Land, Power, and Economics on the Frontier of Upper Canada

Land, Power, and Economics on the Frontier of Upper Canada examines Ontario's formative years, focusing on Essex County in Ontario from 1788 to 1850. Upper Canadian attitudes to land and society are shown to have been built on contemporary visions of the cosmos. John Clarke examines the actions of individuals from the perspective of the political culture and its manifestations, doing so within the constraints of geography and the cultural baggage of the settlers. Placing human action in the context of economics and *laissez-faire* capitalism, Clarke shows how almost unbridled acquisitiveness, and its concomitant land speculation, could promote or hinder development.

The prevailing ideology in Ontario at the time was a conservative culture that rejected everything American and attempted to preserve the best of the British world in the new Eden. Those building the state believed that a social and political hierarchy composed of those possessing a "natural virtue" would serve society best. In consequence, a few individuals at the top of the hierarchy, through their access to power, came to control the bulk of the land, the basis of the economy. At the other end of the spectrum from the elite were those transforming the land and themselves through their own labour.

How did the physical environment and government land policy affect the pattern of settlement and the choice of land for a viable farm? What was the price of land, and how common was credit? Did the presence of reserved lands hinder or promote development? How extensive was land speculation and how did it operate? Clarke brings these issues and more to the forefront, integrating concepts and substantive issues through a problem-oriented approach. Blending qualitative and quantitative approaches, he weaves together surveyors' records, personal and government correspondence, assessment rolls, and land records to measure the pulse of this pre-industrial society.

JOHN CLARKE is professor of geography and environmental studies at Carleton University.

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Land, Power, and Economics on the Frontier of Upper Canada

JOHN CLARKE

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For my parents, Martha McEvoy and John Clarke, my brother, George, my wife, Vilma Nathaniel, and our son, John Nathaniel Clarke – the core of the community of love where I have been fortunate to find myself

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Glossary

Allometry: a branch of mathematics concerned with the growth of parts relative to the system as a whole.

Abstract index to deeds (AID): abstracted copies of all registered land transactions in an Ontario county. The AID was among the major sources used in this study.

Bargain and Sale (B&S): a legal instrument used to convey title to land, originally so that it could be done secretly. Conveyance is made with all rights and privileges, in return for monetary consideration or an equivalent in goods or mineral and timber rights. These are the most commonly recorded instruments in the abstract index to deeds.

Cadastral: the adjective for the noun "cadastre," a line-by-line survey of property which is usually conducted for purposes of assessing taxation.

Chi-Square (χ^2): a measure of statistical association used when the data available are only for the nominal level of measurement. For example, in this work, it is possible to show that a particular lot had a black-ash vegetation on it but it was not possible to say that the lot was 81.9 per cent black ash. In this instance chi-square is an appropriate test to establish the relationship between the occurrence of black ash and the occurrence of poor drainage.

Coefficient of variation: a relative measure of dispersion used to compare different data sets with different orders of magnitude. Conventionally such standardization is obtained by dividing the standard deviation by the mean.

Co-linearity: a condition in statistics in which one variable is a surrogate for another.

Confidence level: a statement of the probability of the occurrence of some event.

Consideration: the terms of a transaction, most usually monetary.

Deed: a general term meaning a document under seal and including specific instruments such as indentures, deeds of bargain and sale, mortgages, leases, and patents. It is a conveyance of realty between the parties and in this way differs from the term "deed poll" under which only the party making it binds himself to it.

Degrees of freedom: a statistical term used to describe the number of steps that remain before the outcome of a statistical event can be known. It is used in the evaluation of confidence in inference.

Dower: that part of the deceased husband's estate that the law allows his widow for life. Few sought to assert this dower right in Essex and none did so in Malden Township, the area studied to establish the frequency of particular legal instruments. However, where the person acquiring the land sought to purchase the dower right, this was accomplished by paying a standard fee of five shillings to the wife of the "party of the first part."

Easting: a measurement in an easterly direction.

F Analysis of Variance: a statistic used to infer the probablity of the occurrence of a statistical "event."

Fiat: a legal document sanctioning an action, in this work the issuing of a patent.

Gage: a pledge deposited to guarantee an action and subject to forfeiture for non-performance; in origin a "glove thrown down" by a knight to express his willingness to appear in battle to support his assertions. The most common gage in English law is a mortgage.

Grant: an instrument that appears to transfer title and that is similar in effect to an indenture of bargain and sale. The grantor is the Crown; the grantee the recipient.

Indenture: a deed that is "indented" for identification and security purposes. In this sense, all instruments with the exception of deed polls are indentures. The parties generally enter into reciprocal and corresponding obligations towards each other. In some instances there may be a transfer of title without consideration, for example, in the case of a will. Most usually, however, in the Essex records when an indenture is found in the instruments column of the abstracts, this represents a transfer of title between the two parties, for some consideration. There is one limitation in a transfer of this nature, and that is that the wife of the party of the first part retains her dower right.

Inverse distance decay form or function: With distance from some centre the score on some variable decreases. For example, in an economically rational system, grain crops may diminish with distance from the farmer's home. This reflects the human energy available.

Isochrone: a line on a map joining places of equal time or date; the closest analogy is the contour map.

Iterative procedure: the repetition of an action used in cluster analysis to assign particular observations to groups.

Logarithmically transformed: one of several methods for transforming data that are not normally distributed so that they can be analysed using the linear model.

Mean: the "average" in a set of scores. It is related to the size of sample "n." For example, in the series 0,1,2,3,4, the mean is 2.0. In statistics it is written as $\bar{x}$.

Median: the value separating a set of scores into two parts at the halfway point. In a set consisting of five scores or numbers, it is the third score. In the series 0,10,20,30,40, the median (also defined as the fiftieth percentile) is 20.

Mode: the most frequently occurring number in a set of numbers. In the series 2,3,4,4,6,7, the number 4 is the mode. If there is one mode the series is decribed as *unimodal*; where there are two the appropriate term is *bi-modal*; and if more the series is *multi-modal*.

Mortgage: A mortgage is a deed for the conveyance of real or personal property by a debtor (mortgagor) or a creditor (mortgagee) as security for a money debt. Mortgages are recorded in the instrument column of the Essex abstracts as "mortgage" or abbreviated to "mort." Occasionally, mortgages are recorded as indentures, although it is obvious from the context that they are, in fact, mortgages. When this happens the term "mort" is added to the Comments column. If, within a certain time, the debt is repaid, the mortgagee is obliged to reconvey the property. This action is recorded in one of three ways: as a D.M., or discharge of mortgage in the Instruments column; as "disch." in the Comments column; or by a line drawn through the whole of the entry. Where a mortgagee transfers his responsibility to another individual, such action is recorded in the Intruments column as an Assignment or Assignment of Mortgage (A.M.). Where common-law mortgages were not used, property could be placed in the hands of one or more trustees to secure the repayment of a sum of money or the performance of some particular condition. This was accomplished with a deed of trust or trust deed, which, though different in form from a mortgage, had a similar effect. In this instance, instead of a D.M., a deed of release is executed by the trustees to reconvey the property to the grantor. If, on the other hand, the mortgagor defaults on his agreement, an instrument of foreclosure is used to ensure that the land is transferred to the mortgagee. Foreclosures will also be used where the instrument was a bond. A bond therefore appears to be similar to a mortgage, the grantor putting his land as security against the amount of money borrowed in the agreement.

Nearest neighbour statistic: a measure of pattern based on distance measures which are compared to a theoretical norm. The statistic (RHO) varies from 0 (when the data are clustered) to 1 (when the pattern is spatially random) to 2.149 (when the pattern is regular or uniform).

Normal distribution: a set of scores in which the mean, median, and mode are identical; the distribution is "bell-shaped" and its form and underlying probabilities are the basis of much statistical inference.

Northings: a measure of position in a northerly direction; conventionally this is expressed as latitude.

One-tailed test: a statistical means of determining whether something is bigger or smaller than a specified "norm."

Outlier: an extreme value.

Parabolic: a distribution in which the data describe a curve of high degree resembling a parabola. Such a distribution can best be described using a polynomial.

Patent: a legal document recognizing the completion of a set of preconditions and entitlement to the possession of land granted by the Crown. It was also entitlement to enfranchisement. Money was never recorded prior to patent because such transactions were grants and not sales. The patentee had full legal title to the property patented, provided the taxes were paid. If this did not happen the property was seized by a sheriff's deed, sheriff's sale, or simply by the sheriff.

Pearson product moment correlation coefficient: a number indicating the degree of association between two variables. The correlation coefficient (r) ranges between zero and 1.0; the closer to 1.0 the greater the association between the variables. Correlation coefficients may have positive or negative signs which describe the direction of the association. Where positive the relationship is direct; where negative it is the inverse, that is, as one variable increases the other decreases.

Polynomial: the expansion of any power in a mathematical expression using many terms. It is based upon the binomial theorem.

Power of attorney: this instrument enables one individual to act for another.

Quit-claim (Q.C.): This is an instrument whereby one party gives up all its interest or claims in the land. It may be used to clarify an earlier property description and thus reduce conflict between neighbours, or, indeed, it can be used to settle accounts where a mortgagor has been unable to meet his obligations and foreclosure is imminent.

Range: a statistical term used to describe the limits of a set of data. For example, in the series 1,2,3,4, the range is three.

Regression analysis uses the method of least squares to determine a "line of best fit" which describes the trend in a data set. The "regression line" minimizes the departure of all scores from it.

Scattergram: the presentation of data in diagrammatic form. The data are presented in point form, their location measured along two axis.

Score: a measure of association with a particular variable. For example, the score of someone aged 57 on the variable "age" is 57.

Spearman rho: a measure of association between two variables measured at the ordinal or ranked level. The measure is useful when interval data (continuous measurement on a variable) is unavailable or the researcher can place little confidence in it.

Standard deviate: a recognized (standardized) measure of position with respect to the mean. It allows comparison of the scores on a particular variable and between variables. In the series 0,1,2,3,4, the standard deviation is 1.58 and since the mean of this series is 2.0 the first standard deviate above and below the mean is found at the score of 3.58 and 0.42 respectively. Standard deviates have the property that a known percentage of scores on a particular variable fall within them. For example, in a normally distributed set of scores, 68.3 percent of the scores (values) fall within one standard deviate; 95.45 per cent fall within two standard deviates, and 99.7 within three. Standardization in this form is useful for comparative purposes. For example, in the second set of scores, 0,10,20,30,40, things are clearly of a different magnitude. The mean of 20 reflects this as does the standard deviation of 15.8. However, a positive score of 3.58 on this first variable and one of 35.8 on the second are clearly at the same relative position.

Standard deviation: a measure of the spread of scores around the mean. In the text it is written as SD or σ. It can have positive or negative signs describing position above or below the mean.

Standard error: as used here, a statistic that describes the "fit" of a regression line to a set of data.

T test: This test generates a statistic; this is "Student's t" and was originally devised for use in quality control in the production of batches of Guinness. It is one of several "difference of means" tests used to decide inferentially if differences exist between samples.

Trend-surface analysis: any method by which a set of observations or scores is analysed spatially by dividing the data into two parts – that which is attributed to the regional trend and that attributed to the residual or local component. In this book the method used is derived from the linear, least-squares method and uses the successive expansion of polynomials.

Acknowledgments

That I have been able to devote so much time to a topic says that I, and my generation in our universities, have been enormously privileged. We have been able to take part in "curiosity" research, research simply for its own sake. This is not to say that quality research need be totally without application. Clearly, the space age has seen insights produced in one field applied to another, such as the tinted glasses I wear. In the human sciences, even the work of historians and historical geographers can be applied too, for example, in the resolution of native land claims. Still, a purely pragmatic society whose universities operate hand in glove with the private sector, as is increasingly the case, is one that, in my opinion, must suffer from a peculiar myopia and may even lose its own history.

I am indebted to a large number of people who have given me the benefits of their intellect, their knowledge of particular materials, their money, or their faith that what was engaged in was worthwhile. Among these are my former teachers R.S. "Ben" Lyons, William Kelly, Anthony Q. Stewart, James Paul, and J. "Louis" Lord at Belfast Royal Academy, and Emyr Estyn Evans, Robin Glasscock, and Noel Mitchel at Queen's University, Belfast. In Canada, this group includes Philip Keddie at the University of Manitoba and Harry Taylor, Alan Philbrick, Charles Whebell, and especially my former adviser, W. Robert Wightman, at the University of Western Ontario, who heightened my interest in things Canadian.

I wish to acknowledge the following academics who gave of their particular expertise and/or data during the research phase. I include

here Alan Brunger, Bruce Elliott, David Gagan, Roger Hall, Margaret Ogilvie, Fernand Ouellette, Colin Read, Syd Wise, Neal Sargent, and Randy Widdis. At the writing stage I was treated most generously by several individuals who gave of their time and expertise to make this a better volume than it would otherwise. David Brown, a former student, commented upon chapters 1 to 3; Alan Brunger, my fellow graduate student of yesteryear,commented upon chapter 4; Charles Whebell, a former teacher, and I discussed aspects of surveying which appear in chapter 2. Daniel Brock provided biographical advice, as did Frederick Armstrong, a fellow student of the Western District who was one of a number of examiners for my doctorate and who has continued his support over the years. In the final stages, he worked tirelessly on all aspects of chapters 7 to 10, commenting upon structure, grammar, and substance. I thank as well my copy editor, Curtis Fahey, whose touch was light but precise and who guided the book through the publication process; and my editor, Donald Akenson, who accepted the manuscript for McGill-Queen's in 1998 and who provided just the right amount of encouragement and prodding to see the volume through to fruition. In the final stages of the project, the work was coordinated by Joan McGilvray of McGill-Queen's, to whom I am grateful. I also wish to acknowledge the supportive criticism of two anonymous referees who strengthened my belief and faith in the ideals of the academy. It is my duty to record these things but intellectually it is my pleasure to do so because such interaction manifests the ideals of the university, transcending age, discipline, and human quirk: all working to the common end. In the final analysis, the synthesis is mine alone, as is the responsibility. With the penitent I proclaim, "*Mea culpa.*"

Work such as this is impossible without the assistance of archivists and map and art curators. At the Archives of Ontario, these have included Christine Bourolias, Raymonde Cadorette, Barbara Craig, Wayne Crockett, Gordon Dodds, John Fortier, Caroline Gray, Sandra Guillaume, Paul McIlroy, Susan McClure, John Mezaks, Roger Nickerson, Alec Ross, Tim Stanford, James Suderman, Larry Weiler, Leon Warmski, and Ian Wilson. At the Archives du Séminaire de Québec, I have especially to thank Mirelle Saint-Pierre. At the National Archives of Canada, one of the world's great archival institutions, the following never failed to help: David Brown, Marc Baisillon, Jim Burant, Marc Cockburn, Edward Dahl, Tim Dubé, Lawrence Earl, Eldon Frost, Robert Grandmaitre, Patricia Kennedy, Betty Kidd, John F. McDonald, Marthe Marlowe, Ghislain Malette, Roanne Mukhtar, Patrick McIntyre, Tom Nagy, Harold Naugler, Bill Russell, Carol Whyte, and Joan Schwarz. Art Armstrong at the Department of Lands and Forests,

Toronto, was among the first to help with this project, as was Anne Sexton and Edwards Phelps from the Regional History Collection at the University of Western Ontario. In Windsor, at the then Hiram Walker Historical Museum, Alan Douglas and Elizabeth Francis were encouraging in these early years. In more recent years I have been grateful for the assistance of Brian Trainor and Anne McVeigh of the Public Record Office of Northern Ireland; Lise Brunet of the Law Society of Upper Canada; Janet Cobban, curator of the Park Museum and the Francis Baby House in Windsor; Geoff Raymond of the Windsor Community Museum; Robert McKaskell of the Windsor Art Gallery; Carol Baum of the Canadian section of the Royal Ontario Museum; Guy St Denis, Regional History Collection, University of Western Ontario; David Fall, McIntosh Gallery, University of Western Ontario; Bob Garcia, National Parks, Fort Malden; Joan McKnight and John Quinsey of the Association of Ontario Land Surveyors; Agnes Malone, Special Collections, University of Windsor; and Robert Lochiel Fraser of the *Dictionary of Canadian Biography*.

