. 15-40.

¹⁶ Nova Scotia Department of Development, Nova Scotia Resource Atlas (Halifax: Department of Development, 1986), p. 21.

2-2). In general, the multi-crop areas consist of well-drained soils which are capable of supporting the cultivation of grasses, grains, fruits and vegetables while the limited-crop areas are suitable mainly for the production of hay and pasture.¹⁷ The Northumberland Shore counties of Cumberland, Colchester, Pictou and Antigonish, parts of Hants and Colchester Counties and the Annapolis-Cornwallis Valley are the three most suitable areas for agriculture in Nova Scotia. Here, soils formed from the sandstones, shales and glacial deposits, when well fertilized, produced yields comparable to those in other agricultural areas of mid-nineteenth century British North America.¹⁸

The Forest Cover

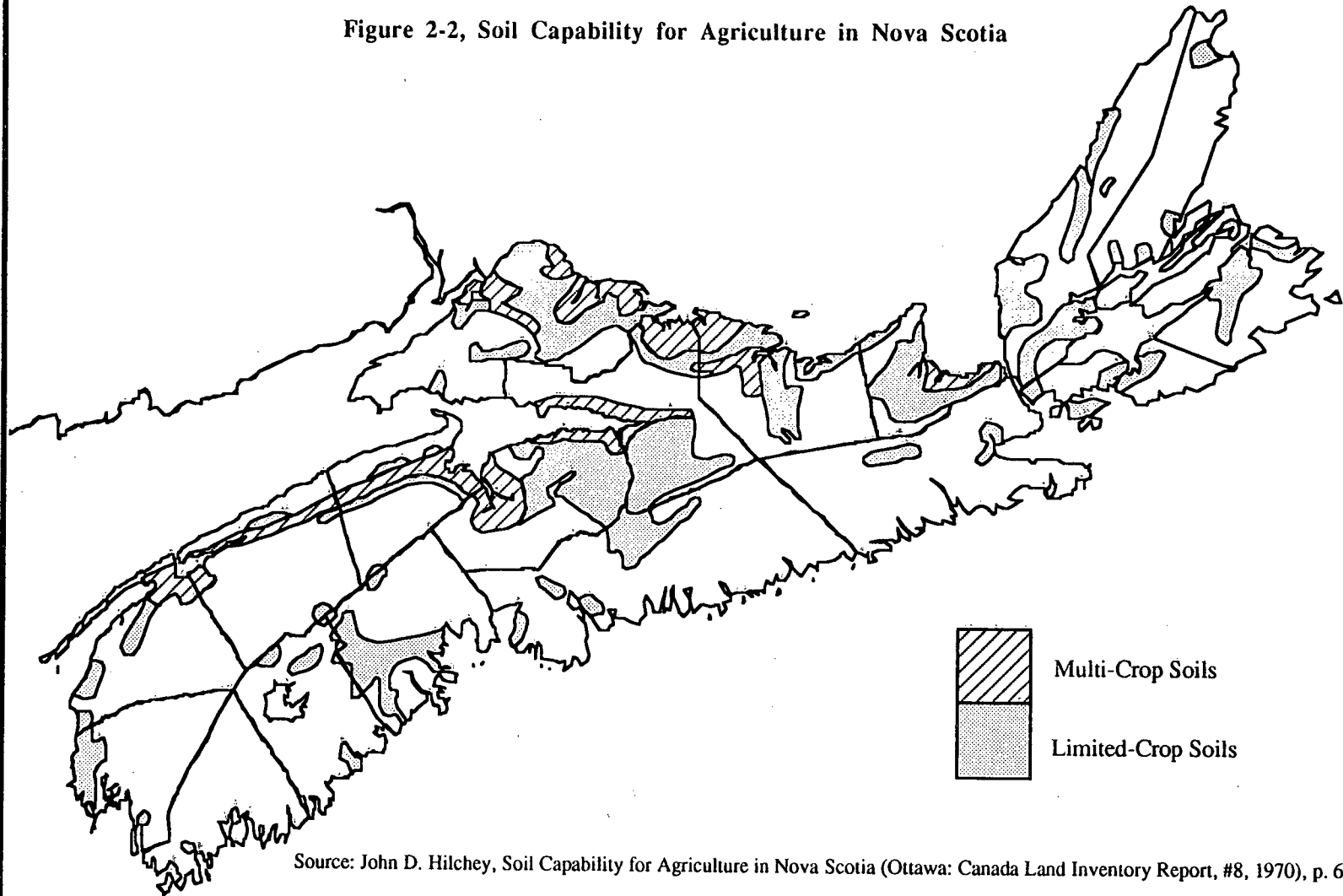
Forests were perhaps the most formidable obstacle to agricultural development in Nova Scotia. Mixed stands of red and white spruce, hemlock, balsam fir, white pine and hardwood species such as beech, maple and birch occurred in varying proportions across the colony according to differences in soil type, drainage, elevation and climate. In many areas fires had extensively altered the composition of the original forest and settlers' axes had trimmed it back, especially along the edge of the main river valleys and estuaries.¹⁹

¹⁷ Ibid., p. 20.

¹⁸ Although estimates of average yields obtained per acre in the mid-nineteenth century vary widely, the following are considered typical for Nova Scotia: wheat, 15 bushels; barley, 20 bushels; rye, 10 bushels; oats, 15 bushels; buckwheat, 20 bushels; corn, 20 bushels; peas and beans, 13 bushels; potatoes, 100 bushels; turnips, 150 bushels; other vegetables, 150 bushels; hay, 1.5 tons. See, for example, Dartmouth Agricultural Society Report for 1850, RG8, Vol. 9, #219, PANS; Musquodoboit Agricultural Society Report for 1844, RG8, Vol. 9, #2, PANS; Account of Crops and Livestock in Newport, Hants County, RG8, Vol. 19, #34, PANS; Horton Agricultural Society Report for 1850, RG8, Vol. 9, #219, PANS; Maxwellton Agricultural Society Report for 1849, RG8, Vol. 18, #151, PANS.

¹⁹ Titus Smith, who completed a series of traverses throughout western and eastern Nova Scotia in 1801 repeatedly refers to "fire barrens" and extensively burned forest, Andrew H. Clark, "Titus Smith Junior and the Geography of Nova Scotia in 1801 and 1802", Annals, Association of American Geographers 44, 4 (1954), pp. 291-314; Edward Davison, mill owner of Mill Village, Queens county, for example, had to move his family and business to Bridgewater, Lunenburg county as a consequence of a series of destructive forest fires in the Medway drainage area between 1850 and 1865 which destroyed between 10,000 and 20,000 acres of Davison's timber land, Ralph S. Johnson, Forests of Nova Scotia: A History (Halifax: Department of Lands and Forests, 1986), pp. 105-106.

Figure 2-2, Soil Capability for Agriculture in Nova Scotia



Source: John D. Hilchey, Soil Capability for Agriculture in Nova Scotia (Ottawa: Canada Land Inventory Report, #8, 1970), p. 61.

Consequently, a diverse mixture of original and second growth species was evident in most areas. There were nonetheless, clear regional differences in the colony's dominant vegetation. Travelling between Halifax and Pictou in 1854 the English visitor Isabella Lucy Bird noted, during the first "stage" of her journey, "the barren, rocky, undulating country covered with var and spruce trees..." which gradually gave way to "forests of gloomy pine";²⁰ later, as she approached the more elevated borderlands of Colchester and Pictou Counties, she noticed the transition to "elm, beech and maples" and to "huge hemlocks" and "silver birch."²¹ Bird's observations point to some of the principal forest zones of Nova Scotia.

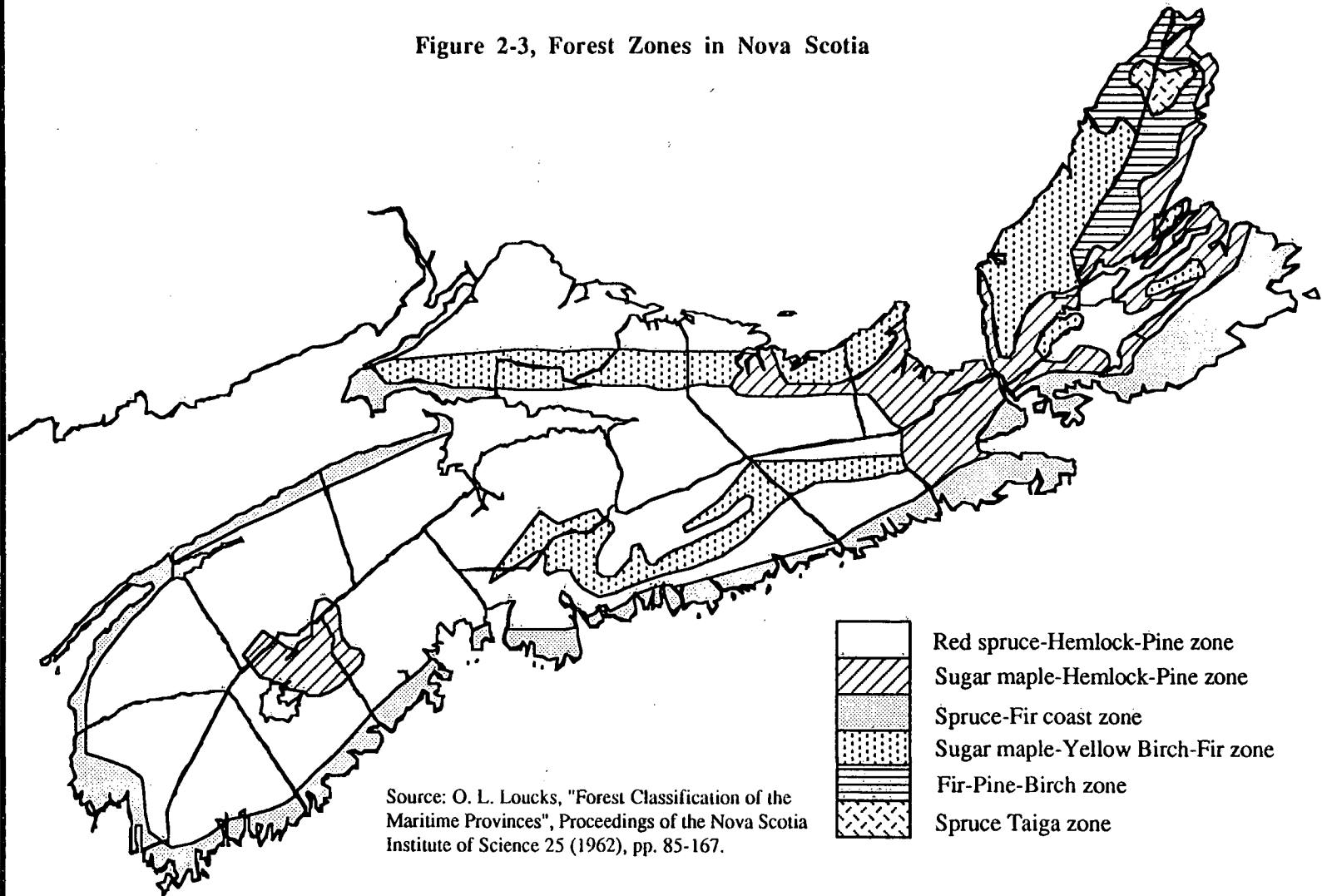
Of the six forest zones which can be distinguished (Figure 2-3) the most extensive was clearly the red spruce-hemlock-pine zone which occupied much of the interior of peninsular Nova Scotia and the lower lying lands bordering on the Cobequid and Northumberland shores.²² The shallow soils of the rocky "southern upland" (that comprises the largest portion of this zone), generally low temperatures and high precipitation levels resulted in a forest that was almost entirely coniferous, as Bird aptly observed. On the lower lying lands closer to the Bay of Fundy and Gulf Shores, generally lower precipitation levels and better soils allowed a more variable forest cover. Sugar

²⁰ Isabella Lucy Bird, The Englishwoman in America (London: John Murray, 1856; reprinted, Madison: University of Wisconsin Press, 1966), p. 24. "Var" trees probably refers to fir trees.

²¹ Ibid., p. 31.

²² The following three paragraphs are based largely on the works of B.W. Sleight, Pine Forests and Hackmatack Clearings or Travel Life and Adventure in the British North American Provinces (London: R. Bentley, 1853); Joseph Outram, Nova Scotia, Its Condition and Resources in a Series of Six Letters (Edinburgh and London: W. Blackwood and Sons, 1850) and The Counties of Nova Scotia: Their Condition and Capabilities (Halifax: Queen's Printer, 1867); B.E. Fernow, C.D. Howe and J. N. White, Forest Conditions of Nova Scotia (Ottawa: Commission of Conservation, 1912) and O.L. Loucks, "Forest Classification of the Maritimes", Proceedings of the Nova Scotia Institute of Science 25 (1962), pp. 85-167.

Figure 2-3, Forest Zones in Nova Scotia



maple, beech, and yellow birch were found at higher elevations with red spruce, hemlock, white pine, and balsam fir on the lower slopes. There were also smaller stands of elms and white ash along some of the rivers. In swampy areas black spruce predominated along with some remaining stands of tamarack (larch, hackmatack, juniper) and cedar, and on burned over flats scattered stands of red maple, white pine, jack pine, oak, and spruce could be found.²³ This variety of species, principally softwood, close to many of Nova Scotia's earliest settlements had long been exploited by lumbermen.

Sugar maple, hemlock and pine were the species of a second zone that extended from the valleys and lowlands of Pictou and Antigonish Counties to the central lowlands of Cape Breton Island, with an enclave in southwestern Nova Scotia between La Have River (Lunenburg County) and Kejimkujik Lake (Annapolis and Queens Counties). Warmer and drier than the coast, this zone included a mix of hardwood and softwood species. In 1850 sugar maple and beech probably predominated in the mainland portion of this zone because much of the pine had been seriously depleted by the timber industry; hemlock, white spruce, and balsam fir were also widely distributed, especially on the lower slopes and valley floors. Less protected from Atlantic storms and certainly less affected by the timber industry at this date, the Cape Breton part of this zone had more white and black spruce and balsam fir, less depleted stands of white pine, and less widely distributed stands of hemlock and tolerant hardwoods (principally maple and birch) than the Sugar maple-hemlock-pine areas of the peninsula where pine remained in large quantities only in northern Queen's and southern Annapolis Counties.²⁴ Rarely exported before 1820,

²³ Tamarack and cedar had been seriously depleted by 1850 because of their use in the construction of ship knees for export, C. Bruce Fergusson, Lumbering in Nova Scotia, 1623-1953 (Halifax: Department of Lands and Forests, Extension Division, Bulletin #26, 1967), p. 23.

²⁴ Ibid.

spruce had probably replaced pine as the most important commercial species in Nova Scotia by the mid-nineteenth century.²⁵

The bulk of Nova Scotia's farmland was cleared from these two forest zones. The remaining zones were either thinly peopled or occupied by settlers principally engaged in fishing, lumbering and related industries (coasting, shipbuilding, sawmilling). Three-quarters of the sugar maple-yellow birch-fir zone remained uninhabited. Only in Inverness County on the west coast of Cape Breton where large areas of the foothills between Creignish and Cheticamp were farmed had much of this forest been cleared. In most of the spruce-fir-coast zone agriculture was a part-time activity providing a fraction of the residents' needs. Generally clearings were small, and clung to the coast, although the fertile marshland and farm clearings of Chignecto and the Minas Basin, which backed into red and white spruce and balsam fir on slopes exposed to the Bay of Fundy, were significant exceptions. Because of their remoteness virtually all of the Fir-pine-birch and spruce-taiga zones in the Cape Breton highlands remained uninhabited.

In mid-nineteenth century Nova Scotia there was a close relationship between agriculture and forestry. Timber felled during land clearing or cut from farm woodlots supplied settlers with fuel and construction materials, and provided supplementary income if sold as square timber or saw logs. In addition, the 1,150 or so sawmills which employed more than 1,800 people seasonally, and the numerous timber camps scattered throughout the colony, provided both a market for surplus agricultural produce and a means to supplement farm incomes with part-time employment.²⁶ In the River Philip district of Cumberland county, for example, where more than 200 farms dotted the ridges surrounding the valley, the Secretary of the local Agricultural Society noted in 1844,

²⁵ C. G. Hawkins, "The Origins of the Nova Scotia Lumber Trade", Public Affairs 9 (1945), p. 111.

²⁶ Statistical Summary, Census of Nova Scotia, 1851, J.H.A.N.S., 1851-52, Appendix 94, p. 429.

"surplus produce is mainly sold to lumberers although a considerable quantity of beef, pork and butter are sent to Halifax."²⁷ Similarly, in coastal locations such as Weymouth, Digby County, where farming was supplementary to a commercial fishery, most of those who had woodland were said to "employ themselves in preparing fir wood for the American market".²⁸ So close was the relationship between forestry and agriculture that provincial censuses would record wood as a "farm product".²⁹

The Economic Geography of Nova Scotia

Like New Brunswick and Prince Edward Island the economy of Nova Scotia was highly dependent upon staple exports. Yet Nova Scotia's economy was more heavily "dominated by the sea" than those of other Maritime British North American colonies.³⁰ Fish exports accounted for 40 per cent of Nova Scotia's exports in 1854.³¹ Forest and agricultural products were next in significance with 17 per cent and 16 per cent respectively. Coal and gypsum together made up 5 per cent of the total. Manufactured goods and other miscellaneous items, many of which were reshipments of goods from other regions (e.g. coffee, tea, sugar and molasses), totalled 20 per cent of Nova Scotia's exports, reflecting the importance of the carrying trade to the colonial economy. The

²⁷ River Phillip Agricultural Society Report for 1844, RG8, Vol. 9, #2, PANS.

²⁸ Weymouth Agricultural Society Report for 1844, RG8, Vol. 17, #277, PANS.

²⁹ Census of Canada, 1931.

³⁰ Donald V. Smiley ed., The Rowell/Sirois Report, Book 1 (Toronto: McClelland and Stewart, 1963), p. 18.

³¹ Colonial Office Blue Books of Statistics [hereafter CO 221], Vol. 67, 1854, pp. 309-20, PANS. By contrast fish accounted for only 5 per cent of New Brunswick's exports and 10 per cent per cent of those from Prince Edward Island; see S.A. Saunders, The Economic History of the Maritime Provinces, ed. T.W. Acheson (Fredericton: Acadiensis Press, 1984), p. 103.

principal markets for these products were the British West Indies, the United States, nearby British North American colonies and the French islands of St. Pierre and Miquelon.

The economic geography of Nova Scotia in the mid nineteenth century is clearly illustrated by the nature of the colony's exports (Figure 2-4).³² Coal mining had become an important component of local economies near Sydney, Pictou and Joggins. The General Mining Association which had invested more than \$250,000 in mines near Sydney and Pictou now employed more than 1,200 men and boys and several hundred horses in and around the mines.³³ The pit heads, coal dumps, loading facilities, coke ovens, iron foundaries and miner's huts associated with these operations distinguished these nodes of industrial activity from the farming and fishing landscapes that predominated in Nova Scotia (See Figure 2-5).³⁴ While not as significant as the production of coal in overall economic terms, the extraction of gypsum was important near Windsor, Hantsport and Walton on the Minas Basin. Figure 2-4 also clearly illustrates that the fishery predominated all along the southern coast and throughout parts of Digby and Annapolis Counties in western Nova Scotia (see, for example, Arichat, Canso, Halifax, Barrington and Yarmouth). Here flakes, stages, dories, schooners and outbuildings for storing nets and gear created a landscape that was distinctively marine based (Figure 2-6).³⁵ Timber and lumber exports were concentrated in the ports of Lunenburg, Queens, Annapolis and Cumberland Counties, through which the production of the interior districts flowed. Still,

³² Figure 2-4 is based on data contained in CO 221, Vol. 67, 1854, pp. 309-31, 338-39.

³³ Calculated from the description of coal mines near Sydney (Cape Breton) and Pictou (Pictou) for 1839-40 contained in Julian Gwyn, "A Little Province Like This: The Economy of Nova Scotia Under Stress, 1812-1853", Canadian Papers in Rural History, Vol. 6 (1988), p. 220.

³⁴ See description of Albion Mines, Pictou county in The Yarmouth Herald, 21 June, 1839, p. 3. Figure 2-5 is from Charles P. De Volpi, Nova Scotia, A Pictorial Record: Historical Prints and Illustrations of the Province of Nova Scotia, Canada, 1605-1878 (Longmans Canada Limited, 1974).

³⁵ Figure 2-6 is from Ibid.

**Figure 2-4, Exports From Nova Scotia,
By Sector, 1854**

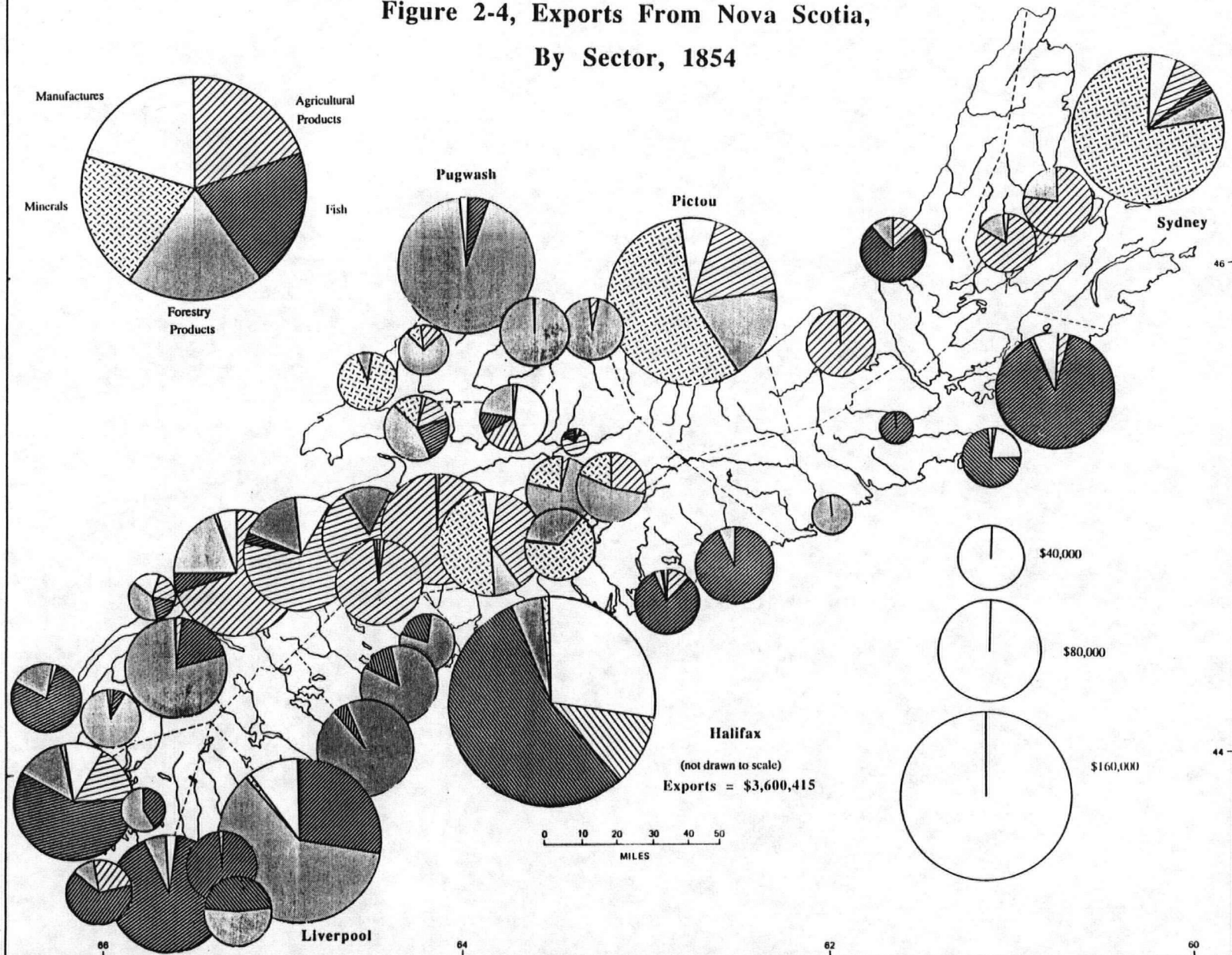


Figure 2-5, Coal Mining Settlement at Lingan, Cape Breton, Circa 1870

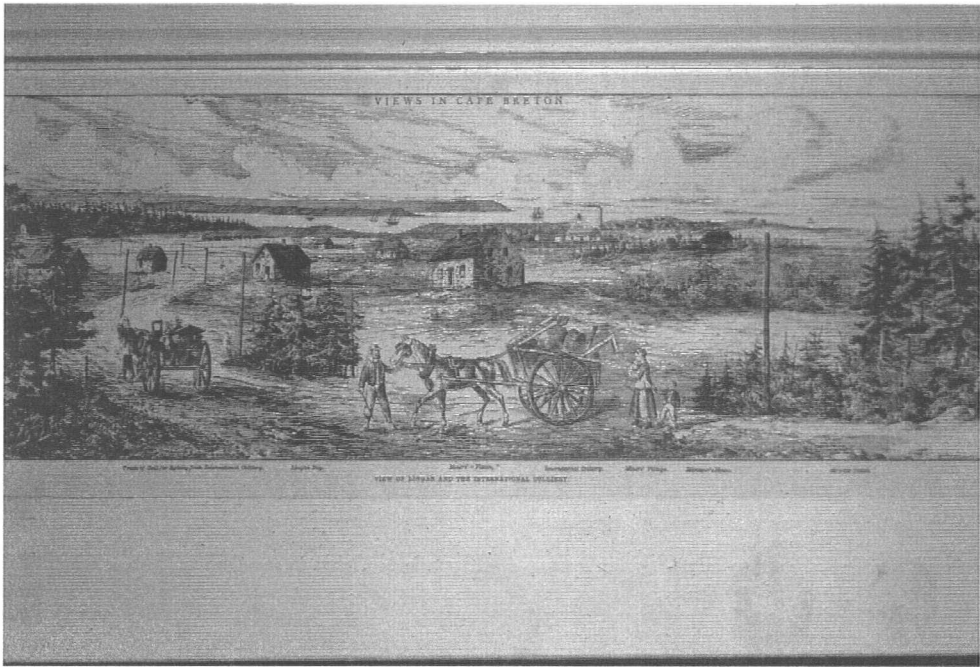
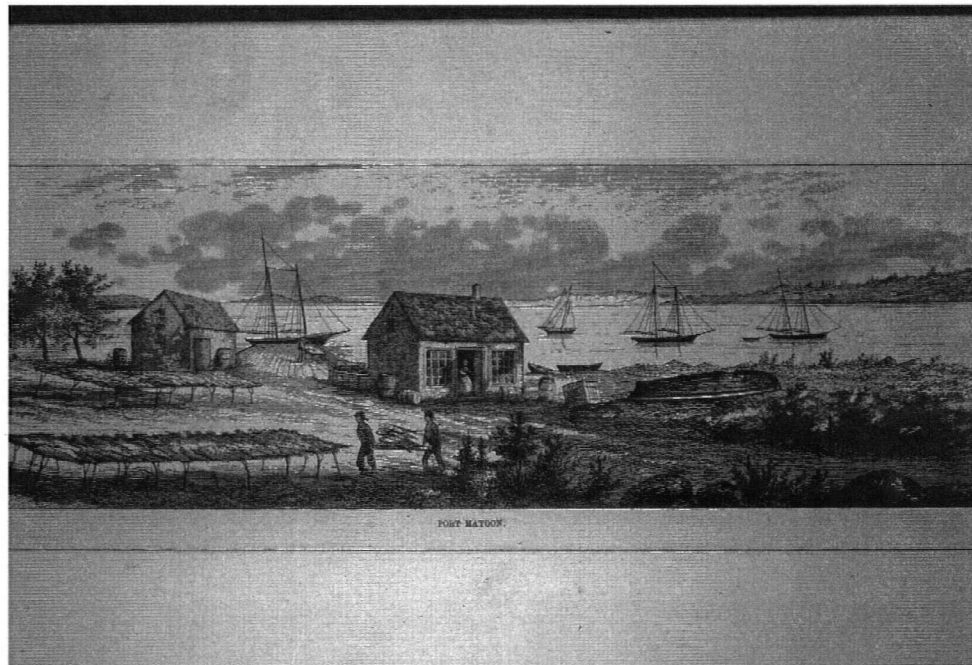


Figure 2-6, Fishing Premises on Nova Scotia's South Shore
in the Mid-Nineteenth Century



that only five of the 44 ports for which data exists did not export some forestry products in 1854 is testimony to the importance of "woods work" in most areas of the colony. The larger and much wider range of exports from Halifax reflects its entrepot function, as merchants there organized cargoes from a wider trading hinterland than any other port.

Agricultural exports were recorded in 30 of the 44 ports enumerated in the 1854 survey, though the value of agricultural goods shipped from most ports was low relative to the value of products of the sea and forests. Agricultural commodities comprised more than 70 per cent of total exports in only 9 ports. Five were in Kings and Annapolis Counties (Annapolis, Canada Creek, Cornwallis, Horton and Wilmot), one near the tidal marshes of the Minas Basin (Truro) and the remainder in eastern Nova Scotia and Cape Breton (Antigonish, Big Bras D'or and Baddeck). Agricultural exports comprised between 15 and 40 per cent of all shipments from 9 of the remaining 35 ports. They are concentrated around the Bay of Fundy where agricultural goods were regularly shipped across the bay to the city of Saint John, and along the Northumberland Shore where local farm surpluses supplied timber and fishing operations in northern New Brunswick and Newfoundland. Two-thirds of all of Nova Scotia's agricultural exports were destined for New Brunswick or Newfoundland; about twenty per cent went to the United States and the remainder was distributed among Great Britain (8 per cent), Britain's West Indian islands (11 per cent), the foreign West Indies, St. Pierre, Miquelon and Labrador (3 per cent).³⁶

There was considerable variability across Nova Scotia in both the potential for external trade in agricultural products (as Figure 2-4 illustrates) and in the products exported. Farmers in the Annapolis-Cornwallis Valley regularly marketed livestock, beef and butter through dealers in Saint John and Halifax; a few had begun to export apples to nearby colonies; but potatoes were still the most important export despite the ravages of the

³⁶ CO 221, Vol. 67, 1854, p. 335.

potato blight in the late 1840's.³⁷ In Sydney, Inverness and Victoria Counties there was greater emphasis placed on livestock and animal products such as butter, beef, mutton and wool for shipment principally to Newfoundland and Saint Pierre. While Margaree, Inverness county, was not recorded in the official list of custom's ports in 1854, it was probably typical of the several small ports through which the surpluses of these counties were shipped abroad. In 1850 430 cattle and 370 sheep were exported to St. John's, Newfoundland and 390 firkins of butter and a "large quantity of pork and lumber" were sent to Halifax from the few hundred farms in its vicinity.³⁸ In the central Nova Scotia counties of Cumberland, Colchester, Hants and Pictou a wider range of products entered external markets. Agricultural exports from Truro, Amherst, Pugwash, Tatamagouche and Pictou consisted of cattle, butter, cheese, hogs, pork, sheep, wool, mutton, oats, hay, poultry and eggs.³⁹ In southwestern Nova Scotia where fish and/or timber dominated exports, cattle, potatoes, butter and eggs regularly "topped up" cargoes en route to New England and the West Indies.⁴⁰

The amount of land improved for agriculture across Nova Scotia, however, remained small. Only seven of the colony's 17 counties recorded improved acreage levels at the 1851 census above the colonial average of 6 per cent (Cumberland, Colchester, Hants, Kings, Pictou, Sydney and Inverness; see Figure 2-7). These counties contained

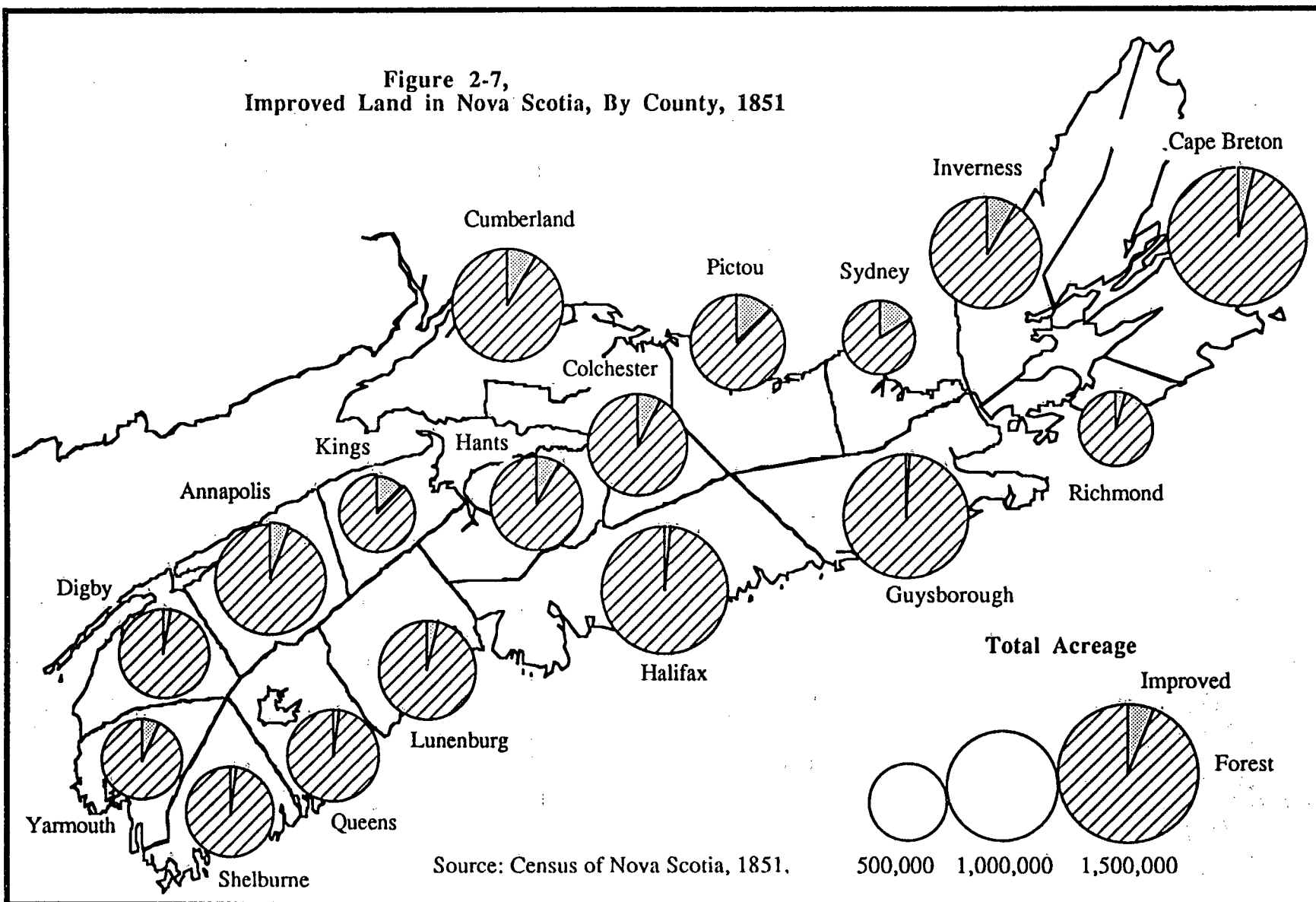
³⁷ This is clearly reflected in production figures. Average potato production per farm in Kings county (230 bushels), for example, was more than three and one-half times the Nova Scotian average. Census of Nova Scotia, 1851, RG1, Vol. 453, PANS.

³⁸ Margaree Agricultural Society Report for 1850, RG8, Vol. 9, #219, PANS.

³⁹ See, for example, Truro Agricultural Society Report for 1845, RG8, Vol. 9, #29, PANS; Amherst Agricultural Society Report for 1844, RG8, Vol. 9, #2, PANS; and Pictou Agricultural Society Reports for 1843, 1849 and 1851, RG8, Vol. 18, #s 20, 46 and 50, PANS

⁴⁰ Yarmouth Agricultural Society Report for 1856, RG8, Vol. 14, #109, PANS.

Figure 2-7,
Improved Land in Nova Scotia, By County, 1851



the most important agricultural districts in mid nineteenth century Nova Scotia.⁴¹ Of these only Sydney, the smallest county in Nova Scotia, recorded an improved acreage level that approached levels prevailing in parts of Canada West and Prince Edward Island (20 per cent).⁴² Along the southern and eastern shores, where administrative districts ran back from the coast to thinly settled uplands, counties generally recorded less than 2 per cent of their total land area as improved, owing to the rocky soils and the dominance of the commercial fishery.

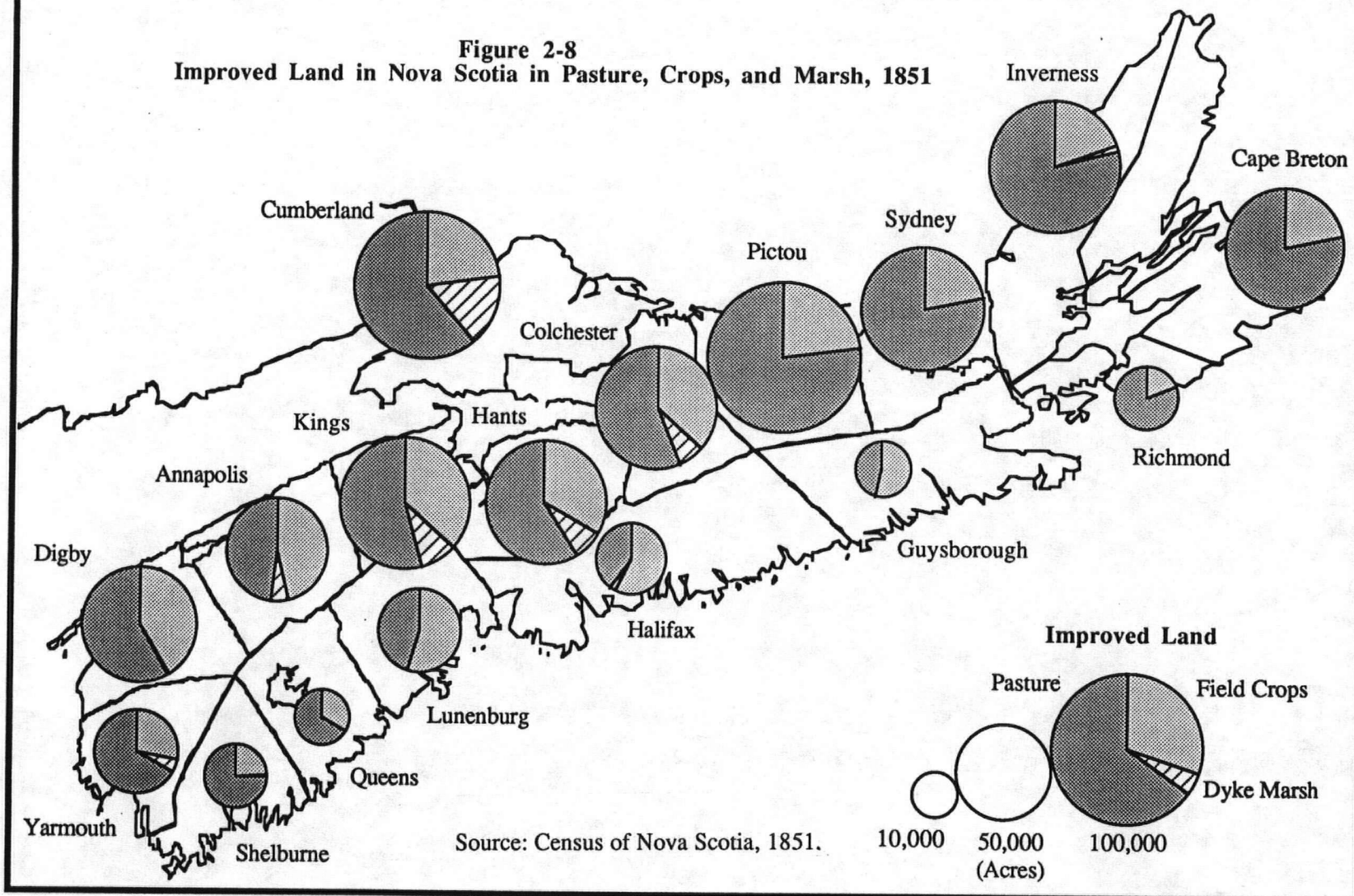
Regardless of the amount of land cleared and improved for agriculture across the colony, mixed farming generally prevailed. Families raised hay, potatoes, a variety of vegetables and grains, cattle, sheep, pigs and poultry in different combinations from county to county. Everywhere land use reflected the importance of livestock in the farm economy. Pasture accounted for the bulk of improved land in most counties, and hay and fodder grains comprised most of the land devoted to field crops (Figure 2-8). Pre-industrial technology prevailed. Iron plated ploughs were used for breaking the soil, a wooden or spiked harrow for preparing it and a variety of hand held tools (sickle, scythe, fork, shovel) for cultivating and harvesting. Transportation equipment typically included a cart, a sled, a boat or larger vessel (in fishing districts), and sometimes a wagon or sleigh.

Although average figures disguise the considerable diversity that characterized each district of the colony in the mid-nineteenth century, they provide a useful benchmark against which interregional differences in land use and production can be measured. Of the 20 acres improved by the average rural family in Nova Scotia, five acres were cultivated in

⁴¹ The two most productive counties in mid-nineteenth century Nova Scotia -- Pictou and Kings -- had only 13 and 14 per cent of their total land area, respectively, enumerated as "improved" at the 1851 census. Census of Nova Scotia, 1851, RG1, Vol. 453, PANS.

⁴² Census of Canada West, 1851, in Census of Canada, 1871; Census of Prince Edward Island, 1848, in Journals of the House of Assembly for Prince Edward Island, Appendix 5 (1849), cited in Andrew H. Clark, Three Centuries and the Island: A Historical Geography of Settlement and Agriculture in Prince Edward Island (Toronto: University of Toronto Press, 1959), fn. 2, p. 241.

Figure 2-8
Improved Land in Nova Scotia in Pasture, Crops, and Marsh, 1851



hay, two and one-quarter acres in oats, three-quarters of an acre in potatoes, turnips and other vegetables, and another acre in a combination of wheat, barley, rye and buckwheat. Generally a small kitchen garden and sometimes an orchard were located close to the farmhouse and the remaining cleared land was used for pasture. The 60 acres or so of unimproved woodland on this "average farm" supplied fuel, construction material and grazing land. Livestock included, on average, either a horse or a pair of oxen, 6 cattle, 7 sheep, 1 pig and some poultry.⁴³

Despite the small size of the average holding, and the (by modern standards) primitive technology used, production was considerable. An average holding produced 7 tons of hay, 60 bushels of potatoes, 34 bushels of oats, 19 bushels of wheat and other grains (buckwheat, barley, rye, indian corn), 90 lbs. of butter and cheese and an unknown quantity of fruit, milk, eggs, and several household products (soap, candles). Viewed on a per capita basis, these figures are similar to those recorded in New Brunswick in 1851 (Table 2-1). And, apart from the larger returns of wheat and oats obtained by farmers in Canada West (Ontario) and Canada East (Quebec), the scale of farm production per capita in Nova Scotia in the mid-nineteenth century was not significantly different from that in Central Canada.⁴⁴ Indeed, per capita production of hay and potatoes -- crops well suited to Nova Scotia's climate and growing season -- was greater in Nova Scotia than in Canada West and Canada East.

⁴³ Census of Nova Scotia, 1851, RG1, Vol. 453, PANS.

⁴⁴ The economic importance of the commercial emphasis on wheat and other grains in Canada West is clearly outlined in John McCallum's Unequal Beginnings: Agriculture and Economic Development in Quebec and Ontario Until 1870 (Toronto: University of Toronto Press, 1980). It is recognized that the urban proportion of the population of Canada West in 1851 (16 per cent) was slightly larger than that in Nova Scotia (10 per cent), which biases per capita production comparisons slightly in favour of the Maritime colony. On Canada West's urban system in the mid-nineteenth century see Jacob Spelt, Urban Development in South-Central Ontario (Toronto: McClelland and Stewart, 1972), pp. 88-100.

Table 2-1,

**Farm Production Per Capita, Nova Scotia, New Brunswick,
Canada West and Canada East, 1851**

| | Nova Scotia | New Brunswick | Canada West | Canada East |
|------------------------|-------------|---------------|-------------|-------------|
| Wheat (bu.) | 1.1 | 1.1 | 13.3 | 3.4 |
| Barley (bu.) | 0.7 | 0.4 | 0.7 | 0.5 |
| Oats (bu.) | 5.1 | 7.3 | 12 | 10.1 |
| Rye (bu.) | 0.2 | 0.1 | 0.5 | 0.4 |
| Buckwheat (bu.) | 0.6 | 3.5 | 0.7 | 0.6 |
| Corn (bu.) | 0.1 | 0.3 | 1.8 | 0.4 |
| Potatoes (bu.) | 7.2 | 14.4 | 5.2 | 5 |
| Turnips (bu.) | 1.7 | 2.8 | 3.2 | 0.4 |
| Other Root Crops (bu.) | 0.1 | 0.2 | 0.2 | 0.2 |
| Hay (tons) | 1 | 1.2 | 0.7 | 0.8 |
| Butter (lbs.) | 13.1 | 15.7 | 16.8 | 10.7 |
| Cheese (lbs.) | 2.3 | 0 | 2.3 | 0.9 |

Source: Census of Nova Scotia, 1851; Census of New Brunswick, 1851; Census of Canada West 1851; Census of Canada East, 1851; cited in Census of Canada, 1871.

The Commercial Network

While the primary purpose of most farms in Nova Scotia was to raise a family and to provide for household needs, such surpluses as there were entered local, regional and external markets through a commercial network that included country stores, shire-town merchants and wholesale and commission merchants based in the region's largest urban centre. Incorporated as a city in 1848, Halifax -- with 20,000 inhabitants -- dominated Nova Scotia's limited urban hierarchy. It was the seat of the colonial government, an important garrison town and the largest entrepot in Maritime British North America.⁴⁵ Its merchants controlled all three of the colony's banks and 13 of its 18 newspapers. Despite the economic downturn of the 1840's, exacerbated by the repeal of Britain's Corn Laws and the growing liberalization of British trade, Halifax's entrepreneurs had established a sizeable manufacturing infrastructure in their city by 1850. Workers in numerous small establishments scattered throughout the downtown, sandwiched between Citadel Hill and the waterfront, manufactured a wide array of products, including tobacco, confectionaries, baked goods, soap, candles, paper, beer, spirits and a variety of wood products (from basic products such as laths and mouldings to higher value goods like cabinets and pianos).⁴⁶ Near the edge of the city a flour mill had been established specifically to manufacture foreign grain for domestic consumption, and a brick factory was producing construction materials for entrepreneurs and homeowners.

⁴⁵ For further details on Halifax during this period see David Sutherland, "Halifax, 1815-1914: Colony to Colony", Urban History Review 1 (1975), pp. 7-11; and "Halifax Merchants and the Pursuit of Development, 1783-1850", Canadian Historical Review 59, 1 (1978), pp. 1-17.

⁴⁶ Based on descriptions of Halifax contained in Sir John Harvey, "Report on Nova Scotia", in Secretary of State Report for 1847: The Past and Present State of Her Majesty's Colonial Possessions (London: W Clowes and Sons, 1848), pp. 7, 10, 12; Gesner, The Industrial Resources of Nova Scotia, p. 210, 213; Sleight, Pine Forests and Hackmatack Clearings, pp. 19-20; Frederic S Cozzens, Acadia: or a Month With the Bluenoses (New York: Derby and Jackson, 1859), p. 26 and Andrew L. Spedon, Rambles Among the Bluenoses, or Reminiscences of a Tour through New Brunswick and Nova Scotia During the Summer of 1862 (Montreal: John Lovell, 1863), pp. 131-133.

With its crowded "mouse-coloured wooden houses", "dingy weather-beaten streets",⁴⁷ numerous public buildings -- including Government House, the civic hospital, the "Lunatic Asylum" and Dalhousie College -- and a fort, "crowning the hill on which it stands", this "respectable looking city" was characterized by considerable social and economic diversity.⁴⁸ When Andrew Spedon visited Halifax in 1863 he was struck by "the range of buildings" along the waterfront "of the most filthy and inferior description, nearly all of which are petty shops, groceries and groggeries of the lowest sort".⁴⁹ These premises, he explained, were "frequented by innumerable hordes of soldiers, seamen and others belonging to the most degraded order".⁵⁰ Yet, at a short distance up the hill, Spedon found that this "disagreeable impression" was considerably "relieved". Granville Street, he exclaimed, "is one of the finest [streets] in British North America"; "the structures are costly and belong to the most fashionable and magnificent order of architecture".⁵¹ Thus, Spedon concluded, "few places, if any, in the British North American colonies" are characterized by as much "variety of class" as one finds in Halifax: "seamen of varied clime and craft, soldiers of different ranks, and citizens of every class are here".⁵²

Although supplied in large part from farms elsewhere in Nova Scotia and by water from beyond the colony, the substantial demand for provisions in Halifax -- with its large mercantile community and army and navy presence -- stimulated pockets of intensive

⁴⁷ Cozzens, Acadia: or a Month With the Bluenoses, p. 20.

⁴⁸ D.C. Harvey, "A Friendly Scot Looks at Nova Scotia in 1853", Collections of the Nova Scotia Historical Society 27 (1947), p. 83.

⁴⁹ Spedon, Rambles Among the Bluenoses, p. 131.

⁵⁰ Ibid.

⁵¹ Ibid.

⁵² Ibid., p. 133.

agriculture on this rocky Atlantic littoral. Thus, there were a few commercial farms north and west of Halifax, along the Sackville River and between Dartmouth and Porter's Lake.⁵³ Agricultural trade between local farmers and Haligonians was extensive enough to permit the establishment of a permanent market house.⁵⁴ Trade conducted at the city market, however, represented only a fraction of Halifax's food trade. Commission merchants, wholesalers and grocers, operating out of their own premises, controlled much of Halifax's trade in agricultural products. More than one-quarter of all of the merchants and traders enumerated in Nova Scotia at the 1851 census (2,415), operated commercial premises in Halifax.⁵⁵ In addition, ambulatory pedlars and farmers selling directly to city consumers controlled a significant, but difficult-to-measure, portion of the retail market for food in Halifax. Despite municipal regulations barring the sale of agricultural produce outside of the city market building, the streets leading to the market house (Hollis Street and Bedford Row) became an unregulated street market on Wednesdays and Saturdays when "country people" arrived in the city with their "rude wagons laden with farm produce, poultry, flowers and domestic wares".⁵⁶ Halifax was clearly a very important

⁵³ Perhaps the most well known of the farms in the vicinity of Halifax was John (Agricola) Young's "Willow Park" situated in the northern suburbs of the city. At Young's death in 1837 this farm contained 70 improved acres. The farm was operated for another three decades before it was purchased and subdivided by a real estate developer. Paul A. Erickson, Halifax's North End: An Anthropologist Looks at the City (Hantsport: Lancelot Press, 1986), p. 36.

⁵⁴ Tenders were called for the construction of a new brick and stone market building to replace the shanty which had served this purpose for many years in 1853; construction was completed in the spring of 1854 at a cost of £100,000. D. E. Robinson, "The Halifax City Market, 1750-1977", A Special Report for the Nova Scotia Department of Agriculture and Marketing, February 10, 1977, unpublished ms., located at the Nova Scotia Legislative Library, p. 4.

⁵⁵ Census of Nova Scotia, 1851, RG1, Vol. 453, PANS.

⁵⁶ Robinson, "The Halifax City Market", pp. 5-6; for a more detailed contemporary description of this street market see Cozzens, Acadia: or a Month With the Bluenoses, p. 25.

domestic market for such agricultural surpluses as were produced by Nova Scotian farmers.

Pictou and Yarmouth, the second and third largest urban places in the colony -- with 3,000 and 2,500 people respectively -- were neither as diversified economically nor as socially heterogeneous as Halifax. Exports from these ports in 1854 collectively totalled \$270,558; this represented only 8 per cent of the value of goods shipped from Halifax in the same year.⁵⁷ Pictou, situated on the north side of Pictou Basin into which the East, Middle and West Rivers emptied, was highly dependent upon the commerce generated by the mines located six miles away along the East River.⁵⁸ Coal accounted for 60 per cent of all exports from the port of Pictou in 1854; agriculture and forestry accounted for 18 per cent each. Few manufactured goods were exported for, as Abraham Gesner noted, Pictou's primary exports "return large quantities of manufactured products", including "implements of husbandry, stoves, culinary utensils, tools and even axes...", mainly from the United States.⁵⁹ The town's inhabitants were chiefly descendants of Scottish Highlanders and they were predominantly Presbyterian. While socio-economic stratification was as much a reality in Pictou as it was in most other mid-nineteenth century communities in Nova Scotia, both urban and rural, the range between rich and poor was much narrower in Pictou than in Halifax owing to its smaller mercantile community and its fewer administrative functions.⁶⁰

⁵⁷ British £ sterling have been converted to Halifax currency using the ratio of \$4.87 = £ 1.0.0. See Alan B. Mc Cullough, Money and Exchange in Canada to 1900 (Toronto: Dundurn Press, 1984), p. 292.

⁵⁸ The General Mining Association's Albion Mines, were located two miles from New Glasgow along the East River. The first railroad in the colony was laid down in 1839 specifically to move the coal from Albion Mines to Pictou Harbour; Gesner, The Industrial Resources of Nova Scotia, p. 271.

⁵⁹ Ibid., p. 257

⁶⁰ Estimates of real and personal property contained in the 1851 census substantiate this. While Pictou's estimated property value in 1851 averaged £175. per family, the average for Halifax was £427. per family. Indeed, in certain wards of the city total property value

Yarmouth's principal export, by contrast, was fish. The cod and other species caught in the Gulf of Maine off Yarmouth accounted for nearly two-thirds of the port's exports in 1854. Agricultural and wood exports were slightly less important than in Pictou (at 16 and 13 per cent respectively) while manufactured goods were more significant (at 11 per cent). Several small woodworking factories producing doors, sashes, blinds, mouldings and other building supplies were based in the town and shipbuilding was an important industry.⁶¹ Unlike Pictonians, the people of Yarmouth were predominantly Anglo-American in background and adherents of the Baptist faith.⁶² Acadian and Scottish Catholics comprised distinct minorities in the town. The community of merchants, seamen, fishermen, woodworkers, shipbuilders and other artisans associated with the fish, timber and shipbuilding trades created a significant local demand for fresh food in Yarmouth.⁶³

Apart from Halifax, Pictou and Yarmouth there were few urban centres in Nova Scotia large enough to markedly affect agriculture in their immediate hinterlands. In all less than 10 per cent of Nova Scotia's 300,000 people lived in places with more than 1,000 inhabitants (the contemporary definition of 'urban'). There was a significant non-farm

averaged more than £700. per family (or approximately \$3,400 Halifax currency per family). Census of Nova Scotia, 1851, RG1, Vol. 453, PANS. For details on socio-economic stratification in two rural communities in Nova Scotia see Rusty Bittermann, Robert MacKinnon and Graeme Wynn, "Of Inequality and Interdependence in the Nova Scotian Countryside, 1850-1870", Paper Presented at the Atlantic Canada Studies Conference, University of Maine at Orono, May 17, 1990.

⁶¹ See descriptions of Yarmouth in Captain W. Moorsom, Letters From Nova Scotia: Comprising Sketches of a Young Country (London: H. Colburn and R. Bentley, 1830), p. 264, and Joseph Outram, The Counties of Nova Scotia: Their Condition and Capabilities (Halifax: Queen's Printer, 1867), pp. 13-14.

⁶² Andrew H. Clark, "Old World Origins and Religious Adherence in Nova Scotia", Geographical Review 50, 3 (1960), pp. 327-30.

⁶³ The Secretary of The Yarmouth Agricultural Society reported in 1856 that pedlars were travelling through the agricultural hinterland of Yarmouth purchasing provisions for the outfitting of vessels. Yarmouth Agricultural Society Report for 1856, RG8, Vol. 14, #109.

component to the colony's predominantly rural population, however. Each county had its "shire town" usually with several merchants, artisans and professionals (blacksmith, carriagemaker, tanner, cooper, shipwright, druggist, physician, lawyer), the county court house, a church or two, one or more inns or hotels and perhaps a printing shop that produced the local newspaper.⁶⁴ As Map 2-1 indicates, most of these were coastal towns, their location reflecting the importance of the traditional staples of fish and timber (Liverpool, Shelburne, Digby, Annapolis, Truro, Antigonish and Port Hood. Such small towns whose populations ranged from 700 or so to 1,500 created a demand for agricultural produce but it was generally insufficient to set local farms apart from their surrounding counterparts at least when considering agricultural patterns at the county scale. Each county also had scores of villages and hamlets, each with a dozen or so houses clustered about a country store, a church and perhaps a grist-, carding-, or saw-mill. Yet even contemporary observers sometimes found it difficult to distinguish these places from the surrounding rural countryside. Captain W. Moorsom cautioned the readers of his well-known Letters From Nova Scotia that:

you must not here ask simply the distance to Horton, or to any other place you may have heard designated as a town or village; the said town being scattered along the road for five, ten, or fifteen miles.⁶⁵

In these villages and towns the general store, blacksmith's smithy, and saw-, grist- or carding-mill were crucial institutions for the surrounding rural population. They supplied provisions or services that could not be provided directly from the farm and provided a market link that allowed fortuitous and intentional farm surpluses to enter the wider

⁶⁴ There were 5 newspapers being published outside of Halifax in the late 1840's. Sir John Harvey, "Report on Nova Scotia for 1847", p. 12.

⁶⁵ Moorsom, Letters From Nova Scotia, p. 222.

commercial system of the colony.⁶⁶ As Captain Moorsom aptly observed in 1830 "the store of the petty merchant... the everlasting din of the blacksmith's anvil" and "the noisy operation of the saw and plane" in these villages attest to "the many wants of neighbouring agriculturalists"....⁶⁷

The Transportation System

Commerce and agricultural trade were dependent upon a regular network of local roads and schooner and steamer connections between Nova Scotia and nearby Maritime ports. Schooners plied the Bay of Fundy, sailed from Northumberland Shore ports to New Brunswick and Newfoundland and left south coast ports (especially Halifax) for the West Indies (via Boston and nearby centers). Since the 1830's regular steamship connections had been developed between Pictou and the Miramichi, between Halifax and Boston (via Lunenburg and Yarmouth), between Halifax and Liverpool (England) and between Windsor and Annapolis and Saint John.⁶⁸ But steamships only had an advantage over sailing vessels when time was an important factor. Although they quickly secured much of the intercolonial passenger trade and mail contract business, in 1850 the bulk of Nova Scotia's exports were carried by sailing vessels.⁶⁹

⁶⁶ For a discussion of the varied functions of a village store in Nova Scotia see Marie Nightingale, "The General Store", Nova Scotia Historical Quarterly 2 (March, 1972), pp. 17-29.

⁶⁷ Moorsom, Letters From Nova Scotia, p. 328.

⁶⁸ Reginald D Evans, "Transportation and Communication in Nova Scotia, 1815-1850", M.A. thesis, Dalhousie University, 1936, pp. 76-95; George MacLaren, "Communications in the Northumberland Strait and the Gulf of St. Lawrence, 1775-1951", Nova Scotia Historical Quarterly 1, 2 (1971), pp. 101-25; Baden Powell, "Yarmouth Steam Packets, 1839-1889", Nova Scotia Historical Quarterly 5, 1 (1975), pp. 31-46.

⁶⁹ Schooners and other sailing vessels had the advantage of being more seaworthy in rough weather, which explains why they regularly replaced steamers on Bay of Fundy routes during the stormy winter months; perhaps more importantly, the transport costs for bulky cargoes were lower on sailing vessels, especially for long distance voyages. As a result, sailing vessels remained a competitive means of transport in the mid-nineteenth century in spite of the expansion of steamship travel. This persisted until improvements in the cost and design of steamers (and in iron hulled vessels) in combination with the competition imposed by railroad transport a few decades later, ultimately led to the decline

Overland transportation in mid-nineteenth century Nova Scotia was difficult and time-consuming. As late as the 1870's it took more than 30 hours to complete a 40 mile trip from certain interior districts to the coast.⁷⁰ Yet there had been enormous progress in road building since the beginning of the century. The House of Assembly expenditures on road construction and improvements grew significantly during the 1830's and 40's and overland traffic increased as stage coach connections with schooners and steamers departing coastal ports became more regular and dependable.⁷¹ One estimate suggests that the mileage of Nova Scotia's "Great Roads" (main roads excluding "bye roads" or secondary routes) grew from 160 miles to more than 1,000 miles between 1815 and 1850.⁷²

Figure 2-9 illustrates the principal overland routes of 1850 and the numerous "bye roads" that connected outlying communities to the main roads.⁷³ The Great Western Road which linked Halifax to the Annapolis-Cornwallis Valley in the eighteenth century had been extended to Yarmouth. From that town it was possible to travel to Halifax via Liverpool by crossing the Mersey River on a toll bridge and by taking ferries across the Medway and La Have rivers.⁷⁴ The Truro-Amherst route, little more than a foot path in 1800,

of the "age of sail." See J.S. Martell, "Intercolonial Communications, 1840-1867", Canadian Historical Association Report (1939), pp.41-61.

⁷⁰ Maurice Harlow of North Brookfield, Queen's county documents a 36 hour trip, carting lumber and farm products from his home to the "shire town" Liverpool, in his diary; Maurice Harlow Diary, 22-25 September, 1879, MG 100, Vol. 1300, PANS.

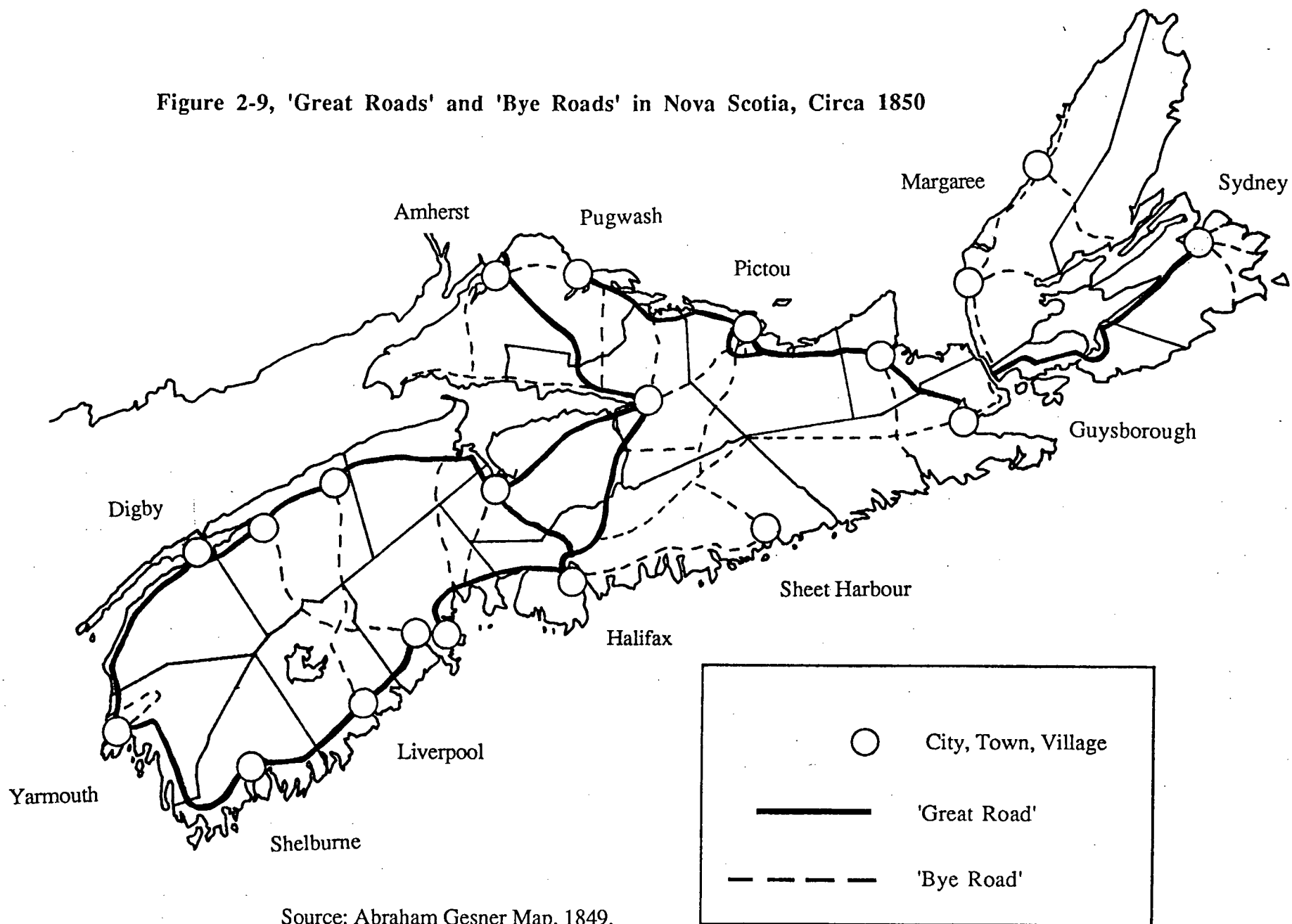
⁷¹ Evans, "Transportation and Communication in Nova Scotia", p. 22 and "Stage Coaches in Nova Scotia, 1815-1867", Collections of the Nova Scotia Historical Society 24 (1938), pp. 107-34; W.R. Bird, "History of the Highways of Nova Scotia", unpublished ms., dated 1945, Nova Scotia Legislative Library, Halifax, p. 52.

⁷² Evans, "Transportation and Communication in Nova Scotia", p. 19.

⁷³ Figure 2-7 is based on A. Gesner's map of 1849; PANS map collection.

⁷⁴ Evans, "Transportation and Communication in Nova Scotia", pp. 7-11. Few travelers returning to Halifax, however, opted for this route because the stage still ran along the Halifax-Windsor-Annapolis portion of the Great Western Road and marine transport was

Figure 2-9, 'Great Roads' and 'Bye Roads' in Nova Scotia, Circa 1850



Source: Abraham Gesner Map, 1849,

accommodated wagon and stage coach travel in summer and sled and sleigh travel in winter. This "Great Northern Road" followed Cobequid Bay as far as Great Village and turned inland through Westchester and River Philip before running through Amherst to the New Brunswick border. The Great Northern Road remained the principal stage coach route between Nova Scotia and Quebec until the Intercolonial Railroad opened in 1876.⁷⁵ A "bye road" connected Amherst to the "Shore Road" along the Northumberland Shore and the main road east of Pictou, which ran to the Strait of Canso by way of Arisaig, Antigonish and Manchester (Guysborough County), had been shortened and improved. A regular stage service linked Pictou and Sydney, and Halifax was well-connected to most towns and villages by stage coach service (Table 2-2). Thus, by 1850 "Great Roads" encircled southwestern Nova Scotia, and linked Halifax and Sydney (Cape Breton) to the east and Truro and Amherst to the north west.⁷⁶

Secondary or "bye roads" had also been improved and extended in the first half of the nineteenth century. A bumpy road followed the Eastern Shore from Dartmouth to Sheet Harbour (Harvey Road).⁷⁷ A bridle path connected it to the Guysborough Road which linked Halifax and Truro to Guysborough via the Musquodoboit and West Branch St.

probably more efficient for "south shore" residents travelling to Halifax. Nonetheless, road and bridge improvements undoubtedly enhanced local traffic between nearby communities.

⁷⁵ Some Cumberland county travelers, however, still used the Parrsboro-Windsor ferry and the Windsor-Halifax overland route but this could be far more time-consuming owing to the nature of mid-nineteenth century ferry schedules.

⁷⁶ The main route through Cape Breton lay to the south of the Bras D'Or Lake via St. Peter's (the Old Sydney Road).

⁷⁷ Temperance Missionary John S. Thompson who traveled this road in the 1850's commented that "the post road to Musquodoboit Harbour" was "good enough to travel by sled or wagon", but "further east the difficulties of cow paths have to be encountered"; cited in John N. Grant, "Travel and Travelers on the Eastern Shore", Nova Scotia Historical Quarterly 6, 1 (1976), pp. 27-28.

Table 2-2, Principal Stage Coach Routes in Nova Scotia, Circa 1850

| ROUTE | MILEAGE |
|---|----------------|
| Halifax-Digby | 151 |
| Halifax-Shelburne (via Annapolis and Yarmouth) | 285 |
| Halifax-Shelburne (via St. Margaret's Bay) | 148 |
| Halifax-Cumberland (via Windsor) | 118 |
| Halifax-Pictou | 106 |
| Pictou-Sydney (Cape Breton) | 150 |
| Halifax-Middle Musquodoboit | 50 |
| Halifax-Guysborough (via Pictou and Antigonish) | 190 |
| Halifax-Shubenacadie (via Kennetcook, Douglas and Rawdon) | 80 |

Sources: W.R. Bird, "History of the Highways of Nova Scotia", p. 22;
R.D. Evans, "Stage Coaches in Nova Scotia", pp. 107-34.

Mary's valleys.⁷⁸ To the north, "bye roads" connected Pugwash, Tatamagouche and Pictou to the Great Northern and Guysborough Roads; to the west several overland routes cut across the spine of the "southern upland": the Windsor-Chester route, the New Ross Road (between Kentville and Chester) and the Lunenburg-Annapolis Road with branches at North Brookfield (Queen's County) for Lawrencetown and Liverpool.⁷⁹ On Cape Breton, except for the older Sydney-Louisbourg Road and a few shorter stretches linking Sydney to some of the early mining districts (Lingan, Cow Bay) the only secondary roads on the island ran along the west coast (between Creignish and Cheticamp) and through the river valleys and passes leading to Bras D'Or Lake (Skye Glen between Port Hood and Wycocomagh, and the Margaree-Lake O Law-Middle River route).⁸⁰ Along the north shore of the island between Englishtown and Cape North overland travel was solely by "shanks mare" as the track which subsequently became the well-known "Cabot Trail" over Cape Smoky was little more than a foot path.⁸¹ Although sometimes difficult to traverse, especially during spring and fall, such secondary roads provided necessary overland links between farms, rural villages and coastal ports.

⁷⁸ The Guysborough road, described in 1830 as "alternating between a rough horse path and a new cut", was passable by wagon and sleigh in 1850; a regular stage coach service was added a decade later. Howe, Western and Eastern Rambles, p. 17 and Evans, "Stage Coaches in Nova Scotia, 1815-1867", pp. 130-131.

⁷⁹ Bird, "History of the Highways of Nova Scotia", pp. 26-31, 33-42.

⁸⁰ Mary Black, "Cape Breton's Early Roads", Nova Scotia Historical Quarterly 5, 3 (1975), pp. 277-95 and B.D. Tennyson, "Cape Breton in 1867", Nova Scotia Historical Quarterly 6, 2 (1976), pp. 201-05.

⁸¹ Fred Williams, "Shank's Mare and Other Things: An Historical Glimpse of Travel in Northern Cape Breton", Nova Scotia Historical Quarterly 10, 4 (1980), pp. 213-20 and R. H. MacDonald, "Transportation in Northern Cape Breton", Parks Canada Manuscript Report 363, 1979, pp. 2-12.

Chapter Three. Parameters of Change in Nova Scotia, 1851-1951

In the late nineteenth century political, economic, and technological changes reoriented Nova Scotia's "wood, wind and sail" economy from Atlantic to Central Canada and many communities felt the impact of industrialization. Traditional exports of fish, timber, masts and spars declined, iron steamships replaced wooden sailing vessels in the carrying trade and new industries sprang up.¹ By 1911 nearly one-third of the province's labour force was employed in the industrial sector and a decade later the urban population reached 43 percent. The diffusion of a wide range of technological innovations -- horse drawn machinery, refrigeration, the telegraph, the telephone and later, the radio and the automobile -- rapidly transformed traditional patterns of work and life in Nova Scotia. Once relatively isolated communities, the local settings of most everyday lives, felt the impact of wider horizons. The consequences for Nova Scotia were profound and this chapter provides a context for their closer investigation in chapters four, five and six by examining the broad temporal trends and spatial patterns of population, land use, agricultural production and trade between 1851 and 1951.

Demographic Trends

By comparison with the rest of Canada Nova Scotia's population grew very slowly in the century after 1851. With political integration and territorial expansion as well as

¹ Between 1885 and 1910 Nova Scotia fish production dropped by nearly one-half (from 800,000 to 450,000 quintals) and, although the expanding market for deals, firewood and pulp wood allowed continued growth in the forestry industry, by the end of this period annual production had stabilized at a level of about 300 million F. B. M. (foot board measure). The cut increasingly consisted of spruce and hemlock which were used for pit props, laths, shingles or pulp. David Erskine, "The Atlantic Region", in Canada: A Geographical Interpretation ed., John Warkentin (Toronto: Methuen, 1968), p. 265; B.E. Fernow, C.D. Howe and J.N. White, Forest Conditions of Nova Scotia (Ottawa: Commission of Conservation, 1912), p. 25; L.S. Hawboldt and R.M. Bulmer, The Forest Resources of Nova Scotia (Halifax: Nova Scotia Department of Lands and Forests, 1958), p. 38. On industrialization in Nova Scotia during this period see T.W. Acheson, "The National Policy and the Industrialization of the Maritimes, 1880-1910", Acadiensis 1,2 (1971), pp. 1-28.

immigration and natural increase, the Canadian population of 1951 (14 million) was six times greater than that of British North America a century before. Yet Nova Scotia's population barely doubled from 277,000 in 1851 to 643,000 in 1951. Growth rates of more than 20 per cent per decade in the 1840's and 50's declined steadily through the 1860's and 70's. Between 1881 and 1891 Nova Scotia's population grew at a rate of 2 per cent, 10 per cent below the rate of natural increase.² At the close of the following decade it was clear to many contemporaries that the end of the age of "wood, wind and sail", the emergence of the industrial economy and the lure of large towns and cities outside the province had begun to drain the "bone and sinew" from many of Nova Scotia's rural communities.³ Estimates of the exodus vary but by recent accounts nearly 100,000 persons left the province between 1881 and 1901.⁴ Many of these migrants found employment in the Gloucester Fishery, in the mill towns of Massachusetts and New Hampshire and in a variety of services and trades in Boston, New York and other United States' cities. A sizeable number also relocated elsewhere in Canada.⁵ Still, in spite of this high rate of outmigration, most of Nova Scotia's rural districts experienced an overall increase in population between 1851 and 1891 (Figure 3-1). Only Pictou town and several

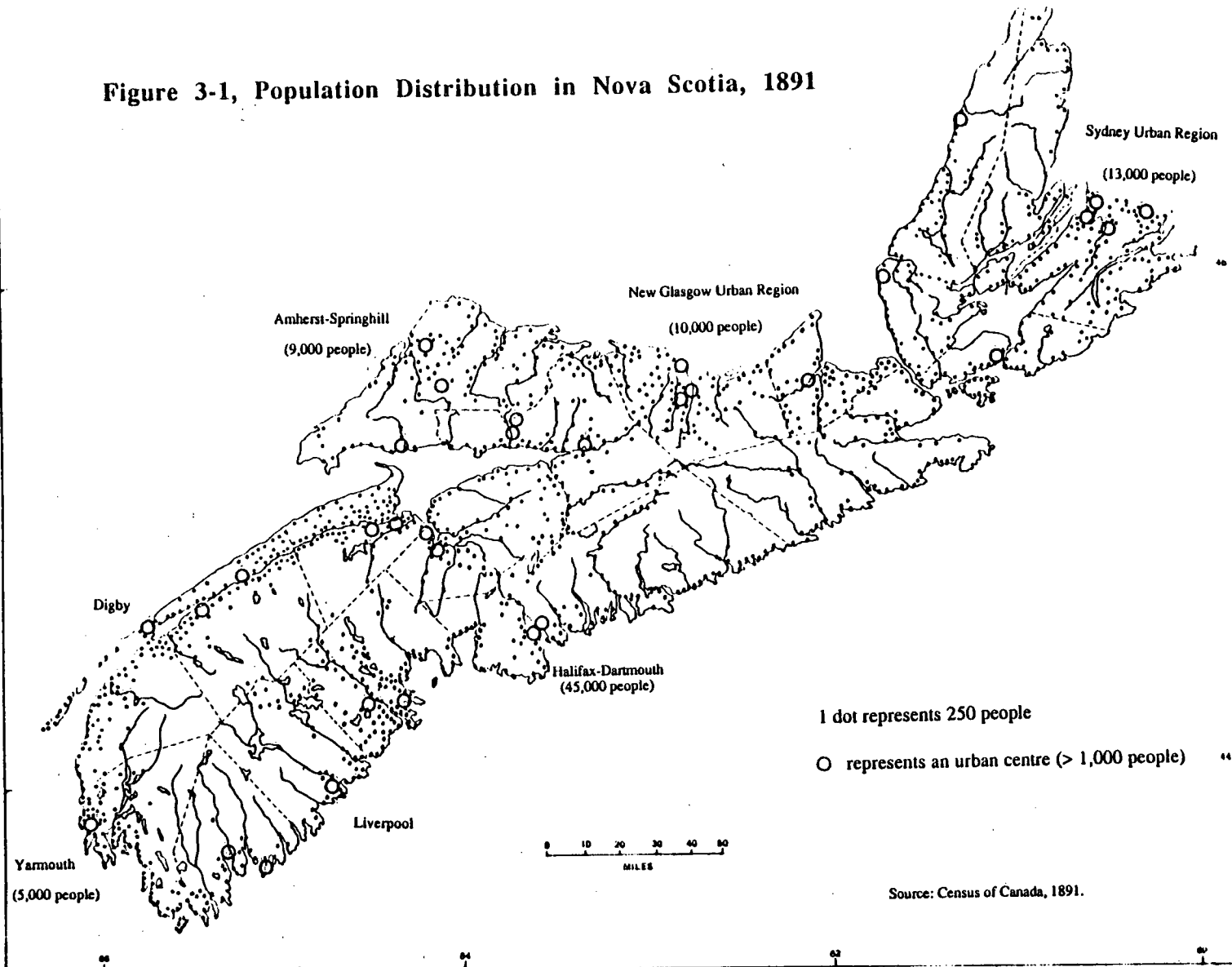
² Dominion Bureau of Statistics, The Maritime Provinces Since Confederation: A Statistical Study of their Social and Economic Conditions During the Past Sixty Years (Ottawa: F. Acland, 1927), p. 20.

³ Fred Pedley et.al., "Nova Scotia's Problems, With Special Reference to Exodus: Letters From Prominent Nova Scotians", The Canadian Magazine 13, 5 (September, 1899), p. 469.

⁴ Patricia A. Thornton, "The Problem of Outmigration from Atlantic Canada, 1871-1921: A New Look", Acadiensis, 15, 1 (1985), p. 17; and Alan A. Brookes, "Outmigration From the Maritime Provinces, 1860-1900: Some Preliminary Considerations", Acadiensis 5 (1976), p. 29. This represented almost 20 per cent of those who remained in Nova Scotia in 1901; Census of Canada, 1901.

⁵ Of the 1,832 census subdistricts in Canada outside of Nova Scotia in 1881, 892 contained residents who were born in Nova Scotia. Only in Quebec and the northern Territories did Nova Scotian born appear in less than 30 percent of all census subdistricts. M.C. Mac Lean, "The Ubiquity of the Nova Scotian", unpublished manuscript, not dated, in MG1, Vol. 1522, file 1, pp. 1-7, PANS.

Figure 3-1, Population Distribution in Nova Scotia, 1891



rural districts, mainly in the province's eastern counties remained relatively stable in demographic terms since the mid nineteenth century or recorded an absolute loss in population over the period.⁶

The most significant change in population distribution between 1851 and 1901 was the emergence of a sizeable urban system. Linked by the Intercolonial Railroad, its growth stimulated by the industrialization that occurred in the wake of the National Policy, this scattered network of manufacturing centres reflected the integration of the region's economy and the urbanization of its people. Halifax, by far the most important centre in the province, had "the largest drydock on the Atlantic Seaboard", a grain elevator associated with its deep water docking facilities, a "large and imposing" railway station and several large factories producing consumer goods (Henderson and Pott's paint factory, Starr's skate and hardware factory, the Dartmouth Rope Works, Moirs' Candy, Schwartz's Coffee and Spices, Mott's Soap, Halifax Sugar Refinery Ltd., and Nova Scotia Cotton Mill).⁷ While observers remarked that it was still a "dirty" and "dingy" town with "hundreds of hovels, in courts, lanes and backyards, scarcely fit to house cattle", some of its 45,000 people enjoyed the advantages of the electric street car service, the electric street lights and the telephone service recently established in the city.⁸ There were also sizeable urban clusters in the coalfields of Pictou, Cape Breton and, to a lesser extent, Cumberland Counties. New Glasgow and its satellite centres (Trenton, Stellarton, Westville, Ferrona

⁶ Nineteen of Nova Scotia's 375 census subdistricts in 1891 recorded population levels below those enumerated in 1851; fourteen of these districts were in the eastern counties of Pictou, Cape Breton and Richmond. Census of Nova Scotia, 1851, RG1, Vol. 453, PANS; Census of Canada, 1891.

⁷ Phyllis Blakeley, Glimpses of Halifax, 1867-1900 (Halifax: Public Archives of Nova Scotia, 1949), pp. 206-07; T.W. Acheson, "The National Policy and the Industrialization of the Maritimes", pp. 17-18.

⁸ The quotes are from, "An American Visitor", Acadian Recorder 4 October, 1882; cited in Blakeley, Glimpses of Halifax, p. 212; and Annual Report of Mayor J. C. MacKintosh, October, 1885; cited in Blakeley, Glimpses of Halifax, p. 210. For a fuller description of Halifax in the late nineteenth century see Ibid., pp. 204-213.

and Hopewell) housed more than 10,000 people, most of whom depended directly or indirectly on the coal mines, iron and steel works and related industries concentrated in these towns.⁹ More than 13,000 people lived in eastern Cape Breton's mining districts.¹⁰ Amherst, with its machine shops, wood manufacturing plants, car works and boot and shoe factory, and Springhill, with its mines and service industries, boasted a combined population of 9,000. Yarmouth, long a fishing and trading centre, and now the terminus of the Dominion-Atlantic Railway, had replaced Pictou as the second largest town in the province with 5,000 residents, many of whom worked in the textile factories, foundries, furniture plants and cotton mill that had developed there since 1867.¹¹ In the province's "agricultural core" several service centres had also grown considerably during the previous four decades (especially Kentville, Bridgetown, Middleton, Truro, Antigonish and Port Hood).

While the urban system of Nova Scotia expanded, outmigration from rural districts increased; eight of the province's 18 counties recorded an absolute loss in population

⁹ Nut and bolt manufacturing, boiler making, machine shops and a rifle site factory. Other industries dependent on the workforce associated with the mines and steel works of New Glasgow's industrial region included: Lynche's Colonial Cake Factory, the Francis Drake Carbonated Beverage Plant, Garret's Rug factory, Porter's sawmill and wood working factory and Humphrey's Glassworks. James M. Cameron, The Industrial History of the New Glasgow District (New Glasgow: Hector Publishing Company, 1958), p. 20; and Anon., Nova Scotia's Industrial Centre (New Glasgow: Town Councils of New Glasgow, Trenton, Stellarton and Westville, 1916), pp. 55, 56, 61 and 63. Many of these industries differed considerably from the small one or two person operations characteristic of the mid nineteenth century. In the town of Trenton more than 1,000 people were employed in 62 factories in 1891 (an average of 18 workers per establishment). By 1911 several factories in the town (including the Canada Rifle Site Company, the Albion Machine Works and the Fraser Motor Company) employed more than 100 workers each. Census of Canada, 1891, 1911.

¹⁰ Census of Canada, 1901.

¹¹ Herbert Crosskill, Nova Scotia: Its Climate, Resources and Advantages, Being a General Description of the Province for the Information of Intending Immigrants (Halifax: Charles Annand, 1872), p. 69; Canadian Illustrated News, 28 September, 1878; Acheson, "The National Policy and the Industrialization of the Maritimes", p. 18.

between 1881 and 1891 and this trend continued during subsequent decades (Tables 3-1, 3-2). Only Cape Breton and Halifax Counties, where much of the province's urban growth was concentrated, and Guysborough County, where the discovery of gold created several "boom towns", recorded substantial population increases from 1891 to 1901.¹² Many rural districts were losing population from at least 1871 on, as table 3-3 illustrates. Ten rural districts in Pictou County lost population steadily between 1871 and 1901 (Bailey's Brook, Barney's River, Big Island, Dalhousie, Hardwood Hill, New Lairg, Merigomish, Mill Brook, Sunny Brae and Wentworth); during the same period Pictou's industrial towns recorded substantial population growth. This points to the complex intra- and inter-county migrations which took place alongside regional outmigration.¹³ In Pictou County rural districts lost almost 2,700 people between 1891 and 1901 while incorporated towns gained 2,120 people over the decade.¹⁴

Between 1901 and 1921 urban and industrial growth slowed down outmigration and Nova Scotia's population grew by 64,000. Growth rates at the provincial scale were triple those of 1881-1901, but demographic and economic growth were not sustained. During the troubled 1920s the province recorded an absolute loss in population for the first time during the century under investigation (of nearly 11,000 individuals) and net migration

¹² G. R. Evans, "Early Gold Mining in Nova Scotia", Collections of the Nova Scotia Historical Society 25 (1942), pp. 17-47. The large population increase in Cumberland County in the 1880's (26 per cent) resulted from the opening of mines at Springhill, Joggins and River Hebert.

¹³ T.W. Acheson describes a similar process in Charlotte County, New Brunswick: "While many rural emigrants left the county, the more common method was a two-generation pattern of emigration. In the first generation the son of the farm moved to one of the county towns; in the second his children made the final transfer from the county itself". "A Study in the Historical Demography of a Loyalist County", Social History 1 (April, 1968), pp. 63-64; cited in Brookes, "Outmigration From the Maritime Provinces", p. 33.

¹⁴ Census of Canada, 1891, 1901.

**Table 3-1, Percentage Change in Nova Scotia's Population,
By County, 1851-1901**

| | 1851-61 | 1861-71 | 1871-81 | 1881-91 | 1891-01 |
|---------------------|--------------|--------------|-------------|-------------|-------------|
| Annapolis | 17.27 | 8.17 | 13.67 | -6.06 | -2.62 |
| Antigonish (Sydney) | 10.43 | 11.03 | 9.38 | -10.78 | -15.5 |
| Cape Breton | 10.86 | 26.78 | 17.11 | 9.55 | 43.58 |
| Colchester | 29.58 | 16.39 | 14.53 | 1.65 | -8.32 |
| Cumberland | 36.22 | 20.4 | 16.37 | 26.17 | 4.75 |
| Digby | 20.4 | 15.5 | 16.69 | 0.08 | 2.14 |
| Guysborough | 17.28 | 30.22 | 7.57 | -3.44 | 6.54 |
| Halifax | 22.82 | 16.2 | 19.23 | 5.07 | 4.63 |
| Hants | 21.84 | 22 | 9.66 | -5.6 | -9.05 |
| Inverness | 18.03 | 17.27 | 9.55 | 0.5 | -5.53 |
| Kings | 32.49 | 14.84 | 9.11 | -4.18 | -2.45 |
| Lunenburg | 19.74 | 21.4 | 19.93 | 8.72 | 4.23 |
| Pictou | 12.5 | 11.56 | 10.65 | -2.8 | -3.13 |
| Queens | 29.06 | 12.7 | 0.22 | 0.31 | -3.62 |
| Richmond | 21.45 | 13.18 | 5.98 | -4.77 | -6.14 |
| Shelburne | 0.43 | 16.39 | 20.1 | 0.29 | -5.04 |
| Victoria | 10.86 | 17.66 | 9.91 | -0.31 | -14.97 |
| Yarmouth | 17.53 | 20.1 | 14.74 | 4.38 | 2.94 |
| TOTAL | 19.51 | 17.21 | 13.6 | 2.23 | 2.04 |

Source: Dominion Bureau of Statistics, *The Maritime Provinces in Their Relation to the National Economy of Canada*, pp. 12-13.

**Table 3-2, Percentage Change in Nova Scotia's Population,
By County, 1901-1951**

| | 1901-11 | 1911-21 | 1921-31 | 1931-41 | 1941-51 |
|--------------------|-------------|------------|-------------|--------------|-------------|
| Annapolis | -1.39 | -2.3 | -10.22 | 8.56 | 22.9 |
| Antigonish(Sydney) | -12.15 | -3.19 | -13.01 | 4.69 | 13.5 |
| Cape Breton | 49.15 | 17.71 | 7.16 | 19.69 | 8.7 |
| Colchester | -4.96 | 6.47 | -0.57 | 20.2 | 4.7 |
| Cumberland | 12.1 | 1.6 | -11.71 | 8.59 | 0.45 |
| Digby | -0.76 | -2.75 | -6.41 | 6.1 | 2.7 |
| Guysborough | -6.94 | -8.97 | -0.48 | 0.12 | -1.4 |
| Halifax | 7.49 | 21.15 | 3.06 | 22.41 | 32.3 |
| Hants | -9.05 | 0.18 | -1.75 | 13.62 | 6 |
| Inverness | -5.53 | -6.89 | -11.56 | -2.29 | -10.6 |
| Kings | -2.45 | 8.92 | 2.67 | 18.73 | 14.7 |
| Lunenburg | 4.23 | 1.45 | -6.13 | 4 | 0.95 |
| Pictou | -3.13 | 13.92 | -4.49 | 4.54 | 7.9 |
| Queens | -3.62 | -1.6 | 6.72 | 13.34 | 4.3 |
| Richmond | -6.14 | -6.1 | -10.96 | -2.21 | -0.64 |
| Shelburne | -5.04 | -4.35 | -7.46 | 6.14 | 8.6 |
| Victoria | -14.97 | -10.15 | -10.98 | 1.29 | 2.3 |
| Yarmouth | 2.94 | -3.64 | -6.41 | 7.05 | 1.7 |
| TOTAL | 7.35 | 6.4 | -2.1 | 12.73 | 11.2 |

Sources: Dominion Bureau of Statistics, *The Maritime Provinces in Their Relation to the National Economy of Canada*, pp. 12-13; Census of Canada, 1951.

Table 3-3, Demographic Change in Pictou County, 1871-1901

| | 1871 | 1881 | 1891 | 1901 |
|-------------------------|------|------|------|------|
| Rural Districts | | | | |
| Abercrombie | 309 | 282 | 429 | 435 |
| Bailey's Brook | 974 | 885 | 754 | 625 |
| Barney's Point | 1228 | 1194 | 1026 | 802 |
| Big Island | 172 | 156 | 133 | 110 |
| Bridgeville | 838 | 846 | 718 | 767 |
| Cape John | 1015 | 1079 | 916 | 918 |
| Cariboo | 1263 | 1332 | 1095 | 923 |
| Churchville | 325 | 406 | 625 | 394 |
| Dalhousie | 1145 | 1146 | 979 | 793 |
| East River St. Mary's | 440 | 447 | 391 | 323 |
| Ferrona | 667 | 843 | 580 | 580 |
| Fishers' Grant | 469 | 599 | 417 | 382 |
| Fraser's Mountain | 100 | 113 | 175 | 276 |
| Garden of Eden | 496 | 504 | 440 | 364 |
| Green Hill | 888 | 858 | 757 | 635 |
| Hardwood Hill | 1167 | 1163 | 960 | 915 |
| Hopewell | 686 | 867 | 597 | 598 |
| Lairg | 590 | 535 | 474 | 437 |
| Little Harbour | 852 | 900 | 762 | 618 |
| Lorne | 552 | 698 | 481 | 498 |
| McLennan's Mountain | 400 | 628 | 601 | 480 |
| Merigomish | 974 | 898 | 772 | 693 |
| Middle River | 753 | 989 | 801 | 672 |
| Mill Brook | 894 | 834 | 587 | 511 |
| Mount Thom | 1267 | 1278 | 953 | 854 |
| Pictou Island | 110 | 144 | 160 | 159 |
| River John | 1347 | 1569 | 1275 | 1130 |
| River John, West Branch | 1073 | 950 | 839 | 711 |
| Sunny Brae | 491 | 485 | 431 | 527 |
| Thorburn | 777 | 1219 | 1168 | 933 |
| Toney River | 705 | 749 | 636 | 643 |
| Wentworth Grant | 766 | 716 | 632 | 480 |
| Towns | | | | |
| New Glasgow/Trenton | 2073 | 3019 | 4417 | 5445 |
| Stellarton | 1750 | 1599 | 2410 | 2335 |
| Westville | 1675 | 2202 | 3152 | 3471 |
| Pictou | 2883 | 3403 | 2998 | 3235 |

Source: Census of Canada, 1871-1901.

estimates suggest that at least 70,000 persons left the province.¹⁵ In contrast to the late nineteenth century outmigration from the region, a large proportion of these migrants were from urban areas where industrial jobs had disappeared.¹⁶ This is reflected in the extremely low percentage increases in population in Cape Breton and Halifax Counties, the most urban of Nova Scotia's counties (7 and 3 per cent respectively); a decade earlier the population of these counties grew at rates of 17 and 21 per cent respectively (Table 3-2).

Industrial decline reverberated through the regional economy. Direct employment in the iron and steel industry, which lay at the base of much of Nova Scotia's industrial development, dropped from 8,000 or so in 1921 to less than 1,200 in 1925, and, with national railway expansion coming to a close, iron and steel production remained well below provincial capacity.¹⁷ The province's shipping industry also suffered. At the end of the war Halifax was Canada's leading port, handling more than 20 per cent of Canada's total shipping tonnage. Yet during the early 1920's Halifax fell behind Montreal, Vancouver and even Victoria; by 1926 just 8.7 per cent of Canada's shipping was being handled at Nova Scotia's principal deep water port.¹⁸

Following the stock market crash of 1929 and the ensuing international depression, which severely restricted opportunities elsewhere, emigration slowed once again and some of those who had left the province earlier began to trickle back. During the

¹⁵ Dominion Bureau of Statistics, The Maritime Provinces in Their Relation to the National Economy of Canada: A Statistical Study of Their Social and Economic Condition Since Confederation (Ottawa: Dominion Bureau of Statistics, 1948), p. 8.

¹⁶ The Dominion Bureau of Statistics reported in 1927 that "the movement away from Maritime farms" would account for less than "a third of the emigration which has taken place since 1891", The Maritime Provinces Since Confederation, p. 28.

¹⁷ George Rawlyk and Doug Brown, "The Historical Framework of the Maritimes and Confederation", in The Atlantic Provinces and The Problems of Confederation, ed., G. Rawlyk (St. John's: Breakwater Books, 1979), pp. 24-25.

¹⁸ Ernest R. Forbes, The Maritime Rights Movement, 1919-27: A Study in Canadian Regionalism (Montreal: McGill-Queen's University Press, 1979), p. 63.

1930's Nova Scotia's population grew by 65,000, a figure greater than that for any other decade of the period 1851-1951. Yet poverty was widespread, especially in urban areas.¹⁹ Mines operated on a part-time basis and factories which had somehow managed to weather the economic storms of the 1920's closed. Between 1929 and 1933 coal production dropped by 40 per cent and prices for the traditional staples of the region fell. In 1933 the price of dried cod was about one-third that of 1920. In the same year the amount of lumber produced was 75 per cent below the output obtained in 1920.²⁰ Despite the enormous efforts of a "co-operative movement" which emerged to try to deal with the economic and social problems facing many communities, new markets, better prices and more credit remained difficult-to-obtain during the "Great Depression".²¹ Family farms at least promised a subsistence. At the end of the decade Nova Scotia's 124,000 families were, on average, smaller than those of three or four generations earlier, nearly one-half of them lived in urban areas, and a much larger percentage of their members were in the older age brackets. These were demographic characteristics of a mature society.

¹⁹ In 1931 the unemployment rate among male wage earners 20 years of age and over at Dominion, Sydney Mines and New Waterford, towns almost wholly dependent on coal mining, was 78, 71 and 68 per cent respectively. R. James Sacouman, "Underdevelopment and the Structural Origins of Antigonish Movement Co-operatives in Eastern Nova Scotia", in The Acadiensis Reader, Vol. 2, eds., P.A. Buckner and D. Frank (Fredericton: Acadiensis Press, 1985), p. 339.

²⁰ Graeme Wynn, "The Maritimes: The Geography of Fragmentation and Underdevelopment", in Heartland and Hinterland: A Geography of Canada, ed., L.D. McCann (Scarborough: Prentice-Hall Canada Inc., 1987), p. 197.

²¹ One of the best discussions of the goals and principals of Nova Scotia's "Cooperative Movement" is Moses Coady's Masters of Their Own Destiny: The Story of the Antigonish Movement of Adult Education Through Economic Cooperation (New York: Harper and Brothers Publishers, 1939), see especially pp. 50-68. For more recent assessments of this movement see R. J. Mac Sween, A History of Nova Scotia Co-operatives (Halifax: Department of Agriculture and Marketing, 1985); Sacouman, "Underdevelopment and the Structural Origins of Antigonish Movement Co-operatives"; and Ian MacPherson, "Appropriate Forms of Enterprise: The Prairie and Maritime Co-operative Movements, 1900-1955", Acadiensis 8, 1 (1978), pp. 77-96.

Between 1891 and 1941 the population of many of Nova Scotia's interior and coastal districts declined precipitously while several urban regions experienced dramatic demographic growth (Figures 3-1 and 3-2). Rural depopulation was especially severe in the counties of Pictou, Antigonish and Inverness in eastern Nova Scotia, in several interior lumbering districts of Queens and Lunenburg Counties, and along the Atlantic littoral of Digby, Queens, Lunenburg and Guysborough Counties, the heart of the inshore and offshore fisheries. In general, Figures 3-1 and 3-2 illustrate the gradual concentration of rural population in the fertile valley districts of central and western Nova Scotia, and in the fringes of the province's large urban centres after 1900, while backland districts in most counties experienced population losses. The concentration of commercial agriculture in the areas best suited for farming, the availability of employment in the growing service sectors of nearby towns and villages, and direct access by road and rail to the amenities and markets of Halifax, Sydney and New Glasgow (which collectively contained more than a third of Nova Scotia's 578,000 people in 1941) allowed either continued population growth between 1891 and 1941 or demographic stability in these areas. The transformation of Nova Scotia from a predominantly rural society in the nineteenth century to an urban society in the mid-twentieth century is clearly illustrated by Figures 3-1 and 3-2.

Figure 3-3 which describes the structural changes in Nova Scotia's population between 1851 and 1951 clearly demonstrates the massive real and relative decline of the province's agricultural population after 1891. The number of farm families grew steadily until 1881, remained relatively stable until 1891 and then fell. The much smaller non-farm population displayed a remarkably similar pattern, at least until the end of the first decade of the new century. The rural non-farm population of Nova Scotia -- comprising the families of blacksmiths, shoemakers, harness makers, coopers, carriage makers, tanners, tailors, millers and other artisans and professionals -- grew from 63,000 in 1851 to 92,000 in

Figure 3-2, Population Distribution in Nova Scotia, 1941

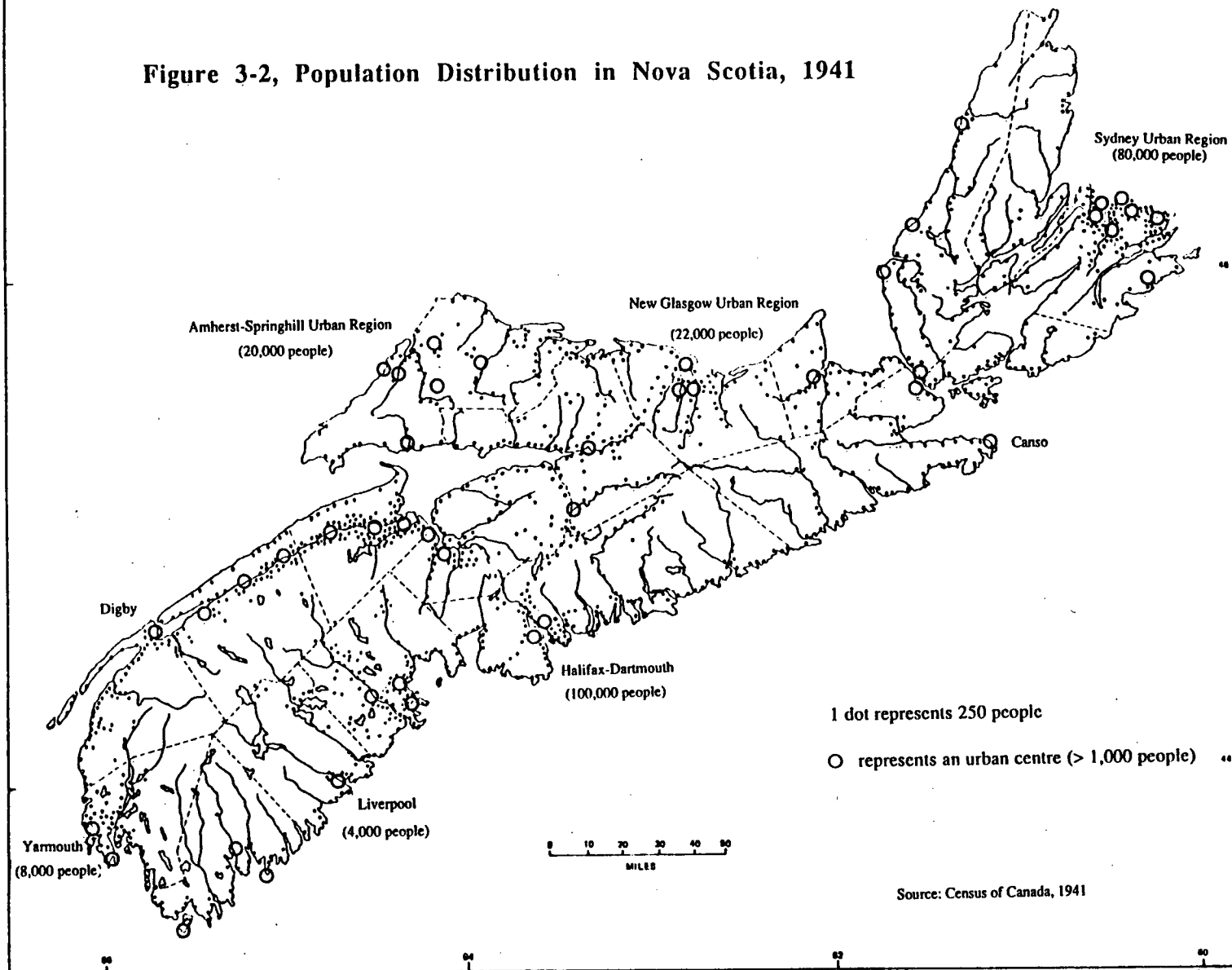
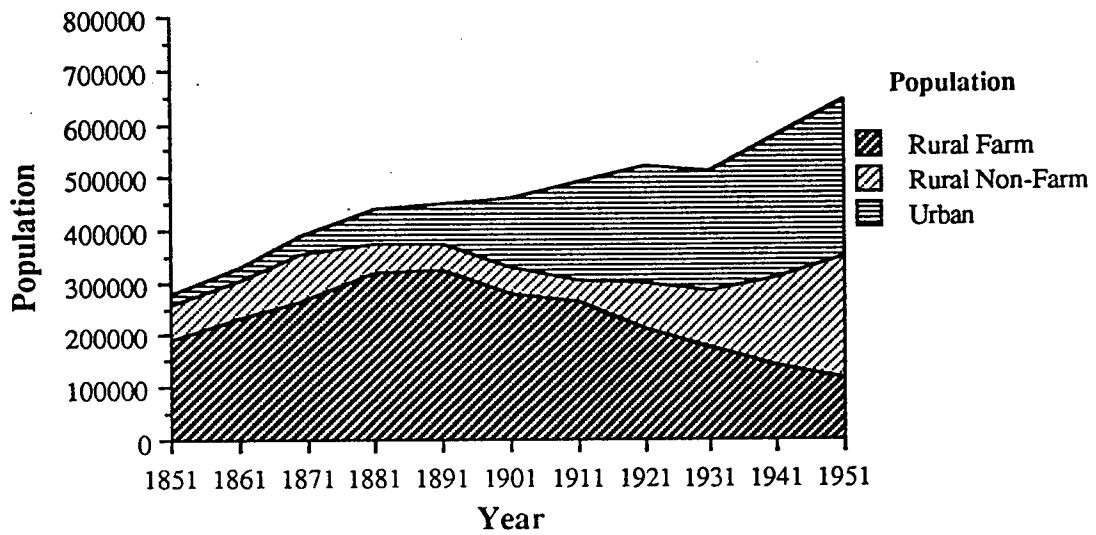


Figure 3-3, Demographic Change In Nova Scotia, 1851-1951



1871.²² This growth reflects the maturation of rural Nova Scotia during the so called "golden age" when the expansion of agriculture, commerce and external trade necessitated a substantial network of rural craftsmen. Following the arrival of the Intercolonial Railroad in 1876 and the implementation of the National Policy in 1879, competition from manufacturing plants in Ontario, Quebec and New England began to undermine the domestic market for local craftsmen and mass-produced goods gradually began to replace local manufactures in rural communities. New industries directly stimulated by the National Policy and traditional industries which successfully adjusted to the changed circumstances of the 1880's and 90's increasingly became concentrated in a smaller number of urban centres and local opportunities for rural craftsmen shrank.²³ Only with the road and highway improvements that took place during the 1920's and 1930's, which were as much make-work projects as they were concerted efforts to re-orient the provincial economy towards tourism, did the rural non-farm population of Nova Scotia rebound. Urban workers began to reside in rural areas. In 1941 there were 23,000 more non-farm families in rural Nova Scotia than there were families working the land.²⁴ Some members of these families were employed in the rural service sector which was greatly stimulated by

²² The total farm population for these census years is estimated by multiplying the number of farms enumerated at each census by the family size average for each census year.

²³ Trades such as carpentering and shoemaking experienced a dramatic slump in all three Maritime provinces between 1861 and 1881; blacksmiths dwindled from 4,000 to 1,590 between 1881 and 1941; and sailors, seamen and deckhands declined from 10,000 to less than 2,000 during the same period. Dominion Bureau of Statistics, The Maritime Provinces in Their Relation to the National Economy of Canada, p. 27.

²⁴ Nova Scotia's "rural population" totalled 310,422 in 1941; the Province's "farm population" numbered 143,709. In 1951 Nova Scotia's rural non-farm population (232,000) was double the Province's agricultural population (115,414). Census of Canada, 1941, 1951. Some of this increase in the non-farm population can be attributed to a change in the definition of what constituted a census farm. At the 1951 census only those holdings three acres or more, or with sales greater than \$250.00, were classified as farms; previously all holdings greater than 1 acre and with \$50.00 or more in sales were classified as farms.

tourism-related developments;²⁵ more worked in provincial towns while their families ran subsistence holdings; still others worked away from the province, returning periodically to spend holidays with their families.²⁶ The districts showing the largest increases in the non-farm rural population between 1921 and 1941 were those situated near urban areas.²⁷

Agricultural Trends

The impact of these developments on Nova Scotian agriculture can be sketched broadly. As geographical isolation broke down and domestic markets strengthened in the second half of the nineteenth century farm expansion occurred (Figure 3-4). On average, 840 new farms were established each year between 1861 and 1871, 956 between 1871 and 1881 and 425 between 1881 and 91. Thus, the rate of farm expansion exceeded that of population growth during this period. By 1891 the area of improved land in Nova Scotia was 240 per cent over the 1851 figure (just under 2,000,000 acres were "improved" on 60,122 farms) and some areas had already moved toward specialty production of livestock, seed potatoes, fluid milk, butter or fruit. Several riparian districts in Cumberland, Colchester, Hants, Kings, Annapolis and Pictou Counties averaged more than 50 acres improved per family in 1891 and enclaves on Cape Breton island had between 55 and 60

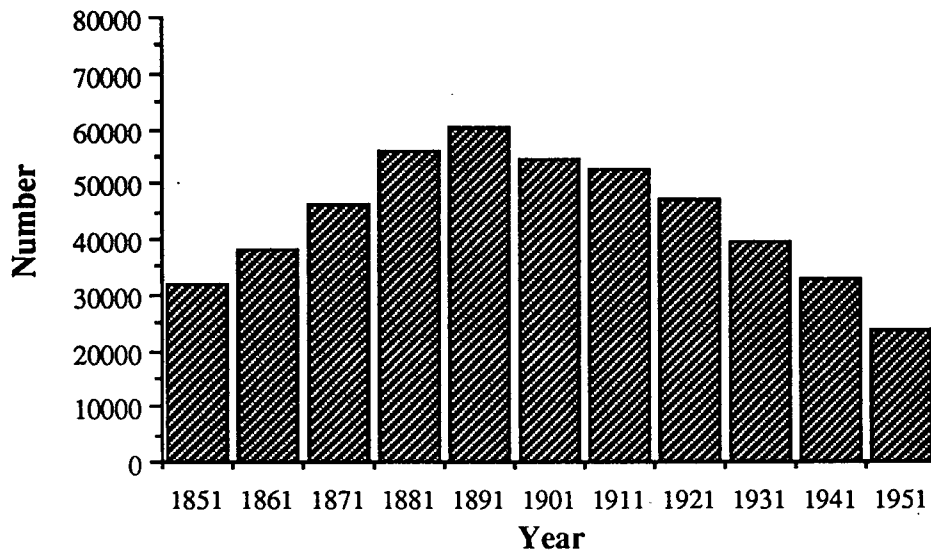
²⁵ Although provincial entrepreneurs had sponsored the formation of the Nova Scotia Tourist Association in 1897, the Nova Scotia government did not get directly involved in the promotion of tourism until the troubled 1920's when a Tourist Investigation Committee was formed to seek ways to develop and expand provincial tourism and to create employment. Based on the recommendations of this committee provincial highways were improved and four new hotels were constructed along the provinces' railway lines before the end of the decade -- Lakeside Inn (Dartmouth), The Pines (Digby), Cornwallis Inn (Kentville) and Lord Nelson Hotel (Halifax). James H. Morrison, "American Tourism in Nova Scotia, 1871-1940", Nova Scotia Historical Review 2, 2 (1982), p. 43.

