

Settlement, Food Lands, and Sustainable Habitation: The Historical Development of Agricultural Policy and Urban Planning in Southern Ontario

By:

Joel Fridman

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Department of Geography and Program in Planning
University of Toronto

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Abstract

In this thesis I recount the historical relationship between settlement and food lands in Southern Ontario. Informed by landscape and food regime theory, I use a landscape approach to interpret the history of this relationship to deepen our understanding of a pertinent, and historically specific problem of land access for sustainable farming. This thesis presents entrenched barriers to landscape renewal as institutional legacies of various layers of history. It argues that at the moment and for the last century Southern Ontario has had two different, parallel sets of determinants for land use operating on the same landscape in the form of agricultural policy and urban planning. To the extent that they are not purposefully coordinated, not just with each other but with the social and ecological foundations of our habitation, this is at the root of the problem of land access for sustainable farming.

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Table of Contents

1. Introduction	1
2. Literature and Methodology - The Landscape Approach	10
2.1 Understanding Agricultural Land Use: Land Value, Land use Planning, and Property Rights Perspectives.....	10
2.2 Food Regime Theory.....	13
2.3 Landscape Theory	14
2.4 The Landscape Approach.....	15
2.5 Methods.....	18
3. The Historical Development of Agricultural Policy and Urban Planning in Southern Ontario	19
3.1 Food Getting and Settlement Among Indigenous Bioregional Networks	19
3.2 1613-1763: European Contact to The Royal Proclamation - European Outposts Within an Indigenous Landscape, Connecting Bioregional to Transatlantic Trade.....	24
3.3 1763-1841: Constructing a Colonial Landscape - Organization of Land and Property in British North America.....	33
3.4 1841-1867: The Shifting Colonial Landscape - Forging the Railroads and the Reciprocal Evolution of Farms and Towns in a Rapidly Changing Landscape.	50
3.5 1867-1914: Confederation to the First World War - The Southern Ontario Landscape within the Canadian Nation-State Adapts to Westward Expansion.....	62
3.6 1914 -1947: Creating the Urban Rural Divide - The Foundations of Urban Planning and Agricultural Policy in Times of Global Crisis.	75
3.7 1945-1973: Industrialization of the Southern Ontario Landscape - Intensive Farm Production Amid Encroaching Urban Settlement.....	88
3.8 1973-Present: Land Reregulation in Times of Global Capital Deregulation - Farm Preservation and Barriers to Diverse Sets of Rural-Urban Relationships.....	114
4. Conclusion	138
Bibliography.....	142

1. Introduction

Couched between a west branch of the Humber River on one side and rows of houses on the other, in the heart of suburban Brampton just north and west of Toronto, sits 45 acres of prime, certified organic soil cultivated by 36 new farmers – 20 different farm enterprises in all. These 45 acres make up McVean Farm, one of two farms run by FarmStart, an organization based in Guelph, Ontario that seeks to support a new generation of farmers. FarmStart engages anyone who desires to farm in a different a way: those who want to start farms of a small to medium scale, without intensive mechanization or heavy use of external inputs; who want to farm a diversity of crops for markets, instead of just one or even a handful; and those who want to farm in a way that works in partnership with nature, rather than in a way that seeks to dominate it (FarmStart 2013). FarmStart aims to encourage and support a new generation who want to practice ecological farming.

Growing numbers of people want to farm in an ecological way. Those who approach FarmStart tend to be young, urban-born Canadians removed from any direct farm heritage, second career farmers who wish to turn away from the practices honed in more conventional farming operations, as well as newcomers to Canada who have come to settle in the Greater Toronto Area – even those who may have lived in Canada for as many as 15 years – who have experience and a recent history of farming in the country whence they came. These potential farmers desire to farm with different land parcel sizes, different inputs, different values, and with different relationships to urban markets than is conventionally the case within the agricultural sector in Ontario, where farming contributes significantly to the Ontario economy (Wolfson 2010) but where it is generally practiced on parcels of over two hundred acres, is highly mechanized using the latest technology in farm equipment, has generally high uses of fertilizers and pesticides and is predominantly export-oriented (Filson 2005).

FarmStart's objective is to give people new to farming in Southern Ontario a low-risk way to start and a place to develop ecological farming practices, in order to support new farmers starting their own viable, ecologically sound farm enterprises. FarmStart calls McVean Farm an "incubator farm." The 45 acre parcel that makes up McVean is leased from the Toronto and Region Conservation Authority (TRCA). It is a place where

those interested in starting a farm based on ecological land use principles, seeking fulfillment through a meaningful farming career and livelihood, can come and try their hand at it and learn the seasons, soils, and market opportunities in Ontario. Farmers entering FarmStart's start-up program have up to six years at McVean, where they can rent one to five acres of land, enroll in a few workshops, and build a farm business plan while receiving the advice of FarmStart staff as well as the help of one permanent Farm Manager.

FarmStart started in 2005, because, as they proclaim, we in Ontario, and in Canada more broadly, are facing a "crisis of renewal" in the farm sector (FarmStart 2013). The current farm population in Ontario is aging, and with traditional farm succession diminishing, few are taking the place of retiring farmers. Young people in traditional farming communities are moving off the farm in great numbers. Canada-wide, farmers under the age of 35 represent only 8.2% of total farmers in 2011, which is lower than in 2006 and less than half the proportion of young farmers two decades ago (Statistics Canada 2011). Ontario is losing its already historically diminished farmer population. Meanwhile, of the farmers who are retiring, they have come to depend on their land for their retirement savings (Bunce and Maurer 2005).

With no family succession plans, retiring farmers are selling their land at speculative prices for their retirement income, and farmland is being converted to non-agricultural uses, primarily for urban-type development (Caldwell and Weir 2002). The farmland remaining is being consolidated into even larger farms (Qualman and Taite 2004; Sparling and Laughland 2006; Seccombe 2007). Between farmland conversion and farm consolidation, Ontario is losing total acreage of agricultural land while what is remaining is becoming more and more concentrated in fewer, larger farms. Latest Canadian Census data from 2011 show that between 2001 and 2011, there was a loss of over 7,778 farms in Ontario. This reflects a loss of roughly 13% of total farm units in the province. There was a similar 11% drop in the percentage of farmers in this same 10 year period. Whereas average farm size increased by 7% to 244 acres, and the total acreage of land in farmholdings reduced by 6% – which doesn't seem like much, but is equivalent to nearly 1 million acres of farmland in Ontario that has been lost in this time period alone. These are trends in Ontario (and Canada-wide) that have been consistent for decades

(Statistics Canada 2011).¹ The Ontario Federation of Agriculture estimates that Ontario is losing around 100 acres of farmland each day and of this, the most productive land is going the fastest (Wales 2013).