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they should. This sort of work requires such support if we are to continue to add to our understanding of Canada and the Canadian experience. To date, private industry has failed to support such aspects of the nation's culture and in the 1990s politicians seem concerned with the needs of private industry to the exclusion of all else.

The book has been published with the help of a grant from the Humanities and Social Science Federation of Canada using funds provided by the Social Science and Humanities Research Council of Canada. I am grateful for this support and for the assistance towards the costs of publication from my own university in the personages of Dean Jones and Vice-President ApSimon.

Barbara Burrows, David Brown, John Buffone, David Broscoe, John Nathaniel Clarke, Marc Cockburn, Lucille Dorken, Andrea Emard, Sean C. Farrell, Gregory F. Finnegan, Charles Hotzel, Riquia Islam, Nana Amankwah, Nehemiah Shadreck Mudzingamyama, Colin Old, Karl Skof, James Trotman, and Jesse Weldon all acted as student assistants for me. They did so for periods of three months to three years and at rates of pay that varied with my capacities to scrounge or to win research grants; some worked for nothing. All gave 100 per cent of their effort, irrespective of their remuneration, for something that we all held to be a worthwhile pursuit. I shall forever be grateful for the enthusiasm and idealism of youth.

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Here I must recognize the members of the "Old Brigade" in Geography at Carleton who have been and are my well-wishers: Duncan Anderson, David Bennett, Dennis Fitzgerald, Mike Fox, Peter Johnson, David Knight, Gordon Merrill, Fraser Taylor, John Tunbridge, Ken Torrance, Philip Uren, Iain Wallace, Tom Wilkinson, and Peter Williams. I also include some of my neighbours, Fred, Jenny, and Ben Oxtoby, Suzanne Swan and Brian Davidson, and those who fed and housed me as well as gave me companionship during archival trips to Toronto – Joy and Benoy Biswas, Benita and Bruce Black, Patricia Nathaniel, and Rena Ghose. Patrick MacGahern, the owner

of one of Ottawa's most celebrated bookstores, was very helpful. I have been accompanied and supported in the writing stages by Kathleen Battle, Wolfgang Amadeus Mozart, Antonio Vivaldi, and the staff of the Sitar Restaurant, Ottawa's oldest and most celebrated "Indian" restaurant.

This list of thanks is now quite long and there is the danger that someone inadvertently omitted might feel slighted. All I can ask is that, like all those named, they continue to forgive me.

Parts of this book have appeared in various journals. I wish to thank the editors of the *Journal of Historical Geography*, the *Canadian Cartographer*, the *Canadian Geographer*, the *Canadian Historical Review*, *Histoire Sociale/Social History*, and the University of Toronto Press for requisite materials which appear in chapters 1, 2, 4, 5, and 8. I thank my co-authors David Brown, Greg Finnegan, and Karl Skof for their permission to quote from articles we produced in common in a number of these journals. I wish also to acknowledge the use of portraits, plans, and prints provided by the Law Society of Upper Canada, the University of Western Ontario, the principal of Huron College, the Archives of Ontario, the Ontario Association of Land Surveyors, the National Archives of Canada, Fort Malden and Parks Canada, and the National Gallery of Canada. Special thanks go to those institutions that provided such items for a minimum reproduction fee or none at all.

Finally, the book is offered in memory of my parents, John and Martha Clarke. It is dedicated to my brother, George, who for several years gave a large portion of his salary so that I might lead an appropriately wild life as an Irish undergraduate. I also dedicate the book to my wife, Vilma, and our son, John Nathaniel. Both contributed to the volume and my life as a whole in discussion around the family dinner table. They accepted a smaller rice bowl so that what I thought worthwhile might appear. They continue to put up with my shortcomings. Both know, I hope, how much I love and value them and how important they are to me.

Ottawa, March 2001.

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Preface

This book is about land and power in its many forms. By extension it is about the ways in which all human history is formed, but it is written specifically about a time when possession of land was central to life and when agriculture was the very basis of it, rather than, as it was to become, something preserved for urban dwellers in eco-museums. In Ireland, my birthplace, this struggle inflamed the passions of its people; nations were embroiled in it and from the struggle over land emerged the Irish nation and a sense of Ulster/British identity. With distance from the main events, a revisionist Irish history is now engaging with the political and economic circumstances of landlordism, as well as with the perspective of the people who experienced it.

The territorial nature of the Irish struggle is well known, but though the pulse may have been more feint and less enduring, it was also a struggle over land that strengthened Upper Canadian identity in the War of 1812 and challenged Upper Canadian values in 1837, the year of rebellion. These early years from about 1788 to 1850, which included the struggle for the northern half of the continent, are the focus of this book. It was in that period that Upper Canadian, and Canadian, ideology was being developed.

Part of that ideology was a conservative culture which rejected all that the United States stood for and preserved the best of the British world, itself in flux, in a North American setting that God had endowed as the new Eden. From the patrician perspective of those building the state, and contributing to its emerging *raison d'être*, it was clear that there was in society a social hierarchy to which they them-

selves belonged. This virtuous elite served the people, although not in the modern democratic sense, through a constitution held to be superior to all others.

This tripartite constitution limited the powers of the monarch but left the powers of its threefold elements unspecified or to be negotiated. In return for their service to the state, those capable of and therefore charged with the responsibility to serve would receive compensation from the state. Both in Britain and in Upper Canada, a small percentage of people who had access to power came to control the majority of the resources, at least for a while. These people used their social position to augment their economic position and enhance their claim to its base – the possession of land. In the long term, of course, the New World's ability to provide land for all would diminish their importance.

To this point in the historiography of Upper Canada, it has been possible to view such people as "natural" leaders of Upper Canadian society and as the recipients of a "natural" and due reward for their service. It is also possible to conceive of them in Thompsonian terms as predators and the state as their object of prey. This perspective has received less attention. No doubt the motives of individuals were complex but it has to be remembered that Upper Canadians, like Britons in this period, lacked the social-welfare programs of the contemporary state. Individuals had to rely upon self-help in all its forms and had to provide for their families, for the possibility of loss of income, and for their old age. As a consequence, they had to be concerned with relationships of power.

Power may be construed as the capacity to affect the world of others and to influence the outcome of events. It may be overt, as in military conquest; it may be subtle and psychological, as in the capacity to appear authoritative and persuasive; or it may take the form of pressure to conform or adapt to the prevailing economic and social systems. Conversely, freedom or liberty is freedom from the will of others; the individual, who from the perspective of the species is still emerging, is as free as he is the proprietor of "his personality and capacities." Freedom is a function of the possession of what C.B. MacPherson calls "possessive individualism," the idea that individuals owe nothing to society and are the proprietor of their own persons.

Where individual qualities and ties of language, culture, ethnicity, kinship, and marriage influence outcomes, freedom is constrained by the exercise of power. No doubt this has happened in all of human history. Such avenues to power certainly existed in Upper Canada, as a number of works, including that of J.K. Johnson show clearly. These variables should not be ignored and are not ignored in this volume.

Indeed, wherever possible they are highlighted, most especially, the importance of kinship, ethnicity, friendship, and marriage. Yet, while significant in particular cases and circumstances, these are, in the author's view, secondary to the central issue of land in the eighteenth and nineteenth centuries. Access to land was of primary importance, because it was the basis of life and of economic and social prestige.

The period upon which this book focuses was for Upper Canada just as heroic a period of primitive accumulation as was that associated with England some decades earlier. Perhaps this was even more so since the extent of the prize was so much greater and participation so much easier; indeed, that is why one can speak of the "best poor man's country." R.S. Neale, in *Class in English History*, reminds us of the eighteenth- and nineteenth-century antagonism between "property" and "liberty." He points, on the one hand, to Adam Smith's acceptance of financial expenditure by the state in the defence of property and indeed his view that civil government was instituted for its protection. On the other hand, he shows that Tom Paine believed property to be incompatible with liberty and was the illegitimate product of power. Can there be any doubt of the central importance of property and especially, in the New World, of landed property? Kinship, marriage, ethnicity and a myriad of other factors may have been important in providing access to power but the economic and thereby political base of most, if not all, power was landed wealth.

As F.J.C. Hearnshaw notes, Pitt, the British prime minister who sought to enlarge the "political public," maintained that political representation was of property, not of person, and that "in this light there is scarcely a blade of grass which is not represented." John Strachan, leading member of the Upper Canadian oligarchy known as the Family Compact, echoed such views. When speaking of the state and constitution, he asked: What could be stolen if property was secure? For most of the century, especially in a relatively capital-deprived province such as Upper Canada, property was primarily landed property and the link between political ideology, economic philosophy, and, for that matter, the law that codified such relationships was clear. The possession of land meant security, wealth, prestige, and the ability to influence events. To be a member of the elite meant, for most, to be landed; even as Upper Canada moved on towards modernity, property remained important. Later, for instance, prospective members of the Senate of a confederated Canada created by the British North America Act of 1867 were required to meet a property qualification.

At the other end of the continuum from the elite were the people striving through their own sweat to build a new life for themselves. Like their social "betters," they too sought to acquire. With a large family,

this goal was unattainable in the Old World but entirely possible in the New. By transforming the land the immigrant family could transform itself. In contrast, in Upper Canada the "gentry" might well be handicapped in a society which required human and animal muscle and required of individuals certain basic skills. So strong is the myth, largely justified, that this was and is the "best poor-man's country" that it has generated an amnesia about the past, a forgetfulness that Canada was also the scene where man's acquisitiveness was manifest and where some sought more than that necessary to sustain life. Like the older visions of Ireland's struggle, this mythology needs revisiting.

Notions of hard work bestowing human dignity upon a rustic populace, and of paternalistic leadership guiding this new garden of Eden, are the hallmarks of a pre-industrial society. This most certainly existed in Upper Canada at the turn of the nineteenth century, although by the 1830s and 1840s there were signs of economic and political change as "pre-industrial" gave way to "proto-industrial." Yet, beneath the surface, all was not well. From a sense of powerlessness and disgust with colonial land policy, a rebellion occurred in even this most loyal province in 1837. Relicts of this event, in my opinion, still persist in the attitudes of its people and the predispositions of its historians.

This book seeks to deal with some of these issues from the perspective of the political culture of an English-speaking world. It views Upper Canadian attitudes not as static but as dynamic (as the realities of the new environment were explored) and built upon existing eighteenth- and nineteenth-century visions of the cosmos. Of necessity, it looks at these views and the experience of the actors from the perspective of the political culture and its manifestation on the ground as Crown, clergy, and Indian reserve land. It does so within the constraints of geography and the cultural baggage the settlers brought from the Old World or more recently from the United States. It places human action in the context of economics and the laissez-faire capitalism which ruled out state intervention. In Upper Canada this meant almost unbridled acquisitiveness and its concomitant, land speculation, against which it might be necessary to intervene, although it was not always clear whether such intervention might help promote or hinder development. In Ireland, the same Smithian philosophy of non-intervention by the state meant that food was exported to the "market" and people starved.

The book looks at Upper Canada not only from the perspective of the prevailing political culture but also from the perspective of the environment and of government land policy. It seeks to answer such questions as: What was the role of the physical environment in the settlement process? What were the mechanisms by which land was

acquired? What was the price of land? Where were the Crown, clergy, and Indian reserves and were they, as some historians have argued, more or less developed than surrounding non-reserve land? How can land speculators be identified and how did they behave in terms of what they paid for land, their mode of operation, and their assessment of the physical environment? Did these people actually make money and if so how much? Were the land speculators assisted in their operations by their position in the political power structure, or the military hierarchy of the time? Some of these questions, as they pertain to Upper Canada, have been addressed before but not all have and certainly not for any one specific area. That, it seems to the author, is one of the advantages of the work – it brings together a set of interactions which cannot be observed in isolated thematic studies.

While, of necessity, I have journeyed away from the topic of settlement at the micro-scale, if only to gain perspective or remain sane, I have devoted a large part of the last thirty-five years to this task. During that time, the techniques of data storage and analysis have changed from the cadastral survey to the use of mainframe computers, to the revolution that was the micro-computer, and, most recently, to geographic information systems (GIS). I have, in my office, the "coloured" pencilled maps of yesteryear as well as the the coding forms and punch-cards of the 1960s and 1970s and their contemporary form, the computer disk. All testify to changing technology, but at the same time to an abiding concern with locational aspects of human existence and administration; interestingly, the British record keepers of the 1790s stored their data in data matrices though they referred to them as drawers B2, C5, and F9!

It is also worth observing that, during this same time period, the philosophy of social science(s) has changed and become pluralized. There is now no one valid philosophy but rather a myriad of approaches. This is healthy in itself but it has been another change which practitioners have had to grapple with. Some of these philosophies are more useful than others; some appear to have purely pedagogic value, though that, of itself, is not to be discredited. A number are embodied in this text; two are identified below.