²⁶ L. D. Mc Cann, "'Living a Double Life': Town and Country in the Industrialization of the Maritimes", in Geographical Perspectives on the Maritime Provinces, ed., Douglas Day (Halifax: Saint Mary's University, 1988), pp. 93-113.

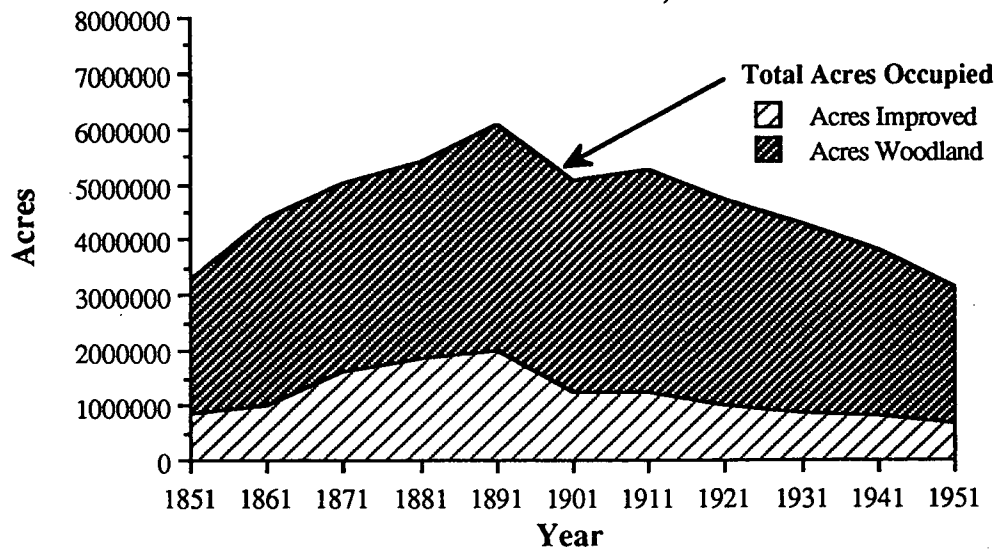
²⁷ See discussion in Dominion Bureau of Statistics, The Maritime Provinces in Their Relation to the National Economy of Canada, p. 28; and Figure 3-2.

Figure 3-4, Farms and Farmland in Nova Scotia, 1851-1951

Number of Farms, 1851-1951



Farmland in Nova Scotia, 1851-1951



acres "improved".²⁸ The districts with the largest farms in the province were Lakeville, Kings County, and Upper and Middle Stewiacke, Colchester county, with 74, 75 and 85 acres improved per family respectively. These districts were part of the developing agricultural core of the province.

Between 1891 and 1921, however, the area of improved land declined and farm numbers dropped by a quarter. This trend continued through the next twenty years. In 1941 there were fewer than 33,000 farm families in Nova Scotia. They had little more than 800,000 acres of improved land. These figures approximated those of 1851. Only a few districts (in Cumberland, Colchester, Pictou and Antigonish Counties) recorded more than 50 acres cleared per family. In addition, perhaps as many as a third of those remaining on the land earned more than one-third of their total incomes from non-farm sources.²⁹ Surviving farms concentrated on those commodities least susceptible to outside competition or provided a minimal living for their occupiers.

The extent of occupied and improved farmland, and employment in agriculture, declined dramatically after 1891. Yet, farming remained the most important occupation of Nova Scotians until well into the twentieth century. Labour force statistics indicate that workers in the agricultural sector comprised 53 percent of Nova Scotia's male work force in 1891 (up slightly over 1851), 39 percent in 1921 and just under one-quarter in 1941 (Table 3-4).³⁰ Those who listed their occupation as "farmer" consistently outnumbered those employed in fishing and forestry, even as late as 1951 when farmers comprised only

²⁸ See, for example, Amherst and Wallace (Cumberland County), Douglas (Hants County), Somerset and Lakeville (Kings County), Bridgetown and Wilmot (Annapolis County), Middle River and the Gulf Shore (Pictou County), and Middle River and Little Narrows (Victoria County).

²⁹ Andrew Stewart, Part-time Farming in Nova Scotia (Halifax: Dalhousie University, Institute of Public Affairs, 1944), p. 4.

³⁰ For the sake of comparability only "gainfully employed males" over the age of ten, up to 1921, and fourteen and over between 1931 and 1951 are included for analysis.

Table 3-4, Nova Scotia's Male Labour Force By Sector

| | Total Male Workers | Agriculture % | Fishery % | Forestry % | Mining- Mfg. % | Trade % | Transport % | Other Services % |
|------|--------------------------|------------------|--------------|---------------|----------------------|------------|----------------|------------------------|
| 1851 | 63,605 | 49 | 16 | 2 | 5 | 5 | 9 | 14 |
| 1871 | 104,318 | 48 | 10 | 1 | 11 | 8 | 8 | 14 |
| 1891 | 112,604 | 53 | 13 | 1 | 18 | 7 | 8 | N/A |
| 1911 | 126,122 | 37 | 12 | 2 | 31 | 9 | 9 | N/A |
| 1931 | 127,722 | 33 | 9 | 2 | 28 | 8 | 10 | 10 |
| 1951 | 158,792 | 14 | 6 | 4 | 30 | 13 | 11 | 22 |

Sources: Edward Cheshire, "Statistics Relative to Nova Scotia in 1851", Journal of the Royal Statistical Society of London 17, 1 (1854), pp. 73-80; Census of Canada, 1871; Dominion Bureau of Statistics, The Maritime Provinces Since Confederation, pp. 27-33; Census of Canada, 1931; Dominion Bureau of Statistics, The Maritime Provinces in Their Relation to the National Economy of Canada, p. 122; Census of Canada, 1951.

14 per cent of the province's male workforce. Even more significantly, it was only in 1941, with war-time production stimulating mining and manufacturing that workers in these sectors outnumbered those labouring on the province's 33,000 farms.³¹ Although all of these occupational categories are extremely difficult to measure accurately, given the considerable amount of inter-sector employment (occupational pluralism) which characterized the Nova Scotian economy during the century under investigation, it is clear from Table 3-4 that the most significant employment gains in the twentieth century were made in the tertiary sector; those employed in transportation, trade and other services comprised 45 percent of Nova Scotia's working males in 1951, a level double that of four decades earlier.

As transportation improved during the 1880's and 90's -- with the more widespread use of steamships and the rapid expansion of railroads across the province -- competition from Central and Western Canada increased. It became cheaper for many families to purchase imported items (especially flour and manufactured goods) and the production of wheat, buckwheat, barley, rye, corn, wool, cloth and cheese fell (Figures 3-5, 3-6 and 3-7). But, despite the steady decline in improved acreage after 1891, hay, oats, turnips and other vegetable yields increased until 1911, and the output of animal products and fruit did so until 1931. Similarly the total number of livestock increased steadily until 1901; when numbers declined in the twentieth century they did so more slowly than the area of improved land. Nor was this decline uniform. Horses and "other cattle" (all cattle exclusive of those designated as "milk cows") only declined significantly during the 1920's, reflecting both the increasing use of horse-drawn machinery after the turn of the

³¹ Between 1931 and 1941 the male labour force employed in mining and manufacturing in Nova Scotia grew from 26,000 to 55,000 (largely due to war-time stimuli of industry), while those employed on the province's farms declined from 42,700 to 36,900. Census of Canada, 1931; Dominion Bureau of Statistics, The Maritime Provinces in Their Relation to the National Economy of Canada, p. 122.

Figure 3-5, Grain Crops in Nova Scotia, 1851-1951

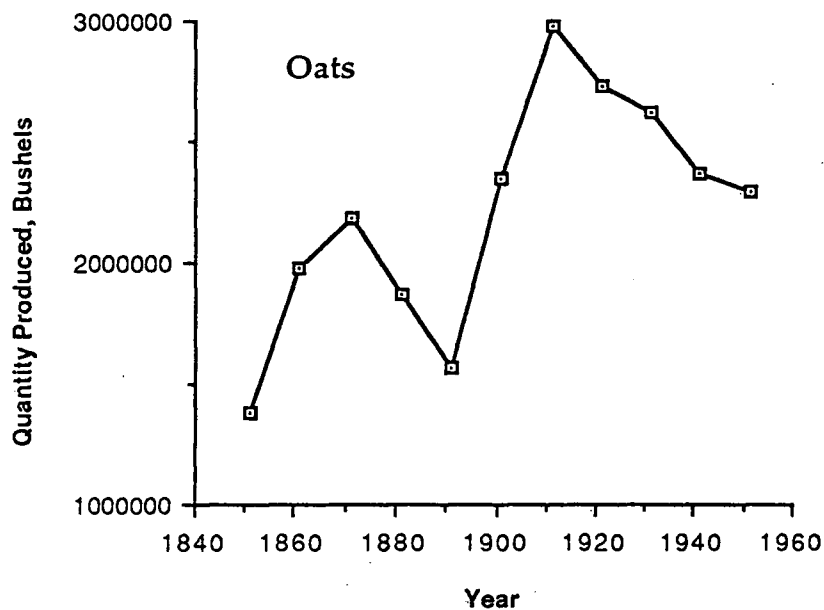
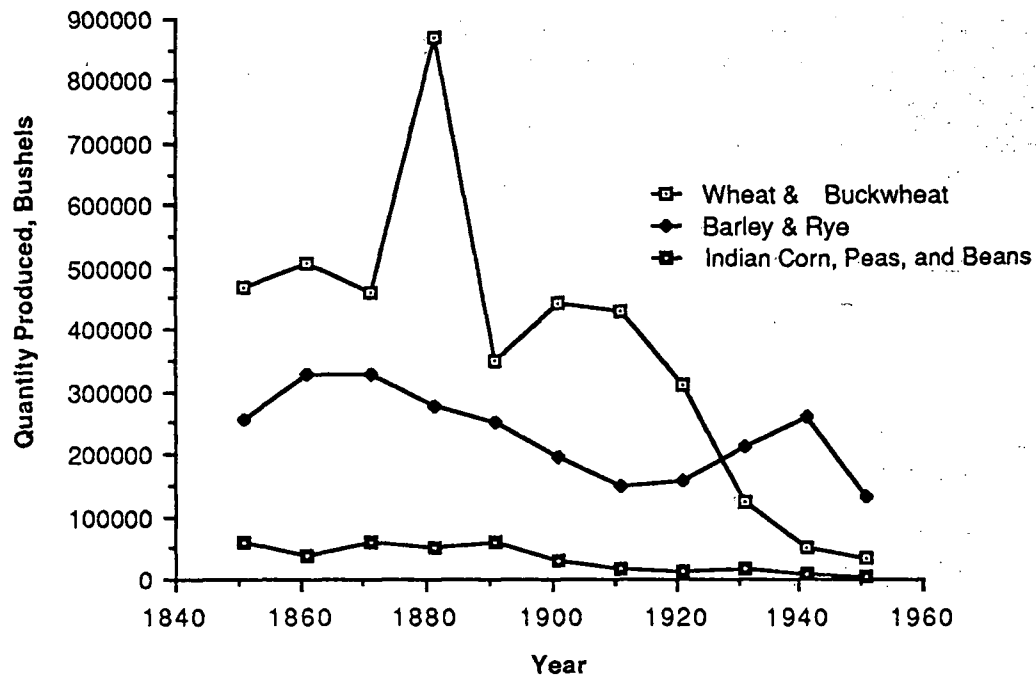


Figure 3-6, Other Field Crops in Nova Scotia, 1851-1951

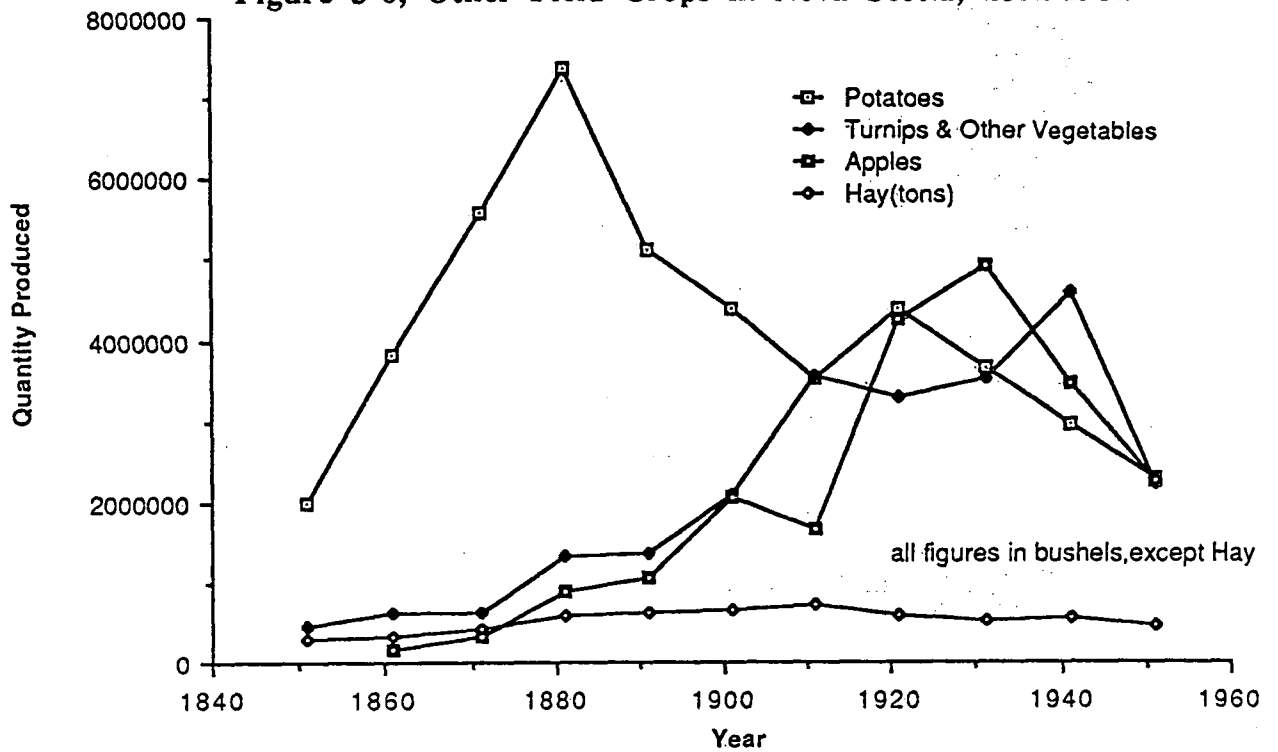
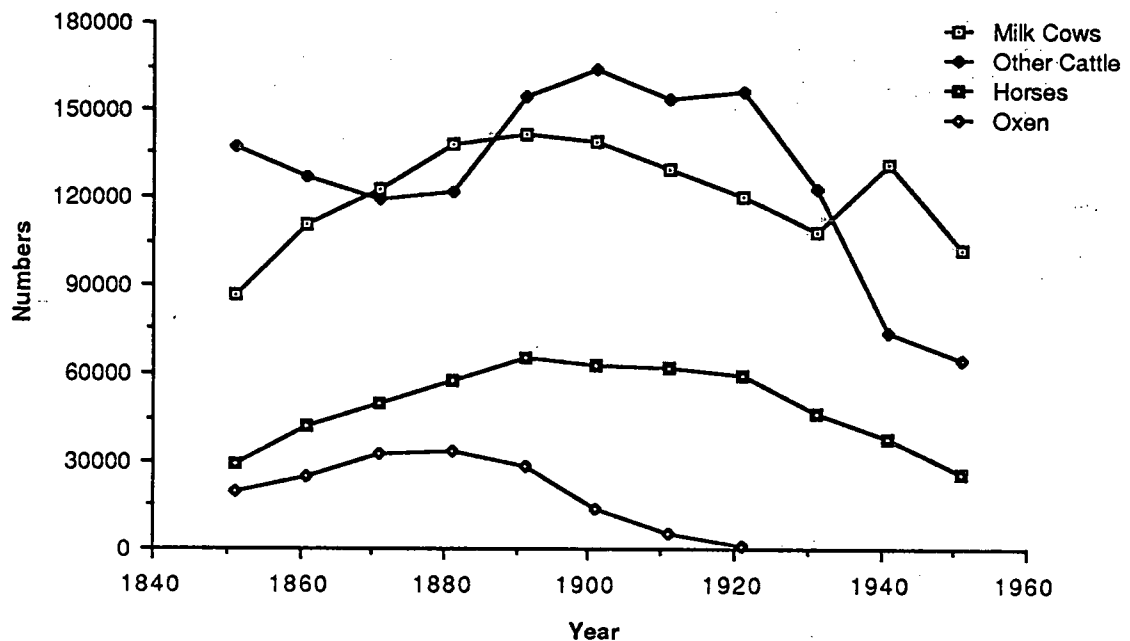


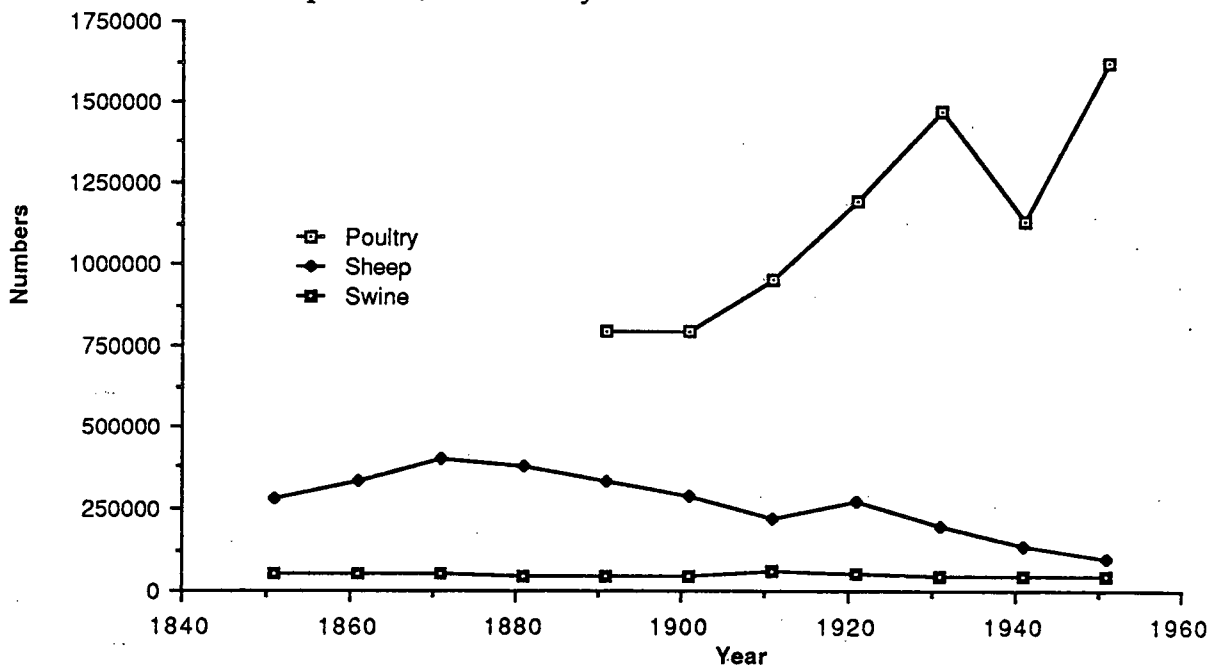
Figure 3-7, Livestock and Animal Products in Nova Scotia, 1851-1951

Cattle and Horses in Nova Scotia 1851-1951



No figures for Oxen are available for 1931 to 1951.

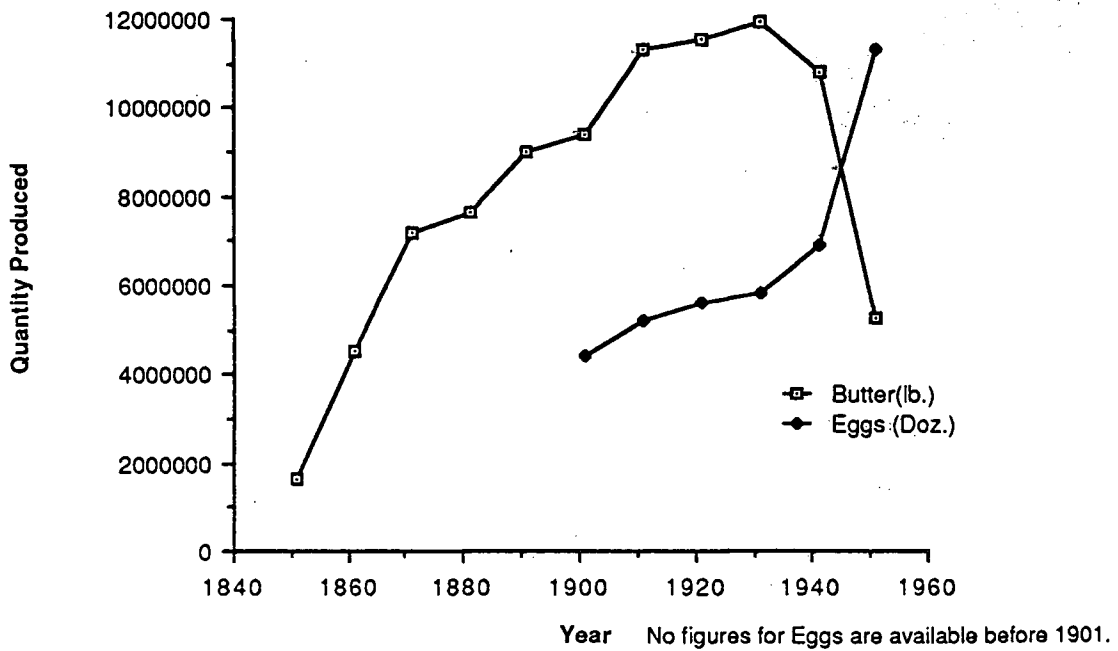
Sheep, Swine, and Poultry in Nova Scotia 1851-1951



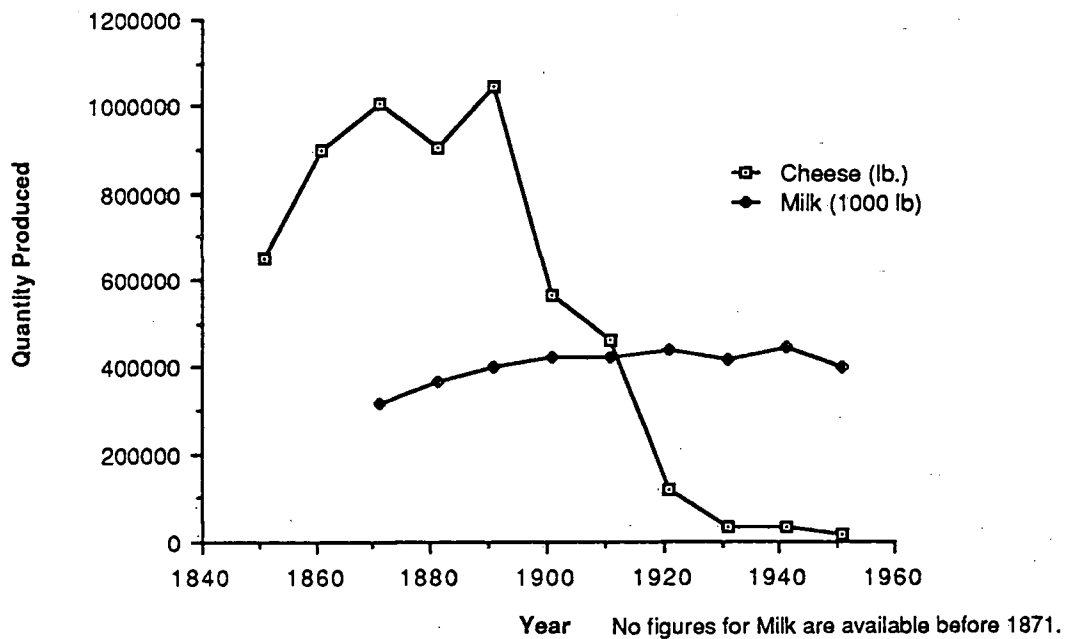
No figures for Poultry are available before 1891.

Figure 3-7 (continued)

Butter and Eggs 1851-1951



Milk and Cheese 1851-1951



century and the persistence of a long-established export trade in Nova Scotian cattle in the face of increasing competition from other agricultural regions. Swine numbers remained relatively stable between 1851 and 1951. Numbers of sheep and oxen fell steeply during the last two decades of the nineteenth century. And poultry, recorded for the first time in the 1891 census, more than doubled between 1891 and 1951. Overall, then, farm productivity rose considerably as the cultivated acreage declined during the twentieth century.³²

Agricultural Trade

Although the domestic market was the most important outlet for such farm surpluses as were produced, such export data as are available establish the position of agriculture in Nova Scotia's export economy and illustrate the types of commercial agriculture that prevailed. Table 3-5 shows that agricultural commodities comprised between 15 and 17 percent of total exports during the 1850s and 60s, even though provincial trade expanded considerably during these decades.³³ For two decades thereafter the relative significance of agricultural exports from the province declined slightly as did total exports.³⁴ Yet at century's end agricultural exports still accounted for one-sixth of

³² This point is confirmed in A. B. Balcom's classic study, "Agriculture in Nova Scotia Since 1870", Dalhousie Review 8, 1 (1928), pp. 29-43, which estimates that the value of agricultural production increased by 230 per cent between 1881 and 1921 while the number employed in agriculture declined by 22 per cent.

³³ The total value of exports from Nova Scotia more than doubled between 1850 and 1856 (to about \$7,700,000) as a result of the signing of the Reciprocity treaty with the United States. As a consequence of the increased demands for foodstuffs caused by the American Civil War and the price inflation which accompanied the war Nova Scotia's exports grew by another \$1,000,000 or so during the next decade. In 1865 Nova Scotia's exports were valued at \$8,800,000: Colonial Office Blue Books of Statistics [hereafter CO 221], Vols. 64-76, 1850-65, PANS.

³⁴ Canada Sessional Papers, Trade and Navigation volumes, 1867-1875, Killam Memorial Library, Dalhousie University, Halifax. In 1875, for example, agricultural commodities comprised 10 per cent of the Province's exports, valued at \$6,500,000. Canada Sessional Papers, Vol. 2, 1876, pp. 431-41, 642-44.

Table 3-5, Nova Scotia's Exports By Sector, 1854-1937

| | Total Value | Agriculture | Fish | Forest Products | Minerals | Manufactures/ Misc. Goods |
|------|-------------|-------------|------|--------------------|----------|------------------------------|
| | (\$) | % | % | % | % | % |
| 1854 | 6,076,143 | 16 | 42 | 17 | 5 | 19 |
| 1860 | 6,660,302 | 15 | 44 | 12 | 10 | 19 |
| 1870 | 5,061,039 | 10 | 50 | 21 | 14 | 5 |
| 1880 | 7,027,104 | 12 | 62 | 14 | 7 | 5 |
| 1890 | 9,200,555 | 14 | 46 | 20 | 9 | 11 |
| 1900 | 10,433,634 | 15 | 50 | 20 | 7 | 7 |
| 1937 | 46,844,000 | 35 | 12 | 30 | 5 | 18 |

Sources: CO 221, Vol. 67, 1854, p. 309; Journals of the House of Assembly of Nova Scotia, 1861, Appendix 1, pp. 45-67; Canada Sessional Papers, 1871-1901; John F. Earl, A Study of Nova Scotia Exports, 1937-1963 (Halifax: Department of Finance and Economics, Nova Scotia Voluntary Planning Board, 1966), pp. 27- 30.

Nova Scotia's total foreign trade which stood at a level almost double that of 1860.³⁵ Forest products which were slightly more important than those of agriculture in 1854 (17 per cent) and slightly less important (12 per cent) in 1860 accounted for 20 per cent of the province's export trade by 1900, as lumber and pulpwood sales expanded (Table 3-5). Mining and manufacturing exports accounted for a smaller fraction of provincial exports than did products of forestry and farming until the early twentieth century. But fish, which was clearly the province's leading staple, comprised between 42 and 62 per cent of Nova Scotia's export trade between 1851 and 1900. Overall, however, agricultural exports kept pace with the other exporting sectors.

Much the same pattern is evident through the first half of the twentieth century. Despite farmland abandonment, agriculture retained its share of foreign trade after 1900 and increased its percentage of total exports to 30 per cent during the Depression years of the 1930's, when international markets for fish and coal were shrinking. In 1937, for example, Nova Scotia's export trade (by ocean transport) totalled \$47,000,000; agricultural commodities comprised 35 per cent, forest products another 30 per cent, manufactures and miscellaneous goods 18 per cent, fish 12 per cent and coal and gypsum 5 per cent.³⁶

That the value of agricultural imports to Nova Scotia often exceeded provincial exports of farm produce has sometimes been seen as evidence of agriculture's

³⁵ Canada Sessional Papers, Vol. 5, Part 2, 1900, pp. 662-85.

³⁶ John F. Earl, A Study of Nova Scotia Exports, 1937-38, 1947-63 (Halifax: Nova Scotia Voluntary Planning Board, 1966), pp. 3, 27-30. It is recognized that these figures disguise the considerable amount of trade between Nova Scotia and Central Canada via the Saint Lawrence, which was especially significant for the mining and manufacturing sectors. Still, that agriculture retained its share of foreign exports during the "Great Depression" suggests that the commercial component of Nova Scotia's farm sector was more resilient to the economic shocks of the 1930's than might have been expected, given the general trend of farmland abandonment during this period. A study of the Nova Scotia's Farmers Association concludes that, "the air of cautious optimism" expressed in the minutes of the N.S.F.A. meetings in the 1930's "contrasts surprisingly with the gloomy atmosphere that accompanied the economic downswing of the early twenties". Ian MacLeod, In Union Strength: A History of Nova Scotia Farm Organization, 1895-1975 (Truro: Nova Scotia Federation of Agriculture, 1976), p.42.

inefficiency.³⁷ But, in a temperate colony some imports were all but essential. Nova Scotia imported large and valuable quantities of molasses, sugar, tea and tobacco, none of which were in direct competition with locally produced foodstuffs. Indeed, the province's balance of trade in such locally raised agricultural products as livestock, animal products, fruit, potatoes and vegetables was generally favourable between 1850 and 1900 (ie. exports exceeded imports; see Table 3-6). Deficits were principally in grains and grain products (especially flour). Nova Scotia was simply not an extensive grain growing area. So in 1860 the colony's agricultural exports were valued at just under \$1,000,000; imports were double this amount. Yet, flour accounted for more than three-quarters of all imports and Nova Scotia actually recorded a combined trade surplus in excess of \$500,000 on potatoes, butter, cheese, eggs, cattle, horses, sheep, swine, hides and skins and even in such traditional provisions imports as salt beef. Fifteen years later, just before completion of the Intercolonial Railway, the surplus was very much the same, although it came from a slightly different mix of agricultural commodities. Potatoes comprised a much smaller segment of the overall trade surplus (largely as a result of the American tariff placed on Canadian potatoes in 1874). Livestock and animal products were relatively more important. Still, overall trade returns displayed a deficit due to the enormous volume of flour imported annually. The paucity of data on imports after 1900 precludes analysis of the provinces's balance of trade in the twentieth century but it seems that trade surpluses probably continued in livestock, animal products and fruit.³⁸

³⁷ Julian Gwyn, "'A Little Province Like This': The Economy of Nova Scotia Under Stress, 1812-53", in Canadian Papers in Rural History, Vol. 6 (1988), pp. 208-09; Anthony Winson, "The Uneven Development of Rural Economy in Canada: The Maritimes and Ontario", Working Paper No. 6-85, Gorsebrook Research Institute, Saint Mary's University, 1985, p.7; and John Warkentin, "The Atlantic Region", in Canada Before Confederation: A Study in Historical Geography, eds., R. Cole Harris and John Warkentin (Toronto: Oxford University Press, 1974), p. 193.

³⁸ Norman H. Morse, "Agriculture in the Maritime Provinces", Dalhousie Review 39 (1959), pp. 473-75; Balcom, "Agriculture in Nova Scotia Since 1870", pp. 33-34, 38; Norman H. Morse, "An Economic History of the Apple Industry of the Annapolis Valley in Nova Scotia", Ph.D. Thesis, University of Toronto, 1952, pp. 65-68.

Table 3-6, Nova Scotia's Agricultural Balance of Trade, 1854-1900

| | 1854 (\$) | 1860 (\$) | 1870 (\$) | 1880 (\$) | 1890 (\$) | 1900 (\$) |
|---|--------------|--------------|--------------|--------------|--------------|--------------|
| Animals | | | | | | |
| Cattle | 126,698 | 95,328 | -342 | 195,413 | 128,667 | 54,930 |
| Horses | 15,199 | 5,896 | 0 | 13,690 | 1,337 | 231,584 |
| Poultry | 0 | 0 | 1,512 | 4,265 | 2,062 | 1,979 |
| Sheep | 23,113 | 23,236 | 13,417 | 21,881 | 12,213 | 12,213 |
| Swine | 0 | 396 | -49 | 4,265 | 262 | 262 |
| Other Animals | 0 | 0 | 0 | -333 | -171 | -36 |
| Animal Products | | | | | | |
| Butter | 85,785 | 102,540 | 104,633 | 111,662 | 73,259 | 124,106 |
| Cheese | 11,985 | 2,076 | 215 | -1,757 | 6,173 | 75,548 |
| Eggs | 5,708 | 17,897 | 19,062 | 20,646 | 58,466 | 11,042 |
| Wool | 0 | 0 | 45 | -824 | -11,312 | -230 |
| Beef | -9,253 | 14,102 | -89,266 | -33,509 | -116,492 | -46,681 |
| Pork | 21,662 | -9,219 | 0 | -55,539 | -51,960 | -29,369 |
| Preserved Meats | 0 | 0 | 0 | 8,171 | 10,290 | 13,462 |
| Furs | 42,841 | 0 | 0 | 40,266 | 0 | 22,233 |
| Hides | -6,973 | 20,651 | 83,317 | -151,718 | -106,504 | 156,666 |
| Grains/ Grain Products | | | | | | |
| Flour | -1,422,074 | -1,518,492 | -659,919 | -128,886 | -58,819 | 106,153 |
| Wheat | 0 | -67,356 | -23,898 | -586 | 26,215 | 0 |
| Bread | -30,257 | -11,836 | 0 | -3,430 | -7,034 | -6,667 |
| Oats | -30,486 | -11,595 | 9,631 | 10,375 | 61,337 | 26,172 |
| Other Grains | 0 | 0 | -117,579 | -79,052 | 85,212 | 31,558 |
| Meal | 0 | -100,141 | -125,739 | -261,463 | -275,601 | -48,652 |
| Other Field Crops | | | | | | |
| Potatoes | 234,023 | 252,199 | -173,236 | 239,363 | 207,051 | 298,647 |
| Other Vegetables | 0 | 0 | 0 | -11,660 | -12,962 | -11,329 |
| Hay | 0 | 14,007 | 632 | 9,300 | 20,019 | 76,687 |
| Fruit | | | | | | |
| Apples | 33,983 | 14,007 | -4,216 | 69,822 | 354,118 | 680,102 |
| Other Fruit | -33,954 | -30,956 | -50,801 | 22,160 | -28,301 | -85,493 |
| Total Agricultural Trade Balance | | | | | | |
| | -932,000 | -1198295 | -2155330 | -84735 | -23610 | 1255102 |

Sources: CO 221, Vol 67, 1854, pp. 309-31, 338-39; Journals of the House of Assembly, 1861, Appendix 1, pp. 41, 66; Canada Sessional Papers, 1871, Vol 2, pp. 228-37, 345-47; 1881, Vol. 2, pp. 2-540, 550-84; 1891, Vol. 3, pp. 2-581, 681-713; 1901, Vol. 5, pp. 2-515, 655-76.

The Market Hinterland

Newfoundland and New Brunswick were the principal destinations of Nova Scotia's agricultural exports in the mid-nineteenth century; together they received more than 60 per cent of the colony's agricultural exports. Approximately one-fifth of the colony's farm exports went to the United States and about a tenth each went to Britain and its West Indian islands.³⁹ Agricultural exports to the United States remained relatively stable after the Reciprocity agreement of 1854 until the Civil War generated new demands for foodstuffs. In the early 1860's about one-third of all Nova Scotia's agricultural exports were shipped to the United States. At the end of the war, however, markets returned roughly to their former position, though West Indian markets had become relatively more important. Approximately 40 per cent of the colony's exports went to the adjacent British North American colonies, 22 per cent went to the United States and nearly 30 per cent to the British West Indies. On the eve of Confederation only 3 per cent of Nova Scotia's agricultural exports went to Central Canada.⁴⁰

Export data do not identify Canadian destinations of agricultural produce after Confederation. They do provide evidence of foreign market connections during a period of enormous change. In the wake of the National Policy implemented at the end of a period of falling prices and shrinking world markets, Nova Scotia's foreign agricultural export trade shifted away from New England and West Indian markets towards Great Britain while Ontario and Quebec farm produce replaced United States' imports in local markets.⁴¹ In

³⁹ Export data for this period are contained in Journals of the House of Assembly of Nova Scotia [hereafter J.H.A.N.S.], 1852, Appendix 30, pp. 268-71; CO 221, Vols. 67-71, 1854-60; J.H.A.N.S., 1861, Appendix 1, p. 66.

⁴⁰ CO 221, Vol. 76, 1865-66, pp. 333-344.

⁴¹ Agricultural imports into Nova Scotia from the upper provinces increased from an estimated \$250,000 in 1864 to \$2,115,625 in 1886 while farm imports from the United States decreased from about \$2,152,000 to \$565,798 during the same period. J. R. Elliot, The Trade Relations of the Farmers of Nova Scotia (Saint John, New Brunswick: George A. Knodell, 1887), p. 13.

1885 approximately 60 percent of Nova Scotia's total foreign exports of agricultural commodities, worth an estimated \$1,409,428, went to Great Britain, just over 11 per cent went to the United States and 3 per cent to the West Indies; only Newfoundland's share of just under 20 percent approximated pre-Confederation levels (See Table 3-7). This trend mirrored the changing external trading relations of Canada as a whole during this period.⁴² And, from the evidence available for subsequent years, it appears that this concentration on British and Newfoundland markets continued.⁴³ During the Great Depression of the 1930s Great Britain and Newfoundland purchased 85 percent of Nova Scotia's annual agricultural exports; 7 percent went to the British West Indies, 2 percent to United States and the remainder was distributed among a variety of European and Latin American countries.⁴⁴

Agricultural Specialization

Political and technological developments during the last quarter of the nineteenth century had an enormous influence on Nova Scotian agriculture. The industrial expansion which accompanied the tariff protection afforded by the National Policy stimulated the domestic market for food, and the development of the province's railroads opened this market to areas formerly isolated from the few large urban centres of the province. The replacement of wooden sailing vessels by propeller-driven steamships enabled some Nova Scotian farmers to sell local fruit in external markets; apples and soft fruit simply could not make it to the London and Liverpool markets in sailing vessels without spoiling. But

⁴² Ben Forster, A Conjunction of Interests. Business, Politics, and Tariffs, 1825-1879 (Toronto: University of Toronto Press, 1986), p. 205 and Ian Drummond, Progress Without Planning: The Economic History of Ontario from Confederation to the Second World War (Toronto: University of Toronto Press, 1987), p. 34.

⁴³ Nearly two-thirds of Nova Scotia's agricultural exports in 1890 went to Newfoundland and Great Britain. Canada Sessional Papers, Vol. 3, 1891, pp. 681-713.

⁴⁴ John F. Earl, A Study of Nova Scotia Exports, p. 37.

Table 3-7, Nova Scotia's Agricultural Exports By Destination, 1885

| | Great Britain | Nfld. | United States | British West Indies | Destination N/A | Total |
|------------------------|--------------------------|--------------|----------------------|--------------------------------|----------------------------|--------------|
| | (\$) | (\$) | (\$) | (\$) | | (\$) |
| Animals | | | | | | |
| Cattle | 417,328 | 104,754 | 100 | 1,766 | 14,282 | 538,230 |
| Horses | | 11,710 | 8,089 | | 1,271 | 21,070 |
| Poultry | 0 | 74 | 822 | 12 | 686 | 1,594 |
| Sheep | 410 | 5,646 | 415 | 0 | 13,718 | 20,189 |
| Animal Products | | | | | | |
| Butter | 200 | 76,839 | 295 | 2,607 | 24,522 | 104,463 |
| Cheese | 0 | 167 | 0 | 1,107 | 275 | 1,549 |
| Eggs | 0 | 1,861 | 71,557 | 29 | 646 | 74,093 |
| Pork | 0 | 6,147 | 0 | 0 | 623 | 6,770 |
| Grain/Potatoes | | | | | | |
| Oats | 48,821 | 946 | 0 | 1,697 | 5,913 | 51,377 |
| Potatoes | 0 | 5,144 | 16,191 | 27,767 | 48,604 | 97,706 |
| Fruit | | | | | | |
| Apples | 211,116 | 4,068 | 12,428 | 568 | 1,348 | 229,528 |
| Other Fruit | 0 | 1,052 | 6,610 | 0 | 333 | 7,995 |
| Other Exports | 172,901 | 46,355 | 43,159 | 2,631 | | 265,046 |
| Total | 844,776 | 264,763 | 159,666 | 38,184 | 112,221 | 1,419,610 |
| Destination % | 59.5 | 18.7 | 11.2 | 2.7 | 7.9 | |

Source: J. R. Elliot, *The Trade Relations of the Farmers of Nova Scotia*, (Saint John, New Brunswick: George A. Knodell, 1887), p. 12.

gradually, as railroads integrated all counties of the province more fully with Central Canada, and steamship and telegraph communication brought Nova Scotia closer to distant centres, domestic markets were thrown open to a wide range of products from more fertile agricultural regions, and rural attitudes and values were transformed. Competition kept prices and incomes low, western meat replaced home-barrelled beef and pork in local markets, and imported implements and machinery displaced the products of rural craftsmen in Nova Scotian barns. Sons and daughters sought alternatives to the isolation of rural life and increasingly, as the century wore on, the bright lights of urban areas attracted them.⁴⁵

While outmigration took place families invested in labour-saving machinery and implements, which permitted growth in farm production. The 1871 census, our only record of farm implements and machinery in Nova Scotia until the Dominion Bureau of Statistics began gathering information on farm mechanization in 1926, shows that agricultural mechanization was already becoming concentrated in a few counties. Kings, Hants, Cumberland and Pictou Counties averaged 1 horse rake for every five farms and 1 reaper for every 16 farms in 1871 while the provincial ratios for these machines were 1:13 and 1:36.⁴⁶ While it is impossible to measure the rate of adoption of horse-drawn machinery in the late nineteenth century, we know that horses gradually replaced oxen as draught animals from 1871 on and that local agricultural societies, which devoted a considerable share of their annual provincial grant to the purchase of improved implements, machinery, seeds and livestock, grew at an unprecedented rate between 1875 and 1901.⁴⁷

⁴⁵ The Dominion Bureau of Statistics suggested that these social factors are, in no small part, responsible for the "comparatively stationary position of the rural population through the whole northeastern part of the North American continent" since the late nineteenth century. The Maritime Provinces Since Confederation, p. 26

⁴⁶ Census of Canada, 1871.

⁴⁷ Agricultural Society membership in Nova Scotia increased by 250 per cent between 1871 and 1901 (from 3,245 to 8,500). Annual Report of the Secretary for Agriculture for Nova Scotia for 1892 (Halifax: Commissioner of Public Works and Mines, 1893), p. 8 and Annual Report of the Secretary for Agriculture for Nova Scotia for 1906 (Halifax: Commissioner of Public Works and Mines, 1907), p. 49.

In some of the most commercial agricultural districts of the province neither the "whack-whack" of the flail on the barn floor nor the "whiz" of the spinning wheel in the kitchen could be heard by 1890; as one observer exclaimed, "they, along with the scythe and sickle belong to the days of our grandfathers".⁴⁸ At the same time, carding, woolen and grist mills which had been established earlier in direct response to the demand generated by the more isolated farming districts of the pre-industrial period, fell into disuse as imported flour and meal and factory-produced cloth entered local markets. In 1892 a traveler through Cape Breton could notice, "all over the island grist mills gone or are going into decay".⁴⁹

In an effort to deal more effectively with the special needs and requirements of its predominantly agricultural population Nova Scotia established a Department of Agriculture in 1885 which immediately set up a Provincial Agricultural School and "model farm" to help train a new generation of farmers in scientific agriculture.⁵⁰ Three years later the Dominion government began agricultural research at its experimental station in Nappan, Cumberland County. Farmers also organized themselves into associations during this period in an effort to learn more about "scientific agriculture" and to promote the production and marketing of local farm surpluses. The American "Grange" society diffused to Nova Scotia from Vermont via Ontario in 1875 and by 1880 there were 41 subordinate "granges"

⁴⁸ Kings County Agricultural Society Report for 1884; published in Nova Scotia Journal of Agriculture Vol. 4 (1885), p. 521, PANS.

⁴⁹ Jonathan D. MacKinnon, "Lectures on Cape Breton Agriculture", in Annual Report of the Secretary for Agriculture for Nova Scotia for 1892, p. 211-12.

⁵⁰ J. S. Martell and D. C. Harvey, "From Central Board to Secretary of Agriculture, 1826-85", Bulletin of the Public Archives of Nova Scotia 2, 3 (1940), pp. 20-22. Initially the Agricultural School was associated with the Normal College at Truro. It became a distinct institution in 1899 with an additional \$20,000 grant from the provincial government for land and buildings. In 1904 the Nova Scotia School of Horticulture, established by the Nova Scotia Fruit Growers Association in 1893, united with the School of Agriculture to form the Nova Scotia Agricultural College and moved its campus to Truro. Donald MacLeod, "Practicality Ascendant: The Origins and Establishment of Technical Education in Nova Scotia" Acadiensis 15, 2 (1986), pp. 61-63.

operating in the province.⁵¹ While we know little about the operation of this society in Nova Scotia, we know that the Maritime Provincial Grange opened a branch of the National Grange Wholesale Supply Ltd. in Halifax in 1884, in an effort to introduce co-operative buying and marketing for farmers.⁵² But apparently this was an unsuccessful venture for the Grange co-operative had ceased operating by 1894. The most important farmers' organization which formed during the late nineteenth century was the Nova Scotia Farmers and Dairymen's Association, established in 1884 specifically to promote the production and marketing of milk and dairy products. Over the next decade this association evolved into the Nova Scotia Farmers Association which became essentially a "farmers parliament" representing a wide range of agricultural interests.⁵³

The 1890's were critical years for Nova Scotian agriculture. Agricultural employment peaked and the areas of occupied and improved farmland in the province reached their maxima during this decade. Outmigration from the province was well underway. Facing increasing competition from other better endowed agricultural regions, Nova Scotian farmers made significant efforts to adjust to changing circumstances. Farmers either concentrated on specialty products for domestic and external markets or combined off-farm work with small-scale subsistence agriculture. In general, as inter-regional competition increased, there was a gradual shift from high-bulk, low-value, non-

⁵¹ MacLeod, In Union Strength: A History of Nova Scotia Farm Organization, pp. 5-6.

⁵² Ibid., p. 6; and S. Ellsworth Lewis, "An Economic History of Agriculture in Colchester County, Nova Scotia", B.A. Thesis, Ontario Agricultural College, 1924, p. 65. There are no records of this society at any of the major repositories of documents in Nova Scotia -- PANS; Nova Scotia Legislative Library; Killam Memorial Library, Dalhousie University; the Beaton Institute, University College of Cape Breton.

⁵³ MacLeod, In Union Strength, pp. 6-26. This association continues to function as the collective voice of the province's remaining farmers. Other smaller associations which represented more specialized groups of farmers were the Nova Scotia Fruit Growers' Association established in 1863 to promote the development and improvement of Nova Scotia fruit and the Nova Scotia Poultrymen's Association formed in 1926 to represent commercial poultry farmers. Both groups sent representatives to Nova Scotia Farmers' Association meetings.

perishable commodities which could be easily transported by schooners to distant markets (ie. potatoes, livestock, grains) to perishable, often low-bulk, high-value commodities for shipment to domestic or external markets by road, rail or steamship (ie. apples, soft fruit, milk, butter, cream, poultry, eggs).

Perhaps the best known agricultural specialization which emerged during this period was fruit production for the English market. Production of apples increased nearly fifteen-fold between 1871 and 1931.⁵⁴ Largely confined to the fertile valley areas of Annapolis and Kings Counties and Hants County west of the Avon River, this commodity, more than any other, owed its commercial success to improvements in steamship and railroad transport which brought Nova Scotia closer to the British market during the late nineteenth century.⁵⁵ Although apples had often "topped up" the cargoes of schooners bound for nearby New England ports earlier in the nineteenth century, and shipments to Britain were attempted as early as the 1840s, it was only following the completion of the Windsor-Annapolis Railroad in 1869, which provided "valley" farmers rapid access to steamships regularly departing Halifax for Great Britain, that orchard production expanded beyond negligible levels.⁵⁶ Fields which had formerly produced potatoes for domestic, New England and West Indian markets were gradually transformed into orchards during

⁵⁴ From 342,513 bushels (114,171 barrels) in 1871 to 4,917,466 bushels (1,639,155 barrels) in 1931. Census of Canada, 1871, 1931.

⁵⁵ Between the mid-nineteenth century and 1914 trans-Atlantic crossing times were reduced from two weeks (at best) to 8 days or less owing to the development of the screw propeller and more powerful steam engines (ie. more horsepower). J. S. Martell, "Intercolonial Communications, 1840-67", Canadian Historical Association Report (1939), p. 42; Testimony of Mr. George S. Campbell, Steamship Agent, 6 August, 1914, Dominions Royal Commission on the Natural Resources, Trade and Legislation of Certain Portions of His Majesty's Dominions, Vol. 12, Minutes of Evidence Taken in the Maritime Provinces of Canada in 1914 (London: His Majesty's Stationery Office, 1915), pp. 29-30.

⁵⁶ F. G. J. Comeau, "The Origin and History of the Apple Industry in Nova Scotia" Collections of the Nova Scotia Historical Society 23 (1936), p. 34. The Windsor-Annapolis Railway made connections with Halifax via the Halifax-Windsor Railway, completed in 1858.

the 1870s and by 1885 production was considerable enough to permit the establishment of an apple warehouse at Port Williams, Kings County, capable of handling approximately 10,000 barrels.⁵⁷ Production rose steadily until 1933 when the 2,700,000 barrels of apples grown in the Annapolis-Cornwallis Valley and vicinity, principally for United Kingdom markets, accounted for 48 percent of total Canadian production.⁵⁸ By this date there were more than 150 "track warehouses" with a collective storage capacity of approximately 1,500,000 barrels stretching along the railway line between Digby and Windsor, as well as three dehydrating plants, two canning plants, four evaporators, two dust and spray plants and three cider/vinegar plants.⁵⁹ Perhaps more than any other branch of Nova Scotian agriculture, apple production generated related industrial development and forged strong linkages with other sectors of the economy. As Innis and Fay wrote in 1930 when the industry was near its peak:

Labour for picking and packing is obtained from Halifax and Lunenburg at the close of the fishing session.... Fertilizer comes from Cape Breton mines, cooerage from the lumber industry, labour from the fisheries. And in its turn the beauty of the valley from blossom time to harvest has contributed to the profits of the tourist business.⁶⁰

In 1939 the Second World War suddenly closed the British market. The Nova Scotian apple industry was thrown into chaos. Although the Nova Scotian Apple Marketing Board was established under the War Measures Act to distribute Federal

⁵⁷ "Nova Scotia Fruit Growers Association: One Hundred Years of Progress", Chronicle Herald 24 May, 1963, p. 7.

⁵⁸ Margaret Conrad, "Apple Blossom Time in the Annapolis Valley, 1880-1957", in Atlantic Canada After Confederation, The Acadiensis Reader, Vol. 2, eds., P.A. Buckner and D. Frank (Fredericton: Acadiensis Press, 1985), p. 357.

⁵⁹ Willard V. Longley, Some Economic Aspects of the Apple Industry in Nova Scotia (Halifax: Nova Scotia Department of Agriculture Bulletin, # 113, 1932), pp. 3-4.

⁶⁰ Harold A. Innis and C. R. Fay, "The Economic Development of Canada, 1867-1921: The Maritime Provinces", in The Cambridge History of the British Empire Vol. 6, ed., J. H. Rose (Cambridge: The University Press, 1930), p. 669.

subsidies and dispose of the province's crop within Canada, it had little success.⁶¹ A few years later the Nova Scotia Fruit Growers' Association promoted a tree removal campaign. Despite some market recovery after the war, production dropped sharply; the 1950 apple harvest of 750,000 barrels was one-quarter that of 1933. Most of it was processed into cider, vinegar or apple sauce for sale within the region. Export markets had virtually disappeared. Remaining farmers either sold their land or shifted to poultry, hog or dairy farming.⁶²

Less well known is Nova Scotia's short-lived but large scale participation in a long distance livestock trade. Cattle exports from both Ontario and the Maritimes increased substantially after Britain placed a trade embargo on American cattle in 1879.⁶³ Britain replaced Newfoundland as the principal market for Nova Scotian livestock and the number of animals shipped from Nova Scotian ports tripled between 1875 and 1885.⁶⁴ Between 1871 and 1891 cattle numbers in the province (exclusive of milk cows and oxen) rose by more than 30 per cent (from 119,065 to 154,664) and by the mid 1880's more than 60 per cent of Nova Scotia's cattle exports went to Great Britain.⁶⁵

⁶¹ Edith Blair, "The Marketing of Agricultural Products in Nova Scotia" Culture 2, 3 (1941), p. 316; Margaret Conrad, "Apple Blossom Time in the Annapolis Valley", pp. 363-65.

⁶² Hugh A. Blackmer, "Agricultural Transformation in a Regional System: The Annapolis Valley, Nova Scotia", Ph.D. thesis, Stanford University, 1976, pp. 83-108; and Adrian Lewis, "An Apple-Less Valley: Process and Change in the Apple Industry of Kings County, Nova Scotia 1940-74", B.A. thesis, Acadia University, 1974, pp. 118-19.

⁶³ Morse, "Agriculture in the Maritime Provinces", p. 474; Allan Bogue, "The Progress of the Cattle Industry in Ontario During the 1880's", Agricultural History 21 (1947), pp. 163-68.

⁶⁴ From 3,600 cattle in 1875 to 10,072 animals in 1885. At the former date Newfoundland was the destination of 90 per cent of all documented cattle exports from Nova Scotia. Even though the number of animals shipped to Newfoundland was greater in 1885 than in 1875, Newfoundland's percentage share of Nova Scotian cattle exports had dropped to 33 per cent by 1885. Canada Sessional Papers, 1875-1885.

⁶⁵ Census of Canada, 1871, 1891; Canada Sessional Papers, Vol. 1, 1886, pp. 533, 634-65; Elliot, The Trade Relations of the Farmers of Nova Scotia, pp. 8, 12.

Local farmers responded quickly to this new market because cattle raising had long been common on Nova Scotian farms. Large scale cattle raising was just beginning on the Canadian Plains and farmers and dealers there had not yet forged the necessary international trading connections to participate in this trade. But, once large numbers of western cattle began entering domestic and international markets in the 1890s any advantages Nova Scotia enjoyed in this market were seriously undermined.⁶⁶ In addition, British preferences for Canadian cattle were removed in the 1890s and shipping and quarantine regulations were tightened.⁶⁷ As early as 1892 Kings county Agricultural Society members recognized these changed circumstances:

on the question of cattle it was acknowledged that in the present state of the market beef could not be produced ... the chief hopes of the farmer being in dairy products.⁶⁸

Farmers who had once supplied cattle for export to British markets either shipped their livestock to the closer markets of Newfoundland and St. Pierre or placed more emphasis on commercial dairying.

The shift towards commercial dairy production was perhaps the most significant of the changes that marked Nova Scotian agriculture during these years. Early in the nineteenth century milk, butter and cheese were produced principally for household consumption. Surpluses of butter entered trade but overall quantities were small. In the second half of the century, however, dairy products assumed a new importance in the provincial farm economy. Butter production tripled to 9.4 million lbs. between 1851 and

⁶⁶ David H. Breen, The Canadian Prairie West and the Ranching Frontier, 1874-1924 (Toronto: University of Toronto Press, 1983), pp. 15-26; 66.

⁶⁷ D. A. Lawr, "The Development of Ontario Farming, 1870-1914: Patterns of Growth and Change", Ontario History 64 (1972), pp. 249-50.

⁶⁸ Minutes of the Kentville Agricultural Society, 7 November, 1892, MG6 A, Vol. 3, #3, PANS.

1901 and continued to increase until 1931 (12 million lbs.) despite declining herds.⁶⁹ Butter and cheese exports rose by 80 per cent (from \$110,000 in 1854 to \$201,000 in 1900).⁷⁰ The factory system of production was introduced in the 1870's and by 1891 there were 18 butter and cheese factories in operation (9 in Antigonish, 3 in Annapolis, 3 in Kings and one in each of Hants, Colchester and Pictou Counties).⁷¹ During the following three decades another twenty factories were established in Cape Breton Island and Hants, Halifax, Lunenburg, Digby and Yarmouth Counties.⁷² Demand for fluid milk also rose as the province's urban population increased. Increasingly Nova Scotia farming emphasized fluid milk and butter production; by 1931 their combined sales comprised 27 per cent of the estimated total farm income of the province and by this date cheese was no longer being made in any of the province's 30 factories.⁷³

There were, of course, considerable local variations in these patterns of change. In Cape Breton Island, Pictou and Halifax milk cows outnumbered "other cattle" even in the 1850's (Figures 3-8 and 3-9). In several western counties (Kings, Annapolis and Digby), "other cattle" were more important than dairy beasts at least until the 1930's (Figure 3-10).

⁶⁹ Census of Canada, 1851-1901. See Figure 3-7.

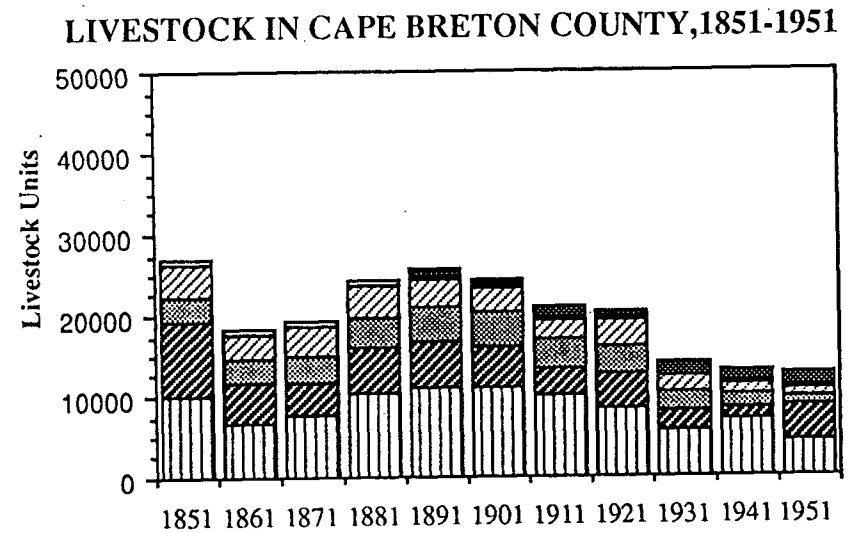
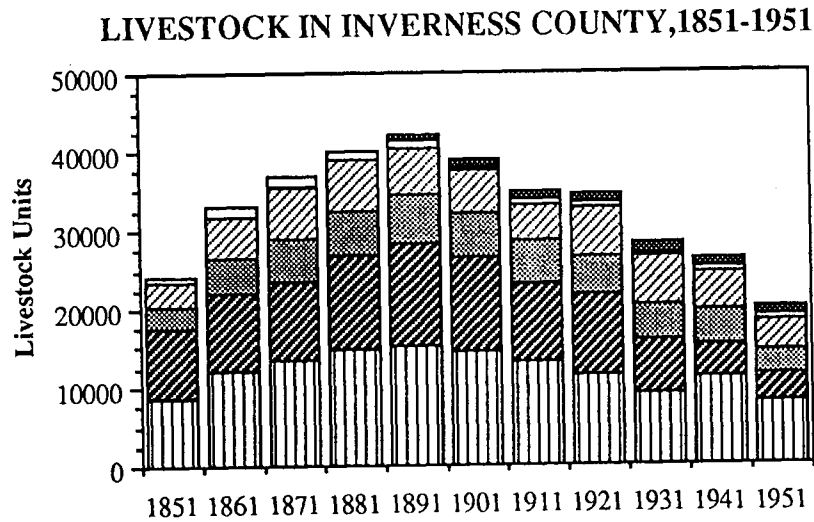
⁷⁰ C0 221, Vol. 67, 1854, pp. 309-31, 338-39, PANS; Canada Sessional Papers, 1901, Vol. 5, pp. 655-76.

⁷¹ Census of Canada, 1891; James W. Robertson, First Annual Report of the Dairy Commissioner for the Dominion of Canada for 1890 (Ottawa: Queen's Printer, 1891), pp. 54-55. The factory at Truro, Colchester County, was Canada's first condensed milk factory. J.A. Ruddick et. al, "Milk", in The Dairy Industry in Canada, ed., H. A. Innis (Toronto: Ryerson Press, 1937), p. 75.

⁷² Reports of Nova Scotia's Dairy Commissioner, 1891-1895, MG1, Vol 2367, PANS; Annual Reports of the Secretary for Agriculture for Nova Scotia, for 1910, 1915, 1920 (Halifax: Commissioner of Public Works).

⁷³ Dominion Bureau of Statistics, Handbook of Agricultural Statistics, 1927-1957 (Ottawa: Queen's Printer, 1963), pp. 41-43. The last cheese factory in Nova Scotia ceased operating in 1929. Dairy Division Report for 1931, in Annual Report of the Secretary for Agriculture for 1930 (Halifax: Commissioner of Public Works, 1931), p. 221.

Figure 3-8, Livestock in Cape Breton Island, 1851-1951



64a

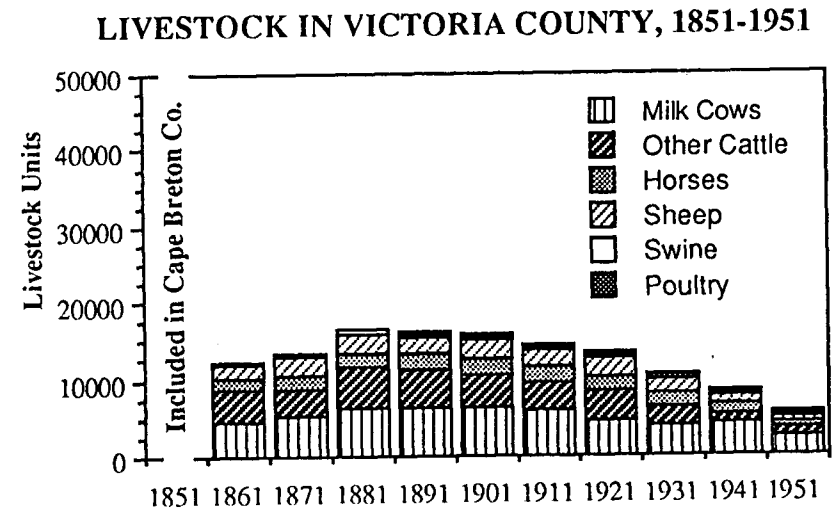
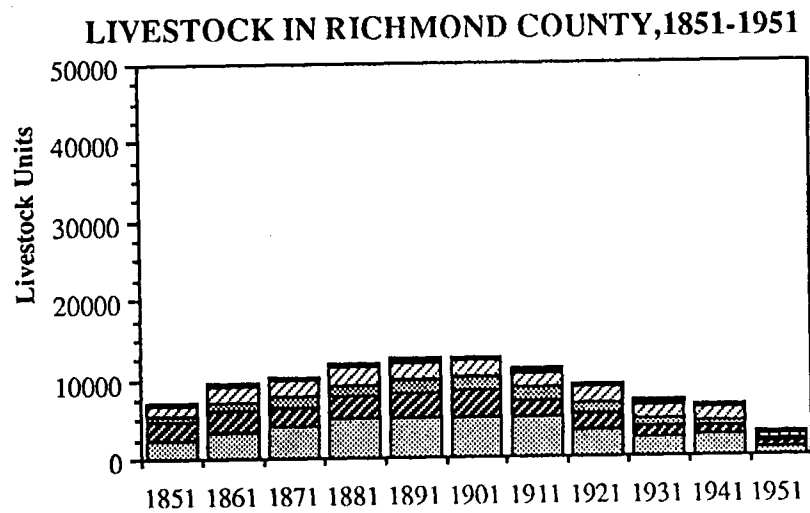


Figure 3-9, Livestock in Halifax and Pictou Counties, 1851-1951

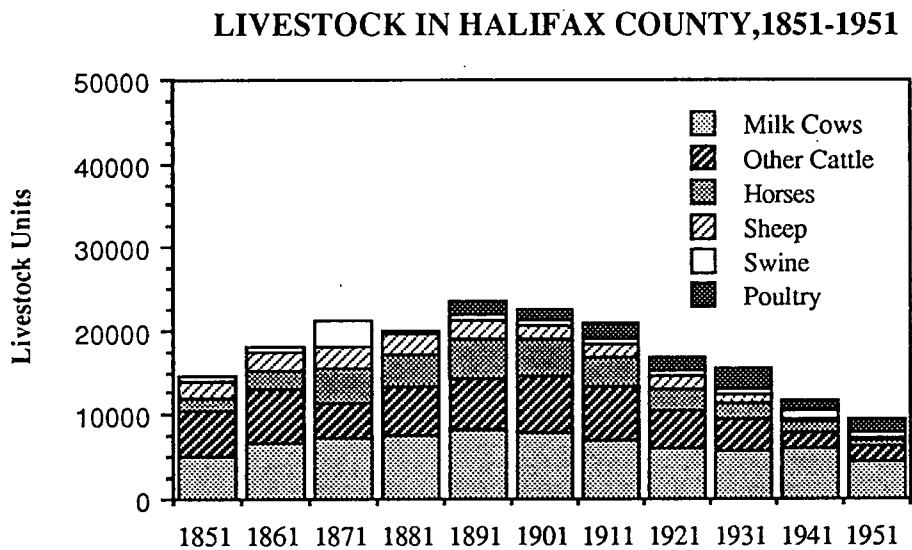
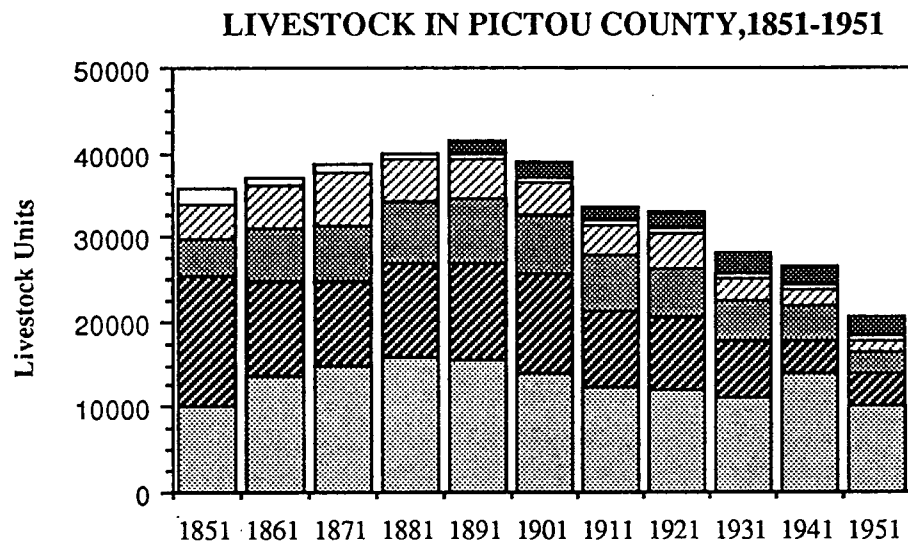
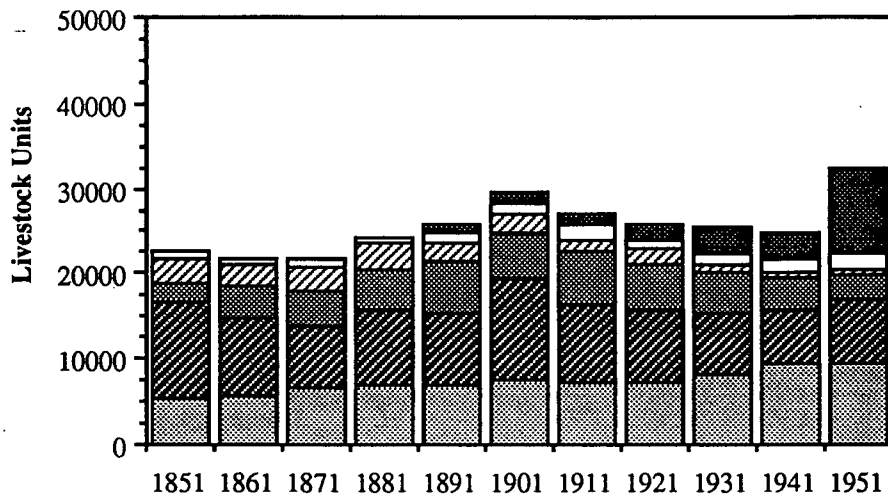
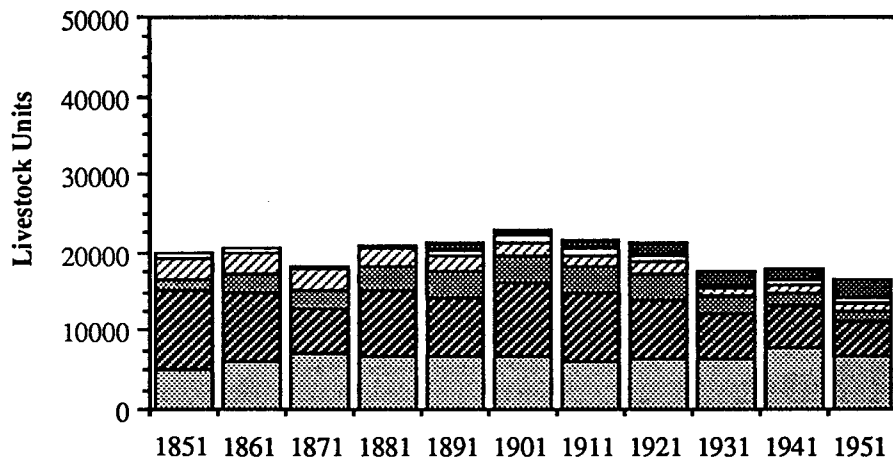


Figure 3-10, Livestock in Kings, Annapolis and Digby Counties, 1851-1951

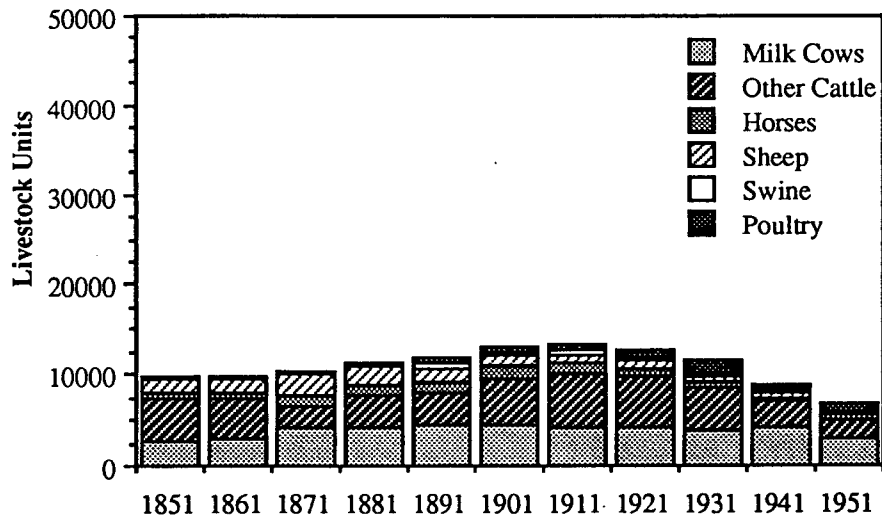
LIVESTOCK IN KING'S COUNTY, 1851-1951



LIVESTOCK IN ANNAPOLIS COUNTY, 1851-1951



LIVESTOCK IN DIGBY COUNTY, 1851-1951



Where there were significant urban markets dairy production was more important. In remote areas more emphasis was placed on beef cattle which could be driven or shipped to distant markets. In between were Hants, Cumberland and Colchester Counties which had roughly similar numbers of milk cows and "other cattle" in the nineteenth century. After the turn of the century, however, dairying grew considerably in central Nova Scotia; by 1941 almost 60 per cent of all livestock units recorded in Hants and Colchester Counties were "milk cows" (Figure 3-11).⁷⁴ Along the south coast of the province only Lunenburg County recorded similar livestock returns as those in northern Nova Scotia because of its fertile drumlin fields and its proximity to the Halifax market by sea (Figure 3-12).

Both sheep and swine were fairly evenly distributed across the province in the mid-nineteenth century, although sheep were proportionately more important in Digby, Victoria and Richmond Counties.⁷⁵ In the face of declining herds after 1871 sheep raising grew relatively more important in eastern Nova Scotia while swine raising became concentrated in central and western Nova Scotia. By 1951 nearly three-quarters of the province's sheep were located in Cape Breton Island and the counties of Pictou, Antigonish and Guysborough while two-thirds of the swine were in the central and western counties of Cumberland, Colchester, Hants, Kings, Annapolis and Lunenburg.⁷⁶ Sheep, which could be easily grazed on the rough pasture land (and abandoned fields) of eastern Nova Scotia, continued to provide wool and meat for a steadily declining number of farmers while

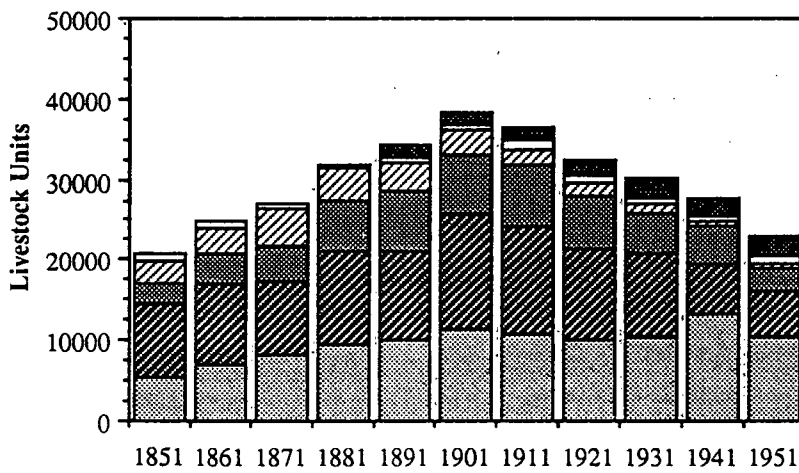
⁷⁴ Livestock returns were converted to "livestock units" to compare the relative importance of different livestock classes. Livestock units were calculated as follows: 1 livestock unit equals any one of the following: 1 milch cow, 1 head "other cattle", 2 calves, 1 horse, 7 sheep, 5 swine, or 50 poultry. Based on ratios contained in Andrew H. Clark Papers, MG1, Vol. 1513, File H, PANS. For details on livestock trends in other counties see Appendix 1.

⁷⁵ Andrew H. Clark, "The Sheep, Swine Ratio as a Guide to a Century's Change in the Livestock Geography of Nova Scotia", *Economic Geography* 38, 1 (1962), p. 44.

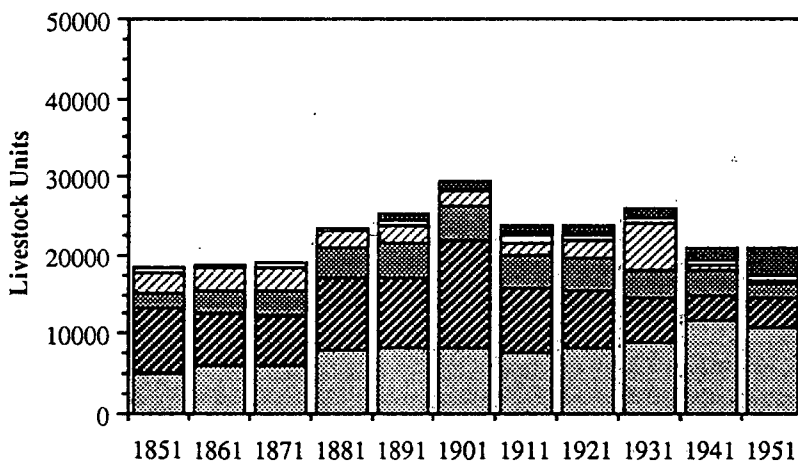
⁷⁶ The seven eastern counties referred to recorded just under 70,000 of Nova Scotia's 95,000 sheep at the 1951 census. The six central and western counties contained 32,000 of Nova Scotia's 48,000 swine. Census of Canada, 1951.

Figure 3-11, Livestock in Hants, Cumberland and Colchester Counties, 1851-1951

LIVESTOCK IN CUMBERLAND COUNTY, 1851-1951



LIVESTOCK IN HANT'S COUNTY, 1851-1951



LIVESTOCK IN COLCHESTER COUNTY, 1851-1951

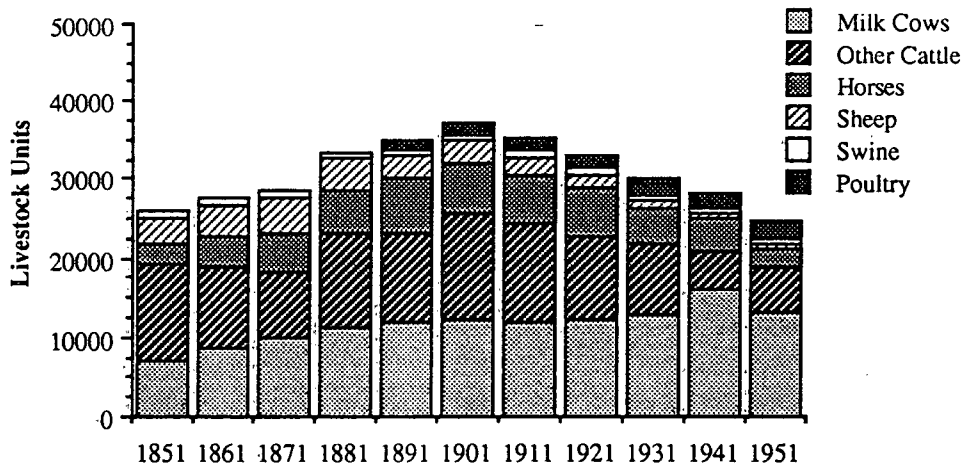
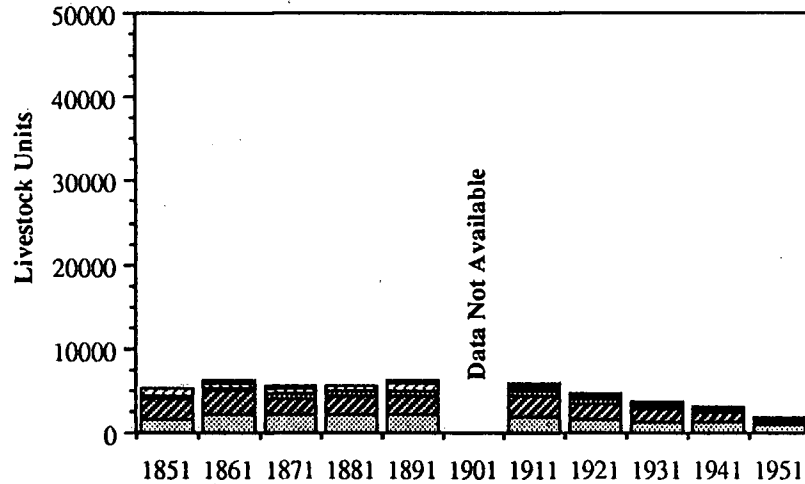
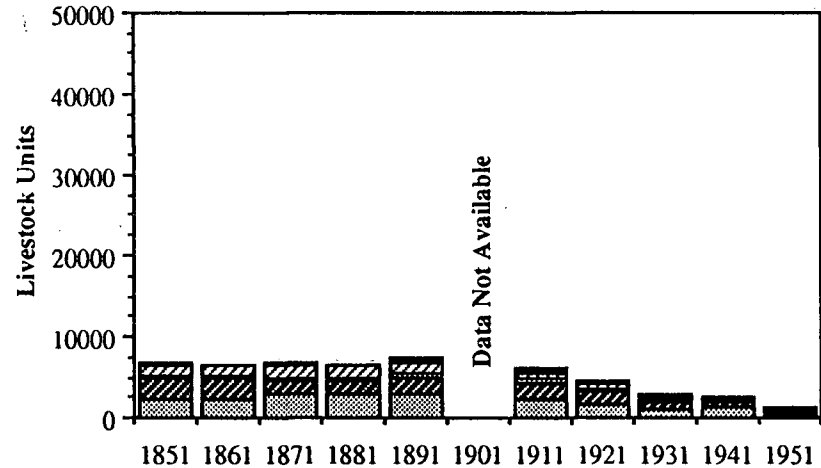


Figure 3-12, Livestock in Queens, Shelburne, Lunenburg and Guysborough Counties, 1851-1951

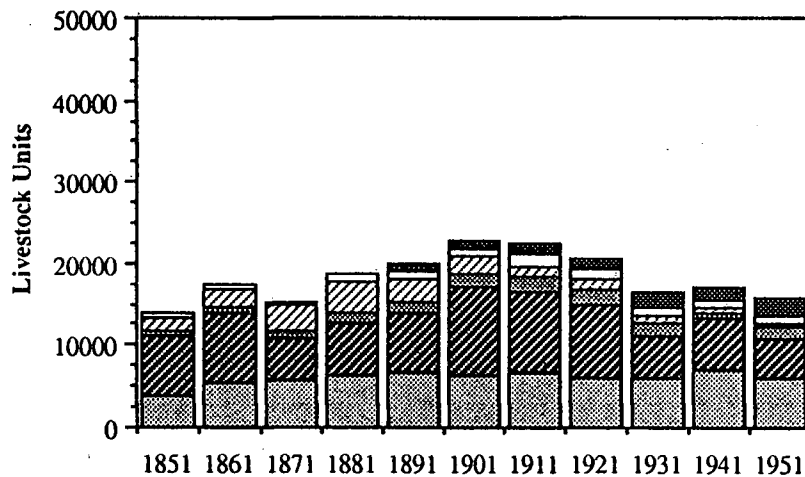
LIVESTOCK IN QUEENS COUNTY, 1851-1951



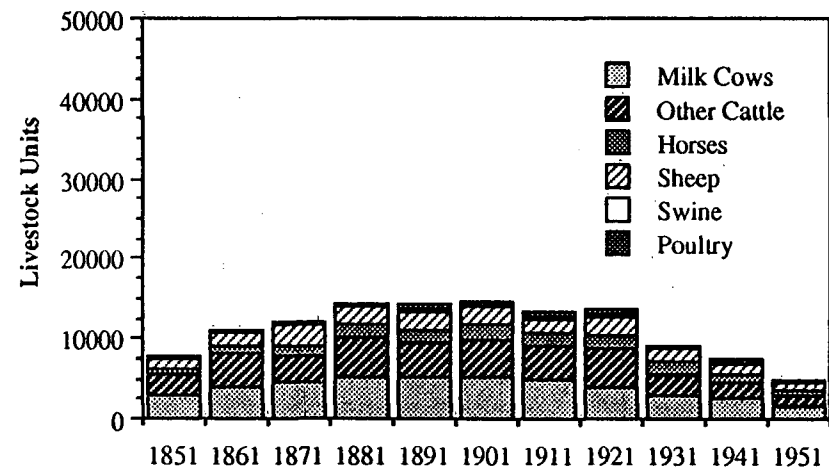
LIVESTOCK IN SHELBURNE COUNTY, 1851-1951



LIVESTOCK IN LUNENBURG COUNTY, 1851-1951



LIVESTOCK IN GUYSBOROUGH COUNTY, 1851-1951



swine, which largely subsisted on by-products of the dairy industry and other farm scraps, gradually became concentrated in the emerging dairy belt.

Poultry, recorded for the first time at the 1891 census, increased considerably in every county between 1901 and 1941. Still, poultry levels remained relatively insignificant in most counties. Only in Cape Breton and Halifax Counties with their growing urban markets, in King's County in the heart of the fruit belt and in Lunenburg County, 40 miles or so south of Halifax, did poultry comprise more than 10 per cent of the total livestock units enumerated in 1941. Stimulated by the establishment of a co-operative marketing agency based in Halifax (the Maritime Egg and Poultry Exchange) commercial broiler and egg production expanded rapidly during the 1940's.⁷⁷ Between 1941 and 1947 dressed poultry marketed through provincial cooperatives increased sixfold, from 224,000 lbs. to 1,233,000 lbs. and the number of cases of eggs graded and marketed in the same manner rose from 75,000 to 122,000 between 1945 and 1950.⁷⁸ For the most part these products were intended for the domestic market, but a large group of Annapolis Valley farmers, who made the transition to commercial poultry raising when the British market for fruit disappeared during the Second World War, made significant efforts to sell their eggs in the Montreal market and abroad. By 1951, when chickens and hens made up 30 per cent of all the livestock enumerated in Kings County, one-quarter of Nova Scotia's graded eggs were exported.⁷⁹

All in all, Kings and Annapolis Counties in western Nova Scotia, Hants, Colchester and Cumberland in the central part of the province, and Pictou, Antigonish and Inverness in the east were the most important agricultural counties of Nova Scotia. Each

⁷⁷ Poultry Division Report, Report of the Nova Scotia Department of Agriculture for 1933 (Halifax: Minister of Public Works and Mines, 1934), pp. 75-78.

⁷⁸ Marketing Services Report, Report of the Nova Scotia Department of Agriculture and Marketing for 1951 (Halifax: Kings Printer, 1951), pp. 156-57.

⁷⁹ Ibid.

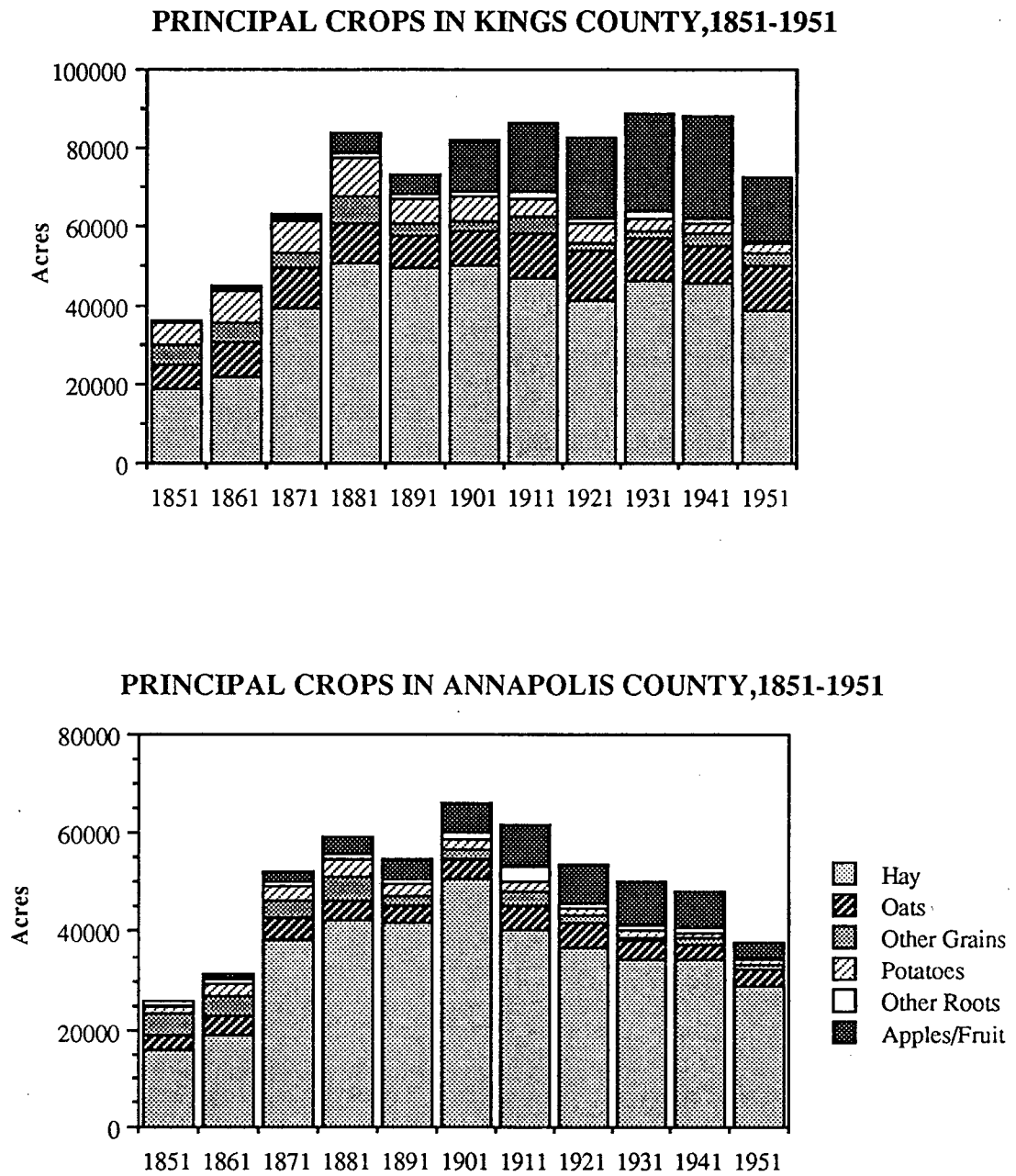
consistently had much larger acreages devoted to hay, oats, "other grains" and potatoes during the entire century under investigation than any of the remaining ten counties of the province (see Appendix 1). In general crop trends show that agriculture was far less significant along the southern and eastern shores (especially Shelburne, Queens, Digby and Yarmouth Counties) and that the overall decline in agricultural land after 1891 was far less pronounced in Annapolis, Kings, Hants, Colchester and Cumberland Counties. Although land use data clearly indicate that mixed farming prevailed, with hay and oats comprising the largest amount of "improved land" in every county, regional differences in land use can be discerned. While apple production was clearly concentrated in King's and Annapolis Counties between 1901 and 1941 there was relatively more land devoted to oats and "other grains" in Pictou, Colchester and Cumberland Counties (Figures 3-13 and 3-14). Further east, in Antigonish County and the counties of Cape Breton Island, where improved land was declining at a faster rate than in central and western Nova Scotia, land was increasingly devoted to hay as the twentieth century wore on (Figure 3-15).⁸⁰

These trends and patterns suggest that as agricultural activity declined after 1891 more specialized types of farming (particularly dairying and fruit growing) became concentrated in a 'core area' of central and western Nova Scotia. The counties of Kings, Hants, Cumberland, Colchester, and Pictou, for example, contained 44 percent of the province's improved land in 1891; by 1941 this percentage had increased to nearly 60 percent.⁸¹ Changes in the efficiency of ocean and inland transport during the late nineteenth and early twentieth centuries brought products from distant agricultural regions into competition with Nova Scotian farm products in domestic and external markets and

⁸⁰ Hay is almost always the last crop sown in a field before land abandonment takes place. The last stages of field abandonment involve cutting hay for several seasons, then turning the field into pasture for sheep or cattle before it falls into disuse. For more details see Clark, "The Sheep/Swine Ratio", p. 48.

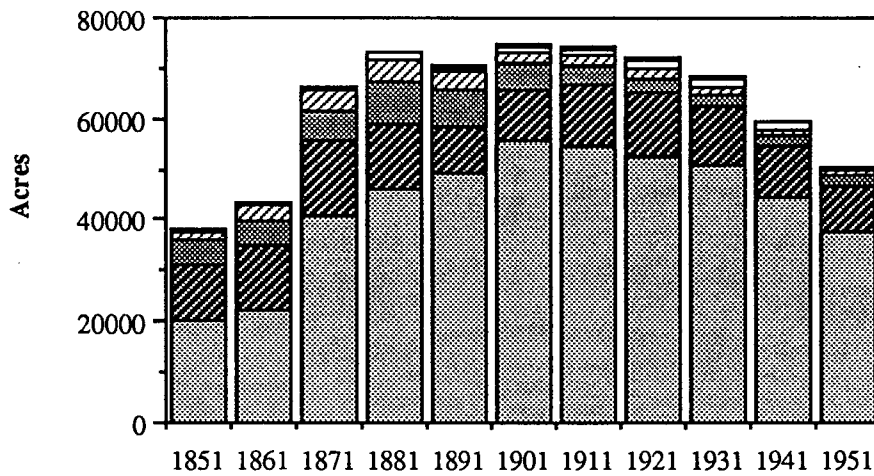
⁸¹ These were the only five counties which recorded a decline in improved acreage less than the provincial average of 59 percent between 1891 and 1941.

Figure 3-13, Principal Crops in Kings and Annapolis Counties, 1851-1951

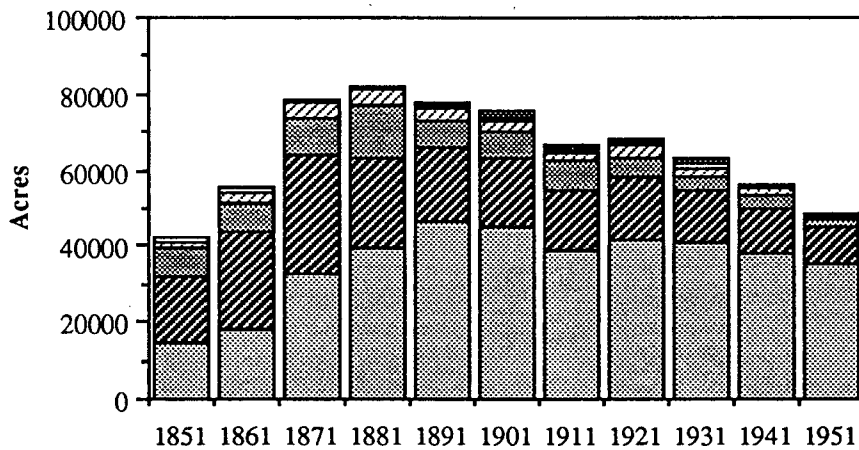


67b
Figure 3-14, Principal Crops in Pictou, Colchester and Cumberland Counties, 1851-1951

PRINCIPAL CROPS IN COLCHESTER COUNTY, 1851-1951



PRINCIPAL CROPS IN PICTOU COUNTY, 1851-1951



PRINCIPAL CROPS IN CUMBERLAND COUNTY, 1851-1951

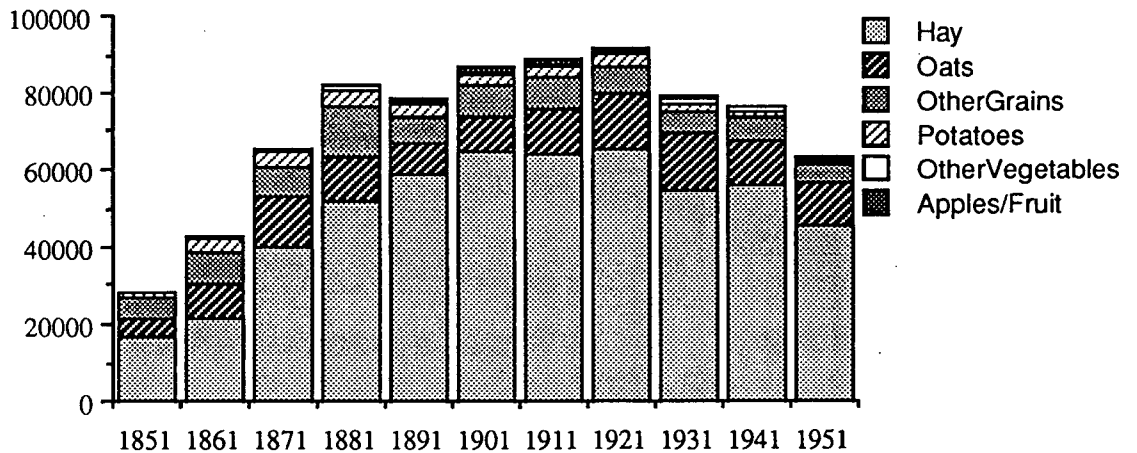
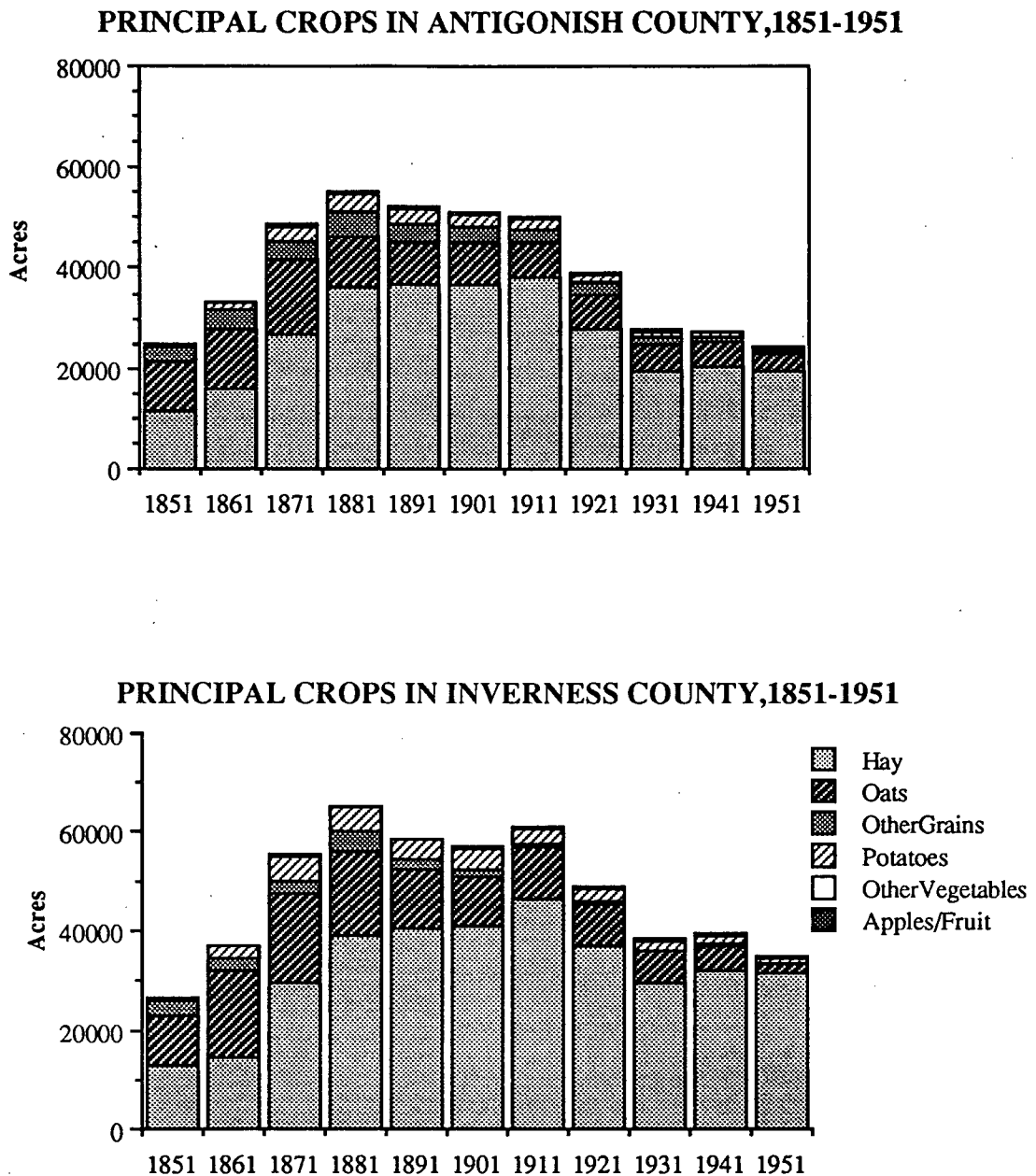


Figure 3-15, Principal Crops in Antigonish and Inverness Counties, 1851-1951



farms in marginal settings were either abandoned or operated on a part-time basis.⁸² Increasingly, as farmland abandonment took place, agriculture became concentrated in the best agricultural areas, farming grew more capital-intensive than labour-intensive, and crop yields (on a per acre basis) rose considerably. By 1951 commercial farming was concentrated in the Annapolis, Cornwallis, and Stewiacke River Valleys in Annapolis, Kings and Colchester Counties, in the River Phillip Valley and along the edges of the marshes of Cumberland and Hants Counties, and in the immediate proximity of Nova Scotia's urban centres. Farms were far more specialized and technologically advanced than a century earlier, far fewer people were directly employed in agriculture, and more rural residents earned their living in nearby towns and service centres.

⁸² By the 1920's butter from as far away as New Zealand and apples from British Columbia had appeared in both local and foreign markets. C. R. Fay, "Problems of the Maritime Provinces," Dalhousie Review 4, 4 (1925) : 446.

Chapter 4, Nova Scotian Agriculture in the Mid-Nineteenth Century

Contrasts -- between the "rude attempts of the half lumberer - half farmer" and "the productive results of more scientific husbandry" -- marked agriculture in every county of mid-nineteenth century Nova Scotia.¹ In long-settled, well-established farming districts (such as the Minas and Annapolis areas) observers remarked upon, "the old and settled appearance of the countryside" and the "good sized farms with suites of handsome buildings" which dotted the countryside.² William Eagar's "View from Retreat Cottage" (Figure 4-1) with its "patches of timber for ornament and use,"³ its smiling cottages that are surrounded by waving cornfields⁴ and its "plains of fertility with most luxuriant meadows, many of them reclaimed from the low marshlands",⁵ effectively captures the essence of these landscapes. More recently settled areas, however, such as some of the upland portions of Colchester, Cumberland, Pictou and Sydney Counties displayed a more rugged appearance with much evidence of land clearing (Figure 4-2). Here crops of oats and potatoes grew amid blackened stumps and difficult-to-remove boulders, log cabins could still be seen and board fences had only recently begun to replace the more rudimentary "snake fences". In such backland districts latecomers laboured on patches of loam that lay atop hard glacial till that, as the Agricultural Society Representative for St.

¹ Andrew L. Spedon, Rambles Among the Bluenoses or Reminiscences of a Tour through New Brunswick and Nova Scotia During the Summer of 1862 (Montreal: John Lovell, 1863), p. 139.

² D. C. Harvey, "A Friendly Scot Looks at Nova Scotia in 1853", Collections of the Nova Scotia Historical Society 27 (1947), p. 95.

³ Ibid.

⁴ Sir John Harvey, "Report on Nova Scotia", in Secretary of State Report for 1847: The Past and Present State of Her Majesty's Colonial Possessions (London: W. Clowes and Sons, 1848), p. 3.

⁵ Sleight, B. W. A. Pine Forests and Hackmatack Clearings or Travel, Life and Adventure in the British North American Provinces (London: R. Bentley, 1853) p. 28.

Figure 4-1, View From Retreat Farm, Windsor, Nova Scotia, Circa 1840

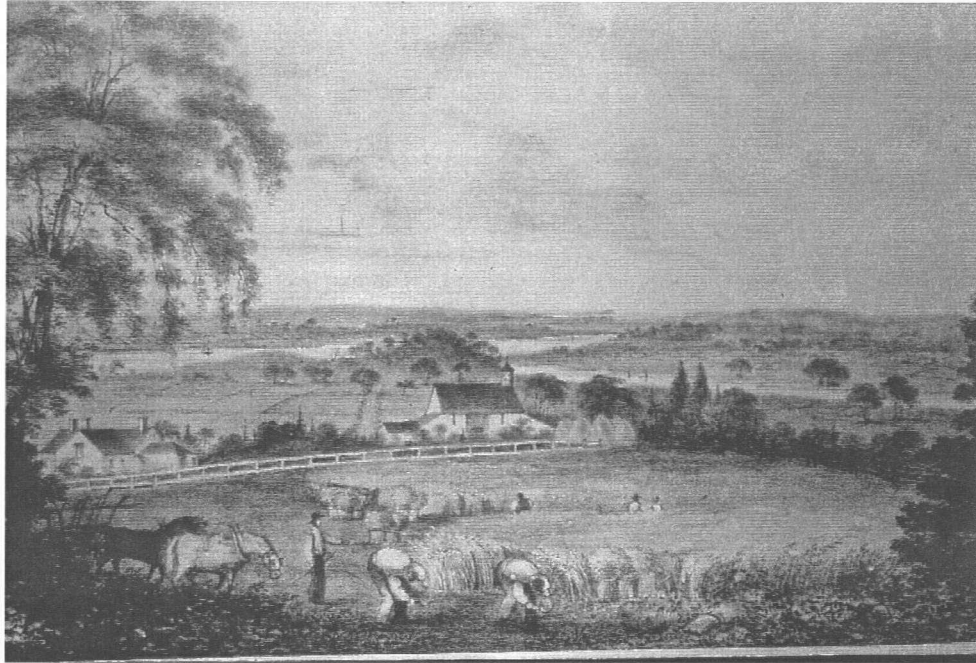


Figure 4-2, Lochaber Lake, Sydney County, Nova Scotia, Circa 1830



Marys' complained in 1852, "holds the water and causes a coldness in the soil", thereby yielding "scanty and poor crops of hay and roots".⁶

These nineteenth century sketches illustrate extreme cases. With 80 acres of marshland, "all in a high state of cultivation" and 330 acres of upland (nearly one-third of which was improved) Retreat Cottage was one of the largest farms in Atlantic Canada.⁷ Its commodious two-storey "homestead" complete with root cellars capable of storing up to six thousand bushels of potatoes and a well of water in the cellar, along with a large barn and several outbuildings (including an ice house, dairy, granary and "piggery") made it, "a most desirable residence for a gentleman fond of agriculture".⁸ By contrast, farms in more recently settled areas such as the rugged Cobequid Hills and the Pictou-Antigonish Uplands were much more modest. Shoemaker Abiel Brown who had moved from the town of Pictou to Mount Thom with his wife Nancy in 1840, for example, had just six acres cleared in 1851 which produced small amounts of hay, oats, turnips, potatoes, barley and buckwheat. His estimated net worth was only £45.0.0. The Brown family, which included seven young children, were among Mount Thom's poor.⁹

Yet these examples define the diversity of mid-nineteenth century Nova Scotian agriculture. Agricultural landscapes differed considerably across the province, depending upon such factors as soil quality, strength of local markets and the timing of initial settlement. This chapter further explores this diversity and offers new insight into the type and scale of agriculture practised in the mid-nineteenth century by identifying the broad patterns of agricultural settlement in Nova Scotia, by briefly examining crop and livestock

⁶ St. Mary's Agricultural Society Report for 1852, RG8, Vol. 15, # 175, PANS.

⁷ The Nova Scotian (Halifax) 25 July, 1832.

⁸ Ibid.

⁹ Graeme Wynn, "This Dark Vale of Sorrow", Nova Scotia Historical Review 6, 2 (1986): 55-62.

patterns at the census subdistrict scale, and by formulating a classification of farm types within the main agricultural area of the colony. A case study of one representative agricultural community in Pictou County illustrates the considerable socio-economic differentiation that existed in virtually every census subdistrict in mid-nineteenth century Nova Scotia. Sample farms from across the farming zone are then compared, using diaries and available commercial records, and the seasonal round of activities on a typical mid-nineteenth century farm is described. Finally, the domestic and external markets for Nova Scotian farm products are assessed.