It is no coincidence that Canada's densest and most populated region, the region known as the Golden Horseshoe encompassing the Greater Toronto, Hamilton, and Niagara areas, is situated on some of the most fertile soil with the most conducive climate for farming in the country. Settlements thrived as result of the fertile soil of the Great Lakes Basin. As Southern Ontario cities grew, and continue to grow, they eat into the most fertile soils in the country found directly adjacent to them. According to the Canada Land Inventory (CLI), Ontario holds over half (52%) of Canada's class 1 farmland,² which represents only 0.5% of the entire land mass of the country (Ontario Farmland Trust 2004). As for the fewer and larger farms in Ontario remaining, they are being locked into increasingly unsustainable farming practices, depending on intensive mechanization, increasing use of fossil fuels and external inputs of fertilizers and pesticides that are degrading our water, soils, wildlife, and are contributing to climate change (Filson 2005; UNEP 2013). Furthermore, farming is being practiced to grow crops that the adjacent urban consumers cannot eat directly, but increasingly of corn and soy for industrial inputs for livestock, fuel, and food manufacturing.

Moreover, it is not simply a farm issue. To mediate environmental challenges and to contribute to a healthy population and environment, consumers and governments in Ontario now appear to be making access to healthy and sustainably grown and distributed food a priority (Toronto Public Health 2010; BMO 2012). This suggests there is a desire among government and consumers to achieve a more stable future based on social equality and environmental sustainability (Fridman and Lenters 2013; Baker, Campsie and Rabinowicz 2010; Bristow 2010; Birkes and Folke 1998). However, Ontario's ability to fulfill such priorities in the future is being threatened by a diminishing farmer population and diminishing farmland.

¹ Notable is that the acreage of "improved" farmland (cropland) in Ontario has dropped in the 10 year period between 2001-2011, although it has remained fairly consistent from decades before. Primarily pasture land, summer fallow, and "all other" types of farmland have been the majority of farmland to disappear in past decades (Canada Census 2011).

² Class 1 in the CLI signifies the most fertile soils in optimum climactic zones where the most diverse array of crops can be grown. Class 1 is considered the soils that can practically grow almost anything.

The good news is that there are people in Ontario who want to farm, and who want to farm based on ecological principles. FarmStart's premise has been to create the channels to help those who want to farm differently, but who are without the background and resources in Canada to start – creating more farmers, more farms, and a renewed farm sector for a resilient food system along the way.

FarmStart is not the only such organization encouraging a new generation of farmers. Everdale Farms has learning programs for ecological farming underway at its learning centre that predates FarmStart, just outside of Hillsburg, Ontario and is expanding on land leased from the TRCA in the urban surroundings of Toronto's North York area at Black Creek. Universities in Southern Ontario are also connecting young people with internships and field experiences working on organic farms within their fertile peri-urban surroundings. This goes to show there is a vibrant appetite among people who want to farm, who want to start new farms, and who want to take the place of the previous generation of farmers – but farm differently. There is a need, but there is also a desire and a cohort ready to initiate farm sector renewal.

Beginning their programs at McVean Farm in 2009, FarmStart has seen some success. FarmStart has begun another incubator farm in Hamilton with land set aside for those interested in animal husbandry as a component of their farm system, and a few of their farmers at McVean have graduated and have gone on to start their own farms elsewhere in the region. However, the first large cohort of farmers is about to graduate from their start-up program. Having imparted the skills and knowledge for the kind of farming that so many in Ontario are demanding, FarmStart is now challenged to help transition these fledging farmers to their own land, either bought or leased, for them to settle into the farming livelihood they have prepared for. This is no small challenge.

Access to land for *sustainable* farming, a kind of farming that is both good for people and good for the earth, is a huge problem for the graduating cohort at FarmStart. Access to farmland is not a problem for every new and existing farmer. For example, with enough capital or credit to buy 100 acres, a farmer can purchase an existing 100 acre parcel in Southern Ontario and plant it with potatoes, with few barriers keeping the farmer from doing so. But, if a potential new-entrant farmers wants to farm in a way that is based on ecological principles, with a variety of crops instead of just one, and perhaps

with animals so that the farmer can reduce reliance on external inputs by having closed instead of open-ended energy cycles, with complementary linkages between crops, animals and soils – if the farmer wants to farm in way that is labour and knowledge intensive rather than capital intensive – the potential farmer is going to run into a host of barriers that make it next to impossible to do so.

FarmStart's graduates have attained the skills to grow high value crops, intensively on smaller acreages. This requires farm parcels that are less than the 100 acre parcels that are generally for sale in Southern Ontario. If smaller lots are available, new farmers are competing with non-farmers to purchase the land, driving up the price so much that potential farmers can hardly secure a mortgage with the market gardening operations they have created business plans for. Nor is land leasing often an option, as typical leasing arrangements are not providing the long-term tenure security that makes investments in the land required for ecologically-minded farming possible. Another barrier has to do with ability to incorporate farm animals into the farming operation on a given land-parcel. If zoning restrictions don't limit the use of animals on the smaller plots, which are typically located closer to urban areas, then the provincial and federal supply management arrangements place restrictions on small flock operations.

Such predicaments for the potential new, ecologically minded farmer looms so large that the program manager of FarmStart's start-up program stated that if the farmers transitioning from McVean are unable to find land on which to begin the operations they've trained for once they leave the program, then all the work of the last half decade by the farmers, staff and stakeholders at FarmStart will have been for naught (Sethuratnam 2013). Without the ability to access land in a way that can support them, there cannot be a new generation of modern ecologically minded farmers.