The book claims to be a historical geography because that is the tradition of its author, but it also has elements of economic history, social history, and sociology. That is how, in my view, it should be because it is surely foolish to draw rigid boundaries which can only limit insight. Although contemporary social science seems to wish to distinguish between quantitative and qualitative method, this work employs both perspectives as is appropriate or indeed possible; to do otherwise would also be foolish. The work is empirical and problem-oriented,

premised on the notion that there is a real world which is observable. Sometimes this means that the methodology employed is concerned with the observer's perspective and the measurement of parts which are surrogates for a wider set of elements and processes. This is in the tradition of positivist science, the whipping boy of contemporary social science. However, positivism is, in this author's view, something drawn in abstraction rather than observable in any meaningful work in the human and social sciences. There are few historical geographers who would own up to being philosophical positivists, though they might, of necessity, employ such an approach. Rather, most historical geographers would seek to conjoin this approach with other appropriate philosophies, most usually that which has come to be known as the "humanistic tradition," within which authors employ the actor's perspective on events. This is the case here.

If in the ensuing years since this work began as a doctoral dissertation, the philosophy and method of the social and human sciences has changed, and if the technology and methods have been transformed, so too has archival practice. In fact, the notations used by some depositories are utterly changed and what was once sufficient, such as shelf six, box seventy-six, is no longer so. For example, with the addition of expanded funds in the Archives of Ontario, records once classified in this manner have been placed in record groups and maps have been assigned appropriate accession numbers. Maps in the federal jurisdiction, once located by horizontal or vertical files, have now been assigned unique NMC numbers permitting the computer search of databases. Both designations have been used wherever possible in this study. Some holdings have been transferred from one institution to another; for example, many archival boxes formerly held by the Hiram Walker Historical Museum in Windsor were transferred to the provincial archives and new referencing has been assigned. It has been quite impossible to follow the fate of all materials over the years. The most obvious case is that of Ontario's reorganized Department of Lands and Forests (DLF), whose holdings were scattered both to the Archives of Ontario and to the Department of the Environment and several other ministries. It is regrettable that the sources shown in the list of primary documents drawn from DLF cannot be systematically and easily traced; however, DLF markers are undoubtedly still present on the source material and researchers using these sources may be content identifying material used years ago by the author, and others of his kind. In short, if the archival process leaves something to be desired, there is always sufficient information in any citation to allow the material to be traced and retrieved. As far as possible, the citations are those current as of the date of publication.

The volume makes use of extensive quotation. These are reported in their original form, free of editorial punctuation, grammatical correction, or modern spelling. Such authentic reproduction permits the reader to grasp something of the linguistic flavour of the times. Where unconventional spelling is extensive, I have made an appropriate endnote to confirm its authentic form. I have also standardized some names although in the nineteenth century there were many permutations of the same name. Thus, Dupperron or Duperon Baby has been rendered as Dupéront Baby, and Richard Patterson, Paterson, or Pattinson has been rendered as Pattinson except when used in quotation.

All of the substantive matter of this book, because of the inordinate archival work involved, has had to be addressed from the vantage point of a single county. This is Essex County in southwestern Ontario with which I first became involved some thirty-five years ago as a doctoral student at the University of Western Ontario. Essex County is a place in which the Upper Canadian variables are in peculiar combination. It is the most southwesterly part of present-day Ontario. Climatically, it is one of the best endowed for agricultural purposes; edaphically, it originally was one of the poorest areas in terms of the extent of soil suited to agriculture, but, after the implementation of drainage schemes with government assistance in the late nineteenth century, it was utterly transformed. It was one of the earliest settled areas in the province; French seigneurial settlement pre-dated British control and, because of the French presence and the particular history of the area, it was one of the most culturally heterogeneous areas before 1850 and remains so today. Historically, it was on the western frontier of Upper Canada. Nonetheless, the processes of acquisition and settlement can be readily observed in Essex, and while these occur at particular rates, they are generally representative of Upper Canada as a whole. Only more comparative work will modify or negate this claim, a prospect I can only welcome.

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Land, Power, and Economics on the Frontier of Upper Canada

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1 The Land Revealed: The Physical Background

INTRODUCTION

Essex County (Figure 1.1), the most southwesterly peninsula of southern Ontario, extends some thirty-five miles from east to west and is, at its widest, twenty-five miles from north to south. The only land boundary is on the east; water in the form of the Detroit River on the west, Lake Erie on the south, and Lake St Clair to the north surrounds it on three sides. The county, including Pelée Island, contains, according to the modern soils report,[1] 452,480 acres of land of which the largest part (70.8 per cent) was in its natural condition poorly drained (Appendix 1.1).[2] Today, however, this area contains some of the most productive farmland in southern Ontario, leading to its identification as the "Garden Gateway" to Canada.[3] Perhaps more than any other part of southern Ontario, Essex provides the clearest testimony to the role of technology and collective action in the transformation of landscape. For example, the extensive areas of Brookston Clay which constitute 55.25 per cent of the county[4] are rated by the modern soil scientist as "good" to "fair" for the production of fall wheat but in their natural condition are considered poor.[5] The latter would ring true to the pioneer settler of this area for whom these extensive interior tracts (in the period before government subsidized tile-drainage and society assumed a more collective form to handle the problem) must have seemed formidable barriers to settlement.[6]

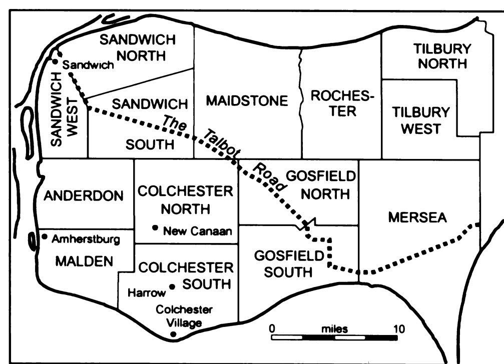

Figure 1.1 Situation and township divisions of Essex County

Nothing illustrates this better than comparison of figures 1.2, 1.3, and 1.4. The first of these, assembled from the surveyors' plans, shows why this part of the Western District was the recipient of such a large proportion of the assistance available for under-draining.[7] Seasonal wetland and swamp is seen to be extensive if fleeting.[8]

However, the map shows an extensive area of open marsh in Gosfield Township. This does not appear in Figure 1.3, which displays crop adaptability under modern conditions. The marsh has been drained and is now part of what Richards, Caldwell, and Morwick, writing in 1949, considered the best farmland in Essex.[9] Similar

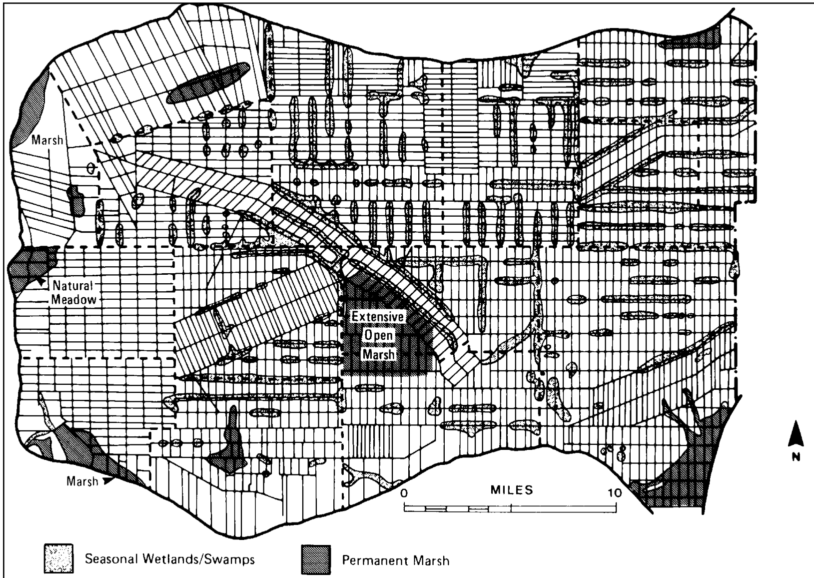

Figure 1.2 Seasonal wet land and marsh
Source: Surveyors' reports

areas in Sandwich, Tilbury, Mersea, and Colchester townships had by the middle of the present century been converted into second-order cropland. The "natural meadow" in Sandwich Township had become prime agricultural land (Figure 1.3). The change in the agricultural fortunes of the county had been dramatic, as a cursory survey of figures 1.3 and 1.4 reveals. Figure 1.4, constructed from the soil survey of the county, depicts the natural or inherent qualities of the soil. The most obvious fact to be drawn from this map is that Essex, in the pioneer period, was dominantly an area of class five soils, heavily textured and poorly drained. In comparison, these same areas are hailed by the modern soil scientist as areas of "good" cropland.

THE SETTLER AND THE ENVIRONMENT

While some of the most innovative would have anticipated this transformation, most of the earliest, agriculturally oriented settlers probably did not. For the majority, the experience of pioneering was an adaptive one in which they learned to read the environment, to test reality against the lore and mythology they had inherited. In the light of that experience, they must have adjusted their search pro-

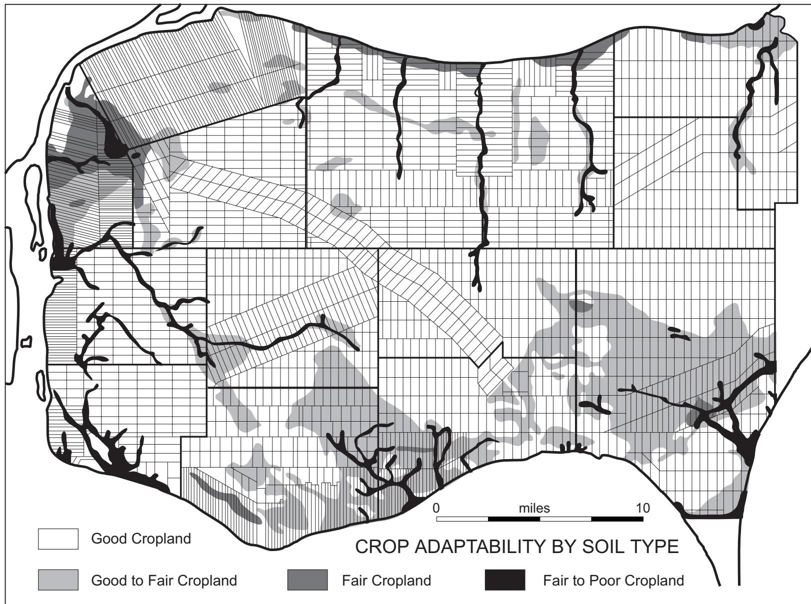

Figure 1.3 Crop adaptability according to soil type
Source: N.R. Richards, A.G. Caldwell, and F.F. Morwick, *Soil Survey of Essex County*

cedures to their ever-increasing knowledge of the physical milieu. Moreover, these procedures and adjustments for sifting the environment likely varied with the cultural background of the settler. While the settlers' origins are known, their attitudes towards the environment are not.[10] Still, these attitudes can be gauged by inference *post facto*. What can be done is to juxtapose a series of axioms against the behaviour *in aggregate* of the settlers and by so doing judge the behaviour of people in general as well as that of the individual.

This behaviour can be tested against four ideas: 1) that the Upper Canadian settler sought accessible land; 2) that the settler, in this period, sought land which could be converted into worthwhile farmland; 3) that topographically there were no hindrances to the use of the land; and 4) that, within the constraints of what was available, settlers sought to find a particular combination of ideas 1 through 3 which, within their cultural tradition, maximized their opportunity. With what obvious tools might this have occurred? The most obvious was their own capacity for observation, again rooted in their culture and individual experiences but assuredly containing the elements of

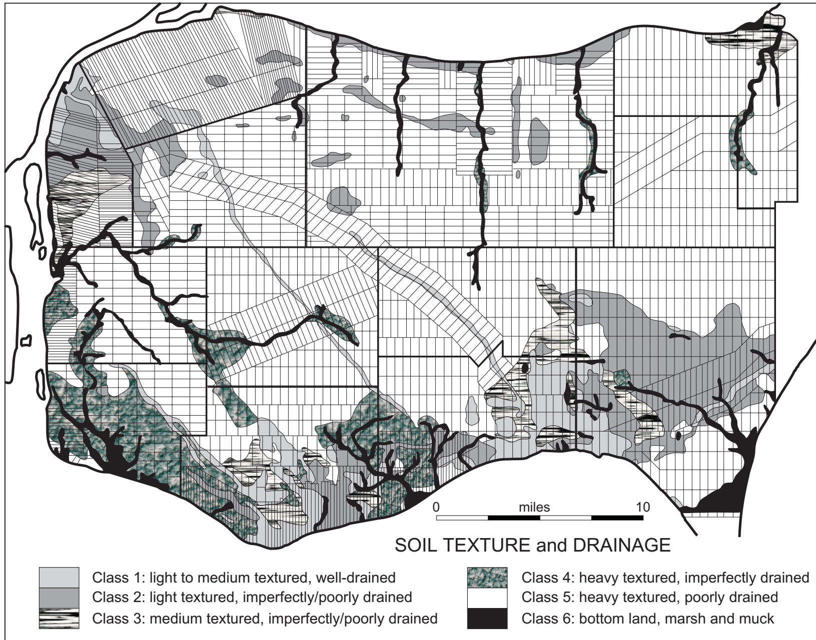

Figure 1.4 Soil texture and drainage
Source: Soil Survey of Essex County

drainage and of forest. The most apparent and pervasive was the forest cover of the county. What was the settler's attitude to forest and what were the ingredients of the Essex forest?

The Forest and Forest Lore

Kenneth Kelly suggests that the settler's attitude to forest was basically one of antagonism. He notes that "settlers stripped the trees from their land as quickly as possible, shrinking only from burning them as they stood. They attacked the forest with a savagery greater than that justified by the need to clear the land for cultivation, for the forest smothered, threatened, and oppressed them."[11]

The conditions portrayed in the accompanying Bartlett print (Plate 1.1) seem to have produced at least in some a boding sense of gloom, termed "forest fever." Finding themselves in "a perpetual gloom of vaulted boughs and intermingled shade, a solemn twilight monotony,"[12] settlers were removed from familiar sounds and experiences

Plate 1.1 A Forest Scene. Engraving by W.H. Bartlett.
Willis, *Canadian Scenery Illustrated*, following page 52.

and their sense of well-being was perturbed. The forest hindered development. Even after sweat and toil had produced a clearing, the settler had to be ever vigilant against renewed encroachment. While the forest provided fuel, food for animals, and shelter for both human being and livestock, it was also the home of lurking predators. Until experience showed that deforestation could produce dire consequences in terms of excess run-off, increased drought and soil erosion, damaged orchards, and diminished fuel supply and shelter,[13] the desire of the farm community would be for a landscape from which all trees had been removed. Which trees would be removed first?