Nova Scotia's Settlement Zones

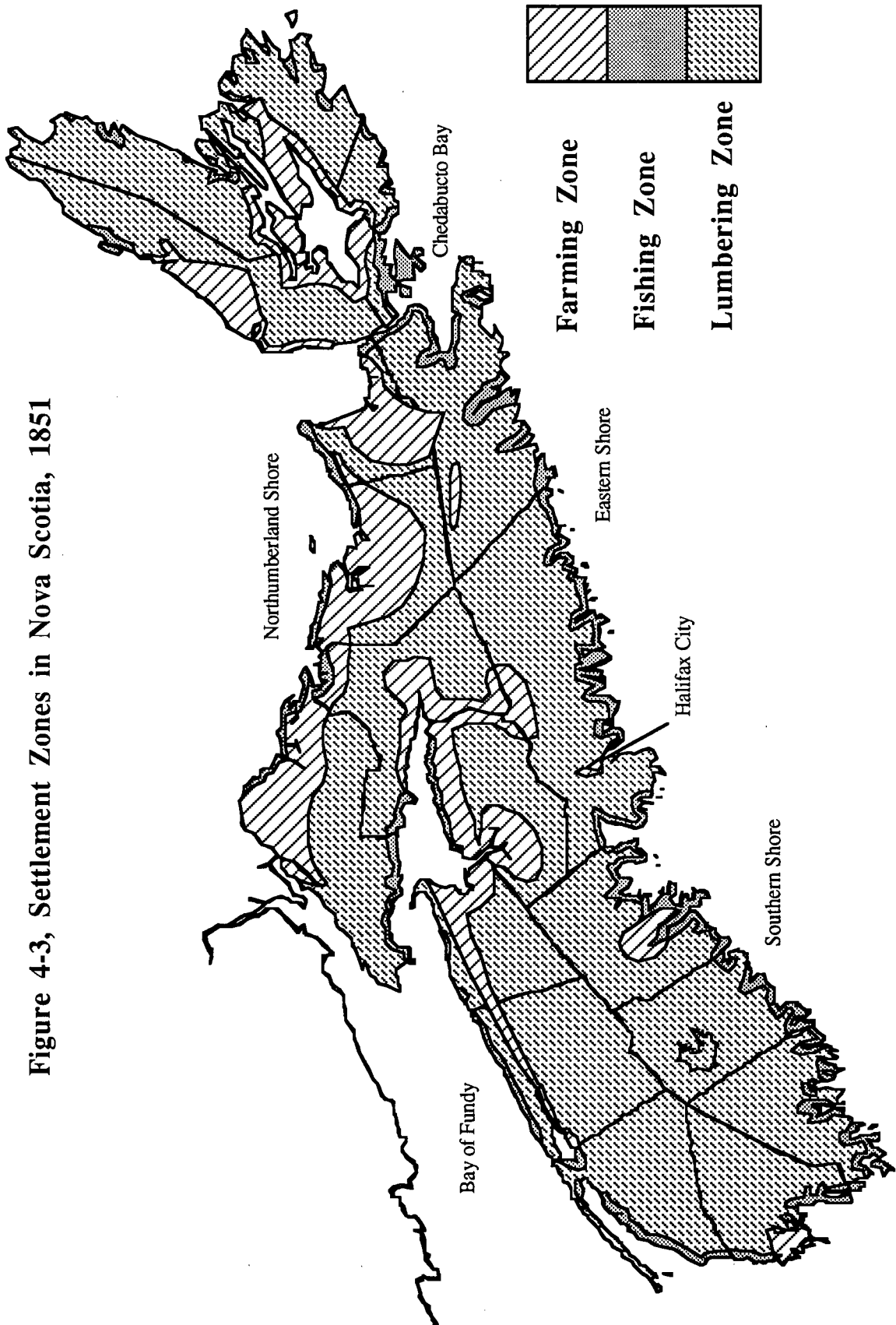
The broad patterns of agricultural settlement in 1850 are clear. Three settlement regions can be identified:

1. a farming zone occupied principally by farmers,
 2. a fishing zone characterized by small scale subsistence agriculture
- and,
3. a lumbering zone where a more mixed agro-forestry economy prevailed (Figure 4-3).¹⁰

In general mixed farming prevailed throughout all three rural zones. Hay, potatoes, oats and mixed grains were the principal crops grown, though turnips, "other vegetables", fruit (principally apples) and even flax were also produced. Livestock products included: butter, cheese, milk, beef, pork, mutton, eggs, leather, wool and tallow. Although there was considerable variation in both the scale and mix of farm output across these rural zones, land use generally reflected the importance of livestock in the mixed farm economy.

¹⁰ Several sources were useful in identifying the three schematic agricultural zones in Figure 1, including occupations reported in the 1851 census and later regionalizations of farming zones in Nova Scotia. See I. S. McArthur and T. Coke, Types of Farming in Canada (Ottawa: Canada Department of Agriculture Publication 653, Farmer's Bulletin #77, 1939), pp. 24-25; S. C. Hudson, R. A. Stutt, and W. Von Vleit, Types of Farming in Canada (Ottawa: Canada Department of Agriculture Publication 825, Farmer's Bulletin #157, 1949), pp. 40-59; 64-66.

Figure 4-3, Settlement Zones in Nova Scotia, 1851



Between two-thirds and three-quarters of every clearing, regardless of size, was devoted to a combination of hay, oats, grasses (timothy, clover) and pasture. The mix of crops grown on the remaining acreage and the type and number of livestock raised were more variable.

The Fishing Zone

The fishing zone circumscribed almost the entire coast of the province, although it extended no more than two or three miles inland. Here difficult physical circumstances and the labour-intensive character of the fishery generally limited clearings to fewer than ten acres per family. Settlements along the "eastern shore" between Halifax and Canso, and on the south coast of Cape Breton Island (between Arichat and Louisbourg) averaged only three and one-half acres of improved land per family. Small garden patches and meadows, fertilized with offal and seaweed, were cultivated in an attempt to meet the subsistence requirements of residents. Most of the cultivated land was used to produce hay for the two or three cattle that supplied milk and meat. Gardens and small fields produced, on average, 11 bushels of potatoes, 3 bushels of oats and small amounts of wheat, barley, rye, "other vegetables" and fruit. Collectively these settlements, including Jeddore, Sheet Harbour, Ecum Secum and Fisherman's Harbour failed to produce enough food to feed their populations. Much the same was true along the southeastern edge of Cape Breton Island (between Arichat and Louisbourg) and along the "south shore" that ran southwest from Halifax, except in Lunenburg where larger acreages were cultivated and small surpluses were marketed in Halifax.¹¹ Along this rocky Atlantic littoral the "roughness of the soil"

¹¹ The Secretary of the Richmond Agricultural Society reported in 1842 that, "the fishing and coasting populations, particularly the former, afford at all times a ready market for more than our farmers can afford so that a comparatively large amount of flour, pork etc. is annually imported by our merchants." Richmond Agricultural Society Report for 1842, RG8, Vol. 17, # 25, PANS.

and the "divided attention" which those within reach of the sea gave both fishing and farming were major obstacles to agricultural expansion.¹²

In the northern portion of this zone around the Bay of Fundy and along the Northumberland shore families devoted more time to agricultural pursuits than did their counterparts on the eastern and southern shores. Their clearings were significantly larger on average and, in general, farms were more productive. In Digby, Clare and Salmon River (Digby County), for example, the average family had 10 acres of improved land. This provided hay and fodder for 5 cattle and permitted larger potato and vegetable gardens. Thin, rocky soils were a challenge in this area too, but the Fundy climate was far more conducive to successful cultivation than that on the Atlantic face of the colony. With an annual average of 170 frost free days, this area had the longest growing season in the province.¹³

On the "Northumberland Shore", between Pugwash and Harve Boucher, part-time farmers were yet more productive than those around the Bay of Fundy. In Tatamagouche (Colchester), Little Harbour (Pictou) and Havre Boucher (Sydney), for example, where fishermen formed the largest component of the population, families averaged 12 improved acres. Little more hay was produced here than around the Bay of Fundy because farms in this region also averaged only 5 cattle per family. But far more land was devoted to oats, wheat and other grains. Tatamagouche, Little Harbour and Harve Boucher averaged 73, 76 and 45 bushels of oats, wheat and other grains (buckwheat, barley and corn) combined respectively. Still, as elsewhere in the fishing zone, the population along this shore

¹² Sable River Agricultural Society Report for 1845, RG8, Vol. 9, #29, PANS; for a similar assessment see Guysborough Agricultural Society Report for 1859, RG8, Vol. 11, #203, PANS.

¹³ Province of Nova Scotia, Nova Scotia Resource Atlas (Halifax: Department of Development, 1986), p. 25.

regarded agriculture as a secondary pursuit, and it as not at all uncommon, "to see a field of grain, in process of reaping, deserted in half an hour on a shoal of mackerel appearing.¹⁴

The Lumbering Zone

The most extensive zone was devoted principally to lumbering. It spanned virtually the entire length of the province, interrupted only by patches of burnt land or barrens where the granites and schists of the rocky southern upland reached the surface. Yet, only a tiny fraction of this zone was settled and cleared for agriculture. For the most part, farm clearings here were small; they ranged from less than ten acres throughout interior Halifax and Guysborough Counties to thirty acres or more in parts of backland Cumberland, Colchester, Pictou, Queens and Lunenburg Counties.

The smallest agricultural clearings were in the southeastern part of this zone. Holdings which averaged between 5 and 15 acres per family in interior Halifax (Upper Musquodoboit), Guysborough (Sherbrooke, Country Harbour, Manchester) and Richmond (Grand River, Hay Cove) Counties attempted to supply the fodder demands of 3 or 4 cattle (often including a team of oxen) and to supplement provisions purchases with potatoes and vegetables. In the Sherbrooke census subdistrict, for example, families averaged only 13 bushels of oats, 5 tons of hay and 21 bushels of potatoes. Lumbering was clearly far more important here than agriculture.

To the north and west clearings were larger. Improved land per family ranged from 20 to 30 acres in Mount Thom, Blue Mountain and St. Mary's in Pictou County, in Earltown and New Annan in Colchester, and in Carleton in Yarmouth County. Generally more land was devoted to the production of potatoes and oats in these areas (as along the Northumberland Shore) and herds of cattle were larger, averaging between 6 and 9 head per family. Wheat cultivation varied more considerably; holdings in Mount Thom and New

¹⁴ J. Outram, Nova Scotia, Its Condition and Resources in a Series of Six Letters (Edinburgh and London: W. Blackwood and Sons, 1850), p. 20.

Annan, for example, averaged 18 and 19 bushels of wheat (respectively) whereas in Blue Mountain, Earltown and Carleton the averages were 4, 5 and less than 1 bushel per family (respectively).

Only in northern Queens and Lunenburg Counties, in southern Annapolis County, and in a few areas of Halifax, Cumberland and Pictou did settlements in this zone average more than 30 acres improved per family. Census subdistricts Parrsboro (Cumberland), Middle Musquodoboit (Halifax) and Brookfield (Queens) recorded between 31 and 33 improved acres per family which produced hay and oats for 6, 8 and 8 cattle respectively. New Lairg (Pictou) and Caledonia (Queens) had some of the largest farming operations within the lumbering zone with 41 and 43 acres improved per family. Potato and oat production together in each of these districts was, on average, more than double that of the most productive settlements in the fishing zone. Wheat yields were generally negligible except in Pictou County where families averaged between 10 and 20 bushels. Some of these farms closely resembled those in the farming zone, but lumbering dictated the economic well-being of these inland settlements.

The Farming Zone

The farming zone stretched across the northern half of the province through Kings, Hants and Colchester to Antigonish County, with branches extending into Cumberland County and parts of Cape Breton Island. Here extensive tracts of marshland, *intervale* and well drained upland soils had been turned into productive farms.¹⁵ Canard and Kentville (Kings), Upper and Lower Stewiacke (Colchester), Middle River (Pictou),

¹⁵ The term "*intervale*" refers to the narrow strips of alluvial soils which are found along the banks of rivers above tidewater. Overflowed periodically by freshets which carry down sediment from higher elevations, level *intervale* land is generally more fertile and easy-to-work than surrounding upland. Its principal disadvantage is that fields on *intervale* land are more susceptible to early frosts than upland fields. See Sir John Harvey, "Report on Nova Scotia", p. 3 and J. F. W. Johnston, Notes on North America: Agricultural, Economical and Social Vol. 1 (Edinburgh: William Blackwood and Sons, 1851), pp. 22-23.

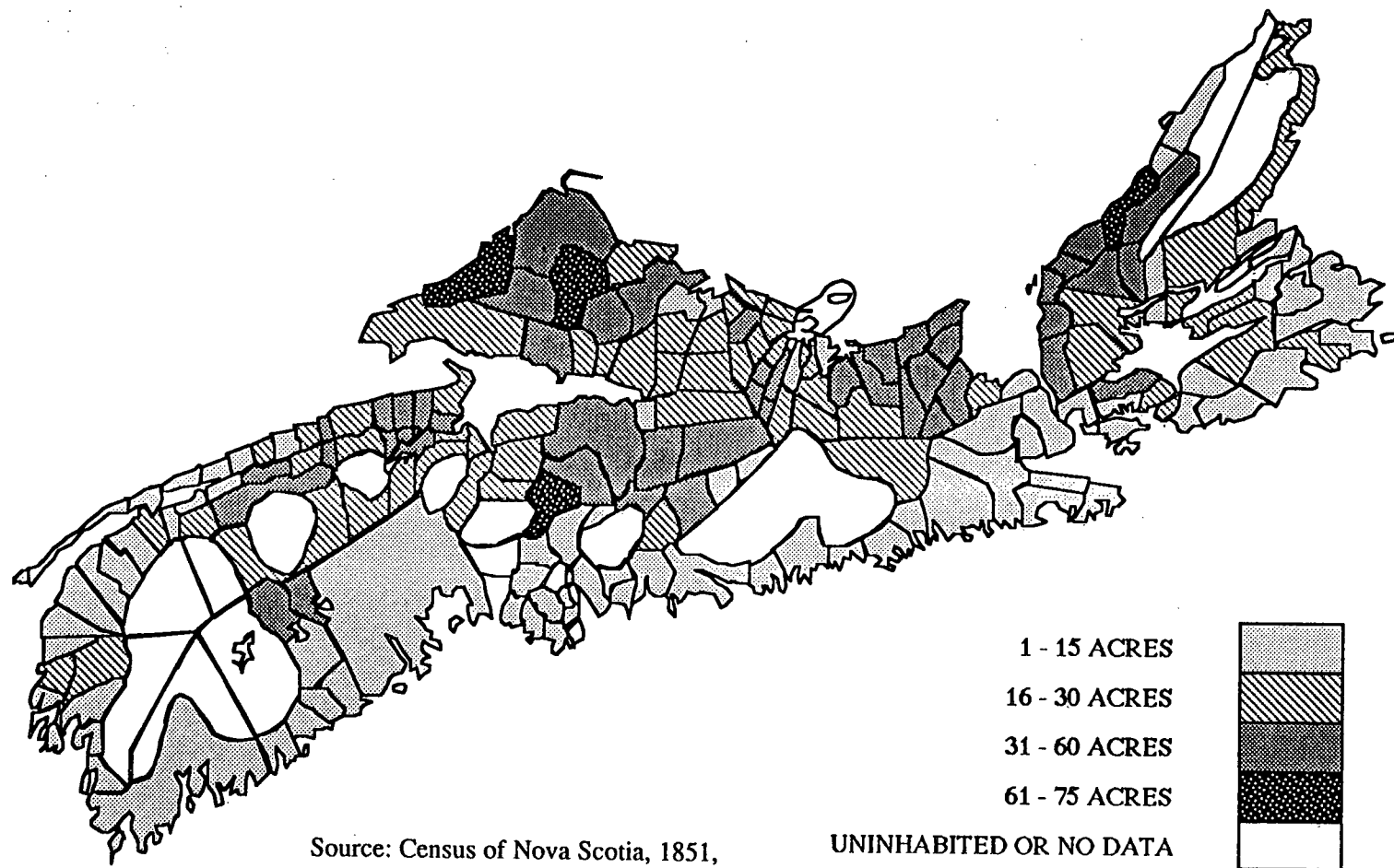
Dorchester/Antigonish (Sydney-later Antigonish) and Lake Ainslie West and Margaree (Inverness) formed the agricultural core of the province. Heavily populated and with between forty and sixty-five acres improved on a per family basis, they were some of Nova Scotia's most prosperous farming districts (Figure 4-4).¹⁶ Elsewhere in the northern zone small local markets for agricultural produce had also promoted extensive agricultural clearing. So in River Phillip, Cumberland County, where the largest concentration of sawmills and timber camps in the province had stimulated farming, more than 200 farms had an average of seventy-five improved acres each. And near Uniacke and Rawdon, Hants County, a smaller number of farms developed on good soils, and only thirty-five miles or so from the Halifax market, averaged more than 60 acres each.

The only notable exceptions to this general north-south division of full-time/part-time agriculture were the small commercial farming districts encircling Yarmouth and Halifax. Yarmouth, the third largest town in the province in 1851 with approximately 2,500 residents and a sizeable international fleet provided a significant local market for fresh food.¹⁷ In addition, the community of merchants, schooner captains, and others associated with the fish, timber and shipbuilding trades provided extensive trading connections all along the eastern seaboard. We know that at least a few farmers took advantage of these. By the mid-1850s cattle, potatoes, butter, eggs and firewood "topped up" cargoes of fish and timber enroute to Boston and nearby ports and pedlars regularly

¹⁶ Figure 4-4 is based on the Census of Nova Scotia, 1851, RG1, Vol. 453, PANS. Although the census does not provide a clear definition of the term "improved land", an examination of production figures reveals that this term refers not only to cropland and land under tame grasses but also to other land used for pasture. This is distinct from unimproved woodland which seems to be consistent with the census definitions used in 1871, 1881 and 1891. See M. C. Urquhart and K. A. H. Buckley, Historical Statistics of Canada (Toronto: MacMillan Company of Canada, 1965), p. 343.

¹⁷ David Alexander and Gerry Panting, "The Mercantile Fleet and its Owners: Yarmouth, Nova Scotia, 1840-1889", Acadiensis 7, 2 (1978), pp. 3-28.

Figure 4-4, Improved Land Per Family in Nova Scotia, 1851



Source: Census of Nova Scotia, 1851,

travelled through Yarmouth's small farming hinterland organizing this trade.¹⁸ Halifax -- a city of 20,000 people with a much larger mercantile community than Yarmouth as well as a large army and navy presence -- stimulated pockets of intensive agriculture at the north end of the Halifax peninsula, along the Sackville River and between Dartmouth and Porter's lake. But stony soils, a cool, damp climate and the attraction of urban employment in the city limited the development of commercial agriculture in these areas. Most of the food consumed in Halifax came from the northern farming zone and beyond the colony's borders.

Although mixed farming prevailed across the farming zone several agricultural subregions which emphasized different combinations of crops and livestock can be identified. In the Annapolis-Cornwallis Valley, where families of Anglo-American origins had cultivated former Acadian lands for almost a century, well-cultivated farms, like "Retreat Farm", emphasized an array of commercial products, the most important of which was potatoes. The "comfortable, white farmhouses" which stretched along the course of the river,¹⁹ the potato fields and orchards, and "the fat herds of fine cattle that cover the lowlands, and dwindle in the perspective till they look like specs on the landscape", reminded visitors to this area of the south of England.²⁰ In central Nova Scotia, in the counties of Hants and Colchester, families of Scotch-Irish and Anglo-American ancestry produced fewer potatoes and vegetables than those in the Annapolis valley, but placed a greater emphasis on the production of butter and salt meat. Here large surpluses of salt

¹⁸ Yarmouth Agricultural Society Report for 1856, RG8, Vol. 14, #109, PANS. The West Indies were also a significant market for some of the agricultural produce raised in the hinterland of Yarmouth. In 1844 the Yarmouth Agricultural Society reported that agricultural produce shipped to the British and Foreign West Indies, British North America and Gibraltar was estimated to be worth £1562.12.6 (or roughly \$7,600 Halifax currency). RG8, Vol. 9, #21, PANS.

¹⁹ Gesner, The Industrial Resources of Nova Scotia, p. 34.

²⁰ Moorsom, Letters From Nova Scotia, pp. 214, 220.

pork, beef and butter, and smaller amounts of vegetables and hay, were hauled to Truro and Halifax in wagons, where they were sold locally and organized for export. To the north, in a string of counties oriented toward the Northumberland Strait -- Cumberland, Pictou, north Colchester, Sydney and Inverness -- mixed farms also emphasized livestock, and especially the production of butter, cheese and wool, but the distinguishing feature of a large proportion of the farms in this area was that they produced more wheat, oats and barley than farms anywhere else in the farming zone. More recently settled than the farming districts of central and western Nova Scotia, and populated (for the most part) by people of Highland Scottish backgrounds, a large portion of this mixed farming zone can be described as the colony's grain belt, as Andrew Spedon aptly observed when he visited New Glasgow, Pictou County, in 1862,

The surrounding country is well cultivated, and presents an undulating and romantic appearance. On the whole it has a greater resemblance to Canada West than any other part of Nova Scotia I have seen.²¹

In intervale and upland farming districts of Richmond and Cape Breton Counties at the southeastern end of the farming zone, farms were generally smaller and less productive than elsewhere in the farming zone. Such surpluses as were produced were either marketed in the mining villages on the Sydney coalfield or they were exported from Sydney and Bras D'Or lake ports.

The Potato Belt

Protected from the winds and fogs of the Atlantic and the Bay of Fundy by North and South mountains, the Annapolis-Cornwallis valley was one of the most favourable areas for agriculture in Nova Scotia. The 1,500 families who operated farms in this region in 1851 kept roughly the same number of livestock as were kept on farms elsewhere in the farming zone (9 cattle and 8 sheep), and produced a similar amount of hay (11 tons). What

²¹ Spedon, Rambles Among the Bluenoses or Reminiscences of a Tour through New Brunswick and Nova Scotia During the Summer of 1862, p. 196.

was distinctive about the majority of these farms was the proportion of land devoted to potato production. Although farms in this region averaged 185 bushels of potatoes (which would have necessitated about 1 and 3/4 acres to produce), districts at the western end of the valley devoted several acres to potatoes and recorded production levels that exceeded 300 bushels per family, four times the estimated consumption requirements of a family of four (Figure 4-5).²² In one district -- Canard, Kings County -- 155 families averaged almost 600 bushels of potatoes and 35 bushels of turnips and market garden vegetables, almost 20 times the potato production levels recorded in eastern Nova Scotia and 5 times the amount of other vegetables grown.²³ While fruit production had been a feature of this region since the seventeenth century, few farms specialized in the production of apples and soft fruit. Many farms contained several apple trees, and perhaps a plum and cherry tree; but few orchards exceeded half an acre in size. Only the largest farms of the district -- those with more than 75 acres of improved land -- had orchards that ranged between 3 and 6 acres in size.²⁴

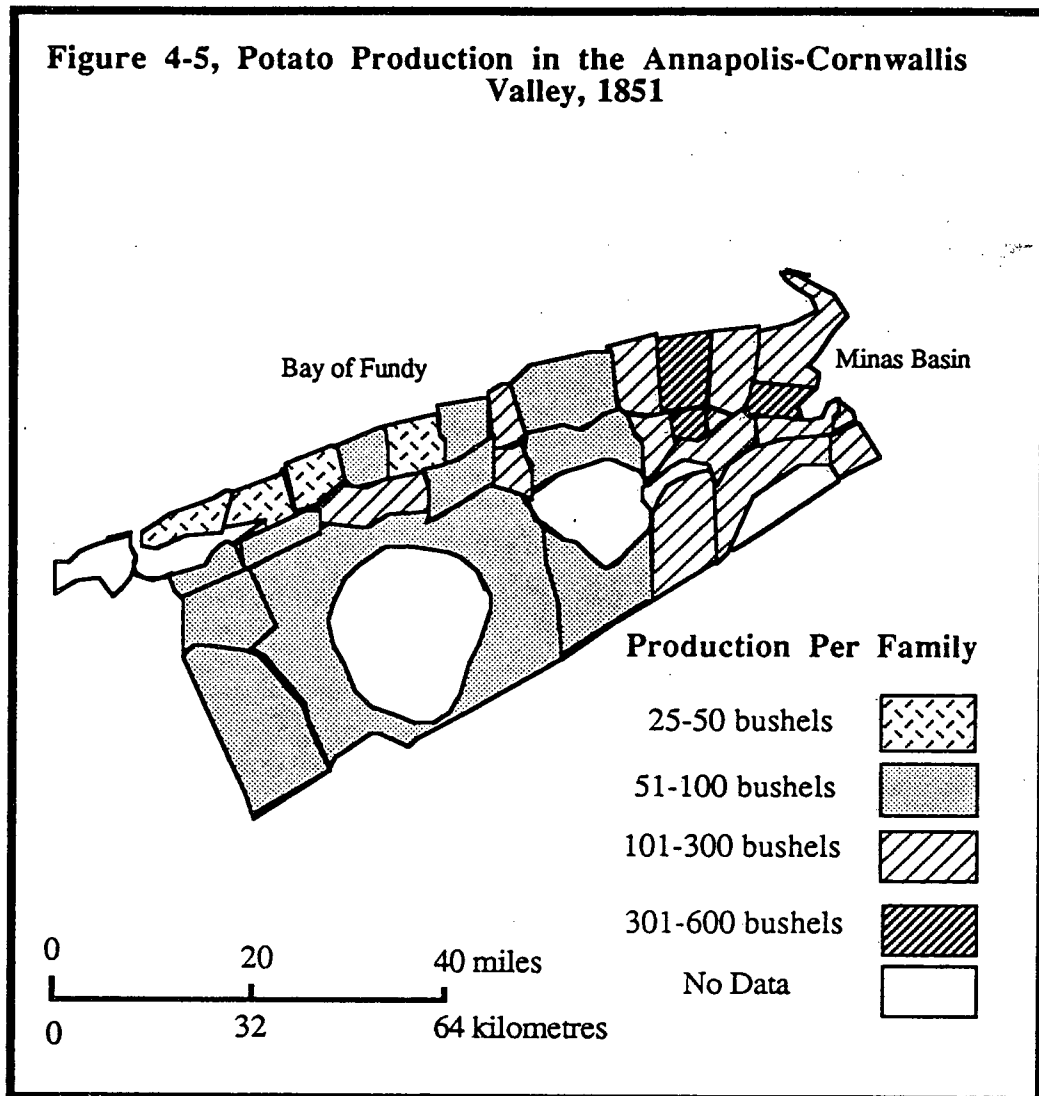
Surpluses of potatoes and vegetables, along with smaller amounts of fruit, butter, livestock and other farm products, were shipped from county ports to New Brunswick and New England. The account books of Jonathan and Leander Rand, farmers of Canning, Kings County, illustrate the scale of the potato and vegetable trade from the valley in the

²² Mid-nineteenth century consumption estimates suggest that a family of four would consume approximately 75 bushels of potatoes annually. Rusty Bittermann, Robert MacKinnon and Graeme Wynn, "Of Inequality and Interdependence in the Nova Scotian Countryside, 1850-1870", Paper Presented at the Atlantic Canada Studies Conference, University of Maine, at Orono, May, 1990, Appendix 2.

²³ The farming districts of Sydney, Inverness and Cape Breton counties, for example, averaged less than 30 bushels of potatoes per family and 7 bushels of turnips and other vegetables. Census of Nova Scotia, 1851, RG1, Vol. 453, PANS.

²⁴ Leander Rand, of Canning, Kings county, whose farm included 27 acres of improved marshland and 50 acres of "other improved land" had 5 acres devoted to apple trees. Census of Nova Scotia, 1851, Manuscript Schedules, District 1, Abstract 1, line 16, PANS; Jonathan and Leander Rand Accounts, MG3, Vol. 115, PANS.

Figure 4-5, Potato Production in the Annapolis-Cornwallis Valley, 1851



mid-nineteenth century. Each fall, the Rand brothers purchased potatoes, other vegetables and smaller amounts of other farm products from neighbouring farmers, and organized them for shipment to New England on chartered schooners. This enabled them to dispose of the 1,200 bushels of potatoes that their farms collectively produced annually, and to earn additional income from the surpluses produced on neighbouring farms by acting as middlemen. In 1856 the Rands financed three voyages to Gloucester, Massachusetts, where they sold several thousand bushels of potatoes, several hundred bushels of turnips and onions and a small amount of butter, obtained from 50 neighbouring farms. In addition to the £50 each (\$243.50 Halifax currency) that they obtained for the produce of their farms, the Rands earned an additional £75 in profit after all accounts with Gloucester merchants were settled.²⁵ Owing to the limited local markets in Nova Scotia for potatoes, the Rands purchased valley potatoes at a reasonable price immediately following the harvest in October. The price received for potatoes in Massachusetts (55 cents per bushel) was generally 10 cents per bushel higher than what the Rands paid for them in Nova Scotia.²⁶ Evidence suggests that this type of informal marketing of farm products also prevailed in other Annapolis valley districts. Records of at least one other farm family in East Clarence, Annapolis County, describe a similar type and scale of agricultural trade with New England merchants.²⁷

²⁵ Jonathan and Leander Rand Accounts, MG3, Vol. 115, PANS.

²⁶ The first cargo of 2,600 bushels of potatoes collected from nearby farmers during the third week of October, 1856, for example, cost the Rands debits totalling £247 (\$1,202 Halifax currency, or an average of 46 ¢ per bushel). These potatoes were sold directly to a Gloucester merchant for £300 (\$1,461 Halifax currency, or 56 ¢ per bushel) which was received at the beginning of November. The Rands earned an additional £47.10.0 (\$231 Halifax currency) from the 415 bushels of potatoes produced on their farms which they also sold to the same merchant. Jonathan and Leander Rand Accounts, 17 October; 22 October; 9 December, 1856; MG3, Vol. 115, PANS.

²⁷ Elliott Family Papers, 1838-61, MG1, Vol. 1332, PANS.

Central Nova Scotia

Farms in the central districts of Hants and Colchester Counties produced fewer potatoes, vegetables and fruit than those in the Annapolis-Cornwallis valley, and slightly more hay, oats and wheat (Table 4-1). Although herd sizes were similar to those in the valley, families produced more butter, on average, reflecting the larger number of milk cows in this portion of the farming zone than to the west.²⁸ In general, a slightly wider range of farm products entered local and external markets from this region than was the case in the Annapolis-Cornwallis valley. A handful of farmers in the vicinity of Truro delivered fresh milk on a daily basis to urban customers in the "shire town"; a larger number sold surpluses of meat, butter, grain and vegetables to Truro merchants who organized them for export. Farmers distant from the Truro market regularly drove livestock and hauled other products in wagons overland to Halifax. Thus, the Secretary of the Truro Agricultural Society reported in 1845 that farmers in the district had shipped 100 cattle, 400 swine and 200 carcasses of mutton from wharves on Cobequid Bay to New Brunswick and the United States in that year, along with 357 firkins of butter (20,000 lbs.), 2,000 lbs. of cheese, 500 bushels of oats and 300 yards of homespun.²⁹ Three years later a travel census recorded the movement of 2,000 tons of hay between Onslow and Truro.³⁰ And agricultural societies in districts accessible to Halifax regularly reported shipments of "beef, pork, mutton, veal, butter, oats and hay ..., chiefly to the Halifax market".³¹

²⁸ The 4,000 families in the farming districts of these counties averaged 140 lbs. of butter, 40 per cent more than was churned on Annapolis-Cornwallis valley farms, and about one-fifth more than the estimated consumption requirements of an average mid-nineteenth century family. Bittermann, MacKinnon and Wynn, "Of Inequality and Interdependence in the Nova Scotian Countryside, 1850-1870", Appendix 2.

²⁹ Truro Agricultural Society Report for 1845, RG8, Vol. 13, # 114, PANS.

³⁰ J.H.A.N.S., 1849, Appendix 30, p. 283.

³¹ Quote is from the East Hants Agricultural Society Report for 1845, RG8, Vol. 9, # 29, PANS. For other examples see Newport Agricultural Society Report for 1844, RG8, Vol.

**Table 4-1, Average Production Per Family in Nova Scotia's
Farming Zone, Principal Crops and Livestock, 1851**

| | The Potato Belt | Central Nova Scotia | The Mixed Farming Belt | South and Eastern Cape Breton |
|---------------------------|--------------------|------------------------|---------------------------|----------------------------------|
| Hay (tons) | 11 | 13 | 10 | 7 |
| Potatoes (bushels) | 185 | 69 | 40 | 33 |
| Turnips (bushels) | 23 | 18 | 14 | 8 |
| Oats (bushels) | 35 | 41 | 68 | 60 |
| Wheat/Buckwheat (bushels) | 12 | 26 | 30 | 5 |
| Barley (bushels) | 5 | 3 | 9 | 6 |
| Rye (bushels) | 10 | 1 | 1 | 0 |
| Other Grains* (bushels) | 14 | 2 | 1 | 0 |
| Apples (bushels) | n/a | n/a | n/a | n/a |
| Cattle (number) | 9 | 8 | 8 | 8 |
| Sheep (number) | 8 | 9 | 10 | 10 |
| Swine (number) | 2 | 2 | 2 | 1 |
| Poultry (number) | n/a | n/a | n/a | n/a |

* Corn, peas and beans

Source: Census of Nova Scotia, 1851.

The Grain Belt

To the north and east, in a large, variagated region of intervale and upland farms, from Cumberland County in the west to Inverness County in the east, mixed farming also prevailed. Yet a large proportion of the several thousand farms in this zone placed a stronger emphasis on grain production than farms elsewhere in the farming zone. Farms in this subregion averaged almost twice as much grain as the average for the colony, and between 40 and 50 per cent more grain than the other subregions of the farming zone (Table 4-1). But perhaps the most distinctive feature of this zone was the emphasis farm families placed on wheat production. In general, Nova Scotia's cool, damp, climate was not very conducive to wheat cultivation; the ripening of wheat in Nova Scotia was difficult even during ideal summer conditions. Yet, warm autumn temperatures in a large portion of this area, owing to the modifying influences of the Northumberland Strait, in combination with the protection from Atlantic storms and fogs afforded by the rocky, "southern upland", provided families the opportunity to cultivate wheat. Several districts, including Amherst and Wallace in Cumberland County, and Roger's Hill and Hardwood Hill in Pictou County, averaged between 20 and 30 bushels of wheat per family, more than double the average for the colony (9 bushels). This was enough wheat to supply the annual flour requirements of a family of four or five persons.³² The most productive wheat producing districts in the colony were Arisaig (Sydney -- later Antigonish), Merigomish (Pictou) and the Gulf Shore (Pictou), each of which recorded between 40 and 65 bushels of wheat per family at the 1851 census. These production levels were several times greater than those

9, #2.1, PANS; Windsdor Agricultural Society Report for 1852, RG8, Vol. 18, # 266, PANS; and Stewiacke Agricultural Society Report for 1850, RG8, Vol. 9, # 219, PANS.

³² It took approximately six bushels of wheat to produce one barrel of flour, and most 4 or 5 person families consumed 3 or 4 barrels of flour per year. E. Sutherland to Titus Smith, Secretary of the Central Board of Agriculture, 21 January, 1845, RG8, Vol. 9, #4, PANS; J. D. B. Fraser (Pictou Druggist) Accounts, 1852, MG1, Vol. 3, # 321, PANS.

recorded elsewhere in the farming zone. Given typical yields, farms in these areas devoted between 3 and 5 acres to wheat.³³

The cultivation of oats and barley was more widespread across the farming zone than wheat cultivation, but the production of these crops was also concentrated in the central portion of Nova Scotia's grain belt. Two hundred and fifty farm families in Merigomish, and another 135 along Pictou's Gulf Shore (census subdistricts 19 and 21), averaged more than 50 bushels of barley and 80 bushels of oats, 9 times the colonial average for barley, and almost double the average for oats.³⁴ These levels of oat and barley production reflect both the importance of livestock in the mixed farming economy, and the location of several breweries at Pictou, which created a small local market for surplus barley.³⁵ In addition to being a nutritious fodder grain, oats could be rolled and ground into meal, and used for the making of cakes, breads, and, that nineteenth century staple, porridge. Families in these districts generally devoted between 8 and 10 acres to these crops. According to the Secretary of the Hopewell Agricultural Society a "typical" Pictou County farm in the mid-nineteenth century consisted of 7 acres in oats, 2 acres in

³³ In the districts within 10 or 15 miles of the Northumberland Strait, wheat fields yielded an average of about 15 bushels per acre. Farms in districts less protected from the fogs and storms of the Fundy Bay and the Atlantic, such as those on the Parrsboro shore of Cumberland county, yielded between 10 and 12 bushels of wheat per acre. Compare the crop yields described in Pictou's Maxwellton (Merigomish) Agricultural Society Report for 1850, RG8, Vol. 9, # 219, PANS, with those described in south Cumberland's Parrsboro Agricultural Society Report for 1850, RG8, Vol. 9, # 219, PANS.

³⁴ The largest levels of oat production in Nova Scotia in the mid-nineteenth century were recorded in Pictou and Antigonish counties. Green Hill (Pictou), Roger's Hill (Pictou) and South River (Sydney) averaged 154, 122 and 122 bushels of oats per family respectively. The colonial average was 33 bushels of oats per family and 43 bushels of oats per farm. Census of Nova Scotia, 1851, RG1, Vol. 453, PANS.

³⁵ Pictou was the only town outside of Halifax where the factory production of beer and liquor took place in the mid-nineteenth century. The six small establishments in operation in Pictou during that year produced 8,000 gallons of beer and 1,300 gallons of liquor. Census of Nova Scotia, 1851, RG1, Vol. 453, PANS.

wheat and 2 acres in barley and peas.³⁶ Remaining farmland was estimated to include a dozen acres in hay, 1/2 an acre in potatoes, a dozen acres in cleared pasture and 65 or so acres of woodland.

Livestock, meat, and butter were also important commercial products in this subregion. Although families in the grain belt averaged 8 cattle, 10 sheep and 2 swine, and churned an average of 175 lbs of butter, several districts recorded herd sizes and butter production levels well above these averages. In Northeast Margaree, at the eastern end of this zone, for example, 255 families averaged a dozen cattle, the same number of sheep and 3 swine, and churned an average of 225 lbs. of butter, 90 per cent more than estimated consumption requirements.³⁷ In general, butter and cattle production levels were highest at the eastern and western ends of this zone in districts distant from the developing urban markets of Pictou, New Glasgow and Truro (Figures 4-6 and 4-7). Live cattle and salted butter were products that could easily withstand long distance transport to Nova Scotia's domestic markets and to distant centres. Surpluses of these products accompanied shipments of wool, salt pork and salt beef to New Glasgow, to Pictou and to Truro and especially to the nearby colonies of New Brunswick and Newfoundland.³⁸

In Pictou County, where the towns of Pictou, Albion Mines and New Glasgow collectively contained nearly 5,000 inhabitants, there was a larger domestic market for agricultural surpluses than at the eastern and western end of the grain belt. Consequently, farmers in the fringes of these towns regularly delivered milk, meat, butter, eggs and vegetables directly to urban customers or to merchants located in these towns. Although

³⁶ Hugh MacLeod (Secretary, Hopewell Agricultural Society) to William Scott (Secretary, Central Board of Agriculture), 29 January, 1850, RG8, Vol. 18, #102, PANS.

³⁷ Census of Nova Scotia, 1851, RG1, Vol. 453, PANS; Bittermann, MacKinnon and Wynn, "Of Inequality and Interdependence in the Nova Scotian Countryside, 1850-1870", Appendix 2.

³⁸ See discussion of domestic and export markets for Nova Scotian farm products below.

Figure 4-6, Butter Production in Nova Scotia's Grain Belt, 1851

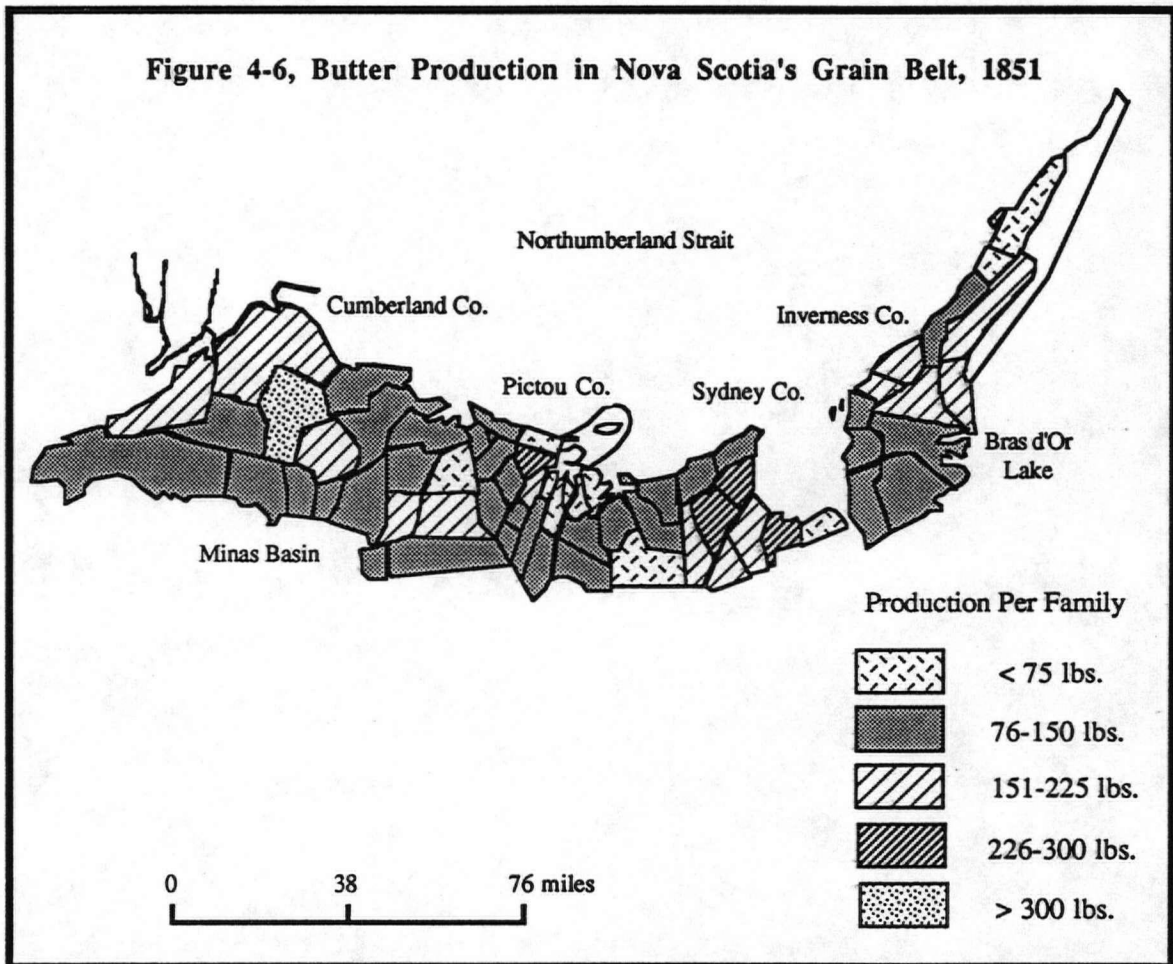
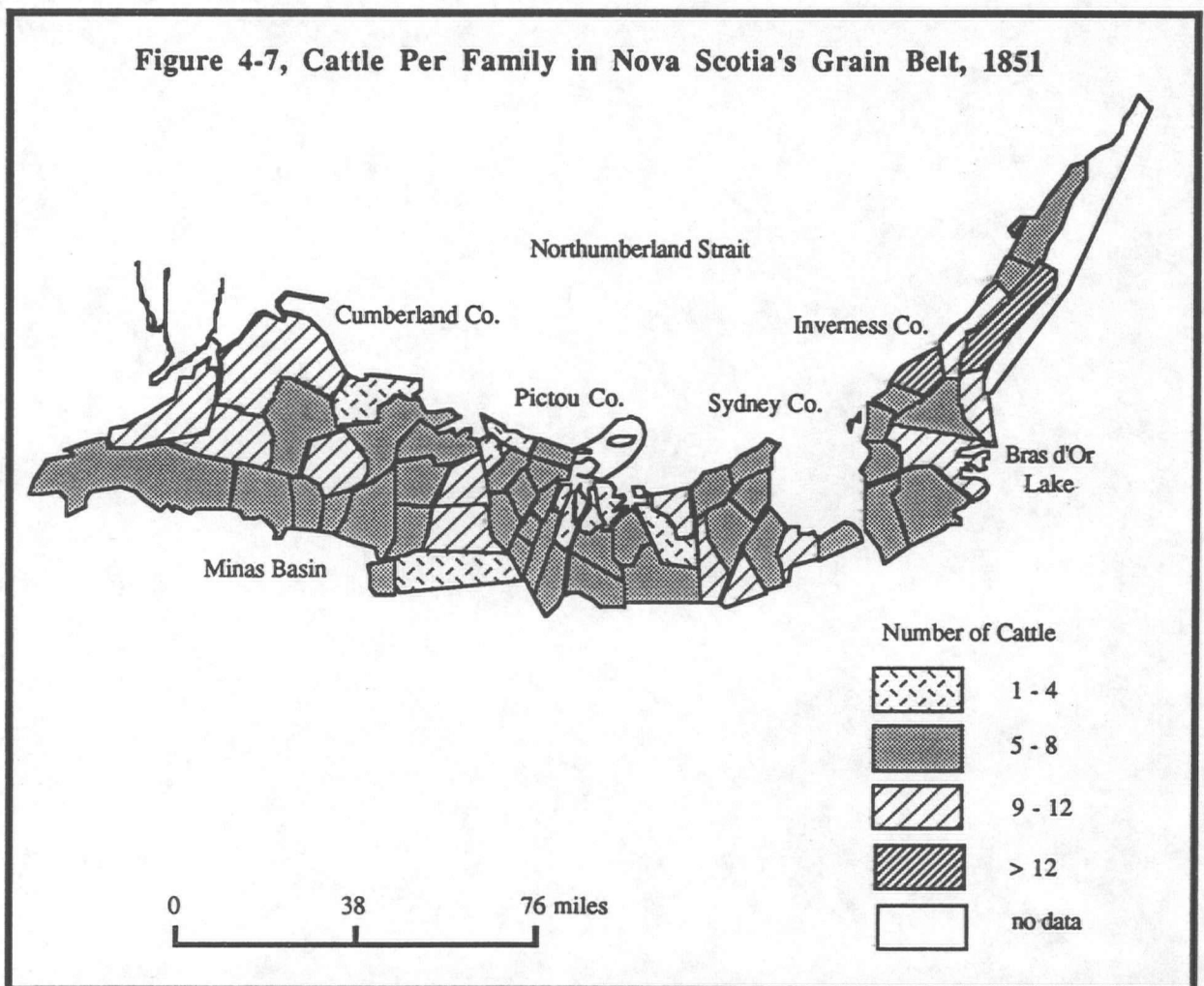


Figure 4-7, Cattle Per Family in Nova Scotia's Grain Belt, 1851



difficult to measure accurately, the local, domestic market for fresh foodstuffs, and especially perishables, in the central portion of the grain belt was considerable. Food purchased by Pictou druggist J.D.B. Fraser for his family in 1852 is representative of the type and scale of food consumed in many urban households in the mid-nineteenth century. Fraser's accounts, which include a separate ledger entitled "House and Family Expenses", indicate that his family spent £67 (\$326.29 Halifax currency) on food in 1852 (which represented about half of the family's total expenditures).³⁹ Less than a third of this amount (£20.4.11) was spent on imported provisions (salt, molasses, sugar, rice, imported flour etc.), fish and other unspecified groceries. Approximately the same amount was spent on fresh lamb, beef, and moose meat (£20.0.2). The most significant of the remaining food purchases included butter (£13), potatoes, cabbages, apples, strawberries, cranberries and eggs (£3.18.3), and locally produced bread, meal and flour (£9.8.10).⁴⁰ Because milk was purchased in small amounts on a daily basis directly from a local farmer it was not recorded in Fraser's "House and Family Expenses" account. Firewood was also purchased directly from several local farmers. Clearly the bulk of the food consumed in the Fraser household was produced on Pictou County farms. This concentration on fresh meat, vegetables and dairy products near small towns and villages is also documented elsewhere in the grain belt.⁴¹

³⁹ All household expenditures listed in Fraser's "Home and Family Expenses" account totalled £141. J.D.B. Fraser (Pictou Druggist) Accounts, 1852, MG1, Vol. 3, #321, PANS.

⁴⁰ Imported flour and meal was designated by source of origin (ie. "Canadian superfine", "American superfine").

⁴¹ William Sutherland, whose farm was in Westchester, Cumberland county, about five miles from the iron ore mining village Acadia Mines (renamed Londonderry in 1903), records in his diary the regular sale of fresh meat, eggs, butter and vegetables directly to miners and their families and to merchants located in the village. See excerpts from the diary and other family records published in C. H. Sutherland, The Sutherlands of Westchester, Nova Scotia (Agincourt, Ontario: Generation Press Inc., 1986), pp.109-28, 139-46.

Although it was not recorded in the 1851 census, flax continued to be cultivated in a few districts of the grain belt. In each of the main valleys of Cumberland, Pictou and Sydney Counties, where fertile intervale land was "well adapted to the raising of flax",⁴² flax was grown by "a few farmers", who cultivate it "with comparatively little trouble".⁴³ However, due to the widespread availability of imported cloth and linen in mid-nineteenth century Nova Scotia (clearly evident from even a cursory glance at any merchant ledgers from this region), it seems likely that the comments of River Phillip's Agricultural Society Secretary were representative of other farming districts:

that on the first settling of this district inhabitants raised sufficient quantities [of flax] to make linnen [sic] for their domestic use. But since cotton has come into general use farmers have considered it cheaper to purchase it than to manufacture linnen [sic], although some farmers still raise small quantities for to make table linnen [sic] and thread.⁴⁴

Despite the vigorous promotion of flax cultivation by the new Central Board of Agriculture in the 1840s and 50s, the raising of flax, dressing it for spinning, and weaving dresses, tablecloths and other fancy items with the fine end-product was less common on farms in this region in 1850 than had been the case three or four decades earlier. In many farming districts the "scutching knife" was a thing of "those days gone by".⁴⁵

⁴² River Phillip Agricultural Society Report for 1851, RG8, Vol. 14, #275, PANS.

⁴³ Cumberland Agricultural Society Report for 1853, RG8, Vol. 14, #154. See also Sydney county Agricultural Society Records, RG8, Vol. 15, #79, and Central Board of Agriculture Records (on Pictou), RG8, Vol. 9, #239.

⁴⁴ River Phillip Agricultural Society Report for 1851, RG8, Vol. 14, #275, PANS. For a similar assessment see Cumberland Agricultural Society Report for 1853, RG8, Vol. 14, #154, PANS.

⁴⁵ Londonderry Agricultural Society Report for 1852, RG8, Vol. 13, #263. The scutching knife was a very simple wooden tool used to "scutch" or beat the flax in order to separate the woody matter from the valuable fiber of the plant.

Eastern Cape Breton

To the east in the counties of Richmond, Victoria and Cape Breton the physical base was generally less amenable for agriculture than in other districts of the farming zone. The cold Labrador current modified the climate of this subregion to a greater extent than anywhere else in the farming zone, and apart from a few pockets of fertile alluvium, soils were generally thin, stony and acidic. Wheat was seldom produced except in fertile and protected river valley districts like Middle River, Sydney River and Frenchvale. Yet even in these areas wheat yields were thin; only half a dozen bushels of wheat per farm was the average.⁴⁶ Farms generally yielded better crops of oats and buckwheat than wheat.⁴⁷ But except for oats, which were often cut green for cattle feed, the production of most field crops recorded in the 1851 census was lower in this region than everywhere else in the farming zone (Figure 4-1).

Despite relatively low returns of hay and fodder crops, the number of cattle and sheep recorded per family (8 and 10 respectively) was remarkably similar to that recorded in the other subregions. Thus, livestock were probably less well fed, animal products were of a lower quality and dressed carcasses were smaller than in the more productive agricultural districts on the mainland. Butter and cloth production levels in this subregion provide evidence of this. The amount of butter produced per family in 1851 in the farming districts of Richmond and Cape Breton (including Victoria) Counties was 40 per cent less than in adjacent Inverness County, and the most productive agricultural districts in this zone recorded butter production levels far below those in the eastern and western portions

⁴⁶ Census of Nova Scotia, 1851, RG1, Vol. 453, PANS.

⁴⁷ In 1850 Sydney's Agricultural Society estimated that farms along the Sydney River valley obtained average yields of 30 bushels of oats per acre and 30 bushels of buckwheat per acre. These yields were double that of wheat. Sydney (Cape Breton) Agricultural Society Report for 1850, RG8, Vol. 9, #219, PANS.

of the grain belt.⁴⁸ The amount of homespun cloth produced in this region per family (20 yards), was also 40 per cent less than the average recorded in Inverness County (34 yards).⁴⁹ Although excellent wharf facilities at Sydney and at several ports along the Bras D'or lake (including Baddeck, St. Peter's and Grand Narrows) facilitated the export of such agricultural surpluses as there were, there were probably more archetypal "subsistence" farms here than anywhere in the farming zone.⁵⁰

The small urban concentrations at Sydney and Sydney Mines, which collectively contained almost 2,000 inhabitants in 1851 (who were almost totally dependent upon the General Mining Association's mining operations along the north side of Sydney Harbour), created a small domestic market for fresh food, and the type of commercial farming that developed in their fringes differed little from that which emerged near Pictou, New Glasgow, Truro and Amherst. A small group of farmers regularly supplied fresh milk, meat and vegetables to urban customers directly, or through merchants located in the towns, and some of these operations were substantial. John Belcher Moore, whose 80 acre farm was located five miles from Sydney Mines, sold agricultural products worth £53.10.7 in 1857 (\$260.78) mainly in Sydney Mines and Sydney.⁵¹ His land and

⁴⁸ Fifteen hundred farm families in Inverness County averaged 154 lbs. of butter in 1851; two thousand, two hundred and fifty farm families in south and eastern Cape Breton averaged 90 lbs. of butter. Census of Nova Scotia, RG1, Vol. 453, PANS.

⁴⁹ Census of Nova Scotia, 1851, RG1, Vol. 453, PANS.

⁵⁰ Stephen Hornsby, "Staple Trades, Subsistence Agriculture, and Nineteenth-Century Cape Breton Island", Annals, Association of American Geographers 79, 3 (1989), pp. 417-23. On exports from the Middle River valley see Middle River Agricultural Society Reports for 1849, 1850, 1851, 1852, 1853, 1854 and 1855, RG8, Vol. 16, #s 195, 203, 207, 209, 214, 221 and 225, PANS. On exports from other districts in south and eastern Cape Breton see Cape Breton county Agricultural Society Report for 1844, RG8, Vol. 9, #2, PANS., and Frank Howell, "Agricultural Exports From Cape Breton, 1797-1864", unpublished paper, 1980, Ms. 80-70-1100, Beaton Institute, University College of Cape Breton, p. 6.

⁵¹ John B. Moore Account Book, 1848-67, in John B. Moore Diary, Accounts and Records, Micro Biography File, 50-1972, PANS.

farmstead were valued at £300 at this time, twice the average assessed value of real estate and personal property recorded in the Sydney Mines census subdistrict at the the 1851 census (£159), and three times the average for the whole county (£92).⁵² Surpluses of milk, butter, meat, vegetables, and even hay and oats were sold locally, and some cattle were shipped by packet along the Bras D'or lake to St. Peter's.⁵³ Despite "moderately stony" till-based soils, the steady demand for food in these communities allowed Moore to expand his farming operation and improve his patrimony.⁵⁴ By 1871 he owned 150 acres of land (70 more than in 1856), one-third of which was cleared, and, in addition to the dozen sheep and 2 cattle "killed or sold" during the censal year, his livestock herd consisted of 7 "milch cows", 5 "other horned cattle", 4 sheep, 1 swine and 2 horses.⁵⁵ Farmer John B. Moore of North Sydney, Cape Breton, earned enough profit from his farm to finance mortgages and to speculate in land; he was clearly "a man of standing" in mid-nineteenth Cape Breton.⁵⁶

Hardwood Hill (Pictou County) Case Study

A case study of one rural community in the farming zone can provide some insight into the influences which lay behind these meso-scale production patterns. In addition, it offers an opportunity to examine more closely than hitherto economic as well as

⁵² Stephen Hornsby, "An Historical Geography of Cape Breton Island in the Nineteenth Century", Ph.D. Thesis, The University of British Columbia, 1986, p. 221; and Census of Nova Scotia, 1851, RG1, Vol. 453, PANS.

⁵³ John B. Moore Account Book, 1848-67, in John B. Moore Diary, Accounts and Records, Micro Biography File, 50-1972, PANS.

⁵⁴ Hornsby, "An Historical Geography of Cape Breton Island in the Nineteenth Century", p. 221.

⁵⁵ Census of Canada, 1871, manuscript schedules, census subdistrict # 3, Nova Scotia, Division 1, p. 2, line 17, PANS.

⁵⁶ Hornsby, "An Historical Geography of Cape Breton Island in the Nineteenth Century", p. 223.

demographic, social and cultural aspects of life in a representative mid-nineteenth century farming community.⁵⁷ Characterized by a series of undulating hills - the largest of which was "Hardwood Hill" at 475 feet or so above sea level - this district encompassed approximately 40 square miles, stretching from Durham along the West River to Poplar Hill in the northwest (Figure 4-8). The town of Pictou lay only a mile or so away from the northeastern boundary of the district; the rural communities of Green Hill and Roger's Hill lay to the south, River John to the west and Cariboo to the north. Largely sheltered from the southerly and easterly storm winds by the "southern upland" and the Cobequid Mountains, Hardwood Hill generally experienced slightly warmer summer temperatures and lower precipitation levels than most other districts of the farming zone (excepting those in Kings County) which facilitated the production of wheat and other grains. Although there was little intervale land in Hardwood Hill (only a few hundred acres of low-lying bottom land stretched along the western margin of West River), much of the upland in the district is still today considered "fair to moderately high in productivity for a fair range of crops", and only two small tracts of land in the area are considered by modern land use surveys to have "little or no capability for arable cultivation or permanent pasture" due to

⁵⁷ Although Hardwood Hill was more recently settled than some of the Annapolis-Cornwallis valley census subdistricts, the timing of its settlement was typical of most agricultural settlements in Colchester, Cumberland, Antigonish, Inverness and Cape Breton Counties. Furthermore, production figures for several key variables (improved acres, hay and potatoes and cattle, sheep and swine) were sufficiently close to the provincial average to make this area, at least in statistical terms, an average farming community. Finally, because the manuscript agricultural schedules of the censuses of 1851, 1861 and 1871 are complete it is possible to accurately locate the farmsteads of the majority of the families residing in Hardwood Hill in 1851 by linking information contained in these records with historical county maps published by A.F.W. Church in 1864 and J. H. Meacham and Company in 1879. On the timing of settlement in this census subdistrict see Norman Nicholson, "Rural Settlement and Land Use in the New Glasgow Region" Geographical Bulletin 7 (1955), pp. 38-64; and D. Campbell and R. A. MacLean, Beyond the Atlantic Roar: A Study of the Nova Scotia Scots (Ottawa: McClelland and Stewart Ltd., 1974), pp. 81-6.

Figure 4-8, Improved Land in Hardwood Hill, Pictou County, 1851



either excessive wetness or stoniness ("Big Bog" near Dufferin and a small patch of land in the vicinity of Black Brook).⁵⁸

Early settlers were attracted to the bottom lands along West River and the hardwood-covered uplands, especially those areas drained by a sizeable stream or brook. Consequently, rural settlement became concentrated in three main areas: along the western margin of West River, along the road leading over "Scotch Hill" and on both sides of the roads leading over "Hardwood Hill" (Hardwood Hill Road and the Sawmill Brook Road). The stands of maples, beech and yellow birch in these upland areas were generally considered good indicators of productive agricultural soils and the streams which drained these areas offered fresh water and potential mill sites. In addition, these roads were important links in the early nineteenth century land transportation network. The two roads over "Hardwood Hill" led to Roger's Hill where they met the first overland route opened to Truro; the road over Scotch Hill connected River John and the settlements along the West Branch of that river more directly to the town of Pictou than the "Shore Road"; and the road along West River provided the settlements of Green Hill and West River, as well as some of the backland settlements, direct access to the county seat.⁵⁹

There was little immigration into Hardwood Hill after 1840; thus the district's demographic growth at mid-century was largely determined by natural increase. Still, population growth rates were high and families large. There were 50 births recorded in the district in the year prior to the taking of the 1851 census and only 10 deaths, and, excluding single boarders, renters and sons who were listed as separate heads of households, and others with no immediate family from the figures, the average family numbered 7 persons. Nearly a third of the entire population of the district (32 percent) was under ten years old in

⁵⁸ Canada Land Inventory, Soil Capability for Agriculture Truro, 11 E (Ottawa: Queen's Printer, 1967).

⁵⁹ Campbell and MacLean, Beyond the Atlantic Roar, p. 48.

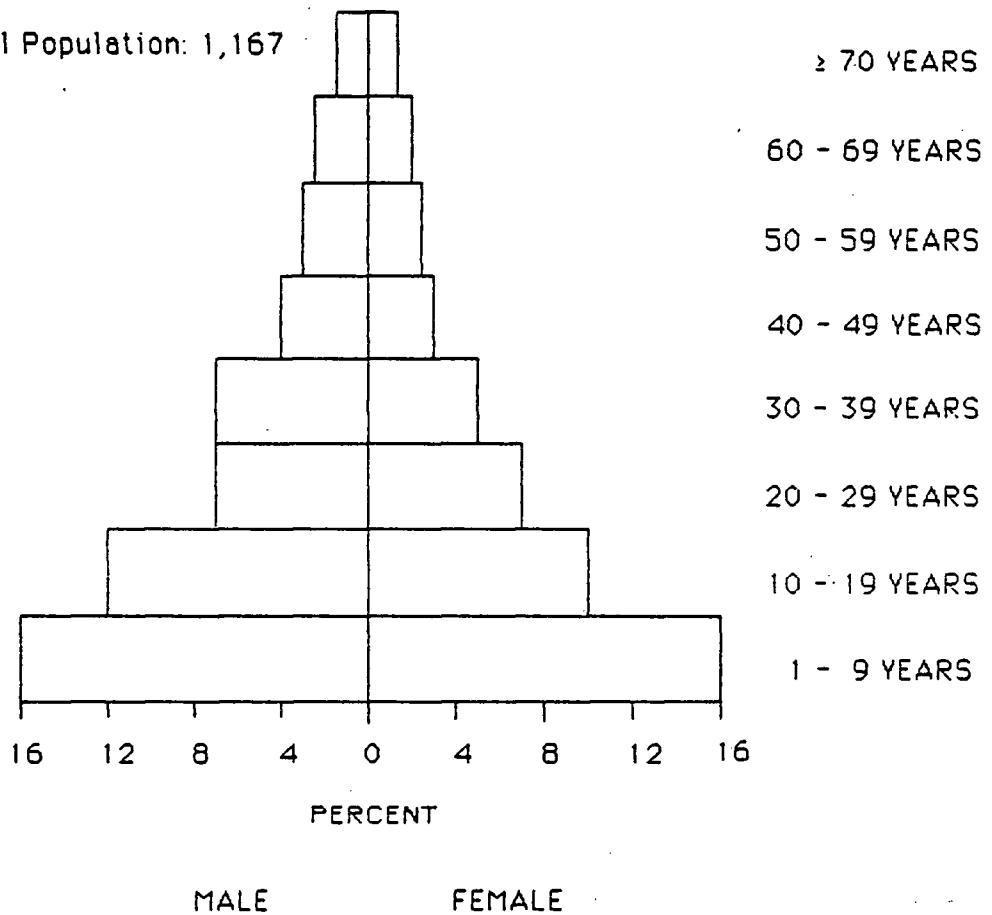
1851 and a further 23 percent was under twenty (Fig. 4-9).⁶⁰ Therefore, Hardwood Hill's population was still growing. However, the age-sex structure of the district suggests that demographic growth was nearing its peak. A comparison of the male and female age cohorts 10-19 and 20-29 indicates that the male portion of the 20-29 age cohort accounted for a smaller proportion of Hardwood Hill's total population than might be expected given the number of males in the 10-19 age group. In other words, there were fewer males than females who were between 10 and 19 years of age in 1841 still remaining in Hardwood Hill at mid-century. As there is no evidence of abnormally high mortality rates among males, this suggests that outmigration from the area was already underway before the 1851 census was taken. Subsequent census evidence corroborates this; despite the district's high rate of natural increase, Hardwood Hill's population in 1861 was slightly lower than in 1851 and a small amount of improved farmland was abandoned during the 1850's.

In cultural terms though, Hardwood Hill remained predominantly Scottish and Protestant reflecting the origins of the district's pioneers. Even though a clear majority of the area's residents were by now native-born, most were of Highland Presbyterian extraction and they continued to align themselves with the various branches of Presbyterianism either carried to or developed in Nova Scotia (the Church of Scotland, the Free Church and the Presbyterian Church of Nova Scotia). Less than 10 Catholic families resided in the district, approximately the same number belonged to the Church of England, and only four families listed themselves as either Baptist or Quaker. Although only one church, served by a minister from Pictou, was enumerated in the district (the Kirk of Scotland near Scotsburn), we know that some families regularly attended services in Pictou and other nearby communities and that open-air services were periodically held during the

⁶⁰ This age-sex profile is remarkably similar to that of Gore township in Peel County, Ontario in the mid-nineteenth century. D. Gagan, and H. Mays, "Historical Demography and Canadian Social History: Families and Land in Peel County, Ontario", Canadian Historical Review 54, 1 (1973), pp. 28, 47.

**Figure 4-9, Demographic Profile of Hardwood Hill,
Pictou County, 1851**

Total Population: 1,167



summer months.⁶¹ In addition, it is likely that itinerant clergy occasionally held services in peoples' homes or in one of the six schools enumerated in the district in 1851 as was the case elsewhere in central and eastern Nova Scotia.⁶² Presbyterianism, however, was "a religion of both the home and the church" and bible reading, prayer sessions and the regular blessing of meals were as much a part of the weekly regimen of life in Hardwood Hill as the Sabbath was dutifully respected as a day of rest.⁶³

Like other Scottish immigrants to British North America, Hardwood Hill's families placed a high priority on education. The six schools of the district had a collective enrollment of 220 children (nearly one-fifth of the total population) in the decade before the "Act for Compulsory Education" in Nova Scotia was passed. Even though these schools were of the one-room variety, were chronically short of equipment and learning aids (ie. maps, dictionaries, libraries and even chalk boards) and were periodically closed to allow children to work at the sowing or the harvest, they supplied most families of district with basic reading and writing skills, and, for a smaller number of promising students, they provided the essential qualifications to attend one of the county's institutions of higher learning (Pictou Academy established in 1805, Pictou Theological School founded in 1820, West River Seminary founded in 1848).⁶⁴ Owing to the contributions of individuals such

⁶¹ John Murray, of Hardwood Hill, was a member of the First Church in Pictou; New Rhynie Farm Diary and Accounts, 1853, MG 100, Vol. 194, #16, PANS. For a discussion of the first open-air service held in Pictou County see Campbell and MacLean Beyond the Atlantic Roar p. 202. For a detailed description of one held by Highland Presbyterians near Englishtown, Victoria County see C.H Farnham "Cape Breton Folk" Harpers New Monthly Magazine LXXII (December, 1885-May, 1886), pp. 607-25; reprinted (in part) in Impressions of Cape Breton, ed., Brian Tennyson (Sydney: University College of Cape Breton Press, 1986), pp. 213-16.

⁶² P. J. MacKenzie Campbell, Highland Community on the Bras d' Or (Antigonish: Casket Publishing, 1978), pp. 94-97 and Mildred Burrows, The History of Wittenburg (Saint Andrews), Colchester County, Nova Scotia (Truro: Colchester Historical Museum, 1978), pp. 38-39.

⁶³ Campbell and MacLean, Beyond the Atlantic Roar, p. 200; John Murray, New Rhynie Farm Diary and Accounts, 1853, MG 100, Vol. 194, #16, PANS.

⁶⁴ Campbell and MacLean, Beyond the Atlantic Roar, pp. 205-208.

as Thomas McCulloch and James McGregor to the development of both Presbyterianism and education in Pictou County, it is generally recognized that Pictou's educational system was far more advanced at mid-century than most other counties of the province.⁶⁵ Indeed, the first Superintendent of Education for Nova Scotia, who was also a key figure in establishing the Normal College at Truro (in 1854) for the training of provincial teachers, was well known Pictou County "sgolear" John W. Dawson. Ironically, however, due to the success of this educational system which was steeped in English traditions the Gaelic language which had been the mother tongue of most of the county's pioneers was abandoned much earlier here than elsewhere in eastern Nova Scotia.⁶⁶ By 1851, most of Hardwood Hill's residents spoke English, though it was undoubtedly interspersed with Gaelic terms and spoken with a Gaelic intonation. All diaries and commercial records examined for mid-nineteenth century Pictou County were written in English.

Wherever settlers chose to locate in the district the most serious obstacle they faced was clearing the forest. Land clearing was a slow and arduous process which typically spanned several generations. On an annual basis farmers cut underbrush from areas selected for clearing and gathered it into piles; next the best pine and birch were felled and hauled out of the woods; finally cordwood for fuel and poles for fencing were obtained before the rest of the wood was cut and left to dry in preparation for burning the following summer, sometimes with the help of neighbors participating in a "rolling frolic".⁶⁷ The

⁶⁵ Ibid. pp. 120-67; see also D. C. Harvey, "The Intellectual Awakening of Nova Scotia, Dalhousie Review 13 (1933), pp. 1-22; reprinted in Historical Essays on the Atlantic Provinces, ed., G. A. Rawlyk (Toronto: Mc Clelland and Stewart, 1967), pp. 99-121.

⁶⁶ Campbell and MacLean, Beyond the Atlantic Roar, p. 148.

⁶⁷ This describes the manual labour involved in rolling "the chopping" into piles for burning (and sometimes reburning). According to Abraham Gesner, "this labor [was] frequently performed by assembling the nearest neighbors, who assist[ed] each other". The "rolling frolic" usually ended in a dance, aptly called "shaking off the charcoal". The Industrial Resources of Nova Scotia, p. 191. This is virtually identical to the "Yankee Method" of land clearing described by Martin Primack in "Land Clearing Under Nineteenth Century Techniques: Some Preliminary Calculations", Journal of Economic History 22, 4

following spring potato or grain crops could be planted amid the stumps which continued to be "an unavoidable evil ... till the large roots decay".⁶⁸ Only after several years of strenuous toil did the "slovenly appearance" of recently cleared land⁶⁹ give way to the "undulating and romantic appearance" of well-cultivated fields.⁷⁰

It is impossible to know precisely what the annual rate of clearing was in Hardwood Hill during the early nineteenth century owing to the paucity of early census data, but if county rates are representative, then considerably less than one acre per year, on average, was cleared from every farm between 1827 and 1851.⁷¹ This rate of clearing is not at odds with that estimated for Upper Canada during the early nineteenth century.⁷² According to the most optimistic estimates for land clearing under nineteenth century conditions, the maximum acreage a family in Nova Scotia might hope to clear in any one year, if clearing remained a priority, was 4 or 5 acres.⁷³ Thus, even though Hardwood

(1962), p. 485. For other descriptions of land clearing in nineteenth century Nova Scotia see: Moorsom, Letters From Nova Scotia, pp. 204-05; H. Brown, Valley of the Remsheg: A History of Wallace Bay (Wallace: North Cumberland Historical Society, Publication # 4, 1973), pp. 5-6; and J. L. Martin, The Ross Farm Story: A Brief History of Agriculture in Nova Scotia With Particular Emphasis on Life on the Small Upland farm (Halifax: Nova Scotia Museum, Historical Series # 2, 1974), pp. 7-8.

⁶⁸ Isabella Lucy Bird, The Englishwoman in America (London: John Murray, 1856; reprinted, Madison: University of Wisconsin Press, 1966), p. 28.

⁶⁹ Gesner, The Industrial Resources of Nova Scotia, p. 191.

⁷⁰ A. Spedon, Rambles Among the Bluenoses, p. 196.

⁷¹ Improved land in Pictou county increased from 49,181 acres in 1827 to 101,449 acres in 1851, or an average of 2,178 acres per year. In 1851 there were more than 3,300 farms enumerated in Pictou county; Statistical Returns for Nova Scotia, 1827, RG1, Vol. 446, # 131, PANS; Census of Nova Scotia, 1851, RG1, Vol. 453, PANS.

⁷² Several of the fifteen townships in Upper Canada examined by Peter A. Russell between 1812 and 1842 had rates of land clearing similar to those in Hardwood Hill; "Upper Canada: A Poor Man's Country? Some Statistical Evidence", Canadian papers in Rural History 3 (1982), pp. 129-147.

⁷³ Herbert Crosskill, Nova Scotia, Its Climate, Resources and Advantages, Being a General Description of the Province for the Information of Intending Immigrants (Halifax: Charles Annand, 1872), p.35. This annual rate of clearing would require at least 33 days

Hill had been settled for more than half a century in 1851, only 25 percent of the 18,000 acres or so of occupied farmland was "improved".⁷⁴ Nevertheless, all but 28 of the 189 households enumerated in the district in 1851 recorded some improved land and nearly three-quarters of the labour force regarded themselves as farmers.

Among those not enumerated as farmers were two merchants, thirty-seven mechanics (including tanners, blacksmiths, shoemakers), two teachers and one fisherman, but nearly one-third of this group also recorded some improved land. Those without any land under cultivation included several single and married individuals who were still residing with their parents (but who were listed as separate heads of households in the census) and a larger number of mechanics who were likely employed seasonally at the nine mills and factories clustered at dam sites scattered throughout the district (two grist mills, two sawmills, two tanneries, one weaving and carding establishment and two much less heavily capitalized undesignated factories). This small group, who for the most part, owned no real estate, formed a pool of surplus labour which could also be tapped by Hardwood Hill's farmers during the crucial bottleneck of the harvest. That no clergyman, physician or hostelry owner resided permanently in the district reflects Hardwood Hill's proximity to the town of Pictou where these and other services were widely available.

Aggregate census data tell us that the average holding in Hardwood Hill comprised 120 acres of which only 23 were improved and that, in total, real estate and personal property averaged £257 per household. But farm size and value varied considerably around these averages. Of the 161 farms in Hardwood Hill in 1851, one-quarter had less than 15 acres improved and were estimated to be worth, on average, £185; nearly one-half

of full-time labour according to Martin Primack, "Land Clearing in the Nineteenth Century", p. 491.

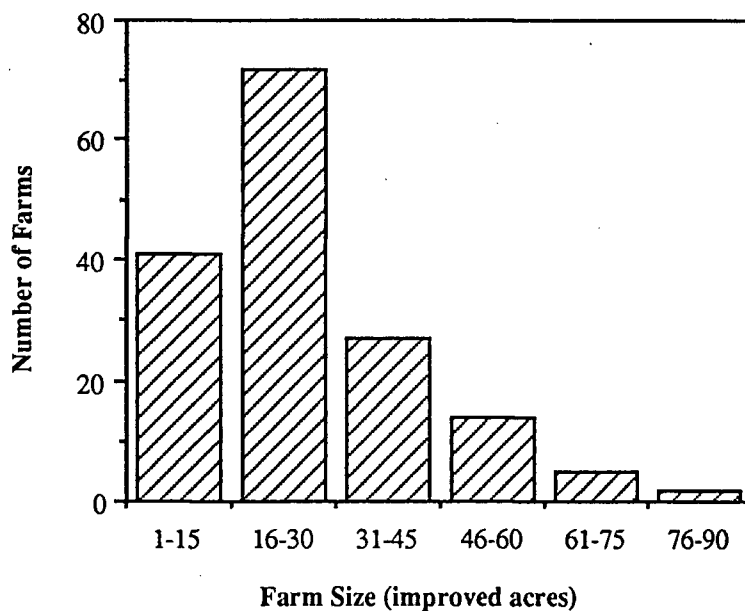
⁷⁴ The amount of "occupied farmland" is not recorded in the 1851 census. The figure used is an estimate based on the 1861 figure minus the percentage increase in improved land between 1851 and 1861; Census of Nova Scotia, 1851, RG1, Vol. 453, PANS, Census of Nova Scotia, 1861, RG1, Vol. 453, PANS.

had between 16 and 30 acres, with an average value of £269; and most of the remaining quarter recorded between 31 and 60 acres of improved land (with an average net worth of £437). Only five farms had between 61 and 70 improved acres and two, 90 acres each; yet the average value of these larger operations was only slightly higher than those in the 31-60 acres category (Figure 4-10). This illustrates that, for the most part, farms were small; 70 percent of all farm holdings (113) had 30 improved acres or fewer and less than 5 percent had more than 60.

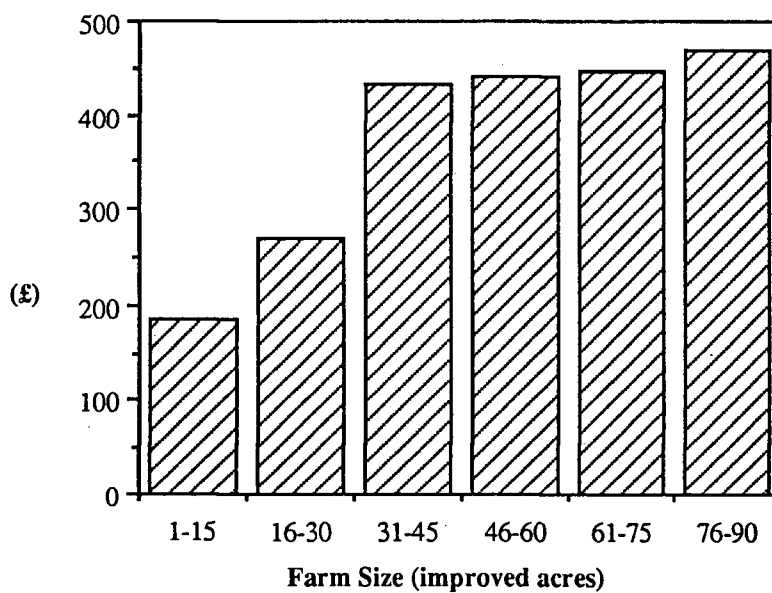
A significant portion of Hardwood Hill's smallest farms were operated by mechanics and others who combined working off the farm or plying a trade with semi-subsistent farming. Of the district's 41 farms with 15 or fewer improved acres, 13 were operated by mechanics, so called, 3 were owned by widows (one of whom was a teacher) and one was worked by the district's only fisherman. These holdings varied considerably from tiny garden plots and hay meadows (of an acre or so in total), most of which were operated by widows whose family farms had already been passed along to an heir or heirs, to larger clearings of between 8 and 15 acres. Regardless of size, however, these operations had one common characteristic; they performed a subsidiary subsistence function. William Ross, for example, had 8 acres of a 75 acre lot near Quarry Brook improved in 1851. But this farm supplied little more than fodder and pasture for the 2 cattle and one pig that he owned. There were no "table crops" enumerated on this farm in 1851 and the only household commodity of any significance was 100 pounds of butter which had been churned from the milk supplied by one cow. Clearly the bulk of Ross' time was devoted to the production of agricultural implements and vehicles, the output of which was estimated to be worth £100; he was essentially a rural craftsman. The farms of John Fullerton, who owned a tannery on the West River Road, George and Jacob Miner, who operated grist and carding mills near the intersection of Little Caribou River and the River John Road and Edward Frehil, who produced £50 worth of shoes at his home near Logan's Brook, functioned in the same manner. All of their holdings comprised between

97a
Figure 4-10, Farm Size and Average farm Value
in Hardwood Hill, Pictou County, 1851

Farm Size in Hardwood Hill, 1851



Average Farm Value in Hardwood Hill, 1851



Source: Census of Nova Scotia, 1851, RG1, Vol. 453, PANS.

10 and 15 acres improved which were principally devoted to hay, oats and pasture for several animals (typically 3 or 4 cattle, 1 horse, a few sheep and 1 pig); the amount of land devoted to root crops and other grains was minimal and production negligible.⁷⁵ Undoubtedly the production of these small holdings had to be supplemented either through the purchase of basic foodstuffs (and sometimes hay and fodder) or by the exchange of labour, goods or services for needed items.

A small number of farms in this size category, however, were worked very intensively. Although Hugh MacDonald's 70 acre lot on the West River Road had only 15 acres improved, its productivity was impressive. This farm produced 10 tons of hay, 32 bushels of wheat and barley, 100 bushels of oats and 90 bushels of potatoes and turnips, which meant that nearly all of MacDonald's improved land would have been in cultivation the previous season. Still, despite the lack of improved pasture on this farm -- a corollary of such intensive cropping -- MacDonald somehow managed to keep a herd of 12 cattle, a flock of 10 sheep, 1 horse and 1 pig. This operation was clearly different from the subsidiary semi-subsistence farms described above and it is likely that a substantial portion of the 350 pounds of butter and cheese made by the MacDonald family as well as some of the meat and other farm products would have entered the local market. Nonetheless, the half a dozen farms whose size and output were similar to this operation were exceptional; on average, farms with 15 improved acres or fewer had just six and one-half acres under cultivation, most of which was planted in hay and oats in an attempt to meet the fodder demands of the 4 cattle, 4 sheep and 1 pig which were kept (on average). Only half of the families with farms in this size category owned a horse, which meant that unless a draft animal of some sort (either a horse or an ox) was periodically borrowed or rented little more than a kitchen garden and some pasture could be maintained. Thus, it seems likely

⁷⁵ John Fullerton and Edward Frehil, for example, did not even raise potatoes on their farms.

that the majority of farms with 15 or fewer improved acres found it necessary to supplement the production of their farms with food and fodder produced elsewhere. Along with the 28 households that recorded no improved land these farms would have generated a significant demand for such local surpluses of hay, oats, vegetables and other farm products as were available.

The clear majority of Hardwood Hill's small farms had between 20 and 30 acres improved and they were generally much more productive than the farms in the 15 improved acres or less category. The 72 farms in this group averaged nearly three times the amount of cropland as the smaller farms and recorded, on average, more than twice as many livestock; furthermore, nearly three-quarters of them had 2 horses or more. These operations were clearly less dependent upon neighbouring farms for basic foodstuffs and fodder than the smaller farms discussed above. Still, as was the case elsewhere in colonial British North America and the United States total self-sufficiency was the exception and not the rule, and labour, implements and draft animals, as well as food and fodder were periodically borrowed, exchanged and purchased in the continuing struggle to attain a "comfortable subsistence".⁷⁶ Given mid-nineteenth century consumption estimates, the majority of farms in this size category could have generated small surpluses of meat and butter, and because all of them contained large woodlots, timber, logs, tanning bark and firewood undoubtedly accounted for a significant percentage of total farm sales.

Farms with 30 acres or more of improved land had much greater commercial potential than those below this threshold. The clear majority of these farms (41) were in the 31 to 60 acres improved size category; three-quarters of which had between 40 and 50

⁷⁶ Sarah McMahon, "A Comfortable Subsistence: The Changing Composition of Diet in Rural New England, 1620-1840", William and Mary Quarterly 42 (1985), pp. 26-51; Winnifred Rothenberg, "The Market and Massachusetts Farmers, 1750-1855", Journal of Economic History 41, 2 (1981), pp. 283-314; Carole Shammas, "How Self-Sufficient Was Early America?", Journal of Interdisciplinary History 13, 2 (1982), pp. 247-72; and Robert Gross, "Culture and Cultivation: Agriculture and Society in Thoreau's Concord", Journal of American History 69, 1 (1982), pp. 42-61.

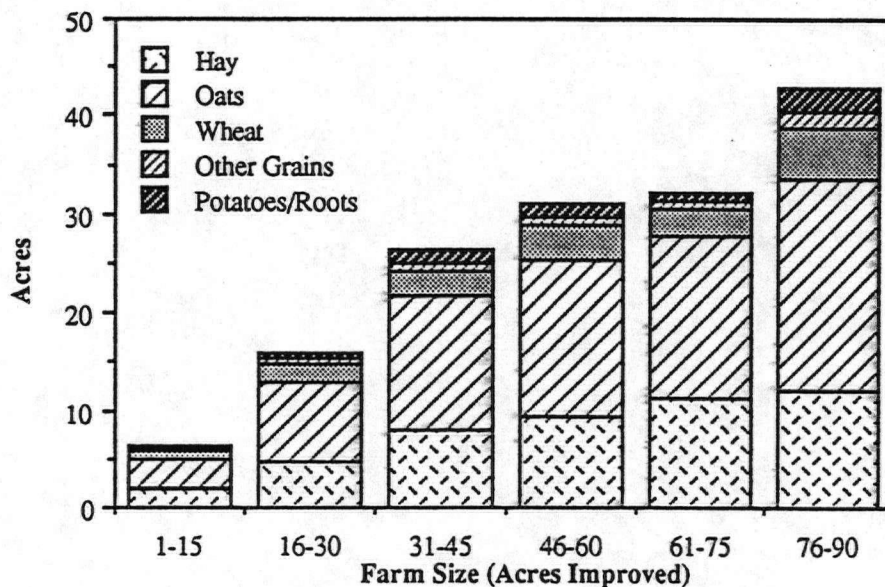
acres improved, eight, less than 40 and only two more than 50. Only John Murray of "New Rhynie" farm had 60 of his 112 acre lot improved. The majority of these farms were situated along the West River, beside the upper reaches of Sawmill Brook and near the top of "Hardwood Hill" (Figure 4-8); nearly all of them had river or stream frontage. On average, these farms had 28 and one-half acres planted in crops, the bulk of which was in hay (8 and one-half acres) and oats (14 and one-half acres); the remaining 5 and one-half acres was devoted to a combination of wheat, barley, potatoes and turnips (Figure 4-11). This indicates that the average farm in this size category devoted almost 80 percent more land to hay and oats than did farms with between 16 and 30 acres improved, yet on average, only one-third more livestock were kept (4 more cattle, 3 more sheep and roughly the same number of swine and horses). Even allowing for superior feeding practises on these farms, these figures suggest that Hardwood Hill's large farms had the ability to produce fodder surpluses which would have found a ready market in the local area due to the sizeable number of smaller units recording fodder deficits. The bulk of the table crops raised undoubtedly supplied family requirements first, but any surpluses of potatoes, oats, barley and other crops produced could also be sold or traded locally or hauled to Pictou for sale. Although it is impossible to know precisely what the total saleable surplus from this group of farms was, we know that 25 percent or so of John Murray's farm sales consisted of potatoes, flour and oatmeal, and that at least several farms in this size range generated similar amounts of potatoes, wheat and oats.⁷⁷

Still, as was the case elsewhere in eastern Nova Scotia, livestock and animal products were the principal commodities of Hardwood Hill's commercial farms. Just two of the 13 cattle kept on the average farm with between 31 and 60 acres improved, along with one of the two swine raised could have adequately met the meat requirements of a

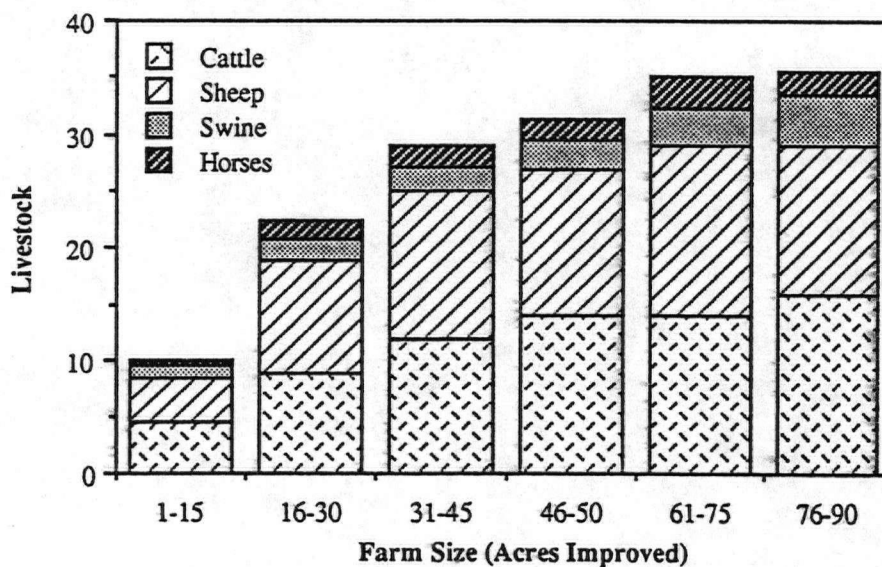
⁷⁷ John Murray's farm sales totalled £69.14.4 (or roughly \$340 Halifax currency) in 1853. 'New Rhynie' Farm Diary and Accounts, 1853, MG 100, Vol. 194, #16, PANS.

Figure 4-11, Average Cropland and Livestock in Hardwood Hill, By Farm Size, 1851

Average Cropland per Farm in Hardwood Hill, 1851 (by size of unit)



Average Livestock Per Farm in Hardwood Hill, 1851 (by size of unit)



Source: Census of Nova Scotia, 1851, RG1, Vol. 453, PANS.

typical family. The milk necessary for the 354 pounds of butter churned in the home (70 percent more than estimated consumption requirements for mid-nineteenth century Upper Canadian families) was supplied by 4 cows. Along with that portion of the 13 sheep kept, on average, which were not retained for breeding or wool production, these surplus animals suggest considerable commercial potential.

Only seven farms in Hardwood Hill had more than 60 acres improved in 1851. All of them were located on the south side of Beech Hill near the West End of Hardwood Hill Road (Figure 4-8). They varied considerably in size and shape (ranging from 110 acres to 250 acres) and all of them had river or stream frontage. Farmhouses stood well back from the road and the irregular shape of land holdings stood in marked contrast to the more orderly rectangular lots which stretched back from the West River, suggesting that no formal land survey preceded settlement in this portion of the district. Unfortunately we know little to date about land distribution and alienation in early Pictou County. Although we know that crown land continued to be granted until the late 1820s, most of the preferred farming sites had already been occupied by this period; thus, the majority of Hardwood Hill's farm occupants in 1851 would have had acquired their land either through purchase or via an inheritance. Given the state of land improvement on these six large holdings near Beech Hill, it seems likely that they were among the earliest settled lots in the district.⁷⁸

The average for the seven farms in this size category was 75 improved acres, of which more than half was under cultivation (38 acres). Land use averaged 12 acres of hay, 19 acres of oats, 5 acres of wheat and "other grains" and 2 acres of potatoes and turnips, as

⁷⁸ The "frontland-backland" distinction described by Stephen Hornsby for mid-nineteenth century Cape Breton where, "most of the commercial farms on the island were on frontland" and "the farms on the backland were mainly subsistence operations", many of which "did not provide even a bare subsistence" is not as clearly visible in Hardwood Hill; see "Migration and Settlement: The Scots of Cape Breton", in Geographical Perspectives in the Maritimes ed. D. Day, (Halifax: St. Mary's University, 1988), p. 21. This is most likely due to Pictou County's generally better climate and soils which made backland lots more attractive than in Cape Breton, as well as Hardwood Hill's proximity to the town of Pictou which provided an outlet for such surpluses as could be generated.

well as a kitchen garden and several apple trees. The remaining improved land was devoted to pasture for the 15 cattle, 14 sheep, 4 swine and 2 horses which were kept (on average). The commercial potential of this handful of large farms is obvious.

The "New Rhynie" and Woodworth Farms

A comparison between one of Hardwood Hill's farms and an Annapolis-Cornwallis valley farm illustrates the scale of commercial agriculture in mid-nineteenth century Nova Scotia as well as the differences in land use and commercialization between two important sections of the farming zone. John Murray's "New Rhynie" farm fronting on Haliburton Stream near the northwest edge of the town of Pictou and Nathan Woodworth's farm near Canning, Kings County each contained just over 100 acres in 1851. These owners were similar in age (Murray was 58 years old and Woodworth was 66), both kept diaries, and their families did not differ greatly in size.⁷⁹ John and Jane Murray had five children at home (four sons and one daughter) while Nathan and Julia Woodworth had three (two sons and one daughter). Yet, their farms differed significantly in land use.

Of the sixty acres improved on "New Rhynie" farm, thirteen were under hay, eighteen were in oats, and five and one-half acres were planted in wheat. Barley accounted for another acre, turnips another two and a half and potatoes and beans about one-half acre each. The remaining 19 acres consisted of improved pasture and some smaller meadows of

⁷⁹ John Murray, 'New Rhynie' Farm Diary and Accounts, 1853, MG 100, Vol. 194, #16, PANS; Nathan Woodworth Diary, 1844-62, MG 1, Vol. 2460, PANS. John Murray (1793-1873) emigrated from Aberdeenshire, Scotland to Halifax in 1817. After two years spent working in and around Nova Scotia's capital Murray departed again, this time for the West Indies where he worked for fourteen years. Shortly following his return to Nova Scotia in 1833 Murray purchased two unimproved lots of land totalling 112 acres from Pictou merchant Robert Dawson for the sum of £220.10.0 (a sizeable sum by nineteenth century standards). Even though both lots had to be mortgaged just several months after Murray married Jane Irvine of Mount Thom in the summer of 1835 (perhaps to help finance land clearing) "New Rhynie" farm, as Murray called it, had 60 improved acres in 1851. Less is known about the background of Nathan Woodworth (1785-1866). We know that he was born in Nova Scotia, that he was married a second time following the death of his wife Sarah Baxter in 1830, and that he may have received his land via an inheritance.

timothy and clover. Clearly, much of this land was used to produce fodder for the 22 cattle, 2 horses, 25 sheep and 2 swine which were kept. The seven "milk cows" of the 22 head of cattle produced nearly 500 lbs. of butter and 100 lbs. of cheese.

Of the 40 improved acres on the Woodworth farm sixteen and a half acres were under hay, only five were planted in oats and less than half an acre was used to produce wheat. Land devoted to barley, buckwheat and turnips collectively totalled about three-quarters of an acre, and to rye and Indian corn one and one-quarter acres each. As elsewhere in the Annapolis-Cornwallis valley, potatoes were clearly of commercial significance; six acres were devoted to their cultivation. Livestock was much less important on the Woodworth farm than on the Murray farm; 13 cattle were kept, there was 1 horse, and 6 sheep supplied meat and wool for cloth made with the family's hand loom. Two cows supplied milk for family consumption and for the production of 50 lbs. of butter.

For most mid-nineteenth century farm operations such as those described above it is extremely difficult to determine precisely how much farm output actually entered local and external markets. Recent studies in agricultural history, both in the Maritimes and in Central Canada, have endeavored to develop a satisfactory methodology for measuring surplus (and deficits) from available census data⁸⁰ but seldom have we been offered the opportunity to examine individual farm sales in as much detail as we can for the Murray and Woodworth farms. John Murray, who was active in the local community, kept meticulous farm records which precisely document farm sales and purchases while Nathan

⁸⁰ John Isbister, "Agriculture, Balanced Growth and Social Change in Canada Since 1850: An Interpretation", Economic Development and Cultural Change 25, 4 (1977), pp. 673-697; Frank Lewis and Marvin McNinn, "Agricultural Output and Efficiency in Lower Canada, 1851", Research in Economic History 9 (1984), pp. 45-87. Alan MacNeil, "A Reconsideration of the State of Agriculture in Eastern Nova Scotia, 1791-1861", M.A. Thesis Department of History, Queen's University, 1985; and Rusty Bittermann, Robert MacKinnon and Graeme Wynn, "Of Inequality and Interdependence in the Nova Scotian Countryside, 1850-1870", Paper Presented at the Atlantic Canada Studies Conference, The University of Maine at Orono, May, 1990.

Woodworth religiously recorded his own and his son's business transactions in his diary. From these sources we can obtain a clear picture of the type, value and volume of farm sales from mixed farms with distinct commercial emphases in different parts of Nova Scotia's farming zone.

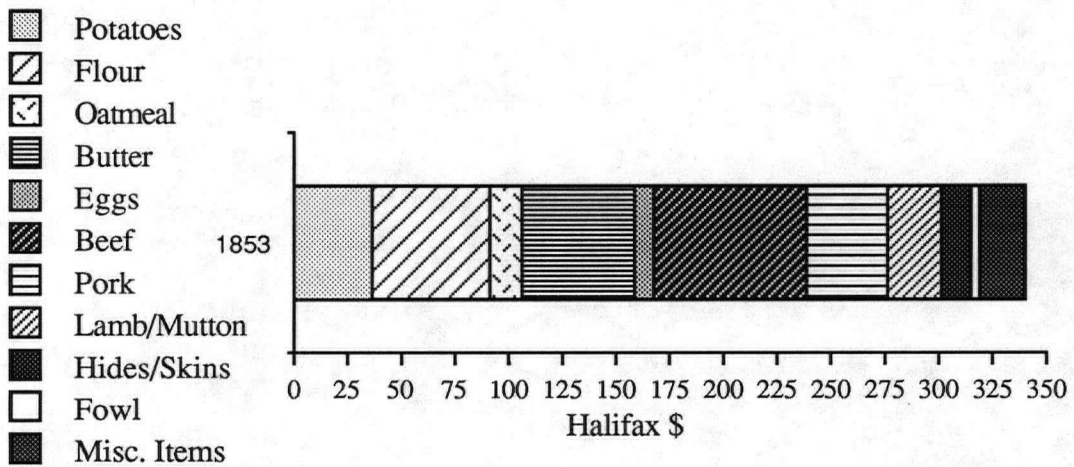
John Murray's accounts indicate that between January and December, 1853 he sold farm commodities valued at £69.14.4 or roughly \$340.00 Halifax currency (Figure 4-12).⁸¹ Slightly more than two-thirds of farm sales consisted of animal products including 300 lbs. of butter (60 percent of that produced), 1,200 lbs. of beef (3 carcasses), 625 lbs. of pork (11 carcasses), 300 lbs. of lamb (12 1/2 carcasses), some hides and skins and 8 "pairs of fowl. The remaining £22. of sales (\$107 Halifax currency) included 70 bushels of potatoes, 15 hundredweight of flour and 6 hundredweight of oatmeal. Though Murray marketed this produce year round, sales peaked in October, November and February, reflecting the seasonality of the harvest and the timing of animal slaughtering on his farm. All commodities were sold either nearby in Hardwood Hill or in the town of Pictou. Certainly a significant portion of the returns from farm sales were reinvested in the farm through purchases of crucial farm inputs such as seeds, implements and hired labour, household articles, and other items such as sugar, molasses, tea and whiskey. Still, farm sales exceeded total household purchases in 1853 by £23 or \$112.00.⁸²

Nathan Woodworth's diary records a remarkably similar volume of farm sales despite the smaller size of his operation. Between January and December, 1850

⁸¹ Murray's farm sales were double Alan MacNeil's estimate of the net value of production (per farm) for Pictou county reflecting Murray's position as one of Pictou County's most prosperous farmers. His net worth was estimated at the 1851 census to be £800; MacNeil, "A Reconsideration of the State of Agriculture in Eastern Nova Scotia" p.65; Census of Nova Scotia, 1851, RG1, Vol. 453, PANS.

⁸² Farm sales and purchases recorded by Murray were not dissimilar to those recorded in New England farmers' diaries and accounts examined by Clarence Danhof in, "The Farm Enterprise: the Northern United States, 1820-1860s", Research in Economic History, 4 (1979), p. 141.

Figure 4-12
John Murray's New Rhynie Farm Sales, 1853

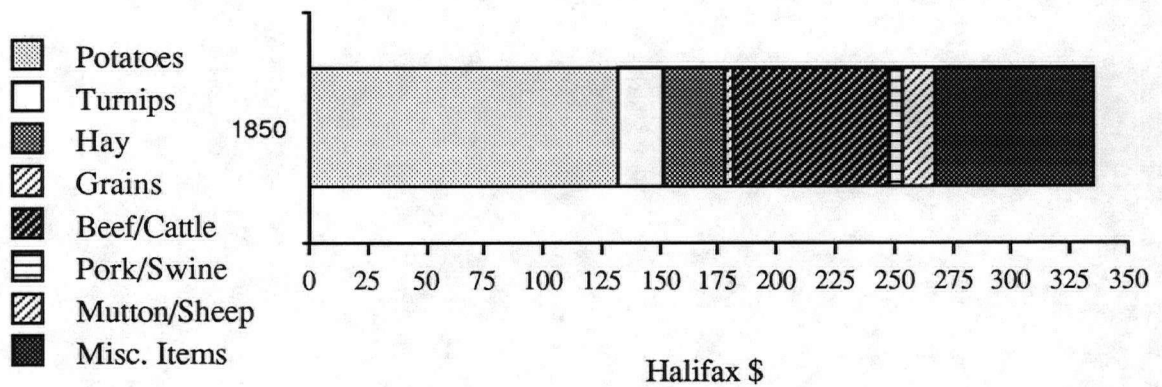


Woodworth marketed farm products valued at £68.15.7 or roughly \$335.00 Halifax currency (Figure 4-13).⁸³ But the mix of farm commodities and the markets in which they were sold differed considerably from those of Murray's "New Rhynie" farm. More than half of all commodities sold by Woodworth consisted of field crops, including 340 bushels of potatoes (about 60 percent of the total produced), 73 bushels of turnips, 3 tons of hay and 7 bushels of buckwheat, oats and corn combined. Livestock and animal products -- consisting of 80 lbs. of pork, 100 lbs. of mutton, 3 sheep and 1 ox -- accounted for 25 percent of total sales (£17.15.2 or \$86.52 Halifax currency); timber, cordwood, and several miscellaneous items, including ballast stones and "some shad" (collectively totalling £13.15.10 or \$67) made up the remainder of Woodworth's sales. In contrast to Murray, most of Woodworth's surplus was sold in distant markets. The potatoes, turnips and grains marketed by Woodworth were sold for export and all of the mutton and pork was sold in Halifax some sixty miles away.⁸⁴ The timing of Woodworth's farm sales was similar to that of Murray's except that, given Woodworth's emphasis on potatoes, sales were more concentrated during the fall when schooners loaded potatoes at local wharves for shipment to New England. Nearly 40 percent of Woodworth's sales took place during the month of October. The Woodworth's were slightly more dependent on off-farm purchases of foodstuffs, household articles and farm inputs (including livestock and

⁸³ The more intensive use of smaller operations has been noted in recent studies of farms in the northeastern United States and Canada East in the mid-nineteenth century. See J. Atack and F. Bateman, "The Profitability of Northern Agriculture in 1860", Research in Economic History 4 (1979), pp. 87-125; Idem., "Self Sufficiency and the Marketable Surplus in the Rural North, 1860", Agricultural History 58, 3 (1984), p. 308; and Lewis and McInnis "Agricultural Output and Efficiency in Lower Canada, 1851", pp. 45-87.

⁸⁴ Although the bulk of Woodworth's produce was shipped to market aboard schooners from the wharves near Canning and Kingsport, one overland marketing trip to Halifax was made in January. See entry for 30 January, 1850, Nathan Woodworth Diary, 1844-62, MG1, Vol. 2460, PANS.

Figure 4-13
Nathan Woodworth's Farm Sales, 1850



labour) than the Murray family. In 1850 farm sales exceeded purchases by only £16 (or \$78 Halifax currency).⁸⁵

These farm records clearly illustrate the type of mixed farming which prevailed across Nova Scotia's farming zone. That such a wide array of products entered both domestic and external markets from the Murray and Woodworth farms is entirely congruent with the evidence of widespread and diverse sales from the farms of mid-nineteenth century Central Canada.⁸⁶ Yet, the differences in the composition of farm surpluses sold by Murray and Woodworth highlight the variability which existed in different parts of the farming zone, even among operations whose total sales (by value) were roughly similar. Pictou, a town of 3,000 people, offered farmers in its hinterland a steady market for commodities such as butter, eggs, meat and milk (even though Murray does not appear to have sold fluid milk) which could be produced and marketed year round. Fresh vegetables and other farm and household products (e.g. wood, leather, candles, shoes) could also be sold periodically. In addition, despite the considerable volume of flour and grain imported annually, local grist mills ground local grain into flour and meal for the Pictou market and Pictou's six breweries generated some local demand for barley. "New Rhynie" farm was ideally situated with respect to this market for it was close enough to the town of Pictou for John Murray to remain constantly aware of local market conditions. Indeed, Murray's diary indicates that some farm sales only took place after market conditions were

⁸⁵ Nathan Woodworth Diary, 1844-62, MG1, Vol. 2460, PANS. Sometimes additional harvest labour was paid in kind, rather than in cash, as in 1856 when William Richards was paid in poultry and meat for a few days of labour on the Woodworth farm. During the bottleneck of the potato and grain harvests in mid September, the Woodworth's required one or two additional farm hands each day for several days. See Nathan Woodworth Accounts for 1856 and diary entries for September, 1850.

⁸⁶ Douglas McCalla, "The Internal Economy of Upper Canada: New Evidence on Agricultural Marketing Before 1850", *Agricultural History* 59, 3 (1985), pp. 397-416; F. Lewis and M. McInnis "Agricultural Output and Efficiency in Lower Canada, 1851", pp. 45-87.

assessed.⁸⁷ Still, though this gave Murray and his neighbours a clear advantage over farmers whose farms were situated further from the town, no farmer was immune from price or demand swings in a local market sometimes glutted with farm produce from elsewhere.⁸⁸

In Kings County to the west there was no comparable local market for farm products. As a result, farmers such as Nathan Woodworth concentrated on commodities that could withstand long distance transport. Firewood, salt meat and butter comprised a sizeable proportion of many schooner cargoes departing local ports, but potatoes were clearly the region's commercial staple. Travelling through the "valley" in 1853 travel writer William Chambers noted:

the most profitable culture at present is that of potatoes, which are exported in prodigious quantities to the United States. Various small havens in the Bay of Fundy offer ready means for their export, which has lately been so remunerative, that farmers who were before in difficulties have cleared off the mortgages on their properties.⁸⁹

Hauled to the wharves of Canning, Port Williams and Kingsport in Kings County, or "scowed" downriver to Bridgetown and Annapolis, "early blues", "white calicoes", "reds" and other variety of potatoes were loaded aboard vessels for shipment to Boston, New York and vicinity.⁹⁰ The high prices for agricultural products prevailing after the

⁸⁷ The entry of 16 February, 1850, "went to town to learn the state of the market" was followed two days later by "went to market with a carcass of beef". John Murray, 'New Rhynie' Farm Diary and Accounts, 1853, MG100, Vol. 194, #16, PANS.

⁸⁸ John Murray's diary entry of 7 June, 1853 reads, "went to market with a carcass of pork" and "came home without selling it." And, after searching in vain again for a buyer the next day, Murray notes, "brought home the pork, could not sell it, salted it". John Murray, 'New Rhynie' Farm Diary and Accounts, 1853, MG100, Vol. 194, #16, PANS.

⁸⁹ Harvey, "A Friendly Scot Looks at Nova Scotia in 1853", p. 97.

⁹⁰ A series of letters between William Elliott, Commission Merchant of Boston, and his brother Joseph Elliott, farmer, of Clarence, Annapolis county, between 1838 and 1860 describe this trade in detail. Each letter includes a detailed assessment of the Boston market for agricultural products. MG1, Vol. 1362, #s 1-50, 1838-60, PANS; see also H. G. Longley, "A Historical Comparison of Commodities, Prices and Customs in the Annapolis

disasterous harvests of the mid-1840s in eastern North America generally provided the stimulus for this trade and long standing social and commercial connections between the valley and New England facilitated it. Furthermore, because Annapolis-Cornwallis Valley farms were less effected by the potato blight than elsewhere in Nova Scotia⁹¹ farmers there had an initial advantage in this market. But, as harvests began to recover during the 1850s, there was more intense competition in New England markets from other potato growing areas.⁹² Still, Valley farmers continued to ship potatoes to New England as well as to the West Indies and, under the stimulus of the Reciprocity Treaty signed in 1854, increasingly devoted larger proportions of their cultivable land to this crop. Between 1851 and 1855

Valley", Nova Scotia Agricultural College Paper, dated 1932-33, p. 7; in A. H. Clark Papers, MG1, Vol. 1518, #7, PANS.

⁹¹ Estimates of the proportion of the potato crop effected with rot in 1845 made for the Central Board of Agriculture by agricultural society representatives from across the province indicate that some of the Kings County societies reported much less rot than elsewhere in the province. The Cornwallis and West Cornwallis Agricultural Societies, for example, reported that only one-half and one-third of their respective crops showed evidence of the blight whereas many other societies across the province reported more than three-quarters of the crop devastated (especially throughout the eastern districts of Sydney County and Cape Breton Island) Agricultural Society Report for Cornwallis for 1845, RG8 Vol. 9, #37, PANS. Later, as the situation worsened, the Legislature appointed a "Committee for the Relief for Poor Settlers" which distributed between £3,000 and £4,000 per annum for seed and food to needy settlers. See Robert J. Morgan "'Poverty, Wretchedness and Misery': The Great Famine in Cape Breton, 1845-1851", Nova Scotia Historical Review 6, 1 (1986), pp. 88-104; and Stephen J. Hornsby, "An Historical Geography of Cape Breton Island in the Nineteenth Century", Ph.D. Thesis, The University of British Columbia, 1986, pp. 175-190.

⁹² The correspondance between William Elliott, Commission Merchant of Boston, and his brother Joseph Elliott, farmer of Clarence, Annapolis county clearly illustrates this point. In a letter dated 21 March, 1851 William remarked to his brother, "potatoes are very scarce [in Boston] and good ones are selling at 90¢ per bushel [3/8]. I think you cannot do wrong to buy up all the potatoes you can at 2/1, 2/6 or even 3/ per bushel if they are very fine and free from rot, and of good size, but I would not recommend your buying heavy at over 2/6... I will join you in the speculation and I think we can make money out of it. ... It is important to get them here [as] early as possible before they begin to arrive in large quantities from Prince Edward Island." Elliott Family Papers, MG1, Vol. 1332, #26 PANS. A. H. Clark, in Three Centuries and the Island: A Historical Geography of Settlement and Agriculture in Prince Edward Island (Toronto: University of Toronto Press, 1959) notes, "there are frequent references to poor potato crops in the 40s in the journals of the island Assembly and Legislative Council, but these disappear in the next decade." p. 104.

potato production on Nathan Woodworth's farm, for example, nearly quadrupled (from 600 to 2,200 bushels) and sales in this latter year topped 1,800 bushels, worth £270 (almost four times the value of total farm sales in 1850). Clearly such changes were of "boom" proportions with wider social and economic repercussions throughout the region -- shipbuilding and trade were stimulated, fertility rates increased and the population of Kings County grew rapidly during the 1850s -- but by the end of the 1850s prices had returned to earlier levels and production had stabilized at a relatively high level.⁹³ In 1861 potato production on Nathan Woodworth's farm was less than in 1855 but two and one-half times that of 1851.