The problem of access to land for sustainable farming is currently one of the biggest problems facing Southern Ontario today. But, again, the barriers to accessing land for sustainable farming are not just a problem for the potential farmer. These barriers are a problem for our highly urbanized society not only demanding, but requiring, better systems of food production, distribution and consumption. It is a problem reflective of a larger and more cyclical crisis, not just pertinent to the farm sector, but to society and the economy as a whole.

Food regime theory emphasizes the cyclical emergence, disintegration, and renewal of institutions governing the global food system (Friedmann and McMichael 1989). A food regime is defined as the rule-governed structure regulating the circuits of food production and consumption at a world scale (Friedmann 1993; McMichael 2009). They are characterized by stable periods, in which the rules organizing the global food system coalesce to support specific forms of accumulation undergirding and facilitating conditions of hegemony.³ Not only are the political and economic conditions of food production and consumption stabilized within food regimes, but also the institutional structure regulating the specific forms of capitalist accumulation goes unquestioned. But within each food regime prevail contradictory features that eventually work to undermine the regime itself. The institutional structure breaks down and a new structure reorganizes anew under different conditions of hegemony.

Within this food regime framework, the problem of land access for sustainable farming can be understood as more than just a collection a barriers to land access for a certain kind of farming that can each be overcome in isolation. Rather the barriers quickly become apparent as artifacts of historically-rooted institutions. There are ample reasons why the price of land is so high. Why land severance restrictions exist. And why animal production is controlled. The crisis of farm sector renewal identified by FarmStart reflects a broader period of transition: a period in which we as a society are coming to identify and question the current organization of food production and consumption. Parallel public health and environmental concerns are increasingly being tied to the current configuration of the food system – from diabetes to climate change (Dubé et al. 2009;⁴ UNEP 2013). The need to reorganize the current rules regulating land use in Southern Ontario underpinning the food system is pertinent, and becoming more apparent.

The period of transition we are currently experiencing has come so far that rumblings of social and political movements are striving to enact change. In this light, it is important to gain a deeper understanding of how the current system of rules

³ Hegemony is defined here as “[the] exercise of power in expanding and sustaining fields of market and ideological dominance” (McMichael 2009, p. 144)

⁴ Dubé, L., Thomassin, J. Beauvais, and D. Sparling. 2009. “Building Convergence: Toward an Integrated Health & Agri-Food Strategy for Canada.” Canadian Agri- Food Policy Institute. http://www.capi-icpa.ca/pdfs/BuildingConvergence_Summary.pdf (date accessed: November, 2012)

regulating land use in Southern Ontario have come about. To more effectively move toward a resilient food system, analysis of the past helps us direct us to a more socially equitable and environmentally sustainable future. A series of questions are therefore necessary: What are the historical foundations of this problem of accessing land for sustainable farming? How did these legacies arise? And how are these legacies keeping us from enacting a more resilient food system?

To investigate these questions I focus on the Southern Ontario landscape. The landscape is the fabric of social-ecological relations. A quilt that reflects that social relations of land use, and reveals the cultural interpretations of nature that have encouraged land to be incorporated into productive social systems in particular ways, for particular societies throughout history. The food system is intrinsically tied to the environment. And the current questioning of the contemporary food system manifest in this period of transition is as much to do with social relations of food production, distribution, and consumption, as it is about human relationships with nature.

Just as important to understanding the political economy of contemporary barriers to specific forms of land use historically, is to understand them ecologically as well. Though often considered static, the landscape is continually being reconstituted through various practices that determine land use. Another set of questions therefore comes to mind: How are the foundations of the current problem of land access to sustainable farming rooted in place? How have ecological conditions of the territory that now make up Southern Ontario affected the way we, as a society, have come to organize this territory? And reciprocally, how has the way we have come to organize the Southern Ontario landscape affected the territory's ecological foundations?

In relation to both the institutional and ecological line of inquiry, this thesis argues that while there are many institutional processes and innovations historically significant to the organization of the Southern Ontario landscape, the problem of access to land for sustainable farming in Southern Ontario is the result of an entire history. A history of the way we have built our farms and the way we have built our cities on the Southern Ontario terrain. The problem of access to land for sustainable farming in Southern Ontario, in other words, comes down to the organization of settlement and its relationship to both near and distance food lands. Of agricultural policy and urban

planning and the way their interaction has come to configure land use and organize the Southern Ontario landscape.

At the moment and for the last century Southern Ontario has had two different, parallel sets of determinants for land use operating on the same landscape. To the extent that they are not purposefully coordinated, not just with each other, but with the social and ecological foundations of our habitation, this is at the root of the problem of land access for sustainable farming.

In the next section, Section 2 of my thesis, I briefly touch on how the topic of land use for agriculture is understood commonly within the literature. I further outline the food regime and landscape theories that frame my investigation. And I elaborate on what I call the landscape approach, the methodology I employ to interpret the historical development of Southern Ontario that has led to the specific problem of land access for sustainable farming we are facing today.

In Section 3, I recount the historical relationship of settlement and food lands in Southern Ontario, and the conjunctures of national and international political and economic conditions relevant to the social organization of land in Southern Ontario that influenced the development of the rules regulating the way farms and cities have been organized on the landscape. It is here that I identify the foundations of the current moment within our colonial and industrial past and how the rules and regulations born of two institutional structures, of agricultural and urban planning, now interplay with changing technologies, changing demographics and the shifting nature of capital, to become obstacles to movements toward an ecologically sustainable and socially equitable relationship between the urban and rural - between the cities and the farms that feed them. But I begin in pre-colonial history, describing indigenous organization of the landscape to show that something had gone on before, and that the current configuration of farms and cities and their relationship with each other is not one that is natural or pre-ordained. From settler presence on the Southern Ontario landscape onward, institutions not-indigenous to the region have organized and re-organized the landscape's social and ecological foundations.

I conclude, suggesting a landscape vision to renew our institutions that determine land use in ways that re-integrates settlement and food lands, and coordinates them not

just with each other, but with waters, forests and other landscape components for broader ecosystem health. This includes anticipating new land governance and tenure models in Southern Ontario that recall and recover forms of indigenous habitation. This includes realizing the potential of tools we have created since settlement, though recognizing how they have been employed historically with specific objectives and myopic perspective.