If one assumes that the settlers had the opportunity to make a choice, that they were not politically constrained by government land policy, as many in fact were, was there sufficient information available to allow them to do so?[14] The literate could consult the field notes of the surveyors if indeed these were available soon after the survey.[15] The inferences drawn could, of course, vary with the settlers' levels of education and experience of North America's woodland; moreover, an exclusive reliance upon such written material could produce an erroneous conclusion because the surveyors' notes were restricted to their line of march and did not seemingly concern themselves with the overall vegetation on a lot as a whole. This same limitation would apply to the second source that could be consulted, namely the settlers' guides published in the first half of the nineteenth century. The illiterate would have to rely on second-hand information. In an age that was of necessity more communal, this was not difficult to obtain at local churches and taverns.[16] Aided by personal observation, based upon a host of indicators, prospective settlers could glean a detailed picture of the forest communities in which they might reside. However, as Kelly has pointed out, they might possesses only the most crude image on a broader scale. Two instances of contemporary comment, by Charles Rankin and E.A. Talbot, will suffice to illustrate the prevailing lore. Writing in 1824, Talbot suggested that:

> Land upon which black and white Walnut, Chestnut, Hickory, Bass-wood, grow is esteemed the best on the continent. That which is covered with Maple, Beech, and Cherry, is reckoned as second-rate. Those parts which produce Oak, Elm and Ash, are esteemed excellent wheat-land, but inferior for all other agricultural purposes. Pine, Hemlock, and Cedarland is hardly worth accepting as a present. It is however, difficult to select any considerable tract of land, which does not embrace a great variety of wood; but, when a man perceives that Walnut, Chestnut, Hickory, Basswood, and Maple, are promiscuously scattered over his estate, he need not be at all apprehensive of having to cultivate an unproductive soil.[17]

Two years later, Charles Rankin, the deputy surveyor for the Western District, of which Essex was a part, noted: "Good and bad land. The good is known by the quality of the timber. Weeds and shrubbing, White and Red Oak and Brush loamy upland Walnut, Cherry, bass, Sycamore, Wild Plumb [sic], Spice Woods, Prickly Ash a deep soil Small Oak sassafras, black ash, elm Wet and Swampy, Prairies and marshes apart."[18]

How common were these species? Where were they in the county? What was the likelihood that, by using any single indicator, the settler could hope to find suitable land? The answer to these questions requires some knowledge of the source materials used to reconstruct the composition of the forest and some appreciation of the experience of the surveyors.

SOURCES FOR RECONSTRUCTING THE INGREDIENTS OF THE FOREST

The data used for this purpose were gathered from the field notes, maps, plans, and diaries that early surveyors working between 1796 and 1836 compiled in the course of their duties.[19] In discharging these obligations the surveyors were beset by bad weather, financial shortages, lack of instruments, inadequate personnel, and political pressures to have the surveys finished in a very short time indeed. As a result, the records of survey vary in character, especially in the early years when Upper Canada lacked an adequate number of well-trained individuals. Yet, in total, they provide a mass of detailed information which, after careful perusal, seems accurate.

The land-survey records are of considerable value in that they provide a record of the date at which particular townships were surveyed as well as information on the extent of particular surveys and of the vegetation flourishing on particular lots.[20] Additionally, most if not all of the survey records have survived to the present day. As sources for the reconstruction of the physical environment, the records are not flawless. For example, although Figure 1.2, based upon the surveyors' plans and maps, seeks to portray the surveyors' views of wet lands in the county, it does so over almost a forty-year period between 1796 and 1836. The records nonetheless do provide insights into the perception of land quality, at least by the surveyors who, as agents of the administration, issued location tickets to prospective settlers. The surveyors could well have passed on the benefits of their field experience because, at intervals, they recorded information not only about vegetation but also about topography, the occurrence of streams and lakes, bogs and swamps, and the quality of

the environment, in terms such as “good land” and “low land.” Some idea of what they considered good land can be deduced from the notes they made. The following excerpts, taken from the notes of Mahlon Burwell (see Plate 1.2), will suffice to elucidate the point. In surveying the Talbot Road, west through Gosfield Township (Figure 1.1), Burwell recorded:

lot 256 good land, walnut, chestnut, white oak, maple and bass
lot 257 good cleared land, walnut, chestnut
lot 258 good land, maple, elm and bass
lot 259 maple, elm, beech
lot 260 black ash swamp
lot 261 black ash[21]

In his survey of Rochester Township, he recorded the vegetation in somewhat greater detail, but similar inferences, as to what the vegetation could indicate to the early settler, can be drawn. The following is taken from his survey of the Middle Road in Rochester:

lot 9 at 9 chains – good land, white oak and beech
lot 9 at 20 chains – black ash and elm swamp.
lot 10 at 7 chains – black ash and elm swamp
lot 11 at 23 chains – good land, white oak, beech, maple and hickory
lot 11 at 30 chains – black ash and elm swamp
lot 12 at 24 chains – black ash and elm swamp
lot 12 at 2 chains – good land, white oak, beech, maple and hickory
lot 13 at 3 chains – good land, white oak, beech, maple and hickory[22]

Because the survey of a particular township was frequently conducted at different times and by different surveyors, the value of the land-survey records varies with the responsibility and knowledge shown by the surveyors. Consequently, the survey records do not provide the measures available to and required by the modern botanist; measures, for example, of density, dominance, soil acidity, and soil-mineral composition. Their usefulness also varies with the surveyors’ perception of the composition of the forest. If, for example, the surveyor simply recorded the presence of oaks, no distinction can be made between red and white oaks. His perception might also vary according to the year or the time of the year at which the survey was made, since the extent of swamp and marsh could presumably fluctuate and hinder observation. Moreover, it was not until 1859 that the split-line method of recording survey field notes was introduced by Thomas Devine.[23]

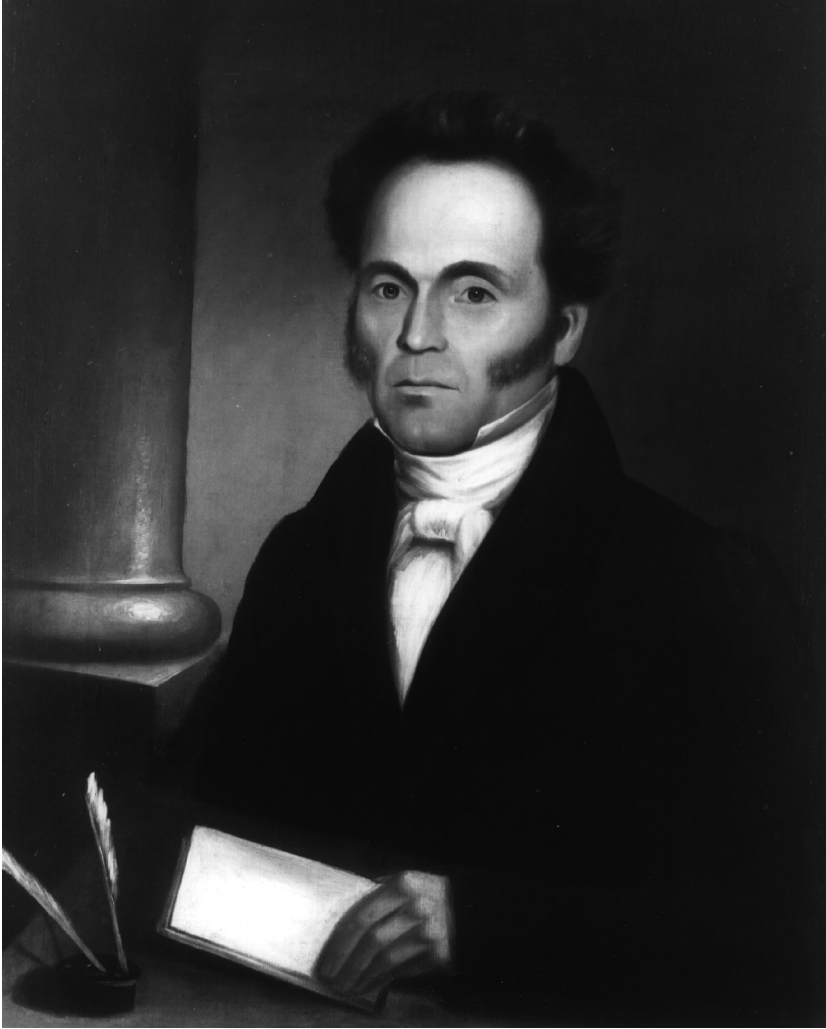

Plate 1.2 Mahlon Burwell, Surveyor.
Courtesy of the principal of Huron College, University of Western Ontario

Hence, the early surveyors' plans provide little information on the spatial distribution of particular trees or plant communities, and the field notes, as exemplified above, do not specifically mention the dominant element on any one lot. However, the regularity with which particular species are mentioned might suggest that this is a reasonable inference.

The Experience of the Essex Surveyors

Although early surveys were conducted along the Essex shore by Patrick McNiff and Abraham Iredell in the 1790s, the bulk of the work (with the exception of Anderdon and Malden townships, surveyed by Peter Carroll) was conducted by Thomas Smith between 1805 and 1806 and by Mahlon Burwell, between 1811 and 1836. Indeed, since many of Smith's surveys were subsequently re-surveyed by Burwell one can state confidently that the Burwell surveys were the source of most of the data used here. Burwell's experience as a surveyor was much greater than that of any of the others. By 1836, when he completed his final field notes for Essex, he had completed surveys in at least forty-four different Ontario townships beyond the boundaries of Essex. These stretched from the Niagara peninsula through the modern-day Wellington County, south and west to Middlesex and neighbouring Kent counties. By 1825, twenty-four of the townships had been completed. By comparison, when Iredell came to survey the townships of Colchester North and South in 1796, he had experience of only ten townships. Smith, who was to survey these same townships in 1805–06, had experience of only two townships beyond Essex. Carroll, who surveyed Anderdon and Malden in the 1830s, had been working in seven townships outside the county. In short, not only was Burwell the dominant surveyor in Essex County, he had a wide experience of a variety of landscapes in Ontario as a whole.[24]

THE DATA AND THE METHOD

The surveyors' field notes record 11,763 observations of vegetation. Their location was noted in terms of lot and concession together with those comments which suggest land type, that is, marsh, swamp, meadow, good land, poor land. Counts of the absolute occurrence of some forty-four species were recorded together with their relative frequency expressed as percentages (Table 1.1). For the present study, these data were mapped on a scale of one inch to one mile by working out distance expressed by the surveyors in links and chains. In turn, this working map, in conjunction with tables 1.3 and 1.4, which show the frequency of occurrence of particular species with one another, are the basis of Figure 1.5.[25] On the map each lot is "typed" according to whether any group exceeded 50 per cent of the references.[26] Three regional groups were identified; a fourth, labelled "mixed hardwoods," included those in which various species were in closer equilibrium. Membership in any group was determined by visual inspection of tables 1.2 and 1.3, with reference to Table 1.1 where it is shown

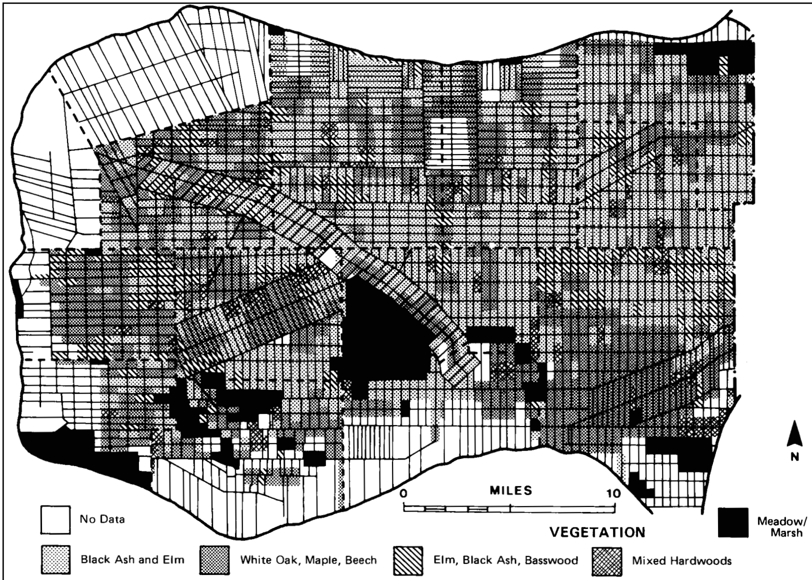

Figure 1.5 Pre-settlement vegetation of Essex County
Source: Clarke and Finnegan, "Colonial Survey Records," 124.

that the classes used included 79 per cent of all vegetation mentioned. Counts of the occurrence of specific trees within each of the surveyors' land qualities, and within soil and drainage classes taken from the county soils report (Figure 1.4), amplified the classification. For example, in figure 1.6a, beech, maple, and white oak show a dramatic decrease through "good land" to "swampy land." Conversely, elm, black ash, and willow rise through the water continuum. A similar dichotomy exists for less dominant species (Figure 1.6b).

RESULTS: PATTERNS OF INTERRELATIONSHIP AND THE BASIS OF SETTLER BEHAVIOUR

The forty-four types of vegetation recorded in the study area contrast with the sixty-eight identified by J.H. Fox and W.S. Soper and the sixty-two recognized by P.F. Maycock.[27] In part, this must reflect the more limited range of possibilities in an area much smaller than southern Ontario as a whole; it also partly reflects the superior observational capacities and technology of contemporary observers over the nineteenth-century surveyors. The early surveyors treated elm, maple, and hickory as specific types; in contrast, Maycock recognized three species of elm, five of maple, and three of hickory. Maycock listed eight types

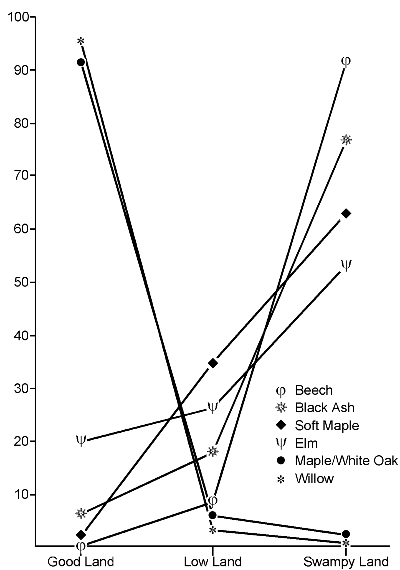

Figure 1.6a (dry sites)

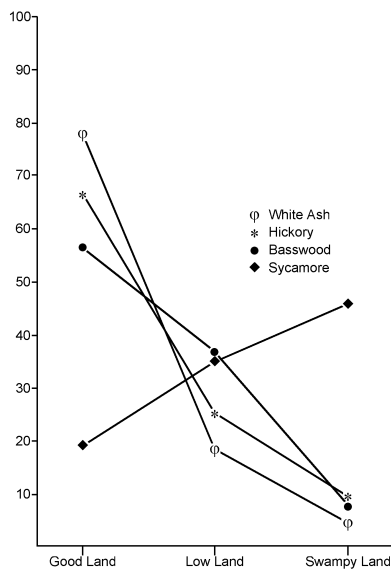

Figure 1.6b (wet sites)

Figure 1.6 Tree species in relation to the water continuum
Source: Clarke and Finnegan, "Colonial Survey Records," 126, 128.

of oak in his sample; the surveyors identified five specific types and a general category.