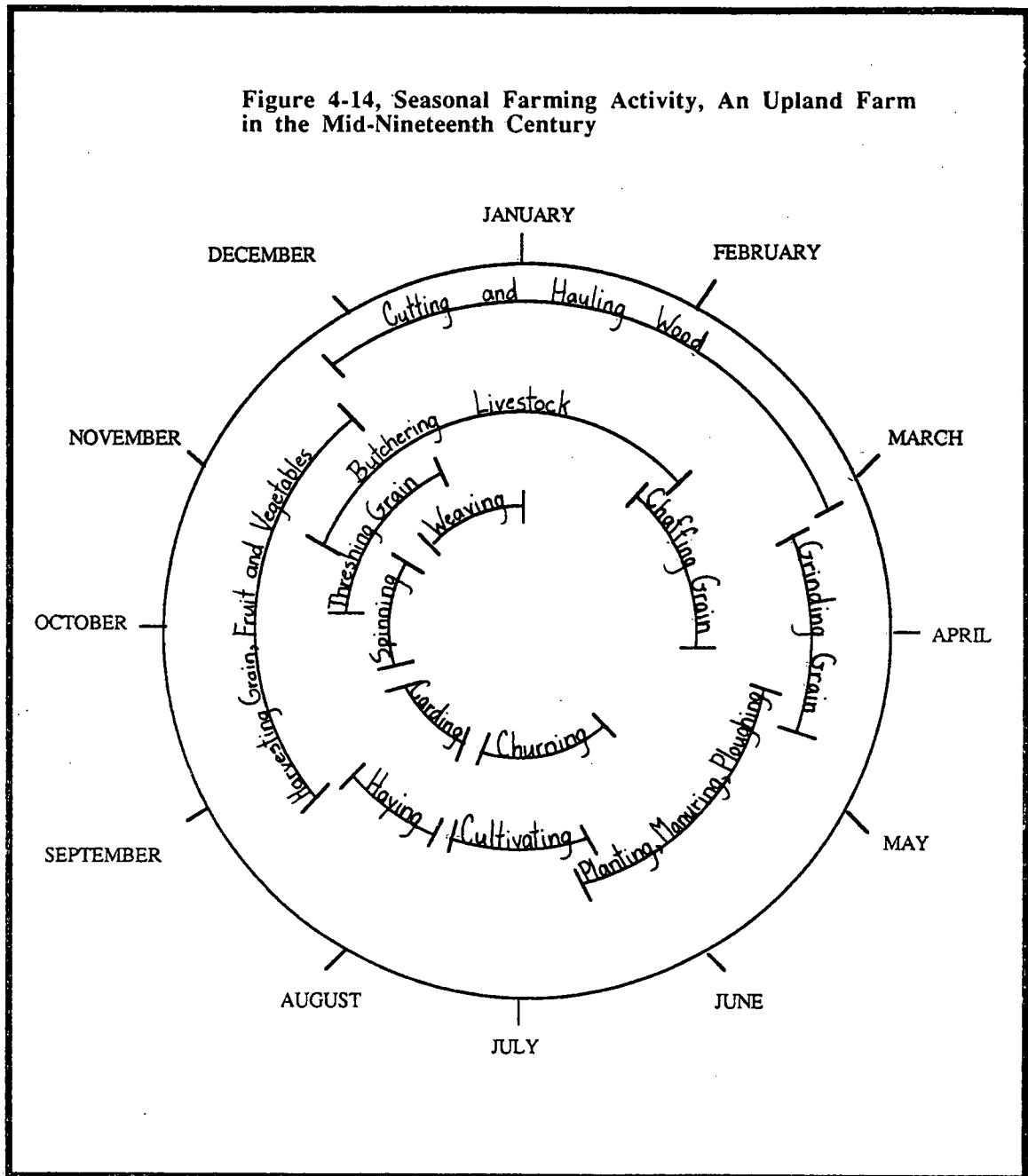
The Seasonal Round

Regardless of farm size or location the regimen of work associated with agriculture in the farming zone organized most people's lives. By the first of July planting was finished on most farms which allowed for a brief respite from intensive field work before haymaking began (Figure 4-14).⁹⁴ But hands were never idle. In addition to their regular household chores, women and children spent some of their time in the recently-planted fields, pulling weeds and thinning crops, a routine which was pleasantly interrupted by the wild strawberry harvest later in the month. Men also worked periodically in the fields but spent the bulk of their time preparing tools and equipment for the hay harvest, mending fences and roads and doing odd jobs on and off the farm. John Murray, of New Rhynie farm, for example, devoted a considerable amount of time during the early weeks of July to "hauling slabs" for fence repairs, carting ashes from town for compost, "mending the box

⁹³ Alan A. Brookes, "The Golden Age and the Exodus: The Case of Canning, Kings County", *Acadiensis* 11, 1 (1981), pp. 61-2.

⁹⁴ John Murray, of New Rhynie farm, for example, finished planting the last of his crops on 24 June, 1853 (turnips), and haymaking commenced on 20 July, 1853; 'New Rhynie' Farm Diary and Accounts, 1853, MG100, Vol. 194, #16, PANS.

Figure 4-14, Seasonal Farming Activity, An Upland Farm in the Mid-Nineteenth Century



cart," "building a shade for the pigs" and hauling freight for neighbors.⁹⁵ In the evenings he was occupied "cobbling old boots". Occasionally these activities were interrupted by a house or barn raising frolic, which brought several families together for a day of work, an evening meal and a subsequent party.⁹⁶

With scythes sharpened, and fitted with new snaths (if necessary), rakes repaired and pitch forks fitted with new handles, haymaking usually began towards the end of the month. John Murray was typical of most Nova Scotian farmers in that he "commenced to cut the hay" on July 20, 1853 during a spell of "hot and dry" weather. Three days later, after it had been turned several times with pitch forks, to aid in drying, raked into windrows and piled into cocks, the first load was ready to be hauled to the barn.⁹⁷ On smaller farms the family usually supplied the bulk of the labour necessary for the hay harvest: "the men forked the hay from the cocks to the wagon, while the women and children ... gathered the scatterings"; occasionally a neighbor helped out.⁹⁸ Haymaking bees or frolics were rare because all farm families in a rural area were engaged in haymaking at the same time⁹⁹. On larger operations, however, especially those with 10

⁹⁵ On 1 July, 1853 Murray was engaged in "hauling sand" for a mason from Pictou; two weeks later he "took 27 barrels to James River" for his neighbor Thomas Harris (who was a cooper); and between 15 July and 18 July Murray hauled stones for a Mr. Daniel Fraser. The only financial record of these activities is a payment of 8 shillings made to Murray for "hauling 100 barrels to Pictou". 'New Rhynie' Farm Diary and Accounts, 1853, MG100, Vol. 194, #16, PANS.

⁹⁶ John Murray's diary makes no reference to either a house or barn raising frolic; the timing of these activities is estimated from Nathan Woodworth's farm diary (see entry for 28 June, 1850, MG1, Vol 2460, PANS) and J. L. Martin "Farm Life in Western Nova Scotia Prior to 1850" Collections of the Nova Scotia Historical Society 37 (1970), p. 72.

⁹⁷ For a fuller description of this pre-industrial process see Daniel R. Porter "Making Hay: Only When the Sun Shines", The Occasional 10, 2 (1980), pp. 8-10.

⁹⁸ J. L. Martin, "Hay and Grain on the Small Pioneer Farm in Nova Scotia", Unpublished paper, 1982, Nova Scotia Museum, Halifax, Nova Scotia, p. 17.

⁹⁹ Porter, "Making Hay", p. 12.

acres or so cultivated in hay, hired help was essential. John Murray, for example, had a labourer assist his family with the hay harvest on at least two occasions.¹⁰⁰ Often interrupted by "dull", "hazy", or "rainy" weather which hindered the drying process, haymaking usually took about a month to complete. The last load of upland hay produced on "New Rhynie" farm was forked from the wagon to the mow on August 17, 1853.

By this date farmers had already begun to make a start on the oats and barley and by the end of the month most of the grain raised had been cut, stooked and hauled to the barn. Although the scythe and sickle remained the most common harvesting implements, grain cradles had already appeared on some of the larger farms. John Murray, for example, found it necessary to make "new hinges" for "the grain cradle" before he could begin "craddling the wheat" on August 23, 1853.¹⁰¹ Again family members supplied the bulk of the labour necessary for the grain harvest; men cut a swath through the grain using a sickle or cradle, and, if it was to be stooked, women followed behind after it had dried, binding the sheaves into stooks using several stalks of grain as a straw cord. While there is no evidence that Murray needed additional labour to harvest his grain in 1853, it is likely that labourers were periodically hired on larger operations in an effort to complete the harvest as quickly as possible before inclement weather approached. By September 4, 1853 John Murray had finished reaping and binding all of the oats, barley and wheat produced on "New Rhynie" farm.

The month of September saw Nova Scotian farmers primarily engaged in digging potatoes and harvesting garden crops and fruit, though they also found time to continue with fence repairs, to haul "top dressing" out to the fields and to complete odd jobs such as

¹⁰⁰ 25 July, and 30 July, 1853, 'New Rhynie' Farm Diary and Accounts, 1853, MG100, Vol. 194, #16, PANS.

¹⁰¹ 18 August, 1853, Ibid.

"the cobbling of old boots" and shoes.¹⁰² In addition, if the farm contained marshland or natural meadows, wild grasses were cut, dried and stacked at this time. By early October most families had cut their marsh hay and harvested their potatoes, garden vegetables (corn, carrots and beets) and fruit (apples and plums).

Women also helped with the fruit and vegetable harvest but they were kept especially busy during this time of the year with spinning and dying yarn for cloth production. Before the fleece was ready for spinning it had to be washed and dried in the sun, cleaned of any twigs or burrs and carded, either by hand or at the local mill, in order to straighten the strands of wool so it could be formed into rolls for spinning.¹⁰³ Each step in the process was extremely time consuming. If the wool was carded by hand approximately one to one and one-half pounds of wool per day was the maximum a person skilled with a card could accomplish.¹⁰⁴ Given that most farm families who kept sheep would have had at least a few fleeces (each weighing from 4 to 6 lbs.) requiring carding and spinning, meant that at least several days of effort was devoted to carding alone. Only those who could afford the cost involved took their wool to the local carding mill.¹⁰⁵ John Murray's records indicate a payment of 11 shillings 2 pence to have the wool produced on 'New Rhynie' farm carded during August and September of 1853.¹⁰⁶ If flax was raised

¹⁰² See entries in 'New Rhynie' Farm Diary and Accounts for 9, 26, 29 and 30 September, 1853, Ibid.

¹⁰³ Burrows, The History of Wittenburg (Saint Andrews) p. 35.

¹⁰⁴ Judy Boss, The Restoration of the Wile Carding Mill (Halifax: Curatorial Report # 28, Nova Scotia Museum, 1975), p. 12.

¹⁰⁵ Carding mills generally charged 2 pence to card one lb. of wool. Ibid., p. 17.

¹⁰⁶ This suggests that Murray had 67 lbs. of wool carded; 'New Rhynie' Farm Diary and Accounts, 1853, MG100, Vol. 194, #16, PANS.

for linen, it also needed to be processed in a similar manner; it was hacked and scutched, and then combed before spinning could take place.¹⁰⁷

Spinning was even more time-consuming than carding. A woman skilled with a spinning wheel could produce approximately 5 skeins of yarn a day if she devoted all of her time to the work (which many surely could not).¹⁰⁸ Calculating the number of skeins necessary to produce the amount of cloth enumerated in Hardwood Hill in 1851, for example, indicates that many families required upwards of 75 skeins of yarn, which would have taken at least two weeks of full-time work to spin. Again, because this task was so labour-intensive, those who could afford to do so hired a skilled spinner to complete it, as did Jane Murray of "New Rhynie" farm. Her husband's diary entry of September 16, 1853 notes "Margaret Ann Fraser came here to spin", and a month later the farm account book records a payment of 10 shillings (\$2.44 Halifax currency) made to this woman "for spinning 67 skeins of yarn".¹⁰⁹

Once the fleece had been converted into yarn it was then dyed using indigo purchased from a local merchant or other natural substances which could be obtained from the farm (goldenrod, onion skins, hemlock chips) before it could be knitted or woven into stockings, mittens, scarves, sweaters and other articles (quilts and rugs).¹¹⁰ Knitting and darning were year round activities, done whenever a woman "had a moment to spare," and

¹⁰⁷ For fuller descriptions see J. H. Dickson, "Flax", in A Cyclopedia of Agriculture, Practical and Scientific; in which the Theory, the Art and the Business of Farming, are Thoroughly and Practically Treated, ed., John C. Morton (Glasgow, Edinburgh and London: Blackie and Son, 1855), pp. 210-12; and J. L. Martin "Farm Life in Western Nova Scotia Prior to 1850", p. 75.

¹⁰⁸ Burrows, The History of Wittenburg, p. 35.

¹⁰⁹ 18 October, 1853, 'New Rhynie' Farm Diary and Accounts, 1853, MG100, Vol. 194, #16, PANS.

¹¹⁰ Mary Sparling, A Guide to Some Domestic Pioneer Skills (Halifax: Nova Scotia Museum, 1974), pp. 7-8.

weaving, which required a loom, was conducted principally during the fall and winter.¹¹¹ Although less than half of those who recorded cloth production in Hardwood Hill in 1851 owned a loom (only 52 looms were enumerated in the district), most either had access to one owned by a neighbor or they hired an experienced weaver to convert the yarn or thread into cloth or linen. Again, Jane Murray of "New Rhynie" farm was relieved of this time-consuming task; the farm account book documents separate payments totalling £1.3.8 (\$5.76 Halifax currency) made to Margaret Irving "for weaving 39 yards of homespun" and to Margaret Campbell "for weaving 32 yards of cloth".¹¹²

Meanwhile, men and boys were engaged in the equally laborious task of threshing and cleaning the grain produced. Beginning in late September or October, this activity continued until at least Christmas on most farms, and for those with larger acreages devoted to grain, it lingered on until spring. On small farms the grain was still being threshed by hand in a centuries old manner using a flail.¹¹³ Sheaves of wheat, buckwheat or barley were placed on the barn floor where they were beaten with the flail to separate the grain from the straw or husks. The grain and chaff were scooped up with a wooden shovel and the straw was forked aside and saved for use in bedding, for the making of hats and especially for fodder. The chaff was later winnowed from the grain by using either a linen sheet or a shallow "winnowing basket."¹¹⁴ A shovelful of grain, placed in the sheet or basket, was tossed in the air, allowing the husks and bits of straw to blow away. If flailing

¹¹¹ Burrows, The History of Wittenberg, p. 36.

¹¹² The rate of pay for weaving was, therefore, 4 pence per yard. See entries for 4 November, 1853, and 3 January, 1853; 'New Rhynie' Farm Accounts, 1853, MG100, Vol. 194, #16, PANS.

¹¹³ This was a very simple implement which consisted essentially of two round sticks attached together with a leather thong. The shorter stick (referred to as the swingle) was swung over the operators head and brought down on the grain lying on the barn floor.

¹¹⁴ Essentially a shallow basket with a screen or sieve bottom. For a sketch see Martin, The Ross Farm Story, p. 18.

and chaffing (or winnowing) were done during the same day, a single worker could thresh by hand no more than 5 or 6 bushels of grain.¹¹⁵ Once winnowed the grain was stored in bags, barrels or bins, depending upon whether it was to be used for grinding, for seed or for feed.¹¹⁶

By 1850, however, the use of threshing machines and fanning mills had already begun to facilitate the threshing process; threshers of one or two horse power, and hand cranked winnowing machines had been produced in Kings County as early as 1841 and in Pictou County in 1843.¹¹⁷ These were portable machines with a capacity to thresh and clean up the 120 bushels of grain per day if operated without interruption.¹¹⁸ But, due to the high costs involved, only the wealthiest farmers could afford to either own or rent such equipment.¹¹⁹ Although John Murray of New Rhynie Farm did not own mechanical threshing and cleaning equipment, he was willing to pay dearly to have his grain threshed mechanically. On three occasions in October and November of 1853 Murray hired a portable two horse-powered "threshing mill", along with 2 horses familiar with the machine and a hired man and boy to operate it for the sizeable sum of £4.0.0 (representing roughly 6 percent of his total income). This allowed Murray time to get an early start on his fall ploughing, to build a new fence and to begin clearing brush and stones from his fields. In addition he could begin taking the already threshed and dressed grain to the local

¹¹⁵ Leo Rogin, The Introduction of Farm Machinery and its Relation to the Productivity of Labor in the Agriculture of the United States During the Nineteenth Century (Berkeley: University of California Press, 1931), p. 179.

¹¹⁶ Burrows The History of Wittenburg, p. 28.

¹¹⁷ Martin, The Ross Farm Story, p. 17.

¹¹⁸ Rogin The Introduction of Farm Machinery, p. 183.

¹¹⁹ The purchase price of a one horse-powered thresher in the early 1840s was £40; an accompanying winnowing machine could cost an additional £5; Martin, The Ross Farm Story, p. 21.

grist mill and thus, could begin to market any flour or oatmeal made much earlier than his neighbors who would have still been engaged in flailing and winnowing their grain.¹²⁰ But the principal advantage for those who could afford the use of such equipment was that it was labour saving.

Throughout November and December threshed and chaffed grain was taken to the local grist mill where it was converted into flour or meal.¹²¹ The more primitive mortar and pestels and "hand querns" used earlier in the century to grind grain had, by 1850, largely given way to water-powered gristmills, which were found in virtually every district of the farming zone, distributed at intervals of about 15 miles apart.¹²² Dependent upon water levels in local streams and rivers these mills generally began operating in late September or early October and ran until ice forced their closure in December or January. They generally resumed operations in March, after the spring break-up, and worked until planting time in late May or early June.¹²³ Not all of the grain raised, however, was intended for meal or flour. Just as John Murray "put up for the horses and cows" 5 bushels of barley, a considerable quantity of oats and other grains (buckwheat and peas) was always set aside for animal fodder.¹²⁴ Consumption estimates suggest that roughly

¹²⁰ The "New Rhynie" Farm Accounts for 1853 record the sale of 3 hundredweight of flour on 12 October for £2.11.0. Such an early sale of locally ground wheaten flour would have been nearly impossible to accomplish if Murray's grain was threshed by hand.

¹²¹ One bushel of oats yielded between 15 and 16 lbs. of oatmeal; one bushel of wheat generated between 37 and 42 lbs. of flour; and 1 bushel of barley returned 25 lbs. of pot barley. See entries for 17 December, 20 December, 22 April, and 25 April, 'New Rhynie' Farm Accounts, 1853, MG100, Vol. 194, #16, PANS.

¹²² Estimated by Ken Gilmour, in "Grist Mills in Nova Scotia", Paper Presented at Annual Staff Training Seminar, Ross Farm Museum, New Ross, Lunenburg County, 12 May, 1987.

¹²³ James Barry Diary and Mill Records, Six Mile Brook, Pictou County, 1849-50, MG1, Vol. 1222, PANS; and Martin, "Farm Life in Western Nova Scotia Prior to 1850", pp. 75-76.

¹²⁴ 19 December, 1853, 'New Rhynie' Farm Diary, MG100, Vol. 194, #16, PANS.

50 percent of the oats raised in some Nova Scotian farm communities were intended for human consumption, leaving the other half for animal fodder and seed.¹²⁵

Trips to and from the mill interrupted such seasonal tasks as pulling turnips and cabbages, cleaning and scraping drains, picking stones and spreading dung, which occupied a great deal of time during the month of November. When these tasks were completed livestock slaughtering commenced. This was an especially important task owing to the commercial significance of livestock on most of Nova Scotia's farms. The butchering was generally undertaken by male members of the household; only occasionally did a neighbour provide some assistance in exchange for foodstuffs, for labour or for cash. John Murray, for example, had two neighbours helping with the killing of 2 cows and 2 pigs on two separate occasions; however, the farm account book records a payment of 2/6 (60¢ Halifax currency) to only one of the individuals involved.¹²⁶ Presumably Murray's indebtedness to the other individual was cleared in some unrecorded way. Once the meat was dressed it was either carted to the nearest domestic market for sale immediately, as was the case on New Rhynie farm where almost all of the pork, one-third of the mutton, one-half of the beef and more than three-quarters of the turkeys, ducks and geese sold in 1853 entered the market between late October and the end of December, or it was cured and barrelled for home use and for shipment to distant markets.¹²⁷ Using cash or credit received for those items which were sold, farmers settled accounts with local merchants,

¹²⁵ Rusty Bittermann, "Economic Stratification in a Cape Breton Agricultural Community in the Nineteenth Century: A Production/Consumption Approach", Paper Presented to the Atlantic Canada Workshop, 25 September, 1985, University College of Cape Breton, Sydney, Nova Scotia.

¹²⁶ 28 November, 1853, 'New Rhynie' Farm Accounts, MG100, Vol. 194, #16, PANS.

¹²⁷ A mid-nineteenth century recipe for curing beef was as follows: "For one cwt. of beef, take 3 1/2 gallons of water, 5 pounds of salt, 1 ounce of salt petre and 1 tablespoon of pepper and boil all together. Have the meat well packed. Throw this on boiling hot. Cover up quick and tight and leave until cold". Michael Sibley Diary and Account Book, 1850-75, St. Andrews (Wittenberg), Colchester County; cited in Burrows, The History of Wittenberg, p. 25.

purchased provisions and household articles and paid off other debts (ie. mortgages, loans, county assessments). By mid-December root cellars were nearing their capacity with barrels of salt pork and beef, stores of molasses, flour, oatmeal, dried fish and butter, and bins full of potatoes, carrots, turnips and apples.

As the weather grew colder the house was "banked" with boughs and clay to provide protection from the winter winds; the cutting and hauling of firewood, fence poles and saw logs began once again; and, if a field was to be extended or a new one cleared, the underwood (brush, small trees and windfalls) was chopped and piled before the snow arrived. Because livestock began to be stall-fed again in late November or early December farmers spent more time in and about the barn "attending the stock."¹²⁸ Horses and oxen were taken to the blacksmith to be reshod for the winter, sled and sleigh runners were inspected and repaired (if necessary) and firewood was chopped and stacked near the back porch. Afternoons could once again be devoted for such tasks as "cobbling boots and shoes," and "repairing fences". But, as winter storms swept through the district, farmers occasionally found themselves in the same position as John Murray, who on December 29, 1853 "could do nothing outside on account of bade [sic] weather".¹²⁹

Throughout the winter months of January, February and March cutting and hauling fire wood were regular activities on most Nova Scotian farms. The monotony of these activities were interrupted by hunting moose and deer and tending rabbit snares. In addition, because the frozen ground facilitated off-farm travel, interaction with nearby communities increased at this time of the year. The amount of off-farm travel recorded in the Murray and Woodworth diaries peaked between December and February. During the month of February alone, John Murray, recorded 11 off-farm trips, of which 9 were to the

¹²⁸ This is a phrase which appears frequently in John Murray's diary between December and April, 1853. 'New Rhynie' Farm Diary, MG 100, Vol. 194, #16, PANS.

¹²⁹ Ibid.

town of Pictou to market farm produce (butter, eggs, flour and beef). This level of interaction with Pictou was surpassed only during those portions of the summer months when carting and freighting brought Murray to Pictou more regularly (early July).¹³⁰ After every major snowstorm it was incumbent upon every able-bodied male with access to a horse and sleigh to devote a day or so to "breaking roads" in an effort to keep local transportation routes open. If the weather suddenly turned "soft", off-farm travel became virtually impossible. On such days Hardwood Hill's farmers might be found near their barns "chaffing" any remaining threshed, but not yet cleaned grain.¹³¹

As spring approached, saw and grist mills began operating once again, remaining stores of grain were processed into flour and meal, and timber cut through the winter was sawn into lumber and shingles. Areas cleared of valuable timber and intended for cultivation were prepared for burning which ensued in May or June, the "banking" was removed from the house, and livestock were turned into pastures and wooded areas for grazing. By early April implements were being readied for the planting season -- ploughs had to be sharpened, spike tooth harrows repaired and hoes fitted with new handles -- and harness equipment (including traces, whiffletrees and breeching) was inspected, oiled and repaired (if necessary).¹³² John Murray, for example, needed to purchase "new ropes for

¹³⁰ The timing of farm sales reflects the increase in off-farm travel during the winter. During the month of February, 1853, sales from John Murray's New Rhynie farm totalled £8.16.8 (\$43.01 Halifax currency), a level more than 20 percent greater than that recorded in the month of August (even though more daily marketing trips were made during this month). *Ibid.* The largest number of off-farm trips made by Nathan Woodworth and his family in 1850 were recorded in December (20 trips). Nathan Woodworth Diary, 1844-62, MG1, Vol. 2460, PANS.

¹³¹ Even though John Murray hired a portable mechanical thresher to process his grain in October and November, the last of his oats and wheat were not chaffed (or winnowed) until 9 April; 'New Rhynie' Farm Diary, MG100, Vol. 194, #16, PANS.

¹³² Martin, "Farm Life in Western Nova Scotia Prior to 1850", p. 70. The well known "cas chrom (crooked leg or spade), thought to have been used by some of Nova Scotia's Scottish pioneers had long since given way to imported and locally produced ploughs; Idem, "The History of the Plough in Nova Scotia, Part 1", *The Occasional* 8, 3 (1984), pp. 23-7.

the plough reins" and to repair the "cart saddle" before ploughing, manuring and harrowing got underway towards the middle of the month.¹³³ April was also the month when farmers tapped their maple trees and boiled the sap into sugar or syrup.

At the beginning of May the seasonal cycle started over again with the sowing of grain and hay and the planting of potatoes. On recently burned land potatoes were planted amid the stumps using a hoe, or wheat seed was sown broadcast and covered using a "burnt land harrow."¹³⁴ More improved land was ploughed, manured and, on some farms, treated with "top dressing" (compost) or ashes before planting took place. Potatoes, oats and peas were generally the earliest crops sown or planted; the seeding, harrowing and rolling of these fields was usually completed by the middle of May. The sowing of wheat and hay seed followed shortly thereafter, and though this was often interrupted by a few days which were devoted to the washing and shearing of sheep, it was generally completed before the first of June when farmers began to make a start on the cabbage plants and turnips. Planting was generally completed before the last week of June and farmers once again applied themselves to the seemingly endless tasks of mending fences and picking stones while their wives began the tedious but profitable enterprise of churning butter in the kitchen or dairy shed. Those who had not done so earlier, also found time to pay off their "statute labour" on local roads as did John Murray who spent between June 15th and 18th of 1853 "working statute labour on the highway" (presumably West River Road).¹³⁵

¹³³ 23 March, and 11 April, 1853, 'New Rhynie' Farm Diary, MG100, Vol. 194, #16, PANS.

¹³⁴ This was a crude but effective implement for stump strewn fields. It was made from the forked branches of a tree and several angular pieces of wood (called hackers) which were attached to the "crotch" piece. Spikes (or pegs) were hammered through these loose, hanging pieces and angled towards the rear so they would not catch on tangled roots. Drawn by a horse or ox, the triangular shape of this implement enabled it to move easily over rough land and to pass between blackened stumps. For a fuller description see Martin, "Hay and Grain on the Small Pioneer Farm in Nova Scotia", pp. 7-8; for a sketch see Martin, The Ross Farm Story, p.8.

¹³⁵ 'New Rhynie' Farm Diary, MG100, Vol. 194, #16, PANS.

The Domestic Market

Nova Scotia's domestic markets -- consisting of Halifax, Pictou, Yarmouth, and several smaller towns and villages scattered across the colony -- were important outlets for the food, fodder and other products raised on mid-nineteenth century farms. But seldom is it possible to accurately document domestic agricultural trade in any area in the past because products raised and marketed locally often do not appear in official records. However, a census taken in Nova Scotia between 1 July and 31 December, 1848, to ascertain traffic patterns along several of the routes proposed for an Intercolonial Railway line, provides a unique opportunity to examine intra-colonial trade and communication.¹³⁶ All traffic, including vehicles, people, cattle, sheep, swine, crops and wood products (timber, lumber, shingles, stoves, etc.) was counted at three locations in the colony: Archibald Scott's "Ten Mile House", overlooking Bedford Basin, a popular coachstop 10 miles from Halifax,¹³⁷ John Blair's house at Onslow Bridge, at the junction of the Great Eastern and Northern Roads near Truro, and N. H. Embree's house at Fort Lawrence, near the Nova Scotia-New Brunswick border. The enumerators also noted the direction in which the travellers were moving and from where they came, thus providing a measure of traffic along several of the "bye roads" feeding into the main roads surveyed. Unfortunately only the Fort Lawrence enumeration post consistently returned statistics on a monthly basis which indicate the seasonality of movement.¹³⁸ Even more regrettably, the Great Western Road

¹³⁶ This survey was one of three conducted concurrently by the colonial governments of Nova Scotia, New Brunswick and Quebec. See J.H.A.N.S., 1849, Appendix 30, pp. 239, 241-45. For a geographical interpretation of the New Brunswick travel survey completed in the same year see Graeme Wynn, "Moving People and Goods in Mid-Nineteenth Century New Brunswick", Canadian Papers in Rural History, Vol. 6 (1988), pp. 227-39.

¹³⁷ Nova Scotia Heritage Trust, Founded Upon a Rock: Historic Buildings in Halifax and Vicinity (Halifax: Nova Scotia Heritage Trust, 1967), p. 114.

¹³⁸ Figures for September and December of 1848 for "Ten Mile House" were discovered in the manuscript collection of House of Assembly Appendices; these do not appear in the House of Assembly report which was published in J.H.A.N.S., 1849, Appendix 30. See RG5, Series R, Vol. 54, #94, PANS.

that linked Halifax to the agriculturally important Annapolis-Cornwallis Valley, described in 1850 as "continually thronged with loaded vehicles passing and repassing to and from the city", was not included in the census because more limited surveys of traffic were conducted along this route in 1845 and in 1847.¹³⁹ Also excluded were several lesser travelled routes -- the "south and eastern shore" routes, the Musquodoboit-Guysborough section of the Guysborough Road and all Cape Breton Island Roads. Still, the data which are summarized in Table 4-2 indicate that nearly 60,000 people and more than 25,000 vehicles passed the three enumeration houses during the period surveyed.¹⁴⁰

Only a fraction of the vehicles enumerated (less than 3 percent) were stage coaches moving people and mail along the Great Eastern and Great Northern roads; chaises and other light carriages accounted for a larger share (approximately 11 percent), mainly recorded at Ten Mile House which was a popular destination of Haligonians escaping the city for the scenic beauty of Bedford Basin. Loaded wagons and sleds, hauled by either a single horse or a team, clearly comprised the majority of the vehicles counted. Of the 60,000 travellers enumerated in 1848, those in wagons or sleds comprised slightly more than one-half, "footmen" accounted for about one-quarter and "horsemen", another 15 per cent. The remainder of the travellers counted were passengers in stage coaches or carriages. Therefore, a clear majority of the traffic recorded on Nova Scotia's main roads in the mid-nineteenth century was farm-related.

¹³⁹ The Acadian Recorder (Halifax), 9 October, 1850. For a discussion of the earlier surveys conducted along the Great Western Road see George Wightman's General Report, J.H.A.N.S., 1849, Appendix 77, pp. 457-61.

¹⁴⁰ These figures are remarkably similar to data collected at six enumeration posts in New Brunswick during the same period -- 65,000 people and 20,000 vehicles; See Wynn, "Moving Goods and People in Mid-Nineteenth Century New Brunswick", p. 232. If traffic along the Great Western Road in 1848 did not differ considerably from that of the previous fall and winter, then an additional 16,000 people and several thousand vehicles travelled to Halifax along this road in 1848. See George Wightman's General Report, J.H.A.N.S., 1849, Appendix 77, pp. 457-58.

Table 4-2, Movement of People and Commodities at Ten Mile House, Onslow Bridge and Fort Lawrence, 1848

| TEN MILE HOUSE | People | Vehicles | Cattle | Sheep/ Swine | Meal/ Flour (barrels) | Butter (pounds) | Wood Products (feet) |
|--------------------------|---------------|-----------------|---------------|-------------------------|--------------------------------------|----------------------------|-------------------------------------|
| Hants to Halifax | 714 | 559 | 204 | 508 | 2 | 36,000 | 391,000 |
| Musquodoboit to Halifax | 1,582 | 725 | 442 | 937 | 0 | 18,000 | 407,000 |
| Gay's River to Halifax | 968 | 619 | 367 | 1,399 | 36 | 30,000 | 392,000 |
| Shubenacadie to Halifax | 1,764 | 950 | 73 | 1,616 | 35 | 22,000 | 300,000 |
| Truro to Halifax | 1,384 | 628 | 70 | 1,000 | 1 | 24,000 | 81,000 |
| Cumberland to Halifax | 192 | 84 | 64 | 359 | 3 | 12,000 | 1,000 |
| Onslow to Halifax | 272 | 190 | 378 | 71 | 0 | 8,000 | 0 |
| Pictou to Halifax | 279 | 95 | 646 | 724 | 0 | 0 | 0 |
| New Brunswick to Halifax | 121 | 23 | 0 | 0 | 0 | 0 | 0 |
| SUBTOTAL | 7,276 | 3,873 | 2,244 | 6,614 | 77 | 150,000 | 1,572,000 |
| Halifax to Hants | 664 | 509 | 79 | 8 | 238 | 0 | 0 |
| Halifax to Musquodoboit | 1,496 | 852 | 93 | 15 | 422 | 0 | 0 |
| Halifax to Gay's River | 977 | 694 | 34 | 24 | 828 | 0 | 0 |
| Halifax to Shubenacadie | 1,757 | 921 | 81 | 112 | 486 | 0 | 0 |
| Halifax to Truro | 1,406 | 743 | 1 | 13 | 765 | 0 | 0 |
| Halifax to Cumberland | 193 | 126 | 2 | 0 | 88 | 0 | 0 |
| Halifax to Onslow | 273 | 201 | 0 | 0 | 112 | 0 | 0 |
| Halifax to Pictou | 192 | 75 | 14 | 26 | 13 | 0 | 0 |
| Halifax to New Brunswick | 2 | 14 | 0 | 0 | 0 | 0 | 0 |
| SUBTOTAL | 6,960 | 4,135 | 304 | 198 | 2,952 | 0 | 0 |
| TOTAL | 14,236 | 8,008 | 2,548 | 6,812 | 3,029 | 150,000 | 1,572,000 |
| ONSLow BRIDGE | | | | | | | |
| Londonderry to Truro | 2,746 | 1,125 | 16 | 10 | 101 | 0 | 4,000 |
| Londonderry to Halifax | 619 | 223 | 209 | 1,089 | 982 | 0 | 0 |
| Onslow to Truro | 11,211 | 4,693 | 9 | 0 | 0 | 0 | 9,000 |
| Onslow to Halifax | 110 | 145 | 27 | 469 | 589 | 0 | 0 |
| Amherst to Halifax | 209 | 93 | 230 | 0 | 48 | 0 | 0 |
| Amherst to Truro | 322 | 140 | 96 | 29 | 42 | 0 | 0 |
| Tatamagouche to Truro | 1,186 | 308 | 20 | 129 | 10 | 0 | 0 |
| Tatamagouche to Halifax | 57 | 40 | 280 | 280 | 148 | 0 | 0 |
| SUBTOTAL | 16,460 | 6,767 | 887 | 2,006 | 1,920 | 0 | 13,000 |
| Truro to Londonderry | 2,653 | 635 | 3 | 0 | 24 | 0 | 2,000 |
| Halifax to Londonderry | 153 | 183 | 0 | 0 | 357 | 0 | 29,000 |
| Truro to Onslow | 12,131 | 3,784 | 0 | 0 | 43 | 0 | 2,000 |
| Halifax to Onslow | 75 | 149 | 0 | 0 | 918 | 0 | 0 |
| Halifax to Amherst | 189 | 87 | 0 | 0 | 22 | 0 | 0 |
| Truro to Amherst | 291 | 167 | 0 | 0 | 10 | 0 | 0 |
| Truro to Tatamagouche | 1,126 | 290 | 0 | 0 | 0 | 0 | 0 |
| Halifax to Tatamagouche | 32 | 55 | 0 | 0 | 77 | 0 | 0 |
| SUBTOTAL | 16,650 | 5,350 | 3 | 0 | 1,451 | 0 | 33,000 |
| TOTAL | 33,110 | 12,117 | 890 | 2,006 | 3,371 | 0 | 46,000 |

Table 4-2 (continued)

| | People | Vehicles | Cattle | Sheep/ Swine | Meal/ Flour (barrels) | Butter (pounds) | Wood Products (feet) |
|-----------------------------|---------------|---------------|--------------|-----------------|-----------------------------|--------------------|----------------------------|
| FORT LAWRENCE | | | | | | | |
| Towards Amherst | | | | | | | |
| July | 1,693 | 746 | 35 | 3 | 208 | 0 | 0 |
| August | 1,044 | 508 | 16 | 0 | 99 | 0 | 0 |
| September | 1,012 | 471 | 40 | 30 | 34 | 56 | 0 |
| October | 885 | 415 | 39 | 0 | 11 | 0 | 0 |
| November | 604 | 233 | 18 | 3 | 2 | 0 | 500 |
| December | 550 | 194 | 17 | 5 | 4 | 0 | 0 |
| SUBTOTAL | 5,788 | 2,567 | 165 | 41 | 358 | 56 | 500 |
| Towards Westmoreland | | | | | | | |
| July | 1,717 | 759 | 19 | 2 | 57 | 0 | 7,700 |
| August | 1,050 | 513 | 14 | 30 | 15 | 0 | 13,500 |
| September | 1,028 | 458 | 22 | 33 | 5 | 616 | 0 |
| October | 869 | 337 | 16 | 90 | 4 | 6,552 | 1,000 |
| November | 626 | 242 | 21 | 70 | 42 | 3,808 | 20,000 |
| December | 542 | 197 | 8 | 3 | 38 | 2,576 | 0 |
| SUBTOTAL | 5,832 | 2,506 | 100 | 228 | 161 | 13,552 | 42,200 |
| BOTH DIRECTIONS | | | | | | | |
| July | 3,410 | 1,505 | 54 | 5 | 265 | 0 | 7,700 |
| August | 2,094 | 1,021 | 30 | 30 | 114 | 0 | 13,500 |
| September | 2,040 | 929 | 62 | 63 | 39 | 672 | 0 |
| October | 1,754 | 752 | 55 | 90 | 15 | 6,552 | 1,000 |
| November | 1,230 | 475 | 39 | 73 | 44 | 3,808 | 20,500 |
| December | 1,092 | 391 | 25 | 8 | 42 | 2,576 | 0 |
| SIX MONTH TOTAL | 11,620 | 5,073 | 265 | 269 | 519 | 13,608 | 42,700 |
| GREAT EASTERN | | | | | | | |
| ROAD TOTAL | 58,966 | 25,198 | 3,703 | 9,087 | 6,919 | 163,608 | 1,660,700 |

Source: J.H.A.N.S., 1849, Appendix 30.

Data on the livestock, goods and commodities which passed the three enumeration houses in 1848 are suggestive of the scale of agricultural trade between outlying farming districts and Nova Scotia's largest domestic market. Approximately 3,000 cattle and more than 8,000 sheep were driven to Halifax from as far away as Cumberland and Pictou Counties, while wagons and teams hauled 56,000 bushels of potatoes, 150,000 lbs. of butter, 1,000 barrels of cured meat and 1,500,000 feet of lumber, shingles, hoops and laths into the city, principally from the counties of Halifax, Hants and especially Colchester (Table 4-2). A census taken a year earlier, on the Great Western Road which linked the Annapolis-Cornwallis valley to Halifax, indicates that 2,000 cattle, 4,000 sheep and 1,000 bushels of apples, potatoes, vegetables and oats were destined for Halifax via this route, and there is no reason why this level of agricultural trade was not maintained during 1848.¹⁴¹ Return cargoes included, among other items, meal and flour milled in Halifax and destined for outlying communities as far away as Tatamagouche (4,400 barrels).¹⁴² Because of its low value to weight ratio traffic in hay was much less considerable than any of the above commodities. That which was recorded in 1848 (2,039 tons) originated in Minas Basin communities and movement was predominantly local (principally between Colchester County farming districts and Truro where it supplied town stables and was collected for export); only 81 tons of hay were hauled to Halifax from Truro and Onslow (Colchester County). The shorter distance between Windsor and Halifax (than between Truro and Halifax), and the concentration of productive marshland farms along the Avon River and near the Minas Basin, meant that considerably more hay was transported along the Great Western Road. In 1847 the enumerator on this route counted 1,400 tons of hay

¹⁴¹ Ibid.

¹⁴² It should be noted, however, that locally milled grains supplied only a fraction of the total demand for flour and meal in Nova Scotia. Flour, meal and grain imports consistently accounted for three-quarters of Nova Scotia's agricultural imports during the 1850's. J.H.A.N.S., Appendix 30, 1852, pp. 266-71; JHANS, Appendix 1, 1861, pp. 41-67.

destined for Halifax.¹⁴³ Still, the considerable demand for hay and fodder in Halifax far surpassed that supplied from outlying farming districts. Imported hay and fodder, and hay raised on farms in the immediate vicinity of the city (the North end, Hammond's Plains Road, Sackville, Lawrencetown), supplied a larger share of the Halifax market than that raised on outlying farms. Unfortunately, the movement of hay from Cumberland County to New Brunswick was not enumerated in the 1848 survey of the Great Northern Road which might have illuminated the extent to which Cumberland's marshland farmers participated in the New Brunswick hay trade, especially during the winter months when such bulky cargoes were easier to manoeuvre using sleds.¹⁴⁴

Much of this movement of agricultural goods was highly seasonal, yet the census does not tell us precisely when agricultural produce from Hants, Halifax, Colchester and Pictou Counties were moved overland to market. The smaller traffic at the Fort Lawrence enumeration house, however, is suggestive of the timing of farm produce marketing. About three-quarters of all traffic in cattle and sheep (either towards Sackville or towards Amherst) occurred before the end of October; and most other farm products were moved to market during late summer or fall. Only traffic in meal and flour peaked in July. Such seasonal data as is available for the Ten Mile House enumeration house (for September and December only), suggest that similar patterns prevailed. Nearly twenty percent of all drover traffic passing Ten Mile House was recorded in the month of September and fewer than 500 animals (cattle, sheep and swine) were driven along this road in December (only 5 percent of total animals enumerated).¹⁴⁵ By contrast, nearly all of the cured meat (144,000 lbs.) and three-quarters of the hay transported (58 tons) was recorded during the

¹⁴³ George Wightman's General Report, J.H.A.N.S., 1849, Appendix 77, p. 458.

¹⁴⁴ A "hard frost" that arrived in November or December was referred to as a "sledding frost". See Sir John Harvey, "Report on Nova Scotia", p. 5.

¹⁴⁵ Manuscript Collection of the House of Assembly Appendices, RG5, Series R, Vol. 54, #94, PANS.

month of December, reflecting both the butchering of fat stock in late November, and the movement of hay by sleds.¹⁴⁶

Export Markets

Surpluses not disposed of in Nova Scotia's domestic markets were exported to nearby colonies.¹⁴⁷ In addition to Boston and nearby ports, where the bulk of the potatoes grown in the Annapolis-Cornwallis valley were sold, the market of Saint John, New Brunswick, just 45 miles or so across the Bay of Fundy from Digby and Annapolis (and about 90 miles from Horton and Kingsport, Kings County) was important to Annapolis-Cornwallis valley farmers. Livestock, meat, vegetables, dairy products and other farm and household goods (cloth, candles, tallow, leather, wool, wood) were sold either directly to Saint John merchants or indirectly through local merchants and traders.¹⁴⁸ Because this trade was seasonal (for the most part) and conducted from many small ports (Canning, Port Williams, Kingsport, Annapolis Royal, Port Granville, Digby), it was extremely difficult to measure accurately, as the Secretary of the Annapolis Agricultural Society indicated in his report of 1845,

¹⁴⁶ Ibid.

¹⁴⁷ Official records indicate that food exports from Nova Scotia comprised between 15 and 17 per cent of total colonial exports during the 1850s and 60s, a level roughly on par with timber and lumber exports, and triple that of coal and gypsum. In a colonial economy dominated by the export of fish and mercantile trade this level of commercial agricultural exports was considerable. The limited range of goods manufactured in the colony and other food items reshipped through Nova Scotian ports (including molasses, sugar, tea and tobacco) collectively comprised just 19 per cent of Nova Scotia's exports in the 1850s, a level only slightly higher than that of agricultural products. See Table 3-5.

¹⁴⁸ Edgar Bishop, general merchant of Aylesford, King's County, kept regular accounts with 155 families in Aylesford and nearby districts in the 1860s. Cloth or "homespun", potatoes, fruit, beef and mutton were commonly accepted as payments on a wide range of products provided by Bishop, including tea, sugar, flour, spices, hardware, and household articles. Until the completion of the Windsor-Annapolis Railway in 1869, Bishop disposed of the bulk of these agricultural products in Saint John across the bay. Edgar Bishop Ledger, 1865-67; excerpts published in Kennedy B. Wainwright, "A Comparative Study in Nova Scotian Rural Economy, 1788-1872, Based on Recently Discovered Books of Account of Old Firms in Kings County", Collections of the Nova Scotia Historical Society 30 (1954), pp. 107-10.

a great quantity of beef, apples, cider, [and] dairy products is sent to market [by farmer's of this area] but shipped from so many different places that a correct estimate is impossible.¹⁴⁹

Much of this external but nearby trade went unrecorded in official records for this reason. To obtain an approximation of the nature and extent of this trade we are forced to turn to newspaper reports which document the flow of vessels across the Bay of Fundy. In a six week period ending August 4, 1837, for example, more than 4,000 lbs. of butter, 5,900 lbs. of cheese, 46 cattle, 950 sheep, 10 horses, 4,000 dozen eggs, a couple of hundred boxes of fruit, 670 bushels of potatoes and nearly 1,700 lbs. of pork and beef were among the items, estimated to be worth £7,500 (\$36,500 Halifax currency), which entered the Saint John market from Nova Scotia's Bay of Fundy ports (principally from Kings and Annapolis Counties).¹⁵⁰ And subsequent reports suggest that this trade continued until well after mid-century.¹⁵¹ Farmer Warren Longley, of Paradise, Annapolis County, was not exceptional in that he sold almost all of the fruit produced on his farm in 1866 (96 barrels of apples), and a substantial amount of cheese manufactured by family members (796 lbs.), in Saint John. These, along with surpluses of potatoes and meat were hauled to Bridgetown, 5 miles away, where they were loaded on a sailing vessel for shipment across the Bay of Fundy to a wholesale merchant in Saint John.¹⁵²

¹⁴⁹ Annapolis Agricultural Society Report for 1845, RG8, Vol. 9, #29, PANS.

¹⁵⁰ Yarmouth Herald (Yarmouth) 18 August, 1837. Other items recorded included 1,500 quintals of dried fish, 55,000 shingles, 236,000 staves, 150,000 feet of lumber and some plaister, bricks and flagstones.

¹⁵¹ Bridgetown Agricultural Society Report for 1845, RG8, Vol. 17, #119, PANS; Bridgetown Agricultural Society Report for 1850, RG8, Vol. 9, # 119, PANS; Annapolis Agricultural Society Report for 1850, RG8, Vol. 9, # 219, PANS; Response of Annapolis Agricultural Society to Central Board of Agriculture Circular, 1859, RG8, Vol. 11, # 186, PANS.

¹⁵² Warren Longley Account Book, 1866; cited in Longley, "A Historical Comparison of Commodities, Prices and Customs in the Annapolis-Cornwallis Valley", pp. 12-13.

External markets for agricultural products were also important in the central and eastern portions of the farming zone. Farmers in Sydney, Inverness and Victoria Counties at the eastern end of the farming belt, for example, placed a greater emphasis on livestock and animal products than farmers in western Nova Scotia, but only a fraction of total agricultural surpluses in these areas entered the domestic markets of Pictou and Halifax. Most of their commercial output was sold in northern New Brunswick, St. Pierre and especially Newfoundland. By the mid-1840s Sydney (Antigonish) County farmers alone were collectively shipping up to 2,000 cattle, 1,200 sheep, 3,000 firkins of butter and smaller amounts of oats, oatmeal and barley, worth an estimated £30,000 per annum, principally to St. John's, Newfoundland and the Miramichi region of New Brunswick.¹⁵³ And on Cape Breton Island a similar type and volume of farm output was clearing local ports. In Broad Cove, Inverness County, for example, 87 farmers shipped 350 cattle, 600 sheep and 500 firkins of butter (28,000 lbs.) to Newfoundland and St. Pierre in 1845.¹⁵⁴ During the same year Margaree's 275 farmers exported 440 cattle, 500 sheep, 400 firkins of butter (22,400 lbs.) and "a considerable quantity of pork" to these same markets.¹⁵⁵ Despite the scourge of the potato blight during the late 1840s, which reduced some backland districts to extreme poverty, and led to a general decline in commercial pork production in Cape Breton,¹⁵⁶ upwards of 4,000 cattle, 5,000 sheep, 4,000 firkins of butter and 1,000 lbs. of salt beef and pork were exported from Cape Breton's ports

¹⁵³ Antigonish Agricultural Society Report for 1844, RG8, Vol. 9, #2, PANS; Antigonish Agricultural Society Report for 1845, RG8, Vol. 9 #29, PANS.

¹⁵⁴ Broad Cove Agricultural Society Report for 1845, RG9, Vol. 9, #29, PANS.

¹⁵⁵ Margaree Agricultural Society Report for 1845, RG8, Vol. 9, #37, PANS.

¹⁵⁶ On the effects of the potato blight in Cape Breton see Margaree Agricultural Society Report for 1851, RG8, Vol. 16, # 352, PANS; Morgan "'Poverty, Wretchedness and Misery': The Great Famine in Cape Breton", pp. 88-104; and Hornsby, "An Historical Geography of Cape Breton Island", pp. 175-190.

annually during the early 1850s to the Miramichi, St. Pierre and Newfoundland.¹⁵⁷ As the potato crop recovered toward the end of the decade, they, once again, accompanied shipments of livestock, butter and meat to these nearby colonial markets.¹⁵⁸ Given the considerable volume of oats, other grains and vegetables entering these same markets from Prince Edward Island, across the Northumberland Strait, the commercial emphasis on livestock, barrelled meat and especially butter in eastern Nova Scotia can be viewed as a logical response to existing market conditions.¹⁵⁹ Agricultural production in these two areas was complementary rather than competitive; Prince Edward Island supplied grains and roots to nearby colonial markets while eastern Nova Scotia provided livestock, meat and butter.

Summary

Despite the ravages of the potato blight and other crop infestations in the 1840s, Nova Scotia's agricultural sector in the mid nineteenth century had become an important component of the colonial economy. Farming employed more than half of Nova Scotia's families. Local agricultural products supplemented imported provisions in rural districts that ran food deficits and in the region's nascent urban system which contained upwards of 30,000 people. And the value of agricultural products exported to New Brunswick,

¹⁵⁷ On agricultural exports from Cape Breton see Margaree Agricultural Society Reports for 1852 and 1853, RG8, Vol. 16, #s 354, 359 PANS; Baddeck Agricultural Society Report for 1850, RG8, Vol. 9, # 219, PANS; Middle River Agricultural Society Report for 1852, RG8, Vol. 16, # 209; and Broad Cove Agricultural Society Report for 1854, RG8, Vol. 16, #321. These reports suggest that official custom's records grossly underestimate actual exports from the region. Official custom's sources list fewer than 1,500 cattle and 1,500 sheep exported from all of Cape Breton's ports during the early 1850s. For a discussion of these records see Howell, "Agricultural Exports from Cape Breton, 1797-1864", pp.1-18.

¹⁵⁸ By 1860 3,500 bushels of potatoes and 5,000 bushels of oats were listed with several thousand cattle and sheep, 100 barrels of meat and a few thousand firkins of butter which cleared Cape Breton's ports for Newfoundland, St Pierre and northern New Brunswick; Howell, "Agricultural Exports from Cape Breton, 1797-1864", p. 16.

¹⁵⁹ Clark, Three Centuries and the Island, p. 117; MacNeil, "A Reconsideration of the State of Agriculture in Eastern Nova Scotia, 1791-1861", pp. 211-13.

Newfoundland, St. Pierre and New England was equivalent to the value of timber, lumber and other wood products exported from Nova Scotia (staves, shingles, shooks etc.), and three times the value of mineral exports. Only the export of fish, and miscellaneous items of trade intended for reshipment (manufactures, coffee, tea, molasses and sugar) exceeded agricultural exports by value.

Although Nova Scotia's economy experienced some "stress" during the 1840s and 50s, owing to the repeal of imperial preferences and the realignment of Britain's foreign trade, the establishment of Reciprocity with the United States in 1854, and continued demographic and economic growth in nearby staple based colonies, provided Nova Scotia's farm families with steady markets for such agricultural surpluses as were produced.¹⁶⁰ The Annapolis-Cornwallis Valley experienced a potato boom in the 1850s, as a direct result of the new trading arrangements struck with the United States; farmers in Northumberland Shore counties continued to ship hay, meat and butter to the timber camps of northern New Brunswick and to supply the small, but growing, domestic market emerging on the Pictou coalfields. And, at the eastern end of the farming zone (in Sydney County and on Cape Breton Island), farmers emphasized the production of cattle, sheep, butter and meat, especially for export to Newfoundland and the French islands of St. Pierre and Miquelon. In central Nova Scotia, in Hants and Colchester Counties, farmers were close enough to the colony's largest domestic market -- Halifax -- to engage in regular trade with merchants, hotel owners and other purveyors of food there. Although a considerable number of farmers in the Annapolis valley shipped their surpluses either directly to distant merchants or indirectly through local "country merchants" on schooners, some (as mid-nineteenth century travel censuses indicate) drove their livestock or hauled their surpluses

¹⁶⁰ Julian Gwyn, "A Little Province Like This: The Economy of Nova Scotia Under Stress, 1812-1853", Canadian Papers in Rural History, Vol. 6 (1988), pp. 193-225.

in wagons over the Great Western Road which linked this important food producing region to Halifax.

Of course, all farming families did not participate equally in this mid-nineteenth agricultural trading network. As the Hardwood Hill case study illustrates, the Nova Scotia countryside was characterized by considerable socio-economic diversity. Each district contained farms in several stages of advancement from "uneducated and rough clearings", on which families depended upon the sale of their labour and the purchase of provisions for their survival, to long-established, well-cultivated commercial farms.¹⁶¹ Although mixed farming prevailed, agricultural holdings varied enormously in size, productivity, market orientation, and crop and livestock mix. If the Hardwood Hill case study is representative, then there was an approximate tripartite division in rural agricultural areas, with about one-third of each district's families whose farms were too small to support a family from agricultural production alone; about 20 per cent or so who produced far more than was necessary to feed their households; and a larger group -- close to half of the inhabitants -- whose farms provided small surpluses on a regular enough basis that a "modest competence" could be achieved by the regular sale and exchange of farm products within and beyond the community.¹⁶²

¹⁶¹ Quote is from Arisaig Agricultural Society Report for 1850, RG8, Vol. 9, # 219, PANS.

¹⁶² For elaboration of this idea, and for data from another community in the farming zone in the mid-nineteenth century which substantiates it, see Bittermann, MacKinnon and Wynn, "Of Inequality and Interdependence in the Nova Scotia Countryside", pp. 41-2.

Chapter 5. Nova Scotian Agriculture in the Late Nineteenth Century: The Critical Years

By whatever measure one chooses -- number of farms, amount of occupied and improved farmland, farm employment -- Nova Scotian agriculture reached its peak in the 1890's. At the census of 1891 there were 60,122 farms in the province. This was twice the number enumerated in 1851 and 5,600 more than in 1901. Almost half the province's land area was listed as "occupied farmland" in 1891 (2,800,000 acres more than in 1851) and 52 percent of the province's labour force was engaged in agriculture.¹ Families continued to work the land. But social, technological and economic circumstances had changed considerably since the mid-nineteenth century. Railroads now crisscrossed the province, steamships had largely replaced schooners and other vessels in the carrying trade, and electricity, the telegraph and the telephone were beginning to transform traditional patterns of work and living in some areas.² Urban growth between 1851 and 1891 meant that the domestic market for foodstuffs was much larger than in the mid-nineteenth century, and pockets of specialized agriculture were emerging. On farms, horse-drawn machinery was in use, crop rotation was becoming more the rule than the exception and the use of phosphate fertilizers had already been pioneered. In short, the modernization of agriculture was underway. But these developments were gradually

¹ Census of Canada, 1891.

² It is extremely difficult to accurately document the diffusion of innovations like the telephone and electrical generators across Nova Scotia in the late nineteenth century. But the limited information available suggests that these innovations first appeared in Nova Scotia's villages and towns, and then gradually diffused throughout the surrounding countryside. We know that in 1887 the Nova Scotia Telephone Company had already established several small telephone exchanges in towns across Nova Scotia's farming zone, and that small, private electrical generating companies were, by this date, servicing several villages and surrounding areas, including Windsor and Shubenacadie. B. W. Chipman Nova Scotia: Its Agricultural Resources (Halifax: Office for Agriculture, 1898), p.18; David E. Stephens, Truro: A Railway Town (Hantsport, Nova Scotia: Lancelot Press, 1981), p. 55; and G.V. Shand, Historic Hant's County (Windsor: McCurdy Printing, 1979), p. 158.

undermining a way of life. Rural to urban migration, and outmigration from the region, which began earlier in the century, reached "epidemic proportions" in the 1880s and 90s.³

This chapter illustrates the adjustments made by Nova Scotian farmers to the changed circumstances of the late nineteenth century by establishing the patterns of agricultural production and trade across the province during the last decade of the nineteenth century. It begins by outlining the changes in the type and scale of agriculture practised in Nova Scotia's fishing and lumbering zones identified in chapter four between 1851 and 1891. This is followed by an examination of patterns of agricultural production in the various subregions of Nova Scotia's principal farming zone. Finally sample farms from different parts of this zone are compared in an effort to illustrate how the changed circumstances of the late nineteenth century manifested themselves at the farmstead level.

The Fishing Zone

Agricultural production increased considerably through most of the fishing zone between 1851 and 1891, though, as many contemporary observers noted, farming remained a secondary concern, with a limited impact on local economies.⁴ With a physical base that was generally "rocky and ill-suited for farming", residents of this zone remained essentially a "sea-going people" who supplemented their fishing incomes wherever additional employment could be found -- by working seasonally on coasting vessels, in shipyards and in sawmills.⁵ Shelburne epitomized the pattern. With a preponderance of

³ An estimated 49,000 people left Nova Scotia between 1881 and 1891; another 46,000 departed between 1891 and 1901. Patricia A. Thornton, "The Problem of Out-Migration from Atlantic Canada, 1871-1921: A New Look", *Acadiensis* 15, 1 (1985), p.32.

⁴ See for example, the remarks about Nova Scotia's "eastern", "southern" "Acadian" and "Northumberland" shores in the following works: Joseph Outram, The Counties of Nova Scotia, Their Condition and Capabilities (Halifax: Queen's Printer, 1867); Herbert Crosskill, Nova Scotia: Its Climate, Resources and Advantages Being a General Description of the Province for the Information of Intending Immigrants (Halifax: Charles Annand, 1872); Chipman Nova Scotia: Its Agricultural Resources.

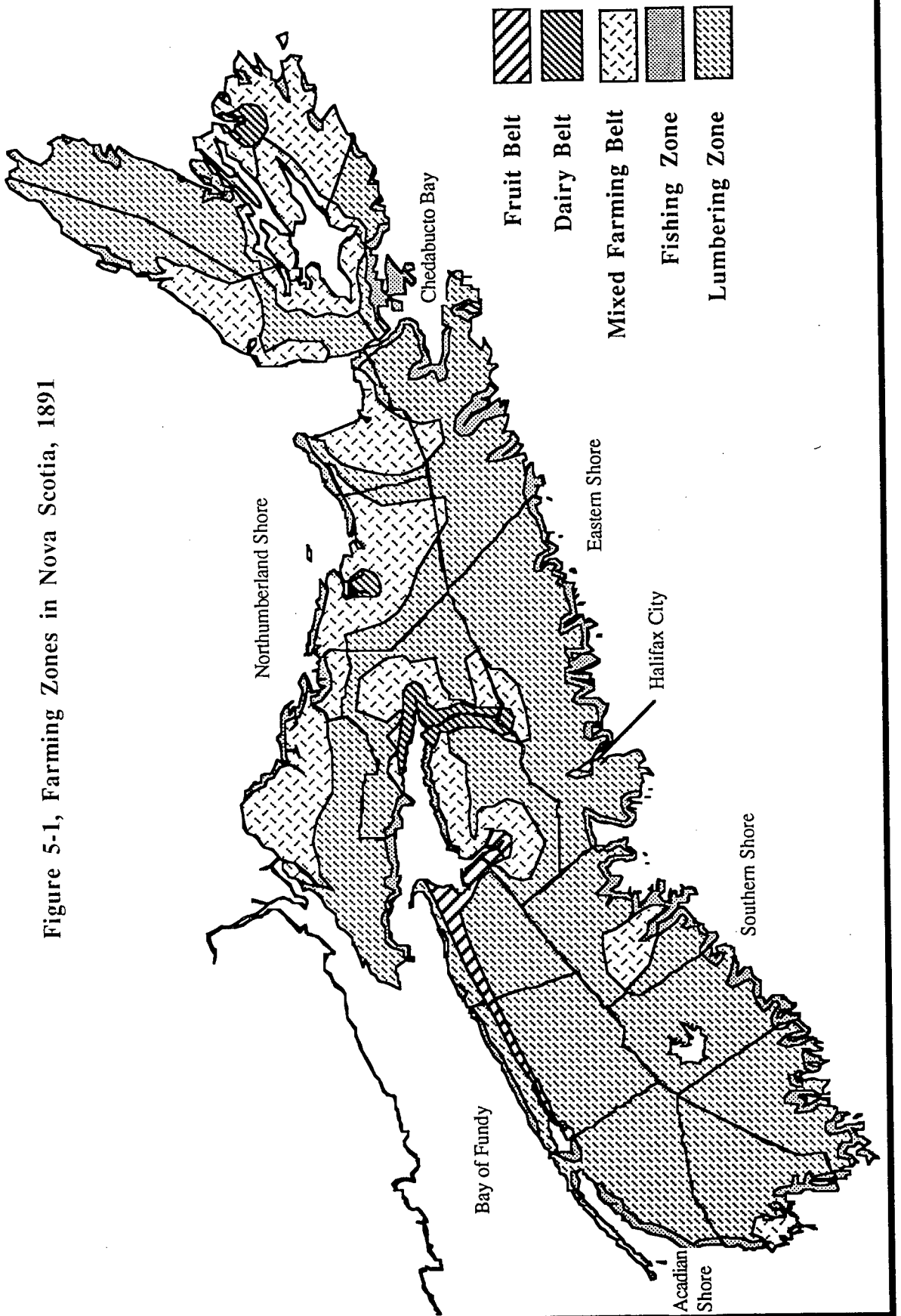
⁵ Chipman, Nova Scotia: Its Agricultural Resources, p. 38.

class 7 soils and extensive areas of bedrock at the surface, it was a territory in which only those in "favoured localities" were able to raise "considerable farm products for their own use" in "intervals from fishing".⁶

On the whole, residents of the fishing zone were more self sufficient in agricultural produce than in the mid-nineteenth century. Along the "eastern shore" between Halifax and Canso, the average quantity of improved land per family had increased from 3 acres in 1851 to 10 acres in 1891, oat production was up 66 percent (to 5 bushels per family), potato production had tripled (to 33 bushels per family) and hay production had increased by one ton per family (to 4 tons; see Figure 5-1). Yet even at the low yields characteristic of this zone, field crop production on the average holding could have come from 3 acres or less. Therefore, much of this increase in improved land was devoted to pasture. Yet the number of livestock kept on average remained much the same at both censuses. In 1851 the census recorded 3 cattle and the same number of sheep for every family, 2 swine for every three families and 1 horse for every 6 families living along the "eastern shore"; four decades later enumerators reported the same number of cattle and sheep, 1 pig for every 5 families and 1 horse for every 3 families. Clearly these remained subsistence holdings whose principal objective was to produce hay and fodder for a few cattle and sheep that provided meat and milk for families. Little in the way of an agricultural surplus could have entered local trade. But with more fodder and pasture than at mid century the one or two milk cows kept by each family in 1891 produced significantly more milk and butter than four decades earlier and field crops raised were of a higher quality owing to the cumulative effect of regular manuring with seaweed and fish offal. In addition, the increase in horses in this zone reflects the improvement of the "Shore Road", and other interior arteries during

⁶ *Ibid.*, p. 37. The Canada Land Inventory, Soil Capability for Agriculture Survey describes class 7 land as comprising "soils ... with no capability for arable culture or permanent pasture" due to stoniness, poor drainage, shallowness, acidity or infertility. J. I. Mac Dougall and J. L. Nowland, *Soils of Nova Scotia Map*, 1:450,000 (Ottawa: Canada Department of Agriculture, Soil Research Institute, 1972).

Figure 5-1, Farming Zones in Nova Scotia, 1891



the 1870s and 80s, which connected fishing settlements and interior lumbering districts to Halifax.⁷

Across Chedabucto Bay in Richmond County, Cape Breton, a similar increase in agricultural activity was recorded between 1851 and 1891. In the face of a decline in shipbuilding and shipping from the ports of this area in the 1870's and 80's, displaced workers who remained in the area turned to the inshore fishery stimulated (at least temporarily) by the signing of the Treaty of Washington in 1871 which permitted Nova Scotia fish free entry into the American market.⁸ The number of fishermen in Richmond County grew from 1,000 or so in 1851 to 1,700 in 1891, with the largest decadal increases occurring between 1861 and 1871. Lobster canneries established in the 1870's also provided alternative seasonal employment.⁹ But, as the century wore on, United States protectionism, depressed fish prices and declining yields meant that families increasingly turned their attention towards local agriculture to supply their food needs.¹⁰ In 1891

⁷ The interior agro-forestry districts, Middle and Upper Musquodoboit, were linked to Halifax by a wagon road that ran along the Musquodoboit Valley to Musquodoboit Harbour, where it met the "Shore Road"; John Grant, "Travel and Travelers on the Eastern Shore", Nova Scotia Historical Quarterly 6, 1 (1976), pp. 20-21.

⁸ Paul Touesnard, "Growth and Decline of Arichat, Nova Scotia, 1765-1880." M.A. Thesis, Department of Economics, Dalhousie University, 1984, p. 84. Cape Breton ports involved in the coal trade were notable exceptions. For an excellent survey of North Sydney's and Sydney's involvement in this trade see Rosemarie Langhout, "Alternative Opportunities: The Development of Shipping at Sydney Harbour, 1842-1889", in Cape Breton at 200: Historical Essays in Honour of the Island's Bicentennial, 1775-1985., ed. Kenneth Donovan (Sydney: University College of Cape Breton Press, 1985) pp.53-69. For details about the effects of the Treaty of Washington see John B. Brebner, North Atlantic Triangle: The Interplay of Canada, The United States and Great Britain (Toronto: The Carleton Library No. 30, McClelland and Stewart Ltd., 1966), p.198.

⁹ Touesnard, "Growth and Decline of Arichat", p. 85; and Stephen Hornsby, "An Historical Geography of Cape Breton Island in the Nineteenth Century" Ph.D. Thesis, The University of British Columbia, 1986, p. 250. In 1891 there were 32 lobster canneries operating on Cape Breton Island, 13 of which were in Richmond County. Census of Canada, 1891.

¹⁰ The fisheries clauses of the Treaty of Washington were abrogated on July 1, 1885. Brebner, North Atlantic Triangle, p. 202.

families in the coastal districts of this county averaged 10 improved acres, three times that of 1851, and increases in field crop production were similar to those of the "eastern shore" so called.¹¹ The only significant difference between these two segments of the fishing zone in 1891 was the slightly greater emphasis placed on sheep raising on Richmond County's coast where the average family kept 5 sheep (the same number kept on average in 1851).

To the south of Halifax along an "irregular coastline of jutting peninsulas, receding harbours... and scattered islands", family holdings were worked slightly more intensively than those in the coves and settlements to the northeast.¹² On this "southern shore", so called, that stretched 250 miles or so from Halifax to Yarmouth, families averaged about an acre and a half less improved land than those in southeastern Cape Breton and along the "eastern shore", but roughly the same number of livestock were kept on average. Hay and potato production per family were similar (4 tons and 28 bushels respectively).¹³ Subsistence was the principal goal here too, but in a few areas production was considerable enough to allow commercial surpluses. In Chester, 20 miles or so from the town of Lunenburg, and Conquerall, five miles from Bridgewater, for example, families averaged 16 and 19 improved acres respectively. Several families peddled surpluses of vegetables, butter, meat and hay around Chester and Bridgewater and, as one writer put it, it was

¹¹ The average family in this part of southeastern Cape Breton raised 28 bushels of potatoes and turnips, 4 tons of hay and about a bushel and a half of oats in 1891.

¹² E.B. Fritze, "Farming on the South Shore", in Annual Report of the Secretary for Agriculture, Nova Scotia, For the Year 1909 (Halifax: Commissioner Public Works and Mines, King's Printer, 1910) p.157.

¹³ Data are not available at the census subdistrict scale for Lunenburg and Shelburne Counties in 1851, therefore comparisons with 1891 data refer only to Queen's and Yarmouth Counties and those portions of Halifax County south of Halifax City (subdistricts 7-12). Comparing census figures between these dates for these portions of the "southern shore" indicates that improved acreage rose by 55 percent (from 5 and one-half to 8 and one-half acres), hay production by 60 percent (from 2 and one-half to 4 tons) and potato production by 21 percent (from 20 to 25 bushels).

"nothing unusual for four or five farmers to load a schooner" with farm products "for the Halifax market".¹⁴ David Corkum, who lived with his uncle near Chester, for example, sold nearly \$100.00 worth of butter, eggs and meat in 1875 in the fishing settlements around Mahone Bay and on Tancook Island. He delivered these products in a row boat.¹⁵ Near Yarmouth, now the terminus of the Dominion-Atlantic Railway and the second largest urban center in the province, several districts recorded more than 20 acres of improved land (Chegoggin, 21, Hebron, 23 and Chebogue, 23). In each of these areas there were several "well tilled" farms in a "high state of cultivation", mainly supplying the "good local market" of Yarmouth (town) with milk and market garden vegetables.¹⁶ While fishing generally predominated in Lunenburg, Queens, Shelburne and Yarmouth Counties, there were far more fishermen-farmers along this "southern shore" than along the coast to the east of Halifax.

To the north along St. Mary's Bay and around the Bay of Fundy the increase in agricultural activity between 1851 and 1891 was much more striking than along the "southern shore". Along St. Mary's Bay, for example, which remained predominantly an Acadian district where settlements resembled "a continuous village" stretching thirty miles or so beside the shore, the amount of cleared land was more than double that of four decades earlier.¹⁷ In the districts of Clare and Salmon River improved land per family now averaged 22 acres, and near the town of Digby, which had grown to 1,800 people and

¹⁴ Fritze, "Farming on the South Shore", p. 158.

¹⁵ David Corkum Diary, April, 1873-August, 1875, Account Book, 1875, Micro Biography File, PANS.

¹⁶ Chipman, Nova Scotia: Its Agricultural Resources, p. 380. M.V. Marshall in his reminiscence of growing up in Chebogue (approximately 3 miles from Yarmouth) between the years 1900 and 1920 notes, "Dad went to town every day to take the milk..." which was "sold chiefly in nine-quart cans to grocery stores". "2000 A.D. To 2020 A.D.", Nova Scotia Historical Quarterly 2 (1972), pp. 391, 397.

¹⁷ Chipman, Nova Scotia: Its Agricultural Resources, p. 379.

added several tanneries, sawmills and factories to its economic base, rural families averaged 35 acres improved.¹⁸ Again, much of this increase in improved land was devoted to pasture for the 4 cattle and 4 sheep kept by every family and the 2 pigs and 1 horse kept by every three families in these districts. But far more attention was devoted to field crop production here than on the Atlantic fishing coast. Families in all coastal districts of Digby County averaged 60 percent more potatoes (56 bushels per family), twice as much hay (8 tons per family) and three times as many turnips (16 bushels per family) as those who lived along the entire south and east coasts of the province. Only grain production (mainly oats), which was raised in negligible quantities, was roughly similar along this shore to that on the "eastern" and "southern" shores (5 bushels per family). Although the fishery remained at the base of the economy in every community along the Acadian Shore, many residents of the region might better be described as farmer-fishermen than as fishermen-farmers.

The largest increase in agricultural activity in the fishing zone between 1851 and 1891 took place on the "Northumberland Shore". Families in this portion of the fishing zone increased the "improved" area of their holdings, on average, by 19 acres to 35 acres in 1891. Potato production had quintupled to 100 bushels per family and the average holding now produced 65 percent more turnips (21 bushels), roughly the same amount of oats (37 bushels) and twice as much hay (10 tons) as was recorded in 1851. Although the production of wheat and other grains had dropped off considerably since the mid-nineteenth century, as it had elsewhere in the Maritimes, families along the "Northumberland Shore" still raised more than 20 bushels of wheat, barley, buckwheat and corn on average, far more than was raised anywhere else in the fishing zone. These holdings, many of which closely resembled some of the small farms located in the farming zone, now supported half a dozen cattle (one more, on average, than in 1851), the same

¹⁸ Census of Canada, 1891.

number of sheep (one less), a dozen and a half poultry and a horse. Some of them undoubtedly generated surpluses which found a ready market in the coal and steel towns of Pictou and Cumberland Counties whose demographic and economic growth had been greatly stimulated by the series of tariffs placed on coal, steel and iron associated with the National Policy.¹⁹ In addition, owing to the completion of the "Short Line" Railroad along the "Northumberland Shore" in 1889, which facilitated greater economic interaction between "Shore" families and merchants and grocers in Halifax and other centers along the rail line, some families pressed surplus hay into bales for shipment to Halifax.²⁰ Clearly, the 3,000 families who worked the land along the Northumberland Shore, between Tidnish (Cumberland County) and Port Hastings (Inverness County), were far more dependent upon agriculture in 1891 than in 1851, though inshore cod and lobster fishing were still important economic activities in most districts.²¹

Regardless of the scale of agricultural activity practised in the various areas of the fishing zone, all fishermen-farmers and farmer-fishermen shared several characteristics. The seasonal pattern of work in these areas -- cutting wood, loading vessels and perhaps working on a coastal vessel during winter and early spring, agricultural tasks interspersed with fishing or work in a cannery during summer and early fall, and woods work and gear mending beginning once again as winter approached -- meant that both labour and capital were diffused, thereby limiting the development of commercial agriculture.²² Not only did

¹⁹ In 1879 coal mining in Nova Scotia was given "direct aid to the extent of a duty of 50 cents per ton on bituminous coal"; This remained above 50 cents until 1900. Stanley Saunders, The Economic History of the Maritime Provinces (Ottawa: Royal Commission on Dominion Provincial Relations, 1939; reprinted Acadiensis Press, 1984), p. 29.

²⁰ James F. Smith The History of Pugwash (Oxford: The North Cumberland Historical Society, 1978), p. 251.

²¹ For a succinct summary of conditions in the Cape Breton fishery during the last quarter of the nineteenth century see Hornsby, "An Historical Geography of Cape Breton Island in the Nineteenth Century", pp. 240-65.

²² This diffusion of labour and capital in Nova Scotia's fishing zone was recognized by Andrew Stewart and Keith Cloete in their studies of part-time agriculture in Nova Scotia in

part-time agriculturalists in the fishing zone have to maintain their investment in land, livestock, tools and implements, they had to supply and maintain gear and equipment necessary for prosecuting the fishery. Thus Frederick Publicouer, a fisherman from Blandford, Lunenburg County, left an estate valued at \$479 upon his death in 1891, which consisted of real estate worth \$304 (a house, some outbuildings and a small farm), a "skiff boat" and fishing gear worth \$52 (nets, buoys, cod lines and a compass), farming implements worth \$58 (a harrow, a crowbar, a wagon and several hoes, forks and sleds) and a pair of oxen valued at \$65.²³ An additional difficulty faced by agriculturalists in the fishing zone was that the fishery tended to compete for labour precisely at those times when it was needed most for agricultural production. These factors reduced the efficiency of production units and limited the scale of commercial agriculture practised in this zone.

The Lumbering Zone

Advances in agriculture occurred in the lumbering zone as well, but, though agricultural clearings were generally larger here than in the fishing zone, acreage and production increases were generally smaller. In the southeastern part of this zone in the counties of Halifax, Guysborough and Richmond clearings averaged between 10 and 30 acres of improved land per family, compared with 1851 averages of from 5 to 15 acres; they supported, on average, 5 cattle (one more than in 1851), 6 sheep (one more) and a half a dozen poultry. The use of oxen had declined in this area during the second half of the

the period after 1939. See Keith Cloete, "Land Abandonment and Rural Change in the Fox Harbour Area, Cumberland County, Nova Scotia, 1939-1977", B.A. Thesis, Mount Allison University, 1977, p. 40; and Andrew Stewart, "Part-Time Farming in Nova Scotia", *Public Affairs*, 6, 3 (1943), p. 148. For an excellent summary of the variegated tasks of a fisherman-farmer from the "Northumberland Shore" in the late nineteenth century see the diary of William Campbell of Northport, Cumberland County, 1880-1881, MG100, Vol. 41, # 86, PANS. Campbell, who took over his parent's land in the early 1870's, documents a seasonal round of work that included farming the 40 acres cleared by his father and brothers, lobster and mackerel fishing, peddling and trading along the shore, and loading and unloading vessels at local wharves.

²³ Estate Inventory, Frederick Publicouer, 17 September, 1891, Lunenburg County Estate Papers, RG48, Reel 915, PANS.

nineteenth century while the number of horses kept, on average, increased.²⁴ Although hay production rose in proportion to the overall increase in livestock (from 6.5 tons per family in 1851 to 9 tons in 1891), the production of oats and other grains declined significantly -- from an average of 35 bushels in 1851 (80 percent of which consisted of oats) to 17 bushels (14 of which were oats). Like the farmer-fishermen of the Northumberland Shore, the lumberer-farmers of Halifax, Guysborough and Richmond Counties had already begun to use imported feed grains to supplement the fodder that they produced on their holdings.

The discovery of gold in this area in the early 1860's had generated improvements in land transportation, which stimulated communication between interior lumbering districts and shire and port towns.²⁵ Sherbrooke, which was a small hamlet of less than 200 people in 1851 that provided few services for the farmer-lumbers of the area, grew into a sizeable service centre of more than 1,200 people in 1891.²⁶ "Several churches, a new jail, a new court house, a school [and] a bank" had recently been constructed, and "many private businesses" were based in the village.²⁷ The proximity of the diggings, appropriately named 'Goldenville', to the village of Sherbrooke meant that local merchants and craftsmen (blacksmiths, harness makers, carpenters), as well as newly arrived skilled and unskilled labourers, found employment in the mines or in providing services to the

²⁴ All of the designated "lumbering districts" of Halifax, Guysborough and Richmond Counties recorded 2 horses for every three families in 1851, and many families kept an ox; in 1891 most families had their own horse and enumerators recorded a pair of oxen for every 6 families (see 1891 census subdistricts 4, 10-12, 14-16 and 33 in Halifax County; 3, 7, 9-10, 13 and 18 in Guysborough and 5-7 and 10 in Richmond County).

²⁵ Although roads and bridle paths connected Guysborough to Halifax in the mid-nineteenth century, the Gold Rush of the 1860's resulted in considerable road improvements, and the establishment of a regular stage coach service between Sherbrooke and Antigonish, Musquodoboit and Halifax. See John N. Grant, "The Development of Sherbrooke Village to 1880", *Nova Scotia Historical Quarterly* 2 (March, 1972), pp. 6-7.

²⁶ Census of Nova Scotia, 1851, RG1, Vol. 453, PANS.; Census of Canada, 1891.

²⁷ Grant, "The Development of Sherbrooke Village", p. 12.

mines and miners.²⁸ In addition, the mines and miners created a new local market for lumber, for firewood and for pit props, as well as for agricultural products. A letter from "a Goldenville miner" to the editor of New Glasgow's Eastern Chronicle in 1873 describes the economic stimulus that the "diggings" gave to Guysborough and adjoining counties:

miners receive their wages in cash, at or near the end of every month, which in turn, they pay out a large portion of it to the farmers of this and the adjoining county of Antigonish. ... Upwards of \$4,000 are paid monthly at the mines for wages alone, most of which finds its way into the country.²⁹

A decade later newspaper reports from nearby agricultural districts were still remarking on the important "cash market" for agricultural products that existed "at their very doors" since the discovery of gold in Guysborough County.³⁰ Farmers from the Saint Mary's valley in northern Guysborough County were providing such a range of products to "the Goldenville market" in the 1880's that one observer cautioned that "should the mining district of 'Goldenville' fail as a market for surplus produce ... farmers here will have to change their system of farming, [and] raise more hay and fatten more cattle" for distant markets.³¹

At the western end of the lumbering zone families produced more hay, potatoes and other field crops than those who lived in the southeast portion of the lumbering zone. But the scale of agriculture practised here did not change as markedly in the four decades after 1851. In census subdistrict Carleton/Kemptville, for example, which recorded more wood products than any other district in Yarmouth County at the middle of the century, the per capita area of improved agricultural land (at 35 acres) was only 50 percent larger in

²⁸Ibid., p. 9.

²⁹ Eastern Chronicle (New Glasgow), 27 November, 1873.

³⁰ Eastern Chronicle, 4 December, 1884.

³¹ Ibid.

1891 than in 1851. Although hay and potato production had increased in proportion to the increase in improved land, approximately the same number of livestock were kept in 1891 (on average) and grain production was only one-fifth that of four decades earlier (4 bushels per family).³² Agriculture in this district had reached a threshold level of production that supplied many of the subsistence requirements of the 180 families living in and around the villages of Carleton and Kemptville, as well as some small surpluses which might be sold in Yarmouth. For the most part these residents continued to combine working the land with seasonal employment in the lumber camps, sawmills and more specialized woodworking establishments located in this area.³³

Similar trends were recorded in northern Queen's and Lunenburg Counties in the heart of western Nova Scotia's lumbering zone. In New Germany, for example, where "the crashing sounds of the gang, the shrill tenor sound of the edger [and] the more abrupt sound of the trimmer" could be heard "far and near, over the hills, along the valleys [and] across the lakes",³⁴ average improved land increased by 43 percent between 1851 and 1891 while the population of the district doubled (to 656 families). Those who continued to work the land in this district were provided with a small local market for agricultural products as a result of both the expansion of lumbering in the area³⁵ and the discovery of

³² Hay production increased from 7 tons per family in 1851 to 10 tons in 1891 and potato production from 35 to 43 bushels. In 1891 families averaged 8 cattle, 5 sheep and 1 pig for every two properties. Census of Canada, 1891.

³³ The Kemptville Lumber Manufacturing Company, like other small woodworking establishments scattered through the western counties of Queen's, Yarmouth, Digby and Annapolis, produced a wide array of wood products in addition to lumber, which were intended for markets in Halifax, Saint John and the United States (shingles, laths, sheathing, clapboards, doors, sashes, mouldings, shooks, staves, barrels and fish boxes). Barbara R. Robertson, Sawpower: Making Lumber in the Sawmills of Nova Scotia, (Halifax: Nimbus Publishing and The Nova Scotia Museum, 1986), pp.121-22; 116-17; 111.

³⁴ Nova Scotia Farmer and Annapolis County Times (Annapolis Royal) 21 April, 1875.

³⁵ The number of sawmills in Lunenburg County increased steadily during the second half of the nineteenth century (from 156 in 1851 to 192 in 1891) while the number of people employed in saw and shingle mills in the county more than doubled (from 247 to 576).

gold at several locations in adjacent Queen's County.³⁶ The extensive drumlin field in this area further stimulated cultivation by providing "deep...almost stone-free soils."³⁷ Thus agricultural clearings here were significantly larger than elsewhere in the eastern and western portions of the lumbering zone. The 647 families who owned land in New Germany in 1891 averaged 49 acres of improved land, of which nearly half was devoted to field crops (hay, grains, vegetables); the remainder consisted of pasture, a small kitchen garden, land left in fallow and, frequently, a small orchard.³⁸ Farm families in this district also averaged 75 acres of woodland.

The largest agricultural holdings in the lumbering zone in 1891 were found in Pictou, Colchester and northern Halifax Counties. Census subdistricts Garden of Eden (Pictou), North River and Kemptown (Colchester), and Middle Musquodoboit (Halifax) each recorded between 50 and 60 acres of improved land per family in 1891, almost double that of four decades earlier. Each of the 640 families enumerated in these four districts raised, on average, 16 tons of hay (5 more than in 1851), 101 bushels of potatoes (39 bushels more) and 10 bushels of turnips (1 less than four decades earlier); they kept approximately the same number of horses, sheep and swine (1, 8 and 1 respectively); and,

The scale of sawmill and timber supply operations had expanded considerably since the mid-nineteenth century. In the early 1890s the E. D. Davison and Sons Lumber Company in Bridgewater, Lunenburg County, for example, had 350 men on the payrolls of its milling and logging operations. This company's lumber output exceeded 12,000,000 board feet annually during the early 1890s. Census of Nova Scotia, 1851, RG1, Vol. 453, PANS; Census of Canada, 1871, 1881, 1891; Ralph S. Johnson, Forests of Nova Scotia: A History (Halifax: Department of Lands and Forests, 1986), p. 106.

³⁶ The largest mines were established at Whitbourne and Molega. In Molega, for example, a mining settlement of more than 1,000 people emerged almost overnight with the discovery of gold in the early 1880s. James H. Morrison and L.M.B. Friend, "Queen's County Klondike", Nova Scotia Historical Quarterly 9 (June, 1979), pp. 143-156.

³⁷ J. Lynton Martin, "The Settlement of Queen's and Lunenburg Counties", unpublished paper, presented to "Seminars 85", A Training Programme of the Federation of Nova Scotia Heritage, 17 April, 1985, p. 6; Nova Scotia Museum.

³⁸ See Census subdistrict 8, Lunenburg County, Census of Canada, 1891.

although they kept only one more cow in 1891 (for a total of 4 milk cows and the same number of beef cattle), butter production averaged 213 lbs. per family, 75 percent more than in 1851. Once the demands of the farm family were met, products that could withstand long distance transport (butter, cattle, sheep, vegetables) were marketed through local merchants and country dealers. It would be difficult to distinguish these agricultural holdings from mixed farms in the heart of the farming zone. But lumbering remained a significant activity here, even though it had declined in relative importance since the mid-nineteenth century owing to the depletion of the best stands of softwood and hardwood in the area.³⁹ In general, as farm clearings expanded, lumbering became less important in economic terms, though few men of these districts did not experience living in a timber shanty for a month or two during the winter, and the thrill of the 'drive' in the spring. The 150 or so sawmills still in operation in the backland districts of Halifax, Pictou and Colchester Counties created regular seasonal employment for the men in each community, and the timber camps remaining in the area, though fewer in number than in the mid-nineteenth century, continued to provide a "ready market" for such surpluses of hay and oats as were raised by farm families.⁴⁰

Much more emphasis was placed on agriculture in the lumbering zone than in the fishing zone because forestry and agriculture were more complementary than fishing and farming. Unlike those involved in the fishery who divided their labour in summer between fishing, cultivating a subsistence plot, and in some cases, working in a cannery or on a coastal vessel, those who lived in the lumbering zone had more time to devote to farming

³⁹ The decline in lumbering activities in these districts was most clearly visible in Pictou County, where the number of sawmills declined from a peak of 101 in 1861 to 61 in 1891. This stands in marked contrast to the expansion of lumbering activity recorded in the western and eastern portions of the lumbering zone during this period. Census of Nova Scotia, 1861, RG1, Vol. 453, PANS; Census of Canada, 1891.

⁴⁰ Musquodoboit Valley Agricultural Society Report for 1871, published in Nova Scotia Journal of Agriculture Vol. 1, June, 1871, p. 652.

during the growing season. In addition, because the lumberer-farmer did not have to invest heavily in special gear or equipment to engage in this trade, as did those who were involved in the fishery, the capital resources of families of this zone were not nearly as diffused as those who lived in the fishing zone. The traditional single-bit axe and the cross-cut saw (introduced in the lumbering zone in the 1880's) were the principal tools of the lumberman-farmer in the late nineteenth century.⁴¹ These could be purchased from a merchant almost anywhere in Nova Scotia for less than \$2.00.⁴² The only other expenditures a lumberman might face to outfit himself for a winter in the woods was the cost of warm clothing (woolen jacket, pants, shirts and mittens), if these were not made at home, and the price of a pair of "larrigans"-- high topped laced moccasins made of leather.⁴³ None of these items approached the costs associated with getting outfitted to engage in the inshore fishery.

Farming and lumbering in this zone developed in tandem from the beginning of the nineteenth century to the turn of the twentieth century. Early roads constructed through the interior of Nova Scotia were as often intended to open up timber lands as they were to connect small scattered settlements, and in some areas, like northern Queen's County, initial pioneers first "came to cut, then stayed to farm".⁴⁴ Gradually, as farms were hacked from the forest, agriculture assumed a critical role in virtually every community in the lumbering zone. By supplying nearly all of the subsistence requirements of their occupiers

⁴¹ James Morrison and Lawrence Friend, We Have Held Our Own: The Western Interior of Nova Scotia, 1800-1940, (Ottawa: National Historic Parks and Sites Branch, History and Archeology Series # 45, Parks Canada, 1981), p. 44.

⁴² Maurice Harlow, a lumberer-farmer from North Brookfield, Queen's County, purchased a cross-cut saw in 1883 for \$1.00. Maurice Harlow Diary, 7 November, 1883, MG1, Vol. 1300, PANS.

⁴³ Morrison and Friend, We Have Held Our Own, p. 46. If a lumberman signed on with a timber crew for the "drive" he also required a handspike and a canthook. The "peavy" which combined both of these tools only appeared in Queen's County for the first time later in the 1890s. Ibid., p. 120.

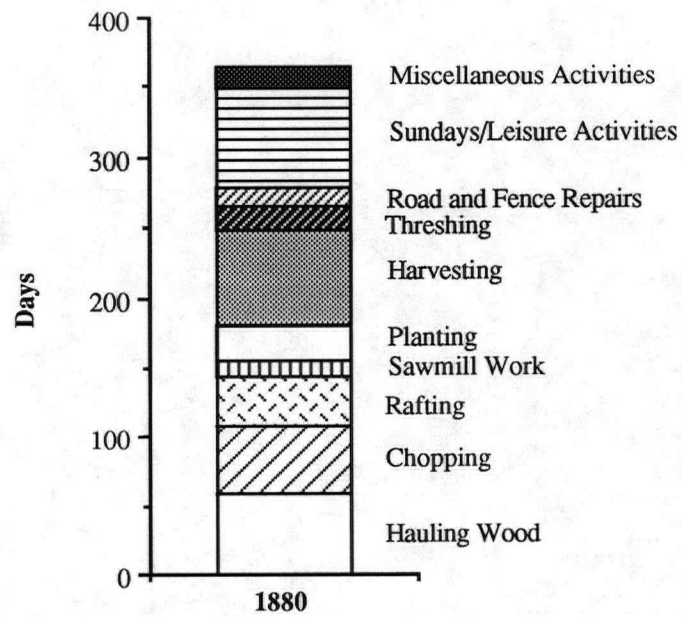
⁴⁴ Morrison and Friend, We Have Held Our Own, p.39.

and generating small surpluses that could be disposed of in developing domestic markets, agricultural holdings provided a base around which lumbering activities revolved. Most residents of this zone who established small farms cut timber on their woodlots, hauled the logs to a nearby sawmill and then transported the lumber or other products (staves, shingles, shooks etc.) to the nearest market town where it was sold to a general merchant for cash or credit. Those without land (including a great many young adults still residing on their parent's farms), as well as farm operators who needed to supplement their agricultural incomes, worked as seasonal labourers in timber camps in more remote locations during the winter months. They usually signed on with a timber company in the fall for a specified period, then worked on "the drive" in the spring before returning home to assist their families in preparation for the coming agricultural season.

The experiences of Maurice Harlow, born of third generation Nova Scotian parents in 1859 in North Brookfield, deep in the heart of the lumbering zone of Queen's County, were in many ways typical of lumber-farmers elsewhere in interior Nova Scotia. In the 1880's he still lived with his parents whom he assisted with the operation of the family farm. What was atypical about Harlow was that he chose to record the daily events of his life in a diary (which he kept for nearly 58 years), commencing on "the third day of July, 1877 ... the 18th anniversary of my birthday".⁴⁵ This magnificent document of social and economic life in one interior Nova Scotian community records not only the seasonal round of activities associated with one substantial interior farm, the regular forays into the woods for firewood and timber and the seasonal migration of workers to the timber camps situated in more remote locations, but also the complex web of social and economic ties that bound families together in such relatively isolated communities.

Harlow's diary indicates that in 1880 he devoted more than one-third of his labour to forestry-related activities (Figure 5-2). This involved 50 days spent "chopping" in his

⁴⁵ Maurice Harlow Diary, 10 July, 1877. MG1, Vol. 1300, PANS.

Figure 5-2, Maurice Harlow's Annual Activities, 1880

father's woodlot that fronted on Lake Tupper, in addition to the time needed to haul the 300 logs or so cut to a local sawmill to convert the timber into 4,000 feet of "merchantable" lumber.⁴⁶ Just less than a third of his time was applied to planting, hoeing, harvesting and threshing on his father's farm. For the remainder of the year his labouring time was divided among a variety of tasks, many of which were farm related. These included "making road", "making fence", "making hay ladders for the waggon", building a pig pen, "paring and stringing apples", "coopering barrels" butchering stock and transporting lumber and farm products to Liverpool.⁴⁷ Life was not all physical labour for Harlow, however; the summer work was interspersed with "blueberrying", "kiacking",⁴⁸ playing baseball and swimming while the long winter months were interrupted by rabbit, partridge and moose hunting, social evenings, card games and reading.⁴⁹

During the winter months of 1881, 1882 and 1883 Harlow was employed in timber camps in the backwoods of Queen's and Annapolis Counties for terms ranging from ten weeks to three and a half months. On his first sojourn to the "wild, rocky, barren wilderness" of the Lake Tobetic area, near the Shelburne County line, 22 miles or so from North Brookfield, Harlow spent two months and nine days living in a shanty with ten other

⁴⁶ Maurice Harlow Diary, entries between 3 March, 1880 and 10 March, 1880; 19 April, 1880; 12 May, 1880, MG1, Vol. 1300, PANS.

⁴⁷ Until a spur line of the Nova Scotia Central Railway between New Germany (Lunenburg County) and Brookfield (Queen's County) was completed in 1903, overland movement of lumber, shingles, barrels and farm products from North Brookfield was difficult and time-consuming. The Nova Scotia Central Railway (initially called the Nictaux and Atlantic Railway), which connected Bridgewater (Lunenburg County) to Middleton (Annapolis County) via New Germany and Springfield, was opened to rail traffic in 1889. Johnson, *Forests of Nova Scotia*, p. 90.

⁴⁸ Kiack is a local term for alewives or gaspereaux, a type of fish.

⁴⁹ Throughout the year Harlow attended 10 Temperance Society meetings, 7 Ladies Sewing Circle meetings, one lecture and one concert in addition to the 18 social gatherings held at the family homestead. Maurice Harlow Diary, see entry following 31 December, 1880, MG100, Vol. 1300, PANS.; For a fuller description of the Harlow family's leisure activities see Morrison and Friend, *We Have held Our Own*, p. 33.

lumbermen, and working from dawn until dusk either chopping or swamping trails to facilitate the hauling of the logs to the lake shore. Although the number of logs chopped varied on a daily basis Harlow averaged 10 logs a day during the ten weeks he was employed. Photographs of logging camps elsewhere in Queen's County suggest that the size of the camp in which Harlow worked was typical of the area.⁵⁰ Collectively such camps generated considerable winter employment throughout the lumbering zone, and, like the mines at Goldenville, Molega and Whitebourne, created a considerable local market for vegetables, salt meat, oats and even hay for the oxen and horses used in the logging operation.⁵¹

Life in such camps was hard and the work strenuous. The shanty was a very rough log structure with a roof of spruce or hemlock bark and a dirt floor; it was often without a "stove, table, chimney, or windows to add a measure of comfort to the dwelling" (Figure 5-3).⁵² If the temperature dropped suddenly the men had to take time from chopping to bank and "bow" [sic] the uninsulated structure.⁵³ The interior space was organized to allow the cook enough room to perform his activities around either a fireplace or a cook stove and rough bunks lined the walls of the structure for the crew. While the food served was not fancy it was plentiful, and, apart from one ailment noted by Harlow in his diary

⁵⁰ A photograph of "Rowter's Logging Camp" at Milford Lakes Queen's County, taken in 1905, illustrates 10 lumberers posing on a log. *Ibid.*, p. 45.

⁵¹ A diary entry made by Harlow on 24 February, 1883 when he was working in a camp in West Dalhousie (Annapolis County) is suggestive of the scale of lumbering underway in one tiny segment of the lumbering zone: "Met Morrison's men on the main road [today]. As there is 148 of them they make quite a martial appearance as they march 3 abreast". These men represented the workforce of one logging contractor who operated 10 or so logging camps. MG100, Vol. 1300, PANS.

⁵² Morrison and Friend, We Have Held Our Own, p. 44. Figure 5-3 is published in R. B. Miller, "Forest Resources of the Maritime Provinces", Canada and Its Provinces: A History of the Canadian People and Their Institutions By One Hundred Associates, Vol. 14, eds., A. Shortt and A. G. Doughty (Toronto: Glasgow Book and Co., 1914), facing p. 6.

⁵³ Harlow makes reference to this on 5 December, 1882 while in a timber camp in the woods of West Dalhousie (Annapolis County).

Figure 5-3, Timber Shanty in Nova Scotia's Lumbering Zone, Circa 1910



which was probably food-related, Harlow generally found the meals supplied, to his satisfaction.⁵⁴ Given the long hours of strenuous work and the harsh winter climate of Nova Scotia's interior, however, it is not surprising that Harlow found living in the camp "a pretty hard drag" at times, and by early March he was anxiously waiting to "go back to society" which he vowed he would "enjoy with renewed zest".⁵⁵

Timber camps such as the one described by Maurice Harlow provided the young men of Nova Scotia's lumbering zone with the opportunity to obtain the necessary capital to acquire land, build houses, and outfit farms or to pay the steamship and/or railroad rates to carry them to the streets of Boston or to the greener fields of the American and Canadian west.⁵⁶ For long hours and hard work in the timber camps Harlow and his co-workers received \$14.00 per month clear.⁵⁷ When totalled with the \$1.35 to \$1.40 per day one could earn during a month or so in the spring for the more dangerous work of "the drive", winter earnings from woods work could be substantial.⁵⁸ Thus, on the anniversary of his twenty-second birthday, after completing his first sojourn in a timber camp and his second

⁵⁴ On 9 January, 1881, after completing his first week in the camp, Harlow noted in his diary, "have been troubled with looseness of the bowels, but still have worked every day during the week". A month later he observed, "had our usual [Indian] meal pudding for breakfast, which I like, [and] fried moose meat for dinner. Other entries suggest that beans, bread, molasses, potatoes and salt meats were staples in these camps. Maurice Harlow Diary, MG100, Vol. 1300, PANS.

⁵⁵ Maurice Harlow Diary, 6 March, 1881, MG100, Vol. 1300, PANS.

⁵⁶ Several entries in Harlow's diary indicate that he was contemplating "going west" precisely around the time that he began working in the timber camps. See diary entries for 9 October, 1880, 16 October, 1881 and 28 October, 1881, MG100, Vol. 1300, PANS.

⁵⁷ This is the rate Maurice Harlow received for the three and one half months he spent in a timber camp in the West Dalhousie area (Annapolis County) between 4 December, 1882 and 21 March, 1883. See diary entry for 22 March, 1883, MG100, Vol. 1300, PANS.

⁵⁸ Harlow signed on to "raft" and "drive" the timber cut at Lake Tobeatic for the rate of \$1.35 per day between 18 April, 1881 and 14 May, 1881. The following year Harlow was employed on a drive on the Nictaux River that lasted eight weeks (from 4 May, 1882 to 29 June, 1882) for which he received \$1.40 per day. See diary entries for 24 March, 1881, 30 April, 1881 and 29 June, 1882, MG100, Vol. 1300, PANS.

log drive, Maurice Harlow entered the following statement in his diary, "I find myself better off in this world's goods than last year this time by \$78.00 in cash", though "to get it I have been through some rough places".⁵⁹

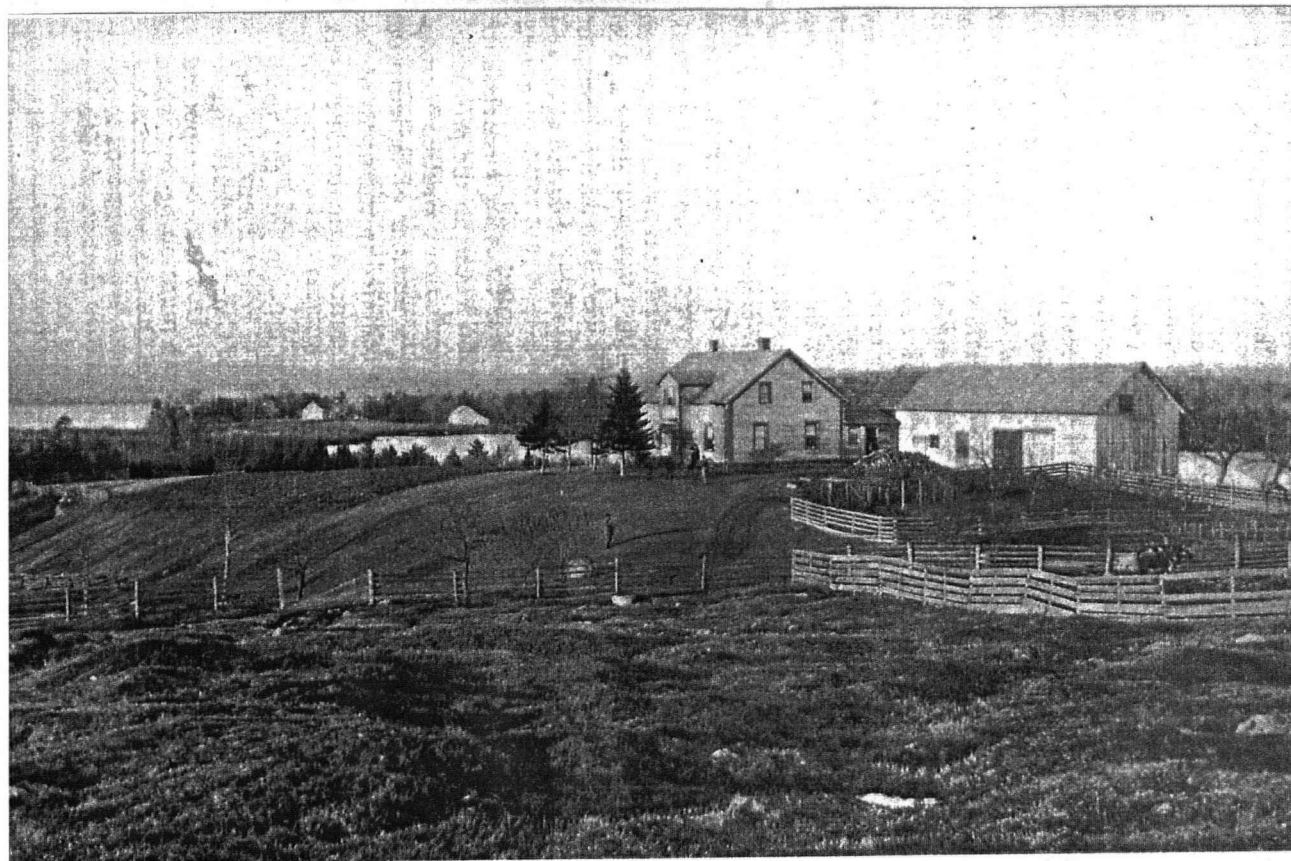
During the nineteenth century the relative importance of farming in the lumbering zone had changed dramatically. At the beginning of the nineteenth century agriculture was clearly supplementary and almost incidental to the cutting of timber and the production of lumber in much of Nova Scotia's interior. By the end of the century agricultural holdings were substantial in several pockets throughout this zone, and farming in a few areas had reached a level of economic importance that surpassed that of lumbering. Where small local markets emerged due to the development of mining or the expansion of sawmilling, or where districts were linked directly to the province's key domestic markets by rail, farms had expanded beyond the agro-forestry stage. As the nineteenth century came to a close lumbering activity was gradually becoming concentrated in the western part of the lumbering zone where the last pristine stands of timber in the province were found.

Illustrative was the Harlow farm in North Brookfield, Queen's County (Figure 5-4).⁶⁰ With 20 acres devoted to field crops and another 15 acres or so of improved pasture and marshland in 1880, land use on the Harlow farm approximated the average amount of improved land per family recorded for the entire district at the 1881 census (37 acres). Of these 35 improved acres (which represented about a quarter of the land owned by the Harlow family), more than half was devoted to hay production and pasture (a slightly larger ratio than on either of the sample farms examined in the farming zone in the 1850s),

⁵⁹ Maurice Harlow Diary, 10 July, 1881, MG100, Vol. 1300, PANS.; By this date Harlow had obtained full-time employment as a farm labourer on a neighboring farm. This job lasted for 4 months.

⁶⁰ The following description of the Harlow farm in the 1870s and 80s is based on information contained in Maurice Harlow's Diary, MG100, Vol. 1300, PANS. Figure 5-4 is published in James Morrison, "Maurice Almon Harlow's Nineteenth Year: Farming in Nova Scotia, 1877-1884", in The Farm, Annual Proceedings of the Dublin Seminar for New England Folklife, ed. by Peter Benes (Boston: Boston University, 1988), p. 25.

Figure 5-4, The Harlow Farm, North Brookfield, Queens County, Circa 1910



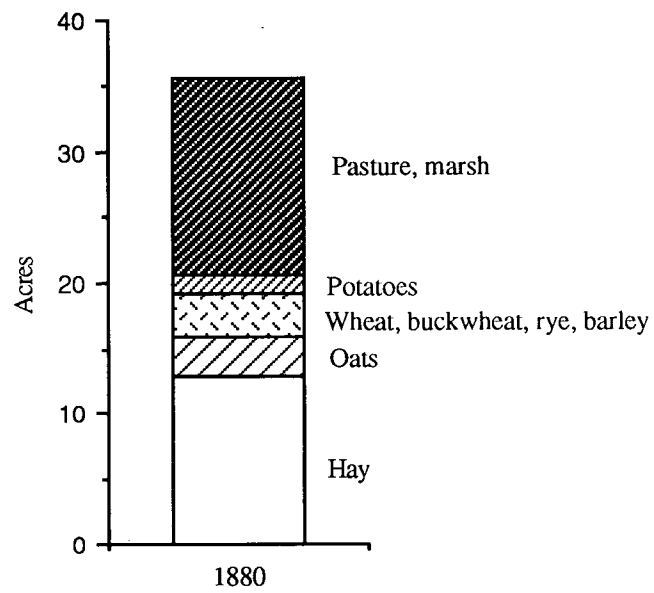
three acres were planted in oats, and three acres were in a combination of wheat, buckwheat, barley and rye (Figure 5-5). Only an acre and a half was devoted to potato production and a quarter of an acre to carrots, beets, peas and beans. Like many of their neighbors, the Harlow family also kept a small orchard. The main emphasis of this farm was to produce fodder for its half dozen cattle, 10 or 12 sheep, and one or two swine, and to provide as many of the staple foodstuffs as possible for the family.

This farm generated surplus produce. But, until the rise of a local market for agricultural produce in northern Queen's County in the late 1880s (due to the expansion of gold mining at Molega and Whitbourne) any saleable surpluses had to be transported to Milton or Liverpool, 30 miles away over a very rough road. The principal agricultural commodities to enter this trade were potatoes, vegetables, apples and meat. A summary of one agricultural marketing trip described by Maurice Harlow in his diary clearly illustrates the slender returns that were generated on farms in this portion of the lumbering zone. Harlow's diary beginning on 19 October, 1880 reads as follows:

| | |
|------------|--|
| | loaded up to go to Liverpool tomorrow. Put on 16 bushels of potatoes and 1/2 bushel of beans. |
| October 20 | We got off at 12; arrived at 12 Miles at dark. Put up and got my supper; retired 10 o'clock; up at 3 o'clock. |
| October 21 | Went on to the 4 Mile ... Got a kettle from a man who was passing with an ox team. Waited here till Mr. E. Morton and Andrew came along and I went in company with them [to town]. Went to James Murray's in Milton and done all my trading there. Potatoes 40¢ [per bushel]; beans \$2.00 [per bushel]. Got flour [worth \$7.00], no money. ... Drove up to Uncle Freeman's. ... Got dinner at Uncle Lewis' ... stopped at 15 mile ... Got home at 9 [o'clock]. ⁶¹ |

Other diary entries describe the sale of apples, beef and hides in a similar manner by Harlow, but the common characteristic of most transactions involving agriculture was that

⁶¹ Maurice Harlow Diary, MG100, Vol. 1300, PANS.