2. Literature and Methodology - The Landscape Approach

2.1 Understanding Agricultural Land Use: Land Value, Land use Planning, and Property Rights Perspectives

Common approaches to the way agricultural land use issues are discussed can be lumped into three perspectives: land value, land use planning, and property rights perspectives.

First, the land values perspective begs the question of what variables move the price of land up or down, and rests on an uncritical view of land markets (Martin 1984; Eisenhauer and Mitchell 2011). Many have identified the rising costs of land as one significant challenge facing the viability of farming enterprises (Bunce 1984; Seccombe 2007; Qualman and Taite 2004). Land values in Ontario, both urban and agricultural, have been increasing over the last decades (Farm Credit Canada 2012). For those renting land, for example, the rising costs of land increases input costs for farmers. For those hoping to buy land, the business plans financiers require of farmers wanting to carry a mortgage can conflict with intentions of new entrant farmers seeking to enter farming as a career and/or lifestyle choice.⁵ The land-values perspective also draws attention to who is buying the land and for what purpose (Gray and Prentice 1984; Martin 1984). It even informs many cost/benefit analyses of disappearing farmland. Drawing on the concept of “farmland amenities” (Johnson and Bryant 1987), Brinkly (2012) translates both “tangible” (food production and ecosystem services such as carbon fixation) and “intangible” (cultural value of farming as a way of life) farmland amenities of peri-urban farmland into dollar values, and compares the loss of farmland amenities with the potential gain from selling the land at its (speculative) market price.

Second, the land use perspective derives mostly from planning as a professional discipline as it has developed from its urban-roots over the past century. Broadly speaking, the land use planning perspective is concerned with what land is used for and the location of particular land uses. Land use planning, at least in Canada, intrinsically

⁵ FarmStart identifies the difficulty of acquiring mortgages from traditional financial institutions as one barrier to new-entrant farmers. Banks, for example, often require proof of customer contracts for farmers to acquire a farm mortgage, but many of the new generation of ecological farmers plan to market directly to consumers and therefore, in not planning to market through contracts, don't have the contracts to acquire mortgages (Young 2013).

references a liberal property rights framework, and proposes to organize occupancy and usage in attempts to reduce land use conflicts, particularly by separating land uses that are perceived to be incompatible (Hodge 1991). Land use planning has also been employed to rationalize and manage land markets (Martin 1984). It has been a source of debate, however, to what extent land use planning should intervene in the land market (Van Nus 1979; Moore 1979; Martin 1984). To this extent land use planning has been recognized historically as an intensely political process. Hodge (1991) remarks that execution of land use planning often differs from its framing. For example, while restrictive covenants placed on properties in urban neighborhoods were framed as a way to protect property values, they were often executed as a tool for social exclusion (Spur 1976).

Nevertheless, land use planning is operationalized through legislation and policy. Policy tools have developed over time to organize occupancy and usage, especially subdivision control and zoning. Constitutionally, land use planning is within the jurisdiction of provincial and municipal authorities. The British North America (BNA) Act of 1867, the Act creating Canada as a federal state within the British Commonwealth, gave provincial governments the responsibility to establish municipal authorities. This authority was continued in the Canadian Constitution Act in 1982, and allows provinces, and by extension municipalities and/or counties, to regulate land use. This legislative framework in Canada, and its implementation in Ontario, has led to the development of the hierarchical patchwork of land use regulations among counties, municipalities, upper and lower tier authorities that exist within Ontario today. Policies and legislation at the local level vary greatly by district, and therefore can differ from municipality to municipality or county to county.

Land use planning has significant overall implications for agricultural production. Land use policy and planning by-laws regulate the sizes of parcels one can buy (though some counties, do not), or how many residences one can build on the land, if a new residence can be built on a severed property, or if the property can be severed at all. Land use legislation and policy can also affect the kinds of agriculture production that can be practiced – particularly regulating land use if there is a livestock component, or the conditions under which different kinds of fertilizers and pesticides can be applied (Caldwell 1994; Caldwell and Weir 2002; Filson 2005; See also Ontario Nutrient

Management Act 2002). Most recently, planning tools like ‘minimum parcel sizes’ and ‘minimum distance separation’ as outlined in Ontario’s Provincial Policy Statement have been applied to organize land designated for agricultural use, and to manage the way in which agricultural land interfaces with adjacent land in non-agricultural use (Government of Ontario 2005).

Third, agricultural land use issues are commonly understood from a property rights perspective. Property rights relate to the legal framework that informs the land market and planning issues, adding complexity in terms of jurisdiction, authority, and legitimacy to claims and interests in the land. Importantly, the property rights perspective underpins, or challenges, key ontological assumptions of land value and land use planning perspectives (MacPherson 1978). Within this perspective arise discourses with other, not necessarily opposing, worldviews. Two such worldviews, for example, that participate in discussions of agricultural land use issues within the property rights perspective – at least in the Canadian context – are First Nations worldviews of land management, governance, and stewardship (Saul 2008) and ecological worldviews that are articulated through *agroecology* (Guzman and Woodgate 2013; Altieri 2013).

Conflicts and tensions regarding rights to use the land, and whose interests pertain to the land and to what extent, have had important implications for how the land is tilled, what is grown, and the social relations that both undergird and mediate food growing and distribution. Some tensions are historic, such as common versus individual property rights, the variations of which have organized entire economies at various scales (Polanyi 1957; Ostrom 1990; Freder and Feeny 1991; Fitzpatrick 1995). Modern iterations of such tensions have arisen in a more contemporary and local context, such as contestations by individuals to land use planning ordinances (Osterhoff 1979).

In Canada, *fee simple* is the dominant form of land ownership, or rather the basis of individual property rights in land or in *real* property. With its legal foundations informed by British Common Law in which real property takes the form of fee simple, a private landowner in Canada may hold *title* to a parcel of land, but ultimate or *radical title* remains in the Crown (Ziff 2010). In other words, property in fee simple is the closest approximation to absolute ownership found in Canada, although the government for all intents and purposes can override rights to land relayed in fee simple title,

extending to expropriation. It is common, therefore, to think of property in this way as a *bundle of rights*, wherein individual rights of a landowner are not absolute, but rather a collection of rights that are granted while others are withheld (Fennell 2011; Loehr 2012). In many ways, approaching land use issues from a property rights perspective tries to get at the very foundations of legal challenges in land use conflicts.