Table 1.1 shows the absolute number of observations made, the relative occurrence of each species, the number of townships in which the species was encountered, and the relative rank of the species. The most frequently occurring species in the county were elm, black ash, white oak, beech, basswood, maple, hickory, white ash, red oak, chestnut, sycamore, and soft maple.[28] These twelve constituted almost 95 per cent of all references; all others mentioned did not account for more than 1 per cent. In addition, these first twelve species were found throughout the county; the remaining thirty species represent more unique components, specific to particular sites.

Table 1.2 compares the ranking of the species in Essex County with those published by Maycock for Ontario and Wisconsin. However, the reader should note that, while the Essex data are ranked on the basis of the frequency, the tabulated Ontario and Wisconsin series were manipulated into regional indices by Maycock. The values, while not strictly comparable, are nonetheless suggestive. Only the first twenty species in Essex are recorded, together with their corresponding values on the regional index. Where the latter suggested a rank lower

Table 1.1 Observations of all tree types in Essex County

Tree Type	*Numbers of observation*	*Rank*	*(%)*	*Cumulative percentage*	*Number of townships in which observed*
Elm	2125	1	18.07		9
Black Ash	2118	2	18.00	36.07	9
White Oak	1444	3	12.28	48.35	9
Beech	1328	4	11.29	59.64	9
Basswood (Whitewood)	1253	5	10.65	70.29	9
Maple	1014	6	8.62	78.91	9
Hickory	613	7	5.21	84.12	9
White Ash	404	8	3.43	87.55	9
Red Oak	275	9	2.34	89.89	8
Chestnut	218	10	1.85	91.75	6
Sycamore/Plane Tree	203	11	1.73	93.47	9
Soft Maple (Red Maple)	138	12	1.17	94.64	9
Oak	122	13	1.04	95.68	6
Poplar (Balm of Gilead)	74	14	0.63	96.31	6
Willow	58	15	0.49	96.80	8
Hornbeam (Ironwood)	56	16	0.48	97.28	5
Ash	44	17	0.37	97.65	3
Lynnwood	36	18	0.31	97.96	3
Sassafras	32	19	0.27	98.23	3
Black Walnut	31	20	0.26	98.49	4
Walnut	29	21	0.25	98.74	3
Alder	29	21	0.25	98.99	6
Black Oak	17	23	0.14	99.13	6
Plum Tree	14	24	0.12	99.25	2
Dogwood	13	25	0.11	99.36	2
Witch Hazel	13	25	0.11	99.47	1
Butternut	9	27	0.08	99.55	3
Pepperidge (Black Gum)	8	28	0.07	99.62	1
Swamp Oak (Pin)	7	29	0.06	99.68	3
Prickly Ash	6	30	0.05	99.73	3
Aspen	6	30	0.05	99.78	2
Spice Bush	4	32	0.03	99.80	2
Birch	3	33	0.03	99.84	2
Cherry	3	33	0.03	99.86	2
Mulberry	3	33	0.03	99.89	2
Scrub Oak (Burr)	3	33	0.03	99.91	2
Sugar Maple	3	33	0.03	99.94	2
Blue Ash	2	38	0.02	99.96	1
Hawthorn	2	38	0.02	99.97	2
Cedar	1	40	0.01	99.98	1
Tamarack	1	40	0.01	99.99	1
Hackberry	1	40	0.01	100.00	1
	11,763				

Two other vegetation types were mentioned in the surveyors' notes but cannot be identified using standard references. They are Cranberry (1), Thornberry (1).

Source: Clarke and Finnegan, "Colonial Survey Records," Table 1.

than the twentieth, this is not noted here although it can be identified in the original work. In Ontario and Wisconsin five tree types are found within the ten most recorded in Essex, namely, elm, white oak, basswood, maple, and red oak. As might be expected, an additional three species, beech, hickory, and white ash are ranked similarly in Essex and Ontario. Two species present in the upper half of the table which are not among the highest ranked Ontario and Wisconsin series are black ash and chestnut. In Essex County, black ash was the second most frequently recorded species; in Ontario, it was eighteenth in frequency but not significant as a regional contributor. The difference in frequency is indeed understandable since Essex in its natural state contained such a large percentage of wet lands (figures 1.2 and 1.4). Subsequent nineteenth-century drainage schemes, assisted by government financial subsidies,[29] may well have altered even the Essex proportion of black ash. Chestnut, not included among the top twenty in recent surveys of Ontario and Wisconsin, appears as tenth in Essex. Fox and Soper[30] record that the chestnut has been drastically reduced by fungus infestation; here the historical record provides elegant testimony of the former importance of this species in the forests of the county. The lower-ten-ranked species are numerically few in number and account for only an additional 6.6 per cent of the references to vegetation (Table 1.1). In Wisconsin and Ontario, only willow, poplar, and ironwood assume an importance similar to that in Essex.

How frequently did these species occur one with another in Essex? Tables 1.3 and 1.4, showing the absolute and relative frequencies with which this happened, cast light on the topic. Both tables are ordered in terms of the occurrence of each species with that first mentioned in the surveyors' notes. When white oak was first mentioned, it occurred 663 times in conjunction with beech (Table 1.3) or roughly 73 per cent of the 907 total observations (Table 1.4). Black ash was mentioned first in conjunction with elm 1095 times or 75.8 per cent of the 1444 times that it was dominant. Perusal of these tables shows that, when a specific species was first mentioned more than 200 times, the following relationships were brought to light. When white oak occurred first, beech appeared 73 per cent of the time, maple 40 per cent, hickory 33 per cent, basswood 27 per cent, and red oak 21 per cent. Beech was found in conjunction with maple 72 per cent of the time, basswood 33 per cent, and white oak 23 per cent. Maple first appeared with beech 40 per cent of the time, basswood 39 per cent, elm 36 per cent, and white oak 26 per cent. When elm appeared first, basswood occurred 74 per cent of the time, black ash 32 per cent, hickory 27 per cent, and white ash 16 per cent. In contrast, black ash appears to be of importance only with elm, which appears in 76 per

Table 1.2 Comparison of the rank of particular species in Essex with Ontario and Wisconsin

Tree Type	*Ontario*	*Wisconsin*	*Essex*
Elm	2,16[4]	5,10[7]	1
Black Ash	–	–	2
White Oak	6	3	3
Beech	3	14	4
Basswood	10	7	5
Maple	1,8[5]	1,4[8]	6
Hickory	9,13[6]	19	7
White Ash	4	17	8
Red Oak	7[1]	2	9
Chestnut	–	N/A	10
Sycamaore	–	–	11
Soft Maple (Red Maple)	5	–	12
Oak	–	–	13
Poplar	20[3]	9	14
Willow	14[2]	8[9]	15
Ash	–	11[10]	16
Ironwood	–	18	17
Lynnwood	–	–	18
Sassafras	–	–	19
Black Walnut	–	–	20

Source: Calculations of the author and Maycock, "The Phytosociology of the Deciduous Forests," Table IX.

– indicates a species present in the first twenty as ranked in Essex but absent from the first twenty ranked in Ontario or Wisconsin.

[1] Maycock's seventh-ranked species includes black oak, ranked twenty-third in Essex.

[2] Black cherry ranked fourteenth (with black willow) in Ontario but thirty-third in Essex.

[3] Maycock recognizes cottonwood.

[4] Maycock's second-ranked species was white elm; his sixteenth was red elm.

[5] Maycock's first-ranked species was hard maple; his eighth was silver maple.

[6] Maycock's ninth-ranked species was shagbark hickory; his thirteenth was butternut hickory.

[7] White elm and red elm were ranked fifth and tenth respectively in Wisconsin.

[8] Hard maple and silver maple were first and fourth respectively in Wisconsin.

[9] Black willow is identified in the Maycock study, willow in the Essex survey notes.

[10] Red ash is identified in the Maycock material, ash in the survey notes.

cent of the instances. Where some percentages are exceptionally high (Table 1.4), as in the case of black walnut with white oak, the absolute number of occurrences is small.

Although it is obvious that certain trees do occur with regular frequency in conjunction with others, this is not to say that they occur in any specific order. Indeed, Maycock, whose greater number of interval-measured variables permitted him to investigate the problem of

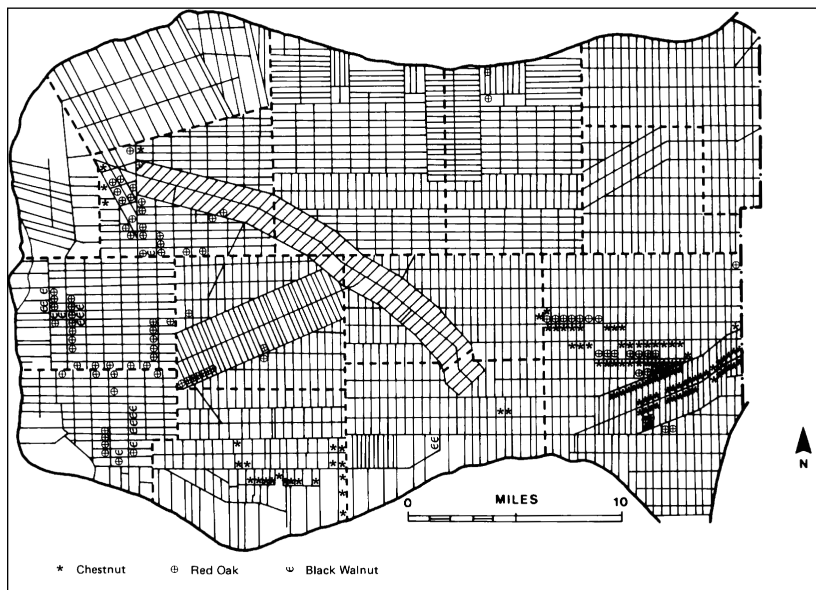

Figure 1.7 Species of local importance on well-drained sites
Source: Clarke and Finnegan, "Colonial Survey Records," 132.

ordination more fully, negates this hypothesis. Nonetheless, the data are suggestive. In a sample of 419 lots designated "good land" by the surveyors and on which white oak, beech, or maple were first mentioned, considerable variation occurred. At least one of these three did not appear at all 40 per cent of the time. Twenty-six per cent of the time, chestnut, basswood, red oak, black oak, walnut, white ash, and elm replaced them. Maple dropped out 44 per cent of the time, beech 33 per cent. White oak was the most stable, dropping only 23 percent of the time. There was considerable geographical variation. White oak disappeared from the records most heavily in Tilbury (86 per cent) and Sandwich (44 per cent) and least in Colchester Township. Beech dropped 81 per cent of the time in Colchester, 48 per cent in Malden, 46 per cent in Anderdon, 31 per cent in Mersea, 22 per cent in Gosfield, and 22 per cent in Sandwich. It did not drop from the good lands association in the wetter, northern townships of Maidstone, Rochester, and Tilbury.[31] A number of phytogeographical factors, operating at the micro-level, would seem to be influential; one identified by Maycock as of prime importance, and treated here, is the role of soil moisture (figures 1.7 and 1.8).[32]

Further insights into the ways in which trees occurred in conjunction with one another and the role of soil moisture can be gained from

Table 1.3 Number of occurences of one species with another, Essex County

	White Oak	Beech	Maple	Elm	Black Ash	Basswood	White Ash	Red Oak	Hickory	Willow	Black Walnut	Oak	Soft Maple	Poplar	Sycamore	Hornbeam	Ash	Chestnut	Sugar Maple	Lynnwood	Walnut	Alder	Swamp Oak	Black Oak	Butternut	Birch	Aspen	Sassafras	Tamarack	Dogwood	Plum Tree	Scrub Oak	Total	Times obs. with others	Times obs. alone
White Oak		663	359	165	59	245	145	190	302		15	1	3	25	19	13	8	38		1				3			3	3		2			2262	907	29
Beech	119		378	39	11	174	42	13	34		4	3		1	7	5		11		2				2	1								846	524	8
Maple	55	85		76	17	84	12	7	4			7	1	2	6			3			1				2	2							364	214	0
Elm	45	13	22		140	329	69	6	121			24	18	9	43	10	4					1	6		1	1					2		864	443	1
Black Ash	14		11	1095		143	26	4	80	12		5	86	12	99			2		1		13	3		2		3		1				1612	1444	242
Basswood	35	14	16	50	23		31	14	15		3	4	3		10	3		2					1										224	77	1
White Ash	16	11	7	15	8	17		2	7			1	1	6																			91	43	1
Red Oak	15	6		2	10	13	15		17									3															81	23	
Hickory	9	2	2	6	5	6	6				3									2													41	10	
Willow				3	4												1					3											11	11	11
Black Walnut	5		1	5	4	6	5		1							4		1			1												33	6	
Oak		3	8	11	5	24	1		13								5	10															80	24	1
Soft Maple				2	3	3			1								2																11	3	
Poplar			1	1					1																								3	3	
Sycamore				2			2						2																				6	2	
Hornbeam	2	2		2					2								2															1	11	3	
Ash				1					1			1						1															4	1	
Chestnut	19	19	5	3	2	1			5						2																		56	27	
Sugar Maple		2										2																					4	2	
Lynnwood	4								1								5	1															10	5	3
Walnut																																	1	1	1
Alder																																	0	0	2
Swamp Oak																																	0		
Black Oak																																	0		
Butternut																																	0		
Birch																																	0		
Aspen																																	0		
Sassafras																																	0		
Tamarack																																	0		
Dogwood																																	0	0	1
Plum Tree																																	0		
Scrub Oak																																	0		
	33	820	810	1478	291	1045	354	236	605	12	25	48	114	55	186	35	27	72		6	2	17	10	5	6	3	6	3	1	2	2	1	6615	3773	301

Source: Clarke and Finnegan, "Colonial Survey Records," Table 2. Obs.=observed.