Figure 5-5, Improved Land Use on the Harlow Farm, 1880

cash seldom changed hands for farm produce.⁶² Farm produce was exchanged for foodstuffs not produced locally (i.e. sugar, molasses, tea) or a credit was applied to the individual's account with a particular merchant. Cash was a valuable commodity which was principally obtained through the sale of timber, lumber and shingles.⁶³

The Farming Zone

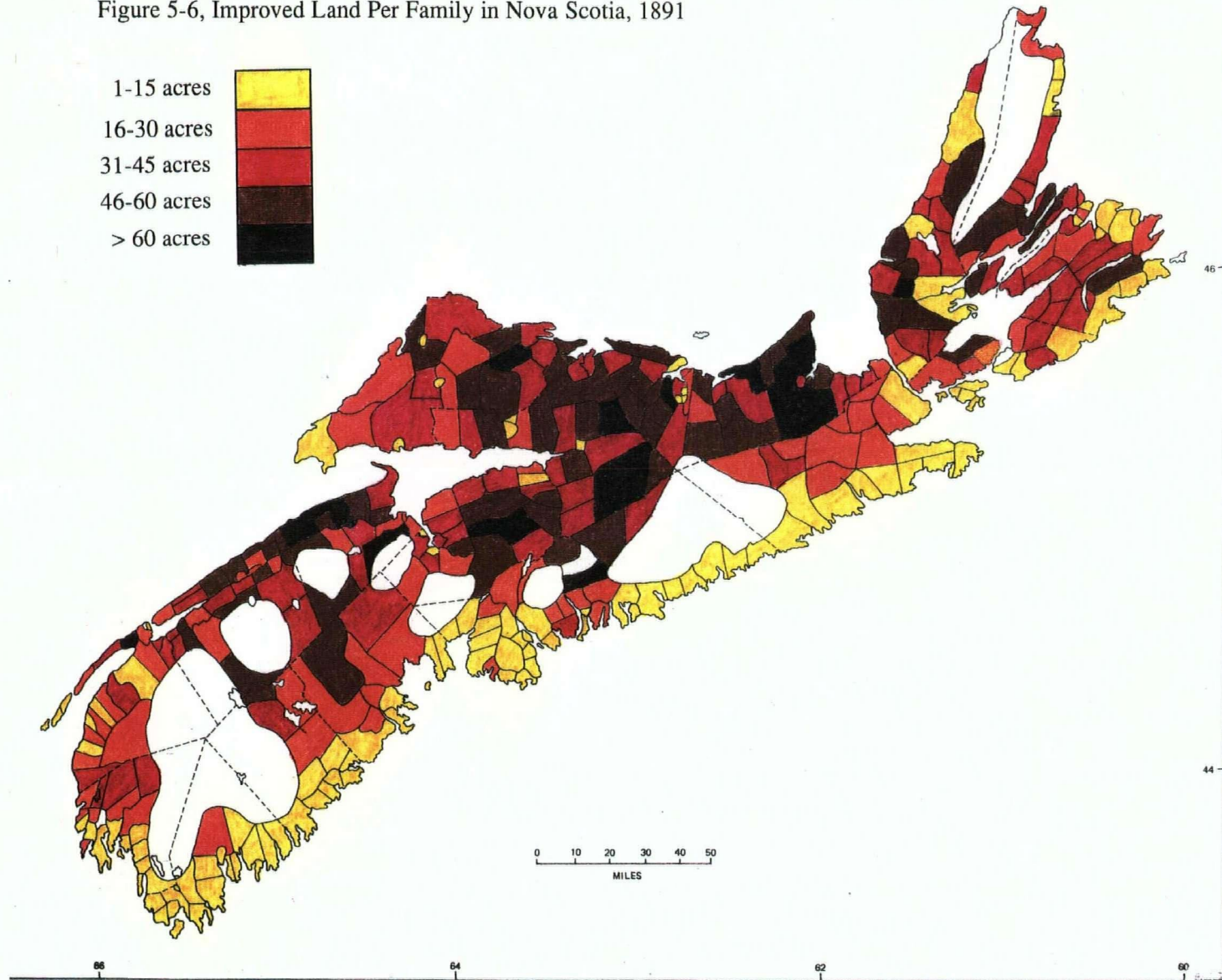
Between 1851 and 1891 the total quantity of improved land in the farming zone nearly doubled; farm numbers rose to 25,000 (from 13,000 in 1851). Most districts had more people than they had in 1851 though outmigration had ensured that some grew at a rate far below natural increases. Many districts now averaged more than 50 acres of "improved" land (Figure 5-6). The most significant development in agriculture in this zone since the mid-nineteenth century was the emergence of specialty production regions across the farming zone. Although the farming zone retained many of the mixed farming characteristics of the mid-nineteenth century, zones of specialty crop production were more marked than half a century earlier. Fruit orchards had replaced potato fields in the Annapolis-Cornwallis valley; dairying was a distinctive emphasis along the Shubenacadie valley and in the upland districts overlooking Cobequid Bay that were accessible to the Windsor-Halifax and Truro-Halifax railways; and stock raising, butter production and vegetable production were distinctive features of a mixed farming belt that stretched from the edges of the dairy belt through the Northumberland Shore counties of Cumberland, Pictou, Antigonish and Inverness.⁶⁴ Farm families in Cumberland, Pictou, Antigonish

⁶² On 20 September, 1881 Harlow noted with some glee, "drove a tight bargain with Sam Freeman, ex M.P., trading 2 bushels of apples for \$1.00 worth of sugar". For other examples see 5 December, 1881; 22 September, 1883; and 22 November, 1883; Maurice Harlow Diary, MG100, Vol. 1300, PANS.

⁶³ See entries for 22 September, 1879; 3 March to 12 May, 1880; 2 July, 1880; 3 August, 1880; 26 September, 1881; 26 August, 1883; Maurice Harlow Diary, MG100, Vol. 1300, PANS.

⁶⁴ The Windsor-Halifax and Truro-Halifax Railways were opened for rail traffic in 1858. The railroad reached New Glasgow in 1865, where a spur line connected it to the town of Pictou. The Windsor-Annapolis line through the Annapolis-Cornwallis valley was finished

Figure 5-6, Improved Land Per Family in Nova Scotia, 1891



and Inverness Counties, who raised more wheat, barley, rye and oats in 1851 than families in other districts of the farming zone, no longer devoted a larger proportion of their cultivated land to these field crops. Since the arrival of the Intercolonial Railway in 1876, competition from larger, more productive grain growing centres, had undermined the commercial production of these crops in Nova Scotia. Purchases of feed grains and flour were two of the largest components of every family's annual household budget. In the same manner, the increased availability of finished consumer goods, produced in the factories of Quebec and Ontario, after 1876, led to the decline of rural craftsmen and artisans, and the almost complete disappearance of crops like flax on provincial farms. By 1891 horse-drawn machines were being used for tasks that were completed by hand four decades earlier; imported textiles had replaced homespun woolens and linens (in all but the most isolated settlements); and the wonders of the mail-order catalogue were becoming well-known. In short, the effects of modernization were becoming visible almost everywhere in Nova Scotia: "the knife was [being] replaced by the patent apple peeler, the straw tick with the mattress", and home-made implements "by patent churns and factory-made furniture".⁶⁵

The Fruit Belt

In the Annapolis-Cornwallis valley in western Nova Scotia potato fields were giving way to orchards from the 1870's on and by 1890 fruit had replaced potatoes as the principal export crop of the region. So, while the number of farm families in the valley grew from 2,400 to 3,900 between 1851 and 1891, apple and soft fruit production

4 years later. Despite the considerable growth in railroad mileage between 1858 and 1869, these rail lines did not reach beyond the province's borders until after 1870. All of the links in the Intercolonial Railway system between Nova Scotia and Montral were not completed until 1876. Gordon M. Haliburton, "A History of Railways in Nova Scotia", M.A. Thesis, Dalhousie University, 1955, pp. 103, 149, 157, 166.

⁶⁵ J. Lynton Martin, The Ross Farm Story: A Brief History of Agriculture in Nova Scotia: With Particular Emphasis on Life on a Small Upland farm, (Halifax: Nova Scotia Museum, 1974), p. 41.

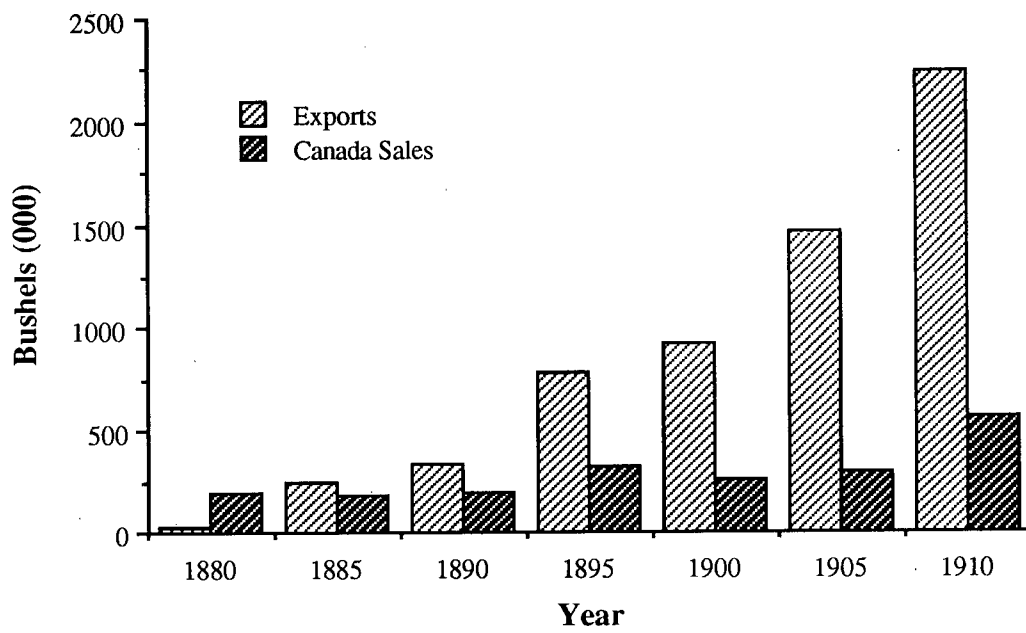
quadrupled (from 114,000 to 666,000 bushels) and potato production declined by more than 50 per cent (from 1,125,303 bushels to 536,225 bushels).⁶⁶ Although some apples were shipped from the Annapolis valley to Britain in the 1850s and 60s, only after 1880 did shipments reach significant commercial levels. By the end of the century more than three-quarters of Nova Scotia's apple crop -- most of which came from the valley -- was exported; almost all of it to the London market (Figure 5-7).⁶⁷ A tariff placed on Canadian potatoes entering the United States market in 1874, and relatively low prices for potatoes throughout the 1870's and 80's were partly responsible for this development.⁶⁸ But technological improvements in steamships, which reduced the time of a trans-Atlantic crossing by nearly a week, the completion of the Windsor-Annapolis Railroad (in 1869) which connected the valley to the port of Halifax via the Halifax-Windsor line (completed in 1858) and reductions in international freight rates during the last quarter of the nineteenth century were also important factors which enabled Annapolis valley fruit to reach the British market without spoiling.⁶⁹ In 1884 the Directors of the Kings County Agricultural

⁶⁶ Apple and fruit production are not recorded in the 1851 census. The 114,000 bushels is an estimate based on the 1861 census which records apples and other fruit for the first time.

⁶⁷ The source for Figure 5-7 is Margaret Conrad, "Apple Blossom Time in the Annapolis Valley, 1880-1957", in Atlantic Canada After Confederation, The Acadiensis Reader: Vol. 2, eds., P.A. Buckner and D. Frank (Fredericton: Acadiensis Press, 1985), p. 355. The President of the Nova Scotia Fruit Growers Association reported in 1892 that, "a noticeable feature of our trade with Great Britain is that sales of our fruit are confined almost exclusively to London, while Liverpool, Glasgow, and many other ports offer a good market for Canadian and American apples." J. W. Bigelow, Presidential Address, (Nova Scotia Fruit Growers Association, 1892), p. 32; cited in N. H. Morse, "An Economic History of the Annapolis Valley in Nova Scotia", Ph.D. Thesis, University of Toronto, 1952, p. 15.

⁶⁸ A. B. Balcom, "Agriculture in Nova Scotia Since 1870", Dalhousie Review 8, 1 (1928), p. 33. In their report to the King's County Agricultural Society in 1886 the Directors noted, "the old days of a dollar a bushel [for potatoes] hold a fond place in our memories" but "we should remember that times are changed". Potato prices prevailing in 1886 ranged between 30 and 35 cents a bushel. Kings County Agricultural Society Report for 1886, in Annual Report of the Secretary For Agriculture, 1886 (Halifax: Queen's Printer, 1887), p. xcv.

⁶⁹ Minute Book of the Nova Scotia's Fruit Growers Association, entries for 23 March, 1903, MG6, Vol. 4, #1, PANS.; Testimony of Mr. George S. Campbell, Steamship

Figure 5-7, Nova Scotia Apple Sales, 1880-1910

Society reported that, "there is no doubt that ten years hence this valley ... will be truly a garden, an orchard from end to end, from the Annapolis Basin on the west to the Avon on the east ...".⁷⁰ Two years later the same Directors acknowledged that, "the crop which [formerly] overshadowed all others in the valley [has] gradually taken the second place"; apples have become "the first and most important crop of our valley".⁷¹

Although the farms of the Annapolis-Cornwallis valley were small, relative to other regions in the farming zone, they were worked intensively. Of the 76 acres each family averaged in this region in 1891, 46 were "improved" (16 more than four decades earlier).⁷² More hay, turnips and butter were produced, on average, than in the mid-nineteenth century, though fewer cattle, sheep and swine were raised; and apart from oats, the production of most grains had declined precipitously since 1851 (Table 5-1). Although families averaged only 105 bushels of apples, which could have been produced on an acre and a half of land (given typical yields), many recently planted orchards were only just beginning to bear fruit. The Miller farm, in Middleton, Annapolis County was typical. Purchased in 1878, the farm had 10 acres devoted to recently-planted apple trees in the mid 1880s.⁷³ At the 1891 census, fruit production from this farm was negligible. Yet, two decades later, the original 10 acre orchard, and others planted subsequently, generated

Agent, 6 August, 1914, Dominions Royal Commission on the Natural Resources, Trade, and Legislation of Certain Portions of His Majesty's Dominions, vol. 12, Minutes of Evidence Taken in the Maritime Provinces of Canada in 1914 (London: His Majesty's Stationery Office, 1915), pp. 29-30; and Douglas North, "Ocean Freight Rates and Economic Development, 1750-1913", Journal of Economic History 18 (1958), p. 569.

⁷⁰ Kings County Agricultural Society Report for 1884, in Nova Scotia Journal of Agriculture, vol. 4, 1885, p. 519.

⁷¹ Kings County Agricultural Society Report for 1886, in Annual Report of the Secretary For Agriculture, 1886 (Halifax: Queen's Printer, 1887), pp. xcv-xcvi.

⁷² The percentage of total farmland per family improved in the fruit belt (60 per cent) was larger than anywhere else in the farming zone.

⁷³ G. C. Miller, "A Little Fruit Farm in the Annapolis Valley", in Annual Report of the Secretary for Agriculture for Nova Scotia for 1910 (Halifax: King's Printer, 1911), p. 44.

Table 5-1, Average Production Per Family, Principal Crops and Livestock, The Fruit Belt, 1851-1891

| | 1851 | 1891 | Change (% +/-) |
|---------------------------|------|------|----------------|
| Hay (tons) | 11 | 13 | 18 |
| Potatoes (bushels) | 185 | 149 | -19 |
| Turnips (bushels) | 23 | 52 | 126 |
| Oats (bushels) | 35 | 33 | -6 |
| Wheat/Buckwheat (bushels) | 12 | 5 | -58 |
| Barley (bushels) | 5 | 4 | -20 |
| Rye (bushels) | 10 | 1 | -90 |
| Other Grains* (bushels) | 14 | 3 | -79 |
| Apples (bushels) | n/a | 105 | n/a |
| Cattle (number) | 9 | 5 | -44 |
| Sheep (number) | 8 | 4 | -50 |
| Swine (number) | 2 | 1 | -50 |
| Poultry (number) | n/a | 12 | n/a |

* Corn, peas and beans.

Source: Census of Nova Scotia, 1851; Census of Canada, 1891.

"profitable results" for "the labour and money invested".⁷⁴ The 45 acres of productive, "fine orchards" on this property in 1910 ranged from 5 to 25 years in age.⁷⁵ In the 1890s most families had between an acre or two and 10 acres planted in fruit trees. Only at the eastern end of valley, in the districts of Horton, Grand Pre and Cornwallis (census subdistricts 8 and 9), had pioneer commercial fruit growers already expanded their orchards to 50 acres or more.⁷⁶ By contrast, in the mid-nineteenth century families averaged little more than a quarter of an acre in fruit trees. Although potato production had declined overall, a small number of families continued to specialize in this crop, despite the tariff wall imposed by the United States in the 1870s. Two hundred and seventy families in Canard, Kings County (census subdistrict 2), averaged approximately 600 bushels of potatoes each in 1891, roughly the same quantity of potatoes produced, on average, in 1851.⁷⁷

The accounts of R. J. Whitten and Company, of Halifax, who dealt almost exclusively with farmers from the Annapolis-Cornwallis valley during the years 1899 and 1900, clearly illustrate the range of products shipped from valley farms by rail to commission merchants and wholesalers in the capital.⁷⁸ Apples were the most valuable of the range of products shipped from the valley to Whitten and Company; they accounted for 40 per cent of the \$6,700 in credits assigned to valley farmers between November, 1899

⁷⁴ Ibid.

⁷⁵ Ibid.

⁷⁶ Henry Chipman, Fruit Growing in King's County, (Nova Scotia Fruit Growers' Association, 1887), pp. 55-56; cited in Morse, "An Economic History of the Annapolis Valley", p. 19. By the end of the century, "quite a number of young, 50 acre orchards" could "be found in the valley". S.C. Parker, The Development of Fruit Growing in Nova Scotia (Nova Scotia Fruit Grower's Association, 1898); cited in Ibid., p. 20.

⁷⁷ Census of Canada, 1891.

⁷⁸ Accounts of R. J. Whitten and Company, Commission Merchant, Halifax, 1 November, 1899-31 December, 1900; MG3, Vol. 229, PANS.

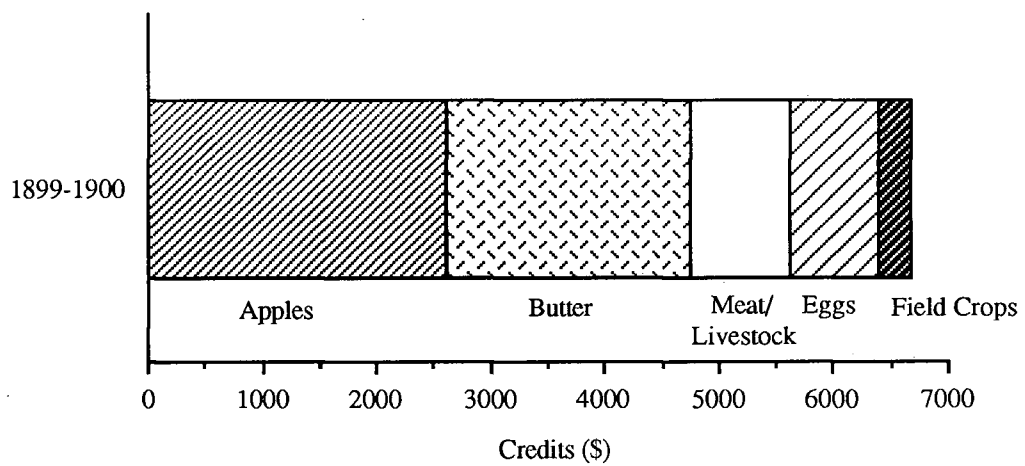
and December, 1900 (Figure 5-8). Butter was the second most valuable commodity sold by valley farmers. The 12,000 lbs. shipped by 78 valley families to Whitten in 1899-1900 was worth more than \$2,100 (or 17.5 cents per lb.). The remainder of the commercial products recorded in the company's records include eggs (worth almost \$800 in cash and credits), pork, beef and livestock (worth \$875) and potatoes and vegetables (worth \$277). Whitten and Company charged valley farmers 10 per cent of the retail price received for the farm products as their brokerage or wholesale fee. Valley suppliers received credit on their account with Whitten for commodities supplied, and when the account was settled (generally at one to two month intervals) money orders were returned to the farmer (minus railway freight charges). This example of one merchant's dealings with farmers from the developing fruit belt provides a glimpse into the elaborate commercial network into which most families of the farming zone were linked.

The Emerging Central Dairy Belt

With an average of 133 acres "occupied", farms in the central counties of Hants and Colchester were significantly larger than those in the Annapolis-Cornwallis valley, but they had less cleared land, on average.⁷⁹ They had larger pastures and woodlots than farms in the fruit belt. Mixed farming also prevailed, but fluid milk and butter production were becoming distinct emphases in different parts of this zone. Overall, farm families produced more hay and oats, and kept one more cow, one more sheep and a few more hens and chickens than families in the Annapolis-Cornwallis valley (Table 5-2). Apart from the districts of Falmouth and Hantsport along the Avon-River valley (districts 5 and 9, Hants County), where large orchards had been planted, apples and other fruit (strawberries, currants, gooseberries) were produced mainly on a subsistence basis. Most farms had a few apple trees and a berry patch for household use. Relative to four decades earlier, farms

⁷⁹ The 6,000 farms in this portion of the farming zone averaged 41 improved acres. Census of Canada, 1891.

**Figure 5-8, R.J. Whitten and Company Accounts
(Halifax) 1899-1900**



**Table 5-2, Average Production Per Family, Principal Crops
and Livestock, The Central Dairy Belt, 1851-91**

| | 1851 | 1891 | Change (% +/-) |
|---------------------------|------|------|----------------|
| Hay (tons) | 13 | 15 | 15 |
| Potatoes (bushels) | 69 | 102 | 48 |
| Turnips (bushels) | 18 | 43 | 139 |
| Oats (bushels) | 41 | 38 | -7 |
| Wheat/Buckwheat (bushels) | 26 | 13 | -50 |
| Barley (bushels) | 3 | 6 | 100 |
| Rye (bushels) | 1 | 0.1 | -90 |
| Other Grains* (bushels) | 2 | 1 | -50 |
| Apples (bushels) | n/a | 16 | n/a |
| Cattle (number) | 8 | 6 | -25 |
| Sheep (number) | 9 | 5 | -44 |
| Swine (number) | 2 | 1 | -50 |
| Poultry (number) | n/a | 16 | n/a |

* Corn, peas and beans

Source: Census of Nova Scotia, 1851; Census of Canada, 1891.

in this area in 1891 produced more hay, potatoes, turnips and barley, and approximately the same quantity of oats. Only buckwheat, wheat and other grains showed a large decline in this region between 1851 and 1891. Although cattle numbers had dropped slightly between 1851 and 1891 the proportion of "milk cows" in the entire region had risen to more than half of the cattle enumerated.

As useful as they are to establish the relative context of agricultural production in central Nova Scotia these regional averages disguise the level of specialization that had already taken place in parts of this zone by the early 1890s. The settlement of Truro, which had evolved from a small agricultural village of 800 or so people in 1851 to a substantial central place of 5,000 in 1891, created a significant local market for fresh milk, meat and market garden vegetables in the heart of this agricultural region.⁸⁰ Furthermore, with a direct rail connection to the city of Halifax (now a sizeable urban concentration of 45,000 people) since 1858, many farm families had been shipping agricultural products to the provincial capital regularly for almost a generation. Fluid milk had become an important commercial product in the districts of this region accessible to the rail line and to the town of Truro. In the census subdistricts closest to Truro -- Brookfield and Onslow -- farm families averaged 8 and 9 cattle respectively in 1891, the majority of which were "milk cows"; four decades earlier these districts averaged only 3 and 6 cattle, the majority of which were oxen and beef cattle. Families whose farms were distant from Truro, and too far from a railway station to allow the regular shipment of milk to Halifax, placed a greater emphasis on "dairy butter" and livestock, products that could withstand long distance transport over wagon roads.⁸¹ Thus in Middle and Upper Stewiacke (Colchester County),

⁸⁰ Truro's economic base included several foundries, furniture factories and carriage factories as well as a hat factory, a clothes peg factory and "the largest milk condensing factory in the Dominion". Chipman, Nova Scotia: Its Agricultural Resources, pp. 18-19.

⁸¹ "Dairy butter" refers to butter made at the farmstead rather than in a butter factory (creamery).

approximately 20 miles from the town of Truro and 15 miles or so from the Brookfield station, 400 families averaged more than 75 improved acres, half of which was devoted to various field crops. Because they could not take advantage of the fluid milk market of the region these families emphasized the commercial production of butter and livestock; they averaged 9 sheep and 10 cattle in 1891, 70 per cent more than were recorded on the average holding in Colchester County. The milk produced by the 4 cows kept by each family (on average) was churned into butter at the farmstead; the 265 lbs. of butter churned per family was almost 75 per cent greater than the average for central Nova Scotia in 1891.⁸² In general, as distance from main transportation arteries increased, specialty production declined and livestock and dressed meat sales accounted for a larger proportion of family earnings. The central dairy belt thus gradually gave way to a mixed farming zone where families emphasized a different mix of commercial products than those whose farms were located in the Halifax and Truro milksheds.

Alexander Cutten of Lower Village (Colchester County) and Frederick Gordon of Milford (Hants County) ran archetypal dairy farms.⁸³ Herd sizes were 24 and 26 cattle respectively, at least two-thirds of which were milk cows. Cleared land was 94 and 60 acres respectively. Land use reflected the commercial orientation of these farms. Alexander Cutten, whose farm was situated a few miles from the town of Truro, owned 24 cattle, 5 horses and 3 colts in 1893; 15 of these animals were milk cows. To feed a herd of this size he devoted 50 acres to hay production (37 of which were improved marshland) and about 8 acres to mixed grains. The remainder of the farm consisted of approximately twenty acres of "improved" pasture, six acres of potatoes, vegetables and other crops and

⁸² Census of Canada, 1891.

⁸³ Alexander Cutten's farm is documented in a detailed inventory of Cutten's estate taken after his death in 1893, contained in Nova Scotia Estate Papers, RG48, Reel 237, 2 August, 1893, PANS.; Frederick Gordon's farm is described in the diary he kept between 1880 and 1914, Micro Biography file, PANS.

150 acres of woodland. "Improved" land had increased steadily from 64 acres in 1861, to 75 acres in 1871, to more than 90 acres in the early 1890's.⁸⁴ Given the scale of this operation horse-drawn machinery was necessary. At his death in 1893, Cutten owned a horse-drawn rake, a Patterson plough, one spike-tooth harrow, one spring-tooth harrow, one horse-drawn fork, one horse-drawn cultivator and one horse-drawn mowing machine, along with associated harnesses and equipment. Hand-held tools included several rakes, hoes and forks and 2 scythes. In total, Cutten's estate was estimated at \$10,082; five times the average for all farmers' estates inventoried in Hants and Colchester Counties in 1890-91.⁸⁵ This was clearly one of the largest farms in the province in the late nineteenth century.

Like the Cutten farm, Frederick Gordon's farm supplied fresh milk to the region's urban markets. With 3 horses, several heifers and calves, 20 cows "giving milk", and a steer "to kill for our own use", land use on the Gordon farm in the late nineteenth century differed only slightly from that of Cutten. Although we have fewer details about land use on Gordon's farm than on Cutten's, we know that Gordon devoted slightly more land to oats and mixed grains (approximately 13 acres), and far more land to turnips (10-12 acres) than did Cutten. This reflects Gordon's larger herd of milk cows than Cutten's. Gordon, however, probably owned less land than Cutten for on several occasions he had to pasture his cattle on neighbouring farms. In addition, an estimate of Gordon's total assets, taken in

⁸⁴ Census of Nova Scotia, 1861, manuscript schedules, Colchester County, District #1, Abstract 11, line 25, PANS; Census of Nova Scotia, 1871, manuscript schedules, Colchester County, District #1, p. 126, line 19, PANS; Nova Scotia Estate Papers, RG48, Reel 237, # 1226, 2 August, 1893, PANS.

⁸⁵ Of this amount, 70 percent represented the Cutten family's investment in land, 10 percent in their barn, farmhouse and furniture and the remainder in livestock, vehicles, implements and other investments; Nova Scotia Estate Papers, RG48, Reel 237, # 1226, 2 August, 1893, PANS. The Estate Inventories for Hants County, registered in 1890-91 are in RG48, Reels 632-633, PANS; those for the rest of Colchester County are in RG48, Reels 238-240, PANS.

1910 when he owned 25 milk cows, suggests that his real estate and property were worth approximately \$5,000, half that of Cutten's (at his death in 1893).⁸⁶

Regardless of farm size, the commercial connections established by dairy farmers specializing in fresh milk, like Cutten and Gordon, were very similar. If the farmer lived within several miles of Truro he could engage in the direct delivery of milk to urban consumers. The dairy farmer used an express wagon to transport the milk, carried in 10 gallon cans, to town. The farmer then peddled the milk door-to-door to a group of regular customers. Using a one pint measure, the farmer filled containers supplied by his customers with milk.⁸⁷ This system of milk retailing remained in place until after the turn of the century when bottling, pasteurization and homogenization were introduced by dairy companies located in the region's urban centres.⁸⁸

Dairy farmers too distant from the region's urban markets to engage in direct door-to-door delivery depended upon the railroad to get their milk to the Truro and Halifax

⁸⁶ Frederick Gordon Diary, 1 January, 1910, Micro Biography File, PANS.

⁸⁷ J.A. Ruddick describes a similar pattern that prevailed in Ingersoll, Ontario around 1880: "As he [the farmer] passed from door-to-door, he rang a large hand bell to summon his customers, who came running to the side of the vehicle, with pitchers and basins to secure their daily supply..."; The Dairy Industry in Canada, ed. H. A. Innis (Toronto: The Ryerson Press, 1937), p. 69. Very similar patterns of milk retailing in the nineteenth century have been described for St. John's, Newfoundland and for several Canadian, British and European cities. See Robert MacKinnon, "The Evolution of Commercial Agriculture Around St. John's, Newfoundland, 1800-1935: A Study of Local Trade in Response to Urban Demand", M.A. Thesis, Memorial University, 1981, pp.68-73; John Benson, "Hawking and Peddling in Canada, 1867-1914", Histoire Sociale-Social History, 18, 35 (1985), p. 79; P. J. Atkins, "The Retail Milk Trade in London, 1790-1914", Economic History Review, 33, 4 (1980), pp. 522-37; Hans J. Teuteberg, "The Beginnings of the Modern Milk Age in Germany", in Food in Perspective: Proceedings of the Third International Conference on Ethnological Food Research, eds. A. Fenton and T. M. Owen (Edinburgh: John Donald Publishers Ltd., 1981), p. 296.

⁸⁸ J.A. Ruddick suggests that the bottling of milk for distribution began in the cities of Toronto, Montreal and Ottawa around 1900, and that this represented the beginning of modern milk distribution in Canada, The Dairy Industry in Canada, p. 70; Pasteurization and homogenization were introduced during the first decade of the new century, but these processes did not become widespread in all of Canada's urban areas until several decades later, Ibid., pp. 72-74.

markets. Beginning in the 1880s a "milk train" departed Truro each morning for Halifax with station stops at Brookfield, Stewiacke, Gay's River, Milford, Elmsdale and Enfield.⁸⁹ Farmers close to railway stations along this line forged market links with Halifax merchants and wholesalers who organized this trade. An alternative market for dairy farmers situated along the Truro-Halifax Railway line was the Condensed Milk Factory at Truro. This factory, which had its origins as a cheese factory constructed in 1871, began condensing milk in 1883; by the early 1890s it was purchasing 6,000-8,000 pounds of milk per day during summer months (2,400-3,200 quarts) and 4,000 pounds of milk per day during the winter (1,600 quarts).⁹⁰ In 1892 a "creamery" was added to the business which was "worked only when the company [had] too great a stock of condensed milk on hand".⁹¹ With such marketing mechanisms for disposing of fluid milk well established in this region by 1891, commercial dairying was an important component of the region's economy.

The Mixed Farming Belt

Along the edges of the central dairy belt, and to the north and east in the counties of Cumberland, Pictou, Antigonish, and Inverness, farms averaged slightly more cleared land than in the developing fruit and dairy belts; but smaller amounts of land were devoted to field crops.⁹² Thus, farms in this region generally had larger pastures, and lower levels of field crop production than those in the developing fruit and dairy belts. Hay production per family was marginally lower than that in the dairy region of central Nova Scotia (at 14

⁸⁹ G. A. Gigault (Assistant Commissioner of Agriculture for Quebec), "Agricultural Laws of the Maritime Provinces", in Annual Report of the Secretary For Agriculture For The Year 1892 (Halifax: Queen's Printer, 1893), p. 185.

⁹⁰ Ruddick, The Dairy Industry in Canada, p. 75; Gigault, "Agricultural Laws of the Maritime Provinces", p. 185.

⁹¹ Ibid.

⁹² The 50 census subdistricts in this designated mixed farming belt averaged 47 improved acres.

tons per family); and only a third as many turnips and a quarter as many apples were produced, on average (Table 5-3). Of all the field crops recorded in the 1891 census only wheat, buckwheat and oats were more important here than anywhere else in Nova Scotia. Still, with averages of just 16 bushels of wheat and buckwheat per family, and 58 bushels of oats, this region could no longer be described as the "grain growing belt" of Nova Scotia as it was in 1851. With imported flour selling for \$5.25 a barrel in the 1880s -- a price less than two-thirds that prevailing in the mid-nineteenth century -- it did not pay to raise wheat.⁹³ More emphasis was placed on livestock in this region than anywhere else in the farming zone. Cattle, "dairy butter", beef, pork and lamb were important commercial products, though farmers in a few pockets of this region specialized in fluid milk and hay for sale in the region's urban markets.

The town of Pictou in the centre of this region, containing 3,000 people, continued to provide a small local market for milk, market garden vegetables and other farm products, raised primarily in the vicinity of the town. But, the growing mining and industrial towns in Pictou and Cumberland Counties (New Glasgow, Ferrona, Hopewell, Stellarton, Westville, Trenton, Thorburn, Springhill and Amherst), with a combined population approaching 20,000, had become more important outlets for all types of farm products than Pictou town. Thus farmers in the peri-urban fringes of these growing industrial centres specialized in fluid milk production which was disposed of directly to consumers along regular, informal milk routes, as in the vicinity of Truro, Colchester County.⁹⁴ In

⁹³ See Nova Scotia Herald, 22 October, 1884; and Kings County Agricultural Society Report for 1887, in Secretary for Agriculture Report for 1887 (Halifax: Queen's Printer, 1888), p. lxxxiii. Between 1841 and 1851, the price of flour recorded in general merchant's account books averaged \$8.25 per barrel. See H.G. Longley, "A Historical Comparison of Commodities, Prices and Customs in the Annapolis Valley", unpublished ms., 1933, in MG1, Vol 1518, # 7, PANS.

⁹⁴ Nearly 80 percent of the 1,068 cattle enumerated in these urban districts at the 1891 census, for example, were "milk cows" (census subdistricts 20, 26 and 27); the ratio of milk cows to total cattle elsewhere in the mixed farming belt ranged from 40 to 55 percent.

Table 5-3, Average Production Per Family, Principal Crops and Livestock, The Mixed Farming Belt, 1851-1891

| | 1851 | 1891 | Change (% +/-) |
|---------------------------|-------------|-------------|-----------------------|
| Hay (tons) | 10 | 14 | 40 |
| Potatoes (bushels) | 40 | 100 | 150 |
| Turnips (bushels) | 14 | 15 | 7 |
| Oats (bushels) | 68 | 58 | -15 |
| Wheat/Buckwheat (bushels) | 30 | 16 | -47 |
| Barley (bushels) | 9 | 4 | -56 |
| Rye (bushels) | 1 | 0 | -100 |
| Other Grains* (bushels) | 1 | 1 | 0 |
| Apples (bushels) | n/a | 4 | n/a |
| Cattle (number) | 8 | 8 | 0 |
| Sheep (number) | 10 | 9 | -10 |
| Swine (number) | 2 | 1 | -50 |
| Poultry (number) | n/a | 15 | n/a |

* Corn, peas and beans

Sources: Census of Nova Scotia, 1851; Census of Canada, 1891.

addition, with the diffusion of factory cheese production throughout the Maritimes in the 1870's and 80's, an additional market for fluid milk outside of major urban areas emerged.⁹⁵ Although first introduced in the dairy and fruit belts, there was a significant concentration of cheese factories in Antigonish and Inverness Counties by 1891; 10 of the province's 15 cheese factories recorded in the census of that year were located in these counties.⁹⁶ However, most of these were small, seasonal factories, generally employing only one or two people, which purchased surplus milk from nearby farmers during the summer months only. The increased output of milk from recently-calved cows, being grazed on summer pasture and the stubble of harvested fields, was marketable if a factory was located nearby. But the small scale of this market outlet inhibited the development of specialty dairy production. In 1891 the total value of cheese produced at these 10 factories (from milk supplied by fewer than 200 farmers) barely exceeded \$33,000.⁹⁷ The single condensed milk factory at Truro, in contrast, produced canned milk estimated to be worth \$83,000 in the same year, and the output of the dozen woolen mills scattered across the mixed farming belt exceeded \$250,000.⁹⁸ Only on the productive marshland farms of the Chignecto isthmus, where hay was produced at three times the provincial average, and in the vicinity of mining settlements where a small market for hay and fodder for pit ponies existed, did hay enter local trade on a large scale.⁹⁹

⁹⁵ Cheese factories diffused to the Maritimes from New York state via Quebec. Ruddick, The Dairy Industry in Canada, pp. 44-6; 52.

⁹⁶ Census of Canada, 1891; Mabou and Port Hood Agricultural Society Report for 1891, Annual Report of the Secretary for Agriculture for Nova Scotia, for 1891 (Halifax Queen's Printer, 1892), p. 28.

⁹⁷ Census of Canada, 1891.

⁹⁸ Ibid.

⁹⁹ In 1891 432 farms in the vicinity of Amherst, Cumberland County (census subdistrict 2) averaged 30 tons of hay per farm. The provincial average per farm was 10 tons and the average for the mixed farming zone was 14 tons. Ibid. Hay production in some of Pictou County's districts suggests that small surpluses might have been available for distribution

The farm established by Samuel Spares in Northfield, Hant's County, 33 miles from Truro (53 kilometres), 45 miles from Halifax (72 kilometres), and 30 miles from the nearest railroad station at Brookfield (48 kilometres) was representative of the mixed farms of this zone. Born in England in 1834 Samuel Spares arrived in Nova Scotia in the early 1850s and purchased a 50 acre lot, approximately six and a half miles (10 kilometres) from the village of Noel on Cobequid Bay, for 6 shillings per acre.¹⁰⁰ He also married Jane Miller of Nova Scotia.¹⁰¹ Within four years they had a house on the property and Samuel had entered into an agreement with A. MacDougall of Northfield to "hew and frame a barn" for him.¹⁰² In the interim, and for the better part of the next two decades, Spares worked for several months of each year as a sailor. He worked on a variety of vessels (including barks, brigs and schooners) at rates of pay that ranged from \$16.00 per month to \$36.00 per month, and he crossed the Atlantic many times. His wife Jane remained at home in Northfield with their growing family.¹⁰³ In 1869, while back in England between voyages, Spares "went to school, passed the Marine Board and got a Master's

to nearby mining settlements. Green Hill's 149 farm families averaged 3 more tons of hay than the average for the mixed farming belt, but kept smaller herds of cattle and sheep. These were exceptional districts, however; the majority of farm families in the mixed farming belt attempted to produce enough hay to meet the fodder demands of their herds.

¹⁰⁰ Samuel Spares Daybook, 1855-78; Micro Biography File, PANS.; see entry for 29 January, 1855.

¹⁰¹ I have not been able to determine the precise date of marriage between Samuel and Jane Spares. However, the manuscript census of 1861 indicates that at the time of the enumeration they had 4 children, all born since the last census was taken (in 1851). The manuscript census of 1871, which provides the names and ages of all members of the household, indicates that all of Samuel and Jane Spares children were born after 1855. Census of Nova Scotia, 1861, manuscript schedules, Hant's County, District 9, Abstract 5, line 24, PANS; Census of Canada, 1871, manuscript schedules, Hants County, Division 2, schedule 8, p. 45, PANS.

¹⁰² Samuel Spares Daybook, 7 January, 1859, Micro Biography File, PANS.

¹⁰³ At the 1871 census seven children were enumerated at the household of Samuel and Jane Spares. Census of Canada, 1871, manuscript schedules, Hants County, Division No. 2, schedule 8, p. 45, PANS.

certificate".¹⁰⁴ He continued working as a mariner for several years, but in 1878 he claimed his back pay of \$87.67 and "quit going to sea for good" to work his farm.¹⁰⁵ Thereafter, Spares' daybook is devoted to describing the seasonal round of activities associated with his family's small farm.

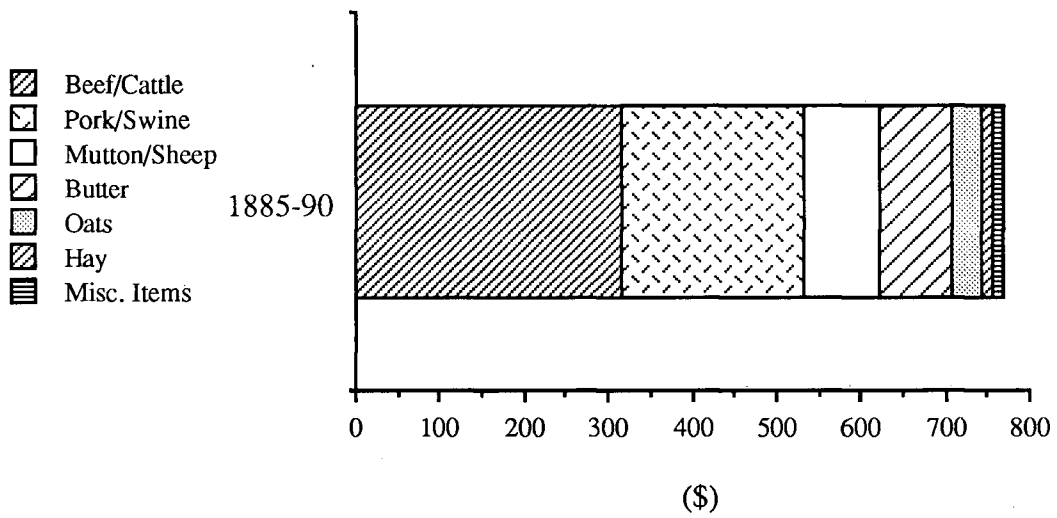
With 30 of their 50 acre lot cleared in the mid 1880's, the Spares' family produced hay, potatoes, turnips, oats, barley, apples and kitchen garden crops (carrots, beets, peas and beans); and raised cattle, sheep and pigs.¹⁰⁶ Livestock and livestock products were clearly the principal commercial products of this family farm. Cattle, sheep, swine, beef, pork and mutton accounted for more than three-quarters of the \$770.00 worth of produce sold off this farm between 1885 and 1890. (Figure 5-9). Butter, oats, hay and wool comprised the remainder of the farm's commercial output. The 350 lbs. of butter sold (an average of 58 lbs. per year) was the most important of these products. Churned in the kitchen by Jane Spares and her daughters, home-produced butter remained an important element of this farm's commercial output until the establishment of a dairy factory in the district after the turn of the century.¹⁰⁷ This level of commercial output, however, was miniscule, relative to the output of more specialized farms in the dairy and fruit belts.

¹⁰⁴ Samuel Spares Daybook, 22 October, 1869. The entry of 9 September, 1869, suggests that Spares was between voyages when he attended Mariner's School in England; Micro Biography File, PANS.

¹⁰⁵ Samuel Spares Daybook, 19 August, 1878, Micro Biography File, PANS.

¹⁰⁶ In 1861 the Spares family had only 8 of their 50 acres "improved". A further 7 acres were cleared during the next decade. Given that Samuel was working full-time at another occupation for most of this period this rate of clearing is impressive. The land clearing rate on the Spares' farm undoubtedly increased as Spares began to devote the majority of his time to the operation of the farm. In addition, as his sons grew older they were able to provide assistance with the back-breaking work of land clearing. Census of Nova Scotia, 1861, manuscript schedules, Hant's County, District 9, Abstract 5, line 24, PANS; Census of Canada, 1871, manuscript schedules, Hants County, Division No. 2, schedule 8, p. 45, PANS.

¹⁰⁷ Report of the Inspector of Creameries and Cheese Factories for Nova Scotia, in Annual Report of the Secretary of Agriculture for Nova Scotia for 1904 (Halifax: King's Printer, 1905), pp. 74-75.

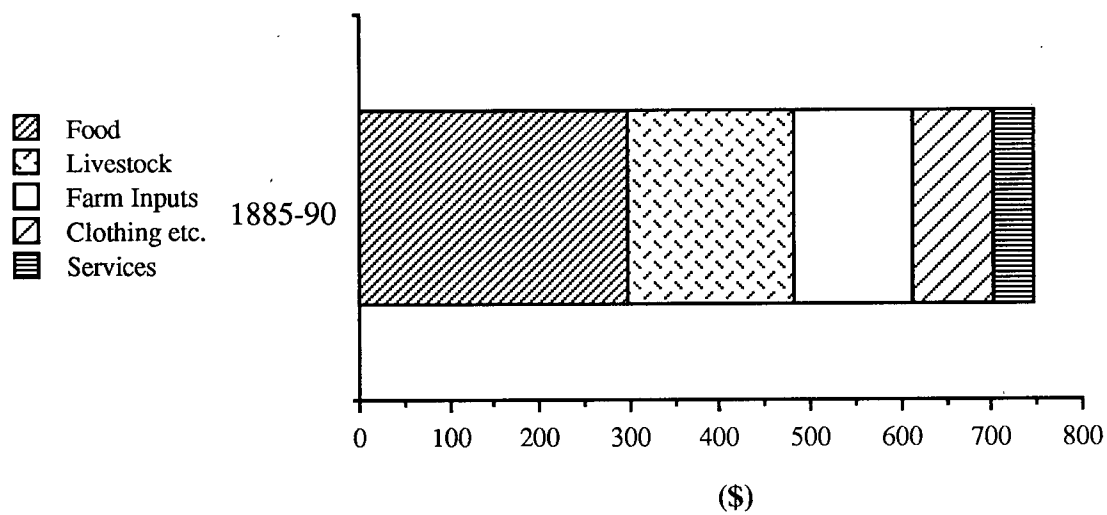
Figure 5-9, Samuel Spares' Farm Sales, 1885-90

Relative to the output of the Murray and Woodworth farms in Hardwood Hill (Pictou County) and Canning (King's County) in the mid-nineteenth century, this amount of farm sales was modest. Ignoring inflation during the second half of the nineteenth century, the average of \$128.40 in farm sales per year recorded by Spares in his diary between 1885 and 1890, represented about one-third the commercial output of the Murray and Woodworth farms in the 1850s.¹⁰⁸

Small as they were these sales were integral to the functioning of the farm. Most of the cash and credits obtained from the sale of these products were used to purchase crucial farm and household inputs and a wide array of services necessary for the functioning of the farm (blacksmithing, wool carding, servicing animals, shoeing horses, threshing grain). Foodstuffs not produced on the Spares' farm, for example, constituted approximately 40 percent of all purchases made between 1885 and 1890 (at \$289.51). Of these purchases, flour was clearly the most significant (Figure 5-10).¹⁰⁹ The eight young steers and one breeding sow purchased during this period constituted a further 25 percent of total purchases (at a cost of \$184.00). Implements, additional fodder (oats, straw and feed grains) and seeds totalled \$130.86 (or 17.5 percent), and clothing and household articles, \$88.78 (or 12 percent). The services acquired by members of the Spares' family represented the smallest outlay of capital, at \$44.71. Small profits were eventually reinvested in fences, outbuildings or new pieces of equipment for the farm. Thus, in July of 1889, after two of Spares' sons had left home, Spares invested in a horse-drawn mower using \$20.00 in savings as a down payment. The remaining \$40.00 owing on the mower,

¹⁰⁸ When converted to pounds sterling, sales from the Spares' farm averaged £27.0.0 per year between 1885 and 1890.

¹⁰⁹ The six barrels of flour purchased each year between 1885 and 1890, at a cost of \$5.50 per barrel, accounted for 68 percent of the total amount of money spent on food each year (an average of \$48.25 each year).

Figure 5-10, Spares Family Purchases, 1885-90

purchased in nearby Noel, was to be paid in \$20.00 installments over the next two years.¹¹⁰

Of the 188 off-farm trips documented by Spares in his daybook between 1885 and 1890 (an average of 31 per year) two-thirds were to Noel (125 trips) where goods were sold or purchased, services acquired or municipal responsibilities fulfilled.¹¹¹ Apart from three trips to Shubenacadie, 32 miles away, where Spares had some farm implements repaired, and a trip to Halifax, 55 miles away, where Spares conducted some personal business and sold some salt pork, Spares' business and marketing trips were confined to approximately a twelve mile radius of Northfield -- principally to the communities of Noel, Burncoat, Selmah, Gore, Rawdon and Kenetcook.¹¹² This farm remained only loosely connected to the province's principal domestic markets until after the turn of the century. It was essentially a subsistence farm. However, in order to meet the subsistence requirements of his family, Spares had to engage in a considerable amount of commercial activity and trade within the local area. Until access to the growing urban centres of the province was improved with the completion of the Midland Railroad in 1905, between Truro and Windsor,¹¹³ this was essentially the pattern of farm marketing that prevailed in relatively isolated districts like Northfield.¹¹⁴

¹¹⁰ Samuel Spares' Daybook, 10 July, 1889; Micro Biography File, PANS.

¹¹¹ In the early 1880's Samuel Spares held the office of Municipal Councillor (for the Noel district). His duties included inspecting roads and bridges in the surrounding area.

¹¹² The Shubenacadie and Halifax trips are referred to in the following diary entries: 14 December, 1886, 5 March, 1887, 10 January, 1888, and 1 February, 1889, Samuel Spares Daybook, 1884-1907; Micro Biography File, PANS.

¹¹³ The Midland Railway ran through Kenetcook, 8 miles south of Northfield.

¹¹⁴ Very similar patterns have been described for farming districts in nineteenth century New England with similar relative locations as Northfield, Hant's County. See Andrew Baker and Holly Paterson, "Farmers' Adaptations to Markets in Early-Nineteenth-Century Massachusetts", in The Farm, Annual Proceedings of the Dublin Seminar for New England Folklife, pp. 95-108; and Marcie Cohen, "The Journals of Joshua Whitman, Turner Maine,

Several diary entries in 1885 illustrate the nature and scale of transactions which occurred on each of these trips. With the harvest completed and some of the grain "thrashed" Samuel Spares found time to go to Noel "to get the chains repaired" during the second week of November, at a cost of \$1.00.¹¹⁵ A week later Spares "took the sow to Noel and sold it for \$7.00 per hundred lbs."¹¹⁶ With a portion of the \$23.52 that this transaction generated Spares bought "2 barrels of flour and 2 gallons of oil", which cost \$12.70.¹¹⁷ On the first day of December Spares once again "went to Noel and swapped a fat pig for a breeding sow". As these examples indicate, most transactions recorded in the Spares' diary involved very small amounts of farm produce or cash. Business and marketing trips occurred throughout the year, although they were less frequent in August when the family was busy with haymaking and cultivating and more common in winter when there was less work about the farm and sledding facilitated overland transport.

The Little River Cheese factory, established at Upper Nine Mile River, Hant's County, in 1892 was representative of the dozen or so small cheese factories that provided outlets for the disposition of surplus milk in mixed farming districts. Using \$1,000 collected from shareholders from the district in 1891, construction of the factory began in February of 1892; three months later cheese production was underway.¹¹⁸ During its first month of operation 40 factory "patrons" delivered 18,000 lbs of milk to the factory (an average of 450 lbs. or 180 quarts per patron), which was processed into 1,700 lbs. of

1809-46", in The Farm, Annual Proceedings of the Dublin Seminar for New England Folklife, pp. 49-59.

¹¹⁵ Samuel Spares Daybook, 19 November, 1885, Micro Biography File, PANS.

¹¹⁶ Samuel Spares Daybook, 27 November, 1885, Micro Biography File, PANS.

¹¹⁷ Ibid.

¹¹⁸ Minutes of the Little River Cheese Manufacturing Company's meetings, in Little River Cheese Manufacturing Company Ltd., Accounts and Minutes, Micro Places File, Upper Nine Mile River, Hant's County, PANS.

cheese, worth \$176.¹¹⁹ Through June, as more cows "calved down", and summer grazing raised milk output per farm, the factory increased its production; by the end of the month 75,749 lbs. of milk had been turned into 7,300 lbs. of cheese, worth almost \$700 at wholesale prices. By the end of the factory's first season a total of 27,000 lbs of cheese had been manufactured from approximately 280,000 lbs. of milk (112,000 quarts). Most of the cheese produced was hauled to the railway station at Elmsdale, 13 miles or so away, where it was loaded on the train for shipment to Halifax wholesalers. Receipts for cheese sold by the factory to city wholesalers in 1892 totalled \$2,600. At Halifax retail prices this cheese generated almost \$4,000.

Given this level of output, this factory hardly stimulated large scale dairying in the district. But it did create a small market for summer milk surpluses in a district that was 35 miles (56 kilometres) from Halifax and about the same distance from Truro. As payment for the cheese shipped to Halifax was received, the factory became an important source of cash in the community. Although every factory "patron" took at least partial payment in cheese, a clear majority of the factory's 40 "patrons" received more than three-quarters of what was owed to them for the milk they supplied in cash. All "patrons" did not benefit equally from this new market outlet in this small community. The principal promoters of the Little River Cheese factory, who organized the selling of its joint stock shares and sat on its Board of Directors, gleaned the largest capital benefits from the sale of its products. Factory accounts show that 9 farmers, several of whom were the founders of the Little River Cheese Manufacturing Company, supplied nearly 40 per cent of the milk processed during the 1892 season, and that the top 5 producers hauled enough milk to the factory in 1892 to keep it operating for one full month at peak capacity (70,000 lbs. or 28,000

¹¹⁹ Statement showing the amount of milk supplied to the factory and the amount of cheese manufactured in 1892, in Little River Cheese Manufacturing Company Ltd., Accounts and Minutes, Micro Places File, Upper Nine Mile River, Hant's County, PANS.

quarts).¹²⁰ By contrast, the 5 farmers who supplied the least amount of milk in 1892 provided only enough milk to keep the factory operating for 4 days. This operation was typical of other cheese factories operating in the mixed farming belt. The 10 cheese factories enumerated in Antigonish and Pictou Counties in 1891, which collectively employed 14 people for the season, averaged \$3,800 in cheese, produced from \$2,200 of milk purchased nearby.¹²¹ Like the Little River Cheese factory, these operations (most of which were also joint stock companies) added diversity to the range of commercial products families produced in the province's mixed farming belt.

Eastern Cape Breton

Mixed farming also prevailed in the southern and eastern portions of the counties of Richmond, Cape Breton and Victoria at the eastern end of the farming zone. But farms were generally smaller and less productive here than anywhere else in the farming zone. The 4,000 farms in the 24 census subdistricts of this area averaged 157 acres; yet each farm holding averaged only slightly more than 33 acres of cleared land (or 21 per cent of total farmland). Only in districts close to the mining towns and villages on the Sydney coalfield, which contained almost 13,000 people, was the ratio of improved to occupied land significantly higher than the average for the region.¹²² In general, families produced less hay, potatoes and grains than elsewhere in the farming zone, and raised more beef cattle and sheep (Table 5-4). Off-farm work supplemented farm incomes wherever possible. Farm surpluses were generally more modest than on the mainland, and the domestic market was weaker. Not one cheese factory, for example, was enumerated in this region at the

¹²⁰ Calculated from individual patron's accounts, Little River Cheese Manufacturing Company Ltd., Accounts and Minutes, Micro Places File, Upper Nine Mile River, Hant's County, PANS.

¹²¹ Census of Canada, 1891.

¹²² Census subdistricts Boularderie (Victoria) and Ball's Creek (Cape Breton) and the mining districts themselves (Cow Bay, Glace Bay, Lingan, North Sydney and vicinity) recorded ratios of improved to occupied land greater than 40 per cent. Ibid.

**Table 5-4, Average Production Per Family, Principal Crops
and Livestock, Eastern Cape Breton, 1851-1891**

| | 1851 | 1891 | Change (% +/-) |
|---------------------------|------|------|----------------|
| Hay (tons) | 7 | 12 | 71 |
| Potatoes (bushels) | 33 | 85 | 158 |
| Turnips (bushels) | 8 | 4 | -50 |
| Oats (bushels) | 60 | 29 | -52 |
| Wheat/Buckwheat (bushels) | 5 | 3 | -40 |
| Barley (bushels) | 6 | 3 | -50 |
| Rye (bushels) | 0 | 0 | 0 |
| Other Grains* (bushels) | 0 | 0 | 0 |
| Apples (bushels) | n/a | 0 | 0 |
| Cattle (number) | 8 | 7 | -13 |
| Sheep (number) | 10 | 10 | 0 |
| Swine (number) | 1 | 1 | 0 |
| Poultry (number) | n/a | 11 | 0 |

* Corn, peas and beans

Sources: Census of Nova Scotia, 1851; Census of Canada, 1891

1891 census. Until the expansion of mining on the Sydney coalfield in the 1880s stimulated the region's domestic market for food and promoted the construction of a railroad across Cape Breton Island, such surpluses as there were consisted principally of "dairy butter", cattle, sheep and wool, products that could be shipped long distances without spoiling.¹²³ As in the mid-nineteenth century, the islands of Newfoundland, St. Pierre and Miquelon were the most important markets for the region's farm surpluses. The completion of the railroad across Cape Breton Island in 1890, which linked Port Hawkesbury and Sydney via Orangedale, Grand Narrows, Boisdale and North Sydney, stimulated the development of fluid milk dairying and market garden crop production in districts near the railway. But, in 1891, such specialty production was still in a nascent stage of development. Only in the fringe of the growing industrial region centred on Sydney Harbour was specialty milk and vegetable production conducted on a significant scale.¹²⁴

The ledger books of general merchant Donald MacLean of North River Bridge, Victoria County, for the years 1886 to 1890, clearly illustrate the small scale of commercial agriculture in a district that was remote from Nova Scotia's principal domestic markets.¹²⁵

¹²³ Coal production in eastern Cape Breton, increased by more than 250 per cent between 1880 and 1890, under the stimulus of the National Policy (from 385,000 to 983,000 tons). For an excellent summary of the development of mining in Cape Breton during the second half of the nineteenth century see Hornsby, "An Historical Geography of Cape Breton Island in the Nineteenth Century", pp. 265-85.

¹²⁴ Almost three-quarters of the 2,220 cattle enumerated in the fringe of Sydney (census subdistricts 1, 20 and 21) were "milch cows"; in the county as a whole "milch cows" comprised 58 per cent of total cattle. Census of Canada, 1891.

¹²⁵ Donald MacLean's Store Ledger, 1885-90, North River Bridge, Victoria County, Micro Places Collection, PANS. Despite their obvious usefulness for gaining an understanding the structure of historical economies, business records of this sort have hardly been used in the historical literature that deals with the Maritimes. This statement is less true for Central Canada and New England, owing to the seminal works of Douglas McCalla and Winifred Rothenberg. See Douglas McCalla, "The Internal Economy of Upper Canada: New Evidence on Agricultural Marketing Before 1850", Agricultural History 59, 3 (1985), pp. 397-416 and Winifred B. Rothenberg, "The Market and Massachusetts Farmers, 1750-1855", Journal of Economic History 41, 2 (1981), pp. 283-314.

In the late nineteenth century North River remained a relatively isolated district nestled between the Cape Breton Highlands and the Bay of St. Ann's. It had been settled by Presbyterian Scots from Pictou and from the islands of Lewis and Harris in the Hebrides between 1828 and 1840.¹²⁶ The 99 families enumerated in the district at the 1891 census (comprising a total of 613 people) were dispersed along the narrow North River valley and between Smith Cove and Barachois Pond along St. Ann's Bay. All of them operated small farms. Thus, the 75 individuals recorded in MacLean's ledger represented the majority of households living in the area between 1886 and 1890.¹²⁷ MacLean's store supplied North River families with foodstuffs not produced locally (flour, molasses, salt), with luxury items such as tobacco and scotch whisky and with a wide range of other articles and goods (including clothing, cooking utensils, construction materials and farm implements). In return, MacLean accepted butter, hay, oats, cattle and potatoes, as well as cash, as credits that were applied towards the settling of ongoing accounts. In turn, the local agricultural products received by MacLean were traded or sold to commission merchants and butchers, primarily in Sydney and vicinity.¹²⁸

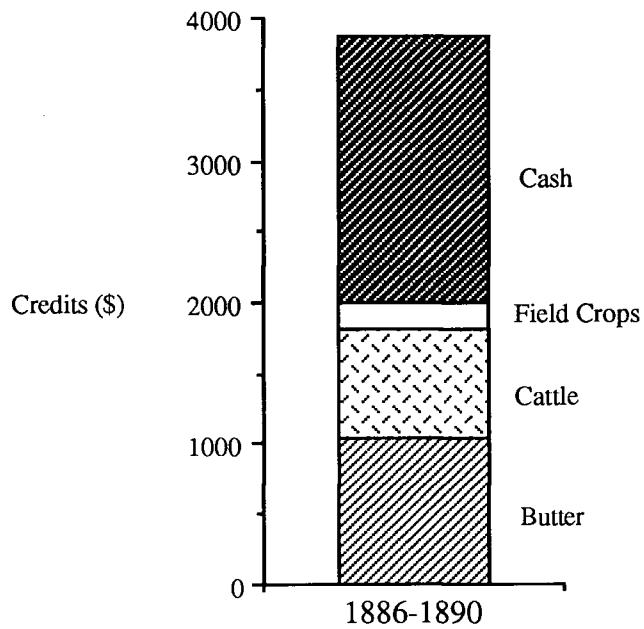
Butter accounted for over one-quarter of MacLean's payments on accounts (Figure 5-11). Over the five years of family accounts examined, nearly 6,000 lbs. of butter were accepted by MacLean as partial payment on accounts. Most transactions involved relatively small amounts of butter (from 3 to 15 lbs.); only 17 of the store's customers delivered

¹²⁶ W. James MacDonald, ed., Patterson's History of Victoria County (Sydney: College of Cape Breton Press, 1978), p.188.

¹²⁷ MacLean was probably not the only merchant in the area. An examination of MacLean's customers by address reveals that families from Smith's Cove, Jersey Cove and Barachois Pond were purchasing their staples (and selling their agricultural surpluses) elsewhere. It is likely that there was at least one other merchant in the area.

¹²⁸ See Norman MacLeod, Sydney, to Donald MacLean, North River Bridge, 9 September, 1886 and 6 October, 1886; in Donald MacLean's Store Ledger, North River Bridge, Victoria County, Micro Places Collection, PANS.

**Figure 5-11, Total Transactions, Donald MacLean's Store,
North River Bridge, Victoria County, 1886-1890**



more than 30 lbs. of butter at a time to MacLean, and of these, only 2 traded or sold more than 40 lbs.. Families also sold 75 cattle to Donald MacLean; with a value of \$760 they accounted for 20 per cent of the total credits listed in the ledger. Hay, oats, potatoes and vegetables were of negligible commercial importance; collectively families received approximately \$200 of credit for these products which were bartered mainly between December and April, when high prices allowed MacLean a better return on them than could be obtained immediately following the harvest. Of the \$3,900 in sales MacLean recorded in his account book between 1886 and 1890, almost half were paid for in cash (\$1,873). That cash accounted for such a large percentage of transactions recorded in MacLean's ledger clearly indicates that this community was not, as Neil MacNeil's eloquent description of Washabuct (a similar Scottish farming community in Victoria County) would suggest, "an economy without money".¹²⁹ As in the more fertile Middle River valley, 30 miles to the west, a large proportion of North River's families "found it necessary to live with one foot on the land, and the other in near and distant work environments".¹³⁰ Thus income obtained from seasonal work in one of the 24 sawmills in Victoria County, from employment in the nearby plaster quarry at St. Ann's and from harvest labour on large-scale farms in the county, helped maintain many North River families.¹³¹ Longer work excursions, to the mining towns near Sydney, to railroad construction sites elsewhere on the island, and even farther away, to Boston, the Mid West and the Canadian Prairies, provided another source of capital for the maintenance of family farms in Cape Breton.¹³²

¹²⁹ Neil MacNeil, The Highland Heart in Nova Scotia (New York: Charles Scribner's Sons, 1948), chapter heading of chapter 5, p. 52.

¹³⁰ Rusty Bittermann, "The Hierarchy of the Soil: Land and Labour in a Nineteenth Century Cape Breton Community", Acadiensis 18, 1 (1988), p. 50.

¹³¹ Bittermann estimates that approximately 25 per cent of the 160 farms in Middle River during the third quarter of the nineteenth century required the procurement of labour from beyond the household at harvest time; Ibid., p. 48.

¹³² This has been noted elsewhere in Cape Breton by Hornsby, "An Historical Geography of Cape Breton Island in the Nineteenth Century", p. 236; and A. A. MacKenzie, "Cape

Summary

Despite the considerable amount of outmigration from Nova Scotia during the second half of the nineteenth century agricultural expansion was recorded in most areas of the province between 1851 and 1891. Families in the province's fishing zone were producing more food, on average, from their holdings in 1891 than in 1851 and large agricultural clearings had appeared in several of the province's interior lumbering districts. In the principal agricultural zone of the province there were twice as many families earning their livelihood from farming in 1891 as in 1851, and zones of specialty production were developing. Road improvements and the expansion of railroads across the province during the last quarter of the century brought farm districts which were only sporadically linked to Nova Scotia's nascent urban system at mid-century within the trading hinterlands of Halifax, New Glasgow, Amherst and Sydney, all of which had developed into sizeable urban centres since the mid-nineteenth century. This led to the rise of commercial dairying and market garden production in the fringes of these urban areas, and in a central dairy belt focussed on the rail line which linked Truro and Halifax. Improvements in land transportation and the replacement of sailing vessels by steamships in trans-Atlantic trade also stimulated the development of specialty fruit farming in the Annapolis-Cornwallis valley by reducing the time and cost of shipping apples to distant markets. A wider range of less perishable products (butter, livestock, salt meat, vegetables) were produced for domestic and external markets in a mixed farming belt that extended from Cumberland County in the west to Cape Breton in the east. While the shrinking of geographical

Breton and the Western Harvest Excursions, 1890-1928", in, Cape Breton at 200: Historical Essays in Honour of the Island's Bicentennial, 1785-1985, ed., Kenneth Donovan (Sydney, University College of Cape Breton Press, 1985), pp. 71-84. For a discussion of the use of seasonal rural labour in a shipbuilding enterprise along Nova Scotia's southern shore, and on the Pictou County coalfield see L. D. McCann, "Living a Double Life: Town and Country in the Industrialization of the Maritimes", in Geographical Perspectives on the Maritime Provinces, ed., Douglas Day (Halifax: Saint Mary's University, 1988), pp. 100-03, 105-07.

distance between rural and urban areas which accompanied these developments stimulated commercial agriculture, it also laid the foundations for rural and agricultural decline. Manufactured goods and agricultural products from distant regions gained access to the province's growing domestic markets, the number of rural artisans declined, and sons and daughters whose lives had been closely circumscribed by the farm and the community were drawn towards wage labour and the "white lights" lifestyle of urban areas.¹³³ Thus, although many farm families had better access to Nova Scotia's domestic markets in the 1890s than in the mid-nineteenth century, some were already experiencing labour shortages during harvest time, and most were facing competition from distant agricultural regions in provincial markets in those products traditionally produced on Nova Scotian farms (butter, livestock, meat, potatoes and vegetables). These were harbingers of things to come.

¹³³ Dominion Bureau of Statistics, The Maritime Provinces Since Confederation, p. 26.

Chapter 6. The 1940's: Change and Persistence in Rural Nova Scotia

Between 1891 and 1941 the number of farms in Nova Scotia dropped from 60,000 to 33,000, improved acreage declined by 60 per cent (from 2,000,000 to 800,000 acres) and the percentage of Nova Scotia's workforce employed in agriculture dropped from 53 to 24 percent. Potato and grain production declined precipitously after the turn of the century and livestock herds shrank. Yet the gross value of agricultural production remained remarkably stable after 1911.¹ While farm land was abandoned subsistence and part-time farming increased and the productivity of commercial farming soared. Commercial operations concentrated in those areas best suited for agricultural production (the valleys and marshlands of central and western Nova Scotia) or in those where there was a significant local market for perishable products (ie. in the industrial towns on the province's coalfields and along the railroad). Families involved in commercial agriculture in the 1940's operated larger holdings than did their predecessors of a half century earlier; many owned a motor vehicle; and a larger proportion of farm work was dependent on machinery. Tractors, introduced in Nova Scotia in the 1920's, increased steadily in numbers through the 1930's and 40's. At the 1951 census there were more than 4,000 of them on provincial farms.² Rural electrification also proceeded rapidly during these decades; between 1931 and 1951 the number of rural households in Nova Scotia with electric power quadrupled from 4,000 to 16,700.³ By the 1940's many of Nova Scotia's farming families practised modern, capital-intensive agriculture.

¹ Between 1920 and 1950 the estimated net value of agricultural production in Nova Scotia dropped from \$29,125,000 to \$27,257,000, a 6 per cent decline. Dominion Bureau of Statistics, The Maritime Provinces Since Confederation: A Statistical Study of Their Social and Economic Conditions During the Past Sixty Years (Ottawa: F. Acland, 1927), p. 36; and R. K. Fletcher, Agriculture and the Atlantic Canada Economy (Fredericton: Atlantic Provinces Economic Council, Pamphlet # 10, 1966), p. 31.

² Census of Canada, 1951.

³ Census of Canada, 1951. In 1951 the percentage of farmsteads in Nova Scotia with electricity (71 per cent) was similar to that recorded in Ontario 73 per cent).

In many areas, however, the family farm had disappeared. In addition to the several thousand farms which disappeared from successive Nova Scotia census schedules between 1891 and 1931, more than 2,800 farms were listed as "vacant" at the 1931 census.⁴ By 1940 new surveys by the Provincial Department of Agriculture discovered another 2,500 or so in this category.⁵ Since the 1920's Provincial and Dominion governments had tried to reverse this trend by publishing and distributing lists of farms for sale in hope of finding families to replace those intent on leaving.⁶ By 1941 fields that had supported families and generated small surpluses for local and external markets in the 1890's, had reverted to stands of balsam fir and white spruce. Near urban areas, a substantial number of farms were operated on a part-time basis by people employed in town. A 1931 survey of provincial farm income concluded that more than 12,000 of the 39,000 families who operated farms in Nova Scotia, obtained more than half of their income from non-farm sources.⁷ Ten years later 14,000 of 33,000 farm families were in a similar situation.⁸ A sizeable number of farms also became rural residences for an aging population. These "sentimental farms", as one observer called them, were largely

⁴ "Vacant farms" included "parcels of land, part or all of which had been brought under the plow and cropped, but are now unoccupied". Census of Canada, 1931.

⁵ W. V. Longley and W. F. Chown, Antigonish County, Nova Scotia: A Study of Land Utilization, Farm Production and Rural Living (Halifax: Nova Scotia Department of Agriculture, Bulletin # 118, 1936), pp. 65-66; and J. N. Lewis and S.C. Hudson, Land Use and Part-time Farming in Cape Breton County, Nova Scotia (Nova Scotia Department of Agriculture, Extension Division and Dominion of Canada Department of Agriculture, 1942), pp. 19-20.

⁶ See, for example, Department of the Interior, Province of Nova Scotia List of Farms for Sale (Ottawa: Thomas Mulvey, 1920), pp. 1-26; and Province of Nova Scotia, List of Farms for Sale (Halifax: Department of Agriculture, 1940), pp. 1-44.

⁷ Andrew Stewart, "Part-time Farming in Nova Scotia, Public Affairs 6, 3 (1943), p. 145.

⁸ Census of Canada, 1941.

unproductive because their owners were too elderly to carry on farming and their children were not interested in pursuing a career in agriculture.⁹

Thus, while urbanization created a larger domestic market for agricultural produce in Nova Scotia, the ability of provincial agriculturalists to supply this market was gradually eroded. Those who made the transition to modern commercial agriculture had to deal with steady competition in local markets from distant well-endowed agricultural regions. Those who did not either operated their holdings on a subsistence basis or let their fields lie idle. By 1951 Nova Scotia's urban inhabitants (300,000 strong and accounting for 46 per cent of the total population) were far more dependent on produce from distant agricultural regions than ever before. Nova Scotia's farms contributed far less to provincial exports than they had done in 1851 and 1891.

This chapter examines the extent and scale of commercial agriculture in Nova Scotia in the 1940's as well as the characteristics of Nova Scotia's subsistence and part-time farms. It discusses the changes that occurred in agriculture in the fishing and lumbering zones between 1891 and 1941 before examining the farming zone in more detail. The changes which effected each subregion of the farming zone in the 1940's are discussed and sample farms from these subregions are compared. Finally, the extent to which Nova Scotia's farmers supplied the foodstuff demands of the province is assessed and agriculture's contribution to provincial exports is examined. The principal objective of this chapter is to illustrate how those who remained working the land in Nova Scotia adapted to the the changed circumstances of the mid-twentieth century.

The Fishing Zone

In the half century between 1891 and 1941 Nova Scotia's fishery was transformed. The traditional cod fishery, conducted from myriad small ports in the

⁹ Donald A. Grant, "Land Use in Pictou County", M.A. Thesis, Department of Geology, Acadia University, 1950, p.110.

nineteenth century, and focussed predominantly on Caribbean markets, declined steadily after 1891 as competition from European producers forced prices down and advances in packing, canning and refrigeration brought Australian and Argentinian meat into competition with salt fish. The production of dried cod and haddock in Nova Scotia declined by more than half between 1890 and 1920 (from 758,541 cwt. to 351,132 ccwt.) and this trend continued through subsequent decades.¹⁰ As inshore fishermen turned to lobster trapping and the sale of fresh cod and other species (halibut, herring, mackerel etc.) in nearby United States markets, they faced competition from fish companies operating trawlers from a handful of ports along Nova Scotia's South Shore and participating in both the salt and fresh fish trade.¹¹ Moreover, a series of protectionist trade policies implemented by the United States from the 1880's on, made entry into this market increasingly difficult. Thus, despite federal transportation subsidies implemented in 1908 in an attempt to open the Central Canadian market to Nova Scotian fishermen, the number of people employed in Nova Scotia's fisheries declined steadily.¹² The 1941 census enumerated nearly 4,000 fewer fishermen than that of 1911.¹³ Only 10,776 strong they accounted for a mere 7 per cent of the province's male labour force. Even though gasoline-powered boats and trawlers (which vastly extended the range and catch of each vessel) and

¹⁰ Stanley Saunders, The Economic Welfare of the Maritime Provinces (Wolfville, Nova Scotia, Acadia University, 1932), pp. 47-8; and Idem, The Economic History of the Maritime Provinces ed., T. W. Acheson (Fredericton, New Brunswick: Acadiensis Press, 1984), p. 49.

¹¹ For an excellent discussion of the growth of Nova Scotia's vertically-integrated fish companies, nearly all of which were based along Nova Scotia's South Shore, see L. Gene Barrett, "Underdevelopment and Social Movements in the Nova Scotian Fishing Industry to 1938", in Underdevelopment and Social Movements in Atlantic Canada, eds. Robert J. Brym and R. James Sacouman, (Toronto: New Hogtown Press, 1979), pp. 128-37.

¹² See Saunders, The Economic Welfare of the Maritime Provinces, pp. 49-50, for a discussion of these federal subsidies.

¹³ There were 14,630 male fishermen, 10 years of age and older, enumerated in the 1911 census; by 1941 this number had dropped to 10,776. Census of Canada, 1911, 1941.

the development of improved methods of fish processing and packing (e.g. filleting and fast freezing), had made fishermen much more productive than at the beginning of the century, the gross value of fish production was barely two-thirds that of 1921.¹⁴

With the single exception of Richmond County where the area in field crops increased from 3 to 5 acres, more hay was produced and more sheep and swine were raised per family, agricultural production in the fishing zone declined significantly in the half century after 1891. Along the Eastern Shore between Halifax and Canso the amount of improved land per family dropped from 10 acres to 6 acres and most rural districts experienced an absolute loss in population (Figure 6-1).¹⁵ On average, less than half of this land was devoted to field crops, mainly hay; the remainder was cleared pasture land. About a quarter of an acre was devoted to potatoes and vegetables. Very little grain was produced. In Port Hilford, Guysborough County, in the heart of the Eastern Shore 36 families sowed less than a quarter of an acre each in oats. No wheat, barley, rye, corn or other grains were produced. Livestock herds shrank to an average of 2 cattle per family (from 3 in 1891), but more swine were raised in 1941 than in 1891 (one pig for every two families).¹⁶

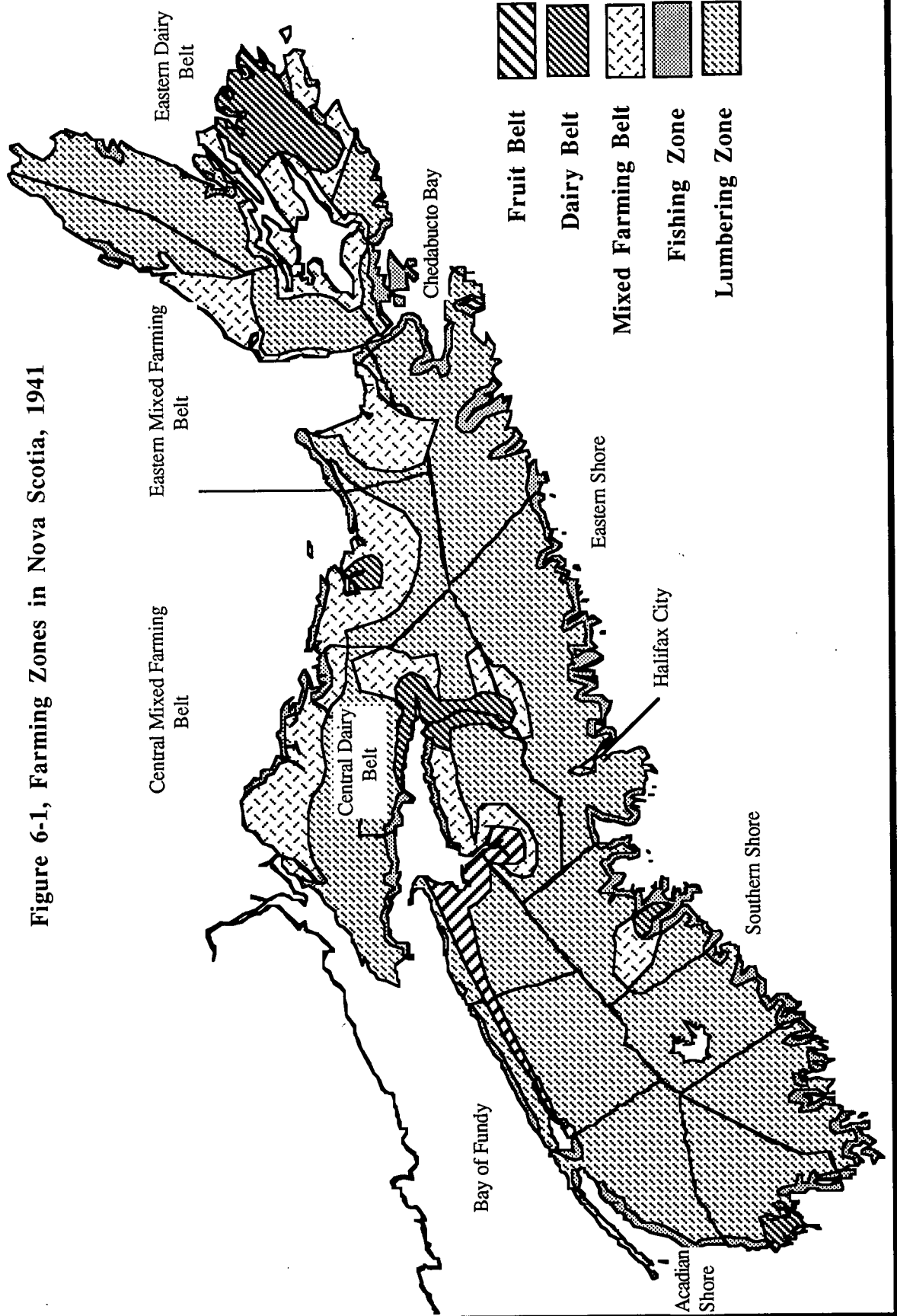
To the south of Halifax in the coastal districts of Lunenburg, Guysborough, Queens, Shelburne and Yarmouth Counties agricultural decline was even more pronounced. Improved land per family dropped from 8.5 acres in 1891 to 6 acres or so in 1941; hay production fell by half (to an average of 2 tons per family), and the number of

¹⁴ Saunders, *The Economic History of the Maritime Provinces*, p. 73; Barrett, "Underdevelopment and Social Movements in the Nova Scotia Fishing Industry to 1938", p. 133.

¹⁵ See Figures 3-1 and 3-2, Population Distribution in Nova Scotia, 1891 and 1941, to compare the general demographic decline in this zone.

¹⁶ Three of the four cattle enumerated on the holdings of every two families along this Shore were listed as milk cows in the census. The skim milk, left over after the cream was collected to make butter and cheese, was fed to the pig. *Census of Canada*, 1941.

Figure 6-1, Farming Zones in Nova Scotia, 1941



cattle and sheep raised per family declined by a third.¹⁷ From 1 horse for every 5 families in 1891 numbers fell to 1 for every 30 families fifty years later. Although potato and vegetable production increased slightly, on average, families still devoted little more than a quarter of an acre to potato and vegetable gardens. Except in the vicinities of Lunenburg, Bridgewater and Yarmouth, sizeable service centres of 3,000, 3500 and 8,000 respectively, there was little grain produced along this shore.¹⁸ As in the late nineteenth century, most rural districts were dependent on food produced elsewhere and purchased with income earned in the fishing industry.

The largest decline in agricultural production within the fishing zone occurred on the Acadian Shore between Yarmouth and Digby (Figure 6-1). As incomes declined with the contraction of the fishery after the turn of the century, emigration to the United States became particularly acute in this area.¹⁹ Despite a relatively high rate of natural increase in this predominantly Roman Catholic region, the majority of districts along this shore had

¹⁷ The number of cattle and sheep declined from 3 each in 1891 to 2 each per family in 1941. Census of Canada, 1891, 1941.

¹⁸ In the district of First South in the vicinity of Lunenburg, for example, 74 families harvested an average of 75 bushels of oats and barley in 1941, which would have required almost three acres of land per family to produce. Most of the oats were combined with the 5 tons of hay that each family averaged to sustain the 2 milk cows, 2 steers and 2 swine that families kept on average. The barley was combined with table scraps to feed the 28 hens and chickens recorded on land holdings in this community. While some families in First South may have generated small surpluses of milk, meat, butter and eggs for sale in nearby Lunenburg, such surpluses were more the exception than the rule along the South Shore.

¹⁹ A survey of Wedgeport, a predominantly Acadian community near the town of Yarmouth, discovered that at least 350 people emigrated to Massachusetts alone between 1918 and 1939. This heavy outmigration explains why census enumerators counted 1600 people in this fishing district in 1911 and only 451 people in 1931. Neil Boucher, The Development of An Acadian Village: Surette's Island, 1859-1970 (Ottawa: Lescarbot Press, 1980), p. 66; Census of Canada, 1911, 1931. A Provincial School Report in 1924 noted, some of the islands along the Acadian shore are "almost deserted ... whole families [are] moving to the United States". J.H.A.N.S. (1924), pp. 74-75; cited in Boucher, The Development of An Acadian Village, p. 66.

fewer people in 1941 than in 1891.²⁰ As outmigration occurred, so the extent of improved land declined in absolute and relative terms. Clare and Salmon River, which averaged 22 improved acres per family in 1891, recorded 11 improved acres per family in 1941. Between 1891 and 1941 cattle numbers dropped from an average of 4 cattle per family to 3 cattle per family, the number of sheep declined from 4 sheep per family to 1 sheep for every 5 families and horses declined from 1 for every 3 families to 1 for every 9 families. Hay and turnip production reflected this decline in livestock holdings. These crops dropped from 8 to 5 tons per family and 16 to 2 bushels per family, respectively, between 1891 and 1941.

Hardship and poverty ensued. As fish prices and overall catches declined between 1911 and 1941, families produced less food on their land holdings and became more dependent upon external sources of provisions. Here incomes were among the lowest in the province. In 1941, 3,300 families in Digby and Yarmouth Counties had incomes of about \$250.00 each; the provincial average was \$525 and 4,700 families in Kings, Colchester and Hants Counties earned over \$900 each from agricultural sales alone.²¹

Along the Northumberland Strait in northern Nova Scotia quite a different situation prevailed. Here improved acreage declined slightly, from 35 acres per family in 1891 to 28

²⁰ Of this area's 28 census subdistricts in 1941, 15 recorded an absolute loss in population since 1891, three remained relatively stable between the census dates and the remainder showed, for the most part, very slight increases. The town of Digby, which grew from 1,381 people in 1891 to 1,657 people in 1941 (an increase of about 20 per cent) recorded the largest demographic increase between 1891 and 1941 in the area.

²¹ Census of Canada, 1941. During the early years of the Great Depression average annual incomes in other parts of the fishing zone dropped to as low as \$100.00 per family. A. Hanlon and B. Wilcox, in Canada, Royal Commission on Price Spreads, Minutes of Proceedings and Evidence, Vol. 1 (Ottawa: 1934), pp. 51-68; cited in R. James Sacouman, "Underdevelopment and the Structural Origins of Antigonish Movement Co-operatives in Eastern Nova Scotia", in Brym and Sacouman, eds., Underdevelopment and Social Movements in Atlantic Canada, pp. 118-19. The figures on agricultural sales in Kings, Colchester and Hants Counties are from S.C. Hudson, R. A. Stutt, W. Van Vleit and J. L. Forsyth, Types of Farming in Canada (Ottawa: Department of Agriculture Publication 825, Farmers' Bulletin 157, 1949), p. 82.

acres per family in 1941, but the production of most crops and livestock increased on a per family basis. Hay production almost doubled (to 19 tons per family in 1941), oat production grew by 70 per cent (to 63 bushels per family in 1941) and potato production increased from 100 to 116 bushels per family during this period. Although the number of cattle and sheep declined slightly (from 6 to 5 per family and from 6 to 4 per family respectively), the number of swine, poultry and horses enumerated on family holdings increased between 1891 and 1941. Poultry production in 1941 reached beyond subsistence levels in several districts of this zone; the average for the region in 1941 was 32 hens and chickens per family. In general families in this subregion of the fishing zone were much less dependent on the commercial fishery in the 1940's than had been the case in the nineteenth century, and agriculture contributed substantially to annual incomes. A survey of the living conditions of 21 families who owned land along the coast of western Antigonish County in 1935, for example, indicated that the sale of fish accounted for only half of their average annual income of \$546.13.²² The remainder of their income came from the sale of agricultural products (25 per cent), the sale of forest products (5 per cent) and the sale of off-farm labour and miscellaneous products (20 per cent).²³ When a similar survey of rural conditions in Pictou County was conducted in the late 1940's, it revealed that only about 400 county families were engaged in commercial fishing (mainly lobster trapping); nearly all of them cultivated some land, and 75 of them were said to be "good farmers", with land holdings comparable to the county's interior agricultural districts.²⁴ In several areas along this shore fishing had become a relict activity.

²² Longley and Chown, Antigonish County, Nova Scotia: A Study of Land Utilization, Farm Production and Rural Living, p. 28. The figures used are those from the survey of the Cape George district. Average annual income in this district was five times that of the families surveyed along the Eastern Shore and in southern Cape Breton.

²³ Ibid.

²⁴ Grant, "Land Use in Pictou County", p. 98.

The fishing industry of the 1940's was far less labour-intensive than that of the nineteenth century. Technological developments in catching, processing and handling reduced the amount of labour required to market both fresh and salt fish.²⁵ In addition, the expansion of vertically-integrated fish companies, especially along Nova Scotia's Atlantic coast (Southern and Eastern shores) after 1920, kept fishermen's wages down and the prices of gear and provisions (supplied by the companies) high. While the production of fresh and frozen fish increased from 9 per cent of Nova Scotia's total catch in 1920 to 34 per cent in 1939, company-owned cold storage plants effectively controlled the local market for these products in many communities.²⁶ Communities isolated from cold storage plants found it nearly impossible to participate in the fresh fish trade.

By contrast with their predecessors who were effectively independent producers, trawlermen were industrial workers. They were employed on company-owned vessels nearly year round, their catch was processed at company-owned plants and the catch was marketed through company representatives in distant markets. Their ability to operate subsistence agricultural holdings was reduced and they became even more dependent on the price of fish than had been the case in the nineteenth century. The large catches that trawlers brought to market at a time kept fish prices low, and some argued that trawlers were contributing to the rapid depletion of fish stocks in several areas.²⁷ These circumstances contributed significantly to the large-scale outmigration of families from the

²⁵ Barrett, "Underdevelopment and Social Movements in the Nova Scotia Fishing Industry to 1938", p. 133. One company, Atlantic Fisheries of Lunenburg, for example, established plants at La Have and Lunenburg fitted with mechanized dryers and shredders which reduced the labour required to process salt fish. *Ibid.*, p. 131.

²⁶ The price spread between the dock price paid to fishermen and that received by the company from the wholesaler could be enormous. In one case in 1934 the average price received by a company from a wholesaler was 175 per cent higher than the price paid to the fishermen; by the time the fish reached consumers in Montreal the price paid per lb. was 510 per cent greater than that paid to the fishermen. *Ibid.*, p. 136.

²⁷ Saunders, The Economic Welfare of the Maritime Provinces, p. 56.

fishing zone in the twentieth century, and the general decline of agricultural activity in many of the province's fishing districts.²⁸

The Lumbering Zone

Lumber output from Nova Scotia's lumbering zone continued to expand after the turn of the nineteenth century. Between 1871 and 1911 the number of men employed seasonally in Nova Scotia's sawmills increased from 2,800 to 5,500 while the value of lumber and other wood products manufactured grew from \$1,400,000 to \$8,000,000.²⁹ Improvements in water wheel design, the introduction of better quality saw blades and gang saws, and the rapid diffusion of portable steam-powered sawmills across the province between 1890 and 1910 were largely responsible for the expansion in lumber output during this period.³⁰ In addition, market conditions prior to and during the First World War kept the price of lumber high.³¹ But, with the opening of the Panama Canal in 1918 (which brought Pacific coast lumber from Oregon, Washington and British Columbia into competition with local products in domestic and external markets), the depletion of the province's most valuable timber resources, and the general downturn in the provincial economy in the 1920's, the number of sawmills and the volume of lumber produced shrank rapidly. Although pulp wood sales grew during the 1920's with the establishment of pulp and paper mills in New Brunswick and Nova Scotia, it was recognized by provincial government officials that the wood industry of the province was in a crisis situation. Forest fires had depleted many of the best stands of timber remaining in the province, large

²⁸ Harold Innis makes this point in The Cod Fisheries: The History of an International Economy (Toronto: The Ryerson Press, 1940), pp. 330-34.

²⁹ Census of Canada, 1871, 1911.

³⁰ Barbara R. Robertson, Sawpower: Making Lumber in the Sawmills of Nova Scotia (Halifax: Nimbus Publishing and the Nova Scotia Museum, 1986), pp. 53-57.

³¹ Saunders, The Economic History of the Maritime Provinces, p. 34.

sections of Cape Breton's woodlands had been destroyed by an outbreak of the spruce budworm disease in the 1920's, and lumber mills still in operation were "sawing too much lumber of small dimensions" and producing low grade products which had difficulty competing in international markets.³² In general, lumbermen and pulp companies (which were gradually acquiring leases and licenses to large tracts of remaining timber stands) were utilizing Nova Scotia's forest resources faster than regeneration was taking place during the 1920's and 30's and "merchantable standards" were declining.³³ By 1940 there was much less "woods work" available in Nova Scotia's lumbering zone than had been the case in the nineteenth century, as both the Minister of Lands and Forests for Nova Scotia and the province's Chief Forester acknowledged in their report to the Imperial Economic Conference held in Ottawa in 1932:

the serious decline of the forest industries in the province has reduced the demand for workers in the woods to such an extent that ready cash is so scarce among the small farmers [in the lumbering districts] ... that they have been living a 'hand to mouth' existence, and without a doubt this condition is solely responsible for the exodus of the young people belonging to these classes to the United States and the West.³⁴

The consequences of these developments for agriculture in the 1940's were most visible in Guysborough County in the eastern part of the lumbering zone. In the district of

³² Otto Schierbeck (Chief Forester, Nova Scotia) and Hon. John Doull (Minister of Lands and Forests, Nova Scotia), The Imperial Economic Conference Report on Labour Conditions in the Woods, Forest Inventory, Duration of Supply, Forest Industries and the English Market (Halifax: Department of Lands and Forests, 1932), p. 23.

³³ G. W. I Creighton, the Provincial Forester, reported in the Annual Report of the Nova Scotia Department of Lands and Forests for 1937 that, "the advent of the portable mill, together with a growing demand for pulp wood, has further reduced merchantable standards, till the average present-day logging operation clears an area of tree growth and leaves behind such an accumulation of debris that new growth is retarded for many years"; cited in L. S. Hawbolt and R. M. Bulmer, The Forest Resources of Nova Scotia (Halifax: Department of Lands and Forests, 1958), p. 69.

³⁴ Schierbeck and Doull, The Imperial Economic Conference Report on Labour Conditions in the Woods, Forest Inventory, Duration of Supply, Forest Industries and the English Market, p. 10.

Sherbrooke, Guysborough County, where four decades earlier 133 families operated small farms which supplied provisions to the lumber camps and to the village of Sherbrooke (which had emerged to service the gold mines and sawmills in the region), only 21 families continued to work the land in 1941. The small scale of production on these farms suggests that such farm surpluses as were available were small. The 21 farms in this district averaged 15 acres of cropland, 10 acres of pasture and more than 250 acres of woodland in 1941. Apart from the 89 bushels of oats that each farm averaged (which could have been produced on two and a half acres), there was little grain cultivated. Most of the improved land on these farms was devoted to hay -- an average of 17 tons per farm -- which was combined with the oats to feed the 7 cattle (2 more than in 1891) and 1 horse that each family averaged. Only 34 sheep grazed the pastures and woodlands of the district (an average of 3 for every two farms).³⁵ While more potatoes, turnips and swine were produced on these farms in 1941 than in 1891, production levels were too low to provide significant surpluses for shipment to Halifax or Sydney markets.³⁶ These remained agro-forestry operations on which families attempted to support themselves by cutting pulp wood and pit props, selling surplus butter and livestock, and obtaining off-farm employment whenever it was available. But, with the closing after 1920 of several of the region's Gold Mines (that had provided important markets for local farm surpluses), and the general decline of lumbering activity in the area, it became increasingly difficult to earn a living in the district.³⁷ In 1941 more than 3,000 families with agricultural holdings in

³⁵ In 1891 each farm in the Guysborough portion of the lumbering zone averaged 6 sheep. Census of Canada, 1891.

³⁶ The 21 families averaged 81 bushels of potatoes and 38 bushels of turnips, and only 6 swine were recorded in the entire district. Census of Canada, 1941.

³⁷ Nova Scotia Department of Mines, A Brief History of Mining and Geology in Nova Scotia (Halifax: Government Printer, 1975), p. 16.

eastern Halifax, Guysborough and Richmond Counties averaged only \$150.00 in farm sales each, the lowest recorded in the province.³⁸

At the west end of the lumbering zone more people continued to work the land than in the eastern portion of the lumbering zone, but farms were smaller and less productive than in the Sherbrooke district. The 172 farms enumerated in Carleton and Kemptville (Yarmouth County) in 1941 (down from 279 in 1891) averaged only 7 acres in field crops and another 3 acres in cleared pasture. The small area of cleared land on each farm supported an average of 5 cattle (3 less than in 1891), 1 swine (up from 1 on every two farms in 1891) and 21 poultry (3 times as many as in 1891). Less than half an acre on each farm was devoted to potatoes, turnips and other vegetables (combined). The remainder of the 130 acres that each family owned, on average, remained in woodland which was selectively harvested for fuel, for timber, and for pulp wood. But the wood working factory, which had provided a local market and seasonal employment for some of the 280 farmer-lumberers enumerated in this district in 1891, had closed at the beginning of the century when it was amalgamated with a larger company based in the town of Yarmouth.³⁹ So, most of the timber cut in the district in 1941 was either processed into lumber at portable sawmills (which operated seasonally in the district), or it was hauled to Yarmouth, 17 miles away (27 kilometres), where it was sold to one of the large wood working establishments located there.⁴⁰ Pit props were hauled to the coast for sale to merchants with established trading connections in industrial Cape Breton. Although farms were less productive in the western portion of the lumbering zone than in the east, average incomes were slightly higher because there was more woods work available in this region. In 1941

³⁸ Hudson, Stutt, Van Vleit and Forsyth, Types of Farming in Canada, p. 83.

³⁹ Robertson, Sawpower: Making Lumber in the Sawmills of Nova Scotia, p. 121.

⁴⁰ In 1917 the Canadian Woodworking Company of Yarmouth which produced shingles, laths, doors, sashes, mouldings, fish boxes, shooks, barrels and staves was described as "the largest woodworking plant in the Maritime Provinces". Ibid.

3,500 families in the lumbering districts of Lunenburg, Queens, Shelburne, Yarmouth Digby and Annapolis Counties averaged \$285 in farm sales, almost half of which was from the sale of wood products (timber, lumber, pulp wood, pit props, fuel wood).⁴¹ The largest sawmills still operating in Nova Scotia in the 1940's were located in the lumbering zone of western Nova Scotia as well as the majority of the ground pulp mills that had been established in the 1920's and 30's.⁴²

Farmland abandonment and agricultural decline were general characteristics of the lumbering zone between 1891 and 1941. Overcutting on private woodlots was stimulated by the expansion of the pulp and paper industry in the province in the 1920's and 30's. At the same time farmer-lumberers intent on leaving were provided the opportunity to dispose of their property because American companies began purchasing timber lots in the lumbering zone in an effort to ensure a continuous supply of pulp wood for the mills being established in Nova Scotia and for those already in operation along the Eastern Seaboard.⁴³ In general, as the twentieth century wore on, opportunities for small scale producers attempting to make a living by combining farming and forestry were reduced. The sawmills and other wood working establishments that had been established in the late nineteenth century declined steadily through the 1920's until in 1932 it was noted by provincial government officials that "all through the province are to be found old

⁴¹ Hudson, Stutt, Van Vleit and Forsyth, Types of Farming in Canada, p. 83.

⁴² Ralph S. Johnson, Forests of Nova Scotia: A History (Halifax: Department of Lands and Forests, 1986), pp. 127-48.

⁴³ Some notable examples of American pulp and paper companies which were acquiring timber land in Nova Scotia in the 1920's include: the Hollingsworth and Whitney Company of Boston which had purchased or leased almost 200,000 acres of timber land in Annapolis, Queens and Lunenburg counties by 1922; the Albany Perforated Wrapping Company which had acquired more than 100,000 acres of timber land in southern Halifax county by 1925 (in both freehold and crown leases); and the Sonora Timber Company of West Virginia which purchased "a considerable acreage of woodland" in the St. Mary's River and Salmon River watersheds in Guysborough county, "mostly in small lots of 100 to 1,000 acres". Ibid., pp. 142-3.

abandoned [wood] factories".⁴⁴ Remaining farmer-lumberers became increasingly dependent on pulp wood sales from their woodlots and on contract employment with pulp companies and contractors supplying the recently established pulp and paper mills. By 1940 it was clear to Nova Scotia's Chief Forester that "most of the timber cut in Nova Scotia was from land which had once been logged ... [or] cut over several times".⁴⁵

The only districts of the lumbering zone which recorded substantial advances in agricultural activity up to 1941 (on a per farm basis), despite the general decline in the lumbering industry after World War 1, were Middle and Upper Musquodoboit in Halifax County, and Upper Onslow in Colchester County, all of which were brought directly within the market hinterlands of Truro and Halifax as a result of railway and road improvements. Middle Musquodoboit, Halifax County, is representative of these districts. In the 1890's 203 farmers in this district drove their cattle or hauled their farm produce along valley and upland roads in wagons to Halifax 45 miles (72 kilometres) away or to Truro 35 miles (56 kilometres) away. Saw logs and lumber were also important products, and were transported out of the district either directly by farmers or indirectly via local merchants and lumber dealers. A proposed rail line which would have connected Dartmouth to Guysborough via the Musquodoboit Valley was never completed, but the spur line that resulted (between Waverly Junction and Upper Musquodoboit) provided Musquodoboit Valley farmers with a direct link to the province's largest domestic market.⁴⁶ Thus, those who continued to work the land in this district after 1905, when the

⁴⁴ Schierbeck and Doull, The Imperial Economic Conference Report on Labour Conditions in the Woods, p. 28.

⁴⁵ G. W. I. Creighton, in Annual Report of the Nova Scotia Department of Lands and Forests for 1940; cited in Hawbolt and Bulmer, The Forest Resources of Nova Scotia, p. 71.

⁴⁶ For a discussion of the efforts to complete this railroad see Johnson, Forests of Nova Scotia: A History, p. 91, and Gordon M. Haliburton, "A History of Railroads in Nova Scotia", M.A. Thesis, Dalhousie University, 1955, pp. 457-65.

line was completed, expanded the commercial side of their farming operations as lumbering activity declined. While the number of farms in Middle Musquodoboit declined by almost half between 1891 and 1941 (from 203 to 102), the amount of improved land declined by less than a third, and cattle, horses, swine, poultry and fodder crops (hay, oats, barley) per farm all increased. With an average herd size of 13 cattle, 8 sheep, 2 swine and 2 horses, and an average flock of 55 poultry in 1941, these were substantial farms which differed little from the farms in Nova Scotia's more productive farming districts. Where districts were distant from such railroad spur lines (or improved highways) farmland abandonment and agricultural decline were much more pronounced than in Middle Musquodoboit. In Garden of Eden, in the back country of Pictou County, for example, where 150 farms averaged more than 50 improved acres in 1891, only 45 families remained working the land in 1941, with an average of less than 40 acres of improved land each.

The Farming Zone

Between 1891 and 1941 the number of farms in Nova Scotia's farming zone fell by 12,000, and this decline continued during the 1940's. The amount of improved farmland in the province also declined, by approximately half. But the area in field crops and orchards fell by less than a third, and the province's net farm income actually increased from just under \$14,000,000 in 1926 to \$17,000,000 in 1941.⁴⁷ As farms and farmland declined, average farm size and productivity increased. The 24,000 farms remaining in Nova Scotia in 1951 contained an average of 30 per cent more "occupied land" than in 1891 (130 acres), and a larger proportion of improved land was devoted to field crops.⁴⁸

⁴⁷ The area of field crops and orchards declined from approximately 700,000 acres in 1891 to 516,000 acres in 1941. Census of Canada, 1891 and 1941. Net farm income figures are contained in Dominion Bureau of Statistics, Handbook of Agricultural Statistics, Farm Income, 1926-1957 (Ottawa: Government Printer, 1958), pp. 37, 42-3.

⁴⁸ The area devoted to field crops increased from an average of 12 acres per farm in 1891 to 16 acres in 1941. Census of Canada, 1891, 1941.

Fields were also more productive in 1951 than in the late nineteenth century because of the more widespread use of fertilizers and high quality seeds introduced in the twentieth century. Between 1891 and 1941 hay production per acre in Nova Scotia increased by one-fifth, potato yields grew by 40 per cent and the amount of oats produced per acre almost doubled.⁴⁹ The diffusion of tractors across the province in the 1930's and 40's also enabled commercial farm operators to increase agricultural output while reducing farm labour.⁵⁰

Commercial farms which continued to function through to 1951 were larger, more productive and more capital-intensive than those of the late nineteenth century. They were also more dependent on domestic markets than in the late nineteenth century.⁵¹ As changes in the efficiency of ocean and inland transport and the development of mechanical refrigeration transformed the costs of importing food from distant agricultural regions, the growth of interregional competition forced adjustments on provincial farms. The production of beef cattle, sheep, potatoes and most grains (apart from oats) declined steadily after 1900, and farmers increasingly concentrated on those products which retained a competitive edge in local or distant markets (ie. milk, cream, poultry, eggs, market garden vegetables, apples and berries). In general, as interregional competition increased,

⁴⁹ Potato yields rose from 116 bushels per acre in 1891 to 162 bushels in 1941, oat yields grew from 17 to 33 bushels and hay production increased from 1.1 to 1.3 tons per acre. Summary of crop yields, 1901-1931, Census of Canada, 1931; Census of Canada, 1941.

⁵⁰ Tractors, which increased almost ten fold in Nova Scotia between 1931 and 1951 (from 415 to 4,056), were principally concentrated in the fruit and dairy belts of the province where the ratio of tractors to farms grew to 1:3 in 1951. This ratio was similar to that recorded in the commercial farming districts of New England in 1948 (28 on every 100 farms or a ratio of 1:3.5). Motor trucks and cars were more widely distributed across the province than tractors. More than half of the 24,000 farm families in Nova Scotia in 1951 owned a motor vehicle. Census of Canada, 1931, 1951; J. D. Black, The Rural Economy of New England: A Regional Study (Cambridge: Harvard University Press, 1950), p. 270.

⁵¹ The fruit farmers of the Annapolis-Cornwallis Valley were an exception in this regard, at least until the British market for fruit closed during the Second World War. Thereafter, like commercial farmers elsewhere in Nova Scotia, they concentrated predominantly on local markets.

there was a gradual shift from the production of high-bulk, low-value, non-perishable commodities to perishable, often low-bulk, high-value commodities. Thus, while the number of cattle kept on provincial farms dropped from 275,000 to 205,000 between 1921 and 1941, milk and cream sales more than doubled (from 50.3 million lbs. to 107 million lbs.) and poultry production quintupled. And, as potato production declined by almost one-third during the same period, apple production doubled and the production of "other vegetables" rose by 40 per cent.⁵² Small, marginal farms, which had formerly supplied dairy butter, cattle and surpluses of potatoes and vegetables to domestic and external markets, were either operated on a subsistence or part-time basis, or they were abandoned altogether while their families sought opportunities elsewhere.⁵³ Most farms, however, remained mixed farms, "which combined several livestock or cropping enterprises in varying proportions", but "a special emphasis was placed on apples, dairy products, poultry, eggs and market garden vegetables in specific areas of the province".⁵⁴ Thus regional specializations which were in a nascent stage of development in the late nineteenth

⁵² Summary of Nova Scotia Farm Production, 1910-51, Census of Canada, 1951. Milk and cream sales increased again by more than 50 per cent between 1941 and 51 (to 163 million lbs.) while cattle numbers continued to decline. Potato production declined from 4.4 to 2.9 million bushels between 1921 and 1941 while vegetable production increased from 3.3 to 4.6 million bushels. The commercial concentration on market garden vegetables also increased through the 1940's. The floor space of the province's 40 or so greenhouses almost doubled in this decade (from 63,000 square feet in 1941 to 111,000 square feet in 1951).

⁵³ Of the province's 33,000 farms in 1941 only 12,000 were classified as "commercial"; 53 per cent were subsistence operations and 12 per cent were considered "part-time farms". "Commercial farms" were classified by enumerators as those farms on which 50 per cent or more of the gross revenue came from the sale of farm products; "subsistence farms" were farms on which the value of products consumed or used by the farm household amounted to 50 per cent or more of gross farm revenue; part-time farms were those on which more than half of gross farm revenue was obtained from off-farm work (lumbering, fishing, road work etc.). It should be noted that these census definitions of "subsistence" and "part-time" farms do not preclude the sale of agricultural surpluses by farm families. Census of Canada, 1941.

⁵⁴ W. M. Drummond and W. MacKenzie, Progress and Prospects of Canadian Agriculture: Royal Commission on Canada's Economic Prospects (Ottawa: Queen's Printer, 1957), p. 149.

century were clearly etched in Nova Scotia's agricultural landscape by 1941 (Figures 6-1 and 6-2).

The Fruit Belt

Agricultural production in the farming districts of Kings and Annapolis Counties reflected general provincial trends. The number of farms dropped by 2,500 or so between 1891 and 1941, and the amount of "improved land" declined by more than half, but the acreage devoted to field crops and orchards increased by more than 10 per cent. In 1941 those farms that remained were worked more intensively than in 1891. On average families took more hay, potatoes and oats from smaller holdings (Table 6-1). More cattle and swine were kept than in 1891 and larger barley crops fed the 115 hens and chickens kept on the average holding.⁵⁵ At 405 bushels per family apple production was almost 4 times greater than in 1891 despite marketing problems produced by the Second World War.

Most apple orchards in 1940 were small (Table 6-2).⁵⁶ Almost two-thirds of the valley's 2,500 or so fruit growers had fewer than 10 acres in orchards; another 25 per cent had between 11 and 25 acres. Only 16 had more than 100 acres in apple trees. Many families combined fruit farming with dairying, beef production, poultry raising and bee keeping.⁵⁷ F. W. Foster, a dairy farmer in Kingston, Kings County, explained the benefits of such practises shortly after he began to plant apple trees on his farm in 1910,

⁵⁵ Poultry and egg production on commercial farms grew steadily with the establishment of a provincial poultry farmers' association in 1926 which promoted the production and marketing of these products. The Nova Scotia Egg and Poultry Association, founded in July, 1926, at a meeting of farmers and egg circle members at Truro, Colchester County, amalgamated with a similar New Brunswick association a year later and renamed itself the Maritime Egg Exchange. This larger association financed the establishment of an egg warehouse in Halifax in 1928, and supported an egg and poultry marketing cooperative set up by Annapolis Valley poultry farmers. R. J. MacSween, A History of Nova Scotia Cooperatives (Halifax: Nova Scotia Department of Agriculture and Marketing, 1985), pp. 27-8.

⁵⁶ C. M. Collins, A Census of Apple Orchards in Nova Scotia, 1939-40 (Halifax: Nova Scotia Department of Agriculture, Bulletin #4, 1941), p. 31.