By identifying these different perspectives to agricultural land use issues – the land values, land use planning, and property rights perspectives – it is important to acknowledge that these perspectives overlap and inform each other in many different ways. In this thesis, rather than take on the complexity of the problem of land access for sustainable farming from one of these perspectives, I try to balance them and recognize the ways in which they are inter-connected. To do this, I employ what I call a *landscape approach*, emphasizing the role of rules regulating land use, their emergence and disintegration historically, and as well how these rules developed and evolved in place responding to the range of specific ecological conditions in Southern Ontario and in that response changing the very social-ecological foundations of the region. The landscape approach employed in this thesis has been informed by food regime and landscape theories.

2.2 Food Regime Theory

Food regime theory provides a global and historical frame to this investigation of agricultural land use in Southern Ontario. It also provides an understanding of institutional development, and the nature of rules underpinning forms of accumulation. Food regime theory emphasizes periods of stability in which a regime of rules supporting and facilitating specific forms of accumulation coalesces under conditions of hegemony, moments of crisis in which contradictory features of the regime surface, and subsequent transition when institutions are reinvented under new global conditions.

The literature on food regimes identifies two, and potentially a third, food regimes. The First Food Regime was between 1870-1914 (Friedmann and McMichael 1989). This regime was organized under British hegemony, where imports of grain and meat from settler-states (America, Canada, Australia) and tropical imports from colonies (Caribbean, African) supported the wage-labour vital to the manufacturing-based domestic economy

of Britain. The Second Food Regime was the post-war regime between 1945-1973 (Friedmann and McMichael 1989). The second food regime was organized around food-aid under American hegemony, where surpluses of food produced as a result of American state-supports to their domestic agricultural sector was managed through protected trade and food-aid circuits (Friedmann and McMichael 1989). A third new food regime may be emerging. McMichael (2005) suggests the emergence of a corporate food regime that perhaps has yet to consolidate, while Burch and Lawrence (2007) emphasize that the increasing role of finance capital along with supermarkets in the production and consumption of food on a world scale is central to analyzing the emergence of this new food regime. Friedmann (2005) suggests that ecological crisis has been an element of crisis to have emerged out of the second food regime, where social-ecological contradictions have and continue to prevail in our systems of food production and consumption. Friedmann (2005) goes on to suggest that capital and social movement responses to the ecological crisis of farming and the food system are important components in the potential emergence of a subsequent food regime.

I use food regime theory in this thesis relate a cyclical understanding of institutional development – of institutional emergence and disintegration – and to identify historical periods at a world scale that informed both agricultural policy and urban planning as they evolved in specific configurations, structuring land use in Southern Ontario. In this way the Southern Ontario landscape is considered as a changing part of an evolving global system. The configurations of agricultural policy and urban planning structuring land use in Southern Ontario manifest in historical periods, relating to broader interactions of international patterns of trade, migration and settlement, and the building of infrastructure for the flows of people, goods, and capital.

2.3 Landscape Theory

Sauer (1925) was the first among Anglo-American scholars to grapple with the term “landscape” and prioritize it as a subject of geographical scholarship. For Sauer, the landscape is the repository of exchanges between people and the terrain. By looking at the way the land has been transformed to serve a particular end, the landscape becomes a tool to interpret culture. If Sauer established that the landscape can be interpreted as a

repository of cultural identity, Mitchell (1994) took this contribution a step further to propose landscape as a repository of human labour and thus a reification of social relations of class, race and gender. For Mitchell, landscape is seen as a physical and material social artifact that has been made and remade throughout history. It is understood as the focus and object of human labour, and in these terms Mitchell theorizes the landscape as a form of “dead labour” (1993, p. 239). In both Sauer’s and Mitchell’s discussions of landscape, the concept of land is intricately related to understanding social relationships to nature. For Sauer the landscape is understood as a reification of culture, and for Mitchell the landscape is understood more as a fetishized product of the social relations of labour. Both, I think, are valuable to consider especially as one investigates into social-ecological systems prior to capitalist relations, as the pre-settler terrain of Southern Ontario once was.

There is a tension, however, in terms of theorizing landscape as to which direction the relationship between human and nature flows. For Sauer and Mitchell, the relationship, though intricate, seemingly flows one way from humans to nature, which can then be interpreted through observation and analysis of the landscape (Rose 1993; Cosgrove 1998). Cronon’s environmental histories, by contrast, eloquently credit the reciprocal relationship between humans and nature. Cronon contributes that environmental history begins by assuming a dynamic and changing relationship between environment and culture in which the interactions of the two are dialectical. “Environment may initially shape the range of choices available to a people at a given moment...but then culture reshapes the environment in responding to the those choices...thus setting up a new cycle of mutual determination” (Cronon 1983, p. 12). In other words, Cronon recognizes land for its formative pressures on culture, economy and identity, as humans internalize and subsequently work on the land. The landscape, therefore, is credited for affecting social relations, as much as it is a product or symbolic representation of them.

2.4 The Landscape Approach

International non-government and inter-governmental organizations have begun to discuss the relevance of a “landscape approach” to analyzing global agricultures’

contribution to climate change, and opportunities for agricultural production to be re-structured in such a way as to integrate “multipurpose production systems that are environmentally and socially sustainable” (FAO 2012, p. 3). One particular example is ongoing recognition of the opportunities for synergistic management of food and forest production to realize the full environmental and social potential of the multiple goods and services provided by forests and tree resources while at the same time achieving goals of national or global food security (FAO 2012).

Taken as a whole, the landscape approach promotes “combining natural resource management with environmental and livelihood considerations” (FAO 2012, p. 5). Often a shortcoming of this discussion in the international arena, however, is failing to give due consideration of the highly urbanized (and increasingly so) character of our global society. While multi-sectoral approaches and the contribution of social institutions to better manage natural resources in a more holistic way is paramount to achieving a resilient future (or at least one better able to mitigate the effects of climate change), natural resource management cannot be conceptualized as practices to take place alongside, but outside urban districts. Rather urban environments have to be considered as active components of the global landscape, and landscapes at sub-global, sub-national, regional and local scales as well.