Table 1.4 Percentage occurence of one species with another, Essex County

	White Oak	Beech	Maple	White Ash	Red Oak	Chestnut	Oak	Black Walnut	Basswood	Hickory	Hornbeam	Lynnwood	Elm	Soft Maple	Black Ash	Willow	Sycamore	Poplar	Ash	Sugar Maple	Walnut	Alder	Swamp Ash	Aspen	Butternut	Black Oak	Sassafras	Birch	Aspen	Dogwood	Plum Tree	Tamarack	Scrub Oak
White Oak		73	40	16	21	4		2	27	33	1		18		7		2	3															
Beech	23		72	8	2	2		1	33	6	1		7		2		1																
Maple	26	40		6	3	1	3		39	2			36		8		3	1							1			1					
White Ash	37	26	16		5		2		40	16			35	2	19			14															
Red Oak	65	26	0	65		13			57	74			9		43																		
Chestnut	70	70	19						4	19			11		7		1																
Oak		13	33	4		42			100	54			46		21				21														
Black Walnut	83		17	83		17			100	17	67		83		67						17												
Basswood	45	18	21	40	18	3	5	4		19	4		65	4	30		13						1										
Hickory	90	20	20	60				30	60			20	60		50																		
Hornbeam	67	67								67			67						67														
Lynnwood	80									20									100														
Elm	10	3	5	16	1		5		74	27	2			4	32		10	2	1				1										
Soft Maple									100	33			67		100				67														
Black Ash	1		1	2					10	6			76	6		1	7	1				1											
Willow													27		36				9			27											
Sycamore				100									100	100																			
Poplar			33							33			33																				
Ash						100	100			100			100																				
Sugar Maple		100					100																										
Walnut						100																											
Alder																																	
Swamp Ash																																	
Aspen																																	
Butternut																																	
Black Oak																																	
Sassafras																																	
Birch																																	
Aspen																																	
Dogwood																																	
Plum Tree																																	
Tamarack																																	
Scrub Oak																																	

Source: Clarke and Finnegan, "Colonial Survey Records," Table 3.

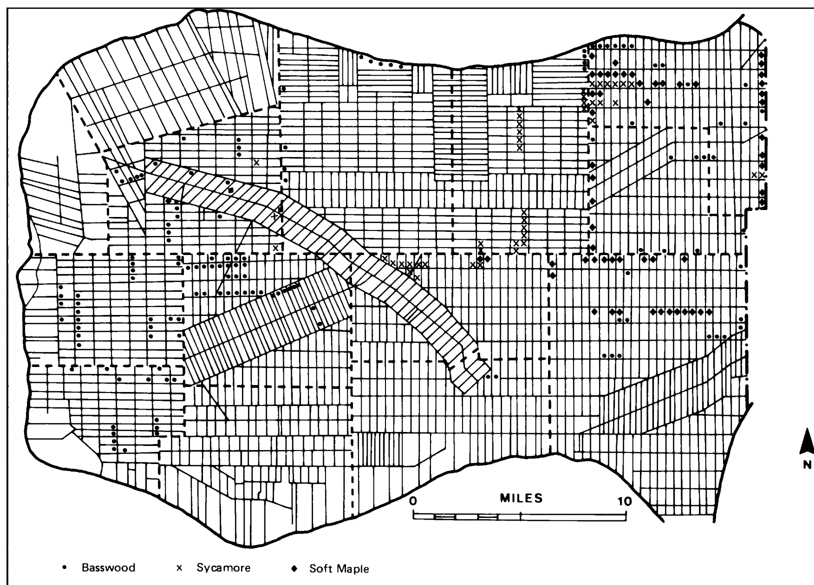

Figure 1.8 Species of local importance on lowland to swampy sites
Source: Clarke and Finnegan, "Colonial Survey Records," 132.

using the terminology by which the surveyor qualified his remarks. The surveyors recognized a number of terms. These included "excellent land", "very good land," "good land," "low land," "wet land," "flats," "bottomland," "swale," "marsh," and "swamp." Cross-classified, these terms have been subsumed into three distinct types, designated "good land," "swampy land," and an intermediate category called "lowland" (Figure 1.9). Tables 1.5–1.8 and figures 1.4 and 1.5–1.8 illustrate the relationship between tree species and land types along the water continuum both for Essex and for its constituent parts. As soil drainage improves so too does the frequency of, for example, beech, chestnut, maple, and white and red oak. As soil drainage deteriorates there are increasing frequencies of willow, black ash, soft maple, elm, and sycamore. Some species are more tolerant of moisture conditions appearing on both ends of the continuum. Examples include basswood and hickory. In short, these results, and Maycock's, seem remarkably congruent. Cross-classification of land types and the six categories of soil-texture and drainage conditions shown on Figure 1.4 and derived from amalgamating classes in the county's soil report substantiate this conclusion. The results are highly significant.[33] Generally, the surveyors' land classification and perception of land quality

Table 1.5: Number of times species was observed with a specific land type

Tree Type	Rank	Good Lands		Low Lands		Swampy Land		Total Observations of individual Species
		Absolute*	Percentage	Absolute*	Percentage	Absolute*	Percentage	n
Beech	(4)	1187	96%	40	3.5%	4	0.5%	1231
White Oak	(3)	1209	93%	83	6.0%	25	2.0%	1317
Maple	(6)	900	93%	59	6.0%	6	1.0%	965
Red Oak	(6)	219	85%	36	14.0%	2	1.0%	257
White Ash	(8)	298	78%	70	18.0%	16	4.0%	384
Chestnut	(11)	135	94%	7	5.0%	2	1.0%	144
Basswood	(5)	652	56%	417	36.0%	99	8.0%	1168
Hickory	(7)	387	66%	144	25.0%	55	9.0%	586
Sycamore	(10)	39	19%	73	35.0%	96	46.0%	208
Elm	(1)	412	20%	547	26.0%	1136	54.0%	2095
Black Ash	(2)	114	6%	367	18.0%	1568	77.0%	2049
Willow	(15)	0	0%	5	8.5%	54	91.5%	59
Soft Maple	(12)	2	1.5%	46	35.0%	82	63.0%	130
Black Oak	(22)	11	100%	0	0%	0	0.0%	11
Sugar Maple	(31)	2	100%	0	0%	0	0.0%	2
Oak	(13)	63	80%	11	14.0%	5	6.0%	79
Walnut	(28)	2	67%	0	0%	1	33.0%	3
Black Walnut	(17)	29	100%	0	0%	0	0.0%	29
Ironwood	(16)	38	97%	1	3.0%	0	0.0%	39
Dogwood	(31)	2	100%	0	0%	0	0.0%	2
Sassafras	(23)	6	67%	3	33.0%	0	0.0%	9
Poplar	(14)	37	55%	13	19.0%	17	25.0%	67
Tamarack	(34)	0	0%	0	0%	1	100.0%	1
Ash	(20)	9	53%	3	18.0%	5	29.0%	17
Swamp Oak	(24)	1	12.5%	4	50.0%	3	37.5%	8
Birch	(28)	2	67%	1	33.0%	0	0.0%	3
Butternut	(31)	2	100%	0	0%	0	0.0%	2
Pepperidge	(28)	0	0%	3	100.0%	0	0.0%	3
Aspen	(25)	0	0%	2	33.0%	4	67.0%	6
Prickly Ash	(26)	4	80%	1	20.0%	0	0.0%	5
Spice Bush	(27)	4	100%	0	0%	0	0.0%	4
Plum Tree	(21)	10	83%	2	17.0%	0	0.0%	12
Lynnwood	(19)	8	36%	10	45.0%	4	18.0%	22
Alder	(18)	0	0%	0	0%	27	100.0%	27
Total Observations		5784		1948		3212		10,944
Site References		1748		607		1624		

Source: Clarke and Finnegan, "Colonial Survey Records," Table 4.

*Absolute equals absolute numbers of occurrences

Table 1.6 Number of references to specific species within the good-lands group; Essex Townships

	Townships								
Tree Type	*Mai.+ Roc.*	*Gos.*	*Mal.*	*Col.*	*Mer.*	*And.*	*San.*	*Til.*	*Total*
Black Ash	21	10	2	28	16	12	16	114	114
Elm	29	20	22	108	40	94	59	40	412
Basswood–White Wood	77	25	63	101	62	81	153	90	652
Hickory	59	4	51	78	40	94	45	16	387
Beech	390	48	42	95	112	81	214	205	1187
White Oak	341	49	61	202	165	110	206	75	1209
Maple	201	22	27	99	50	74	219	208	900
Sycamore–Plane	1		9	6	11	10	1	1	39
White Ash	28	10	47	73	40	64	16	20	298
Red Oak			53	2	57	43	67	3	219
Black Oak	3				2	6			11
Chestnut	1	9			119		6		135
Soft Maple		1						1	2
Sugar Maple						2			2
Oak		2		4	9	48			63
Ash					6	3			9
Walnut		1	1						2
Black Walnut		1	6	4		18			29
Ironwood		4		12		18	1		35
Willow									0
Tamarack									0
Alder									0
Swamp Oak	1								1
Poplar		4	2	11	10	10			37
Sassafras					6				6
Dogwood					2				2
Birch				2					2
Pepperidge									0
Butternut		2							2
Aspen									3
Hornbeam							3		3
Prickly Ash						4			4
Spice Bush						4			4
Plum Tree						10			10
Lynnwood		2			6				8
Hawthorn									0
Mulberry									0
Cedar									0
Total Observations	1154	214	386	825	753	786	1000	668	5784
Total References to Good Land	400	71	76	250	235	190	301	225	1748

Source: Calculations of the author

Townships: Mai.=Maidstone; Gos.=Gosfield; Mal.=Malden; Col.=Colchester; Mer.=Mersea; And.=Anderdon; San.=Sandwich; Til.=Tilbury; and Roc.=Rochester

Table 1.7 Absolute number of references to specific species within the lowlands group; Essex Townships

	Townships								
Tree Type	*Mai.+ Roc.*	*Gos.*	*Mal.*	*Col.*	*Mer.*	*And.*	*San.*	*Til.*	*Total*
Black Ash	21	7	37	32	101	80	69	20	367
Elm	97	9	36	53	114	101	101	36	547
Basswood–White Wood	94	9	20	28	79	47	109	31	417
Hickory	35	1	26	18	4	1	43	16	144
Beech	11	9	2		10				40
White Oak	14	6	5	10	29	3	16		83
Maple		5	4	11	36		3		59
Sycamore–Plane	1		14	6	36	7	1	8	73
White Ash	18	4	6	17	14		11		70
Red Oak	9		6	10	1	9	1		36
Black Oak									0
Chestnut				7					7
Soft Maple	1	2		5	27		6	5	46
Sugar Maple									0
Oak	1			3	7				11
Ash				3					3
Walnut									0
Black Walnut									0
Ironwood									0
Willow	1		1	2	1				5
Tamarack									0
Alder									0
Swamp Oak	1			3					4
Poplar		6	2	3		2			13
Sassafras				3					3
Dogwood									0
Birch					1				1
Pepperidge					3				3
Butternut	2								2
Aspen									0
Hornbeam			1						1
Prickly Ash					1				1
Spice Bush									0
Plum Tree					2				2
Lynnwood	4			6					10
Total Observations	302	60	162	197	491	258	362	116	1148
Total References to Low Lands	104	20	38	60	130	102	117	36	607

Source: Calculations of the author

Townships: Mai.=Maidstone; Gos.=Gosfield; Mal.=Malden; Col.=Colchester; Mer.=Mersea; And.=Anderdon; San.=Sandwich; Til.=Tilbury; and Roc.=Rochester

Table 1.8 Absolute number of references to specific species within the swampy-lands group; Essex Townships

	Townships								
Tree Type	*Mai.+ Roc.*	*Gos.*	*Mal.*	*Col.*	*Mer.*	*And.*	*San.*	*Til.*	*Total*
Black Ash	569	96	18	198	131	4	224	328	1568
Elm	423	36	18	131	102	1	137	288	1136
Basswood–White Wood	32	1	2	1	2		32	29	99
Hickory	11	1	8	10	1		16	8	55
Beech		4							4
White Oak		2	1	14	4		4		25
Maple		2	1		3				6
Sycamore–Plane	32	13	6	5	6		6	28	96
White Ash		3		1			3	9	16
Red Oak				2					2
Black Oak									0
Chestnut		1			1				2
Soft Maple				7	12		1	62	82
Sugar Maple									0
Oak				4	1				5
Ash		1		1	3				5
Walnut		1							1
Black Walnut									0
Ironwood									0
Willow	1	7	3	9	25	3	6		54
Tamarack					2				2
Alder	3	7		8	5		4		27
Swamp Oak							3		3
Poplar		3	6	5	3				17
Sassafras									0
Dogwood									0
Birch									0
Pepperidge									0
Butternut									0
Aspen				2			2		4
Hornbeam									0
Prickly Ash									0
Spice Bush									0
Plum Bush									0
Plum Tree									0
Lynnwood		4							4
Hawthorn									0
Mulberry									0
Cedar									0
Total observations	1071	182	63	398	301	8	438	752	3213
Total references to swampy land	575	103	21	208	151	7	232	327	1624

Source: Calculations of the author

Townships: Mai.=Maidstone; Gos.=Gosfield; Mal.=Malden; Col.=Colchester; Mer.=Mersea; And.=Anderdon; San.=Sandwich; Til.=Tilbury; and Roc.=Rochester

agree with the modern surveys. An additional (chi-square) analysis of particular vegetation groupings within the same moisture and texture categories proves equally significant.[34]

There is, therefore, statistical justification for the hypothesis that a knowledge of specific vegetation types would indeed lead the nineteenth-century settler to identify the better-drained areas. As Table 1.5 shows, these well-drained sites, which mainly lie along the Lake Erie shore, carried a high percentage of beech, chestnut, maple, white oak, red oak, and, to a lesser extent, white ash. All drained lands, principally in the interior, carried the highest percentage of willows, black ash, soft maple, elm, and sycamore. These basic relationships are illustrated on Figure 1.5, on which three major areas in which particular tree types occurred in combination with one another are mapped. The three areas are those in which the members of the class accounted for more than 50 per cent of the vegetation mentioned on each lot.[35] A fourth area labelled "mixed" lots included those in which various species were in closer equilibrium. Their hierarchical classification on Figure 1.3 is thought meaningful in terms of the potential usefulness for agriculture, category one having the highest potential. There are obvious similarities between this map and Figure 1.9, the map of land quality. As noted earlier, this is for good reasons.