⁵⁷ The 300 families who kept bees on a commercial basis in Nova Scotia in 1941 were concentrated in the fruit belt. M. Cumming, "Nova Scotia Agricultural Statistics", Report

Figure 6-2, Improved Land Per Farm Family in Nova Scotia, 1941

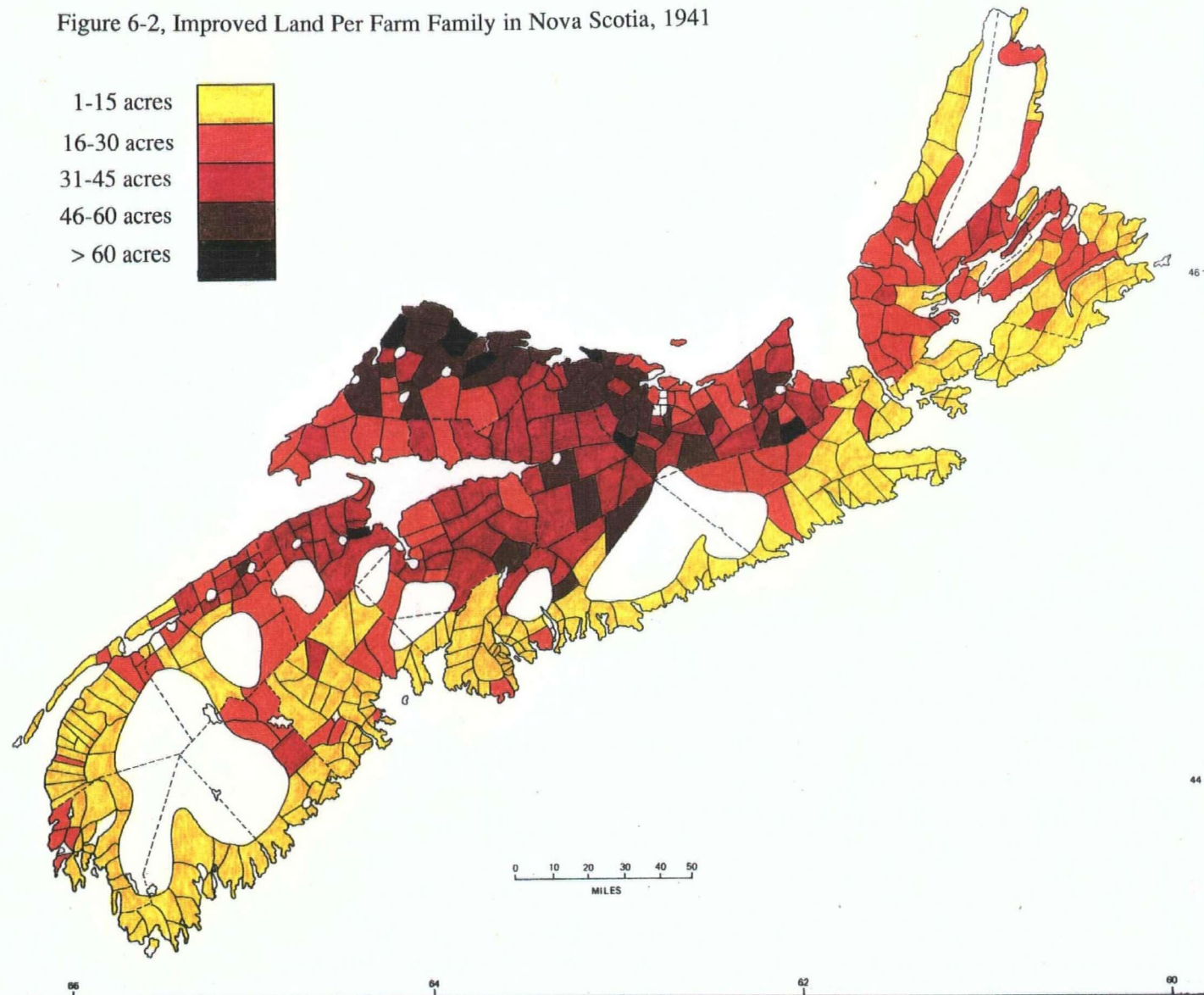


Table 6-1
Average Production Per Family, Principal Crops and Livestock,
The Fruit Belt, 1891-1941

| | 1891 | 1941 | Change (% +/-) |
|---------------------------|------|------|----------------|
| Hay (tons) | 13 | 28 | 115 |
| Potatoes (bushels) | 150 | 225 | 50 |
| Turnips (bushels) | 52 | 10 | -81 |
| Oats (bushels) | 33 | 95 | 188 |
| Wheat/Buckwheat (bushels) | 5 | 2 | -60 |
| Barley (bushels) | 4 | 14 | 250 |
| Rye (bushels) | 1 | 1 | 0 |
| Other Grains* (bushels) | 3 | 1 | -67 |
| Apples (bushels) | 105 | 405 | 286 |
| Cattle (number) | 5 | 9 | 80 |
| Sheep (number) | 4 | 3 | -25 |
| Swine (number) | 1 | 4 | 300 |
| Poultry (number) | 12 | 115 | 858 |

* Corn, peas and beans

Source: Census of Canada, 1891, 1941

Table 6-2^{195c}
**Summary of Apple Orchard Census, The Annapolis-Cornwallis Valley,
 1939-1940**

| Size of Orchard (acres) | Number of Growers | % of Total |
|----------------------------|-------------------|------------|
| 2-10 | 1,649 | 66 |
| 11-25 | 627 | 25 |
| 26-50 | 179 | 7 |
| 50-75 | 30 | 1 |
| 76-100 | 8 | 0.3 |
| > 100 | 16 | 0.6 |
| TOTAL | 2,509 | 100 |

Source: Calculated from C. M. Collins, A Census of Apple Orchards in Nova Scotia (Halifax: Nova Scotia Department of Agriculture Bulletin # 4, 1941), p. 31; cited in N. H. Morse, "An Economic History of the Apple Industry in the Annapolis Valley," Ph. D. Dissertation, University of Toronto, 1952, p. 73.

Dairying fits into orcharding. A market is made for the cull apples. A large quantity of manure is made from the cows and hogs, which is returned to the soil. ... While we are waiting for the young orchards to grow to the bearing age, the cows pay the bills. Then, by raising some cash crops, such as small fruits and potatoes, it enables one to make a fair living, and when the trees begin to bear, the apples come as a present. ... My plan is to carry on the two industries of orcharding and dairying jointly... as if I were making a specialty of each.⁵⁸

With 500 trees on 10 acres Foster might have anticipated a harvest of between 300 and 500 barrels (900 to 1,500 bushels) by 1920.⁵⁹

Similar diversification was common. On 3,600 farms in the Annapolis-Cornwallis valley in 1941 slightly more than half of \$917 in average farm sales came from the sale of apples and other fruit (ie. peaches, plums, cherries, strawberries); livestock, dairy products and eggs comprised 35 per cent of total sales; the remainder consisted of potatoes and vegetables (5 per cent), honey and forest products (5 per cent), hay and grain (2 per cent) and wool and other unspecified products (2 per cent).⁶⁰ Considerably fewer than a third of all farms (950 of 3,600) specialized almost solely in fruit production. Some 10 per cent of the region's farms derived at least half of their income from milk and butter; another 5 per cent specialized primarily in poultry and livestock. The remainder were mixed

of the Department of Agriculture for Nova Scotia for 1941 (Halifax: King's Printer, 1942), p. 170.

⁵⁸ F. W. Foster, "Dairying and Orcharding in the Annapolis Valley", in Annual Report of the Secretary for Agriculture for Nova Scotia for 1910 (Halifax: King's Printer, 1911), pp. 85-86. For similar arguments about the benefits of combining fruit farming with poultry keeping see, Manning Ells, "Poultry Keeping in Relation to Orcharding", in Annual Report of the Secretary for Agriculture for Nova Scotia for 1910, pp. 87-88.

⁵⁹ This is based on an estimated average yield of between 2 and 3 bushels of apples per tree, which one author maintains is the average yield which prevailed up to the 1930's. Adrian Lewis, "An Apple-Less Valley: Process and Change in the Apple Industry of Kings County, Nova Scotia, 1940-74" B.A. Honours Thesis, Acadia University, 1974, p. 67.

⁶⁰ Hudson, Stutt, Van Vleit and Forsyth, Types of Farming in Canada, pp. 76-7; 82-3. It should be noted that the total value of farm production was much higher than this figure, which reflects only those products sold for cash. It is uncertain whether this also includes products which acquired a credit value at local merchant premises.

operations which combined hay, grain and vegetable production with the operation of a small orchard.

Among the valley's specialty fruit operations, which generally devoted between 50 and 100 acres to apple orchards, a few were especially large. The Sam Chute farm in South Berwick, Kings County provides one example. Purchased in 1883 for \$1,400, and operated as a mixed farm until newly planted orchards began to bear, the farm produced 500-600 barrels (1,500-1,800 bushels) of apples a year by 1900; by 1910 production exceeded 4,000 barrels (12,000 bushels) a season.⁶¹ Thirty years later the Chute farm had more than 300 acres of orchard land.⁶² Farms of this scale were highly capital- and labour-intensive. They depended on a variety of purchased inputs, including pesticide sprays and artificial fertilizers, to keep the orchards pest-free and productive.⁶³ Hired farm workers were required year round and additional help was necessary for tree pruning (in the spring) and for picking (in the fall). Many orchard owners found it difficult to obtain skilled workers, especially during the bottleneck of harvest time in the fall. Sam Chute recognized the labour problem that faced large-scale fruit farmers early on; in 1910 he completed the construction of housing for six full-time farm workers on his farm, with room enough to accommodate additional part-time labourers who were required during the apple picking season.⁶⁴ Others attempted to solve the labour problem by investing in

⁶¹ Anon., "Commercial Orchardling", in Annual Report of the Secretary for Agriculture for Nova Scotia for 1910, pp. 81-2. Given the average provincial yield of 75 bushels of apples per acre, this level of production would have required 160 acres of orchard land.

⁶² C. M. Collins, A Census of Apple Orchards in Nova Scotia, 1939-40, p. 31; and F. G. J. Comeau, "The Origin and History of the Apple Industry in Nova Scotia", Collections of the Nova Scotia Historical Society 23 (1936), p. 39.

⁶³ It was announced with pride by the anonymous author of "Commercial Orchardling" that Sam Chute's farm "depends wholly upon artificial fertilizers...", Annual Report of the Secretary for Agriculture for Nova Scotia for 1910, p. 81.

⁶⁴ Ibid., p. 82. With large-scale outmigration from the Maritime region skilled farm labour for commercial farming operations became difficult to obtain in many rural communities. In a regional agricultural survey completed for the Dominion Commission of Conservation in 1912 this was noted to be especially a problem in the apple growing districts of the

machinery. When tractors became available in the 1920's they rapidly began to appear on Annapolis Valley specialty farms. With a tractor and a mechanized sprayer one man could complete in one hour what three men and a hand-operated sprayer took a day to complete in the 1890's.⁶⁵ The labour involved in cutting grass and weeds around the orchard was also greatly reduced with the use of a tractor. In addition, the tractor could be used in all other branches of the farming enterprise.

Gradually some of these large-scale fruit farmers diversified into other businesses. William Henry Chase, of Port Williams, Kings County, known as "the apple king of Nova Scotia", developed a very successful fruit farm and shipping enterprise, built upon transporting Annapolis Valley fruit to the United Kingdom market.⁶⁶ Before his death in 1932 he had become a well-known Valley millionaire with seats on the Executive Boards of several corporations.⁶⁷ His nephew, who took over the family farm and business upon his death, diversified the family's holdings into the processing of apples (juice, cider and vinegar) and the sale of fertilizers and feed grain, when export markets for Nova Scotian fruit disappeared during the Second World War.⁶⁸

Following the closing of the British market in 1939 to Nova Scotia fruit, the Nova Scotia Apple Marketing Board (established under the War Measures Act) guaranteed Annapolis Valley apple farmers a market for roughly three-quarters of the harvest of the

Annapolis Valley, "where much help is needed" during the picking season and "the scarcity is hard to meet". F. C. Nunnick, "Agricultural Survey in 1912", in Report of the Fourth Annual Meeting of the Dominion Commission of Conservation (Toronto: Warwick Bros., and Rutler Ltd., 1913), p. 162.

⁶⁵ Lewis, "An Apple-Less Valley: Process and Change in the Apple Industry of Kings County, Nova Scotia, 1940-74", pp. 73-4.

⁶⁶ Keith Hatchard, "The History of the Nova Scotia Apple Industry-- Part 8", Nova Scotia Historical Quarterly 9 (1977), pp. 47-57.

⁶⁷ Including Eastern Trust Company, the Mersey Power Company and the Trinidad Electric Company. Ibid., p.50.

⁶⁸ Ibid., pp. 55-56.

1930's for a three year adjustment period.⁶⁹ The Marketing Board attempted to find a niche for Nova Scotia's fruit crop in Canada's domestic market. It also encouraged stricter grading standards for Nova Scotian apples, advocated the use of the box pack over the traditional apple barrel and provided incentives to manufacturers to process apples into a range of products which might be profitably disposed of in the domestic market.⁷⁰ Yet, in spite of the Board's considerable efforts, the fruit belt was thrown into chaos. In 1940 school teachers in fruit farming districts reported difficulties in collecting their salaries due to unpaid school taxes.⁷¹ At the same time arrears of municipal taxes in Kings County soared.⁷² Credit from farm suppliers became much more difficult to obtain and the purchase of fertilizers and sprays dropped sharply.⁷³ It was in this climate that fruit farmers participated in a tree removal campaign supported by both the Nova Scotia Department of Agriculture and the Nova Scotia Fruit Grower's Association. Between 1939 and 1951 an estimated 500 "commercial orchardists" (one-fifth of the valley's commercial producers in 1939), "went out of the business [of fruit farming] altogether".⁷⁴ In the decade after 1941, the extent of apple orchards in Kings and Annapolis Counties declined by nearly half (from 32,500 acres to 17,000 acres). Many turned to dairying; others

⁶⁹ A. E. Richards, "Nova Scotia Apple Marketing Situation", Public Affairs, 5 (1941), p. 79.

⁷⁰ Margaret Conrad, "Apple Blossom Time in the Annapolis Valley 1880-1957", in The Acadiensis Reader, Vol. 2, eds., P. A. Buckner and David Frank (Fredericton: Acadiensis Press, 1985), p.369; A. E. Richards, "Marketing the Nova Scotian Apple Crop", Public Affairs 4 (1940-41), pp.15-19.

⁷¹ Richards, "Nova Scotia Apple Marketing Situation", p. 80.

⁷² Ibid.

⁷³ One Annapolis Valley company reported a 25 per cent decline in fertilizer sales between 1939 and 1940 and a 40 per cent drop in the sale of spray materials. Ibid.

⁷⁴ W. M. Drummond and W. MacKenzie, Progress and Prospects of Canadian Agriculture (Ottawa: Royal Commission on Canada's Economic Prospects, 1957), p. 150.

increased their poultry flocks; and many combined several enterprises -- hog raising, potato and market garden production, beef raising and berry production.⁷⁵ By 1950 the harvest was down to 2.2 million bushels (from its 1933 peak of 8,200,000 bushels). Two-thirds of this output was processed into juice, dehydrated apples, apple sauce, cider or vinegar (compared to 15 per cent of the crop in 1933).⁷⁶ About 30 per cent of Nova Scotia's fruit crop entered the Canadian market in boxes. The United Kingdom, the most important market for Nova Scotian fruit since the emergence of the fruit belt in the last quarter of the nineteenth century, received less than 4 per cent of provincial production in 1950 (See Figure 6-3).⁷⁷ Nova Scotia's fruit markets did not rebound in the post war period due to several factors: the growth of competition from distant agricultural regions, the rise in consumption of fruit exotic to mid-latitude agricultural regions (bananas, pineapples, oranges etc.) and the general shift in Canadian foreign trade from Britain to the United States.

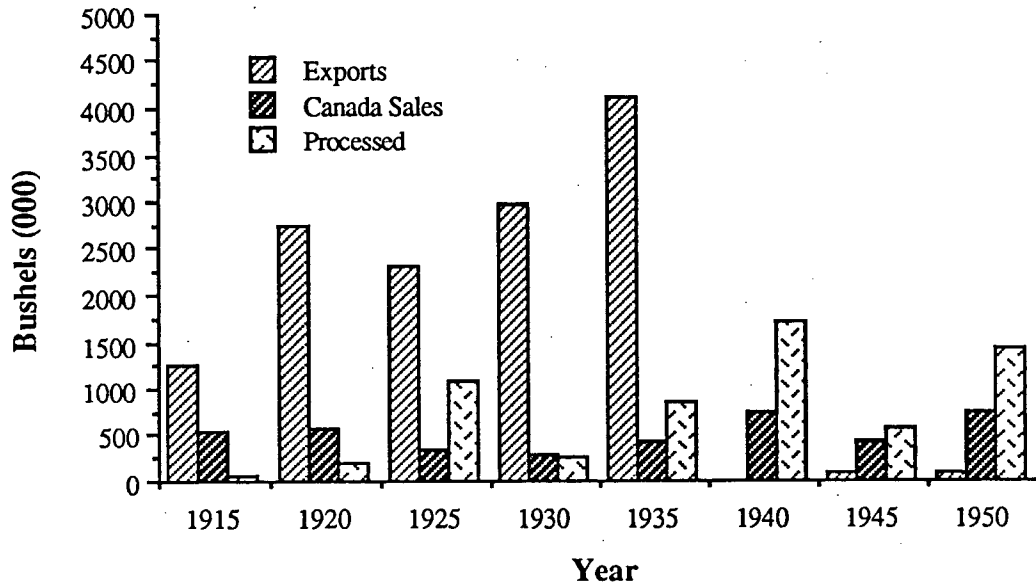
The effects of these massive adjustments on individual farms is well revealed by the changes on the Fred Curry farm near Grand Pre, during the 1940s and 50s.⁷⁸ Until the Second World War, this was a typical small fruit and dairy farm. The products of the ten

⁷⁵ Strawberry farming was one specialty which emerged in the fruit belt that could be easily combined with livestock raising. In 1951, 56 farmers were attempting to produce strawberries on a commercial basis. G. C. Retson and V. A. Heighton, "The Strawberry Enterprise in Nova Scotia", Economic Annalist 22, 5 (1952), pp. 116-19.

⁷⁶ Lewis, "An Apple-Less Valley: Process and Change in the Apple Industry of Kings County, Nova Scotia, 1940-74", pp. 40-1; N. H. Morse, "An Economic History of the Apple Industry in the Annapolis Valley, Nova Scotia", Ph.D. Dissertation, University of Toronto, 1952, pp. 394-5.

⁷⁷ Figure 6-3 is based on data contained in Conrad, "Apple Blossom Time in the Annapolis Valley 1880-1957", pp. 355, 364, and Morse, "An Economic History of the Apple Industry", p. 395.

⁷⁸ The evolution of the Curry family farm between 1939 and 1975 is described in detail in Hugh Allison Blackmer's, "Agricultural Transformation in a Regional System: The Annapolis Valley, Nova Scotia", Ph.D. Dissertation, Department of Anthropology, Stanford University, 1976, pp. 57-60.

Figure 6-3, Nova Scotia Apple Sales, 1915-1950

acre orchard were marketed through the local Grand Pre Fruit Cooperative. Milk from several cows was sold in Wolfville and Kentville, both within 10 miles of the farm gate. Land use clearly reflected this commercial mix. Beyond the orchard, potatoes, turnips and a kitchen garden were given an acre each; the remainder of the farm was devoted to hay and fodder crops. When the British market for Nova Scotian fruit was lost, profits from the Curry's orchard were slender. Production continued into the 1950's, though most neighbouring orchards had been removed. The Curry's gradually increased the dairying side of their operation, and began producing eggs and broilers on a commercial scale. In 1955 the orchard was removed. The farm was, by this date, a specialized dairy and poultry operation with 40 cattle, the majority of which were milk cows, and 80-100 hens.⁷⁹ This farm (and its counterparts throughout the valley) was now dependent upon a considerable array of farm inputs which would have been unknown to most late nineteenth century Nova Scotian farmers -- artificial fertilizers, chemical pesticides, sterilizing equipment, electricity and machinery designed for the tractor.

The collective decisions of dozens of families like the Curry's are reflected in a Geographical Branch survey of a 178 square mile portion of the Annapolis-Cornwallis Valley completed in 1953 (Table 6-3).⁸⁰ Field investigations of four districts in the valley revealed that hay, fodder grains and pasture were the dominant land uses. Barely 11 per cent of cleared land was in orchards.⁸¹ Almost as much land lay idle and unused,

⁷⁹ *Ibid.*, p. 57.

⁸⁰ Brooke Cornwall, "A Land Use Reconnaissance of the Annapolis-Cornwallis Valley, Nova Scotia", *Geographical Bulletin* 9 (1957), pp. 22-51; reprinted in *Readings in Canadian Geography*, ed., Robert M. Irving (Toronto: Holt, Rhinehart and Winston of Canada, 1968), pp. 245-66. The Geographical Branch was a department of the Dominion Department of Energy, Mines and Resources at this time.

⁸¹ The four districts were: (1) a 100 square mile area between Kentville and Wolfville, Kings County (2) a 36 square mile area in the vicinity of Berwick, Kings County (3) a five square mile area between Lawrencetown and Middleton, Annapolis County and (4) a 35 square mile area in the vicinity of Annapolis Royal, Annapolis County. *Ibid.*, p. 252.

Table 6-3
Geographical Branch Survey of Nova Scotia's Fruit Belt, 1953

| | |
|---------------------|---------------|
| Total Area Surveyed | 178 sq. miles |
| Improved Land | 36% |
| Woodland | 64% |
| Total | 100% |

| | |
|----------------------------|--------------|
| Improved Land Use | 64 sq. miles |
| Hay | 32% |
| Pasture | 20% |
| Potatoes/Vegetables | 5% |
| Grain | 10% |
| Orchards | 11% |
| Poultry Production | 1% |
| Salt and Dyked Marshland | 6% |
| Unused | 11% |
| Farmsteads, buildings etc. | 4% |
| Total | 100% |

Source: Brooke Cornwall, "A Land Use Reconnaissance of the Annapolis-Cornwallis Valley, Nova Scotia", p. 253.

reflecting the loss of more than 1,000 farmers from Kings and Annapolis Counties between 1941 and 1951.⁸² Commercial fruit farming was concentrated at the eastern end of the valley, especially in the districts of Northville, Berwick, Port Williams and Canning.⁸³

In very short order the Annapolis-Cornwallis Valley was transformed. Once described as "a continuous orchard" from Wolfville to Annapolis, the area was well on its way to becoming what Adrian Lewis has termed (with some exaggeration) "An Apple-Less Valley".⁸⁴ Once extensive orchards stretching along valley sides as far as one could see, had given way to stump-strewn pastures (Figures 6-4 and 6-5). Specialty dairy farms, and commercial mixed farms that emphasized some combination of perishable products for which there was a local market (eggs, broilers, pork, strawberries, market garden vegetables) became the economic leaders of valley agriculture. Cylindrical silos replaced apple warehouses. The latter, symbols of the region's success in apple exporting, had grown steadily in number and capacity between 1891 and 1931, but by 1950 most were relict features in the landscape.⁸⁵ Located a mile or two apart along the rail lines that served the valley, some were converted to storage buildings for farmers, some were outfitted as apple dehydrating and processing plants, and one (at Centreville, Kings County) was converted into a locally-financed potato chip manufacturing plant.⁸⁶

⁸² In 1941, 4,952 farms were enumerated in Kings and Annapolis Counties; in 1951 census enumerators counted just 3943 farms. Census of Canada, 1941, 1951.

⁸³ Blackmer, "Agricultural Transformation in a Regional System", p. 85.

⁸⁴ R. H. Whitbeck, "A Geographical Study of Nova Scotia", Bulletin of the American Geographical Society 46 (1914), p. 415; Lewis, "An Apple-Less Valley: Process and Change in the Apple Industry of Kings County, Nova Scotia, 1940-74".

⁸⁵ For a discussion of the growth of Annapolis Valley apple warehouses see Willard V. Longley, Some Economic Aspects of the Apple Industry in Nova Scotia (Halifax: Nova Scotia Department of Agriculture Bulletin # 13, 1932), pp. 2-3, 49-53.

⁸⁶ Blackmer, "Agricultural Transformation in a Regional System", p. 76.

Figure 6-4, Gaspereaux Valley, Circa 1925

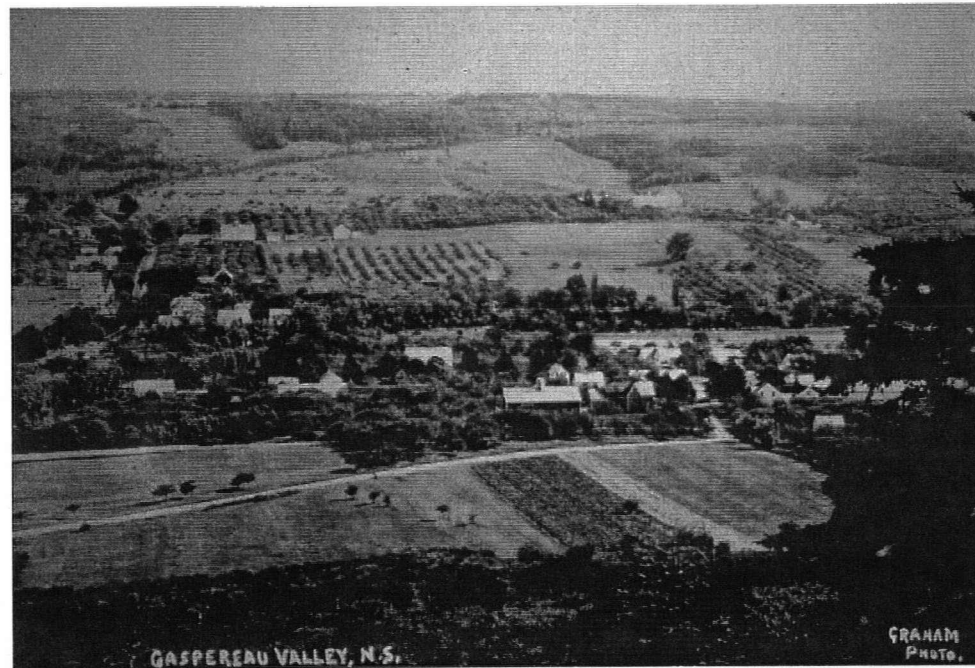


Figure 6-5, Former Orchard at Norwegian Bend, Circa 1955



However, many lay idle; and they continue to stand as reminders of the "golden age" of apple farming in Nova Scotia's fruit belt (Figure 6-6).

The Central Dairy Belt

In Colchester and Hants Counties, agricultural decline paralleled that in the the fruit belt between 1891 and 1941. The number of farms and the amount of improved land dropped by more than 40 per cent, but the area in field crops declined less precipitously.⁸⁷ Families produced fewer potatoes and less wheat, rye and other grains from their average 44 acres of improved land than they had in 1891, but per family output of hay and turnips was twice as large (Table 6-4). More emphasis was placed on dairying than in the late nineteenth century. With an average of 14 cattle (8 of which were milk cows) farm families concentrated on dairying. Fluid milk and cream were the principal commercial farm products. They were sold in Halifax, Truro and other urban centres to which farmers had access by roads and railroads.⁸⁸ As in the Annapolis-Cornwallis Valley, families also placed more emphasis on poultry raising in 1941 than in 1891; eggs and broilers found a ready market in local urban centres. Families in central Nova Scotia averaged 51 hens and chickens in 1941, a 200 per cent increase over the average recorded in the area in 1891.

The 1941 survey of farm earnings illustrates the commercial significance of milk and cream production in this subregion of the farming zone. On slightly more than 1,050 farms, sales averaged \$931, two-thirds of which came from milk and cream (Table 6-5). The sale of livestock and livestock products were slightly more important in this area than

⁸⁷ Acreage devoted to field crops in Hants and Colchester Counties declined by less than a third between 1891 and 1941. Census of Canada, 1891, 1941.

⁸⁸ The Intercolonial Railway Line which connected Halifax to Edmundston, Montreal and points beyond, ran through Truro (Colchester County) and the Shubenacadie River Valley which divided the counties of Colchester and Hants. The Windsor-Halifax and Windsor-Truro branches of the Dominion Atlantic Railway line also cut across Hants and Colchester Counties. Both rail lines were taken over by national railway companies between 1918 and 1925 -- the Intercolonial by the Canadian National Railway Company and the Dominion Atlantic by the Canadian Pacific Railway Company. David E. Stephens, Truro: A Railway Town (Hantsport: Lancelot Press, 1981), pp. 74-75.

Figure 6-6, Abandoned Apple Warehouse at Port Williams, Kings County, 1985

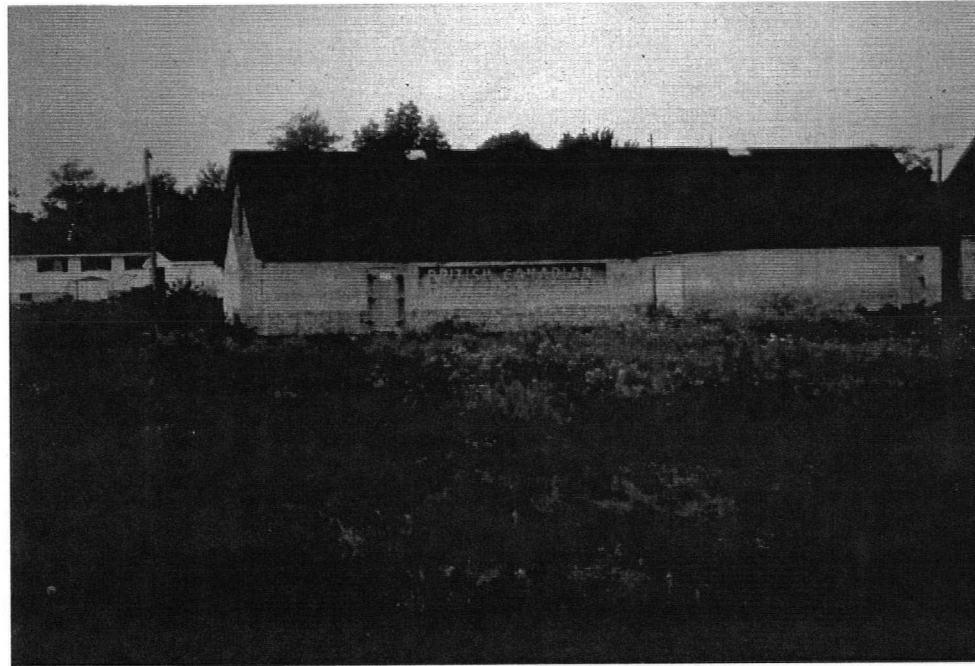


Table 6-4

**Average Production Per Family, Principal Crops and Livestock,
The Central Dairy Belt, 1891-1941**

| | 1891 | 1941 | Change (% +/-) |
|---------------------------|------|------|----------------|
| Hay (tons) | 15 | 30 | 100 |
| Potatoes (bushels) | 102 | 91 | -11 |
| Turnips (bushels) | 43 | 81 | 88 |
| Oats (bushels) | 38 | 158 | 316 |
| Wheat/Buckwheat (bushels) | 13 | 1 | -92 |
| Barley (bushels) | 6 | 9 | 50 |
| Rye (bushels) | 0.1 | 0 | -100 |
| Other Grains* (bushels) | 1 | 0 | -100 |
| Apples (bushels) | 16 | 57 | 256 |
| Cattle (number) | 6 | 14 | 133 |
| Sheep (number) | 5 | 1 | -80 |
| Swine (number) | 1 | 1 | 0 |
| Poultry (number) | 16 | 51 | 219 |

* Corn, peas and beans

Source: Census of Canada, 1891, 1941

Table 6-5
Average Farm Earnings in the Farming Zone,
By Subregion, 1941

| | Av. Earnings Per Farm | Grain Crops (%) | Potatoes/ Vegetables (%) | Apples/ Other Fruit (%) | Milk/ Cream (%) | Poultry/ Eggs (%) |
|----------------------|--------------------------|-----------------------|--------------------------------|-------------------------------|-----------------------|-------------------------|
| Fruit Belt | \$917.00 | 2 | 5 | 51 | 15 | 7 |
| Central Dairy Belt | \$931.00 | 2 | 3 | 2 | 66 | 6 |
| Eastern Dairy Belt | \$410.00 | 1 | 7 | 6 | 58 | 13 |
| Mixed Farming Belt | \$334.00 | 5 | 3 | 3 | 31 | 11 |
| Farming Zone Average | \$585.00 | 2 | 4 | 12 | 34 | 7 |

| | Av. Earnings Per Farm | Cattle | Swine | Wool/ Other Prods. | Forest Prods. | Total (%) |
|------------------------|--------------------------|--------|-------|-----------------------|------------------|--------------|
| Fruit Belt | \$917.00 | 8 | 5 | 2 | 5 | 100 |
| Central Dairy Belt | \$931.00 | 11 | 2 | 2 | 6 | 100 |
| Eastern Dairy Belt | \$410.00 | 6 | 1 | 3 | 5 | 100 |
| Mixed Farming Belt | \$334.00 | 15 | 6 | 12 | 14 | 100 |
| Farming Zone Average | \$585.00 | 8 | 3 | 4 | 6 | 80 |
| Total Farms Enumerated | 16,726 | | | | | |

Source: Calculated from Hudson, Stutt, Van Vleit and Forsyth, *Types of Farming in Canada* pp. 82-3.

in the fruit belt; cattle, swine, sheep and wool sales collectively accounted for 15 per cent of total farm sales. The remainder of this subregion's agricultural income came from a variety of sources -- grain (2 per cent), apples (2 per cent), forest products (6 per cent) and potatoes and vegetables (3 per cent).

Robert Smith, who inherited his father's Brookland Farm in Hilden, Colchester County, in 1906, and ran it until his death in 1939, is representative of the commercial farmers who worked the land in the Halifax-Truro milkshed.⁸⁹ Located near the rail line between Truro and Halifax on Highway # 2, three miles south of Truro, Brookland Farm was an archetypal dairy farm. When Robert took over the farm it contained 22 head of cattle, most of which were milk cows; other livestock included 4 horses, a pig or two and some chickens for household use.⁹⁰ Robert marketed the principal product of this farm -- fresh milk-- in the same manner as his father. He delivered milk to regular customers in the town of Truro on a daily basis using an express wagon; during the summer months cream was delivered to the Condensed Milk factory at Truro.⁹¹ The family's livestock holdings increased gradually as the twentieth century wore on and new methods of marketing were introduced. In 1920, when the farm was supporting 40 head of cattle and 6 horses, Smith sold his Truro milk route, and began to concentrate on the sale of cream to the Brookfield Creamery and on the shipment of milk (by rail) to the Maple Leaf Dairy in Halifax.⁹² In

⁸⁹ The evolution of "Brookland farm", established in 1828 by Robert Smith's grandfather (Robert Hunter Smith) is documented in H. A. Cullen, ed., The Legacy of Brookland Farm, Hilden, Nova Scotia (London, Ontario: Scott's Select Services, 1982).

⁹⁰ Ibid., pp. 56-57.

⁹¹ Ibid., pp. 58, 69.

⁹² See entries in Robert Smith's diary during the month of May, 1920, in Ibid., p. 72. Brookfield Creamery, established as a joint stock company in 1894 at Brookfield, several miles south of Brookland Farm, was moved to new facilities constructed in the town of Truro in 1920. The company retained its name after the move. S. Ellsworth Lewis, "An Economic History of Agriculture in Colchester County, Nova Scotia", B. A. Thesis, Ontario Agricultural College, 1924, pp. 67-8.

1925 he began supplying cream to the Moirs Chocolate factory also located in Halifax. Each delivery of 100 lbs (40 quarts) of cream netted Smith \$11.00 after railway freight and other transport charges; these arrangements also allowed him more time to devote to farm and community work.⁹³

Smith's farming operations were adjusted to changing circumstances through the 1920's and 30's. In 1928 he bought a used 1/2 ton truck; less than a year later he traded this in on a new "Chev Sedan Delivery Car", which cost \$750.00.⁹⁴ A second barn was constructed in 1930. In 1935 Smith earned nearly \$400 doing highway work for the provincial government, and, with a portion of these earnings, he purchased a new horse-drawn rake (for \$52.50). A year later he bought some beef cattle from Alberta and traded-in his 7 year-old automobile for a new Dodge Delivery Car.⁹⁵ Smith was clearly an entrepreneurial farmer, who sought opportunities to advance the conditions of his family and farm.

Brookland farm, was, by the family's records, a successful dairy farm. It provided a comfortable living for Robert and Anna Smith and their 5 children who successfully guided the farm through the 1920s and 30s. In the 1870s when Robert's father Thomas took over Brookland Farm (from his father) it was a mixed farm. Although the farm consisted of more than 400 acres of land, most of this land remained in forest. Indeed, Thomas Smith, like Maurice Harlow of Brookfield, Queens County, devoted a considerable amount of time each winter to cutting timber which was sold to sawmill operators in Colchester County. The farm's livestock inventory in 1872 illustrates the

⁹³ Robert Smith Diary, 5 May, 1925, in Cullen, ed., The Legacy of Brookland Farm, Hilden, Nova Scotia, p. 76. Smith's community work increased considerably in the 1930's after he was appointed an Appraiser for the Canadian Farm Loan Board. Smith also served as federal Indian Agent for the county, a position held previously by his father, Thomas B. Smith. Ibid., p. 78.

⁹⁴ Robert Smith Diary, 27 December, 1928, 6 September, 1929, in Ibid.

⁹⁵ Robert Smith Diary, several entries in 1935 and 1936, in Ibid., p. 79.

unspecialized nature of the farm -- 6 cattle, several oxen, 20 sheep and one horse.⁹⁶ During the last quarter of the nineteenth century Brookland farm was developed into a specialty dairy farm, as were many farms in Colchester and Hants Counties. When Robert Smith took over Brookland Farm the improved portion of the farm was more than 80 acres, the bulk of which was devoted to hay. As the twentieth century wore on, the Smith family continued to make improvements, clearing another 40 acres or so for hay and pasture land. They also specialized their dairying operation even further, until by the 1930's the principal commercial product of Brookland Farm was cream for Halifax and Truro processing industries (ie. for the production of butter and chocolate). Despite a barn fire in 1937, which destroyed some livestock and a considerable amount of farm equipment, Brookland farm continued to function into the 1940's under the guidance of Robert Smith's only son Thomas.⁹⁷ At his death in 1939 Robert Smith's assets were estimated to be valued at more than \$11,000, 70 per cent of which represented the family's investment in land and buildings.⁹⁸ The remainder of Smith's estate consisted of livestock, implements, farm produce and household furnishings (16 per cent), Smith's automobile (3 per cent), some cash in a bank account (\$170.70) and several small investments (bank stocks and insurance).

Given the Smith family's assets at the end of the Great Depression, Brookland Farm was an exceptionally successful farm. But its evolution from the 1870's to 1939 illuminates circumstances that affected all central Nova Scotian dairy farms, regardless of scale. As dairy farming grew more specialized, many families, like the Smith's, concentrated on cream production. Some families continued to supply fluid milk to nearby

⁹⁶ Ibid., p. 50.

⁹⁷ Gordon Kinsman, Colchester County Century Farms (Truro: Nova Scotia Department of Agriculture and Marketing, 1979), pp. 85-7.

⁹⁸ Inventory of Robert H. Smith's estate, 4 June, 1941, in Cullen, ed., The Legacy of Brookland Farm, Hilden, Nova Scotia, p. 59.

and distant urban markets (ie. Halifax), which became more accessible as a provincial government-sponsored road improvement and paving programme, begun in the 1920's, gained momentum.⁹⁹ A smaller number of families ran mixed holdings, as farm income data illustrate, on which milk and/or cream were one or two of several commercial products aimed at predominantly local markets. Such a division of dairy producers by end product only became possible with the diffusion of the hand-operated cream separator after 1900 which enabled the cream to be separated from the milk in an efficient manner at the farmstead. Prior to this date, large, expensive separators were used at Nova Scotia's creameries and cheese factories to separate cream, and fluid milk was delivered directly to the factories. A small amount of cream was separated at home using shallow settling pans to make home-made cheese and butter.¹⁰⁰

Finally, this case study indicates that outmigration touched even the most successful farming families of Nova Scotia. As one generation flowed into another, the eldest son, by right of tradition, inherited the family's principal asset -- the farm. Younger sons and daughters were forced to embark upon new life paths. Thus Robert Smith's younger brother (Hugh) set out for Manitoba in 1900 to make a new start in the west when it became clear that Robert was going to take up his inheritance. After working on the harvest for a season he continued west to California where he obtained employment on his

⁹⁹ With the appearance of automobiles in increasing numbers on provincial roads at the end of World War 1 the province established the formation of a Provincial Highways Board to oversee road expenditures across the province. On the recommendation of this Board and with some financial assistance provided by the Canada Highways Act the Province implemented a road paving and improvement programme in the 1920's which was intended to stimulate rural employment during a period of recession and to improve provincial Highways and secondary roads. The anticipated spinoffs were better communication between Halifax and rural areas and especially the promotion of tourism. As a result of this programme, most of the Halifax- Truro Road (Highway #2) was paved by the mid 1930's, which would have improved Colchester County farmers' accessibility to both Truro and Halifax. W. R. Bird, "History of the Highways of Nova Scotia", unpublished ms., dated 1945, Nova Scotia Legislative Library, pp. 103-07, 111-14, 133.

¹⁰⁰ Geraldine Rankin, "Homemade Cheese in Cape Breton, Nova Scotia", Ms. # 1273, Northeast Archives of Folklore and Oral History, University of Maine at Orono, pp. 1-24.

Uncle's ranch.¹⁰¹ One of Robert's and Hugh's sisters also joined the exodus from Nova Scotia several years later. Such outmigration from Nova Scotia's best agricultural districts was as much a desire on the part of family members to preserve the family farm as it was a desire to escape the isolation of rural life in Nova Scotia.¹⁰²

Production records of the Brookfield Creamery, established several miles south of Brookland farm in 1894, confirm that the adjustments made by the Smith family in their dairying operation between 1900 and 1940 were not exceptional in Nova Scotia's central dairy belt (Figure 6-7).¹⁰³ In 1900 the Brookfield Creamery produced 51,000 lbs of butter from more than 1,100,000 lbs. of milk supplied by 70 farmers (an average of 6,500 quarts of milk per farmer). Although cheese was also produced during the factory's first few years of operation, by 1900 the factory was producing only butter, which it sold in Halifax. Between 1900 and 1920 the number of farmers supplying Brookfield Creamery grew from 70 to 195, and butter production more than doubled (to 112,431 lbs.).¹⁰⁴ Although cream began to be supplied by a handful of farmers in 1905, it was only after 1910 that cream began to be purchased in sizeable quantities. In 1919 the amount of cream supplied to the factory surpassed the amount of fluid milk delivered, reflecting the adoption

¹⁰¹ Cullen, ed., The Legacy of Brookland Farm, Hilden, Nova Scotia, p. 54.

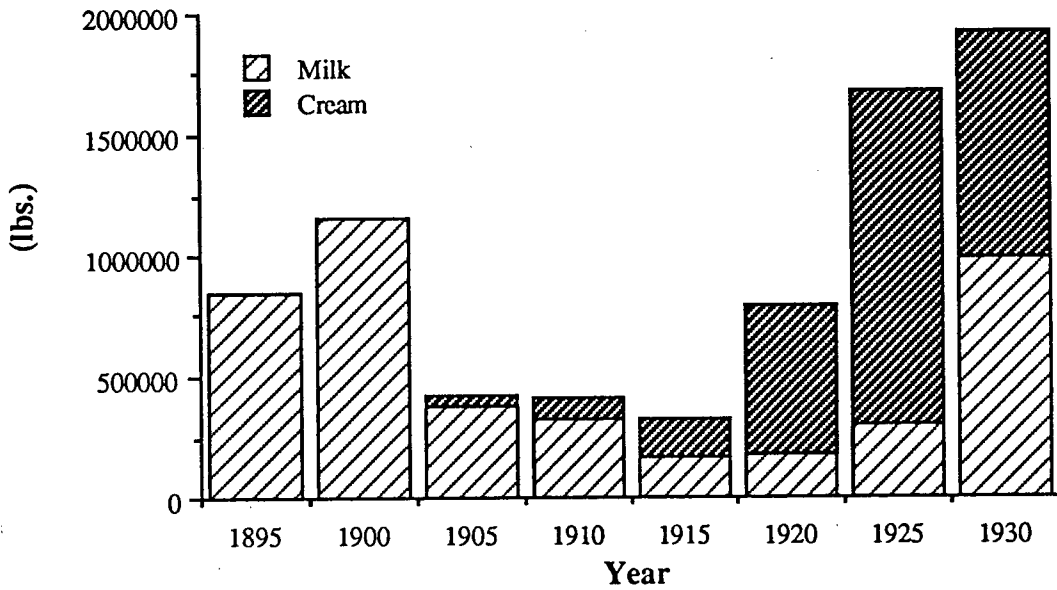
¹⁰² For a discussion of other social and economic causes of rural outmigration from Nova Scotia and the Maritimes see Dominion Bureau of Statistics, The Maritime Provinces Since Confederation: A Statistical Study of Their Social and Economic Conditions During the past Sixty Years (Ottawa: F. Acland, 1927), pp. 26-7.

¹⁰³ Annual production data for the Brookfield Creamery between 1895 and 1923 are contained in Lewis, "An Economic History of Agriculture in Colchester County, Nova Scotia", pp. 68-9. Data for subsequent years are contained in the Reports of the Superintendent of Dairying in Nova Scotia, in Annual Reports of the Secretary for Agriculture for Nova Scotia (Halifax: King's Printer). Excerpts from the minute book of this company's Board of Director's meetings are contained in Brookfield Bicentennial Committee, Fragments of the Past: History Notes of Brookfield and Area (Brookfield, Nova Scotia: Brookfield Historical Society, 1984), pp. 17-22.

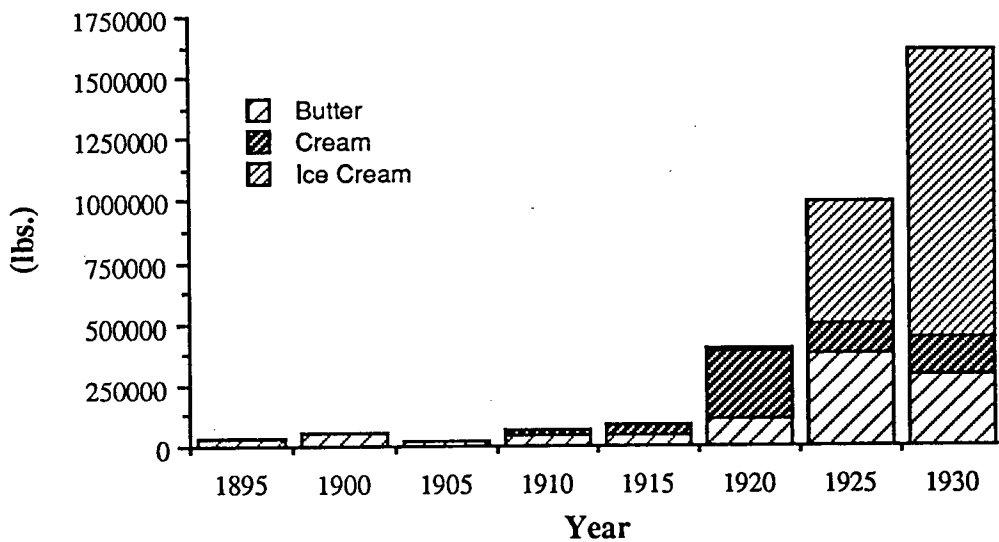
¹⁰⁴ Lewis, "An Economic History of Agriculture in Colchester County, Nova Scotia", pp. 68-9.

Figure 6-7, Milk and Cream Purchases, and Butter, Cream and Ice Cream Sales by Brookfield Creamery, 1895-1930

Milk and Cream Purchases By Brookfield Creamery, 1895-1930



Butter, Cream and Ice Cream Sales By Brookfield Creamery, 1895-1930



of centrifugal cream separators by farmers supplying the factory.¹⁰⁵ With this switch to fresh cream purchases by the factory, production costs were reduced considerably, for the processing of cream at the factory was more efficient than the processing of fluid milk. The problem of skim milk storage, and its delivery back to the suppliers, was also reduced significantly. Finally, because this switch to the purchase of cream by the factory occurred at the same time as improvements in refrigeration were taking place, new products, such as ice cream and fresh cream, could be profitably disposed of in the Halifax market.¹⁰⁶ So in 1925 the amount of ice cream and cream sold by the factory (619,193 lbs.) was 60 per cent greater than the amount of butter produced (376,599 lbs.). By this date cream comprised the bulk of the 1,700,000 lbs. of milk and cream purchased at the factory from 800 farmers in Colchester and Hants Counties (82 per cent). This emphasis on the purchase of fresh cream by dairy factories in Nova Scotia continued through to the 1950's, when several creameries were consolidated into one large company, based in Truro, and cream began to be collected in company-owned trucks.¹⁰⁷

The Eastern Dairy Belt

Apart from the small milksheds of Yarmouth and Pictou, the only other large dairying zone which developed in Nova Scotia between 1891 and 1941 was in eastern

¹⁰⁵ Invented in 1877 in Sweden the hand-operated cream separator gradually spread to the dairying nations of the world. It was being actively promoted in Nova Scotia by the Provincial Secretary for Agriculture before 1910. Trevor Williams, A Short History of Twentieth Century Technology, circa 1900-1951 (Oxford: Oxford University Press, 1982), p. 201; Annual Report of the Secretary for Agriculture for Nova Scotia, for 1908 (Halifax: King's Printer, 1909), pp. 44-8.

¹⁰⁶ The development of deep-freezing equipment which improved the taste of frozen foods was perhaps the most significant technological change in refrigeration which took place between 1900 and 1925. See Williams, A Short History of Twentieth Century Technology, pp. 200-02, and Edward L. Shapsmeier and Frederick H. Shapsmeier, Encyclopedia of American Agricultural History (Wesport Connecticut: Greenwood Press, 1975), p. 137.

¹⁰⁷ Brookfield Bicentennial Committee, Fragments of the Past: History Notes of Brookfield and Area, pp. 21-22.

Cape Breton Island, where the urban population increased six fold in 50 years to exceed 80,000 in 1941 (Fig 6-8).¹⁰⁸ By that date more than half of the population of Cape Breton Island resided in Sydney and the several industrial towns in its vicinity (North Sydney, Sydney Mines, New Waterford, Dominion, Reserve Mines and Glace bay). With almost 10,000 men working in the mines of the region, and 3,500 employed in the Steel Plant at Sydney, there was a substantial demand for agricultural products in this region.¹⁰⁹ As in the agricultural hinterland of Halifax, local farmers concentrated on the production of milk and fresh vegetables for sale in urban areas because these were products that could remain competitive in the face of food imports from other agricultural regions. One ice cream plant located in Sydney also provided a market for fresh cream for a smaller number of farmers¹¹⁰

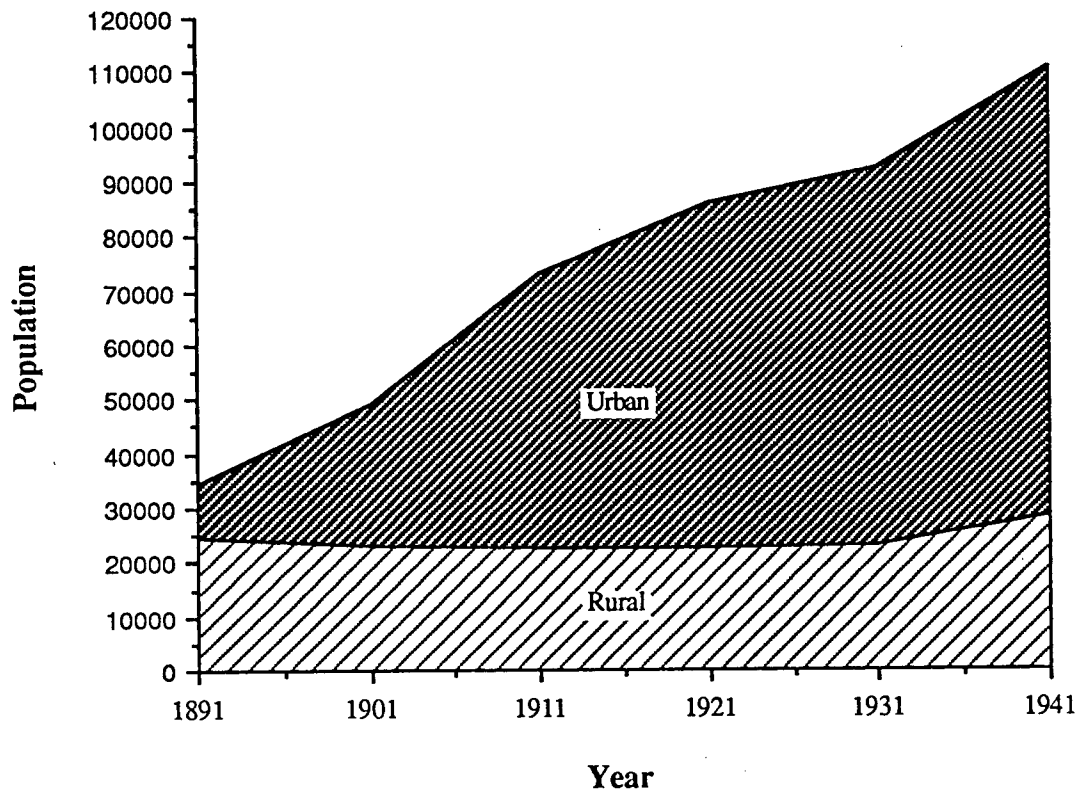
In the farming districts closest to Sydney Harbour, which were part of a mixed farming region at the end of the nineteenth century, the average improved acreage per family shrank from 35 acres in 1891 to 22 acres in 1941. In Cape Breton County alone, 20 per cent of 3,200 farmsteads enumerated in a Dominion Department of Agriculture survey in 1939 were classified as abandoned or idle.¹¹¹ On those farms which continued to operate, however, productivity was greater, on average, than that recorded for farms in this area at the end of the nineteenth century. More hay, potatoes, turnips and oats were produced per farm, and the number of chickens and hens per family (34) was triple that of

¹⁰⁸ Figure 6-7 is based on data contained in Census of Canada, 1891-1941.

¹⁰⁹ Employment figures are from E. P. Reid and W. C. Hopper, The Market for Farm Products in the Sydney Area of Nova Scotia (Ottawa: Dominion Department of Agriculture, 1941), p. 5.

¹¹⁰ Ideal Ice Cream Company purchased fresh cream from 75 "patrons" during the 1930's. Statistical Report of Creameries in Nova Scotia for 1930 and 1935, in Report of the Nova Scotia Department of Agriculture for 1930 and 1935 (Halifax: King's Printer, 1931, 1936).

¹¹¹ J. N. Lewis and S. C. Hudson, Land Use and Part Time Farming in Cape Breton County, Nova Scotia (Ottawa: Dominion Department of Agriculture Bulletin, 1942), p. 21.

Figure 6-8, Demographic Change in Cape Breton County, 1891-1941

1891 (Table 6-6). Although cattle herds did not increase on a per family basis between 1891 and 1941, a larger proportion of the cattle were milk cows. The average number sheep and swine kept on farms did not change between 1891 and 1941.

The importance of milk and cream production in this area is clearly illustrated by the farm earnings estimates calculated for 1941 (Table 6-5). Almost 60 per cent of the \$461.00 in farm sales reported by the 1,800 farmers in this area in 1941 came from the sale of milk and cream; almost one-quarter came from livestock and their products (23 per cent); fruit and vegetables accounted for 13 per cent; forest products for 5 per cent; and grain 2 per cent. On average, farm earnings were significantly lower in the Cape Breton dairy belt than in the central dairy belt because a much larger percentage of the farms in the vicinity of the industrial towns of eastern Cape Breton were part-time or self sufficient operations. Only one-third of the 1,800 farms surveyed were classified by census guidelines as specialty farms of any type.¹¹² Yet these figures disguise the great range of farm types in this area. Farm surveys conducted in the 1930s clearly document this diversity.¹¹³ In 1939 the Dominion Department of Agriculture grouped Cape Breton County's 24 census subdistricts into 5 zones, four of which were part of Nova Scotia's farming zone (Fig. 6-9). One hundred and ninety-five households in these four zones were examined, their land holdings were observed and family members were interviewed in an effort to determine "the contribution of the land toward the living of the people in rural Cape Breton County".¹¹⁴ District by district average farm sizes ranged from 22 acres in the immediate vicinity of the mines in Glace Bay, Reserve and Port Morien, to 130 acres along the East Bay of the Bras

¹¹² Hudson, Stutt, Van Vleit and Forsyth, Types of Farming in Canada, pp. 76-7.

¹¹³ The results of these surveys are summarized in W. V. Longley, The Boisdale District, Cape Breton County: A Farm Survey (Halifax: Nova Scotia Department of Agriculture Bulletin # 119, 1936) and Lewis and Hudson, Land Use and Part Time Farming in Cape Breton County.

¹¹⁴ Lewis and Hudson, Land Use and Part Time Farming in Cape Breton County, p.5.

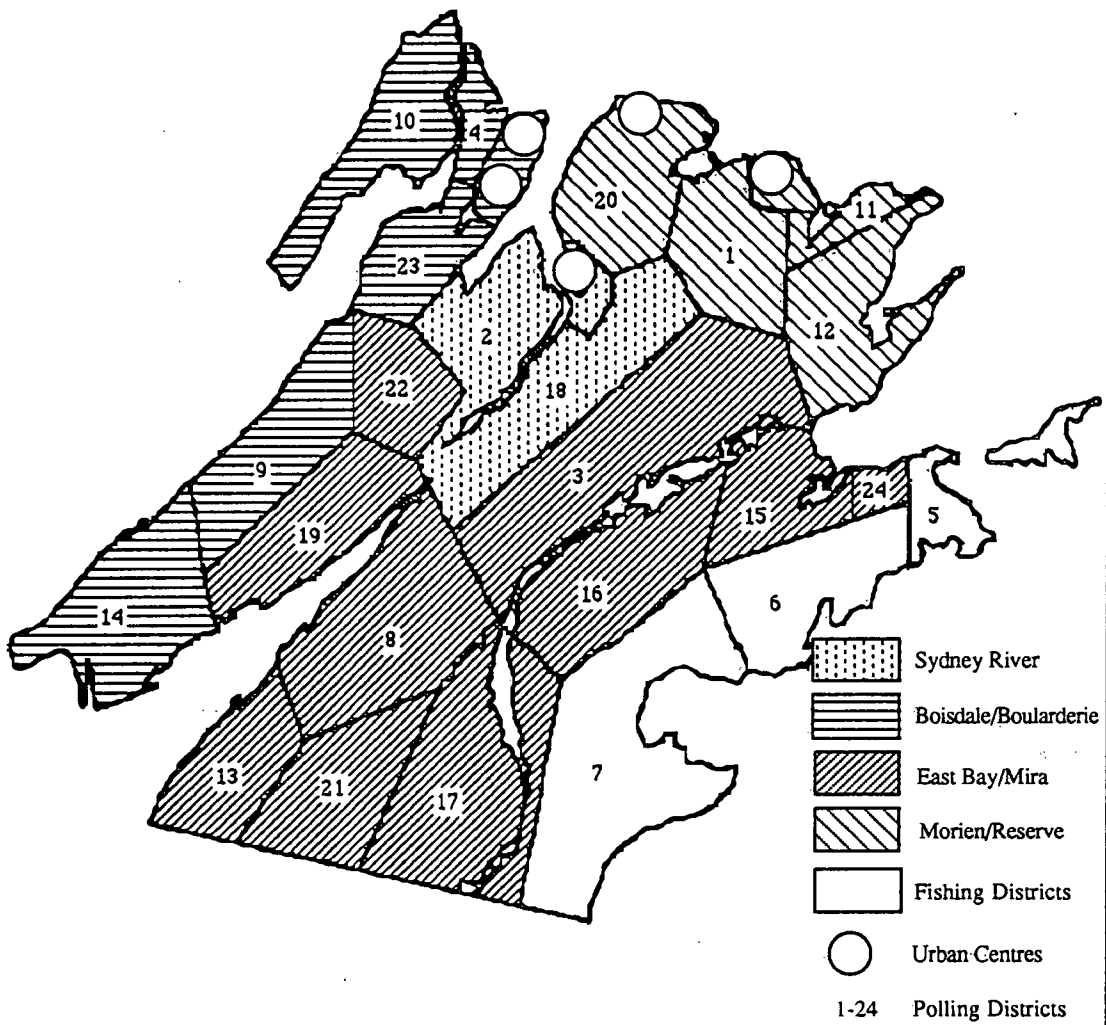
Table 6-6
Average Production Per Family, Principal Crops and Livestock,
The Eastern dairy Belt, 1891-1941

| | 1891 | 1941 | Change (% +/-) |
|---------------------------|------|------|----------------|
| Hay (tons) | 12 | 19 | 58 |
| Potatoes (bushels) | 85 | 100 | 18 |
| Turnips (bushels) | 4 | 65 | 1525 |
| Oats (bushels) | 29 | 46 | 59 |
| Wheat/Buckwheat (bushels) | 4 | 0 | -100 |
| Barley (bushels) | 3 | 1 | -67 |
| Rye (bushels) | 0 | 0 | .0 |
| Other Grains* (bushels) | 0 | 0 | 0 |
| Apples (bushels) | 0 | 0 | 0 |
| Cattle (number) | 7 | 7 | 0 |
| Sheep (number) | 10 | 10 | 0 |
| Swine (number) | 1 | 1 | 0 |
| Poultry (number) | 11 | 34 | 209 |

* Corn, peas and beans

Source: Census of Canada, 1891, 1941

Figure 6-9
Farming Districts in Cape Breton County, As Defined
By the Dominion Department of Agriculture, 1939



Source: Lewis and Hudson, Land Use and Part-Time Farming in Cape Breton County, Nova Scotia, p. 27.

D'Or Lake (Table 6-7). Improved land per farm ranged from 6.5 acres around the fringes of the mining towns to 28 acres in the well-settled Sydney River Valley and on the slopes of the Boisdale Hills leading to the Bras d'Or Lake. As in the central dairy belt most of this improved land was devoted to hay production. Averages for the most productive districts, show 14 acres per farm in hay and 10 acres in permanent pasture. This land, along with the unimproved woodland portion of the farm, supplied most of the fodder for seven milk cows and 3 other cattle, though feed grain purchases accounted for a substantial proportion of the average family's cash expenditures.¹¹⁵ Families also generally kept 1 pig for family consumption. Only in the Sydney River district, closest to Sydney, where families averaged 4 swine per family, might there have been surplus pork for sale to urban customers.¹¹⁶ As in the central dairy belt sheep were relatively unimportant; on average there were but 2 or 3 per family in most districts. Farms in more remote areas (more than 15 miles away from Sydney) averaged a few more. Poultry production was generally less important than in the central counties of Hants and Colchester, except in the shadow of the mining towns to the northeast of Sydney, where field investigators recorded an average of 70 hens and chickens per family among 79 families.¹¹⁷

¹¹⁵ The 26 farms in Boisdale, which were surveyed by the Provincial Department of Agriculture in 1935, averaged \$313.00 in cash expenses. Of this amount, \$152.00 (or 49 per cent) was spent on purchased feed grain; among the other cash outlays made by families, fertilizer and taxes, at \$35.00 and \$30.00 respectively, were the most significant. The remainder of each family's cash expenses consisted of payments made for various services (breeding fees, blacksmith charges, lumber sawing costs, telephone fees) and the purchase of goods not produced at home. Longley, The Boisdale District, Cape Breton County: A Farm Survey, p.8 and Lewis and Hudson, Land Use and Part Time Farming in Cape Breton County, p. 27.

¹¹⁶ The annual amount of pork consumed by all families in the four farming districts surveyed averaged 100 lbs., which could have been provided by 1 pig. Lewis and Hudson, Land Use and Part Time Farming in Cape Breton County, p. 54.

¹¹⁷ Families in Sydney River, Boisdale and East Bay averaged 39, 27 and 30 hens and chickens per family while the average for the central dairy belt was 50 per family.

Table 6-7

Land Use and Livestock Per family in the Eastern Dairy Belt, By Region, 1939

| | Sydney River Region | Boisdale/Boularderie Region | East Bay/Mira Region | Morien/Reserve Region |
|-------------------------------|------------------------|--------------------------------|-------------------------|--------------------------|
| Families Surveyed | 58 | 38 | 20 | 79 |
| Land Use (acres) | | | | |
| Farmstead | 1 | 0.5 | 0.5 | 0.5 |
| Hay | 11 | 14 | 11 | 3.5 |
| Potatoes/Vegetables | 2 | 3 | 2 | 0.5 |
| Oats | 1 | 0 | 0.5 | 0 |
| Total Field Crops | 14 | 17 | 13.5 | 4 |
| Cleared Pasture | 9 | 10 | 7 | 2 |
| Woodland | 75 | 80 | 109 | 16 |
| Total Farm Size | 99 | 107.5 | 130 | 22.5 |
| Livestock (number) | | | | |
| Horses | 1 | 2 | 1 | 0.5 |
| Milk Cows | 6 | 7 | 4 | 1 |
| Other Cattle | 2 | 3 | 2 | 0.5 |
| Swine | 4 | 1 | 1 | 0.5 |
| Sheep | 2 | 4 | 6 | 0 |
| Poultry | 39 | 27 | 30 | 70 |

Source: Lewis and Hudson, Land Use and Part-Time Farming in Cape Breton County, Nova Scotia, p. 22.

Abandoned and idle farms were found in every district of Cape Breton County, but they were most heavily concentrated where lumbering and fishing had formerly been the primary source of employment (Figure 6-10).¹¹⁸ In Louisbourg and Gabarus (districts 6 and 7), where the fishery was the mainstay of the economy, nearly half of the 250 farmsteads observed by field investigators were abandoned (123 farms); in the agro-forestry districts fronting on the Mira River (16 and 17) 98 of the 240 farms observed (or 41 per cent) were idle or abandoned. By contrast, abandoned or idle farms were a small minority of the total in dairying areas (generally less than 10 per cent). Only on the poor soils of North East Bay and South East Bay (districts 8 and 19) and Frenchvale (district 22) did the proportions of abandoned or idle farms approximate those in the fishing and lumbering districts (these ranged from 33 to 40 per cent).

Perhaps the most significant discovery of this 1939 survey was that farming families in the eastern dairy belt were highly dependent upon off-farm employment. Thus, average farm family incomes were considerably higher in this area than the average farm earnings recorded in the 1941 census.¹¹⁹ In the four surveyed zones within the farming belt in 1939 family incomes (\$1,245 per family), on average, were almost triple those recorded in the farm earnings estimates for 1941 (\$461); but wages from off-farm employment accounted for more than 40 per cent of average family income in these four regions (Table 6-8). The districts which fronted on the Sydney River (district 2, Coxheath, and district 18, South Forks/Dutch Brook) recorded the highest average income in the eastern dairy belt. The 58 families surveyed in these districts averaged more than \$1100.00 in farm sales alone, slightly more than half of which was generated by the sale of milk and cream. An additional \$480.00 in income was obtained from off-farm sources (ie.

¹¹⁸ Figure 6-9 is based on data contained in Lewis and Hudson, Land Use and Part Time Farming in Cape Breton County, p. 20.

¹¹⁹ The farm earnings figures for 1941 summarized in Table 6-5 represent income from the sale of farm produce only and do not consider off-farm employment.

Figure 6-10
Vacant Farms in Cape Breton County, By Polling District, 1939

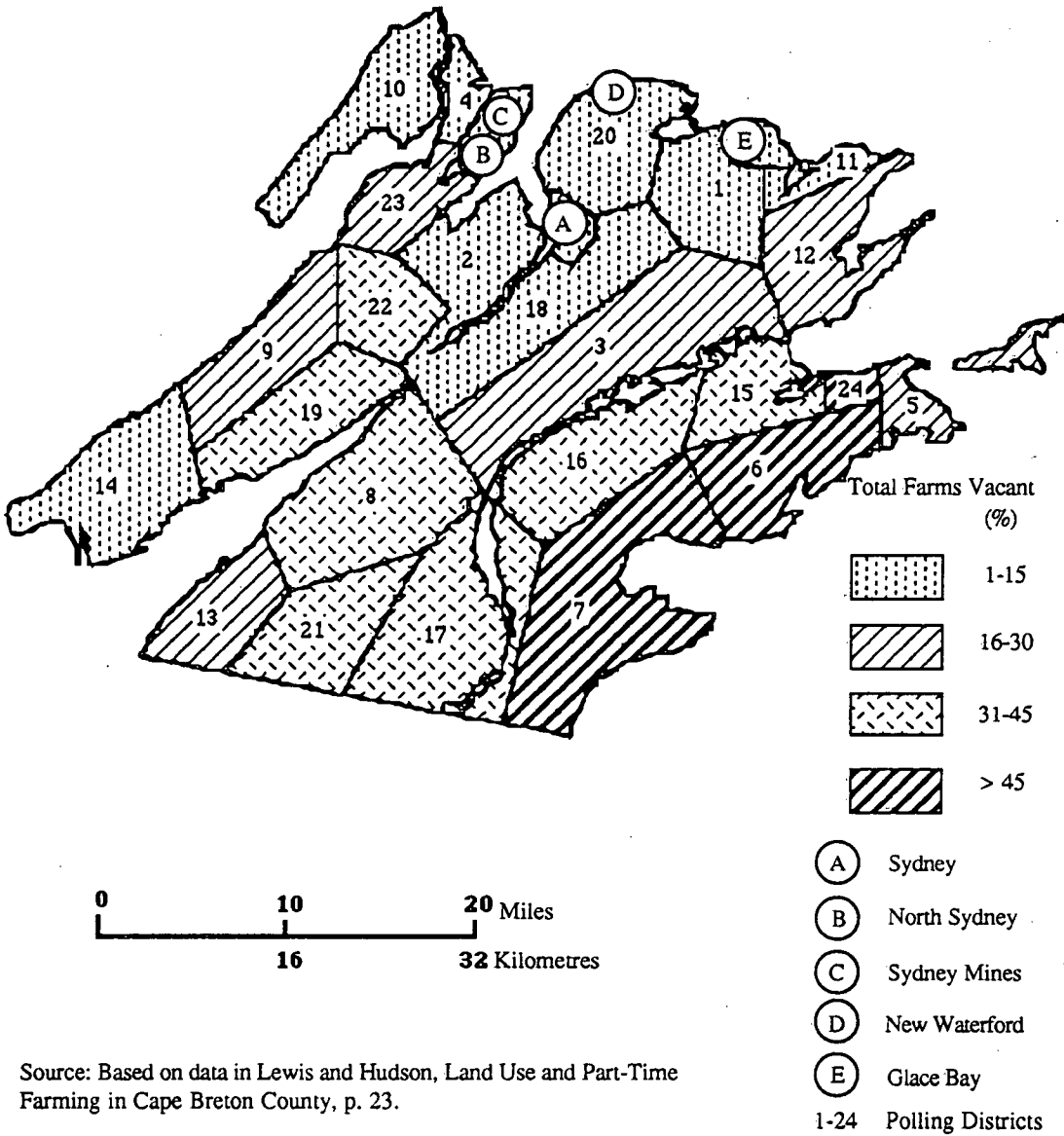


Table 6-8
Average Family Income in the Eastern Dairy Belt, By Region, 1939

| | Sydney River Region | Boisdale/Boularderie Region | East Bay/Mira Region | Morien/Reserve Region |
|------------------------------|------------------------|--------------------------------|-------------------------|--------------------------|
| Families Surveyed | 58 | 38 | 20 | 79 |
| Average Income Per Family | \$1,605 | \$1,261 | \$844 | \$1,269 |
| Milk/Cream Sales (%) | 47 | 51 | 26 | 15 |
| Livestock Sales (%) | 8 | 5 | 4 | 3 |
| Field Crop Sales (%) | 14 | 15 | 8 | 8 |
| Wood Sales (%) | 1 | 4 | 17 | 0 |
| Fish Sales (%) | 0 | 0 | 0 | 2 |
| off-farm employment (%) | 30 | 25 | 45 | 72 |
| Total (%) | 100 | 100 | 100 | 100 |

Source: Lewis and Hudson, Land Use and Part-Time farming in Cape Breton County, Nova Scotia, p. 26.

employment of family members in nearby towns, and on nearby farms). In sum, a small number of Cape Breton dairy farms matched some of the largest farms in the Halifax-Truro milkshed in farm sales. For the most part, however, returns from the sale of agricultural products were about 30 per cent lower in the eastern dairy belt than in central Nova Scotia.

In the immediate vicinity of the mines located to the northeast of Sydney Harbour families were much more dependent on off-farm employment than elsewhere in the eastern dairy belt. The mines at New Waterford, Reserve, and Glace Bay, which were worked to full capacity during the summer months, and the service industries dependent upon the mines offered part-time and full-time employment to family members. Still, the 79 households surveyed by Department of Agriculture officials in Lingan (district 20), Reserve (district 1) and Port Morien (district 12) averaged more than \$350.00 in farm sales, which represented slightly more than one-quarter of their average annual income. Most of this amount came from the sale of milk and cream, but on average families in the shadow of the mines kept more than twice as much poultry, as those elsewhere in Cape Breton County (70 per family). In general, as distance from the Sydney market increased dairying and poultry raising became less important, and the sale of cattle, sheep, vegetables and forest products accounted for a larger percentage of average family income.

In the end, then, the eastern dairy belt differed from the central dairy belt because of the opportunities for off-farm employment available in the nearby coal and steel towns. Even in the heart of the eastern dairy belt, in the districts of Sydney River and Boisdale, about one-quarter of average family income was obtained through off-farm employment. In Colchester and Hants Counties in central Nova Scotia, by contrast, farming districts were too far from Halifax to allow family members to obtain steady off-farm employment there.¹²⁰ Thus average livestock herds and average acreage devoted to field crops were

¹²⁰ Although farm produce was transported to the Halifax market by rail, the cost of daily commuting by train from Hants and Colchester Counties to Halifax prohibited similar levels of off-farm employment in the central Dairy Belt. Truro, with its railway yards and small service sector, provided some off-farm employment opportunities for Colchester

generally larger in the farming districts of Colchester and Hants Counties than in eastern Cape Breton.

The Mixed Farming Belt

Around the periphery of the dairy belt, and in the Northumberland Shore counties of Cumberland, Pictou, Antigonish and Inverness, commercial farming was more diversified than in the dairy belt. Milk and cream were important products in a few pockets within this large zone -- in those districts where creameries were located and in the immediate vicinities of New Glasgow, Pictou and other towns where small groups of farmers had regular milk routes. But, for the majority of families who were attempting to earn their living from the land in this area in 1941, pork, beef, lamb, poultry, eggs and vegetables were the principal commodities marketed, in both local and external markets. There were also far more subsistence farms, sentimental farms and abandoned farms in this section of the farming zone in 1941 than in the fruit belt or the dairy belt.

In that part of the mixed farming belt in Cumberland, Pictou, Antigonish and Inverness Counties, farm numbers fell in approximately the same proportion as they did in the fruit and dairy belts between 1891 and 1941 (by 40 per cent or so). By contrast, the amount of improved land declined far more quickly. In Antigonish and Inverness Counties improved acreage dropped by 66 per cent (from 285,000 to 97,000 acres) although farm numbers fell by only 38 per cent (from 6,800 to 4,200). In this region a far greater proportion of farms lay idle than elsewhere in the farming zone; many others were minimally productive homes for families supported by the full-time (or nearly full-time) off-farm work of the household head.

County farm families, especially after a military base was established at nearby Debert in 1939. But the much larger urban concentration in eastern Cape Breton (a population 8 times larger than that of Truro), the more extensive industrial infrastructure established in the several towns surrounding Sydney Harbour, and the proximity of many of eastern Cape Breton's farms to these towns offered greater opportunities for off-farm employment in eastern Cape Breton than in Colchester County.

Described as the the grain growing belt of Nova Scotia in the mid-nineteenth century, this area produced little wheat, buckwheat, rye or corn in 1941 (Table 6-9). Most of its commercial farms were dependent on the purchase of feed grain from Central and Western Canadian suppliers. Oats and barley were the only grain crops produced in significant quantities. In 1941 oat production per family (106 bushels) was twice that of 1891 and barley production was three times greater (at 12 bushels per family). Oats were used, along with the 16 tons of hay and 46 bushels of turnips produced on the average 33 acre holding in this zone (down from 47 improved acres in 1891), to provide some of the fodder for the 7 cattle and 1 horse that families kept, on average. Barley was raised principally in those districts where poultry and eggs were produced on a commercial basis in an attempt to reduce the demand for imported feed grain for hens and chickens. There were proportionately more beef cattle in this zone than in the central and eastern dairy belts. Most farmsteads maintained a small orchard, that produced mainly crab or cooking apples for home use, but apple production per family had declined by half in fifty years to 2 bushels per family. The number of sheep kept in the region increased from 9 per family in 1891 to 13 per family in 1941.

Estimated farm earnings from this region in 1941 averaged \$334, about one-third those of farmers in the central dairy belt (Table 6-5). Milk and cream were important commercial products in this region but they accounted for slightly less than a third of the region's agricultural production by value. Ten creameries scattered across the area were supplied by 3,600 farmers. But in contrast to the late nineteenth century, when the majority of the province's fledgling creameries were located in Pictou and Antigonish Counties, these areas now accounted for barely a third of the provincial total.¹²¹ Together

¹²¹ Only Halifax, where three of the largest milk processing plants in the province were located, displayed any notable concentration of factories producing butter, cream and ice cream. These plants were dependent upon milk produced in the central dairy belt. There were 28 creameries operating in Nova Scotia in 1941. Dairy Division Report, in Report of the Nova Scotia Department of Agriculture for 1941 (Halifax: Kings Printer, 1942), p. 56.

Table 6-9
Average Production Per Family, Principal Crops and Livestock,
The Mixed farming Belt

| | 1891 | 1941 | Change (% +/-) |
|---------------------------|------|------|----------------|
| Hay (tons) | 14 | 16 | 14 |
| Potatoes (bushels) | 100 | 79 | -21 |
| Turnips (bushels) | 15 | 46 | 207 |
| Oats (bushels) | 58 | 106 | 83 |
| Wheat/Buckwheat (bushels) | 16 | 3 | -81 |
| Barley (bushels) | 4 | 12 | 200 |
| Rye (bushels) | 0 | 0 | 0 |
| Other Grains* (bushels) | 1 | 0 | -100 |
| Apples (bushels) | 4 | 2 | -50 |
| Cattle (number) | 8 | 7 | -13 |
| Sheep (number) | 9 | 13 | 44 |
| Swine (number) | 1 | 1 | 0 |
| Poultry (number) | 15 | 34 | 127 |

* Corn, peas and beans

Source: Census of Canada, 1891, 1941.

cattle, swine, sheep and wool sales accounted for slightly more than a third of total farm earnings in the mixed farming belt. On balance, then, livestock and their products (apart from milk and cream) were the most important commercial products of this broad region. The remainder of reported farm sales consisted of grain (5 per cent), vegetables (3 per cent), apples and berries (3 per cent), poultry and eggs (11 per cent) and wood -- timber, deals, pit props and pulp wood (15 per cent). Families in this zone depended on the sale of a wider array of commercial products than farmers in the fruit and dairy belts. Farms were generally smaller than in central and western Nova Scotia, and except for sheep, fewer livestock were raised, on average, than in the dairy and fruit belts.

There were some significant differences across the mixed farming zone, however. In the Pictou and Cumberland County areas where New Glasgow and vicinity, with nearly 25,000 urban inhabitants, and the town of Amherst, containing 8,500 people, created substantial local markets for farmers, farm sales averaged \$461, a level of farm earnings similar to that of the eastern dairy belt.¹²² By contrast, in Antigonish and Inverness Counties -- where urban markets were much more limited -- families averaged only \$207.00 in farm sales in 1941. Here far more farms were "self-sufficient" operations.¹²³ In general, families in the Antigonish and Inverness portions of the mixed farming belt

¹²² As postulated by Von Thunen in the nineteenth century, farm incomes in the immediate vicinities of these towns were notably higher than the average for the wider region. Near Amherst, where milk and cream, market garden vegetables and livestock were important commercial products, more than 120 families averaged more than \$750 in farm sales. J. E. Lattimer, A Study of 128 Profitable Cumberland County Farms (Halifax: Nova Scotia Department of Agriculture, Bulletin # 8, 1943), p.12. On Von Thunen theory see Michael Chisholm, Rural Settlement and Land Use: An Essay in Location (New York: John Wiley and Sons, 1967), pp. 21-46; 56-59.

¹²³ Census enumerators estimated that 70 per cent of the 4,500 farms scattered throughout Antigonish and Inverness Counties in 1941 were "self-sufficient" farms, which meant that more than 50 per cent of the produce raised on these farms was consumed by the family. The proportion of Pictou and Cumberland County's farms classified as self-sufficient farms was 43 per cent. Hudson, Stutt, Van Vleit and Forsyth, Types of Farming in Canada, pp. 76-7.

raised more sheep and less poultry than farmers in Pictou and Cumberland Counties, and their cattle herds were less dependent upon imported feed grains.¹²⁴

Examples of farms advertised for sale in a Provincial Department of Agriculture pamphlet in 1940 are suggestive of some of the differences which existed between the eastern and western portions of the mixed farming belt.¹²⁵ The J. J. MacNeil farm, located in Dunmore, along the South River in Antigonish County, 9 miles south of the town of Antigonish, consisted of 120 acres, 20 of which were "under cultivation" and 10 of which were cleared pasture.¹²⁶ The farm also had a small orchard consisting of "a few trees", an eight-room house (30 feet x 22 feet), and a barn (26 feet x 30 feet), "with room for 12 cattle, 2 horses, 20 sheep and 2 swine".¹²⁷ The asking price for this well-located farm, "four miles from a railway station, two and a half miles from a church and store ... and one mile from a Bank" was \$1,300.¹²⁸ The J. D. Irving farm, situated along Sutherland's River, 9 miles or so from the industrial town of New Glasgow, was, by contrast, substantially larger than the MacNeil farm, with 200 acres of land, 50 of which

¹²⁴ In the narrow Strathlone Valley of Inverness County, for example, 137 families averaged 18 sheep and the same number of poultry in 1941. In the Hardwood Hill district of Pictou County, by contrast, 60 families recorded an average of 2 sheep and 55 hens and chickens in 1941. Several districts in Antigonish and Inverness Counties also recorded average hay production levels well above the average for the mixed farming belt (between 17 and 20 tons per family), yet families averaged the same the number of cattle as the average for the entire zone (see, for example, the Lochaber and Antigonish districts in Antigonish County and Lake Ainslie West in Inverness County). Of the more than 1,400 farm families who were still working the land in Antigonish County in 1941, only 139 shipped milk regularly to the Sydney and Antigonish (town) markets. R. L. Gentilcore, "Land Use and the Dairy Industry in Antigonish County, Nova Scotia", Canadian Geographer 2 (1952), p. 50.

¹²⁵ Province of Nova Scotia, List of Farms for Sale (Halifax: Department of Agriculture, 1940), pp. 1-44.

¹²⁶ Ibid., p. 13.

¹²⁷ Ibid.

¹²⁸ Ibid.

were "under cultivation".¹²⁹ The farm also contained a one-acre orchard and a ten-acre pasture. The seven-room house on the property, though slightly smaller than the MacNeil farmstead (24 feet x 26 feet), had several "modern improvements", including indoor plumbing. The farm also contained a poultry house, which measured 25 feet x 20 feet, and two barns, "with room for 20 cattle, 4 horses and 2 swine".¹³⁰ The raising of sheep was not mentioned in the advertisement. Other outbuildings worthy of mention included a garage and a woodhouse. Located one mile from a railway station and a store, one-half mile from schools and churches, and nine miles from a Bank, this property was probably better located than the MacNeil farmstead in Dunmore, Antigonish County; its asking price was \$6,000.00.¹³¹

As in the eastern dairy belt, farmland abandonment was visible in virtually every district of the mixed farming belt. But in the eastern portions of this zone there were more abandoned, idle and part-time farms than in Pictou and Cumberland Counties. A comparison of abandoned farms in Pictou and Antigonish Counties between 1935 and 1941 illustrates this point. In 1935 a land use survey reported that more than 25 per cent of the 2,450 farmsteads in Antigonish County were vacant (627 farms).¹³² Only a handful of the county's 25 polling districts -- in the vicinity of Antigonish Harbour, and in the fishing districts of Tracadie and Harbour Boucher -- listed relatively small numbers of

¹²⁹ Ibid., p. 22.

¹³⁰ Ibid.

¹³¹ Ibid.

¹³² W. V. Longley and W. F. Chown, Antigonish County, Nova Scotia: A Study of Land Utilization, Farm Production and Rural Living (Halifax: Nova Scotia Department of Agriculture Bulletin, 118, 1936), p. 67. In this report Longley and Chown note that the information on the number of farms vacant in the County in 1935 was obtained from municipal records. They also indicate that the number of vacant farms in Antigonish County reported by census enumerators in 1931 (145) was probably incorrect.

abandoned farms (less than 15 per cent of total farms; Figure 6-11).¹³³ In the heavily populated farming districts that stretched along the sides of the South and West River Valleys between 16 and 25 per cent of all farms were vacant.¹³⁴ But, as Figure 6-11 illustrates, the largest concentration of abandoned farms in the Antigonish County was along the western and southern perimeters of the county where thin, upland soils, distance from the existing local market in the town of Antigonish, and depleted stands of marketable timber limited the possibilities for family farming as the twentieth century wore on. These areas -- including the districts of Arisaig, Maryvale and St. Joseph's -- were once dependent upon the lumbering industry for seasonal employment, and, as Longley and Chown observed, with the "forests depleted there has not been supplementary work [available] for farmers."¹³⁵

In Pictou County, by contrast, abandoned farms were less common. Between 1931 and 1941, 333 farms disappeared from census enumerators' lists. As in Antigonish County these were concentrated in upland districts such as Barney's River, Mount Thom and Wentworth, distant from the New Glasgow-Pictou market. When a land use and rural conditions survey, similar to the one conducted in Antigonish County in 1935, was completed for Pictou County in the late 1940s, it was noted that in recent years several schools had closed in backland districts because there were few children remaining in the communities.¹³⁶ The several schools noted in the report included Upper Mount Thom School (in census subdistrict 28), Dalhousie Mountain School (in census subdistrict 10)

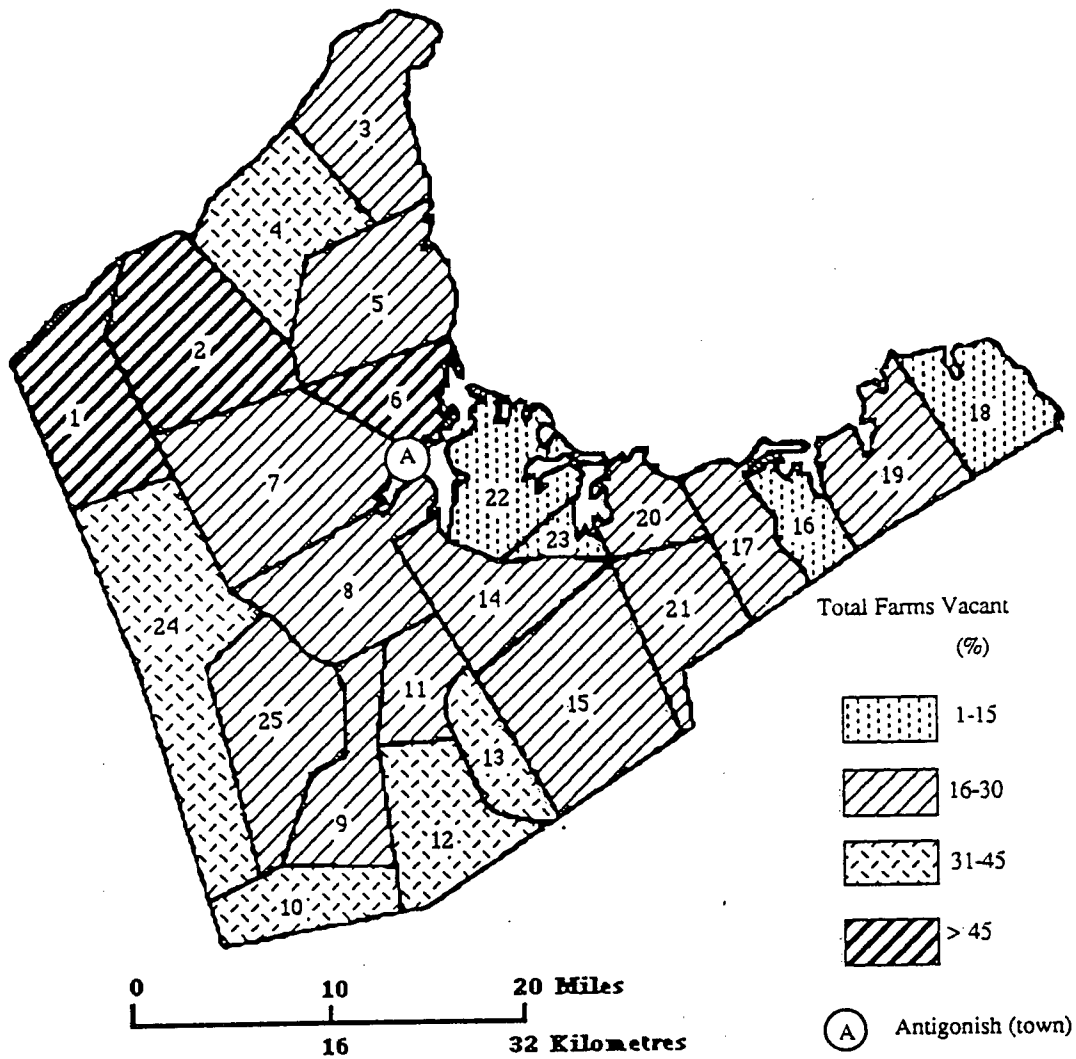
¹³³ Figure 6-11 is based on data contained in Ibid.

¹³⁴ While farmsteads were empty in these districts, Longley and Chown noted that adjoining farmers often used the idle fields for hay production and for pasturing their livestock. Ibid., p. 63.

¹³⁵ Ibid., p. 66

¹³⁶ Donald A. Grant, "Land Use in Pictou County", p. 107.

Figure 6-11
Vacant Farms in Antigonish County, By Polling District, 1935



Source: Based on data in Longley and Chown, Antigonish County, Nova Scotia: A Study of Land Utilization, Farm Production and Rural Living, p. 67.

and MacLellans Mountain School (in census subdistrict 24). It was in these districts, the field investigator noted, where "the majority of vacant farms are found."¹³⁷

On those farms located within the milkshed of one of the ten creameries located in the mixed farming belt, milk and cream were important commercial products. But dairy production was often combined with the production of an array of less perishable products which could be easily transported longer distances than milk and cream. Vegetables, livestock, meat and wood products were among the commercial products of all farms located in the mixed farming belt. If a local egg circle or marketing cooperative was established in an area, then poultry production on a commercial scale was possible. Those whose farms were distant from an urban area placed more emphasis on the production of vegetables and livestock for shipment to Pictou, New Glasgow, Sydney or Halifax.

Initially most of the products of the mixed farming belt (apart from milk and cream) were marketed through country merchants and storekeepers unless a farm was located in the shadow of one of the region's urban centres, which enabled the farmer to retail his produce directly to urban consumers. By 1940, however, some of the creameries in the mixed farming belt had begun to function as wholesalers, purchasing farm products, in addition to milk and cream, from local farmers and retailing them in domestic and external markets. Scotsburn Creamery, established at Scotsburn (Pictou County) in 1900, shortly after the Short Line Railway was completed between Oxford, (Cumberland County) and the town of Pictou, was one of the first to function in this manner. Until the 1930's this creamery, like most in Nova Scotia, purchased only milk and cream from nearby farmers. By the late 1930's however, the Scotsburn Creamery was also purchasing eggs and poultry from local farmers for distribution to retailers in New Glasgow, Halifax and Quebec.¹³⁸ In 1939 a new building was constructed for a "plucking machine", capable of handling 600

¹³⁷ Ibid.

¹³⁸ Ibid., p. 83.

birds a day, and the creamery became an official grading station. By 1945 this company was marketing more than 230,000 dozen eggs and 140,000 lbs. of poultry annually, in addition to its principal products -- cream, ice cream and butter -- and a grain mill and cold storage storage plant had been added to the company's holdings.¹³⁹ During the 1940's the Scotsburn Creamery added hogs to the array of products it purchased from Pictou County farmers.¹⁴⁰

Despite the considerable road and railroad improvements that took place in Nova Scotia between the late nineteenth century and the 1930s, many farms remained beyond reach of provincial creameries through the 1940s. Traditional patterns of agricultural production and marketing persisted on these farms long after they had been altered on others as the operations of William H. Lawson's farm in South Rawdon, Hants County during the 1930s and 40s reveals. Twenty-one miles of hilly, backcountry roads from the closest cream factory in Windsor, and 38 from that in Selma, the farm was unable to take advantage of the markets they offered. Halifax, 22 miles away, was a one-day drive (round trip) using a horse and wagon. According to William Lawson's diary, maintained off and on from 1907 to 1967, his farm produced potatoes, turnips, carrots, onions, apples and pork in sufficient quantities to allow seasonal surpluses.¹⁴¹ "Deal wood" and pulpwood were sold during the winter and spring, and members of the family were employed variously in road work (on a road scraper), doing farm labour on adjacent farms, and working in the village of Brooklyn 7 miles away. Only two milk cows were kept for

¹³⁹ Ibid. The grain mill was used for grinding both local and imported grains into cattle feed.

¹⁴⁰ Ibid., p. 84.

¹⁴¹ William Hedley Lawson began keeping his diary in 1908 as a 12 year old boy, and he continued to contribute to it, off and on, for the rest of his life. It is a superb documentation of life in Nova Scotia during a period of enormous change, though it is extremely difficult to decipher due to Lawson's very poor handwriting. A copy of the diary is available at PANS. William. H. Lawson Diary, 1907-67, South Rawdon, Hants County, Micro Biography File, PANS.

household use, and a horse was kept for farm work and transportation. There is no record of the family owning or using a tractor.

The marketing of such surpluses as there were from the Lawson farmstead was informal. Between 1915 and 1930 William Lawson made seasonal trips to Halifax in the family's express waggon to market potatoes, other vegetables, wool and salt meat. Grocers, wholesalers and merchants in the city were Lawson's principal trading partners. Produce was also sold at Mount Uniacke and Bedford, en route to the capital, whenever possible. Wood cut through the winter was disposed of at nearby sawmills. With the acquisition of an automobile in 1931 William Lawson established more regular contact with Halifax than before. Through September, October and November, 1931, Lawson made "the usual Bedford and Halifax trip" every Saturday morning.¹⁴² At 6 or 7 o'clock in the morning he loaded his car, which was fitted with a cargo box attached to the bumper, with agricultural produce. Potatoes, carrots, turnips, onions and other vegetables comprised the largest portion of each load; fresh pork, poultry and eggs were occasionally included. Halifax hotels, stores and restaurants, "big and little", were the principal market outlets for Lawson's products, and generally, as on 12 November, 1931, Lawson "cleaned out [the] load by 11 o'clock".¹⁴³ Any produce remaining was usually disposed of near the Halifax Public Market to housewives and others making their way home from the market. While social and marketing trips to smaller towns and villages in the region also increased significantly after the family acquired their automobile, the principal market for the family's agricultural surpluses continued to be Halifax throughout the 1940's and 1950's.¹⁴⁴

¹⁴² See Saturday entries during September, October and November, 1931, William Lawson Diary, South Rawdon, Hants County, Micro Biography File, PANS.

¹⁴³ William Lawson Diary, 12 November, 1931; see also 8 October, 1931; South Rawdon, Hants County, Micro Biography File, PANS.

¹⁴⁴ This type of informal produce marketing by families like the Lawson's, whose farms were distant from creameries and large urban markets, was noted in Morse and Watson's socio-economic survey of Hants County conducted in 1956: "With the general exception of milk, which is sent by regular channels to dairies, and a portion of the production of

The Domestic Market

Sydney and vicinity, New Glasgow and its environs and Halifax, which collectively contained more than a third of Nova Scotia's 578,000 people, were the province's most important domestic markets in the 1940s. While the importation of food was heavy in each of these areas, it was estimated that Nova Scotian farmers supplied more than 75 per cent of the butter, cream and ice cream consumed in the province, 60 per cent of the poultry, almost half of the eggs and livestock and all of the fluid milk.¹⁴⁵ Only the production of potatoes and apples on Nova Scotian farms in the 1940's were said to have exceeded the demands of the province's non-farm population. The perishability of fluid milk provided a natural barrier to external competition where urban markets were accessible, and until the expansion of refrigerated truck transport in the 1950's and 60's allowed an inter-provincial trade in fresh milk to develop, Nova Scotia's dairy farmers held a virtual monopoly on its sale.

Farm marketing surveys in the 1930's and 40's provide a description of the agricultural hinterlands of Nova Scotia's principal domestic markets.¹⁴⁶ The agricultural hinterland of Sydney and vicinity, with 80,000 urban residents, extended well beyond

poultry and eggs which is sent to marketing organizations ..., there is a considerable amount of decentralized production marketing in Hants County." N. H. Morse and R. E. L. Watson, "A Preliminary Survey of Rural Conditions in Hants County, Nova Scotia, With a Special Reference to Farmer Organizations in the County", Research Report, Acadia University Institute, January, 1957, Mimeograph copy, Nova Scotia Legislative Library, p. 28. These authors attributed this situation to the fact that there were many upland farms in Hants County outside of the milksheds of Halifax and county creameries.

¹⁴⁵ Longley and Chown, Antigonish County, Nova Scotia: A Study of Land Utilization, p. 90, and H. K. Larson, Demand and Production Analysis of Agricultural Products in Nova Scotia (Halifax: Nova Scotia Department of Finance and Economics, 1964), pp. 13-34.

¹⁴⁶ Reid and Hopper, The Market for Farm Products in the Sydney Area of Nova Scotia; W. C. Way and E. P. Reid, The Market for Meats in Halifax, Nova Scotia, 1947-48 (Ottawa: Canada Department of Agriculture, 1950); V. A. Heighton, The Market for Fresh Fruits and Vegetables in the New Glasgow Area of Pictou County (Halifax: Department of Agriculture and Marketing, 1951).

provincial boundaries. Of the \$5,300,000 worth of agricultural products marketed in Sydney in 1937, about one-quarter was supplied by New Brunswick and Prince Edward Island farmers, one-third was shipped from Central and Western Canada, and less than 8 per cent came from the United States and other foreign countries (Figure 6-12).¹⁴⁷ The produce supplied by provincial farmers, valued at \$1,731,347, comprised 32 per cent of the foodstuffs consumed in Sydney in that year. Cape Breton County farmers supplied 20 per cent of this amount; families in Inverness County and in the mainland portion of the mixed farming belt supplied the remainder. Imports were transported to Cape Breton by ship and rail.¹⁴⁸

Information collected from retailers, wholesalers, farmers, and railway, steamship and customs records clearly illustrate the types of local farm products which entered the Sydney market (Table 6-10).¹⁴⁹ Provincial farmers and creameries supplied all of the milk and cream, 68 per cent of the vegetables, 64 per cent of the livestock and nearly half of the buttermilk, cheese and ice cream. These were products that retained a competitive edge in the local market either because of their perishability (in the case of milk, cream and other dairy products) or because their relatively low transport costs allowed them to undercut the prices of imports (market garden vegetables and livestock).¹⁵⁰ Some of these products,

¹⁴⁷ Reid and Hopper, The Market for Farm Products in the Sydney Area of Nova Scotia, p. 8.

¹⁴⁸ Ibid. The rail line across Cape Breton Island which was linked to the Truro-Pictou line by a ferry at Port Hastings was completed in 1890. The railroad along the west coast of Cape Breton Island between Port Hastings and Inverness was completed in 1901. Haliburton, "A History of Railroads in Nova Scotia", p. 453

¹⁴⁹ The Reid and Hopper survey utilized four principal sources of information about foodstuffs entering the Sydney market in 1937: (a) "detailed abstracts from the 1937 traffic records of all railway, steamship and other transport companies bringing agricultural products to the area", (b) Canada customs records, "for ascertaining the water traffic", (c) statements from wholesalers and retailers, and (d) a marketing questionnaire distributed to a sample of Nova Scotian farmers. Ibid., p. 2

¹⁵⁰ See the discussion of the price gap between vegetables produced in Cape Breton County and imported vegetables, in Ibid., pp. 15-21 Carrots, turnips, cabbages, and beets

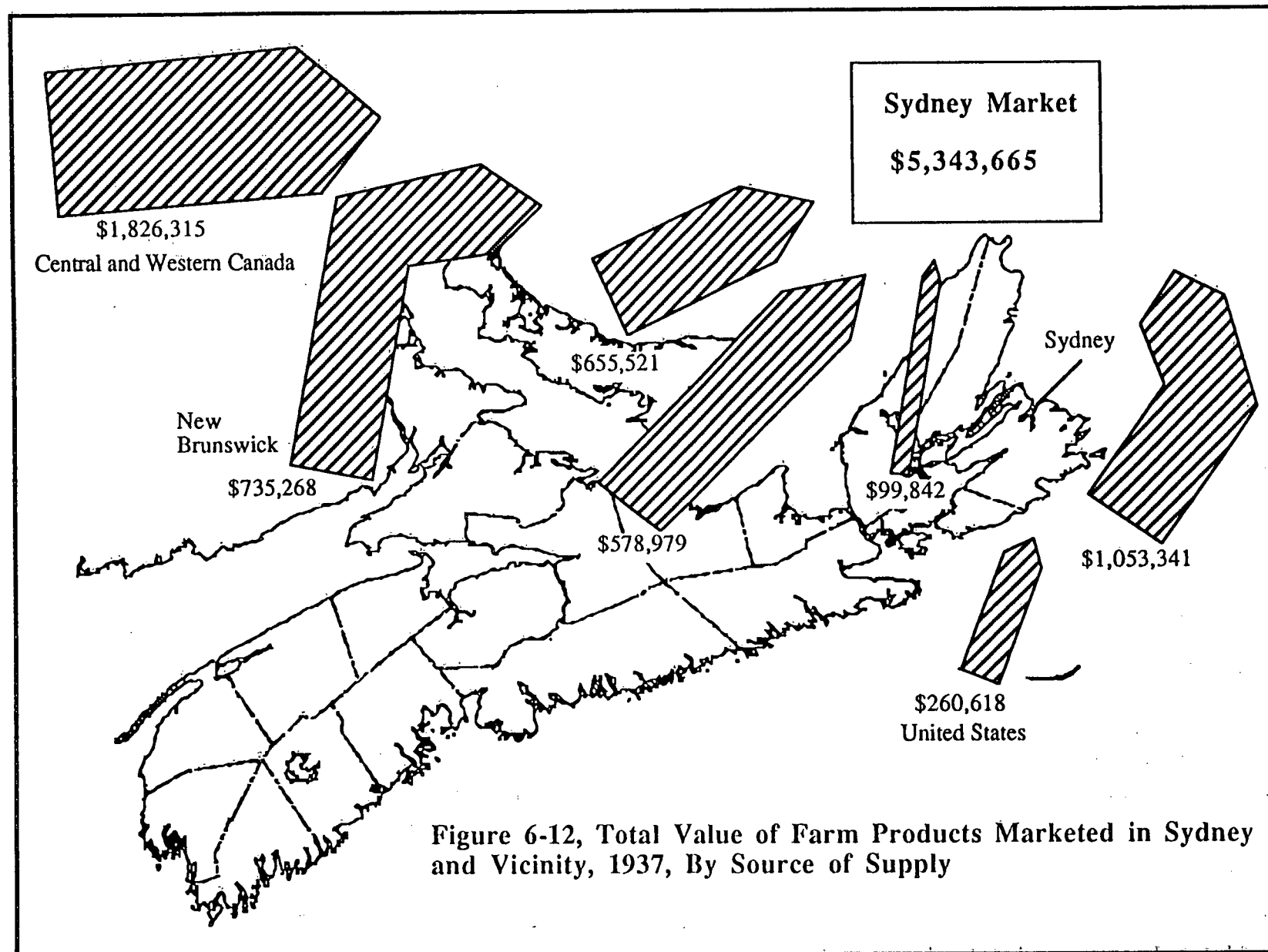


Table 6-10
Value of Farm Products Marketed in Sydney and Vicinity, 1937

| | Potatoes | Other Vegetables | Milk | Cream | Butter | Other Dairy Products* |
|-------------------------|-----------|---------------------|-----------|-----------|-----------|--------------------------|
| Total Receipts | \$262,678 | \$372,625 | \$409,351 | \$78,201 | \$917,568 | \$406,730 |
| Region of Origin | % | % | % | % | % | % |
| Cape Breton Co. | 36.7 | 61.5 | 98 | 35.9 | 1.6 | 25.7 |
| Western Cape Breton | 0.4 | 0.1 | 0 | 9.9 | 2.7 | 0 |
| Mainland Nova Scotia | 1.1 | 6.7 | 2 | 54.2 | 15.2 | 22.5 |
| Nova Scotia Total | 38.2 | 68.3 | 100 | 100 | 19.5 | 48.2 |
| Prince Edward Island | 54.6 | 1.2 | 0 | 0 | 25.3 | 1.2 |
| New Brunswick | 5.6 | 0 | 0 | 0 | 34.7 | 3.6 |
| Central Canada | 1.3 | 14.3 | 0 | 0 | 10.7 | 47 |
| Western Canada | | 1.4 | 0 | 0 | 9.7 | 0 |
| The United States | 0.3 | 10.5 | 0 | 0 | 0 | 0 |
| Other Foreign Countries | | 4.3 | 0 | 0 | 0 | 0 |
| Total | 100 | 100 | 100 | 100 | 100 | 100 |
| | Livestock | Meats | Eggs | Hay/Grain | Fruit | Total |
| Total Receipts | \$105,735 | \$1,656,211 | \$331,527 | \$276,289 | \$526,750 | \$5,343,665 |
| Region of Origin | % | % | % | % | % | % |
| Cape Breton Co. | 7.4 | 4.6 | 22.3 | 0.4 | 4.8 | 19.8 |
| Western Cape Breton | 32.2 | 1.3 | 1.4 | 0.7 | 0.3 | 1.9 |
| Mainland Nova Scotia | 24 | 1 | 16.2 | 19 | 25.3 | 10.7 |
| Nova Scotia Total | 63.6 | 6.9 | 39.9 | 20.1 | 30.4 | 32.4 |
| Prince Edward Island | 24.4 | 4.5 | 40 | 10.2 | 0.6 | 12.3 |
| New Brunswick | 1.8 | 15.5 | 1.2 | 49.2 | 0.4 | 13.8 |
| Central Canada | 5 | 44.5 | 13.9 | 20.5 | 3.7 | 23 |
| Western Canada | 5.1 | 28.6 | 5 | 0 | 1.1 | 11.2 |
| The United States | 0.1 | 0 | 0 | 0 | 41.8 | 4.9 |
| Other Foreign Countries | 0 | 0 | 0 | 0 | 22 | 2.4 |
| Total | | 100 | 100 | 100 | 100 | 100 |

* Buttermilk, cheese, ice cream and canned milk.

Source: Calculated from Reid and Hopper, The Market for Farm Products in the Sydney Area, pp. 10, 180.

nonetheless, faced stiff competition from external sources of supply. Because provincial creameries concentrated on the production of ice cream and cream after 1925, butter produced in factories outside the province -- which undercut Nova Scotian butter in price by a few cents per lb. -- gradually came to predominate in the Sydney market.¹⁵¹ In 1937 Nova Scotian creameries supplied less than a fifth of the butter consumed in Sydney and vicinity.¹⁵² Canned or condensed milk, the bulk of which was supplied by Ontario plants, also competed with locally produced pasteurized and raw milk.¹⁵³

Competition from distant agricultural regions was most visible in the provision of meats, fruit, hay and grains. The 6.2 million lbs. of beef marketed in Sydney in 1937 (worth \$715,000) represented more than half of all the meat purchased by wholesalers, retailers and consumers (directly from suppliers) in that year. Although shipped mainly by rail from packing houses in New Brunswick, Quebec, Ontario and Manitoba, Department of Agriculture officials recognized that most of this beef was the product of Winnipeg and Toronto abbatoirs whose principal sources of supply were farms and ranches in the Prairie

were the principal vegetables marketed by Nova Scotia farmers in Sydney and vicinity; a handful of farmers sold cucumbers and green tomatoes. *Ibid.*, p. 129.

¹⁵¹ Most of the butter marketed in Sydney in 1937 came from southern New Brunswick's dairy belt centred on Sussex (37 per cent), and creameries located near Charlottetown and Summerside (25 per cent); another 20 per cent of the butter came from creameries in Quebec, Ontario, Manitoba and Saskatchewan (collectively). For a discussion of New Brunswick's dairy belt see D. F. Putnam, "The Distribution of Agriculture in New Brunswick", *Public Affairs*, 3 (1940), pp. 10-11.

¹⁵² Although families in the mixed farming belt still produced some home-made, or dairy butter (so called), little of it entered the Sydney market. Surpluses of home-made butter continued to be shipped to Saint Pierre and Newfoundland, as had been the practise in the nineteenth century. Reid and Hopper, *The Market for Farm Products in the Sydney Area of Nova Scotia*, pp. 52-3.

¹⁵³ The 50,300 cases of canned milk sold in Sydney and vicinity in 1937, valued at \$208,000, represented about half of all of the "other dairy products" recorded in the Department of Agriculture Marketing Survey. The two main sources of supply were The Condensed milk Factory at Truro, Colchester County which supplied 33 per cent of the canned milk delivered to the Sydney market and several Ontario condensed milk plants which supplied 66 per cent of the cases. *Ibid.*, p. 55.

provinces.¹⁵⁴ Some local pork entered the Sydney market but Ontario and Quebec were the principal sources of supply.¹⁵⁵ Dressed poultry was the only fresh meat supplied in significant quantities by Cape Breton and Antigonish County farmers.¹⁵⁶

The towns, mines and dairy farms in eastern Cape Breton created a significant market for hay and fodder. Pit ponies were still in use in the mines, many storekeepers, artisans and residents of the mining towns kept a horse for transportation, and dairy farms regularly purchased hay and feed grains produced outside of the region to sustain their herds.¹⁵⁷ Most of the 7,500 tons of hay shipped to Sydney in 1937 came from the marshland farms of the Chignecto Isthmus (91 per cent); the remainder was supplied from western Cape Breton and Prince Edward Island.¹⁵⁸ This relatively low value, heavy commodity could not withstand the transport costs associated with long-distance travel; thus most of the hay marketed was supplied by farmers from the mixed farming belt. Feed grains, by contrast, with an average value four times that of hay (\$43 per ton), were supplied mainly by Western Canadian producers.¹⁵⁹

¹⁵⁴ *Ibid.*, p. 38.