Only recently has scholarship appeared that begins to synthesize urban planning and food getting. One example is emerging literature on food systems planning (Pothukuchi and Kaufman 2000; Wakefield and Soma 2011). But because both agricultural policy and urban planning have imposed on a single landscape throughout history, it is important not only to coordinate strategies for settlement and food getting now, but also to understand how patterns of settlement and food lands have impacted each other throughout history. The manner in which they have interplayed have led to present barriers to a more resilient food system facing Southern Ontario today.

Two authors have linked the histories of settlement and food lands together. Cronon in *Nature's Metropolis* (1992) tells the story of Chicago and the Midwest. He argues that the urban and rural – the city and its countryside – grow and form in relation to each other, and that it is through this reciprocal relationship that each can be understood. Architect Carolyn Steele (2008), by focusing on London UK, and more

specifically on the food system that supports it, echoes Cronon, recounting how cities have always been formed and shaped by urban residents' relationship to food and the land on which our food is grown. Steel argues that as this relationship becomes more distanced, so too does this relationship fail to be recognized.

In this thesis, I tell the story of the relationship between food lands and urban settlement in Southern Ontario. I discuss the relationship between agricultural policy and urban planning. These terms themselves, however, were only developed in the 20th century. In a more abstract way, the institutional and policy processes that we now affiliate with these terms pre-date the terms themselves. In this more abstract sense, agricultural policy and urban planning can be considered to denote how farms and how cities are built. Taken a step further, these two terms denote how settlement (and its expansion) occurred, and how this settlement related to near and distant lands for acquiring or producing food.

Recognizing the reciprocal character of the human relationship with nature, and the cyclical emergence and disintegration of institutional development, I engage a landscape approach to analyze how the processes of urban settlement and food provisioning have interacted within specific time periods. This approach recognizes, and hopefully illuminates, the reciprocal nature of the relationship between productive systems in both urban and rural areas. I analyze how the discrete approaches organize land use have imposed on a single landscape, affecting both its social organization as well as its ecological foundations - the soil, water, forests and wildlife – which in turn determine the limits of our social and economic wellbeing. Looking at how agricultural policy and urban planning interacted historically on the Southern Ontario landscape, the barriers created to land access for sustainable agriculture can be understood in a new light. Agricultural policy and urban planning, though each institution continues to develop policies, rules and regulations independently, they have always, and continue to deeply interface. Only by explaining the interaction of these two institutional processes and their interplay with nature, can we understand the depth of the problem of land access for sustainable farming and look toward solutions.

2.5 Methods

The historical analysis of this investigation draws heavily on secondary sources, both peer reviewed and gray literature including government reports and legislation. This thesis also draws on 15 interviews with actors individually and professionally engaged with land tenure and land access issues related to agriculture in Southern Ontario: from individual farmers, to representatives of farmer organizations, land trusts, land conservancies, organizations promoting land use frameworks, farmer and farmland advocacy groups for policy research, and academics. As well, I draw on participant-observation at land use conferences, and analysis of news releases and planning reports related to farmland preservation and farmland use.

In the next sections I recount the historical relationship of settlement and food lands, and the interplay of agricultural policy and urban planning in Southern Ontario.

3. The Historical Development of Agricultural Policy and Urban Planning in Southern Ontario

3.1 Food Getting and Settlement Among Indigenous Bioregional Networks

The biocultural regions of the Southern Ontario Landscape

The land that is now parts of Ontario, Quebec, Michigan, Ohio, Pennsylvania and New York defined by its historical topography, environmental features, and biota consisted of three forest belts. The northern most forest belt was dominated by hardwood pines, both red and white, which primarily covered the Precambrian rock formation now known as the Canadian Shield. The bottom edges of this forest belt sprawled atop Lake Huron and the north coasts of Georgian Bay and Lake Simcoe. Below this, and covering the bulk of Southern Ontario, was the second belt of mixed hardwood and deciduous softwood trees, such as cedar and oak, spreading east from Georgian Bay across the Ottawa Valley to the St. Lawrence River, covering the region north of Lake Ontario with all its rivers and streams. The southern-most forest belt lay in the Southern Great Lakes Basin, consisting of savannah with a unique blend of prairie grasses along with deciduous trees including a number of unique hardwoods such as the Black Walnut tree and Tulip-tree (Jones 1946).

These were the territory of the Algonquian and Iroquois linguistic groups of First Nations. Distinct nations inhabited each of these discrete forested territories. For centuries, prior to European presence on the continent, the bands of the Ojibwa⁶ and other Algonquian First Nations inhabited the northern most pine belt north of Lake Huron and around Georgian Bay; the mixed Hardwood belt was the territory of the Ottawa First Nation (also Algonquian), and the Huron (Iroquoian); and The Petun, Neutral, and contingents of the Six Nations of the Iroquois (Iroquoian) inhabited the territory furthest south, the lands of prairie grasses and deciduous trees in the Great Lakes basin⁷ (Schmalz 1991; Tooker 1994; Trigger 1994; Trigger and Day 1994).

⁶ Band names of the Ojibwa often substitute for Ojibwa all together, most notable are the Mississauga (CTE see Smith 1975). By the 1750s settlers came to regard any indigenous in Southern Ontario as the Mississauga (CTE Schmalz 1991).

⁷ Political boundaries between Canada and the US not existing in the time prior to European settlement, the some Iroquoian nations of the six nations inhabited lands that now make up New York State, Vermont and Maine.

Within these regions, the Ojibwa, Ottawa and Iroquois practiced various forms of governance, enacting frameworks of rules and institutions demarcating jurisdiction, resource use, and land management practices. In this way, more than simply demarcations of distinct ecological terrain, forest belts were infused with local populations and were demarcated as well by cultural understandings of boundaries and territory. The forest belts in this way can be considered broad, but distinct bio-cultural regions, in which social organization among First Nations interacted with the qualities of ecological systems particular to each forest belt (Alexander 1990; Toledo et al. 2010).