In addition to the ubiquitous species mentioned earlier and shown on Figure 1.5, there were particular species present in unusually large quantities in particular areas. Figures 1.7 and 1.8 portray these species for wet and dry conditions. Figure 1.7, showing trees seeking richer, well-drained sites, includes chestnut, red oak, and black walnut. Figure 1.8 portrays species more tolerant of wet conditions. Basswood, sycamore, and soft maple are included here. The maps speak for themselves; there is a spatial pattern.

Although Alan Brunger[36] and Kenneth Kelly[37] observe some variation among nineteenth-century commentators on what were considered good and poor indicators of land quality, there was considerable agreement. Kelly states that forest cover was used as an indicator of drainage conditions and that, in Ontario, first-class wheat land would be found under a mixed hardwood cover, including maple, basswood, elm, and beech.[38] Essex County exhibits variance with Ontario as a whole with respect to vegetation indicators. Here the surveyors believed that good land lay under the white oak, beech, and maple found throughout the area. These lands might not have been the first choice in the wider area but they were the best available in the county because of the predominance of ill-drained land. Even within the wider area they were still high-priority choices. While these areas had difficulty accumulating moisture once the humic

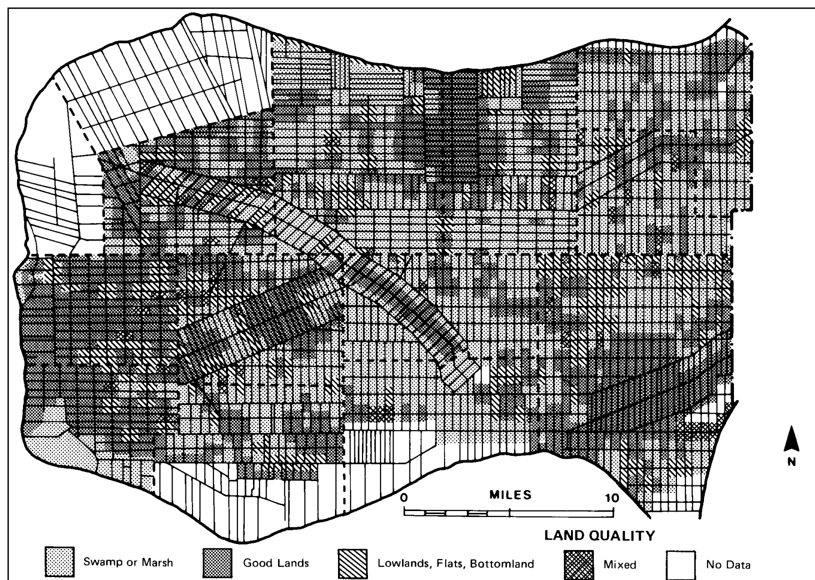

Figure 1.9 Land quality as measured by the surveyors
Source: Clarke and Finnegan, "Colonial Survey Records," 133.

mould had gone from the soil surface, they were readily cleared and settlers with little capital often chose them for their first farm. In fact, moisture deficiency was rarely a problem in Essex.[39] Brunger and Kelly agree that pine, cedar, and hemlock all indicated poor land. Pine and hemlock were absent in Essex; cedar may have been present in small quantities along the Lake Erie shore but is not detectable because the field notes have not survived. In contrast to Ontario[40] as a whole, the poor indicators in Essex are all deciduous, namely, black ash, soft maple, alder, and willow on the wettest of lands, and elm, sycamore, and basswood on moderately wet lands. While surveying in what was to become Anderdon Township in 1792, Patrick McNiff encountered swamp, not for the first time. He reported to the Land Board administering the settlement of the area: "the Timber in those swamps Water ash, and small Elms, the Bottom whole Clay, mixed with sand, if ever they could be drained, the soil is not worth the expence, nor is the timber growing there useful even for fuel."[41]

From the above, it would seem that there was indeed a rich lore that could be used to identify well-drained and poorly drained areas within Essex. Individuals could rely upon individual species or groupings of species.[42] With certain exceptions, single species could

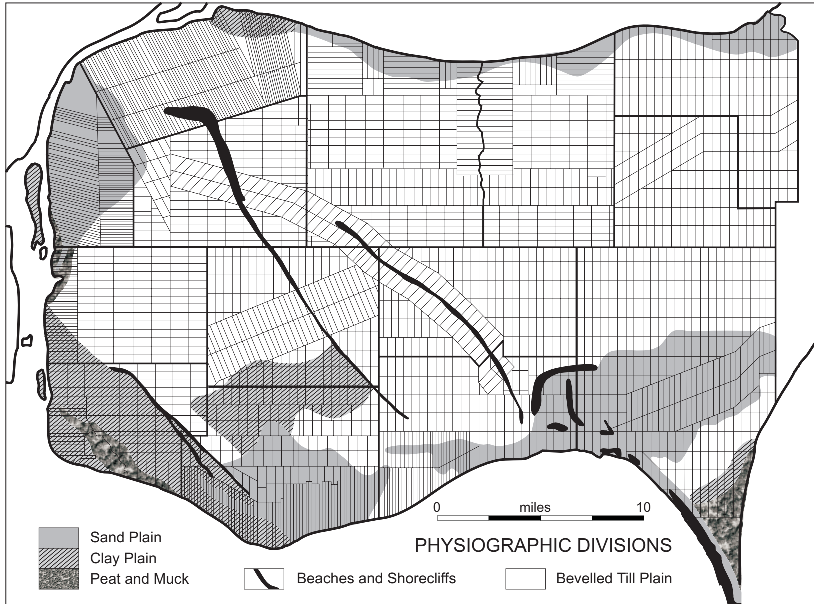

Figure 1.10 Physiographic divisions of the county
Source: L.J. Chapman and D.F. Putnam, *The Physiography of Southern Ontario.*

be used. Indeed, within the literature much credibility is given to the pursuit of the black walnut.[43] Such species would be as infrequent in Essex as elsewhere in Ontario (Figure 1.7), but, as Table 1.4 indicates, single reliance upon beech, chestnut, maple, and white oak would identify well-drained sites. Conversely, single reliance upon willow, black ash, and soft maple would identify ill-drained lands even when personal observation of surface drainage did not permit this.

The contrasts between well-drained and poorly drained indicators, paralleling the physiographic division of the county (Figure 1.10),[44] would generally be apparent to most settlers. A variety of indicators might have been used, including tree profile, leaf type, bark, twigs, and fruit. Misdiagnosis of certain species within a particular genus would not matter. In the case of the maples, however, the uninitiated might not differentiate between hard and red maples and might indeed confuse some with sycamore, if the sole criterion was leaf type. Knowledge of species profile, bark, and fruit would alleviate this problem. Misidentification on whatever basis of red or soft maple with rock or black maple would place the settler on wetter land. Similar confusion and consequences would arise in the case of the hickory

family, whose members the surveyors do not distinguish. Even modern authorities have difficulty distinguishing the members of this group, the most reliable criterion being fruit which is observable only at specific times of the year and at close range.[45] Elm, basswood, and poplar, with their greater tolerance of moisture conditions, would prove similarly difficult. In short, it would seem that most prospective settlers, armed with a basic lore and a moderate sensitivity to tree type, could distinguish land quality.

By doing so they could in all probability identify the areas recognized on Figure 1.4. This figure is premised on the variables "texture" and "soil drainage," readily available to the hand and eye. These variables must have been important in all areas and especially in Essex but they cannot have been the only ones. Life for the backwoods settler, however idealized, was not simple, especially when it came to something as vital as the choice of land, on which so much would subsequently depend. A host of variables – slope, aspect, stoniness, elevation, colour and depth of soil,[46] and density of stand[47] must additionally have come into play, their importance related to the experience of the settler. However, Figure 1.4 must suffice as the surrogate for a myriad of such decisions. No doubt mistakes were made. Adjustments would have had to be made based upon personal experience or advice received after church, at the barn-raising bee, or in the tavern. Nonetheless, by such adaptive processes, the pattern of settlement that would evolve in this area would to a large extent come to mirror the opportunities offered by nature. Eventually, through trial and error and transmission in the folk culture(s), the potential of this area would become known.

Environmental indicators played a role in this process, although in an age in which few were literate, or if literate had the time to record their action for modern researchers, extensive support for such claims will be rare. Nonetheless, examination of contemporary newspapers and the Township Papers for the county in the period 1790 to 1850 revealed nine instances in which particular tree types were used to convince people to choose or purchase particular lots.[48] In two instances, individuals seeking to buy land instructed their agents to use the field notes and maps.[49] The number of such references is small but this was the period of initial settlement in Essex when sales were limited because land could still be acquired by patent from the Crown. History is frequently silent on the orthodox wisdom! The conclusion that people not only could select land using vegetation but did so is a reasonable one.[50] In later chapters, the reasonableness of this conclusion will be further demonstrated by inference from the aggregate behaviour of the settlers.

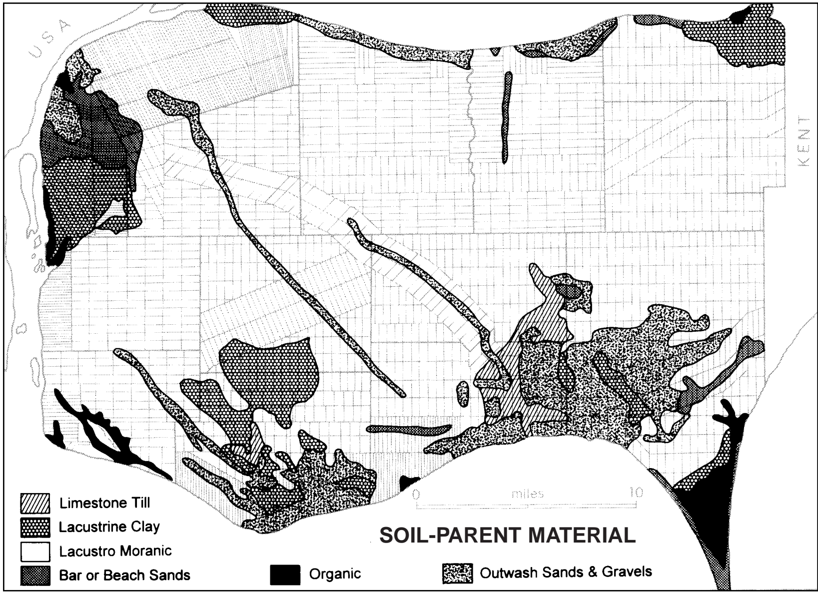

Figure 1.11 Soil-parent material (after Vandall)

Source: P. Vandall, *Atlas of Essex County*

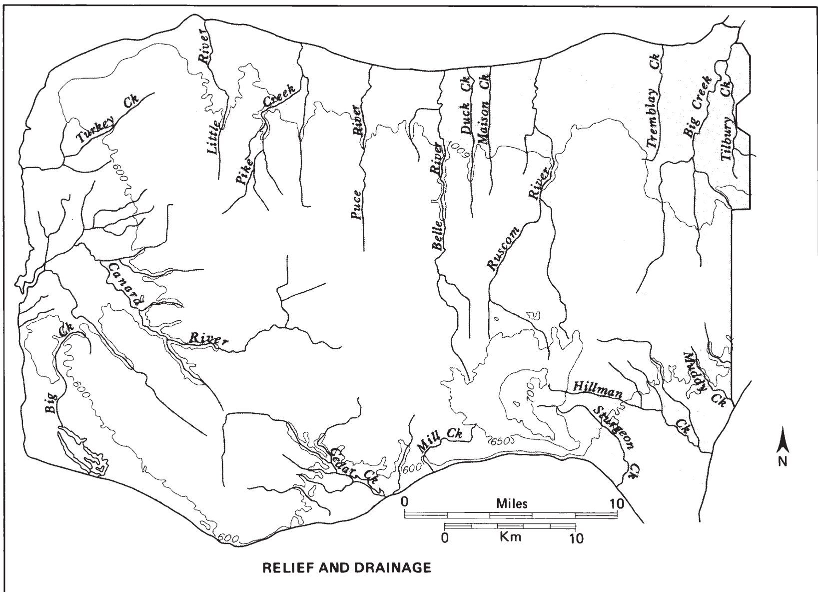

Figure 1.12 Relief and drainage

Source: National Topographic Series (NT), Essex 1:63360, Survey and Mapping Branch [1950].

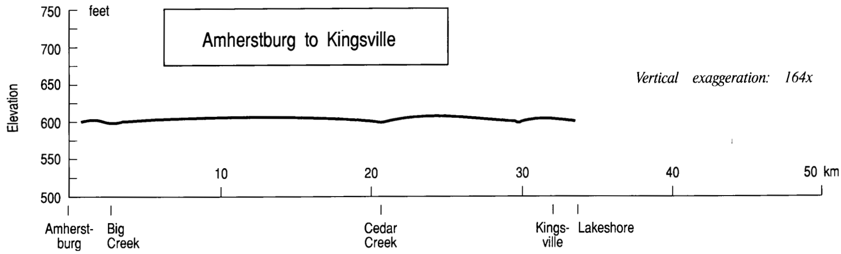

Figure 1.13 Relief profile, Amherstburg to Kingsville
Source: NT, Essex, 1:63360, Survey and Mapping Branch [1950]

Figure 1.14 Relief profile, Sandwich to Leamington
Source: NT, Essex, 1:63360, Survey and Mapping Branch [1950]

Armed with such forest lore, settlers might very well have been able to distinguish between the habitable coastal areas and the uninhabitable water-laden interior. The contemporary language for identifying these soils (Appendix 1.1) may have captured their origins and qualities, although probably not in the manner of Figure 1.11, which describes the soils in terms of parent material.[51] However, the contrasts between the "warm" soils of the first group in Figure 1.4 (including, for example, Fox Sandy Loam) and the "cold" soils of class six (including, for example, Brookston Clay) would surely have been very apparent. As distinctions blurred (and opportunity for error increased), other terms might have been employed. Reliance upon vegetation, which transcends property lines, must have made many at the local level rue the day they chose a particular lot and thereby soil type, most especially if it disguised one of the nutritionally limited outwash sands. At the level of the county, the division between wet and dry site conditions must have been only too apparent and have led to an emphasis upon the Detroit and most especially Lake Erie shores. As Table 1.9 shows, agricultural opportunity in Essex was limited in this first phase of settlement.

Table 1.9 Summary tabulation of acreage of specific soil classes for Essex County

Class	*Characteristic*	*Acreage*	*% Total Area*
1	Light- to medium-textured, well-drained	28,000	6.19
2	light-textured, imperfectly drained	47,500	10.51
3	Medium-textured, imperfectly and poorly drained	23,000	5.09
4	Heavy-textured, imperfectly drained	33,000	7.30
5	Heavy-textured, poorly drained	304,500	67.37
6	Bottom land, marsh and muck	16,000	3.54

Source: Appendix 1.1.