¹⁵⁵ Ontario and Quebec collectively supplied more than 50 per cent of the pork marketed in Sydney in 1937. About 20 per cent each came from New Brunswick and Manitoba. The remainder was produced on farms in Prince Edward Island and Nova Scotia. *Ibid.*, p. 41, 172.

¹⁵⁶ Prince Edward Island and New Brunswick farmers collectively supplied around 30 per cent of the total dressed poultry marketed in Sydney in 1937; those from the Prairie provinces provided about the same proportion; Ontario and Quebec farmers produced 10 per cent. Provincial farmers supplied the remaining 30 per cent. *Ibid.*, p. 175.

¹⁵⁷ Mining companies held contracts on about 20 per cent of the hay shipped by rail to Sydney in 1937; the remainder of the hay was destined for retailers (43 per cent), wholesalers (30 per cent) and farmers (7 per cent). Department of Agriculture officials estimated that Cape Breton County farms generally produced only three-quarters of the hay and feed grains required on their farms. Reid and Hopper, *The Market for Farm Products in the Sydney Area of Nova Scotia*, p. 103.

¹⁵⁸ *Ibid.*, pp. 79-80, 193. The hay was shipped in 525 railway car lots, and was worth an estimated \$87,700 (or \$11.69 per ton).

¹⁵⁹ *Ibid.*, p. 81.

Apples grown in the Annapolis Valley accounted for 25 per cent of the fruit marketed in Sydney in 1937; fruit exotic to the region (such as oranges, grapes, bananas and pineapples), comprised almost 60 per cent of the total.¹⁶⁰ The remainder consisted of local soft fruits and berries (8 per cent), apples produced in British Columbia and the United States (5 per cent) and peaches, plums and pears shipped from the Niagara Fruit Belt (2 per cent). Exotic fruit, which only became available in Nova Scotia on a large scale with the improvement of refrigerated railroad and steamship transport in the early twentieth century, accompanied consignments of United States' apples and strawberries destined for the Sydney market.¹⁶¹ Eggs, an important commercial sideline for the province's fruit and dairy farmers, also had to compete with the products of other agricultural regions in the Sydney market. Prince Edward Island farms produced as many eggs for the Sydney market in 1937 as did Nova Scotian farms (40 per cent of the total); the remaining 20 per cent came from Ontario (11 per cent), Quebec (3 per cent), Manitoba (5 per cent) and New Brunswick (1 per cent).¹⁶²

The second important domestic market for food in Nova Scotia outside of Halifax was the New Glasgow industrial region in Pictou County, with a total population of 25,000 in 1950. Although the 1949 Marketing Survey of this region examined only the supply of vegetables and fresh fruit, the proportion of these products provided by Nova

¹⁶⁰ Shipped mainly from ports along the Eastern Seaboard of the United States, the oranges and grapes were the products of California and the bananas and pineapples originated in the British West Indies. *Ibid.*, pp. 34-35; 152-53.

¹⁶¹ Of the 317,700 quarts of strawberries marketed in Sydney and vicinity in 1937, only 41 per cent (131,300 quarts) was supplied by Nova Scotian farmers. *Ibid.*, p. 166.

¹⁶² Reid and Hopper, The Market for Farm Products in the Sydney Area of Nova Scotia, pp. 46-7, 178. For a discussion of the growth of poultry farming on Prince Edward Island, and other adjustments made by island farmers between 1891 and 1941, see Andrew Hill Clark's classic study, Three Centuries and The Island: A Historical Geography of Settlement and Agriculture in Prince Edward Island, (Toronto: University of Toronto Press, 1959), see pp. 151, 163-204.

Scotian farmers was remarkably similar to that recorded in the Sydney market a decade or so earlier for a wider range of products. Nova Scotian fruit and vegetables marketed in this domestic market between March, 1949 and April, 1950 were valued at \$180,000, or about 30 per cent of the total value of fruit and vegetables distributed to retailers, wholesalers and directly to consumers (\$616,764).¹⁶³ While this establishes the relative economic position of Nova Scotian products in the New Glasgow market, it underestimates provincial farmers' marketing activities in New Glasgow because expensive exotic fruits included in this total biased overall trade figures in favour of imports (oranges, grapefruit, lemons, bananas etc.).¹⁶⁴ Nova Scotian farmers concentrated on supplying market garden vegetables, apples, soft fruit and berries (especially strawberries, blueberries and cranberries). More than half of the carrots, turnips and other table vegetables (cauliflower, parsnips) marketed in New Glasgow were grown on provincial farms (mainly from the mixed farming belt), three quarters of the apples sold were from the Annapolis Valley and just less than 40 per cent of the potatoes were grown locally (Table 6-11). Only onions, 75 per cent of which came from Ontario and 24 per cent of which were shipped from the United States, were supplied almost entirely from distant agricultural regions.¹⁶⁵

Halifax, with more than 100,000 people in its metropolitan area, was clearly Nova Scotia's largest domestic market for food in the 1940's.¹⁶⁶ Because of the concentration of naval personnel there, and the shipping activities at its winter port, there was also a

¹⁶³ Calculated from Heighton, The Market for Fresh Fruits and Vegetables in the New Glasgow Area of Pictou County, pp. 9, 17, 21. Prince Edward Island and Ontario farmers supplied 10 per cent of this amount each, and shippers from the United States were responsible for providing about half of the total.

¹⁶⁴ These exotic fruits, none of which could be produced in Nova Scotia, comprised 55 per cent of the total volume of fruit sold in New Glasgow in 1949 (3,432,237 lbs.) and 66 per cent of the total value of fruit marketed (\$363,248). Ibid., pp. 6, 9.

¹⁶⁵ Ibid., pp. 17-19.

¹⁶⁶ Census of Canada, 1941.

Table 6-11
Fruits and Vegetables Marketed in the New Glasgow Region, 1949-1950

| | Source of Origin | | | | | | Totals |
|-------------------------|------------------|------------------|---------------|----------------|----------------|------------------|------------------|
| | N.S. | P.E.I. | N.B. | Ont. | B.C. | U.S. | |
| | (lbs.) | (lbs.) | (lbs.) | (lbs.) | (lbs.) | (lbs.) | (lbs.) |
| Vegetables | | | | | | | |
| Potatoes | 900,576 | 1,518,093 | 14,850 | 10,345 | 0 | 42,400 | 2,486,264 |
| Turnips | 173,273 | 167,496 | 0 | 0 | 0 | 0 | 340,769 |
| Carrots | 244,905 | 84,747 | 32,600 | 68,687 | 0 | 32,070 | 463,009 |
| Cabbages | 166,188 | 59,000 | 0 | 108,722 | 0 | 29,000 | 362,910 |
| Onions | 1,514 | 0 | 0 | 331,570 | 0 | 109,985 | 443,069 |
| Tomatoes | 159,533 | 0 | 0 | 21,254 | 0 | 143,781 | 324,568 |
| Other Vegetables* | 44,980 | 0 | 1,350 | 26,173 | 0 | 9,222 | 81,725 |
| Total Vegetables | 1,690,969 | 1,829,336 | 48,800 | 566,751 | 0 | 366,458 | 4,502,314 |
| % of Total | 37 | 41 | 1 | 13 | 0 | 8 | 100 |
| Fruits | | | | | | | |
| Apples | 1,028,898 | 0 | 0 | 0 | 98,971 | 89,918 | 1,217,490 |
| Other Tree Fruits** | 16,665 | 0 | 0 | 122,599 | 3,679 | 150,249 | 293,152 |
| Oranges | 0 | 0 | 0 | 0 | 0 | 1,254,050 | 1,254,050 |
| Grapefruit | 0 | 0 | 0 | 0 | 0 | 244,690 | 244,690 |
| Bananas | 0 | 0 | 0 | 0 | 0 | 383,724 | 383,724 |
| Other Fruit*** | | | | | | 39,131 | 39,131 |
| Total Fruit | 1,045,266 | 0 | 0 | 122,559 | 102,650 | 2,161,762 | 3,432,237 |
| % of Total | 30 | 0 | 0 | 4 | 3 | 63 | 100 |
| Berries | | | | | | | |
| Cranberries | 3,428 | 0 | 0 | 0 | 0 | 9,398 | 12,826 |
| Strawberries | 83,544 | 25,380 | 0 | 21,906 | 0 | 0 | 130,830 |
| Blueberries | 10,980 | 0 | 0 | 0 | 0 | 0 | 10,980 |
| Raspberries | 4,706 | 0 | 0 | 0 | 0 | 0 | 4,706 |
| Other Berries**** | 3,082 | 0 | 0 | 442 | 0 | 0 | 3,524 |
| Total Berries | 105,740 | 25,380 | 0 | 22,348 | 0 | 9,398 | 162,866 |
| % of Total | 65 | 15 | 0 | 14 | 0 | 6 | 100 |
| Grand Totals | 2,841,975 | 1,854,716 | 48,800 | 711,658 | 102,650 | 2,537,618 | 8,097,417 |
| % of GRAND TOTAL | 35 | 23 | <1 | 9 | 1 | 31 | 100 |

* cauliflower and parsnips

** pears, peaches, plums, cherries

*** pineapples, tangerines, lemons

**** currants, gooseberries, blackberries

Source: Heighton, The Market for Fresh Fruits and Vegetables in the New Glasgow Area of Pictou County, pp. 6, 12, 20.

sizeable market for ships' provisions in the city. Connected to Nova Scotia's farming zone by rail since the nineteenth century, Halifax became even more accessible to provincial farmers during the 1930's when sections of the main roads connecting Truro and Windsor to Halifax were paved as part of a provincial road improvement programme.¹⁶⁷ We know that farmers in Hants, Colchester and Kings Counties marketed most of their surpluses of milk and cream in Halifax, and that farmers from the mixed farming belt transported a wider range of products to Halifax on a seasonal basis. But we can accurately measure only the quantity of meat and livestock marketed in Halifax in the 1940s because a 1947 marketing survey focussed specifically on the supply of these products.¹⁶⁸

Based on interviews with 112 of the city's 200 or so wholesalers and retailers of meat, Department of Agriculture investigators concluded that provincial farmers supplied about one-quarter of the total volume of meat consumed in Halifax between 1 September, 1947 and 31 August, 1948.¹⁶⁹ The bulk of this meat was supplied by "country dealers" who purchased the meat at the farmstead and delivered fresh carcasses directly to the packing houses, butchers, hotels, restaurants, public institutions and grocery stores in motor trucks. A handful of Halifax merchants also purchased livestock on a regular basis directly from farmers and had the animals killed in a local slaughtering house.¹⁷⁰ Few merchants canvassed the countryside to buy livestock or carcass meat; as investigators noted, "almost all sales are made on delivery in the city or by previously arranged verbal contracts".¹⁷¹ As in Sydney, almost half of the 23,000,000 lbs of meat marketed in

¹⁶⁷ Bird, "History of the Highways of Nova Scotia", pp. 137-8; 141.

¹⁶⁸ Way and Reid, The Market for Meats in Halifax, Nova Scotia, 1947-48.

¹⁶⁹ Ibid., pp. 4-5.

¹⁷⁰ Ibid.

¹⁷¹ Ibid.

Halifax (worth almost \$7,000,000 at wholesale prices), consisted of beef, most of which was produced on Western Canadian ranches; pork constituted 35 per cent of the total, two-thirds of which was supplied by packing houses from outside the province (Table 6-12). The only dressed meats supplied principally by Nova Scotian farmers were lamb, veal and poultry (which collectively comprised 18 per cent of the total). Ninety per cent of the poultry (worth \$840,000), three-quarters of the veal (worth \$218,000) and 70 per cent of the lamb (valued at \$418,000) was supplied by Nova Scotian farmers. With the exception of the lamb, which came mainly from the eastern counties of Antigonish and Inverness, the bulk of this meat was produced in the central dairy belt and in the fruit belt.¹⁷²

The manner in which local farm products were disposed of in all three of these domestic markets varied, depending upon whether or not the family's farm was situated close enough to an urban area to permit face-to-face interaction with consumers. Dairy farmers whose farms were located in the fringe of these urban areas delivered the bulk of their milk in raw form (ie. unpasteurized) directly to urban customers. Vegetables and other farm products were also made available to customers seasonally, and cream was delivered to nearby creameries and ice cream plants. In 1937 the Sydney market survey determined that 91 farmers delivered more than 2,300,000 quarts of unpasteurized milk directly to urban customers (an average of 71 quarts per farmer per day). This represented slightly more than half of the estimated total volume of milk marketed in Sydney in that year. The six small dairy companies located in Sydney, which operated pasteurizing plants, delivered an additional 2,200,000 quarts to urban customers.¹⁷³ These plants

¹⁷² For monthly data on the supply of meat and livestock to Halifax wholesalers and retailers see *Ibid.*, Appendix A.

¹⁷³ Reid and Hopper, The Market for Farm Products in the Sydney Area of Nova Scotia, pp. 57-8.

Table 6-12
Meats Marketed in Halifax, By Volume, Value and Type, 1947-1948

| Meats | Raised in Nova Scotia (lbs.) | Raised in Other Provinces (lbs.) | Total (lbs.) | Value | Livestock Equivalents* |
|--------------|---|---|-------------------------|--------------------|-----------------------------------|
| Beef | 1,180,000 | 9,412,000 | 10,592,000 | \$2,951,000 | 23,000 |
| Veal | 704,000 | 229,000 | 933,000 | \$218,000 | 54,800 |
| Pork | 2,762,000 | 5,187,000 | 7,949,000 | \$2,468,000 | 12,000 |
| Lamb | 781,000 | 425,000 | 1,206,000 | \$418,000 | 33,500 |
| Poultry | 2,052,000 | 277,000 | 2,329,000 | \$840,000 | 18,632 |
| Total | 7,429,000 | 15,530,000 | 23,009,000 | \$6,895,000 | 141,932 |

Calculated from the following average dressed weights: beef 460 lbs., veal 78 lbs., pork, 145 lbs., lambs 35 lbs. and poultry 2.5 lbs. 1 livestock unit equals 50 poultry.

Source: Way and Reid, The Market for Meats in Halifax, Nova Scotia, 1947-48, pp. 5, 12, 17.

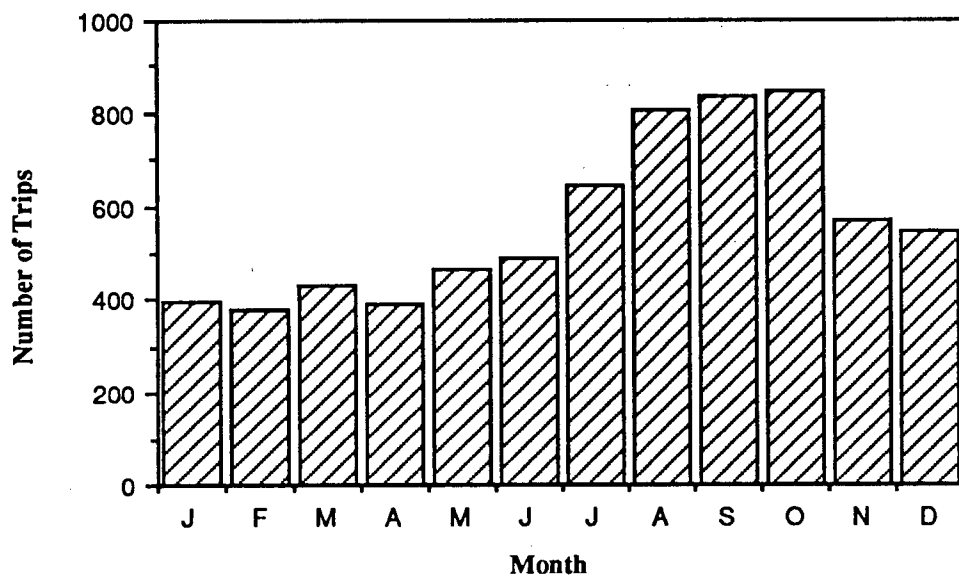
depended, for the most part, upon milk shipped by rail or delivered to the plants in trucks from beyond the urban fringe of the city.¹⁷⁴

For those whose farms were outside of the urban shadow of these market centres the marketing of farm produce was more formal than the pattern described above. In general, as distance from the urban areas increased, local merchants, country truckers and city wholesalers acted as intermediaries between farmers and consumers. Thus these farmers sold the bulk of their milk at wholesale rather than retail prices, vegetables and other products (live animals, pork, beef and lamb) were commercially more important than on farms close to the urban areas and direct marketing trips to the urban areas were more seasonal than regular. The 1937 Sydney market survey determined that 140 families in Cape Breton County, whose farms were located beyond a 12 mile radius of the city, came to Sydney, on average, between 2 and 3 times a month to market farm produce (Figure 6-13).¹⁷⁵ The frequency of marketing increased during the harvest months of August, September and October when the families investigated averaged between 5 and 6 trips a month. If the farm was located near the Canadian National Rail line, that connected Port Hawkesbury to Sydney (via Orangedale, Iona, Grand Narrows and Boisdale), milk could be shipped every morning by train to one of Sydney's dairy plants. A clear majority of the families whose farms were located outside of Sydney's urban fringe owned a motor vehicle. Only 36 of the 140 families surveyed used a horse and wagon to travel to Sydney (26 per cent). More than half of the families used either a truck (30 per cent) or a car (31

¹⁷⁴ Some of the 91 farmers with regular milk routes in industrial Cape Breton delivered the surplus remaining after regular customers were served to these dairy companies. But the amount of milk supplied by dairy farmers in the urban shadow of Sydney to these dairy companies represented only a tiny fraction of the milk marketed by this group (less than one-sixth of the total) *Ibid.*, pp. 61-3.

¹⁷⁵ *Ibid.* p. 90.

Figure 6-13, Marketing Trips to Sydney By 140 Farmers, 1937



per cent); the remaining families marketed all surpluses (except for milk and cream) through country merchants and "itinerant truckers".¹⁷⁶

Export Markets

Although the domestic markets of the province remained the most important outlets for provincial farm surpluses, Nova Scotian farmers continued to contribute significantly to provincial exports through to the 1940s. In 1937 livestock, butter, fruit, vegetables and salt pork and beef exported from Nova Scotia was collectively worth an estimated \$16,500,000, three times the value of products sold in industrial Cape Breton in the same year.¹⁷⁷ This represented slightly more than one-third the total value of provincial exports in 1937 (\$47,000,000).¹⁷⁸ Most of these products were exported to Great Britain and its colonial holdings (Newfoundland and the British West Indies). In contrast to the nineteenth century, when exports were shipped from numerous ports scattered around the perimeter of the province, the bulk of this trade was concentrated in Halifax, Pictou and Sydney. Smaller centres forwarded goods to these ports by rail or by vessel for transshipment to ocean-going steamers.

Agriculture's share of total provincial exports began to decline in the 1940s, and especially after the war. Within a decade and a half of the 1937 survey of provincial exports, agriculture's share of total exports dropped to less than 10 per cent.¹⁷⁹ With a growing domestic market, a declining agricultural base, and renewed agricultural production in British and European farming regions (which had been thrown into chaos

¹⁷⁶ *Ibid.*, p. 91.

¹⁷⁷ John F. Earl, *A Study of Nova Scotia Exports, 1937-63* (Halifax: Department of Finance and Economics, Nova Scotia Voluntary Planning Board, 1966), p. 37.

¹⁷⁸ Agriculture's large share of provincial exports in 1937 reflects the relatively depressed state of the Province's traditional exports during the Great Depression (lumber, fish and coal). *Ibid.*

¹⁷⁹ *Ibid.*, p. 35.

during the Second World War), Nova Scotian agricultural products were no longer as competitive as they once were in the British market. In 1937 Britain received 85 per cent of all of the food exported from Nova Scotia; fifteen years later the British Isles received less than one-fifth of the province's agricultural exports (valued at \$8,200,000).¹⁸⁰ The West Indies, the destination of about 10 per cent of provincial agricultural exports in 1937, was the province's most important foreign market for food in 1952, receiving 41 per cent of Nova Scotia's agricultural exports.¹⁸¹ Merchants in the United States and in several Central and South American countries also purchased a larger proportion of Nova Scotia's agricultural exports in 1952 than in 1937.¹⁸² This shift away from the British market in the 1940's reflected a general trend in Canada's foreign trade in agricultural products after the War.¹⁸³

Butter, cattle, fruit, potatoes and vegetables were the principal farm products exported from Nova Scotia in 1952. As in the nineteenth century little in the way of provincial farm surpluses were sold in Ontario or Quebec. Farm products comprised less than 1 per cent of the total tonnage of goods loaded on rail cars in Nova Scotia for shipment out of the province in 1949, and railway statistics clearly indicate that there was a net movement of agricultural products from Central and Western Canada to Nova Scotia

¹⁸⁰ Ibid.

¹⁸¹ Agricultural exports to the West Indian islands were valued at more than \$3.3 million in 1952. Ibid.

¹⁸² Agricultural exports to the United States almost doubled between 1937 and 1952 (from \$356,000 to \$601,000); those to Central and South American countries grew from a value of a few thousand dollars in 1937 to more than \$1,000,000 in 1952 (or 15 per cent of total trade). Ibid.

¹⁸³ Drummond and MacKenzie, Progress and Prospects of Canadian Agriculture, pp. 52-60. This spatial pattern of export destinations for Nova Scotian foodstuffs persists to the present, even though the value of agricultural exports has declined in relative terms. See Nova Scotia Department of Development, Nova Scotia Resource Atlas (Halifax: Government Printer, 1986), pp. 72-3.

throughout the 1930's and 40's.¹⁸⁴ Only rail shipments of potatoes, apples and cattle to other provinces periodically exceeded the amounts of these products unloaded at provincial railway stations from elsewhere in Canada between 1935 and 1954.¹⁸⁵

Summary

In the face of steady farmland abandonment and rural outmigration, a sizeable group of farm families successfully adapted their farms to the changed circumstances of the twentieth century. In the central and eastern dairy belts farmers acquired equipment and machinery which successfully enabled them to retain a competitive edge in domestic markets despite competition from distant, often better endowed agricultural regions, in almost every branch of agriculture. The rapid adoption of the cream separator on dairy farms from the 1920's on enabled farmers to supply fresh cream to creameries much more economically than had been the case in the 1890's. In the same manner, the acquisition of modern refrigeration equipment by the province's creameries during the same period led to the production of ice cream, which found a ready market in the province's urban centres, as butter from specialty dairying districts in New Brunswick and Ontario entered local markets at a price lower than that of Nova Scotian butter. Farm families in the fruit belt turned their attention to a variety of products which found a niche in the province's domestic markets when the British market for apples, which closed during the Second World War, did not rebound during the post-war period -- cream, poultry, eggs, market garden vegetables, strawberries, pork and veal. Similar adjustments were made in the mixed farming belt, where dairy farms specializing in fluid milk or cream emerged in the fringes of urban areas and around the 10 creameries scattered across this zone. Those distant from local markets

¹⁸⁴ J. P. Cairns, A Statistical Summary of Agricultural Rail Traffic in Canada, 1946-54 (Guelph: Department of Agricultural Economics, 1954), pp. 9, 67-93. Coal accounted for 75 per cent of the rail traffic departing Nova Scotia in 1949, manufactured products comprised 18 per cent, forest products (shingles, lumber, and pulp wood) 6 per cent, and fish, .2 per cent.

¹⁸⁵ Ibid., pp. 76-77; 81; 123.

in this zone continued to emphasize products that could withstand long-distance transport (cattle, sheep, wool, market garden vegetables, hay and wood products), and they were generally more dependent on export markets than farms elsewhere in the farming zone. In general, dairying, fruit farming, poultry raising and market garden production expanded rapidly between 1891 and 1941 while the production of grains, beef, lamb, pork and potatoes -- all significant commercial products in the nineteenth century -- declined in relative importance.

Although provincial farms were, in general, more specialized and capital intensive in the 1940's than in the nineteenth century, they were fewer in number by almost half. Many of the 30,000 farms which disappeared from census enumerator's schedules between 1891 and 1941 (about half of which were located in the farming zone) were discernible only by the stands of white spruce which replaced formerly cultivated fields, and the gooseberry and currant bushes which persisted long after abandonment took place. Stone walls of field stone still visible amid the trees marked the perimeter of once productive fields, sunken foundations and rusting pieces of farm equipment demarcated the locations of former farmsteads, and markerless grave mounds documented the unrecorded history of pioneer families. With improvements to the provincial road system and the diffusion of motor vehicles across Nova Scotia in the 1920's and 30's, many family members discovered that steady work in a nearby town or village was preferable to the physical, repetitive labour associated with working the land. Salaries, rather than the uncertain returns which could be gleaned from the land began to support rural households, and a large number of farmsteads were gradually transformed into rural residences for urban workers. Overgrown pasture land, unused barns (ie. no manure pile at the back), and tiny kitchen gardens were landscape features of these farms. But, because neighbours still working the land were often willing to "make the hay" on adjoining fields to reduce their off-farm purchases of feed grains and hay, meadows on these properties looked surprisingly well-kept and free of weeds and seedlings. Idle fields were also sometimes

rented to a nearby farmer who, with tractor-powered machinery, could harvest more grain and hay than had been the case when horse drawn equipment was in use.

In the backland districts of every county and in large sections of the fishing zone idle or abandoned farms outnumbered those which remained productive. Because most of the merchantable timber in these districts had been cut over at least once during the century under investigation, the opportunities for supplementary employment in the province's woods industries by the 1940's was severely restricted. Remaining small spruce trees were cut for pit props and pulpwood in some areas, and work was sometimes available at a portable saw mill; but the work was always temporary and difficult, and the pay was short.¹⁸⁶ Along the fertile valley bottoms of the farming zone, in contrast, there were fewer abandoned farms than in the backland and coastal districts. Well-kept, productive farms dominated the agrarian landscape. Silos, tractors, modern machinery and motor vehicles were landscape features of these farms, many of which remained in the hands of ancestors of original settlers, like the Smith's Brookland farm in Brookfield, Colchester County.¹⁸⁷ Others were occupied by war veterans who had taken advantage of the federal "Soldier Settlement Act" to obtain a farm upon their return to civilian life.¹⁸⁸ A smaller number were being worked by families of various European backgrounds who, after escaping war-torn Europe, had taken advantage of financial assistance provided by the

¹⁸⁶ Wage rates in Nova Scotia's lumber camps in the 1930's averaged around \$1.00 per day, including board. Johnson, Forests of Nova Scotia, p. 259.

¹⁸⁷ Kinsman's, Colchester County Century Farms documents 50 farms in the central dairy belt still in this category in 1979.

¹⁸⁸ In 1919 three hundred farms in Nova Scotia were purchased by war veterans using capital provided by the Soldier Settlement Board. Department of the Interior, The Resources of Nova Scotia, 1920 (Ottawa: Thomas Mulvey, 1921), pp. 44-45. The same service was supplied to veterans of World War Two by the Veterans' Land Act Administration. See Drummond and Mac Kenzie, Progress and Prospects of Canadian Agriculture, pp. 118-20 for a discussion of the role of this government department in stimulating farm settlement across the country during the 1940's.

Nova Scotia Land Settlement Board to purchase an established farm in the province.¹⁸⁹ These farms formed the backbone of the province's agricultural sector in the 1940's.

'Sentimental farms', however, could be also seen in every district of the farming, fishing and lumbering zones. With no heir to take over the working of the land from aging parents, many of these farms had reverted to rural retirement residences, on which perhaps a cow or two and a horse were kept. Gardening and farm chores (or a few days of hunting and fishing during those seasons) helped to fill the time of elderly occupants. Weekly trips to the nearest church and store maintained relationships with friends and acquaintances and marked the passing of time. When the aged occupants of these farms finally passed away their farms were advertized for sale by sons and daughters with mailing addresses in Halifax, New Glasgow and Sydney (or farther away in Massachusetts, Idaho and California).¹⁹⁰ If they remained unsold, they were used as summer residences, where cousins from distant metropolitan centres became acquainted with the people and places of their parent's youth. In time, many reverted once again, after several generations of use, to forest.

¹⁸⁹ The Nova Scotia Land Settlement Board was established in the 1930's to attract immigrants and young farmers to Nova Scotia's declining agricultural districts. *Ibid.*, pp. 122-23.

¹⁹⁰ Several of the owners advertizing farms for sale in a provincial pamphlet published in 1940 listed addresses in the Canadian West and the United States. Province of Nova Scotia, List of Farms for Sale, pp. 1-44.

Chapter 7. Conclusions and Wider Implications

This study has documented enormous changes in the geography of Nova Scotian agriculture between 1851 and 1951. Mid-nineteenth century Nova Scotia was a rural society; more than three-quarters of its 300,000 inhabitants lived on farms. Their lives were closely circumscribed by the family, the rural community and the seasonal round of agricultural activities. A century later, urbanization and industrialization had transformed much of Nova Scotia. Railroads and highways crisscrossed the province, almost half of the population lived in towns or cities, and twice as many people in rural areas were employed in non-farm occupations as were actually working the land. In 1951 farm families comprised less than 20 per cent of Nova Scotia's 642,000 people; three-quarters of the province's labour force was employed in mining, manufacturing, trade (ie. retailing and transportation) and other tertiary sector occupations. Those who continued to earn their livings from the land operated larger, more capital-intensive farms than all but a handful of their nineteenth century counterparts, and, in general, they were overwhelmingly oriented towards supplying provincial needs. Abandoned and idle farms were visible in most districts, but they were concentrated in the fishing and lumbering zones, and in backland areas of the farming zone, distant from local markets. In extreme cases there was little or no evidence of agricultural settlement remaining in the landscape. Commercial farming was concentrated in central and western Nova Scotia where some of the most suitable areas for agriculture in the province were found (the Annapolis-Cornwallis valley, the Shubenacadie and Stewiacke river valleys). In these areas, tractors had replaced horse-drawn equipment on many farms, motor vehicles were used for transporting goods to railway stations, or directly to local markets, and chemical fertilizers, ensilage and pesticide sprays had been introduced. Many of these farm families were dependent upon a wide array of goods produced outside the region that, in the mid-nineteenth century, would have been acquired in the local area (ie. farm implements and machinery, feed grains, clothing and household articles) In short, rural Nova Scotia was

more fully integrated into the wider, continental economy of North America than in the nineteenth century, and its patterns of settlement and economic activities had been reshaped.

In the mid-nineteenth century pre-industrial tools and modes of transport prevailed. Sales of butter, meat, potatoes, grains, and livestock to domestic markets and to neighbouring colonies (whose economies turned on fish and timber) allowed some families to prosper and others to maintain a "comfortable subsistence".¹ Others survived only by combining farming with regular work in the woods, in the fishery, on neighbouring farms or in distant labour markets. For these families "occupational pluralism" was a way of life.² In all, variations in size, productivity, market orientation and crop and livestock mix among Nova Scotia's farms were considerable.

At the most general level these were reflected in the differences among three settlement zones -- fishing, lumbering and farming -- identified in chapter four. They alone illustrate that the rough equality of condition discerned by some historians and geographers of mid-nineteenth century rural Nova Scotia was far from reality.³ In the fishing zone, for

¹ This term has been defined as acquiring sufficient means for living comfortably; it involves "more than subsistence" and includes "making a profit in at least some endeavors ... in order to acquire a comfortable standard of living". For a fuller explanation of the concept see Andrew Baker and Holly Patterson, "Farmers' Adaptations to Markets in Early Nineteenth century Massachusetts", in The Farm: Annual Proceedings of the Dublin Seminar for New England Folklife, 1986, ed., Peter Benes, (Boston: Boston University, 1988), pp. 96-97; and Sarah McMahon, "A Comfortable Subsistence: The Changing Composition of Diet in Rural New England, 1620-1840", The William and Mary Quarterly 92, 1 (1985), pp. 26-27.

² L. D. McCann, "Living the Double Life: Town and Country in the Industrialization of the Maritimes", in Geographical Perspectives on the Maritime Provinces, ed., D. Day (Halifax: Saint Mary's University, 1988), pp. 93-113; and Andrew Stewart, Part-time Farming in Nova Scotia (Halifax: Dalhousie University Institute of Public Affairs, 1944).

³ Neil MacNeil, The Highland Heart in Nova Scotia (New York: Charles Scribner's Sons, 1948, Saunders of Toronto, 1971), pp. 52-72; D. Campbell and R. A. MacLean, Beyond the Atlantic Roar: A Study of the Nova Scotia Scots (Toronto: McClelland and Stewart Ltd., 1974), pp. 62-65; John Warkentin, "The Atlantic Region", in Canada Before Confederation: A Study in Historical Geography, eds., R.C. Harris and John Warkentin (Toronto: Oxford University Press, 1974), pp. 193-96; 200-05.

example, most districts along the Atlantic coast failed to produce enough food to feed their populations. Only in Lunenburg County, where a fertile drumlin field and proximity to the Halifax market stimulated the establishment of larger farms, and along the Fundy and Northumberland Shores, where climate and soils were more conducive to agriculture, did many family farms produce more than subsistence requirements. Farms in the lumbering zone were generally larger than those in the fishing zone, not least because the lumbering season cut across the summer peak of agricultural activity less severely than did that of the fishery. In addition, most districts of the lumbering zone were well protected from the winds and fogs of the Atlantic because of their interior locations. It was also cheaper to outfit a lumbering venture than it was to establish oneself in the fishery. Yet farming remained supplementary to forestry across Nova Scotia's lumbering zone. Timber and lumber sales provided much of the cash to maintain even those farms that produced regular agricultural surpluses.

The bulk of mid-nineteenth century Nova Scotia's agricultural surpluses came from the northern half of the colony, from Kings, Annapolis and Cumberland Counties in the west to Inverness, Victoria and Cape Breton Counties in the east. Although the emphasis on hay and livestock production was general, there were a few nodes of specialty production. At the eastern end of the Annapolis-Cornwallis valley several hundred families concentrated on potato production. Schooners chartered by farmers and merchants from the area carried cargoes of potatoes and smaller amounts of other farm products to the growing industrial towns of New England. Elsewhere in the valley, families produced livestock, butter, and fruit for shipment across the Bay of Fundy to the growing urban market of Saint John, New Brunswick. In several districts within a dozen miles or so of the Northumberland Strait, families grew more grain, and especially wheat, than elsewhere in Nova Scotia. The towns of Pictou and New Glasgow, the former with six small breweries, a sizeable shipbuilding enterprise, and an array of commercial functions, and the latter with mines and foundries, created a significant local market for farm produce in the

central part of this zone. So too did the timber camps and port towns of northern New Brunswick, and St John's, Newfoundland (the organizational centre for the Newfoundland cod fishery), which took cattle, sheep, salt meat, butter, oats and hay from this area. In eastern Cape Breton most farms were smaller and less productive than those in western Cape Breton and the mainland. Parts of their generally smaller surpluses of livestock, barrelled meat and butter were also exported, although towns and mining villages developing around Sydney Harbour created a small domestic market for foodstuffs.

Within the farming zone variations in output were as large as those between this zone and the colony's fishing and lumbering districts. The size, scale and commercial orientation of farms varied enormously in every rural district. If Hardwood Hill (Pictou County) is broadly representative, then a sizeable minority of families in every farming district (25 to 30 per cent) failed to support themselves from their land holdings, even though most of them kept a cow or two and cultivated at least a handful of acres. The heads of these households included several craftsmen who plied their trade in the countryside -- blacksmiths, wheelwrights, tanners, furniture makers, shoemakers, agricultural implement producers. But a clear majority of them had no obvious source of income beyond their stock and fields. They supported their families by accepting employment on neighbouring farms when it was available (wool carding, carting, land clearing, harvest labour and house and barn construction), by working in the woods, or in a nearby mine or shipyard, and, when circumstances made it necessary, by accepting "poor relief" from the colonial government.⁴ Some obtained employment in distant centres for part of the year and returned to attend to their crops in the spring. Their farms generally

⁴ Robert J. Morgan, "'Poverty, Wretchedness, and Misery': The Great Famine in Cape Breton, 1845-51", *Nova Scotia Historical Review*, 6, 1 (1986), pp. 88-104; Stephen J. Hornsby, "An Historical Geography of Cape Breton Island in the Nineteenth Century", Ph.D. Thesis, The University of British Columbia, 1986, pp. 175-90.

had fewer than 15 acres of improved land. Most of them depended upon food purchased from local merchants or acquired directly from neighbouring farmers.

Farm families with between 16 and 30 acres of improved land probably comprised half of all of those who owned land in the farming zone. They devoted larger acreages to hay, oats, potatoes and grains, and kept far more livestock than those families with fewer than 15 acres improved. Their farms provided meat, milk, cereals and vegetables for family consumption; surpluses entered domestic and export markets. In some years a number of these families fell short of meeting their subsistence requirements from their farms, due perhaps to an exceptionally short growing season, a long-term illness, or some unexpected family obligation. But, through reciprocal exchanges, occasional off-farm employment and the extension of credit by the local merchant beyond the normal repayment period, the majority of these families were able to get by from year to year, and most achieved what has been described as "a modest competence".⁵ Families with farms in this size range were "neither haunted by the spectre of starvation that shadowed their poorest neighbours" nor advantaged by the substantial "profits that came to the truly productive farmers of their district".⁶

Most remaining farms in Nova Scotia's farming zone had between 31 and 60 acres improved. Only a handful of farms in every district had more than 60 acres of improved land. A much larger proportion of farm land on these operations was devoted to hay, oats and pasture than on farms below this threshold, reflecting the much larger herds of cattle and sheep on these farms than on the smaller operations.⁷ As a consequence, the

⁵ Rusty Bittermann, Robert MacKinnon and Graeme Wynn, "Of Inequality and Interdependence in the Nova Scotian Countryside, 1850-1870", Paper Presented at the Atlantic Canada Studies Conference, University of Maine at Orono, May, 1990, p. 41.

⁶ *Ibid.*, pp. 41-42.

⁷ In Hardwood Hill, for example, the 41 farms with between 31 and 60 acres of improved land averaged 28 acres of field crops (hay, grains, vegetables), 13 cattle, 13 sheep, 4 swine and 2 horses. Census of Nova Scotia, 1851, RG1, Vol. 453, PANS.

employment of labourers, especially at harvest time, was a feature that distinguished many of these farms from those with fewer than 30 improved acres. The Murray's New Rhynie farm, of Hardwood Hill, was probably typical of the small group of substantial farms in every rural district in Nova Scotia in that non-family members were employed at a variety of tasks throughout the year (hay making, grain threshing, weaving, domestic chores). These farms, most of which contained some good bottom land (intervale land) or marsh land, had a much greater commercial potential than those below this threshold, and profits from farm sales allowed families to invest in horse-drawn mowers, rakes and harrows, to experiment with crop rotations, and to speculate in land. The largest farms in this group -- those with between 75 and 90 acres of improved land -- were comparable in scale and output to the largest farms in eastern North America in the mid-nineteenth century.⁸ Recent research on the agricultural history of New Brunswick suggests that this considerable diversity in Nova Scotia's farming zone also characterized many of New Brunswick's agricultural districts.⁹

During the second half of the nineteenth century the number of farms in Nova Scotia grew more quickly than did the provincial population. In 1891 there were twice as many farms in Nova Scotia (60,122) as in 1851; the extent of improved land (1,993,697 acres) was 240 per cent that of 1851. As in 1851 Nova Scotia's farms contributed approximately the same value to provincial exports as forestry, even though the value of

⁸ The 7 farms in Hardwood Hill with between 61 and 90 improved acres of land averaged 38 acres of field crops, 15 cattle, 14 sheep, 4 swine and 2 horses. Compare farms described in Clarence H. Danhof, "The Farm Enterprise: The Northern United States, 1820-1860s", Research in Economic History 4 (1979), pp. 127-91; Fred Bateman, "The Marketable Surplus in Northern Dairy farming: New Evidence By Size of Farm in 1860", Agricultural History 52, 3 (1978), pp. 345-63; and Peter Russell, "Upper Canada: A Poor Man's Country? Some Statistical Evidence", Canadian Papers in Rural History 3 (1982), pp. 129-47.

⁹ T. W. Acheson, "New Brunswick Agriculture on the Eve of Confederation: An Assessment", Paper Presented to the Economic History of Atlantic Canada Workshop, Halifax, September, 1990.

exports was up considerably. In addition, an 1891 urban population of 80,000, three times that of forty years before, provided a larger domestic market for locally produced foodstuffs. In the fishing and lumbering zones agricultural clearings grew considerably during the second half of the nineteenth century and in 1891 families were much more self-sufficient in agricultural products than they had been in 1851. Yet, except in those districts with mines or wood-working factories -- which led to the growth of small concentrations of non-farm families in relatively isolated districts -- surpluses were rare in the fishing and lumbering zones. Most parts of these zones remained dependent upon food produced elsewhere in Nova Scotia or beyond the boundaries of the province.

In Nova Scotia's farming zone, mixed livestock farming continued to dominate during the late nineteenth century. By 1891 there were new specialty production subregions. Farmers in the Annapolis-Cornwallis Valley continued to ship potatoes and other farm products to Halifax, Saint John and Boston and vicinity, but in the 1890s apples were the staple agricultural product of the region, largely as a result of reductions in the time and cost of trans-Atlantic shipping. They were shipped almost entirely to the large, urban markets of London and Liverpool, England. In central Nova Scotia (Hants and Colchester Counties), a railroad link to Halifax had tied families to that urban centre of 40,000 people. Farms in areas accessible to the rail line specialized in fluid milk for shipment to Halifax on a daily train. Those more remote placed a greater emphasis on livestock, dressed meat and butter, products that could withstand wagon transport over rough country roads. In Cumberland, north Colchester, Pictou, Antigonish and Inverness, to the north and east, grain production had declined in relative importance since 1851, and mixed livestock farming, dependent upon imported fodder grains, and emphasizing a range of products, but especially cattle, sheep, butter, cheese and meat, prevailed. The diffusion of cheese factories throughout this region in the 1870s and 80s created limited local markets for fresh milk at several nodes, especially in Antigonish and Pictou Counties, but the small scale of these enterprises, their seasonal operation, and their limited capital returns

effectively constrained the development of specialty dairying in this zone. Only near the industrial towns of this region, which had grown rapidly after the completion of the Intercolonial Railroad in 1876 and the implementation of the National Tariff Policy in 1879, were there small, specialty dairying zones in which farms concentrated, almost entirely, on milk and market garden production.

Change quickened after the turn of the century, when the number of farms in the province fell from 60,122 (in 1891) to 47,432 in 1921, to 32,977 in 1941. By 1951 there were only 23,515 working farms in Nova Scotia. This total was 25 per cent below that of 1851, and there was 20 per cent less improved land than 100 years before. In 1951 perhaps half of all Nova Scotia's farms were part-time or semi-subsistence operations. Their owners combined small-scale agricultural production with regular off-farm work, including fishing, lumbering and employment in the province's industrial and service sectors (which had grown considerably in relative terms since 1891). Others, old men with no heirs inclined to take over their properties, ran "sentimental farms".¹⁰ Only a third of provincial farms were viable commercial operations. Most of these were far more specialized and capital-intensive than all but a handful of Nova Scotia's nineteenth century farms. The predominance of marginal operations meant that provincial levels of capital invested in farm equipment and machinery were considerably lower in Nova Scotia than in Ontario and Quebec. This fact has often been used to argue that Nova Scotian farmers failed to adopt modern methods of agricultural production. But, as the Royal Commission on Canada's Economic Prospects heard in 1957, "if it was statistically possible to make a separate calculation of the strictly commercial farms [in Nova Scotia and New Brunswick], it might well be found that the degree of mechanization on these farms is fairly comparable

¹⁰ Donald A. Grant, "Land Use in Pictou County", M.A. Thesis, Acadia University, 1951, p. 110.

to that found in other parts of the country".¹¹ Indeed, in 1951 more than half of the province's farm families owned a motor vehicle, more than 70 per cent of them were utilizing electric power in their houses and barns, and, in some of the most commercial farming districts (the fruit and dairy belts), tractor-farm ratios were comparable to those in many commercial farming districts in the eastern United States.

Still, the relative proportion of farm families in the provincial population was down significantly. In 1951 they accounted for less than a fifth of Nova Scotia's 642,000 people. Almost half the province's inhabitants (300,000 people) were urban residents; another 200,000 lived in rural areas, but made their livings working in the industrial and service sectors of nearby towns and villages. Among the latter were many who had quit farming but not their farms.¹² Others were newcomers to the fringes of the province's larger towns. Together, they helped support "rural schools, cooperative stores, credit unions and all other community organizations", and enhanced local markets for farm surpluses.¹³ But there was no mistaking the fact that an urban, industrial society had been superimposed on a rural agrarian one, and rural outmigration, farmland abandonment and urban growth were the corollaries of this process.

Farmland abandonment and agricultural decline were most extreme in the fishing and lumbering zones, where resource depletion and scale changes had reduced employment to a fraction of late nineteenth century levels. As small mines, sawmills and woodworking factories closed, as fish prices dropped, and as catches declined in districts marked by

¹¹ W. M. Drummond and W. MacKenzie, Progress and Prospects of Canadian Agriculture: Royal Commission on Canada's Economic Prospects (Ottawa: King's Printer, 1957), p. 152.

¹² In their survey of rural conditions in eastern Nova Scotia Walter Kontak and Stephen MacKinnon noted that "while continuing to live on their farms" many of those who had quit farming continued to make "a good living", by combining urban employment and rural living; A Survey of Agriculture in Eastern Nova Scotia, 1871-1956 (Antigonish: Eastern Cooperative Services, 1958), p. 6c.

¹³ Ibid., p. 6d.

subsistence agriculture or hardscrabble commercial farming in the nineteenth century -- such as along the 'southern and eastern shores' of the fishing zone and in the eastern portion of the lumbering zone -- outmigration reached epidemic levels. Those families that remained in these districts in the 1940s produced far less food than their nineteenth century counterparts. Only a few areas well suited to agriculture and well connected to markets by rail or highway avoided massive decline in agricultural population through to the 1940s. Among them were several coastal districts along the Northumberland Strait (where livestock and crop production per family increased between 1891 and 1941) and the Musquodoboit Valley (where livestock numbers increased significantly after a rail link to the capital was established in 1905).

Outmigration and farmland abandonment took place in the farming zone too. But, overall, field crop and livestock production declined at a much slower rate than did farmland abandonment, and those who continued to work the land generally devoted more land to field crops and kept more livestock than their nineteenth century counterparts. Farm abandonment was heaviest in the farming districts of Antigonish and Inverness Counties, and especially in some of the backland districts of Cape Breton Island where thin soils, and distance from urban centres, placed farm families at a disadvantage because they could not compete as efficiently in the growing domestic markets of the province as farmers in more fertile and productive agricultural districts. There were proportionately more "sentimental" and idle farms in these districts than elsewhere in the farming zone. In some cases the fields on these farms were simply too hilly, stony and ill-shaped "to permit the efficient use of mechanical equipment and labour"; in others, their small size "placed them below the competitive margin" of commercial production.¹⁴ In these circumstances, the special settlement provisions and general agricultural potential of western Canada appeared

¹⁴ Drummond and MacKenzie, Progress and Prospects of Canadian Agriculture: Royal Commission on Canada's Economic Prospects, p. 145.

attractive to some families; for others "the unusual opportunities for obtaining relatively remunerative non-agricultural employment" in near and distant urban centres drew them away from the land.¹⁵ Those who remained behind in these areas continued to work the land in a limited way in an effort to produce at least some of the staple food products that a family required (milk, meat, vegetables). But, more often than not, off-farm income from a variety of sources greatly exceeded any financial returns gleaned from the farm. The exchanging of labour, the bartering of foodstuffs and services, and other "adaptive strategies", including, the cutting of pulpwood, working at construction sites in the area, and forays to nearby urban centres for industrial or service sector employment, were more prevalent among these families than among those in more productive agricultural districts.¹⁶ Yet, at times, poverty was inescapable, and, when regular periods of unemployment stretched longer than usual, outmigration resulted. The signs of marginal farming and occupational pluralism remain clearly visible in these, and other backland districts of Nova Scotia's farming zone to this day -- "school buses parked alongside farmsteads; ... appliance servicemen who also farm";¹⁷ and "pulpwood ... corded up along the shoulders of the road".¹⁸

After 1900 commercial farm production was more heavily concentrated in the fruit and dairy belts of central and western Nova Scotia than in the late nineteenth century. Although farm numbers declined, those who continued to make their living from the land

¹⁵ *Ibid.*, p. 146.

¹⁶ For a discussion of the "adaptive strategies" of several families in a relatively isolated Cape Breton farming area between the 1940s and the 1970s see Peter J. DeVries and Georgina Macnab-DeVries, *They Farmed Among Other Things*, (Sydney: University College of Cape Breton Press, 1983), pp. 4-17.

¹⁷ Graeme Wynn, "The Maritimes: The Geography of Fragmentation and Underdevelopment", in *Heartland and Hinterland: A Geography of Canada*, ed. L. D. McCann (Scarborough, Ontario: Prentice-Hall Inc., 1987), p. 181.

¹⁸ Charles Bruce, *The Township of Time: A Chronicle* (Toronto: McClelland and Stewart, 1986), p. 226.

operated larger, more capital-intensive, and more specialized farms than their nineteenth century counterparts. In both of these specialty zones farm families adjusted to changing market and technological conditions. In the fruit belt, where most had emphasized the commercial production of apples for the British market since the 1890s, farmers shifted to the production of milk, eggs, poultry, beef cattle, market garden vegetables, blueberries and strawberries (principally for domestic markets) when the English market for Nova Scotian apples disappeared in the late 1930s. In the central dairy belt, fluid milk remained the most important commercial product in those districts accessible to the Halifax rail line. But, with the rapid diffusion of the centrifugal cream separator after 1910, many farmers produced fresh cream for sale to creameries whose main products were butter and ice cream. Still, sales of livestock, other animal products (eggs, wool, hides), vegetables and grain were not unimportant in this region; collectively these products accounted for about a third of total farm sales in the central dairy belt.

Around the periphery of the central dairy belt, and across the Northumberland Shore counties of Cumberland, Pictou, Antigonish and Inverness, specialty farming was less evident than in the central and western portions of the farming zone. Here many families continued to emphasize mixed livestock farming that included the raising of cattle, sheep and, to a lesser extent, poultry and swine. External markets remained more significant here than elsewhere in the farming zone in the 1940s and 50s. But, some small specialty dairying zones served the developing urban/industrial concentrations in this zone between 1891 and 1941 -- among them, New Glasgow and vicinity, Amherst, Springhill, and Oxford. Thus, this large mixed farming belt produced an array of commercial products, including livestock, meat, butter, wool, oats, vegetables, berries, eggs and wood (timber, deals, pit props and pulp wood) for both domestic and external markets. In 1950 almost a third of the foodstuffs consumed by the 25,000 people of New Glasgow and vicinity, who formed the most important domestic market of the region, came from local farms.

Only in Cape Breton County, where more than 80,000 people lived in Sydney and vicinity, was dairying as important to the regional economy as it was in central Nova Scotia. But a large proportion of the families in this subregion combined commercial farming with work on the coalfield or in the steel mill at Sydney. Farm income estimates indicate that fresh milk and cream, sold directly to urban customers, to one of the several dairy plants located in Sydney, or to the area's single ice cream plant, accounted for 60 per cent of the region's total farm income. These were the only agricultural products supplied entirely by local farmers to this important domestic market.¹⁹ Commercial dairying, however, was confined principally to a zone that extended about 12 miles from Sydney; as distance from the Sydney urban area increased, the sale of livestock, meat, butter, market garden vegetables and forest products accounted for a larger proportion of total family income than in those districts close to the city, and agricultural production declined in intensity. Although most Cape Breton County farms were smaller, and less productive than those in the central dairy belt of Colchester and Hants Counties, a large portion of this subregion of the farming zone had evolved from a predominantly mixed farming area in the nineteenth century into a specialty farming region by the 1940s.

In general, the changing historical geography of crop, livestock production and agricultural trade in Nova Scotia between 1851 and 1951 reveals that agriculture was a far more significant part of the province's developing economy than has often been recognized.²⁰ Indeed, Nova Scotia farmers contributed to colonial and provincial output at

¹⁹ More than a third the vegetables and livestock marketed in Sydney in 1937 came from outside the province, as well as 60 per cent of the eggs, 80 per cent of the grain and almost all of the dressed meat (93 per cent). See chapter 6, Table 6-10.

²⁰ For traditional interpretations see Howard Trueman, Early Agriculture in the Atlantic Provinces (Moncton: The Times Printing Co., 1907); Norman H. Morse, "Agriculture in the Maritime Provinces", Dalhousie Review 39 (1959), pp. 470-84; O. F. G. Sitwell, "The Relationship of the Agricultural Revolution to Economic Development: The Case of Nova Scotia", Albertan Geographer 2 (1965-66), pp. 41-4; and Michael J. Troughton, "From Nodes to Nodes: The Rise and fall of Agricultural Activity in the Maritime Provinces", in Geographical Perspectives on the Maritime Provinces, ed. D. Day (Halifax: Saint Mary's University, 1988), pp. 25-46.

a level similar to that of other sectors of the economy in the second half of the nineteenth century (apart from the fishery), and farm products comprised a substantial proportion of the province's foreign trade until well into the twentieth century. Nova Scotian agriculture did not experience a "prolonged crisis" in the second half of the nineteenth century, though farm production, overall, was probably nearing its capacity by the 1890s as a consequence of the constraints of climate, soils and the small scale of most operations.²¹

Within this matrix, careful examination of the local record (including census data at the subdistrict scale, commercial records, government reports and personal family papers such as farm diaries and accounts) reveals that Nova Scotian farm families were remarkably adaptable to changing circumstances in the late nineteenth and early twentieth centuries. Farm expansion continued while outmigration took place in the nineteenth century, farmers responded quickly to the opening (and closing) of international markets for their commercial products, and, as improvements in transportation facilitated competition from more productive and better endowed agricultural regions than Nova Scotia, farmers increasingly concentrated on the province's developing domestic markets. In 1950, after several decades of outmigration and farmland abandonment, and the rapid rise of interregional competition in agricultural trade, Nova Scotia's farmers supplied approximately one-third of the food (by value) consumed in the province's principal domestic markets. In the same year the net value of agricultural production in Nova Scotia (\$27,257,000) exceeded that of the province's forestry and fishing industries; only the products of mining, manufacturing and the construction trades exceeded those of the farm

²¹ Two recent studies use colony wide and provincial scale data to argue that agricultural decline was a distinguishing characteristic of Nova Scotian throughout the nineteenth century. See Anthony Winson "The Roots of Agrarian Decline: Farming in the Maritimes, 1850-1930", Saint Mary's University, Gorsebrook Research Institute, Working Paper # 7-85, 1985, p. 1 and Julian Gwyn, "A Little Province Like This: The Economy of Nova Scotia Under Stress, 1812-53", Canadian Papers in Rural History, Vol. 6 (1988), pp. 193, 208, 222.

sector in value in 1951.²² By adapting their farm operations to the changed circumstances of the twentieth century, and by concentrating on the region's growing domestic markets, a sizeable group of farming families "held their own", in an increasingly urban society and in an economy in which the benefits of large scale production were gradually undermining small scale family farming.²³

For another large group of families, however, the changing circumstances of the late nineteenth and early twentieth centuries caused disruptions that resulted in both farmland abandonment and outmigration. Between 1891 and 1941, more than 27,000 farms, and 1,000,000 acres of once-productive farmland were abandoned in Nova Scotia, and these trends continued during subsequent decades. This loss of farms and farmland reflects the loss of numerous families from once vibrant rural communities, whose economies depended upon agricultural surpluses sold in nearby village stores and in more distant port towns. In many backland settlements such as Westchester, Cumberland County, the site of 60 or 70 small, "hardscrabble commercial farms" in the mid-nineteenth century, there was little evidence of agricultural settlement remaining in the landscape by the mid-twentieth century.²⁴ Apart from a "driveable dirt road" that wound its way over the Cobequid hills, some "little islands of rubble surrounding old cellars" of houses and barns, and patches of "blueberry land" extending up the slopes of the hillside, there was little physical evidence remaining of this small farming community situated in the heart of

²² R.K. Fletcher, Agriculture and the Atlantic Canada Economy (Fredericton: Atlantic Provinces Economic Council, Pamphlet # 10, 1966), p. 31.

²³ This phrase is taken from the very sensitive historical treatment of the interior settlements of northern Queens's and southern Annapolis Counties between 1800 and 1940, provided by James Morrison and Lawrence Friend, in We Have Held Our Own: The Western Interior of Nova Scotia (Ottawa: National Historic Parks and Sites Branch, Parks Canada, 1981), p. 102.

²⁴ C. H. Sutherland, The Sutherlands of Westchester, Nova Scotia (Agincourt, Ontario: Generation Press Inc., 1986), p. 26.

Cumberland County's lumbering zone.²⁵ The schoolhouse and the church, "had long since disappeared", and only the graveyard remained as a reminder of the district's pioneers.²⁶ Elsewhere in Nova Scotia (and throughout the Maritimes) these same features were visible in many rural areas.²⁷ In one of Cape Breton's backland farming settlements, 30 farms were enumerated at the 1871 census; a century later when anthropologists conducted a survey in the area, nine farms remained, only one of which, "provided the household with a basic source of livelihood".²⁸ Abandoned mill sites, old cellar holes, stone fences visible beneath scrub forest, and small, remote cemeteries stood as mute evidence of the former habitation of these districts. Empty farmhouses were sometimes also visible, with their "doors open, windows broken out by hunters, ... walls ... still upright, ... [and] kitchen floors sagged toward the cellar".²⁹ Alongside abandoned fields, and relict orchards, these landscape features evoked "a funny atmosphere", as David, in Buckler's classic, The Mountain and the Valley, lamented; "it was as if you had stumbled, like children in a fairy tale, on some niche that time itself had wondrously missed".³⁰

These patterns and trends were not exceptional in eastern North America. In Nova Scotia, as in rural New England in the mid-nineteenth century, cattle formed the "backbone

²⁵ Ibid.

²⁶ Ibid.

²⁷ For a New Brunswick example see Graeme Wynn, "A Share of the Necessaries of Life: Remarks on Migration, Development and Dependency in Atlantic Canada", in Beyond Anger and Longing: Community and Development in Atlantic Canada, ed., Berkeley Fleming (Fredericton: Acadiensis Press, 1988), pp. 17-52.

²⁸ DeVries and Macnab-DeVries, They farmed Among Other Things, p. 4.

²⁹ Ernest Buckler, The Mountain and the Valley (McClelland and Stewart, 1952, 1970), p. 253.

³⁰ Ibid., p. 254.

[foundation] of the economy", not wheat.³¹ And, as new evidence on the types of products that entered Ontario's internal economy in the mid-nineteenth century indicate, the commercial dependence of Nova Scotia's farmers on a wide array of goods (including pork, lamb, poultry, butter, potatoes, apples and berries) was not unique.³² Products intended for export were fewer in number but more highly visible in official records (custom house data, shipping records) than those which entered domestic markets (e.g. potatoes and cattle in Nova Scotia, wheat and other grains in Ontario, and oats and other grains in Prince Edward Island). Crop yields per acre and the size of farmers' livestock holdings in Nova Scotia were also roughly comparable to those prevailing in other nearby agricultural regions in the mid-nineteenth century.³³

As the nineteenth century wore on, Nova Scotia's farmers, like those elsewhere in eastern North America, adjusted their operations to changes in technology, politics and government policies, which influenced their ability to compete in domestic and international markets.³⁴ The 1874 tariff placed on Nova Scotian potatoes by the United States' government, for example, stimulated the transition from staple potato production to specialty fruit production in the Annapolis-Cornwallis valley during the last quarter of the nineteenth century. In the same manner, the removal of preferences for Maritime and

³¹ Howard Russell, A Long Deep Furrow: Three Centuries of Farming in New England (Hanover: University Press of New England, 1976, 1982), p. 202.

³² Douglas McCalla, "The Internal Economy of Upper Canada: New Evidence on Agricultural Marketing Before 1850", Agricultural History 59, 3 (1985), pp. 397-416.

³³ In Chelsea, Vermont, "a typical mid-century, mid-sized township", a typical 140 acre farm (occupied land) supported 8 cattle (4 of which were milch cows), and 25 sheep. Hal S. Barron, Those Who Stayed Behind: Rural Society in Nineteenth Century New England (London: Cambridge University Press, 1984), p. 53. In 1860 Maine's farms averaged 7 cattle each; Russell, A Long Deep Furrow, p. 202.

³⁴ For an excellent summary of the broad changes in eastern Canadian agriculture in the second half of the nineteenth century see Marvin McInnis, "The Changing Structure of Canadian Agriculture, 1867-1897", Journal of Economic History 42, 1 (1982), pp. 191-97.

Central Canadian cattle in the British market in the 1890s influenced the marketing strategies of Nova Scotian cattle producers in the last decade of the nineteenth century, and stimulated the rise of dairy production. The British market for Nova Scotian cattle, which opened briefly in the 1870s and 80s, disappeared quickly once large shipments of high quality cattle from the Canadian Prairies entered the British market in the 1890s, and shipping, trade and quarantine regulations were tightened. In addition, improvements in long-distance refrigerated transport stimulated an international dressed meat trade based on cattle and other animals grazed in the grassland regions of North America, Argentina and New Zealand. Other improvements in ocean transport in the late nineteenth century, which reduced the time and costs of trans-Atlantic shipping, gave Nova Scotian apple producers a competitive position in the British market.

The completion of the Intercolonial Railway in 1876 linked Nova Scotia's local, fragmented markets to Central Canadian producers, and provincial farmers faced more competition than ever before in domestic markets from Ontario and Quebec producers. Farmers supplying local markets increasingly concentrated on products that retained a competitive edge against imports (ie. milk, cream, poultry, fresh meat, market garden vegetables and berries), and the production of wheat, most other grains (apart from oats), sheep and beef cattle gradually declined. Fields of wheat, barley and rye were replaced by hay, oats and pasture grasses, as farmers placed more emphasis on dairy production. Widespread mixed farming in Nova Scotia in the mid-nineteenth century, based on the production of a combination of hay, potatoes, grain, sheep and cattle, gradually gave way to "a fair degree of regional specialization" in the last quarter of the century.³⁵ By the 1890s a fruit belt and two distinct dairy belts had emerged within the province's farming zone. The rapid diffusion of branch lines connected to the national railway system during

³⁵ Drummond and MacKenzie, Progress and Prospects of Canadian Agriculture: Royal Commission on Canada's Economic Prospects, p. 149.

the late nineteenth century also influenced other aspects of the rural economy. Rural craftsmen found that their products were neither as competitive, nor as desirable, as the products of Central Canadian factories, and their numbers began to dwindle. By the end of the nineteenth century Nova Scotian farm families were far more dependent upon consumer goods and farm inputs (ie. seeds, fodder grains, tools, implements and machinery) produced in Ontario and Quebec than had been the case a half century earlier.

After the turn of the century farms and farmland declined steadily. By 1940 the 33,000 farms remaining in the province represented just over half of those enumerated in 1891. This has frequently been viewed as resulting from the province's weak agricultural base, its exhausted resources, and population pressure on scarce land resources. However, it is seldom recognized in either the geographical or historical literature on Nova Scotian agriculture that all nearby agricultural regions experienced similar trends of rural population loss and farmland decline from the late nineteenth century on. In New Hampshire and Vermont farm expansion in the nineteenth century peaked in the same decade as it did in Nova Scotia, and similar trends of rural outmigration and farmland abandonment accompanied agricultural specialization, rising farm productivity, and the growth of non-farm rural residences near urban areas in the twentieth century.³⁶ In nearby Prince Edward Island similar trends of "fewer farms, larger farms and declines in areas improved and cropped as well as in areas occupied" accompanied the concentration of commercial agriculture in a few "high farming" areas of the province after 1900.³⁷ Although less is known about agrarian change in New Brunswick in the late nineteenth and early twentieth centuries, the limited evidence we have suggests that while farmland

³⁶ J. D. Black, The Rural Economy of New England: A Regional Study (Cambridge: Harvard University Press, 1950), pp. 139, 269, 643; Russell, A Long Deep Furrow, p. 256.

³⁷ Clark, Three Centuries and the Island: A Historical Geography of Settlement and Agriculture in Prince Edward Island (Toronto: University of Toronto Press, 1959), p. 218.

abandonment and rural outmigration took place in the twentieth century, a few capital-intensive, specialty farming zones developed, which continue to contribute significantly to the provincial economy -- dairying in the Saint John-Sussex area in southeastern New Brunswick, specialty potato production in Carleton and Victoria Counties in the Upper Saint John Valley region, and specialty fruit and vegetable production in the Gagetown area of the lower Saint John Valley.³⁸

Outmigration from Nova Scotia, and the Maritimes generally, is also believed to have been much more severe than any other region of the country, and thus, this "epidemic" is thought to have had considerable negative implications for the twentieth century development of the region.³⁹ Yet, Marvin McNinnis' recent research on Canada's demographic trends during the century under investigation, has concluded that "the population loss due to outmigration from counties in the Maritimes [was] not exceptional by general North American standards".⁴⁰ Indeed, McNinnis suggests that "the heaviest rural outpouring from the Maritimes [in the late nineteenth and early twentieth centuries] was no more severe" than that of several agricultural counties in Central Canada -- from Brome, Kamouraska and Rouville Counties of Quebec, and from Durham,

³⁸ D. F. Putnam, "Distribution of Agriculture in New Brunswick", Public Affairs, Vol. 3 (1940), pp. 8-11; E. B. De Marchant, From Humble Beginnings: The Story of Agriculture in New Brunswick (Fredericton: New Brunswick Department of Agriculture and Rural Development and the New Brunswick Federation of Agriculture, 1983), pp. 38-64; Robert J. McCalla, The Maritime Provinces Atlas (Halifax: Maritext Ltd., 1988), pp. 22-3.

³⁹ The best assessments of emigration from Nova Scotia in this period are: Alan A. Brookes, "Outmigration from the Maritime Provinces, 1860-1890: Some Preliminary Considerations", Acadiensis 5, 2 (1976), pp. 26-55; Alan A. Brookes, "The Golden Age and the Exodus: The Case of Canning, King's county", Acadiensis 11, 1 (1981), pp. 57-82; P. A. Thornton, "The Problem of Outmigration from Atlantic Canada, 1871-1921: A New Look", Acadiensis 15, 1 (1985), pp. 3-34; and Hornsby, "An Historical Geography of Cape Breton Island in the Nineteenth Century", pp. 286-308.

⁴⁰ Marvin McNinnis, "Some Demographic Aspects of Economic Development in the Maritimes", Paper Presented to the Economic History of Atlantic Canada Workshop, Halifax, September, 1990, pp. 34-35.

Northumberland, Halton and Peel Counties in Ontario.⁴¹ More research is needed if we are to accurately establish the relative position of outmigration from the Maritime provinces in the context of northeastern North America. But, all of this points to a similarity of experience between rural Nova Scotia and its nearest neighbours (New Brunswick, Prince Edward Island and the New England states). Social historian Hal Barron recently observed that, in contrast to the continuous demographic and economic expansion characteristic of urban and industrial regions, many long-settled New England agricultural communities, like Chelsea, Vermont, were characterized by relatively slow growth, stability, or even decline in the late nineteenth century.⁴² Thus, outmigration, farmland abandonment, slow economic growth and the rise of specialty production regions were viewed as "normal characteristics of older agrarian communities".⁴³ Like other long-settled areas of eastern North America Nova Scotia's agricultural base shrank from the 1890s on, and outmigration continued. Perhaps these developments should be seen as "demographic realities" of a mature agricultural region, and as normal adjustments to the "outside economic changes" influencing this broad region in the late nineteenth and early twentieth centuries (ie. low levels of in-migration and fertility, an aging rural population, agricultural concentration and specialization, and marginal farm abandonment).⁴⁴

As urbanization increased after 1900, and the wage gap between urban and farm employment widened, rural families were drawn to urban areas, and attitudes, values, and patterns of living of many families were transformed. At the same time, the labour-to-land ratio in most farming regions declined as farms were abandoned or used as rural residences, and modern, intensive production methods were introduced on a smaller

⁴¹ *Ibid.*, p. 35.

⁴² Hal Barron, *Those Who Stayed Behind*, p. 52.

⁴³ *Ibid.*, p. 30.

⁴⁴ *Ibid.*, p. 52.

number of specialty farms. These developments explain why agricultural production levels remained relatively stable while the number of farms and the amount of land in production declined. Although most of eastern North America was influenced by similar developments, the results were perhaps more acute in Nova Scotia (and the Maritimes generally) because of the rugged topography, the leached and acidic soils, and the small profit margins that characterized most family farms during the entire period under investigation. As the twentieth century wore on Nova Scotia's economy became more closely integrated with the continental North American economy, and those who continued to work the land were forced to adjust their operations to competition from distant well-endowed, agricultural regions, to adopt new methods of production, and to participate in new forms of marketing (marketing boards, cooperatives, integrated dairy companies). By the middle of the twentieth century Nova Scotia recorded sizeable deficits in most necessary foodstuffs, even though provincial farmers produced proportionately more dairy products (milk and cream), eggs, poultry and other perishables (i.e. strawberries and blueberries) than any other agricultural region in Canada.⁴⁵

These trends continued during subsequent decades. In 1971, there were approximately 6,000 farms remaining in Nova Scotia, just 25 per cent of those enumerated two decades earlier. The concentration of commercial farms in central and western Nova Scotia was much greater than was the case in the 1940s and 50s. The counties of Annapolis, Kings, Cumberland, Colchester, Hants and Pictou contained more than three-quarters of Nova Scotia's "improved land" and 80 per cent of the acreage devoted to field crops. Specialty dairy farms comprised more than 40 per cent of the province's total, and

⁴⁵ H.K. Larson, Demand and Production Analysis of Agricultural Products in Nova Scotia (Halifax: Nova Scotia Department of Finance and Economics, 1964), pp. 13-39; and R.K. Fletcher, Post-war Agricultural Trends in the Atlantic Provinces (Fredericton: Agricultural Research Report #3, 1966), p. 42.

fruit and vegetable operations another 10 per cent.⁴⁶ The remainder consisted of mixed and part-time operations that produced different combinations of swine, sheep, poultry and beef cattle, or specialty crops like tobacco, blueberries and strawberries.⁴⁷ Yet Nova Scotia's farm families comprised less than 10 per cent of the province's population and the province was even more dependent upon food produced outside of the region than a generation earlier. As in Prince Edward Island, New Brunswick and New England, "gone [were] the days when wheat was grown, ... milled, ... and baked into bread", when hay was "made" using pitchforks, horse-drawn mowers, rakes and hay wagons, and when there was little distance between farmers and consumers.⁴⁸ Mechanization was now widespread, crop rotations had been replaced by mono crop production in some areas and the use of chemical fertilizers and hybrid seeds were more the rule than the exception. Scale changes in production and marketing had undermined the viability of small, family-run farms and externally-owned agribusiness corporations had consolidated large tracts of farmland in the province's best farming districts.⁴⁹ Nova Scotia, at the margin of North America's large, urban markets, had been drawn into their hinterlands, and, despite valiant efforts made by many farming families, many aspects of the region's traditional agricultural economy had been undermined. Thus, grocery stores and "supermarkets" throughout the region distribute "frozen orange juice from Florida, tomatoes from Texas, green onions from Mexico, lettuce from California, ... meat from the Prairie provinces", and apples from

⁴⁶ Nova Scotia Department of Voluntary Planning, "Agriculture and Its Impact on the Nova Scotia Economy", Discussion Paper, Dalhousie Institute of Public Affairs, 1972, pp. 4.

⁴⁷ *Ibid.*, p. 5.

⁴⁸ William Janssen, "Agriculture in Transition", in The Garden Transformed: Prince Edward Island, 1945-80, eds., V. Smitheram, D. Milne, and S. Dasgupta (Charlottetown: Ragweed Press, 1982), p. 125.

⁴⁹ For a discussion of these developments in the Annapolis-Cornwallis Valley see Hugh Allison Blackmer, "Agricultural Transformation in a Regional System: The Annapolis Valley, Nova Scotia, Ph.D. Thesis, Stanford University, 1976, pp. 75-77.

as far away as Washington and British Columbia.⁵⁰ The only truly local products to be found on supermarket shelves include milk, eggs, poultry and a limited range of fresh fruit. A century earlier the bulk of the food consumed in the province was produced in Nova Scotia's farming zone. This transformation illustrates the influences of technology, market demand and regional interdependency on agriculture in the Maritimes and elsewhere in eastern North America. As Canada's Standing Committee on Agriculture, Fisheries, and Forestry estimates, on the basis of current agricultural trends, that the country as a whole will fall short of self-sufficiency in foodstuffs within a generation, these are important issues to think about.⁵¹

⁵⁰ Ibid., p. 104.

⁵¹ Senator Herbert O. Sparrow, Chairman, The Standing Committee on Agriculture, Fisheries, and Forestry, to the Senate of Canada; interview in "Crisis in the Land", Land and Sea, Canadian Broadcasting Corporation documentary, November 3, 1986.

BIBLIOGRAPHY

PRIMARY SOURCES

GOVERNMENT RECORDS

Annual Reports of Nova Scotia's Agricultural Societies, 1842-57, Vols. 9-27, RG8, Public Archives of Nova Scotia [PANS].

Annual Reports of the Central Board of Agriculture for Nova Scotia, 1862-1885, Nova Scotia Legislative Library, Halifax.

Annual Reports of the Dairy Commissioner for the Dominion of Canada, 1890-1930, Nova Scotia Legislative Library, Halifax.

Annual Reports of the Department of Agriculture and Marketing, 1930-1950, Nova Scotia Legislative Library, Halifax.

Annual Reports of the Department of Natural Resources, 1926-29, RG9A, Vol. 94, PANS.

Annual Reports of Nova Scotia's Dairy Commissioner, 1891-1895, MG1, Vol. 2367, PANS.

Annual Reports of the Secretary for Agriculture for Nova Scotia, 1886-1910, Nova Scotia Legislature Library.

Annual Reports of the Secretary for Agriculture for Nova Scotia, 1911-1939, RG9A, Vols. 92-93, PANS.

Appendices to the Journals of the House of Assembly, RG5, Series R, Vol. 54, #94, PANS.

Canada Sessional Papers, Trade and Navigation Volumes, 1867-1901, I. W. Killam Library, Dalhousie University, Halifax.

Colonial Office Blue Books of Statistics, Series 221 [C0 221], 1849-66, Vols. 63-76, PANS.

Nova Scotia Journals of the House of Assembly [J.H.A.N.S.], 1847-66, PANS.

Wills and Estate Papers, RG48, Reels 39, 97-98, 137, 139, 237-340, 632-33, 690-709, 914-15, PANS.

CENSUS RECORDS

Census of Nova Scotia, 1851, General Abstract and Manuscript Schedules, RG1, Vol 453, Micro, PANS.

Census of Nova Scotia, 1861, General Abstract and Manuscript Schedules, HA N85, and Microfilm Collection, PANS.

Census of Canada, 1871, Manuscript Schedules, Microfilm Collection, PANS.

Census of Canada, 1871.

Census of Canada, 1881.

Census of Canada, 1891.

Census of Canada, 1901.

Census of Canada, 1911.

Census of Canada, 1921.

Census of Canada, 1931.

Census of Canada, 1941.

Census of Canada, 1951.

ASSOCIATIONS

Nova Scotia Fruit Growers Association Minute Books, MG1, Vol. 4, PANS.

Proceedings of the Nova Scotia Farmers Association Meetings, 1899-1910, RG8, Vol. 18, 2nd Series, PANS.

FAMILY PAPERS

James Barry Diary and Mill Records, Six Mile Brook, Pictou County, 1849-1850, MG1, Vol. 1222, PANS.

William Campbell Diary, Northport, Cumberland County, 1880-1881, MG100, Vol. 41, #86, PANS.

Andrew Hill Clark Papers, MG1, Vols. 1507-37, PANS.

David Corkum Diary and Account Book, Chester, Lunenburg County, 1873-1875, Micro Biography File, PANS.

Elliot Family Papers, East Clarence, Annapolis County, 1850-1861, MG1, Vol 1332, PANS.

J. D. B. Fraser Household Accounts, Pictou, 1852, MG1, Vol. 3, # 321.

Frederick Gordon Farm Diary, Milford, Hants County, 1880-1914, Micro Biography File, PANS.

Maurice Harlow Diary, North Brookfield, Queens County, 1877- 1883, MG100, Vol. 1300, PANS.

William H. Lawson Farm Diary, South Rawdon, Hants County, 1907-67, Micro Biography File, PANS.

Z. MacKay Farm Diary, Malagash, Cumberland County, 1900-1901, MG1, Vol. 2479, # 79, PANS.

John B. Moore Diary, Accounts and Records, North Sydney, Cape Brèton County, 1848-1867, Micro Biography File, 50-1972, PANS.

John Murray Farm Diary and Accounts, Hardwood Hill, Pictou County, 1853, MG100, Vol. 194, #16.

Phillip Payzant Diary and Accounts, Falmouth, Hants County, 1873 -1875, 1865, MG1, Vol. 746, A, B, PANS.

Owen E. Porter Farm Diary, Centreville, Kings County, 1864-1882, S451.5 N935 P847, PANS.

William H. Porter Farm Diary, Centreville, Kings County, 1900-1910, S451.5 N935 P848, PANS.

Mary Smith Farm Diary, Smithville, Inverness County, 1891, MG 12, 45, 6, Hart Papers, Beaton Institute, University College of Cape Breton, Sydney.

Samuel Spares Daybook (Diary) and Accounts, Northfield, Hants County, 1855-1878; 1884-1907, Micro Biography File, NS.

Nathan Woodworth Farm Diary, Canning, Kings County, 1844-62, MG1, Vol. 2460, PANS.

Margaret Young Farm Diary, Falmouth, Hants County, 1889-1890, MG1, Vol. 982, folder 2, PANS.

COMMERCIAL RECORDS

George Calvin Bishop Accounts, Kentville, Kings County, 1874-1882, MG1, Vol. 130, # 12, PANS.

Davidson Brothers Commission Merchants, Halifax, Price Book for 1879, MG3, Vol. 142, PANS.

Fader Brothers Commission Merchant Accounts, Halifax, 1886, MG3, Vol. 643, PANS.

Colin Fraser Merchant Accounts, West River Station, Pictou County, 1877-1878, MG3, Vol. 6106, Daybook #1, PANS.

Little River Cheese Manufacturing Company, Accounts and Minutes of Meetings, Upper Nine Mile River, Hants County, 1892-1897, Micro Places File, PANS.

John MacDonald Merchant Accounts, Cape North, Victoria County, 1877-1881, MG 14, 158 B, Beaton Institute, University College of Cape Breton, Sydney.

Donald MacLean Store Ledger, North River Bridge, Victoria County, 1885-1890, Micro Places File, PANS.

Jonathan and Leander Rand Shipping Accounts, Canard, Kings County, 1856-1862, MG3, Vol. 115, PANS.

Wallace Bay Creamery Company Accounts, Wallace Bay, Cumberland County, 1899-1900, Micro Places File, PANS.

R. J. Whitten and Company Accounts, Halifax, 1899-1900, MG3, Vol. 229, PANS.

UNPUBLISHED PAPERS

Acheson, T. W. "New Brunswick Agriculture on the Eve of Confederation: An Assessment". Paper Presented to the Economic History of Atlantic Canada Workshop, Halifax, September, 1990.

Bird, W.R. "History of the Highways of Nova Scotia". unpublished ms., dated 1945, Nova Scotia Legislative Library, Halifax.

Bittermann, Rusty. "Agricultural History in Middle River: A Case Study". unpublished paper, dated 1983, Beaton Institute, University College of Cape Breton, Sydney.

Bittermann, Rusty; MacKinnon, Robert; and Wynn, Graeme. "Of Inequality and Interdependence in the Nova Scotian Countryside, 1850-1870". Paper Presented at the Atlantic Canada Studies Conference, University of Maine at Orono, May 17, 1990.

Bittermann, Rusty. "Economic Stratification in a Cape Breton Agricultural Community in the Nineteenth Century: A Production/Consumption Approach". Paper Presented to the Atlantic Canada Workshop, 25 September, 1985, University College of Cape Breton, Sydney, Nova Scotia.

Clark, Andrew H., and Brinkman, Leonard. "Nova Scotia's Livestock Farming: The Geography of a Century of Change". unpublished paper, undated, in A. H. Clark Papers, MG1, Vol. 1517, #9, PANS.

Gilmour, Ken. "Grist Mills in Nova Scotia". Paper Presented at Annual Staff Training Seminar, Ross Farm Museum, New Ross, Lunenburg County, 12 May, 1987.

Howell, Frank. "Agricultural Exports From Cape Breton, 1797-1864". unpublished paper, dated 1980, Ms. 80-70-1100, Beaton Institute, University College of Cape Breton, Sydney.

Longley, H. G. "A Historical Comparison of Commodities, Prices and Customs in the Annapolis Valley". Nova Scotia Agricultural College Paper, dated 1932-33; in A. H. Clark Papers, MG1, Vol. 1518, #7, PANS.

MacDonald, Georgette. "The History of Sheep Farming in Cape Breton". unpublished paper, dated 28 November, 1978, Ms. 78-268-738, Beaton Institute, University College of Cape Breton.

MacDonald, R. H. "Transportation in Northern Cape Breton". Parks Canada Manuscript Report 363, 1979, Nova Scotia Legislative Library, Halifax.

MacLean, M.C. "The Ubiquity of the Nova Scotian". unpublished ms., not dated, in MG1, Vol. 1522, file 1, PANS.

Martin, J. Lynton. "Hay and Grain on the Small Pioneer Farm in Nova Scotia". unpublished paper, dated 1981, Nova Scotia Museum, Halifax.

Martin, J. Lynton. "The Settlement of Queens and Lunenburg Counties". Paper presented at Seminars 85, A Training Programme of the Federation of Nova Scotian Heritage, 17 April, 1985, Nova Scotia Museum Library.

McCann, L. D. "'In Accordance With the Law of City Growth', The Metals Industry and Urban Growth in Pictou County, 1858-1929". Paper Presented at the Atlantic Canada Studies Conference, Dalhousie University, Halifax, Nova Scotia, April 25, 1980.

McInnis, Marvin. "Some Demographic Aspects of Economic Development in the Maritimes". Paper Presented to the Economic History of Atlantic Canada Workshop, Halifax, September, 1990.

Morse, N. H., and Watson, R. E. L. "A Preliminary Survey of Rural Conditions in Hants County, Nova Scotia, With a Special Reference to Farmer Organizations in the County". Research Report, Acadia University Institute, January, 1957, Mimeograph copy, Nova Scotia Legislative Library.

Nova Scotia Department of Voluntary Planning. "Agriculture and Its Impact on the Nova Scotia Economy". Discussion Paper, Dalhousie Institute of Public Affairs, 1972, PANS Library.

Rankin, Geraldine. "Homemade Cheese in Cape Breton, Nova Scotia". Ms. # 1273, Northeast Archives of Folklore and Oral History, University of Maine at Orono.

Robinson, D. E. "The Halifax City Market, 1750-1977", A Special Report for the Nova Scotia Department of Agriculture and Marketing". unpublished paper, dated 10 February, 1977, located at the Nova Scotia Legislative Library.

Winston, Anthony. "The Roots of Agrarian Decline: Farming in the Maritimes, 1850-1930". Saint Mary's University, Gorsebrook Research Institute, Working Paper # 7-85, 1985.

Winston, Anthony. "The Uneven Development of Rural Economy in Canada: The Maritimes and Ontario". Working Paper No. 6-85, Gorsebrook Research Institute, Saint Mary's University, 1985.

THESES

Bittermann, K. R. "Middle River: The Social Structure of Agriculture in a Nineteenth Century Cape Breton Community". M.A. Thesis, University of New Brunswick, 1987.

Blackmer, Hugh A. "Agricultural Transformation in a Regional System: The Annapolis Valley, Nova Scotia". Ph.D. thesis, Stanford University, 1976.

Burman, K. R. "Geographical Problems of Land Use in Nova Scotia". Ph.D. Thesis, Department of Geography, Clark University, 1950.

Cloete, Keith. "Land Abandonment and Rural Change in the Fox Harbour Area, Cumberland County, Nova Scotia, 1939-1977". B.A. Thesis, Mount Allison University, 1977.

Evans, Reginald D. "Transportation and Communication in Nova Scotia, 1815-1850". M.A. Thesis, Dalhousie University, 1936.

Gentilcore, R. L. "Land Use and Agricultural Production in Antigonish County, Nova Scotia". Ph. D. Thesis, Department of Geography, University of Maryland, 1950.

Grant, Donald A. "Land Use in Pictou County". M.A. Thesis, Department of Geology, Acadia University, 1950.

Haliburton, Gordon MacKay. "A History of Railways in Nova Scotia". M.A. Thesis, Dalhousie University, 1955.

Hornsby, Stephen. "An Historical Geography of Cape Breton Island in the Nineteenth Century". Ph.D. Thesis, The University of British Columbia, 1986.

Lewis, Adrian. "An Apple-Less Valley: Process and Change in the Apple Industry of Kings County, Nova Scotia 1940-74". B.A. Thesis, Acadia University, 1974.

Lewis, S. Ellsworth. "An Economic History of Agriculture in Colchester County, Nova Scotia". B.A. Thesis, Ontario Agricultural College, 1924.

Logan, L. D. "Modernization and the Rural Farming-Forestry Community: A Case Study in Lunenburg County, Nova Scotia". M.A. Thesis, Dalhousie University, 1974.

MacKinnon, Robert. "The Evolution of Commercial Agriculture Around St. John's, Newfoundland, 1800-1935: A Study of Local Trade in Response to Urban Demand". M.A. Thesis, Memorial University, 1981.

MacNeil, Alan. "A Reconsideration of the State of Agriculture in Eastern Nova Scotia, 1791-1861". M.A. Thesis Department of History, Queen's University, 1985.

Morse, Norman H. "An Economic History of the Apple Industry of the Annapolis Valley in Nova Scotia". Ph.D. Thesis, University of Toronto, 1952.

Priscepionka, Algimantas. "Agriculture in the Maritime Provinces of Canada, Past and Present". M. A. Dissertation, University of California, Berkeley, 1963.

Russell, H. H. "Cape Breton Island: The Land and the People". Ph.D. Thesis, Clark University, 1926.

Siddig, Fazley. "The Inequality of Wealth Distribution in a Life Cycle Framework". Ph.D. Thesis, Dalhousie University, 1986.

Sitwell, O. F. G. "Land Use and Settlement Patterns in Pictou County, Nova Scotia". Department of Geography, The University of Toronto, 1968.

Touesnard, Paul. "Growth and Decline of Arichat, Nova Scotia, 1765-1880". M.A. Thesis, Department of Economics, Dalhousie University, 1984.

NEWSPAPERS

Eastern Chronicle (New Glasgow), 1873-1885.

Journal of Education and Agriculture (Halifax), 1858-1860.

Mechanic and Farmer (Pictou), 1841-1843.

Nova Scotia Farmer and Annapolis County Times (Annapolis), 1874-1876.

Nova Scotia Journal of Agriculture (Halifax), 1865, 1871-72, 1879, 1881, 1883, 1885.

The Nova Scotian (Halifax), 1832-1850.

Yarmouth Herald (Yarmouth), 1839-1850.

Maps

A. F. Church's County Maps of Nova Scotia, 1:63,360, 1865-1888, PANS Map Collection.

Commission of Conservation. Water Powers in Nova Scotia, New Brunswick and Prince Edward Island, 1:2,217,600, 1911, PANS Map Collection, F 200, 1911.

J. W. Dawson. Geological Map of Nova Scotia, 1:887,040, 1855, PANS Map Collection, 202-1855.

Department of the Interior. Railway Map of the Dominion of Canada, 1:2,217,600, 1907, PANS Map Collection 202-1907.

Electoral Atlas of the Dominion of Canada. 1895, PANS Map Collection, 202-1895.

Abraham Gesner. Map of Nova Scotia and Prince Edward Island, 1849, PANS Map Collection.

Illustrated Historical Atlas of Pictou County, J. F. Meacham and Company, 1879, PANS Library.

J. I. Mac Dougall and J. L. Nowland. Soils of Nova Scotia Map. 1:450,000, Ottawa: Canada Department of Agriculture, Soil Research Institute, 1972.

Natural Resource Intelligence Service. Map of Nova Scotia Indicating Natural Resources and Transportation Routes, 1:633,600, 1925, PANS Map Collection, F 202-1925.

Nova Scotia Census Subdivision Maps, 1851, 1861, 1871, 1891, 1911, 1941, PANS Library.

Nova Scotia Department of Highways. Official Highway Map, 1:633,600, 1944, PANS Map Collection, 202-1944.

Films/Tapes

"Crisis in the Land". Land and Sea, Canadian Broadcasting Corporation documentary, 3 November, 1986.

A. Goodyear. "Interview with Margaret Knox about Farm Life in Mira, Cape Breton", dated 12 November, 1980, Tapes T-1568, T-1569, Northeast Archives of Folklore and Oral History, University of Maine at Orono.

J. A. MacIntyre. "Farming in Boisdale", Interview, 1974, Tape T-1,004, Beaton Institute, University College of Cape Breton, Sydney.

Stephen MacKinnon. "History of farming in Inverness County", Interview, 1974, Tape T-1,000, Beaton Institute, University College of Cape Breton, Sydney.

Stephen MacKinnon. "History of Farming in Cape Breton County", Interview, 1974, Tape T-1,002, Beaton Institute, University College of Cape Breton, Sydney.

SECONDARY SOURCES

Acheson, T. W. "The National Policy and the Industrialization of the Maritimes, 1880-1910". Acadiensis 1, 2 (1971), pp. 3-28.

Acheson, T. W. "The Maritimes and Empire Canada". in Canada and the Burden of Unity, edited by David J. Bercuson. Toronto: MacMillan of Canada, 1977.

Alexander, David. "Economic Growth in the Atlantic Region, 1880-1940". Acadiensis 8, 1 (1978), pp. 47-76.

Alexander, David and Panting, Gerry. "The Mercantile Fleet and its Owners: Yarmouth, Nova Scotia, 1840-1889". Acadiensis 7, 2 (1978), pp. 3-28.

Ankli, Robert E, and Millar, Wendy. "Ontario Agriculture in Transition: The Switch from Wheat to Cheese". Journal of Economic History 42, 1 (1981), pp. 207-15.

Anon. Nova Scotia's Industrial Centre. New Glasgow: Town Councils of New Glasgow, Trenton, Stellarton and Westville, 1916.

Attack, Jeremy, and Bateman, Fred. "Self Sufficiency and the Marketable Surplus in the Rural North, 1860". Agricultural History 58, 3 (1984), pp. 296-313.

Attack, Jeremy, and Bateman, Fred. "The Profitability of Northern Agriculture in 1860". Research in Economic History 4 (1979), pp. 87-125.

Atkins, P. J. "The Retail Milk Trade in London, 1790-1914". Economic History Review, 33, 4 (1980), pp. 522-37.

Bailey, Thomas A. and Kennedy, David. The American Pageant: A History of the Republic. Lexington, Massachusetts: D.C. Heath and Co., 1987.

- Baker, Andrew, and Paterson, Holly. "Farmers' Adaptations to Markets in Early-Nineteenth-Century Massachusetts". in The Farm, Annual Proceedings of the Dublin Seminar for New England Folklife, edited by Peter Benes. Boston: Boston University, 1988.
- Balcom, A. B. "Agriculture in Nova Scotia Since 1870". Dalhousie Review 8, 1 (1928), pp. 29-43.
- Barrett, L. Gene. "Underdevelopment and Social Movements in the Nova Scotian Fishing Industry to 1938". in Underdevelopment and Social Movements in Atlantic Canada, edited by Robert J. Brym and R. James Sacouman. Toronto: New Hogtown Press, 1979.
- Barron, Hal S. Those Who Stayed Behind: Rural Society in Nineteenth Century New England. London: Cambridge University Press, 1984.
- Bateman, Fred. "The Marketable Surplus in Northern Dairy Farming: New Evidence By Size of Farm in 1860". Agricultural History 52, 3 (1978), pp. 345-63.
- Benes, Peter, ed. The Farm, Annual Proceedings of the Dublin Seminar for New England Folklife. Boston: Boston University, 1988.
- Benson, John. "Hawking and Peddling in Canada, 1867-1914". Histoire Sociale-Social History, 18, 35 (1985), pp. 75-83.
- Bird, Isabella Lucy. The Englishwoman in America. London: John Murray, 1856; reprinted, Madison: University of Wisconsin Press, 1966.
- Bittermann, Rusty. "The Hierarchy of the Soil: Land and Labour in a Nineteenth Century Cape Breton Community". Acadiensis 18, 1 (1988), pp. 33-55.
- Black, J. D. The Rural Economy of New England: A Regional Study. Cambridge: Harvard University Press, 1950.
- Black, Mary. "Cape Breton's Early Roads". Nova Scotia Historical Quarterly 5, 3 (1975), pp. 277-95.
- Blair, Edith. "The Marketing of Agricultural Products in Nova Scotia". Culture 2, 3 (1941), pp. 313-18.
- Blakeley, Phyllis. Glimpses of Halifax, 1867-1900. Halifax: Public Archives of Nova Scotia, 1949.
- Bogue, Allan. "The Progress of the Cattle Industry in Ontario During the 1880's". Agricultural History 21 (1947), pp. 163-68.
- Boss, Judy. The Restoration of the Wile Carding Mill. Halifax: Curatorial Report # 28, Nova Scotia Museum, 1975.
- Boucher, Neil. The Development of An Acadian Village: Surette's Island, 1859-1970. Ottawa: Lescarbot Press, 1980.

- Brebner, John B. North Atlantic Triangle: The Interplay of Canada, The United States and Great Britain. Toronto: The Carleton Library No. 30, McClelland and Stewart Ltd., 1966.
- Breen, David H. The Canadian Prairie West and the Ranching Frontier, 1874-1924. Toronto: University of Toronto Press, 1983.
- Brookes, Alan A. "Outmigration from the Maritime Provinces, 1860-1890: Some Preliminary Considerations". Acadiensis 5, 2 (1976), pp. 26-55.
- Brookes, Alan A. "The Golden Age and the Exodus: The Case of Canning, Kings County". Acadiensis 11, 1 (1981), pp. 57-81.
- Brookfield Bicentennial Committee. Fragments of the Past: History Notes of Brookfield and Area. Brookfield, Nova Scotia: Brookfield Historical Society, 1984.
- Brookfield, Harold. Interdependent Development. Pittsburgh: University of Pittsburgh Press, 1975.
- Brown, Harry. Valley of the Remsheg: A History of Wallace Bay. Wallace: North Cumberland Historical Society, Publication # 4, 1973.
- Bruce, Charles. The Township of Time: A Chronicle. 1959; reprinted Toronto: McClelland and Stewart, 1986.
- Buckler, Ernest. The Mountain and the Valley. McClelland and Stewart, 1952, 1970.
- Buckner, P.A. and Frank, D. The Acadiensis Reader, Vol. 1, Atlantic Canada Before Confederation. Fredericton: Acadiensis Press, 1985.
- Buckner, P.A. and Frank, D. The Acadiensis Reader, Vol. 2, Atlantic Canada After Confederation. Fredericton: Acadiensis Press, 1985.
- Burrows, Mildred. The History of Wittenburg (Saint Andrews), Colchester County, Nova Scotia. Truro: Colchester Historical Museum, 1978.
- Cairns, J. P. A Statistical Summary of Agricultural Rail Traffic in Canada, 1946-54. Guelph: Department of Agricultural Economics, 1954.
- Cameron, James M. The Industrial History of the New Glasgow District. New Glasgow: Hector Publishing Company, 1958.
- Campbell, D. and MacLean, R. A. Beyond the Atlantic Roar: A Study of the Nova Scotia Scots. Ottawa: McClelland and Stewart Ltd., 1974.
- Campbell, P. J. MacKenzie. Highland Community on the Bras d' Or. Antigonish: Casket Publishing, 1978.
- Canada, Department of the Interior. Province of Nova Scotia List of Farms for Sale. Ottawa: Thomas Mulvey, 1920.
- Canada, Department of the Interior. The Resources of Nova Scotia, 1920. Ottawa: Thomas Mulvey, 1921.

- Canada, Dominion Bureau of Statistics. Handbook of Agricultural Statistics, 1927-1957. Ottawa: Queen's Printer, 1963.
- Canada, Dominion Bureau of Statistics. Handbook of Agricultural Statistics, Farm Income, 1926-1957. Ottawa: Government Printer, 1958.
- Canada, Dominion Bureau of Statistics. The Maritime Provinces Since Confederation: A Statistical Study of their Social and Economic Conditions During the Past Sixty Years. Ottawa: F. Acland, 1927.
- Canada, Dominion Bureau of Statistics. The Maritime Provinces in Their Relation to the Maritime Provinces of Canada. Ottawa: Dominion Bureau of Statistics, 1948.
- Canada Land Inventory. Soil Capability for Agriculture, Truro, 11 E. Ottawa: Queen's Printer, 1967.
- Cann, D. B. and Wickland, R. E. Soil Survey of Pictou County, Nova Scotia. Ottawa: Canada Department of Agriculture, Experimental Farm Service Report # 4, 1950.
- Chiasson, Paulette. "As Others Saw Us: Nova Scotian Travel Literature from the 1770s to the 1860s". Nova Scotia Historical Review 2, 2 (1982), pp. 9-24.
- Chipman, B. W. Nova Scotia: Its Agricultural Resources. Halifax: Office for Agriculture, 1898.
- Chisholm, Michael. Modern World Development: A Geographical Perspective. London: Hutchinson and Co., 1982, 1984.
- Chisholm, Michael. Rural Settlement and Land Use: An Essay in Location. New York: John Wiley and Sons, 1962, 1967.
- Clark, Andrew H. Acadia: The Geography of Early Nova Scotia to 1760. Madison: University of Wisconsin Press, 1968.
- Clark, Andrew H. "Old World Origins and Religious Adherence in Nova Scotia". Geographical Review 50, 3 (1960), pp. 317-44.
- Clark, Andrew H. "Suggestions for the Geographic Study of Agricultural Change in the United States, 1790-1840". Agricultural History 46 (1972), pp. 155-80.
- Clark, Andrew H. "The Sheep, Swine Ratio as a Guide to a Century's Change in the Livestock Geography of Nova Scotia". Economic Geography 38, 1 (1962), pp. 38-55.
- Clark, Andrew H. Three Centuries and the Island: A Historical Geography of Settlement and Agriculture in Prince Edward Island. Toronto: University of Toronto Press, 1959.
- Clark, Andrew H. "Titus Smith Junior and the Geography of Nova Scotia in 1801 and 1802". Annals, Association of American Geographers 44, 4 (1954), pp. 291-314.
- Coady, Moses. Masters of Their Own Destiny: The Story of the Antigonish Movement of Adult Education Through Economic Cooperation. New York: Harper and Brothers Publishers, 1939.

- Cohen, Marcie. "The Journals of Joshua Whitman, Turner Maine, 1809-46". in The Farm, Annual Proceedings of the Dublin Seminar for New England Folklife, edited by Peter Benes. Boston: Boston University, 1988.
- Collins, C. M. A Census of Apple Orchards in Nova Scotia, 1939-40. Halifax: Nova Scotia Department of Agriculture, Bulletin #4, 1941.
- Comeau, F. G. J. "The Origin and History of the Apple Industry in Nova Scotia". Nova Scotia Historical Society Collections 23 (1936), pp. 15-40.
- Conrad, Margaret. "Apple Blossom Time in the Annapolis Valley 1880-1957". in The Acadiensis Reader, Vol. 2, Atlantic Canada After Confederation, edited by P. A. Buckner and David Frank. Fredericton: Acadiensis Press, 1985.
- Cornwall, Brooke. "A Land Use Reconnaissance of the Annapolis-Cornwallis Valley, Nova Scotia". Geographical Bulletin 9 (1957), pp. 22-51; reprinted in Readings in Canadian Geography, edited by Robert M. Irving. Toronto: Holt, Rhinehart and Winston of Canada, 1968.
- Cozzens, Frederic S. Acadia: or a Month With the Bluenoses. New York: Derby and Jackson, 1859.
- Crickmer, Robin E. The Role of Physical Factors in the Process of Farmland Abandonment in Nova Scotia, 1953-1974. Halifax: Department of Geography, Saint Mary's University, 1974.
- Crosskill, Herbert. Nova Scotia: Its Climate, Resources and Advantages, Being a General Description of the Province for the Information of Intending Immigrants. Halifax: Charles Annand, 1872.
- Cullen, H. A., ed. The Legacy of Brookland Farm, Hilden, Nova Scotia. London, Ontario: Scott's Select Services, 1982.
- Danhof, Clarence. Change in Agriculture: The Northern United States, 1820-1870. Cambridge, Mass.: Harvard University Press, 1969.
- Danhof, Clarence. "The Farm Enterprise: the Northern United States, 1820-1860s". Research in Economic History, 4 (1979), pp. 127-91.
- Dawson, J. W. Contributions Toward the Improvement of Agriculture in Nova Scotia With Practical Hints on the Management and Improvement of Livestock. Halifax: Richard Nugent, 1856.
- Dawson, J. W. Scientific Contributions Toward the Improvement of Agriculture in Nova Scotia. Pictou: J. Dawson and Son, 1853.
- De Marchant, E. B. From Humble Beginnings: The Story of Agriculture in New Brunswick. Fredericton: New Brunswick Department of Agriculture and Rural Development and the New Brunswick Federation of Agriculture, 1983.
- De Volpi, Charles P. Nova Scotia, A Pictorial Record: Historical Prints and Illustrations of the Province of Nova Scotia, Canada, 1605-1878. Longmans Canada Limited, 1974.

- DeVries, Peter J., and Macnab-DeVries, Georgina. They Farmed Among Other Things. Sydney: University College of Cape Breton Press, 1983.
- Drummond, Ian. Progress Without Planning: The Economic History of Ontario from Confederation to the Second World War. Toronto: University of Toronto Press, 1987.
- Drummond, W. M., and MacKenzie, W. Progress and Prospects of Canadian Agriculture: Royal Commission on Canada's Economic Prospects. Ottawa: Queen's Printer, 1957.
- Earl, John F. A Study of Nova Scotia Exports, 1937-38, 1947-63. Halifax: Nova Scotia Voluntary Planning Board, 1966.
- Elliot, J. R. The Trade Relations of the Farmers of Nova Scotia. Saint John, New Brunswick: George A. Knodell, 1887.
- Ennals, Peter, and Holdsworth, Deryck. "Vernacular Architecture and the Cultural Landscape of the Maritime Provinces -- A Reconnaissance". Acadiensis 10 (1981), pp. 86-106.
- Ennals, Peter, and Holdsworth, Deryck. "The Cultural Landscape of the Maritime Provinces". in Geographical Perspectives on the Maritime Provinces, edited by Douglas Day. Halifax: Saint Mary's University, 1988.
- Erickson, Paul A. Halifax's North End: An Anthropologist Looks at the City. Hantsport: Lancelot Press, 1986.
- Evans, G. R. "Early Gold Mining in Nova Scotia". Collections of the Nova Scotia Historical Society 25 (1942), pp. 17-47.
- Evans, Reginald D. "Stage Coaches in Nova Scotia, 1815-1867". Collections of the Nova Scotia Historical Society 24 (1938), pp. 107-34.
- Fay, C. R. "Problems of the Maritime Provinces". Dalhousie Review 4, 4 (1925), pp. 438-51.
- Fergusson, C. Bruce. Lumbering in Nova Scotia, 1623-1953. Halifax: Department of Lands and Forests, Extension Division, Bulletin #26, 1967.
- Fernow, B.E.; Howe, C.D. and White, J. N. Forest Conditions of Nova Scotia. Ottawa: Commission of Conservation, 1912.
- Fletcher, R. K. Agriculture and the Atlantic Canada Economy. Fredericton: Atlantic Provinces Economic Council, Pamphlet # 10, 1966.
- Fletcher, R. K. Post-War Agricultural Trends in the Atlantic Provinces. Fredericton: Atlantic Provinces Economic Council, 1966.
- Fogarty, John. "The Comparative Method and Nineteenth Century Regions of Recent Settlement". Historical Studies 19 (1981), pp.412-29.

- Forbes, Ernest. "Misguided Symmetry: The Destruction of Regional Transportation Policy for the Maritimes". in Canada and the Burden of Unity, edited by David J. Bercuson. Toronto: Macmillan of Canada, 1977.
- Forbes, Ernest. The Maritime Rights Movement, 1919-1927: A Study in Canadian Regionalism. Montreal: McGill-Queen's University Press, 1979.
- Forster, Ben. A Conjunction of Interests, Business, Politics, and Tariffs, 1825-1879. Toronto: University of Toronto Press, 1986.
- Fowke, Vernon. Canadian Agricultural Policy: The Historical Pattern. Toronto: University Press, 1946.
- Frank, David. "Class Conflict in the Coal Industry, Cape Breton, 1922". in Essays in Working Class History, edited by Gregory S. Kealey and Peter Warrian. Toronto: McClelland and Stewart Ltd., 1976.
- Frank, David. "The Cape Breton Coal Industry and the Rise and Fall of the British Empire Steel Corporation". Acadiensis 7 (1977), pp. 3-34.
- Frost, J. D. "The 'Nationalization' of the Bank of Canada, 1880-1910". Acadiensis 12,1 (1982), pp. 3-38.
- Gagan, David. "Land, Population and Social Change: The Critical Years in Rural Canada West". Canadian Historical Review 59, 3 (1978), pp. 293-318.
- Gagan, David, and Mays, Hebert. "Historical Demography and Canadian Social History: Families and Land in Peel County, Ontario". Canadian Historical Review 54, 1 (1973), pp. 28-47.
- Gentilcore, R. L. "Land Use and the Dairy Industry in Antigonish County, Nova Scotia". Canadian Geographer 2 (1952), pp. 43-50.
- Gentilcore, R. L. "The Agricultural Background of Settlement in Eastern Nova Scotia". Annals of the Association of American Geographers 46, 2 (1956), pp. 378-404.
- Gesner, Abraham. The Industrial Resources of Nova Scotia. Halifax: A. and W MacKinlay, 1849.
- Glazebrook, G.P. deT. A History of Transportation in Canada, Vol. 1, Continental Strategy to 1867. Toronto: Ryerson Press, 1938; reprinted Toronto: McClelland and Stewart, 1964.
- Grant, John N. "The Development of Sherbrooke Village to 1880". Nova Scotia Historical Quarterly 2 (March, 1972), pp. 1-15.
- Grant, John N. "Travel and Travelers on the Eastern Shore". Nova Scotia Historical Quarterly 6, 1 (1976), pp. 27-28.
- Great Britain. Dominions Royal Commission on the Natural Resources, Trade and Legislation of Certain Portions of His Majesty's Dominions, Vol. 12, Minutes of Evidence Taken in the Maritime Provinces of Canada in 1914. London: His Majesty's Stationery Office, 1915.

- Gross, Robert. "Culture and Cultivation: Agriculture and Society in Thoreau's Concord". Journal of American History 69, 1 (1982), pp. 42-61.
- Gwyn, Julian. "A Little Province Like This: The Economy of Nova Scotia Under Stress, 1812-1853". Canadian Papers in Rural History, Vol. 6 (1988), pp. 192-225.
- Harris, R. Cole, and Warkentin, John, eds. Canada Before Confederation: A Study in Historical Geography. Toronto: Oxford University Press, 1974.
- Harris, R. Cole, ed. Historical Atlas of Canada, Vol. 1, From the Beginning to 1800. Toronto: University of Toronto Press, 1987.
- Harris, R. Cole; Roulston, Pauline; and DeFreitas, Chris. "The Settlement of Mono Township". Canadian Geographer 19, 1 (1975), pp. 1-17.
- Harvey, D.C. "A Friendly Scot Looks at Nova Scotia in 1853". Collections of the Nova Scotia Historical Society 27 (1947).
- Harvey, D. C. "Scottish Immigration to Cape Breton". in Cape Breton Historical Essays, edited by D. MacGillivray and B. Tennyson. Sydney: College of Cape Breton Press, 1980.
- Harvey, D. C. "The Intellectual Awakening of Nova Scotia. Dalhousie Review 13 (1933), pp. 1-22; reprinted in G. A. Rawlyk, ed. Historical Essays on the Atlantic Provinces. Toronto: Mc Clelland and Stewart, 1967.
- Harvey, Sir John. "Report on Nova Scotia". in Secretary of State Report for 1847: The Past and Present State of Her Majesty's Colonial Possessions. London: W Clowes and Sons, 1848.
- Hatchard, Keith. "The History of the Nova Scotia Apple Industry-- Part 8". Nova Scotia Historical Quarterly 9 (1977), pp. 47-57.
- Hawboldt, L. S. and Bulmer, R. M. The Forest Resources of Nova Scotia. Halifax: Nova Scotia Department of Lands and Forests, 1958.
- Hawkins, C. G. "The Origins of the Nova Scotia Lumber Trade". Public Affairs 9 (1945), pp. 108-11.
- Heighton, V. A. The Market for Fresh Fruits and Vegetables in the New Glasgow Area of Pictou County. Halifax: Department of Agriculture and Marketing, 1951.
- Hornsby, Stephen. "Migration and Settlement: The Scots of Cape Breton". in Geographical Perspectives in the Maritimes, edited by D. Day. Halifax: St. Mary's University, 1988.
- Hornsby, Stephen. "Staple Trades, Subsistence Agriculture, and Nineteenth-Century Cape Breton Island". Annals, Association of American Geographers 79, 3 (1989), pp. 417-23.
- Howe, Joseph. Western and Eastern Rambles: Travel Sketches of Nova Scotia, edited by M.G. Parks. Toronto: University of Toronto Press, 1973.