Usufruct land rights and fluid resource management

Governance systems differed amongst these First Nations (as they differed for First Nations across the continent), each accommodating for different lifeways due to the different ecological features of bioregions that attributed to different livelihood opportunities. Though they were distinct, each governing system organized the land to fish, hunt, gather, and as well cultivate the soil, to both subsist and to trade with other nations. Each governance system was intricately connected with, if not mediated through, the natural features and ecology of the landscape. This ensured both physical and cultural reproduction of their societies, accounting for a deeply rooted sense of place within their territory (Royal Proclamation on Aboriginal Peoples [RCAP] 2006).⁸

For the Ojibwa, inhabiting primarily the northern pine belt prior to contact, their custom of governance divided territory into bands. Major streams or rivers that flowed into Lake Huron and Georgian Bay demarcated the borders of the bands on either side of band territory, creating long strips of land oriented away from the lake shore. Each band territory consisted of fishing and hunting grounds as well as berry and medicinal bushes and ample areas that could be used for gardening – all necessary for survival throughout the seasons. Within these grounds, extended family units maintained their autonomy and day-to-day decision making. Routines of production and consumption were organized

⁸ The Royal Commission on Aboriginal Peoples (RCAP) is a report sponsored by the Government of Canada that was published in 2006. The report's underlying principle is that processes of reconciliation between Canadians and Aboriginal people have to be based in an understanding of history, of European-Aboriginal relations in Canada and of Aboriginal cultures (CTE Warry 2007). The RCAP sets out to acknowledge this history. The 400 page report documents extensive interviews with Aboriginal peoples, leaders and representatives providing a basis for understanding First Nations and Aboriginal culture and worldviews. Chapter four, in volume two of the RCAP report focuses on land and resources.

mostly at this family level. These band territories were generally well known and acknowledged by neighboring families in proximate bands, and lakeshore frontages were especially respected (RCAP 2006).

For each First Nation on the Southern Ontario Landscape as well, ecological diversity meant stability and a regular supply of the things they needed to survive. They therefore inhabited the landscape in ways that perpetuated this diversity. First Nations were hunters, fishers, gatherers, as well as cultivators. Furs, hides, and meats came from regional animals like wolf, rabbit, beaver, and fish. They supplemented their diets with locally available foodstuffs: herbs, like spearmint, along with nuts and berries. In their movements, divisions of lands, and patterns of resource use within bio-cultural regions, animal populations on which they depended were ensured not to collapse (Cronon 1983).

Fire was used for a variety of uses: to clear grasses, shrubs, and tree trunks for campgrounds, to clear forest undergrowth in a way that would attract animals of the hunt to graze, to maintain hiking paths, portage routes, and also to prepare lands for cultivation (Butt, Ramprasad and Fenech 2005; Rogers 2004). Interacting with their environment this way, First Nations each practiced a particular kind of landscape and resource management.

Most First Nations among the Southern Ontario forest belts practiced farming for their main sources of carbohydrates and fibers to a considerable extent.⁹ Campgrounds where they erected longhouses often appeared within the same clearings they used to cultivate lands, or were otherwise adjacent to such lands or within walking distance nearby (Trigger 1994). Staple crops were corn, kidney beans and squashes, which were planted within an integrated companion cropping system. First Nations are known to practice variations of this polycrop system throughout the American continent.¹⁰ This particular technique of companion planting not only provided nutritional basics, but also effectively fortified the soil, and provided beneficial ecological infrastructure for the crops to grow. Beans grew climbing the corn also fixing nitrogen in the soil. Squash spread across the ground blocking sunlight to minimize competing undergrowth. Corn

⁹ The more southern First Nations like the Ottawa, and Petun took advantage of longer growing seasons than did Northern Ojibwa bands (Trigger 1994)

¹⁰ In the Northeast of the continent it is commonly referred to as *three sisters* (Mt. Pleasant 2006), whereas the *Milpa* was founded in Mesoamerica where corn was first domesticated (Baker 2013).

and beans together provided a complete protein. Also, The Ojibwa and Ottawa are known to have honed the practice of boiling down saps for sugar, and using maple syrup as sweeteners (Trigger 1994).

The lifeways of these First Nations are often characterized as nomadic, but in a very real way were settled and stable within defined geographic territory (Brody 2002). Though the Ojibwa, Ottawa, and Iroquois may have appeared to have roamed in perpetual search of food and subsistence, they were in fact settled within their known territories, enacting resource management systems in ways that simultaneously systematized complex ecological systems but also kept their diversity and complementary features (Saul 2008). Families maintained clearings anywhere from five to 40 years (Jones 1946). Practices of creating clearings for agriculture and moving on once soil fertility was sufficiently reduced to make new clearing are known as swidden agriculture (McCarthy 2006). Swidden has the added benefit of anticipating different use and purpose of land as ecological succession took place, when clearings were left to turn into meadows and eventually forests once perennial cultivation was discontinued. Movement ensured that resources would not be exhausted. For the Ojibwa, they perhaps moved to different places within band territory according to season, often return to the same places year after year (RCAP 2006), though with fluid resource use and habitation on the landscape, families could stay within band territory for generations, and within bio-cultural regions for centuries (Brody 2002; RCAP 2006).

Bio-cultural networks of alliance and trade

Amongst these bio-cultural were stable and intergenerational networks of trade, communication and even warfare connecting them and mediating their social and ecological boundaries. From the north to the south with differing growing seasons, surplus corn was often transacted for furs and military alliances, though through acts of gift giving (Schmalz 1991).

There were foot trails imprinted on the landscape, often along waterways or connecting waterways (Butt et al. 2005). Portage routes were maintained. The canoe was used as a principle form of transport, altered in forms and sizes for various uses: personal, governmental, military and commercial (Jennings 2002). The rivers and streams were the

corridors of potentially vast networks among bio-cultural regions. In many cases the use of these corridors were as permanent as the flow of water carving them. One such example is the “Toronto Carrying Place,” a portage route connecting major waterways from Lake Superior, through Lake Huron and Georgian Bay, all the way to Lake Ontario where it emptied at the mouths of the now called Don, Rouge, and Humber Rivers. This portage route was long used to connect networks of various First Nations; with routes for transport both for north and south bound travel (Robinson 1947).

Among bio-cultural regions of First Nations, patterns of food getting and settlement shaped the Southern Ontario landscape, maintain particular ecological attributes that provided for value creation necessary for survival, but also its regeneration. Food lands and settlement were at the core of First Nations governance structures, organizing patterns of habitation for sustainable and resilient resource use. They were not static or confined, but stable, utilizing systems of governance and rights that lay in use and occupancy, but also in knowledge, naming and stories. Trade and alliances mediated boundaries. Boundaries that were at once “cultural and symbolic expression of travel, harvesting, habitation” demarcating one’s sense of place (RCAP 2006, Volume 2, Chapter 4.3.2).