If this was so, the distribution of cultivable land was such that it was accessible and there were no topographic barriers that limited settlement nor prevented farming. As Figure 1.12 indicates, the area physiographically is a plain of little relief, generally about 600 feet above sea level and rising to 700 feet near the modern town of Leamington. The profiles of the relief (figures 1.13 and 1.14) show that gradients are gentle; nowhere in the county are they likely to have prohibited the use of the plough, even if such usage was widespread.

Baron de Rottenburg surveyed this and other areas in 1855 (figure 1.15). He did so with a military eye, recording the condition of roads, the number of men and horses that could be billeted in particular places, and the accessibility (presumably to American infantry rather than settlers) along the coast.[52] Nothing was recorded along Lake St Clair; presumably the main threat was to be expected elsewhere. From the site of Sandwich on the Canadian shore he reported "steep banks diminishing towards Hog Island." South of this, for a distance of some miles, he reported low banks and a coast penetrated by the Turkey and Canard rivers. Here, some sixty years earlier, Patrick McNiff, the surveyor, had travelled "2 days and part of a third through marshes" and had concluded that passage between Lake Erie and Lake St Clair was impossible because of these extensive marshes.[53] Thereafter, for several miles the coast had steep and difficult banks, which from a military perspective, enhanced the value of the site for Fort Malden. Below the fort the banks were again low and shallow and easily penetrated, but much of the area immediately behind the coast was marsh. While settlement could have been brought about in this area, it would seem more likely (if things were not directed from the west as they in fact were) to have taken hold from Colchester Township east towards the middle of Gosfield Township. Here, from the site of Colchester village, for a distance of almost nine miles, the beaches were low and the potential for agriculture greatest. To the east, banks

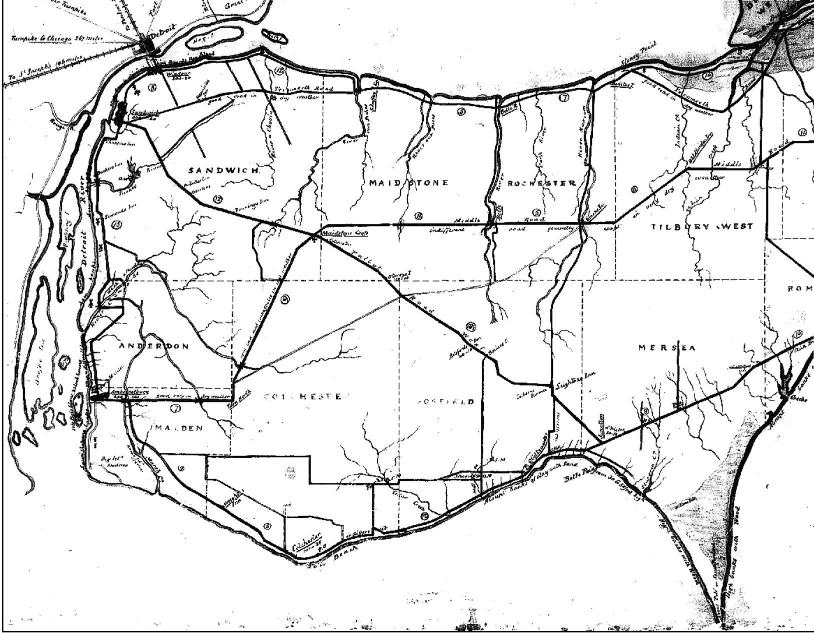

Figure 1.15 The Rottenburg map
Source: NA, NMC 0012437, the Rottenburg Map.

of clay thirty to sixty feet high inhibited accessibility; beyond this, high banks limited accessibility to the cedar swamps of Point Pelée.[54] In an unconstrained world, the Lake Erie shore should have seen the greatest activity but prior settlement by the French would lead, at least in the initial phase, to an emphasis on the Detroit shore.

European settlement, then, took place under certain environmental circumstances involving the human perception and evaluation of resource. However, decisions to settle were also affected by economic and political circumstances. It is to these circumstances that we now turn.

2 Peace, Order, and Good Government: The Organization of a Landscape

INTRODUCTION

In this second chapter the political, social, and economic background to settlement is examined in order to appreciate how these factors, in conjunction with the physical environment, influenced decisions relating to land. Its purpose is to set the scene against which the drama was played. The chapter begins by looking at the prevailing ideology. Some readers may find this unrepresentative of the total political culture of Upper Canada. It might appear to fault the analysis by placing too great a stress on conservative values when in fact these values were in a process of constant evolution.[1] No apology is made for this approach, however, because the present book is not a work of political science per se; rather, its purpose is to describe the dominant ideology of the time so that readers may appreciate how land was obtained and the effects of government policy on the ground. To do so, it uses the work of Professor Sydney Wise, still, in this author's opinion, the most convincing, insightful, and elegant of writers on Upper Canada.[2] The chapter also looks at the organization of the landscape in terms of surveying and the policy of reserving land for particular purposes. Additionally, it examines the evolving infrastructure of Essex which influenced individual decisions.

The chapter has three distinct subsections. These deal with political ideology, its manifestations in the pattern of survey and in the location of the reserved lands, and, lastly, the infrastructure that influenced locational decisions. The topics are geographical, as is the treatment.

Each section culminates in a map which summarizes the spatial organization of the theme. In turn, the maps reflect a variety of source materials such as the survey records discussed in chapter 1 (Appendix 2.1)[3] and cartographic source materials in federal and provincial depositories, the latter being used to assist in the reconstruction of infrastructure[4] or the location of reserved lands.[5] Documentary materials used for the purpose of delimiting the reserved lands included the schedules of the Crown and clergy reserves as well as published statements (Appendix 2.2), the Domesday Books (Appendix 2.3), the patent index, and the abstract index to deeds[6] and the Canada Company registers.[7] Data on the infrastructure were also gained from the assessment rolls and the enumeration returns of the Census of Canada;[8] in a subsequent chapter these same data are used to analyse the price of land. In addition to these primary sources a number of secondary sources were used.[9]

No one of these sources was sufficient in itself but had to be used in conjunction with one another in the manner described by the author and David L. Brown.[10] Nor was there any one method, no special elixir by which the pattern of surveying, the reserved lands, or the infrastructure could be determined. The method used was the conventional one, a systematic checking of sources against each other and the weaving together of a variety of materials to a particular end.

THE PREVAILING MENTALITY OF THE TIMES: ROOTS OF THE CONSERVATIVE CULTURE OF UPPER CANADA

The political culture of Upper Canada, or rather of those who held power for so much of its existence, was based on a deep attachment to "existing social arrangements as a repository of the accumulated wisdom of the past."[11] However, one's view of what constituted wisdom might turn, whether consciously or not, upon developments in Britain more than a century earlier.[12] There, with the restoration of the monarchy in 1660, there began a debate which culminated in the "Glorious Revolution" of 1688.[13] This debate involved, on the one hand, the notion of absolute monarchy, which, in the minds of its advocates, enjoyed extensive scriptural backing. Their interpretation was that absolute familial dominion had been bestowed upon Adam and Noah and had been transmitted patriarchally through primogeniture to various monarchs.[14] An omnipotent God had communicated kingship to his vice-regent; it followed that the King was owed allegiance as a matter of right.[15] Most holding to this view answered at first to the epithet Royalist or Cavalier and later to the label Tory, a term

originally attached to Irish outlaws and now transferred to the party of the court.[16] In their attempts to secure their ends, Anglican Tories were not above suggesting collusion between the Whigs, often Calvinists, and those pejoratively labelled Papists.[17] Insecurity about these two groups was to be transmitted to most British colonies, including Upper Canada. It was manifest in the clauses of the Constitutional Act of 1791 which supported a "Protestant" clergy and in, for example, the prohibition on dissenting clergy performing marriages. In contradistinction was the view held by Whigs that "popery" and absolutism were to be avoided and that a sovereign people might depose an arbitrary ruler. These divisions became marked during the Exclusion Crisis of 1679 to 1681, when parliament sought to exclude the future James II from the throne. In the event this failed, but so did James II, who ultimately was forced to abandon his throne and flee abroad. With the Glorious Revolution of 1688, parliament abrogated the principle of absolute hereditary kingship.

Tories[18] finally accepted and adapted to the Revolutionary settlement by accepting the transfer of authority to the three estates of Crown, Lords, and Commons, in a Lockean contractual arrangement that seemed to preserve the best of the "old" and "new" and thereby, it was held, protected all.[19] In words attributed to Edmund Burke, whom Winston Churchill described as "perhaps the greatest man that Ireland has produced,"[20] "the Regal power is that part in the Constitution which being detached from, and superior to, all the local parts, parties and interests in the Nation exerts itself to preserve a constitutional equipoise and general interest in all the parts."[21] The King, who had an interest in the perpetuation of the constitution, called it "the most beautiful combination that ever was framed" (Plate 2.1).[22] Eventually, the wisdom of involving the community in the legislative function of monarchy was accepted. Ultimately, this perspective came to be viewed as "traditional," although as late as 1795 there were writers who appeared to support the old-style absolutism.[23]

This debate was transferred to British America: in the revolting colonies the emphasis upon Lockean liberalism, Puritanism, civic humanism, and republicanism, together with arguments derived from the Enlightenment, particularly in its Scottish form, led ultimately to a break with Britain.[24] In all of this there was perhaps no greater influence than that of Thomas Paine, who argued that monarchy was dangerous, destructive, silly, and contrary to God's law.[25] Those ideologically at variance with such views remained quiet or carried their more conservative ideology to Canada, where they were known as Tories or, after 1775, as Loyalists.[26] Yet even here there was no slavish acceptance of a divinely instituted monarchy.[27] Notions of juridical rights appeared

Plate 2.1 King George III. Engraving by Benjamin Smith from a painting by Sir William Beechey.
Courtesy of Fulford Gallery, Ottawa.

Plate 2.2 Sir John Beverley Robinson, chief justice of Upper Canada. By George Theodore Berthon. Oil on canvas, 1846.
Courtesy of Law Society of Upper Canada, Fine Art Collection (no. 265).

in Upper Canada in, for example, the personage of that avatar of the Family Compact, John Beverley Robinson (Plate 2.2).[28] This American-born loyalist and chief justice would insist that the oath to the King be taken "in right of Parliament."[29] Yet he and his fellow conser-

vatives, then and now, feared social indiscipline, averred the Petrine recommendation to accept the powers that be,[30] and valued loyalty above all things. Like others, Robinson abhorred revolution, which he had experienced directly, whether it was in what was now the United States or in revolutionary France.

Robinson in many ways epitomizes the two streams of conservatism which Wise, in his seminal work, identifies as converging on Upper Canada.[31] Wise sees, on the one hand, a counter-revolutionary outlook which was a blend of eighteenth-century Toryism with Burkean repudiation of and animosity towards French Jacobinism. On the other hand, though he does not explicitly identify it with Robinson, he sees the emigré sense of loyalty to King and Empire, antagonistic to the United States and possessed of an acute, partisan sense of history. This was so very marked because of the price that had been paid in personal terms and in the loss of property in the territory abandoned.

The new land, the Upper Canada that was to emerge, was in a state of permanent siege if not from American troops then from American ideas.[32] This made "loyalty" the crux of the conservative vision. Loyalty was not just to the Crown but to those beliefs and institutions that set Upper Canada apart from the United States:

> To the Tory, American democratic republicanism was the worst possible form of government, since it tempted politicians to play upon the worst appetites of men. The tory was ignorant of such subtleties in the American constitution as the system of checks and balances, or if he was not, considered that their effect was rather to weaken executive government than to check the turbulence inherent in democracy. The deistic founding fathers, in their rejection of the connection between religion and the state, had sacrificed the most effective brake upon public disorder, and paved the way to anarchy. While it was true that men created the institutions under which they chose to live, the conservatives believed quite as strongly that institutions made men and men made nationality. The American, shaped by his secularized and revolutionary democracy, was a being altogether different from the British American; and his society was moving along another road.[33]

That road appeared to be democracy, which was something that, in the Tory view, had so tormented the American mind[34] that it had led to an unnatural break with the mother country. The American Loyalist, Jonathan Boucher, expressed great disapproval of appeals to the people recollecting that "it was thus the people once were cunningly led on to depose a Charles, and make a Cromwell their protector; to intercede for a thief, and to crucify the Saviour of the world."[35] To an Upper Canadian, Christopher Hagerman, democracy was like a ser-

pent "twisting round us by degrees, it should be crushed in the first instance."[36] Upper Canada's first lieutenant-governor, John Graves Simcoe (Plate 2.3), saw the British constitution as of immense benefit, "offering the best method gradually to counteract and ultimately to destroy, or to disarm, the spirit of democratic subversion, in the very Country which gave it existence and growth, and this it is reasonable to believe may be effected, by exemplifying, a better practical system of internal Government, than the separate States of America can possibly demonstrate."[37]

Therefore, in Upper Canada, trappings of democracy such as the township meeting, which recalled memories of similar meetings prior to rebellion in America, France, and Ireland and also of the agitation in England which would culminate in the massacre at Peterloo in 1819, were to be resisted.[38] Terms such as "Democrat" and "Republican" were used as insults. Upper Canada was a place that would preserve the best of the British system. It possessed a "mixed" constitution[39] of limited monarchy represented by a governor who could withhold assent to bills originating in other estates and who could himself be overruled from London. There was an upper house, equivalent to the House of Lords, whose membership was appointed to what was termed the Legislative Council. Initially, this was to consist of at least seven men appointed by the governor for life plus additions as might appear reasonable from those who were ennobled, an event that never actually took place. In the early years, the numbers were small, but the council grew as attempts were made to include representatives of various districts[40] and in the light of growing opposition to its power to broaden its base to ensure greater independence of the executive.[41] Membership on this council frequently overlapped with that on the Executive Council. Appointment to this body was at the pleasure of the government. Roughly equivalent to the English cabinet, which was itself in the process of profound change,[42] this body, unlike its British counterpart, was in no way responsible to the House of Assembly, which by analogy was equivalent to the House of Commons.[43] The structure was therefore similar to what Alan Tully describes for the seventeenth-century American colonies, from which it was in part derived, but the Americans, paradoxically basing their arguments on the importance of English rights, were in the eighteenth century leaving this structure fast behind them.[44] The marked overlap between the two councils – elaborated upon in chapter 9 – and the lack of responsibility to the elected House of Assembly meant that the formal exercise of power was restricted ultimately to the governor although an inexperienced one might be controlled by his