- Hudson, S. C.; Stutt, R. A. and Von Vleit, W. Types of Farming in Canada. Ottawa: Canada Department of Agriculture Publication 825, Farmer's Bulletin #157, 1949.
- Inglis, R. E. "Lochaber: A Typical Rural Community". Collections of the Nova Scotia Historical Society 39 (1977), pp. 89-105.
- Innis, H. A. The Cod Fisheries: The History of An International Economy. Toronto: Ryerson Press, 1940.
- Innis, H. A., ed. The Dairy Industry in Canada. Toronto: Ryerson Press, 1937.
- Innis, H. A. and Fay, C. R. "The Economic Development of Canada, 1867-1921: The Maritime Provinces". in The Cambridge History of the British Empire, Vol. 6, edited by J. Rose. Cambridge: The University Press, 1930.
- Isbister, John. "Agriculture, Balanced Growth and Social Change in Canada Since 1850: An Interpretation". Economic Development and Cultural Change 25, 4 (1977), pp. 673-697.
- Janssen, William. "Agriculture in Transition". in The Garden Transformed: Prince Edward Island, 1945-80, edited by V. Smitheram, D. Milne, and S. Dasgupta. Charlottetown: Ragweed Press, 1982.
- Johnson, Ralph S. Forests of Nova Scotia: A History. Halifax: Department of Lands and Forests, 1986.
- Johnston, J. F. W. Notes on North America: Agricultural, Economical and Social, Vol. 1. Edinburgh: William Blackwood and Sons, 1851.
- Jones, R. L. "French Canadian Agriculture in the St. Lawrence Valley, 1815-1850". Agricultural History 16, 3 (1942), pp. 137-148.
- Jones, R. L. "The Agricultural Development of Lower Canada, 1850-1867". Agricultural History 19, 2 (1945), pp. 212-24.
- Jones, R. L. The History of Agriculture in Ontario, 1613-1880. Toronto: University of Toronto Press, 1946.
- Kelly, Kenneth. "Wheat Farming in Simcoe County in the Mid-Nineteenth Century". Canadian Geographer 15, 2 (1971), pp. 95-112.
- Kinsman, Gordon. Colchester County Century Farms. Truro: Nova Scotia Department of Agriculture and Marketing, 1979.
- Kontak, Walter, and MacKinnon, Stephen. A Survey of Agriculture in Eastern Nova Scotia, 1871-1956. Antigonish: Eastern Cooperative Services, 1958.
- Langhout, Rosemarie. "Alternative Opportunities: The Development of Shipping at Sydney Harbour, 1842-1889". in Cape Breton at 200: Historical Essays in Honour of the Island's Bicentennial, 1775-1985, edited by Kenneth Donovan. Sydney: University College of Cape Breton Press, 1985.
- Langhout, Rosemarie. "Developing Nova Scotia: Railways and Public Accounts, 1847-67". Acadiensis 14, 2 (1985), pp. 3-28.

- Larson, H. K. Demand and Production Analysis of Agricultural Products in Nova Scotia. Halifax: Nova Scotia Department of Finance and Economics, 1964.
- Lattimer, J. E. A Study of 128 Profitable Cumberland County Farms. Halifax: Nova Scotia Department of Agriculture, Bulletin # 8, 1943.
- Lattimer, J. E. "Some Aspects of Agriculture in the Maritimes". Public Affairs 5, 2 (1941), pp. 74-79.
- Lawr, D. A. "The Development of Ontario Farming, 1870-1914: Patterns of Growth and Change". Ontario History 64 (1972), pp. 249-50.
- Lemieux, O. A. "Population Change in the Maritime Provinces". Public Affairs, 7 (1944), pp. 212-17.
- Lewis, J. N., and Hudson, S.C. Land Use and Part-time Farming in Cape Breton County, Nova Scotia. Nova Scotia Department of Agriculture, Extension Division and Dominion of Canada Department of Agriculture, 1942.
- Lewis, Frank, and McInnis, Marvin. "Agricultural Output and Efficiency in Lower Canada, 1851". Research in Economic History 9 (1984), pp. 45-87.
- Linteau, P. A.; Durocher, R. and Robert, J. C. Quebec: A History, 1867-1929. Translated by R. Chodos. Toronto: James Lorimer and Company, 1983.
- Little, J. I. "The Wheat Trade and Economic Development in Upper and Lower Canada". Acadiensis 11, 1 (1981), pp. 141-51.
- Longley, Willard V. Some Economic Aspects of the Apple Industry in Nova Scotia. Halifax: Nova Scotia Department of Agriculture Bulletin, # 113, 1932.
- Longley, Willard V. The Boisdale District, Cape Breton County: A Farm Survey. Halifax: Nova Scotia Department of Agriculture Bulletin # 119, 1936.
- Longley, Willard V. "The Economy of Agriculture in Nova Scotia". Public Affairs 15, 3 (1953), pp. 37-41.
- Longley, Willard V., and Chown, W. F. Antigonish County, Nova Scotia: A Study of Land Utilization, Farm Production and Rural Living. Halifax: Nova Scotia Department of Agriculture, Bulletin # 118, 1936.
- Loucks, O. L. "Forest Classification of the Maritimes". Proceedings of the Nova Scotia Institute of Science 25 (1962), pp. 85-167.
- MacDonald, W. James, ed. Patterson's History of Victoria County. Sydney: College of Cape Breton Press, 1978.
- MacGillivray, D. "Cape Breton in the "1920s: A Community Besieged". in Essays in Cape Breton History, edited by Brian D. Tennyson. Windsor, Nova Scotia: Lancelot Press, 1973.
- MacGillivray, D. "Henry Melville Whitney Comes to Cape Breton: The Saga of a Gilded Age Entrepreneur". Acadiensis 9 (1979), pp. 44-70.

- MacKenzie, A. A. "Cape Breton and the Western Harvest Excursions, 1890-1928". in Cape Breton at 200: Historical Essays in Honour of the Island's Bicentennial, 1785-1985, edited by Kenneth Donovan. Sydney, University College of Cape Breton Press, 1985.
- MacKenzie, A. A. "The Pictou Cattle Disease". Acadiensis 4, 2 (1975), pp. 79-84.
- MacKinnon, Robert. "Farming the Rock: The Evolution of Commercial Agriculture Around St. John's, Newfoundland to 1945". Acadiensis, 20, 1 (1991), forthcoming.
- MacKinnon, Robert, and Wynn, Graeme. "Nova Scotian Agriculture in the 'Golden Age': A New Look". in Geographical Perspectives on the Maritime Provinces, edited by Douglas Day. Halifax: Saint Mary's University, 1988.
- MacKintosh, W. A. The Economic Background of Dominion-Provincial Relations, Appendix 3 of the Royal Commission on Dominion-Provincial Relations, edited by J.H. Dales. Toronto: McClelland and Stewart Ltd., 1964.
- MacLaren, George. "Communications in the Northumberland Strait and the Gulf of St. Lawrence, 1775-1951". Nova Scotia Historical Quarterly 1, 2 (1971), pp. 101-25.
- MacLeod, Donald. "Practicality Ascendant: The Origins and Establishment of Technical Education in Nova Scotia". Acadiensis 15, 2 (1986), pp. 61-63.
- MacLeod, Ian. In Union Strength: A History of Nova Scotia Farm Organization, 1895-1975. Truro: Nova Scotia Federation of Agriculture, 1976.
- MacNeil, A. R. "Early American Communities on the Fundy: A Case Study of Annapolis and Amherst Townships, 1767-1827". Agricultural History 62, 3 (1989), pp. 101-19.
- MacNeil, Neil. The Highland Heart in Nova Scotia. New York: Charles Scribner's Sons, 1948.
- MacPherson, Ian. "Appropriate Forms of Enterprise: The Prairie and Maritime Co-operative Movements, 1900-1955". Acadiensis 8, 1 (1978), pp. 77-96.
- MacSween, R. J. A History of Nova Scotia Co-operatives. Halifax: Department of Agriculture and Marketing, 1985.
- Marr, W. L. and Paterson, D. G. Canada: An Economic History. Toronto: Gage Publishing Ltd., 1980.
- Marshall, M.V. "2000 A.D. To 2020 A.D". Nova Scotia Historical Quarterly 2 (1972), pp. 389-404.
- Martell, J. S. "Intercolonial Communications, 1840-1867". Canadian Historical Association Report (1939), pp.41-61.
- Martell, J. S., and Harvey, D. C. "Achievements of Agricola and the Agricultural Societies". Bulletin of the Public Archives of Nova Scotia, 2, 2 (1940), pp. 1-48.

- Martell, J. S., and Harvey, D. C. "From Central Board to Secretary of Agriculture, 1826-85". Bulletin of the Public Archives of Nova Scotia 2, 3 (1940), pp. 1-30.
- Martin, J. Lynton. "Farm Life in Western Nova Scotia Prior to 1850". Collections of the Nova Scotia Historical Society 37 (1970), pp. 67-84.
- Martin, J. Lynton. "The History of the Plough in Nova Scotia, Part 1". The Occasional: An Occasional Journal for Nova Scotia Museums 8, 3 (1984), pp. 23-7.
- Martin, J. Lynton. "The History of the Plough in Nova Scotia, Part 2". The Occasional: An Occasional Journal for Nova Scotia Museums 9, 2 (1985), pp. 19-22.
- Martin, J. Lynton. "The Land". The Occasional: An Occasional Journal for Nova Scotia Museums 7, 3 (1983), pp. 9-16.
- Martin, J. Lynton. The Ross Farm Story: A Brief History of Agriculture in Nova Scotia With Particular Emphasis on Life on the Small Upland farm (Halifax: Nova Scotia Museum, Historical Series # 2, 1974).
- McArthur, I. S. and Coke, T. Types of Farming in Canada. Ottawa: Canada Department of Agriculture Publication 653, Farmer's Bulletin #77, 1939.
- McCalla, Douglas. "The Internal Economy of Upper Canada: New Evidence on Agricultural Marketing Before 1850". Agricultural History 59, 3 (1985), pp. 397-416.
- McCalla, Douglas. "The Wheat Staple and Upper Canadian Development". Canadian Historical Association Papers (1978), pp. 34-46.
- McCalla, Robert J., ed. The Maritime Provinces Atlas. Halifax: Maritext Limited, 1988.
- McCallum, John . Unequal Beginnings: Agriculture and Economic Development in Quebec and Ontario Until 1870. Toronto: University of Toronto Press, 1980.
- McCann, L. D., ed. Heartland and Hinterland: A Geography of Canada. Scarborough, Ontario: Prentice-Hall Inc., 1987.
- McCann, L. D. "'Living a Double Life' : Town and Country in the Industrialization of the Maritimes". in Geographical Perspectives on the Maritime Provinces, edited by Douglas Day. Halifax: Saint Mary's University, 1988.
- McCann, L. D. "The Mercantile-Industrial Transition in the Metal Towns of Pictou County, 1857-1931". Acadiensis 10, 2 (1981), pp. 29-64.
- McCann., L. D., ed. People and Place: Studies of Small Town Life in the Maritimes. Fredericton: Acadiensis Press, 1987.
- McCullough, Alan B. Money and Exchange in Canada to 1900. Toronto: Dundurn Press, 1984.

- McInnis, Marvin. "A Reconsideration of the State of Lower Canadian Agriculture in the First Half of the Nineteenth Century". Canadian Papers in Rural History Vol. 3 (1982), pp. 9-49.
- McInnis, Marvin. "The Changing Structure of Canadian Agriculture, 1867-1897". Journal of Economic History 42, 1 (1982), pp. 191-97.
- McInnis, Marvin. "The Efficiency of the French Canadian farmer in the Nineteenth Century". Journal of Economic History 40, 3 (1980), pp. 497-514.
- McMahon, Sarah. "A Comfortable Subsistence: The Changing Composition of Diet in Rural New England, 1620-1840". William and Mary Quarterly 42 (1985), pp. 26-51.
- McMahon, Sarah. "Provisions laid Up for the family: Toward a History of Diet in New England". Historical Methods 14, 1 (1981), pp. 4-21.
- Miller, R. B. "Forest Resources of the Maritime Provinces". in Canada and Its Provinces: A History of the Canadian People and Their Institutions By One Hundred Associates, Vol. 14, edited by A. Shortt and A. G. Doughty. Toronto: Glasgow Book and Co., 1914.
- Moorsom, Captain W. Letters From Nova Scotia: Comprising Sketches of a Young Country. London: H. Colburn and R. Bentley, 1830.
- Morgan, Robert J. "'Poverty, Wretchedness and Misery': The Great Famine in Cape Breton, 1845-1851". Nova Scotia Historical Review 6, 1 (1986), pp. 88-104.
- Morrison, James H. "American Tourism in Nova Scotia, 1871-1940". Nova Scotia Historical Review 2, 2 (1982), pp. 40-51.
- Morrison, James. "Maurice Almon Harlow's Nineteenth Year: Farming in Nova Scotia, 1877-1884". in The Farm, Annual Proceedings of the Dublin Seminar for New England Folklife, edited by Peter Benes. Boston: Boston University, 1988.
- Morrison, James H., Friend, L. M. B. "Queen's County Klondike". Nova Scotia Historical Quarterly 9 (June, 1979), pp. 143-156.
- Morrison, James H., and Friend, Lawrence. We Have Held Our Own: The Western Interior of Nova Scotia, 1800-1940. Ottawa: National Historic Parks and Sites Branch, History and Archeology Series # 45, Parks Canada, 1981.
- Morse, Norman H. "Agriculture in the Maritime Provinces". Dalhousie Review 39 (1959), pp. 471-84.
- Morton, John C., ed. A Cyclopedia of Agriculture, Practical and Scientific; in which the Theory, the Art and the Business of Farming, are Thoroughly and Practically Treated. Glasgow, Edinburgh and London: Blackie and Son, 1855.
- Muise, D. A. "The Federal Election of 1867 in Nova Scotia: An Economic Interpretation". Nova Scotia Historical Society Collections 36 (1968), pp. 327-51.

- Muise, D. A. "The Making of an Industrial Community: Cape Breton Coal Towns, 1867-1900". in Cape Breton Historical Essays, edited by D. MacGillivray and B. Tennyson. Sydney: College of Cape Breton Press, 1980.
- Nicholson, Norman. "Rural Settlement and Land Use in the New Glasgow Region". Geographical Bulletin 7 (1955), pp. 38-64.
- Nightingale, Marie. "The General Store". Nova Scotia Historical Quarterly 2 (March, 1972), pp. 17-29.
- North, D. C. "Ocean Freight Rates and Economic Development, 1750-1913". Journal of Economic History, 18 (1958).
- Norton, William. "The Relevance of Von Thunen Theory to Historical and Evolutionary Analysis of Agricultural Land Use". Journal of Agricultural Economics 30, 1 (1979), pp. 39-47.
- Nova Scotia Department of Agriculture. List of Farms for Sale. Halifax: Department of Agriculture, 1940.
- Nova Scotia Department of Development. Nova Scotia Resource Atlas. Halifax: Department of Development, 1986.
- Nova Scotia Department of Mines. A Brief History of Mining and Geology in Nova Scotia. Halifax: Government Printer, 1975.
- Nova Scotia Heritage Trust. Founded Upon a Rock: Historic Buildings in Halifax and Vicinity. Halifax: Nova Scotia Heritage Trust, 1967.
- Nunnick, F. C. "Agricultural Survey in 1912". in Report of the Fourth Annual Meeting of the Dominion Commission of Conservation. Toronto: Warwick Bros., and Rutler Ltd., 1913.
- Outram, Joseph. Nova Scotia, Its Condition and Resources in a Series of Six Letters. Edinburgh and London: W. Blackwood and Sons, 1850.
- Outram, Joseph. The Counties of Nova Scotia: Their Condition and Capabilities. Halifax: Queen's Printer, 1867.
- Panting, G. "Cradle of Enterprise: Yarmouth, Nova Scotia, 1840-1889". in The Enterprising Canadians: Entrepreneurs and Economic Development in Eastern Canada, 1820-1914, edited by L. R. Fischer and E. W. Sager. St. John's: Memorial University of Newfoundland, 1979.
- Pedley, Fred. "Nova Scotia's Problems, With Special Reference to Exodus: Letters From Prominent Nova Scotians". The Canadian Magazine 13, 5 (September, 1899), pp. 467-74.
- Peet, J. Richard. "The Spatial Expansion of Commercial Agriculture in the Nineteenth Century: A Von Thunen Interpretation". Economic Geography 45, 4 (1969), pp. 283-301.
- Porter, Daniel R. "Making Hay: Only When the Sun Shines". The Occasional: An Occasional Journal for Nova Scotia Museums 10, 2 (1980), pp. 7-15.

- Powell, Baden. "Yarmouth Steam Packets, 1839-1889". Nova Scotia Historical Quarterly 5, 1 (1975), pp. 31-46.
- Primack, Martin. "Land Clearing Under Nineteenth Century Techniques: Some Preliminary Calculations". Journal of Economic History 22, 4 (1962), pp. 484-97.
- Putnam, D. F. "Distribution of Agriculture in New Brunswick". Public Affairs, 3 (1940), pp. 8-11.
- Putnam, D. F. "Farm Distribution in Nova Scotia". Economic Geography 15, 1 (1939), pp. 43-54.
- Putnam, D. F. "Regional Aspects of Nova Scotian Agriculture". Public Affairs 3 (1939), pp. 114-21.
- Putnam, D. F. "The Climate of the Maritime Provinces". Canadian Geographical Journal 21, 1 (1940), pp. 135-147.
- Rawlyk, George, ed. The Atlantic Provinces and The Problems of Confederation. St. John's: Breakwater Books, 1979.
- Reid, E. P., and Hopper, W. C. The Market for Farm Products in the Sydney Area of Nova Scotia. Ottawa: Dominion Department of Agriculture, 1941.
- Retson, G. C., and Heighton, V. A. "The Sheep Enterprise in Nova Scotia". The Economic Annalist 24, 2 (1954), pp. 44-48.
- Retson, G. C., and Heighton, V. A. "The Strawberry Enterprise in Nova Scotia". Economic Annalist 22, 5 (1952), pp. 116-19.
- Richards, A. E. "Marketing the Nova Scotian Apple Crop". Public Affairs 4 (1940-41), pp. 15-19.
- Richards, A. E. "Nova Scotia Apple Marketing Situation". Public Affairs, 5 (1941), pp. 79-83.
- Robertson, Barbara R. Sawpower: Making Lumber in the Sawmills of Nova Scotia. Halifax: Nimbus Publishing and The Nova Scotia Museum, 1986.
- Robertson, Barbara R. "Trees, Treaties and the Timing of Settlement: A Comparison of the Lumber Industry in Nova Scotia and New Brunswick, 1784-1867". Nova Scotia Historical Review 4, 1 (1984), pp. 37-55.
- Rogin, Leo. The Introduction of Farm Machinery and its Relation to the Productivity of Labor in the Agriculture of the United States During the Nineteenth Century. Berkeley: University of California Press, 1931.
- Ross, Eric. "The Rise and Fall of Pictou Island". in People and Place: Studies of Small Town Life in the Maritimes. Fredericton: Acadiensis Press, 1987.
- Rothenberg, Winnifred. "Farm Account Books: Problems and Possibilities". Agricultural History 58, 2 (1984), pp. 106-112.

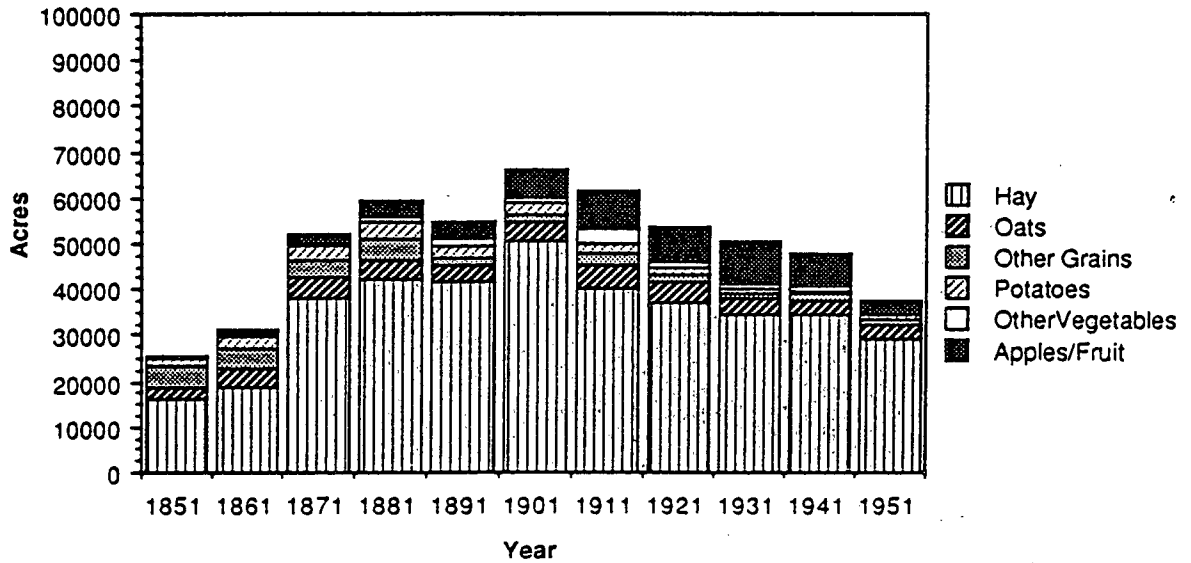
- Rothenberg, Winnifred. "The Market and Massachusetts Farmers, 1750-1855". Journal of Economic History 41, 2 (1981), pp. 283-314.
- Russell, Howard. A Long Deep Furrow: Three Centuries of Farming in New England. Hanover: University Press of New England, 1976, 1982.
- Russell, Peter A. "Upper Canada: A Poor Man's Country? Some Statistical Evidence". Canadian Papers in Rural History 3 (1982), pp. 129-147.
- Sacouman, R. James. "Co-operative Community Development Among Nova Scotia Primary Producers, 1861-1940". in Issues in the Regional/Urban Development of Atlantic Canada, Vol. 2, edited by N. Ridler. Saint John: University of New Brunswick, 1978.
- Sacouman, R. James. "Underdevelopment and the Structural Origins of Antigonish Movement Co-operatives in Eastern Nova Scotia". in Underdevelopment and Social Movements in Atlantic Canada, edited by R. J. Brym and R. J. Sacouman. Toronto: New Hogtown Press, 1979.
- Sager, E. and Panting, G. "Staple Economies and the Rise and Decline of the Shipping Industry in Atlantic Canada". in Change and Adaptation in Maritime History: The North Atlantic Fleets in the Nineteenth Century, edited by L. R. Fischer and G. Panting. St. John's: Memorial University of Newfoundland, 1985.
- Saunders, S. A. The Economic History of the Maritime Provinces, ed. T.W. Acheson. Fredericton, N.B.: Acadiensis Press, 1984.
- Saunders, S. A. The Economic Welfare of the Maritime Provinces. Wolfville, Nova Scotia, Acadia University, 1932.
- Saunders, S. A. "The Maritime Provinces and the Reciprocity Treaty". Dalhousie Review 14, 2 (1934), pp. 355-71.
- Saunders, S. A. "The Maritime Provinces and the National Policy: Comments Upon Economic Regionalism in Canada". Dalhousie Review 16 (1936), pp. 87-97.
- Schierbeck, Otto, and Doull, Hon. John (Minister of Lands and Forests, Nova Scotia). The Imperial Economic Conference Report on Labour Conditions in the Woods. Forest Inventory, Duration of Supply, Forest Industries and the English Market. Halifax: Department of Lands and Forests, 1932.
- Schlebecker, J. T. "The World Metropolis and the History of American Agriculture". Journal of Economic History, 20 (1960), pp. 187-208.
- Schlebecker, J. T. Whereby We Thrive: A History of American Farming, 1607-1972. Ames, Iowa: Iowa State University Press, 1975.
- Sears, F. C. "Fruit Growing in Nova Scotia". The Canadian Magazine 29 (1907), pp. 441-47.
- Shammas, Carole. "How Self-Sufficient Was Early America?". Journal of Interdisciplinary History 13, 2 (1982), pp. 247-72.
- Shand, G.V. Historic Hant's County. Windsor: McCurdy Printing, 1979.

- Shapsmeier, Edward L., and Shapsmeier, Frederick H. Encyclopedia of American Agricultural History. Westport Connecticut: Greenwood Press, 1975.
- Sitwell, O. F. G. "The Relationship of the Agricultural Revolution to Economic Development: The Case of Nova Scotia". Albertan Geographer 2 (1965-66), pp. 41-4.
- Sleigh, B.W. Pine Forests and Hackmatack Clearings or Travel Life and Adventure in the British North American Provinces. London: R. Bentley, 1853.
- Smiley, Donald D., ed. The Rowell Sirois Report, Book 1. Toronto : Mc Clelland and Stewart Ltd., 1963.
- Smith, David; Konrad, Victor; Koulouris, Helen; Hawkes, Edward; and Borns, Harold W. "Salt Marshes As a Factor in the Agriculture of Northeastern North America". Agricultural History 63, 2 (1989), pp. 270-94.
- Smith, James F. The History of Pugwash. Oxford: The North Cumberland Historical Society, 1978.
- Sparling, Mary. A Guide to Some Domestic Pioneer Skills. Halifax: Nova Scotia Museum, 1974.
- Spedon, Andrew L. Rambles Among the Bluenoses, or Reminiscences of a Tour through New Brunswick and Nova Scotia During the Summer of 1862. Montreal: John Lovell, 1863.
- Spelt, Jacob. Urban Development in South-Central Ontario. Toronto: McClelland and Stewart, 1972.
- Stephens, David E. "Nova Scotia's Forgotten Decades: 1900-1920". Nova Scotia Historical Quarterly 1, 4 (1971), pp. 335-51.
- Stephens, David E. Truro: A Railway Town. Hantsport, Nova Scotia: Lancelot Press, 1981.
- Stewart, Andrew. Part-time Farming in Nova Scotia. Halifax: Dalhousie University, Institute of Public Affairs, 1944.
- Stewart, Andrew. "Part-Time Farming in Nova Scotia". Public Affairs, 6, 3 (1943), pp. 145-9.
- Sutherland, C. H. The Sutherlands of Westchester, Nova Scotia. Agincourt, Ontario: Generation Press Inc., 1986.
- Sutherland, David. "Halifax, 1815-1914: Colony to Colony". Urban History Review 1 (1975), pp. 7-11.
- Sutherland, David. "Halifax Merchants and the Pursuit of Development, 1783-1850". Canadian Historical Review 59, 1 (1978), pp. 1 -17.
- Tennyson, B.D. "Cape Breton in 1867". Nova Scotia Historical Quarterly 6, 2 (1976), pp. 193-206.

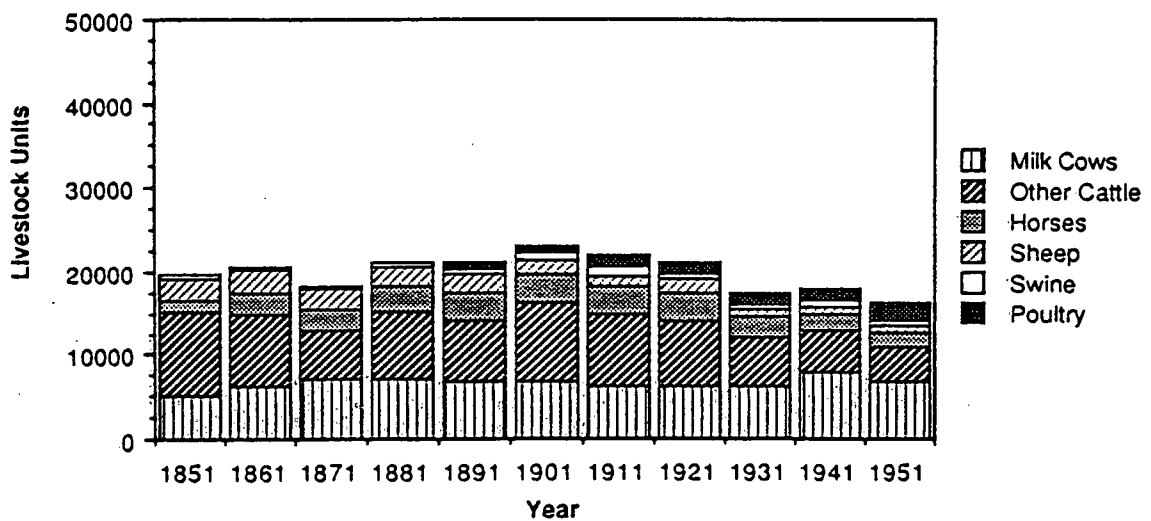
- Tennyson, B. D., ed. Impressions of Cape Breton. Sydney: University College of Cape Breton Press, 1986.
- Teuteberg, Hans J. "The Beginnings of the Modern Milk Age in Germany". in Food in Perspective: Proceedings of the Third International Conference on Ethnological Food Research, edited by A. Fenton and T. M. Owen. Edinburgh: John Donald Publishers Ltd., 1981.
- Thornton, Patricia A. "The Problem of Outmigration from Atlantic Canada, 1871-1921: A New Look". Acadiensis 15, 1 (1985), pp. 3-34.
- Trueman, Howard. Early Agriculture in the Atlantic Provinces. Moncton: The Times Printing Co., 1907.
- Troughton, Michael J. "From Nodes to Nodes: The Rise and fall of Agricultural Activity in the Maritime Provinces". in Geographical Perspectives on the Maritime Provinces, edited by Douglas Day. Halifax: Saint Mary's University, 1988.
- Twamley, B. E. "A Living From the Land: A Brief History of Field Crops in Ontario". in First Annual Agricultural History of Ontario Seminar Proceedings. edited by T. A. Crowley. Guelph, Ontario: University of Guelph, Office of Continuing Education, 1976.
- Urquhart, M. C. and Buckley, K. A. H. Historical Statistics of Canada. Toronto: MacMillan Company of Canada, 1965.
- Wainwright, Kennedy B. "A Comparative Study in Nova Scotian Rural Economy, 1788-1872, Based on Recently Discovered Books of Account of Old Firms in Kings County". Collections of the Nova Scotia Historical Society 30 (1954), pp. 107-10.
- Waite, P. B. The Life and Times of Confederation, 1864-67, Politics, Newspapers and the Union of British North America. Toronto: University of Toronto Press, 1962.
- Ware, D. W. The Variability of and the Sources of Farm Cash Income, Canada and the Provinces, 1926-1960. Ottawa: Department of Agriculture, Economics Division, 1963.
- Warkentin, John, ed. Canada: A Geographical Interpretation. Toronto: Methuen, 1968.
- Way, W. C., and Reid, E. P. The Market for Meats in Halifax, Nova Scotia, 1947-48. Ottawa: Canada Department of Agriculture, 1950.
- Whebell, C. F. J. "The Effect of Transport Innovation on the Countryside". in Second Annual Agricultural History of Ontario Seminar Proceedings, edited by T.A. Crowley. Guelph, Ontario: University of Guelph, Office of Continuing Education, 1977.
- Whitbeck, R. H. "A Geographical Study of Nova Scotia". Bulletin of the American Geographical Society 46 (1914), pp. 413-19.
- Williams, Fred. "Shank's Mare and Other Things: An Historical Glimpse of Travel in Northern Cape Breton". Nova Scotia Historical Quarterly 10, 4 (1980), pp. 213-20.

- Williams, Trevor. A Short History of Twentieth Century Technology, circa 1900-1951. Oxford: Oxford University Press, 1982.
- Wood, J. David, ed. Perspectives on Landscape and Settlement in Nineteenth Century Ontario. Toronto: McClelland and Stewart, 1975.
- Wynn, Graeme. "A Province Too Much Dependent on New England". Canadian Geographer 31, 2 (1987), pp. 98-113.
- Wynn, Graeme. "A Region of Scattered Settlements and Bounded Possibilities: Northeastern America 1775-1800". Canadian Geographer 31, 4 (1987), pp. 319-38.
- Wynn, Graeme. "A Share of the Necessaries of Life: Remarks on Migration, Development and Dependency in Atlantic Canada". in Beyond Anger and Longing: Community and Development in Atlantic Canada, edited by Berkeley Fleming. Fredericton: Acadiensis Press, 1988.
- Wynn, Graeme. "Exciting a Spirit of Emulation Among the 'Plodholes': Agricultural Reform in Pre-Confederation Nova Scotia". Acadiensis 20, 1 (1990), pp. 5-51.
- Wynn, Graeme. "Forging a Canadian Nation". in North America: The Historical Geography of a Changing Continent, edited by R.D. Mitchell and P.A. Groves. Totowa: Rowman and Littlefield, 1987.
- Wynn, Graeme. "Late Eighteenth-Century Agriculture on the Bay of Fundy Marshlands". Acadiensis 8, 2 (1979), pp. 80-9.
- Wynn, Graeme. "Moving People and Goods in Mid-Nineteenth Century New Brunswick". Canadian Papers in Rural History, Vol. 6 (1988), pp. 227-39.
- Wynn, Graeme, ed. People, Places, Patterns, Processes: Geographical Perspectives on the Canadian Past. Toronto: Copp Clark Pitman Ltd., 1990.
- Wynn, Graeme. "The Maritimes: The Geography of Fragmentation and Underdevelopment". in Heartland and Hinterland: A Geography of Canada, edited by L.D. Mc Cann. Scarborough: Prentice-Hall Inc., 1987.
- Wynn, Graeme. "This Dark Vale of Sorrow". Nova Scotia Historical Review 6, 2 (1986): 55-62.
- Wynn, Graeme. Timber Colony: A Historical Geography of Early Nineteenth Century New Brunswick. Toronto: University of Toronto Press, 1981.

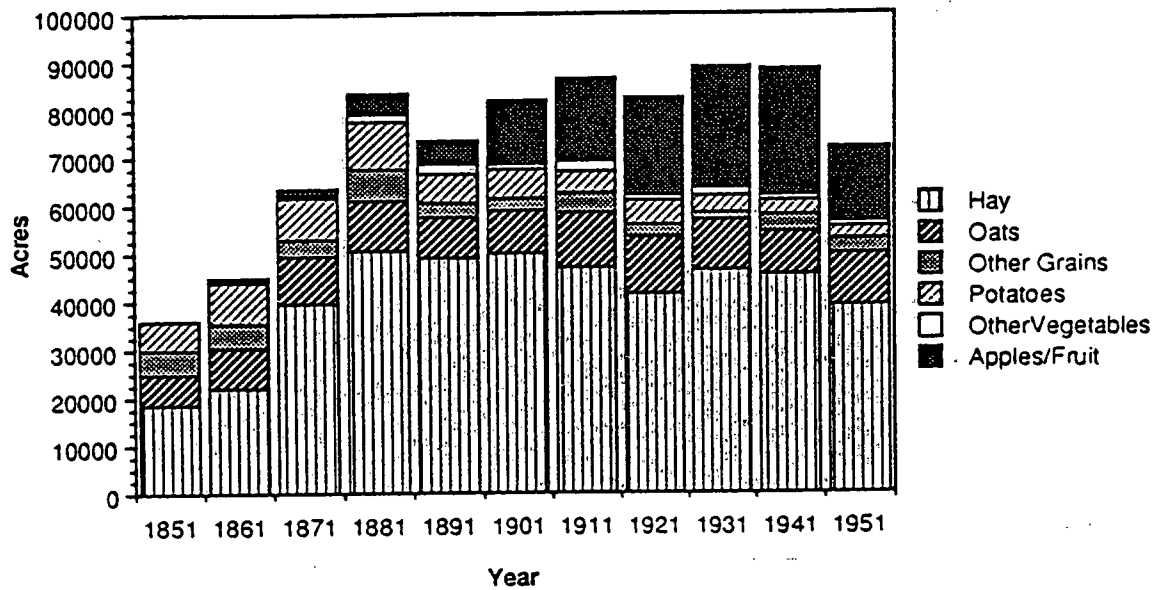
PRINCIPAL CROPS IN ANNAPOLIS COUNTY, 1851-1951



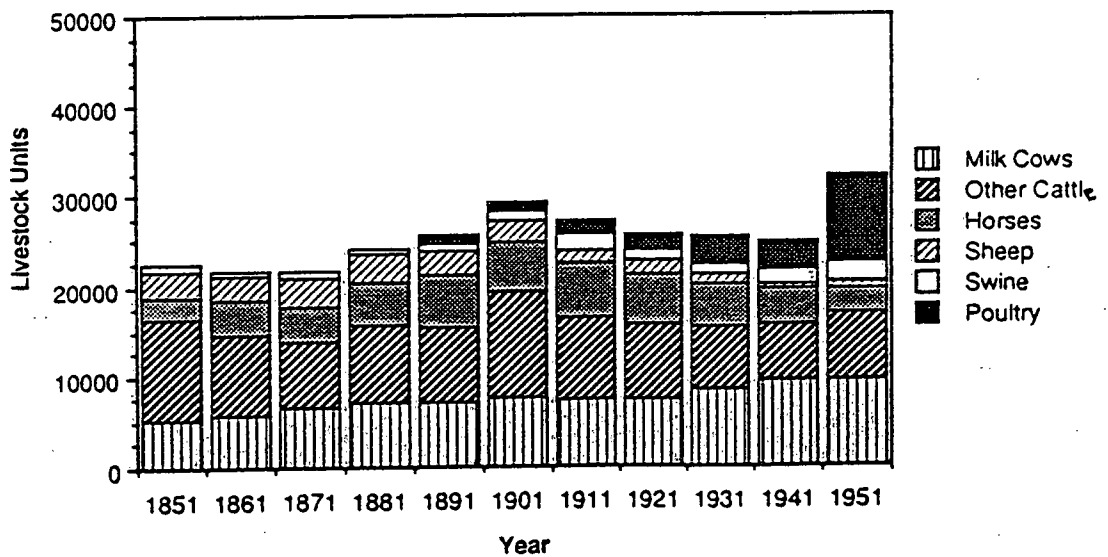
LIVESTOCK IN ANNAPOLIS COUNTY, 1851-1951



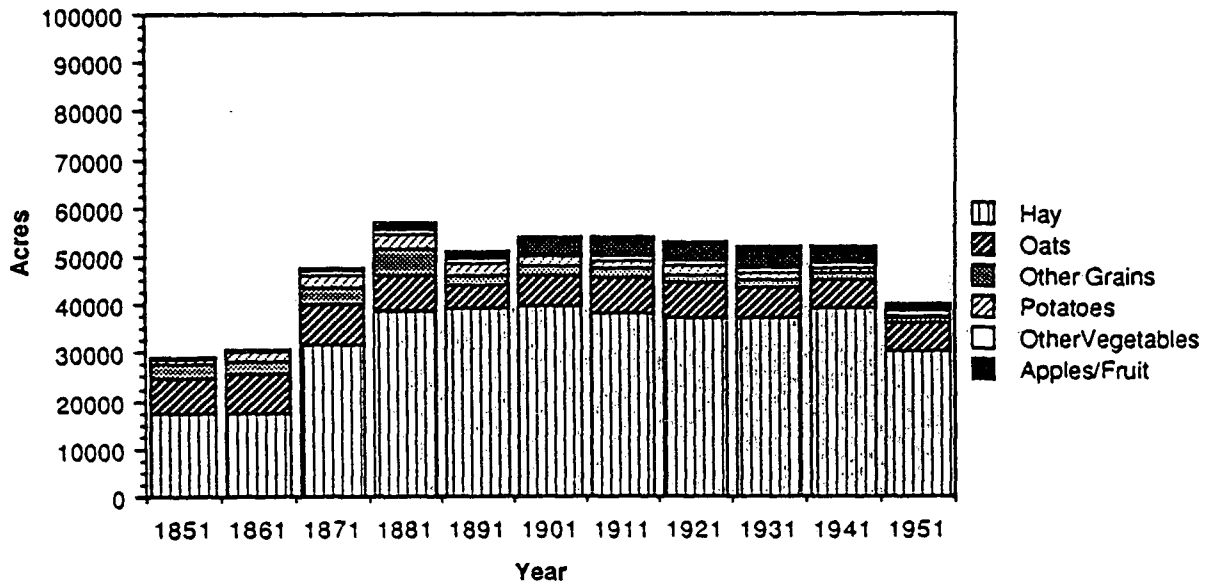
PRINCIPAL CROPS IN KINGS COUNTY, 1851-1951



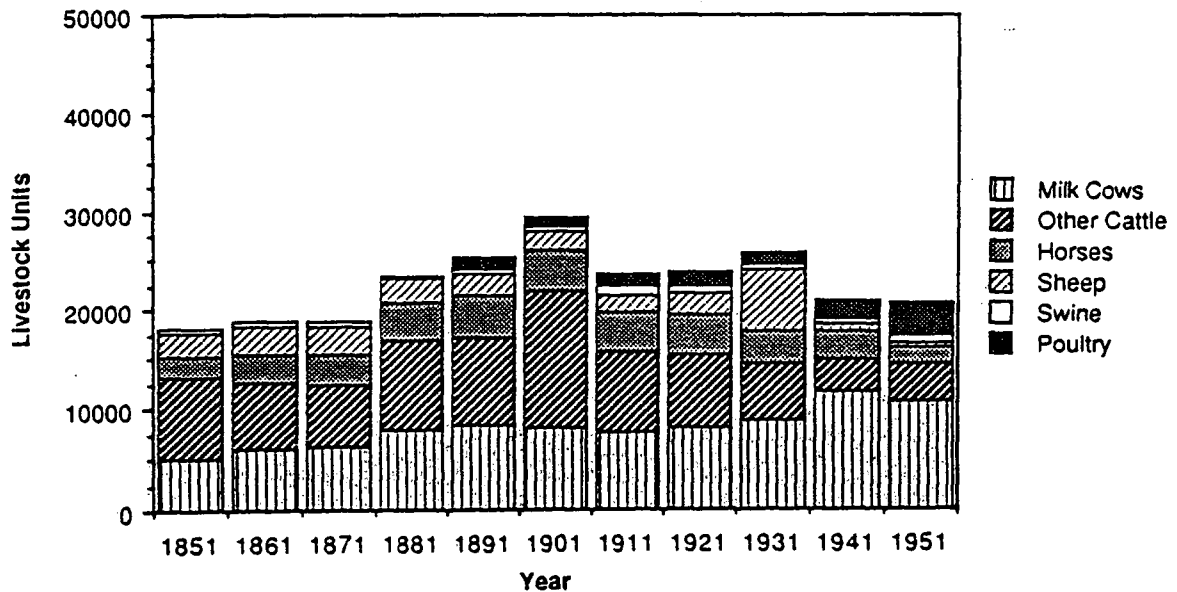
LIVESTOCK IN KING'S COUNTY, 1851-1951



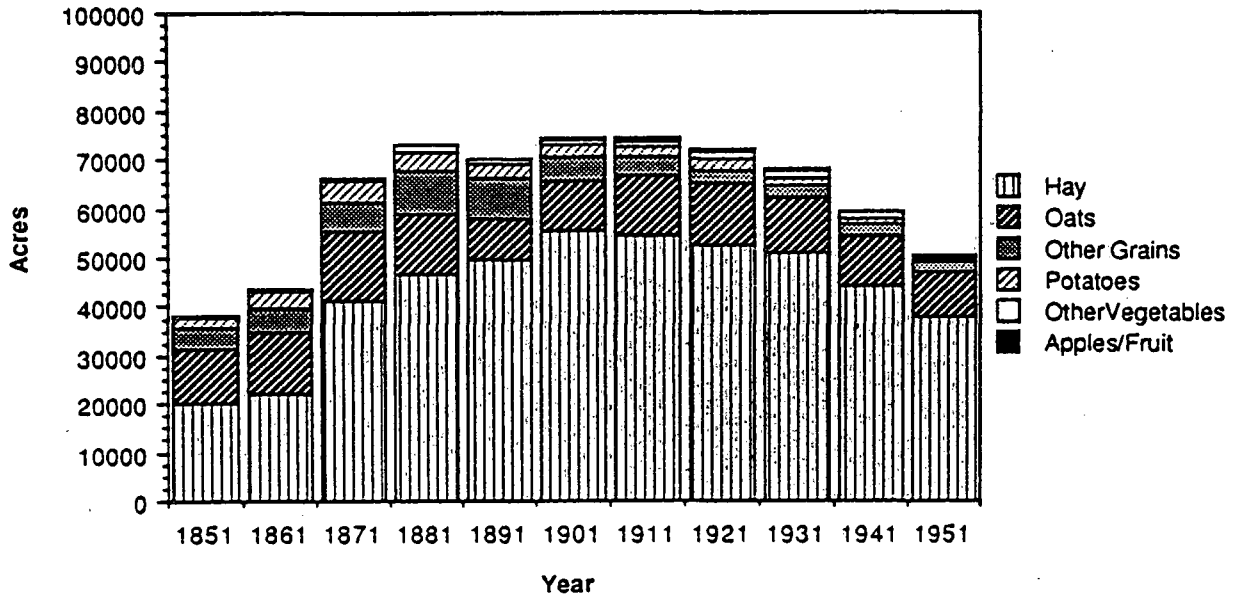
PRINCIPAL CROPS IN HANTS COUNTY, 1851-1951



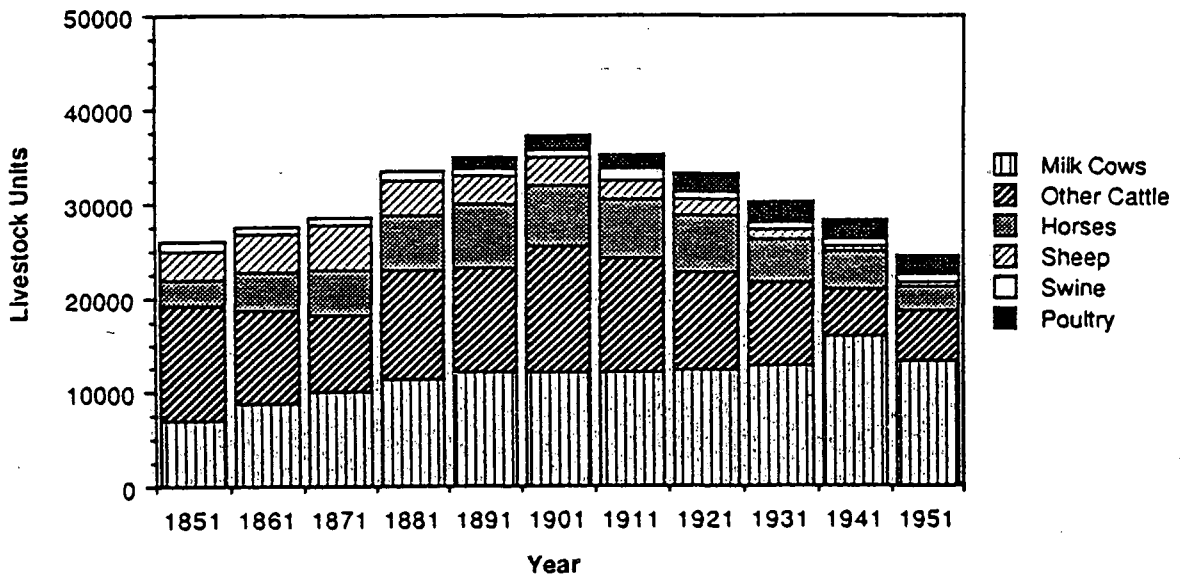
LIVESTOCK IN HANT'S COUNTY, 1851-1951



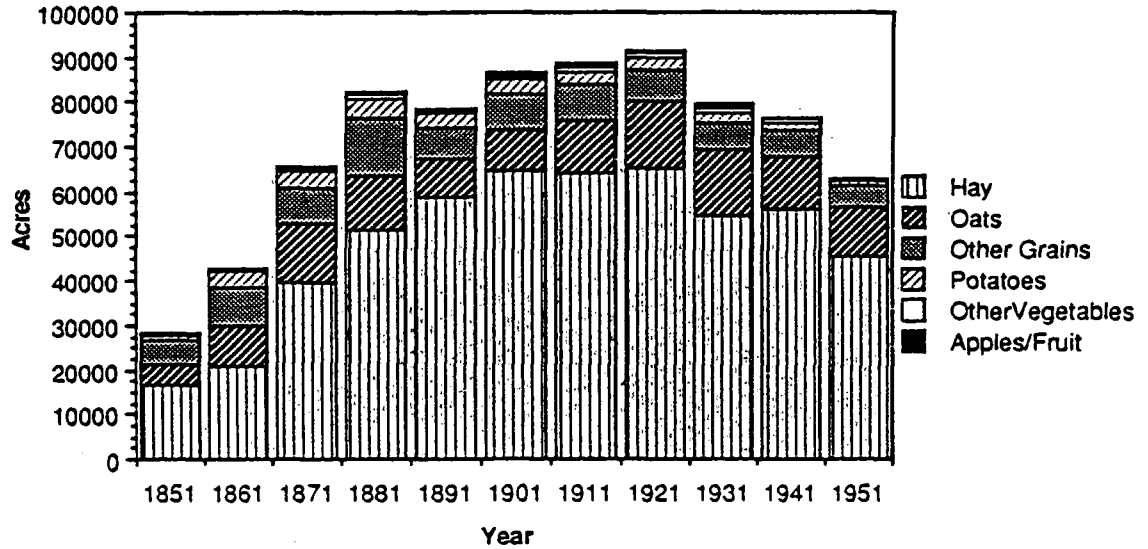
PRINCIPAL CROPS IN COLCHESTER COUNTY, 1851-1951



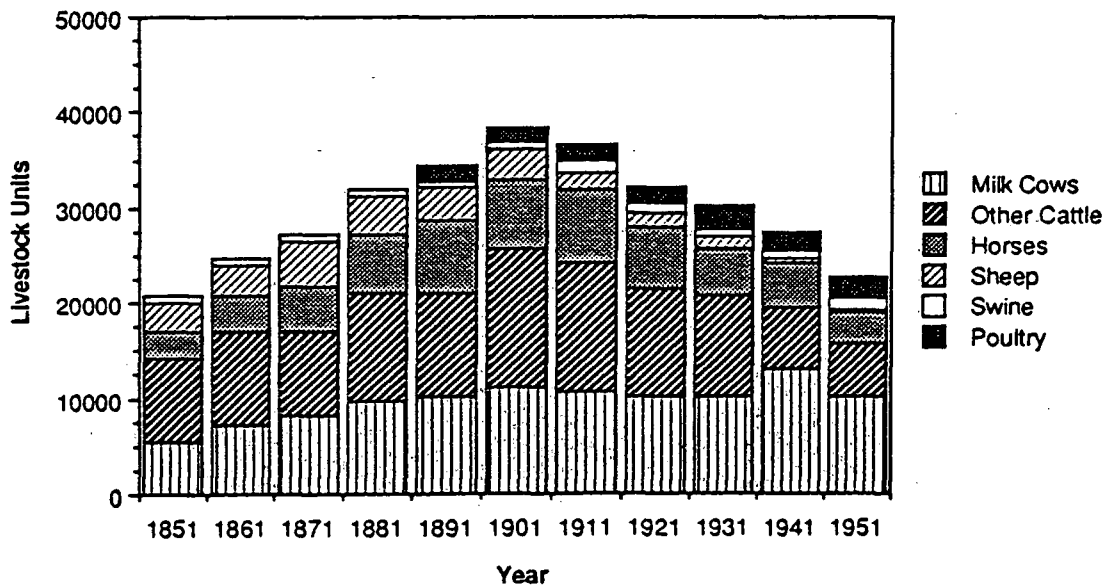
LIVESTOCK IN COLCHESTER COUNTY, 1851-1951



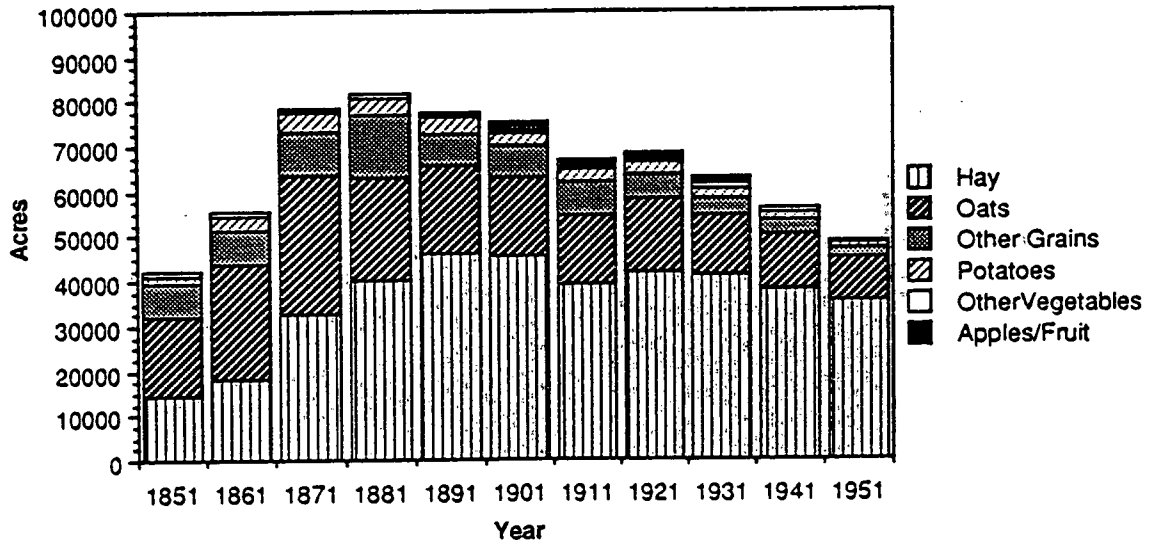
PRINCIPAL CROPS IN CUMBERLAND COUNTY, 1851-1951



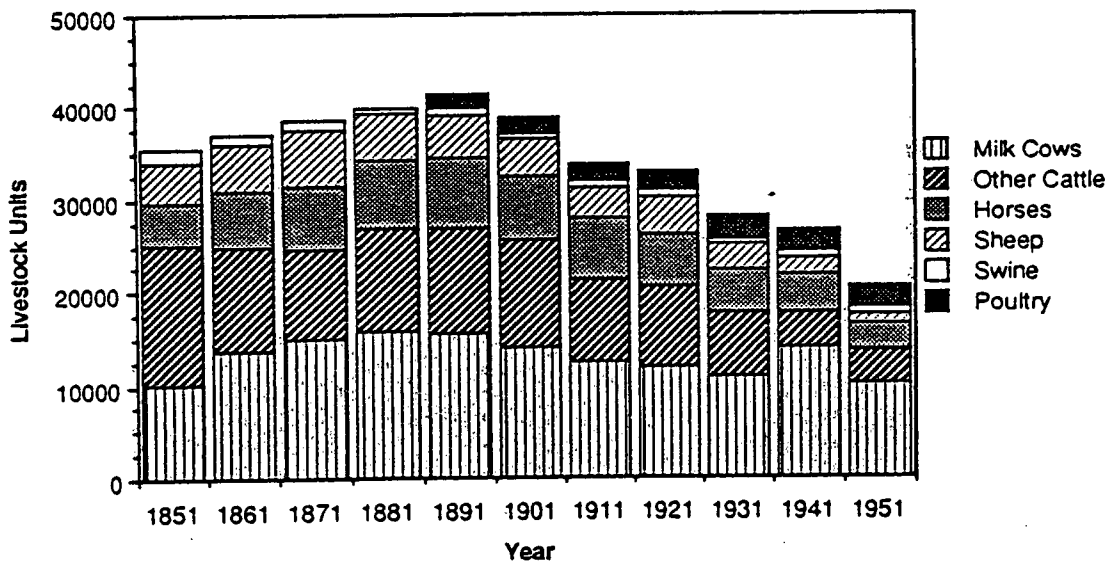
LIVESTOCK IN CUMBERLAND COUNTY, 1851-1951



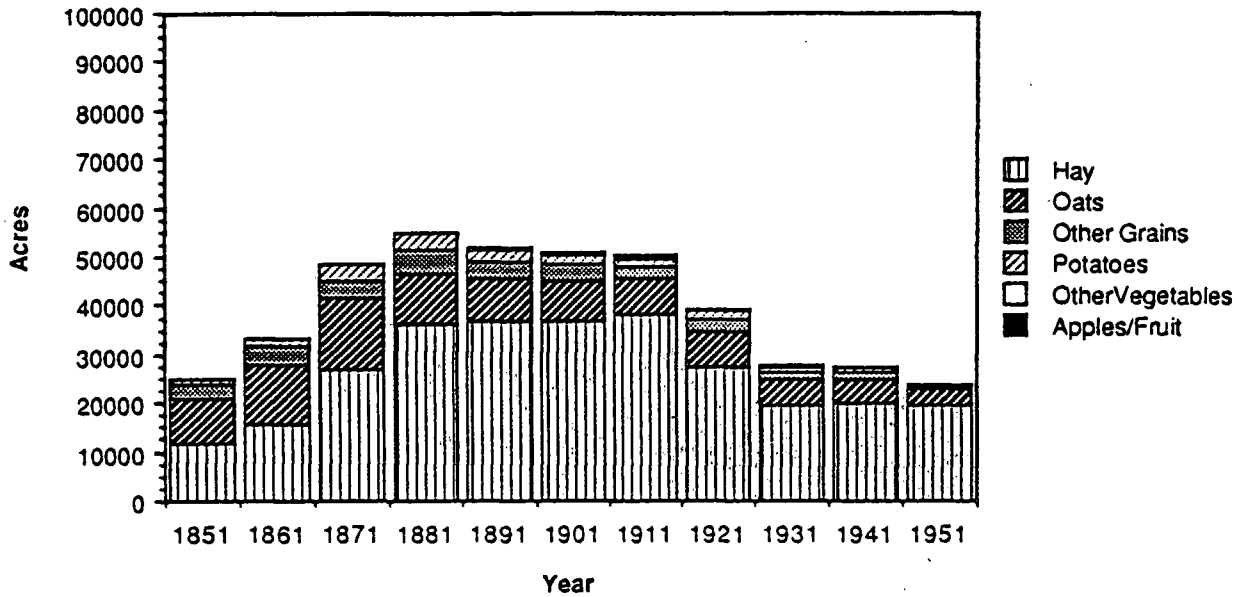
PRINCIPAL CROPS IN PICTOU COUNTY, 1851-1951



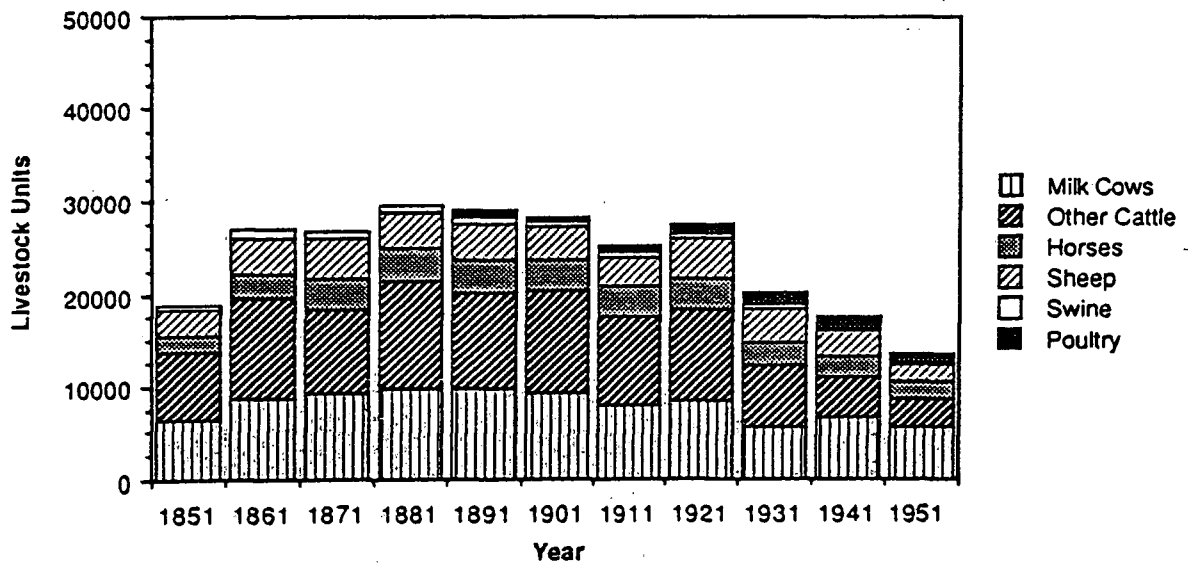
LIVESTOCK IN PICTOU COUNTY, 1851-1951



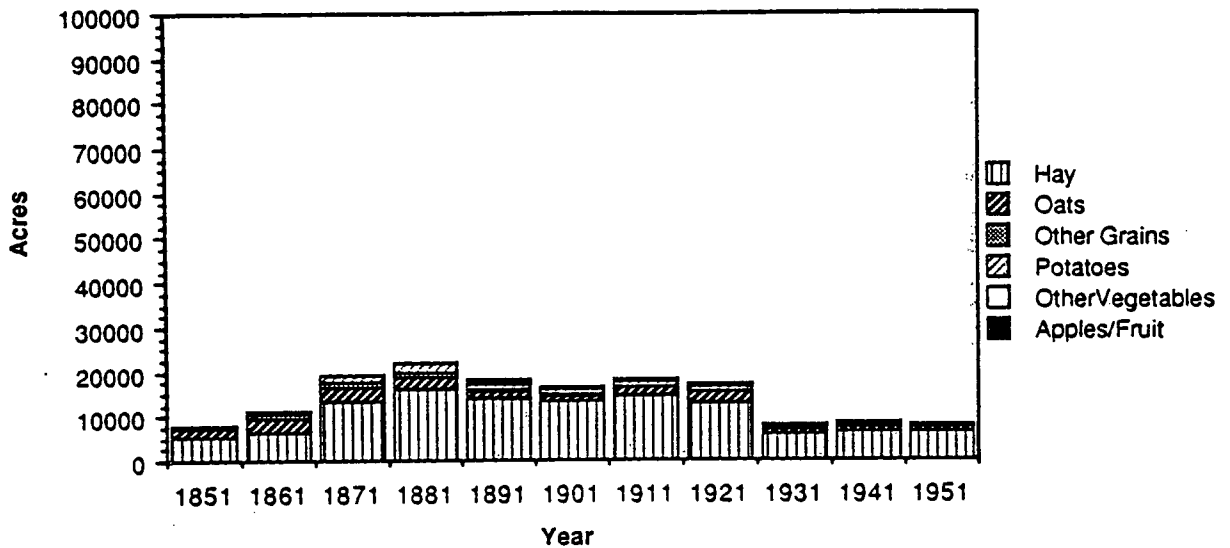
PRINCIPAL CROPS IN ANTIGONISH COUNTY, 1851-1951



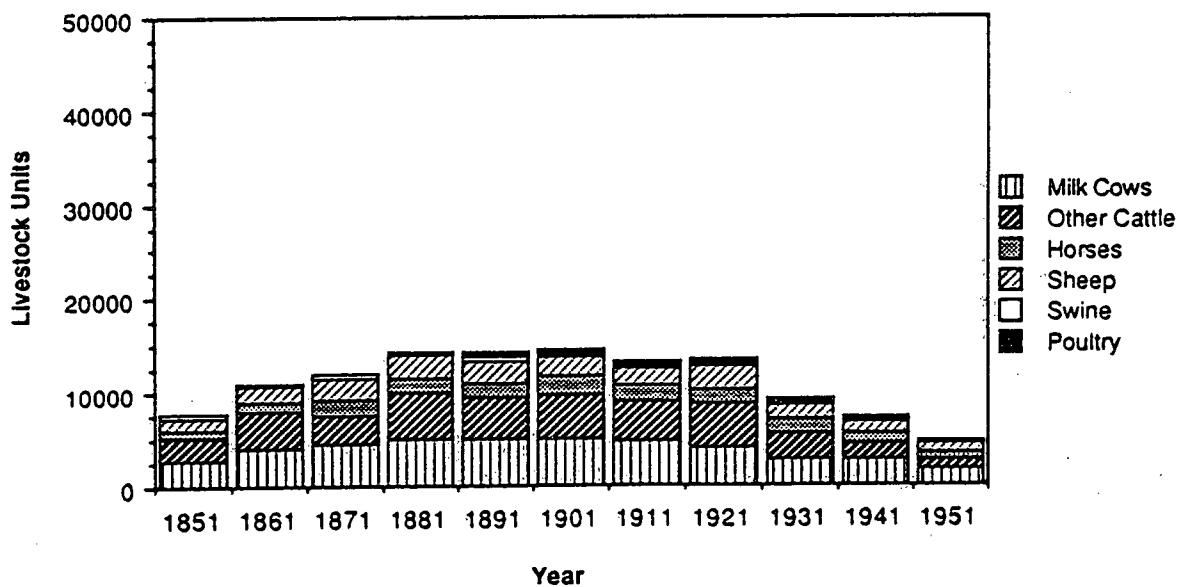
LIVESTOCK IN ANTIGONISH COUNTY, 1851-1951



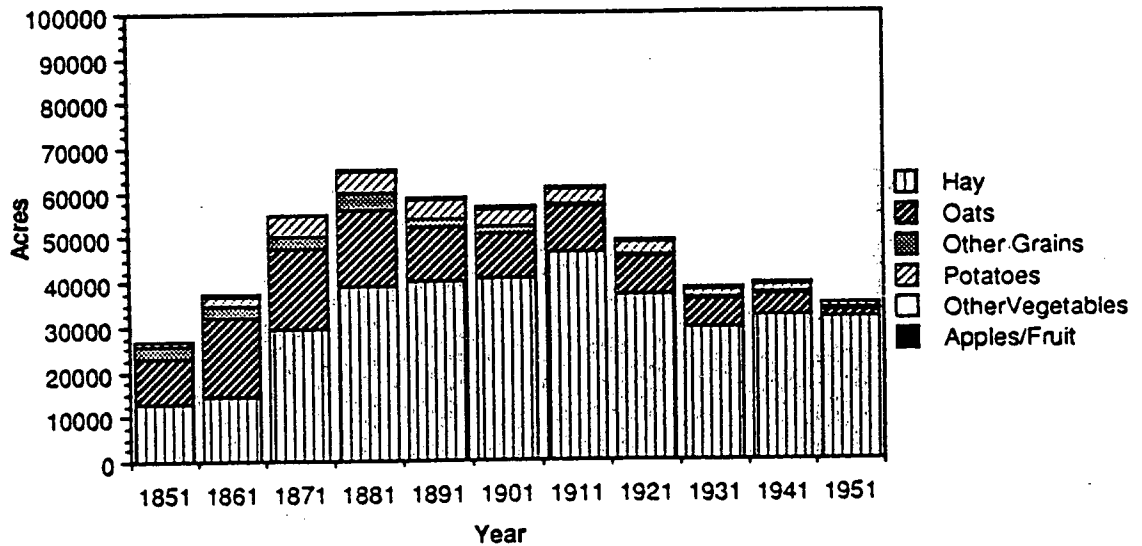
PRINCIPAL CROPS IN GUYSBOROUGH COUNTY, 1851-1951



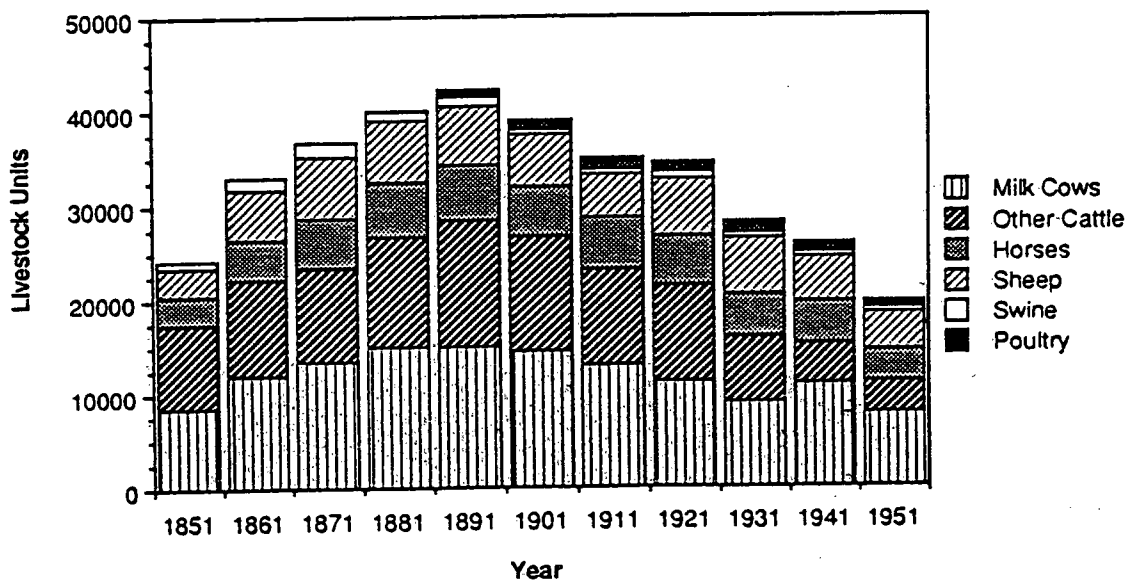
LIVESTOCK IN GUYSBOROUGH COUNTY, 1851-1951



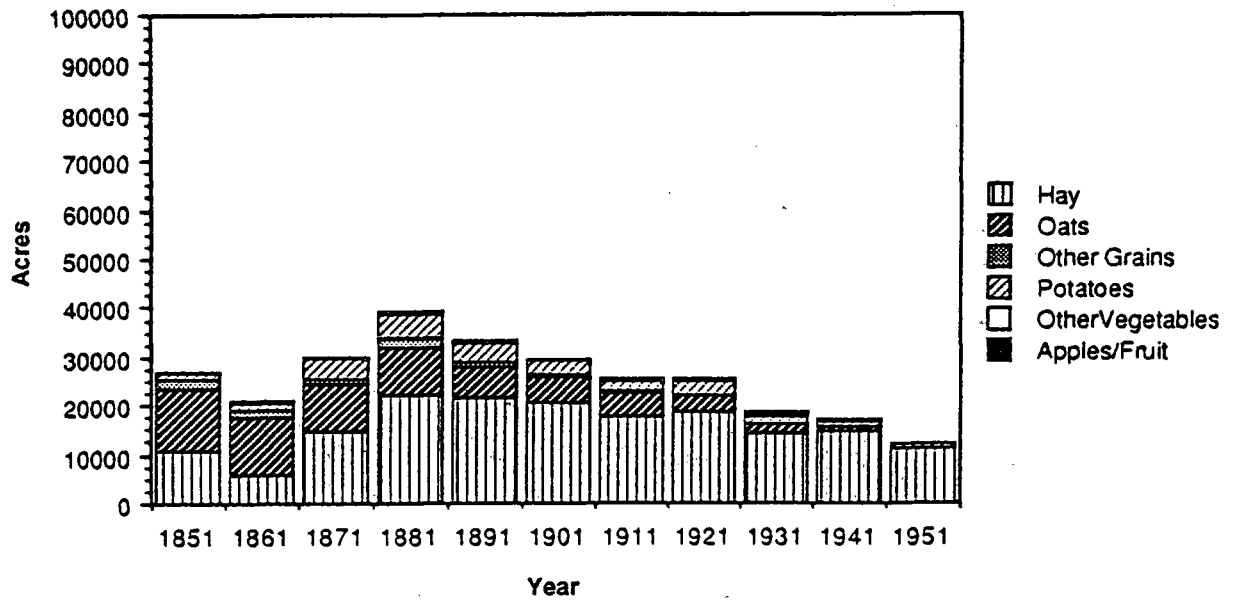
PRINCIPAL CROPS IN INVERNESS COUNTY, 1851-1951



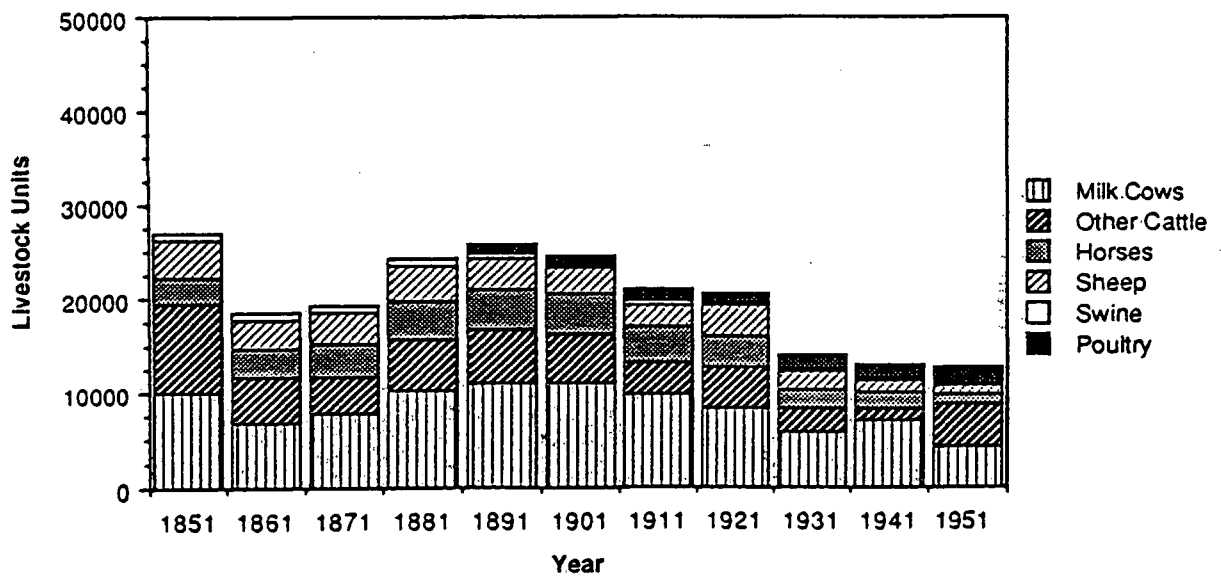
LIVESTOCK IN INVERNESS COUNTY, 1851-1951



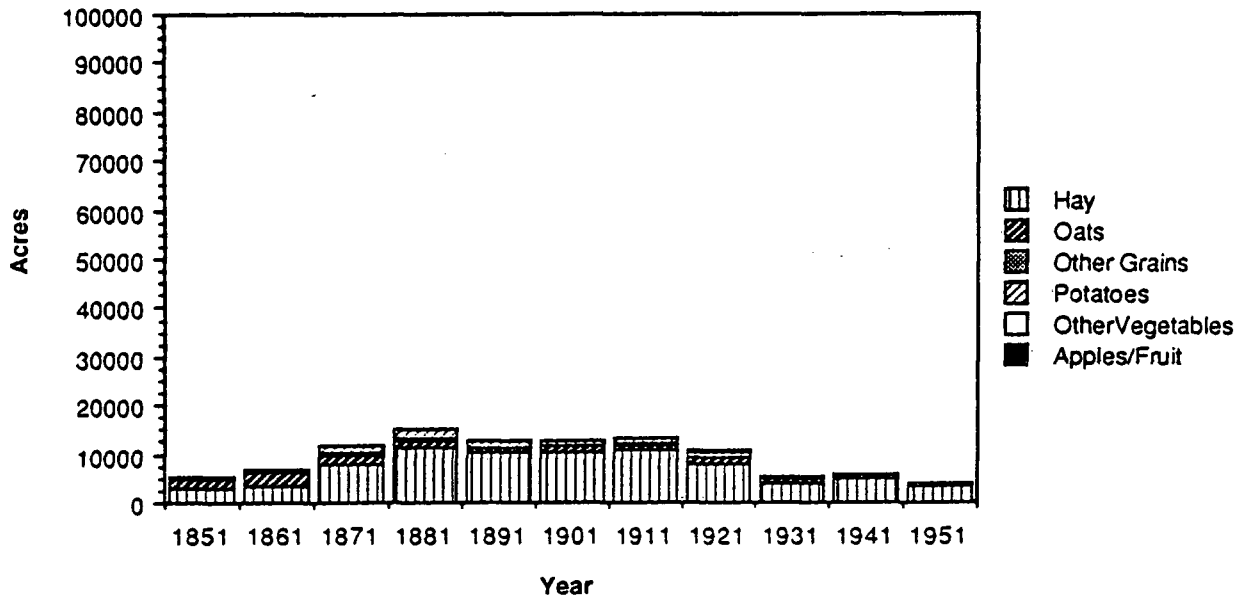
PRINCIPAL CROPS IN CAPE BRETON, 1851-1951



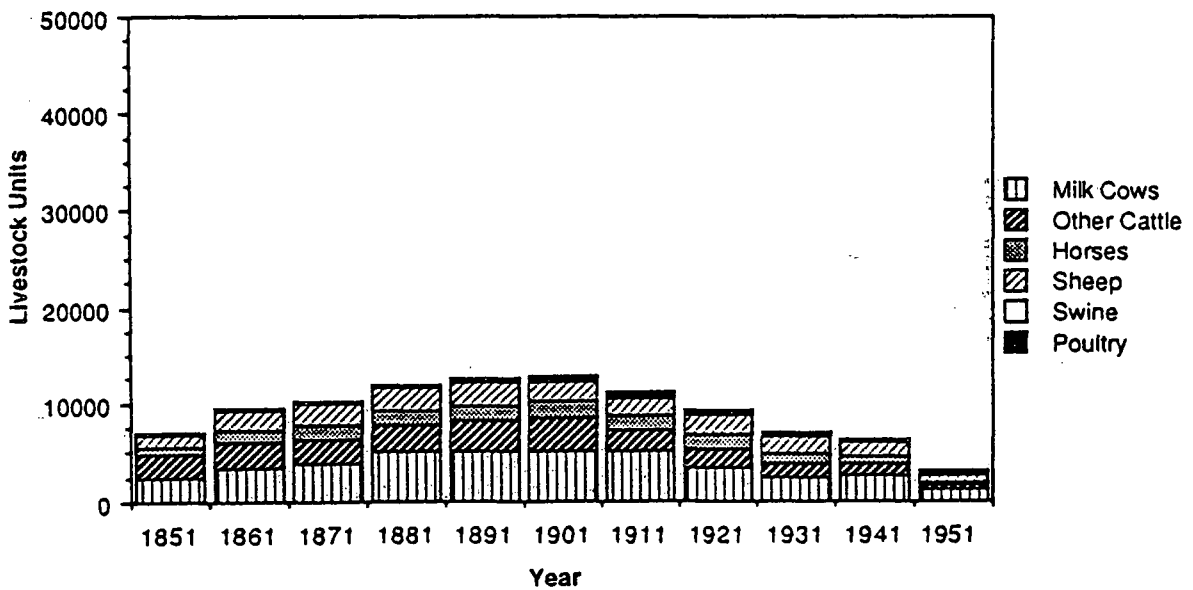
LIVESTOCK IN CAPE BRETON COUNTY, 1851-1951



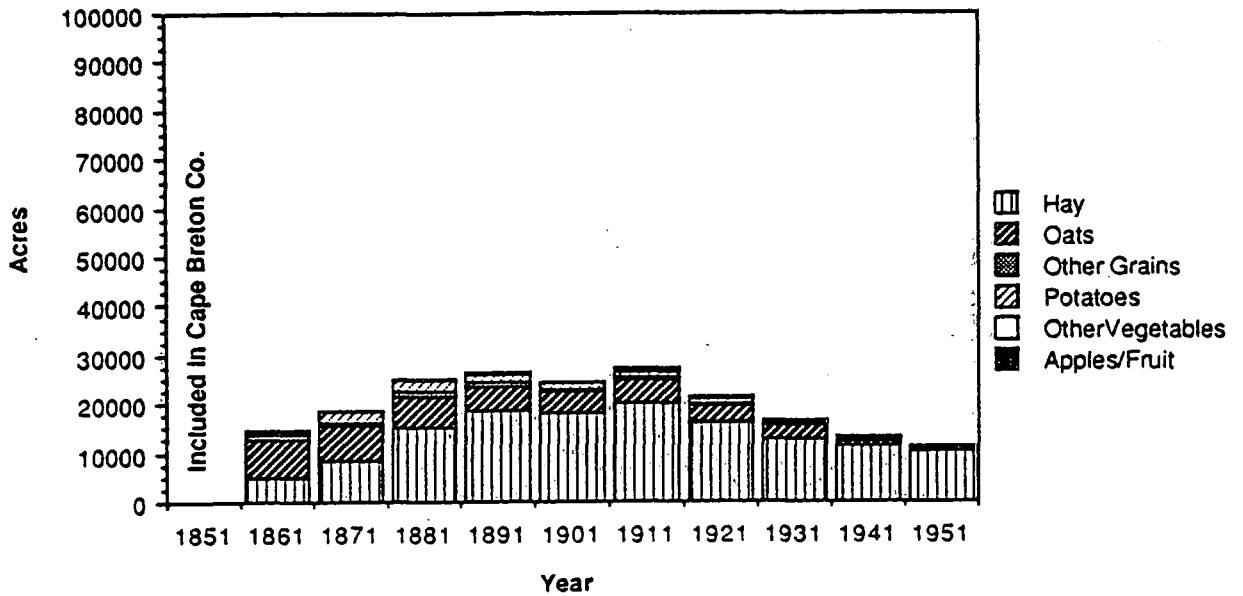
PRINCIPAL CROPS IN RICHMOND COUNTY, 1851-1951



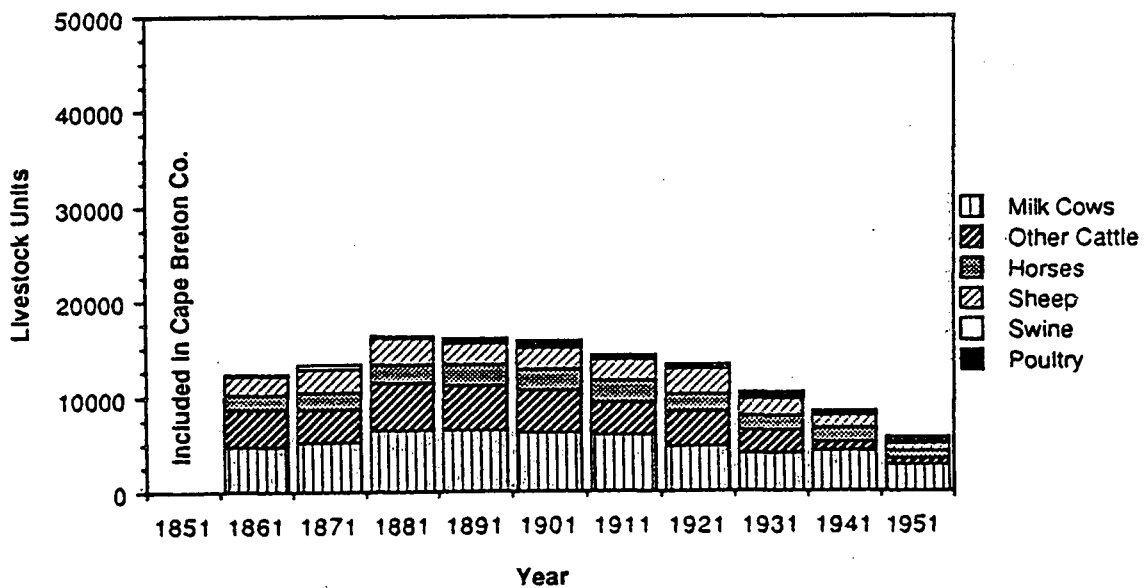
LIVESTOCK IN RICHMOND COUNTY, 1851-1951



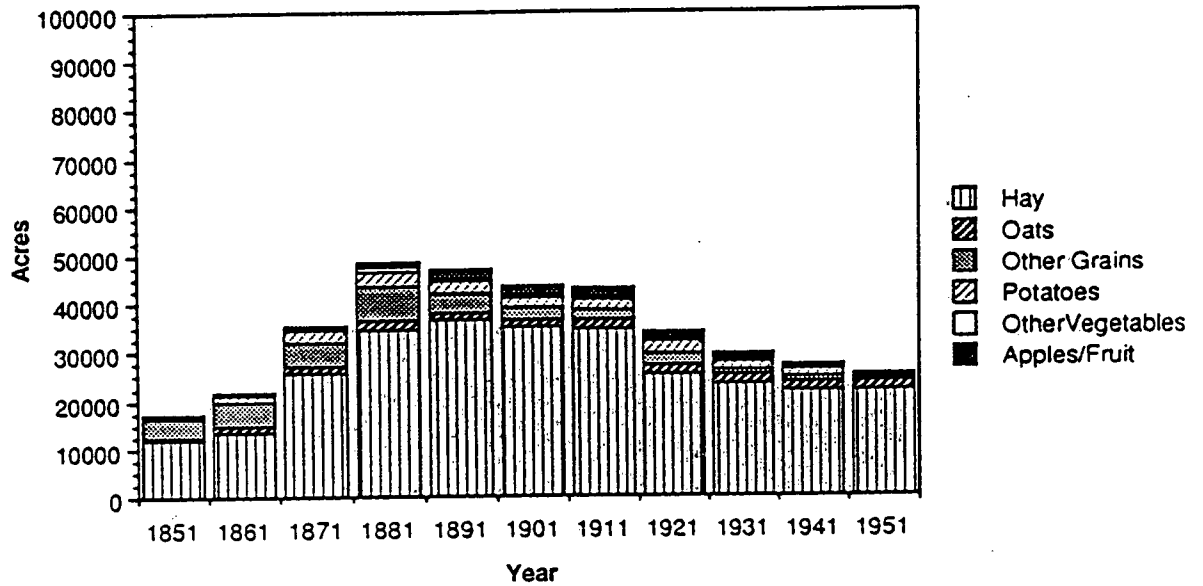
PRINCIPAL CROPS IN VICTORIA COUNTY, 1851-1951



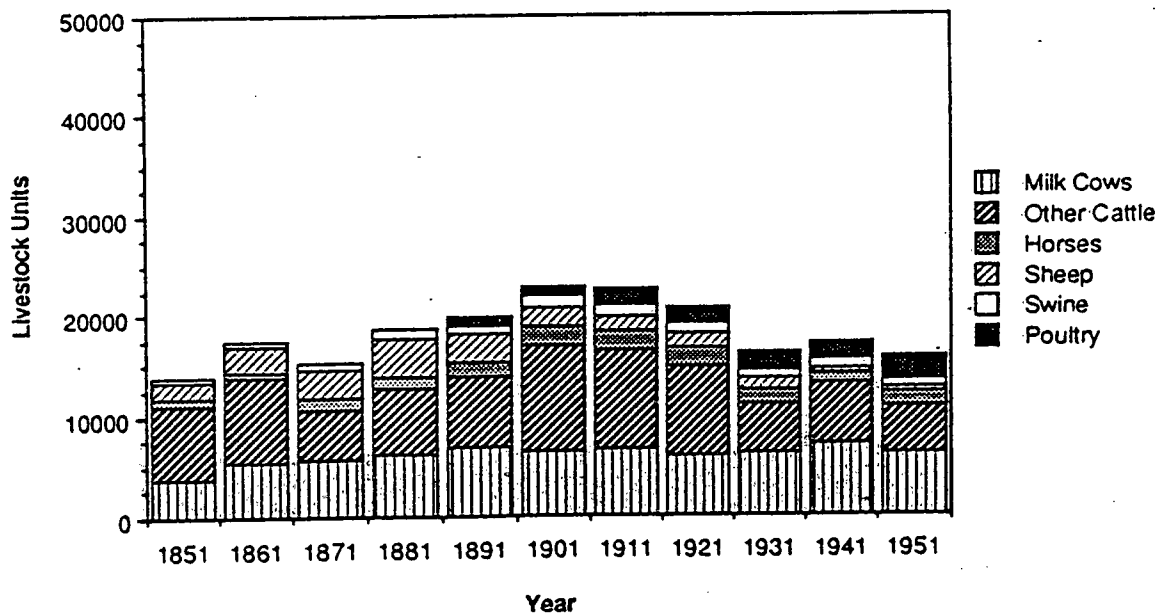
LIVESTOCK IN VICTORIA COUNTY, 1851-1951



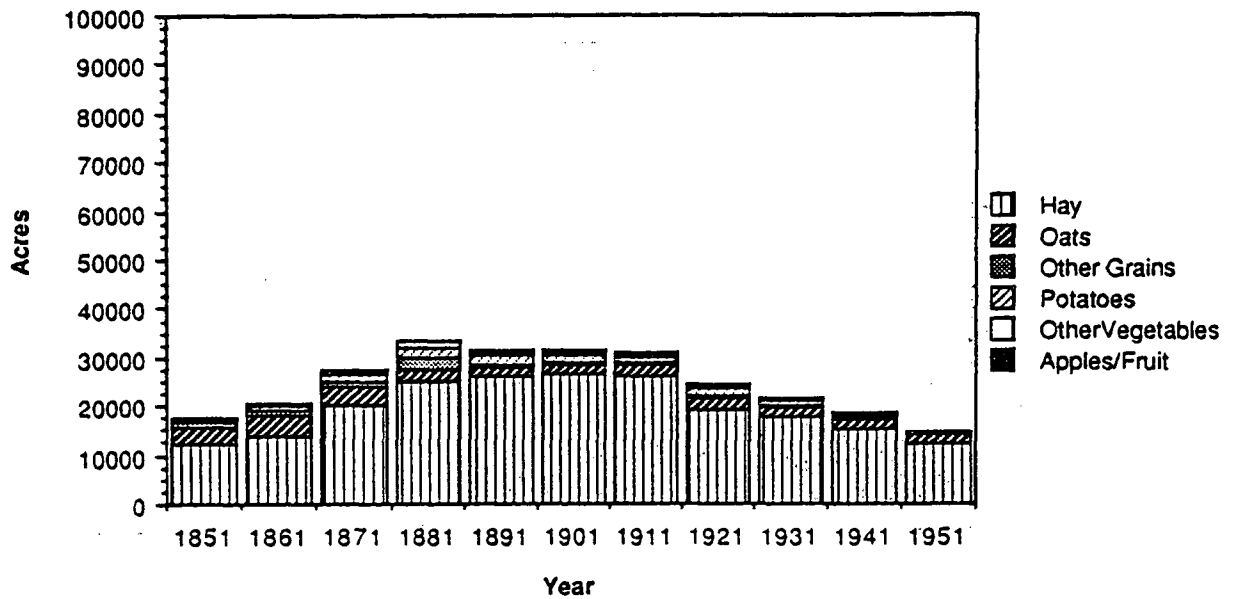
PRINCIPAL CROPS IN LUNENBURG COUNTY, 1851-1951



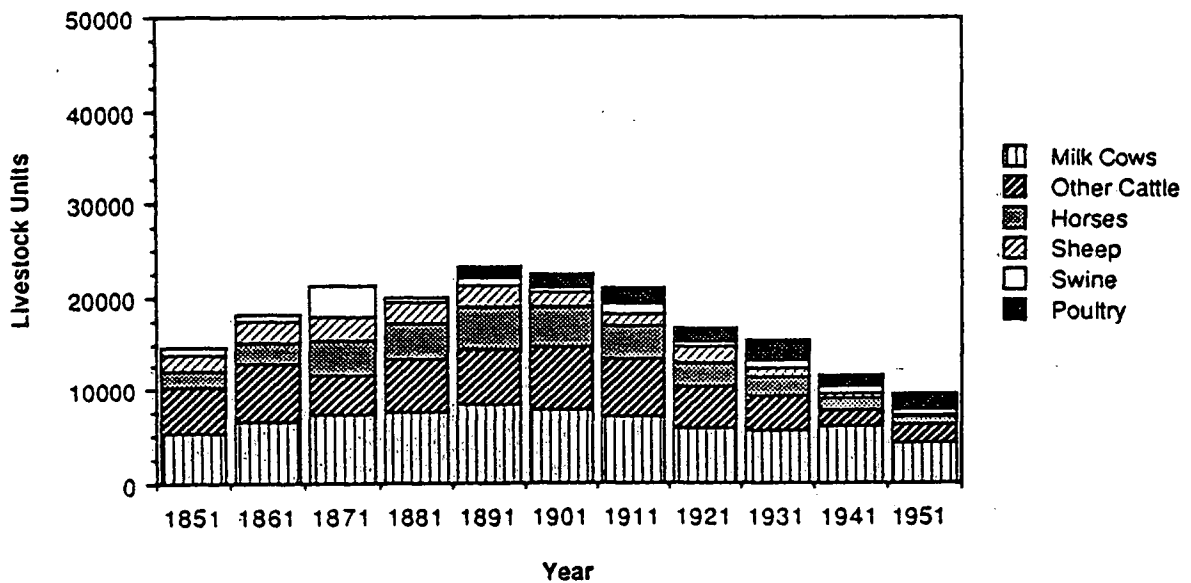
LIVESTOCK IN LUNENBURG COUNTY, 1851-1951



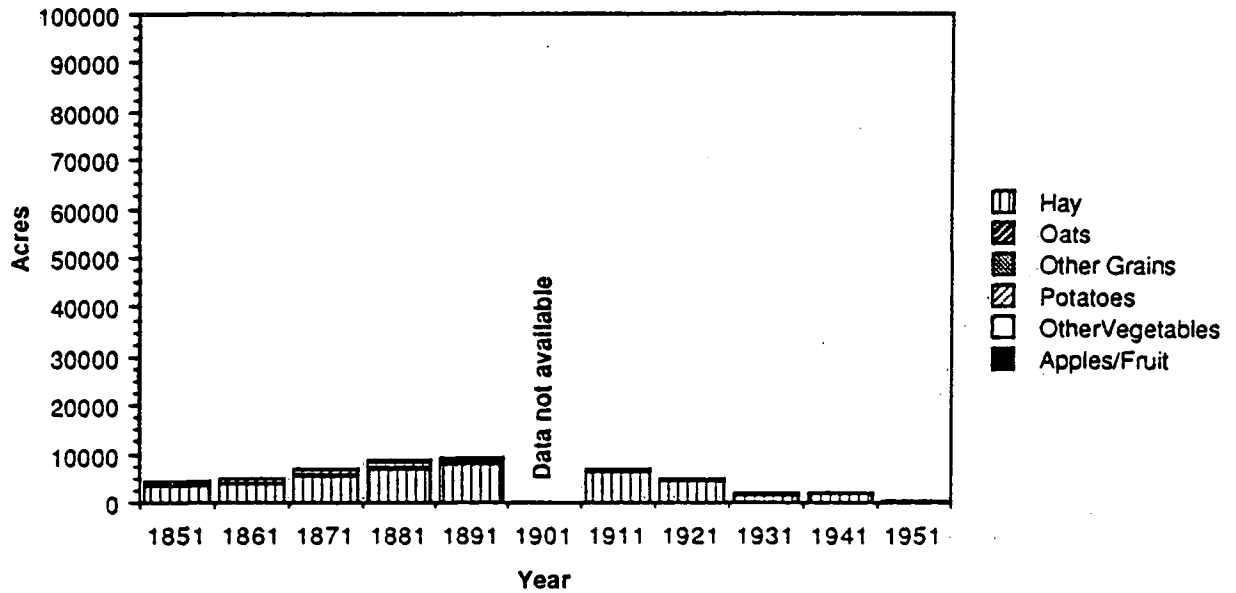
PRINCIPAL CROPS IN HALIFAX COUNTY, 1851-1951



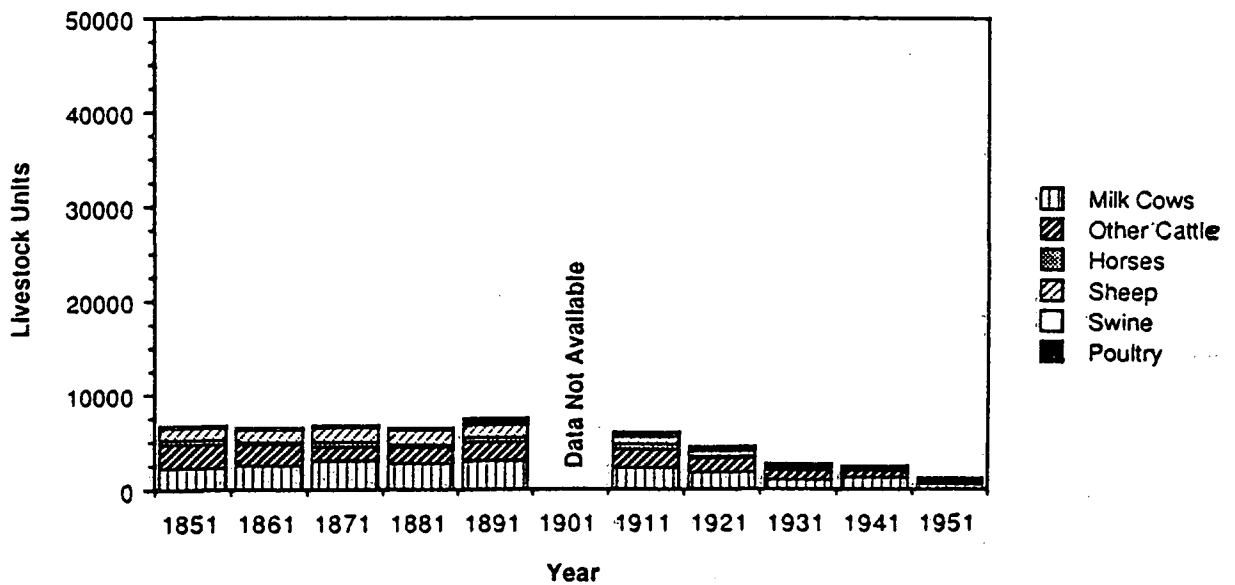
LIVESTOCK IN HALIFAX COUNTY, 1851-1951



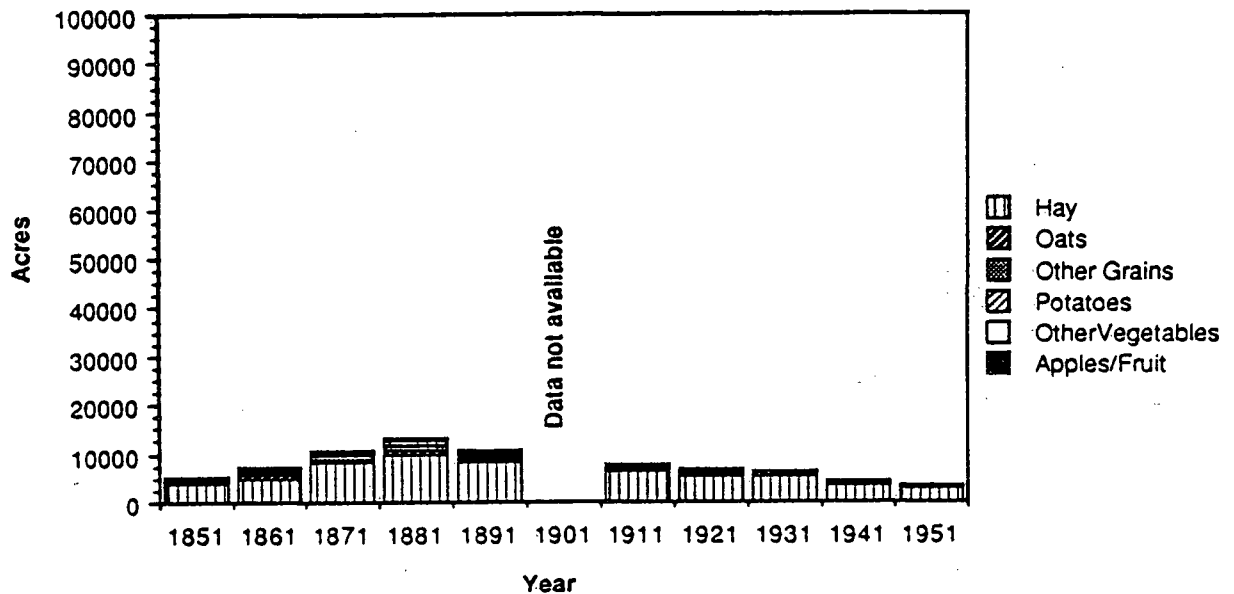
PRINCIPAL CROPS IN SHELBURNE COUNTY, 1851-1951



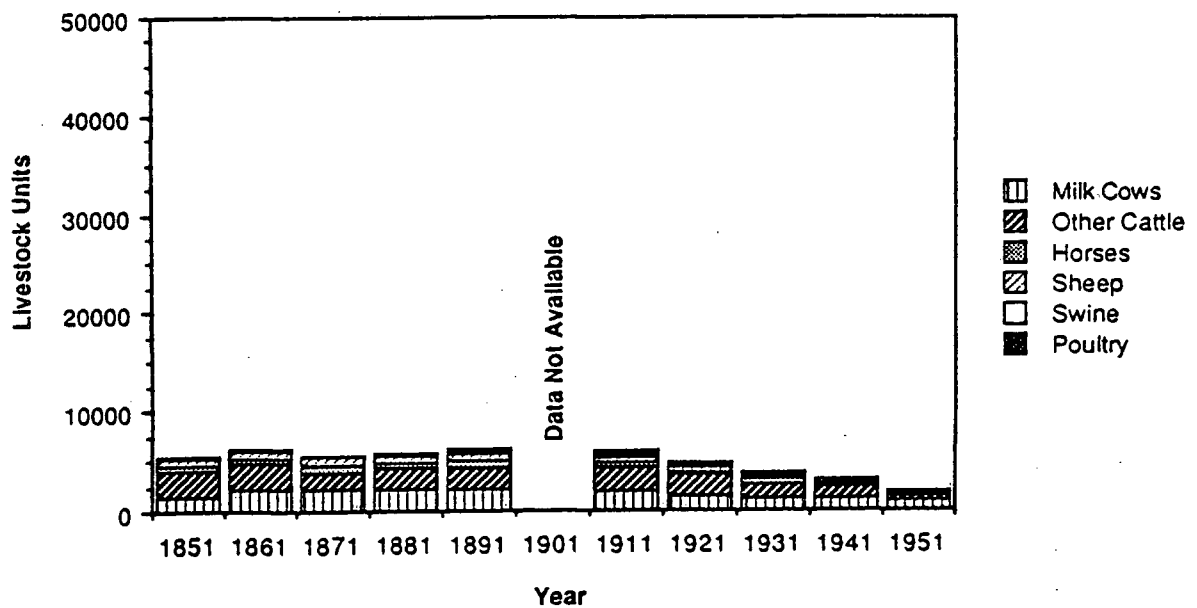
LIVESTOCK IN SHELBURNE COUNTY, 1851-1951



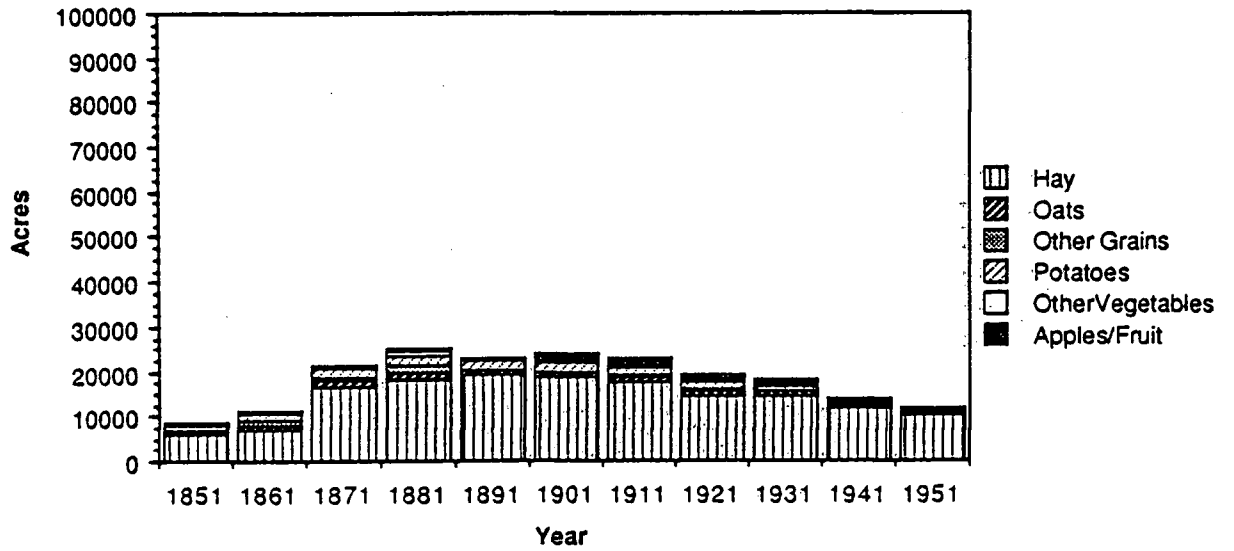
PRINCIPAL CROPS IN QUEENS COUNTY, 1851-1951



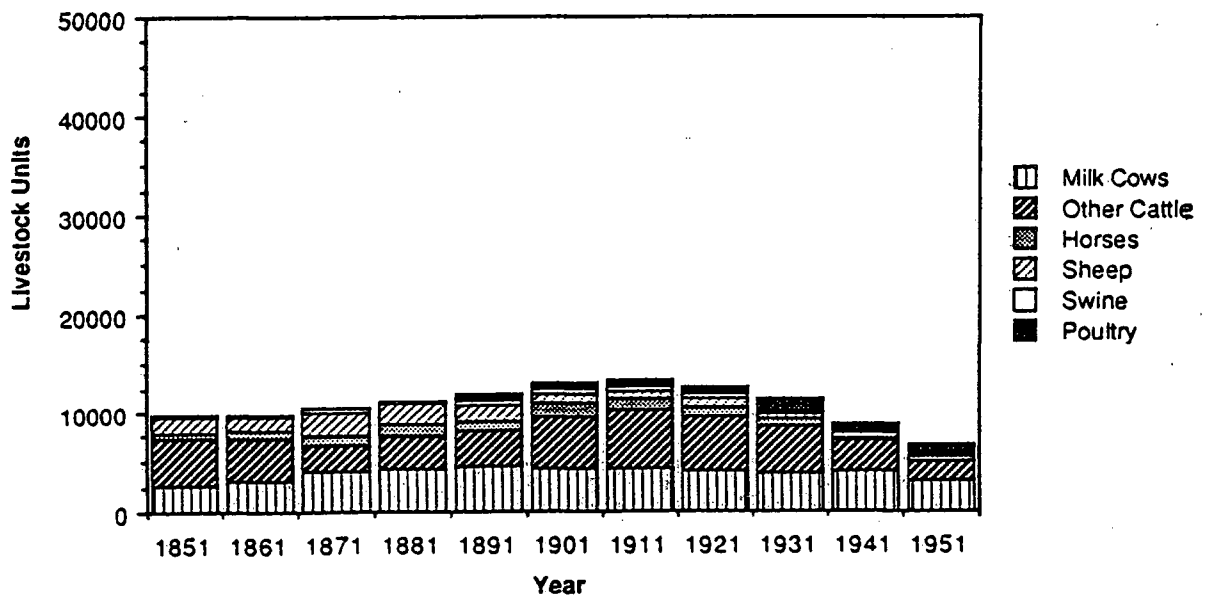
LIVESTOCK IN QUEENS COUNTY, 1851-1951



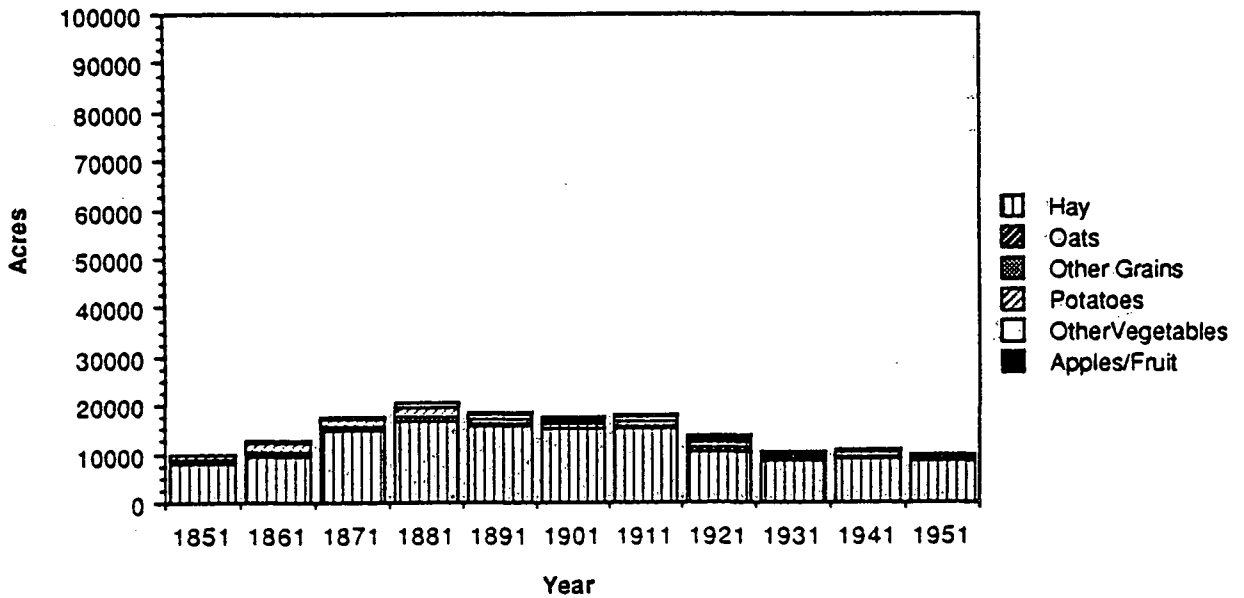
PRINCIPAL CROPS IN DIGBY COUNTY, 1851-1951



LIVESTOCK IN DIGBY COUNTY, 1851-1951



PRINCIPAL CROPS IN YARMOUTH COUNTY, 1851-1951



LIVESTOCK IN YARMOUTH COUNTY, 1851-1951