To the extent that patterns of habitation were not fixed, however, would be what made First Nations and their ways of life vulnerable, when Europeans accustomed to other ways interacting with the environment arrived. The very systems that perpetuated First Nations existence on the landscape, harmonizing cycles of growth and decay, provided for a diversity and abundance that was the very aspect that attracted Europeans to stay, trade, explore and extract once they stumbled upon the territory. Processes of new social-environmental interactions would be introduced, as a period of transition ensued drastically altering the indigenous landscape and paving the way a for nearly wholesale landscape transformation.

3.2 1613–1763: European Contact to The Royal Proclamation - European Outposts Within an Indigenous Landscape, Connecting Bioregional to Transatlantic Trade

Europeans find a world of abundance

The voyage of John Cabot in 1497 initiated European exploitation and settlement of what was to them new lands on the other side of the Atlantic. By the early 1500s European powers were sponsoring explorers to set up trade posts abroad to strengthen a mercantile base of their political regimes. France, along with Britain and Spain, landed on the shores of Newfoundland exploiting the wealth of cod off its coasts in the later 16th century (Careless 1987). On the heels of Jacques Cartier who travelled westward into the Gulf of St. Lawrence came French fisherman. But upon witnessing the abundance of beaver and other mammals on the coast, fur trading soon came to displace fishing as the sought after source of wealth (Careless 1987).

First Nations inhabiting these territories engaged with these newcomers from the start. Europeans traded a variety of manufactured goods with First Nations people. Items like steel knives, axes and arrowheads, guns and ammunition, were transacted presumably at first as offerings of peace and in exchange for help and guidance on strange and foreign land (Saul 2008). Though Europe's monarchs granted charters to colonial companies sailing across the Atlantic, granting them trade monopolies on the territories they considered themselves to have "discovered," the Mohawk of the Iroquois confederacy controlled the St. Lawrence Valley. In this manner the French trading post of Tadoussac was located on the gulf tributary of the Saguenay River in 1600. A hostile coastal location, the Mohawk disallowed France's travel further inland by military force in efforts to control the trade of European goods to other inland indigenous peoples, (Trigger 1994). The Mohawk brought furs from inland forests in exchange for European manufactured goods.

It was not until Champlain's military exploit inland that the post of Quebec could be established and made the capital of New France in 1609, at the location where the St. Lawrence met a principle tributary that came to be called the Ottawa River (Trigger 1994). Travelling the Ottawa River north and west from Quebec in 1613, Champlain was the first European to encounter First Nations in the northern Great Lakes region (Jones

1946). Champlain's voyage forged alliances with the Algonquian Nations, including the Algonquin, Ottawa and the Huron (Trigger and Day 1994). In allying with them, French trade was able to link to territory they had yet to see for themselves, taking advantage of the vast bioregional networks the First Nations already had established for themselves.

Through the Algonquin, Ottawa and Huron, the French were able to receive furs from further north and west caught by the Ojibwa bands (Trigger and Day 1994). The Algonquin, Ottawa and the Huron, inhabiting a more fertile region as compared to the northern nations, traded corn and manufactured goods from Europeans to the Ojibwa in exchange for furs for which they dealt back to French merchants (Trigger and Day 1994). In time a formidable trade was established, illustrated by the ever increasing demand for beaver hats among elite males on the European continent (Jones 1946). The middle-trading indigenous nations coveted their position as the interchanges between bioregional and trans-Atlantic trade (Trigger and Day 1994). The Huron came to dominate this role between the French and inland indigenous peoples. Though in time, however, as European presence expanded throughout the North Atlantic Continent, the increased hunt for commodities started to diminish the cultivated abundance of once stable indigenous bio-cultural regions. By the mid 17th century, First Nations tribes began to move across the forest belts of the Great Lakes Basin in new ways, competing to satisfy the demands of European merchants. This elicited conflict.

Changes on the landscape

Interactions among European and Indigenous peoples did as much to imprint on the landscape, as the First Nations' own lifeways and networks had prior to contact, but in new and sometimes tragically different ways. By 1640, Peoples of the Iroquois Confederacy, primarily south of the St. Lawrence River, who were tied to Dutch and later British traders through the Hudson River, sought to gain fur rich territory further North, to take over hunting territory and trade from the Huron. Periodic raids by the Iroquois on French trade networks culminated in a 1649 battle in which the Iroquois massacred the Huron on the southern shores of Georgian Bay (Trigger and Day 1994; King 2012)

This conflict among indigenous peoples to control networks of the fur trade, however, had two consequences. First, the French responded, feeling the Iroquois

threatened the networks in which their trade was invested. In 1663, France under Louie XIV, intervened to replace the company rule it had chartered to control the fur trade in what he considered “New France,” taking over from the Company of One Hundred Associates with direct rule by the royal government (Careless 1987). King Louis XIV sent troops to quell the Iroquois and restore the paralyzed bioregional trade networks.

Second, the Iroquois attacks on canoe fleets and villages of indigenous peoples connected to French trade, turned the regions of the forest belts into war zones. Conflict had forced not only the Huron, but also the Petun and Neutral from the mixed wood and savannah forest belts they had traditionally occupied. This practically emptied the landscape north and west of Lake Ontario. This not only disrupted the French connection to goods for transatlantic trade, but also disrupted bioregional networks that the Petun and the Neutral had once connected with to the Potawatomi and Wyandot west and south of Lake Erie in what is now Michigan (Trigger and Day 1994).

Though, with the French pushing back with increasing military presence in the St. Lawrence valley and Great lakes Basin, the Iroquois failed to hold the territory they had fought for (Tooker 1994). In the wake of the Huron-Iroquois conflict, a power vacuum was left, backed by the French and their expeditions to dispel the Iroquois. This foreshadowed migration of the Huron’s Ojibwa allies, the Mississauga, to inhabit new territory for them (Schmalz 1991).

With military support from the French, the Mississauga moved to inhabit the territory west and south of Lake Huron to the St. Lawrence Valley north of Lake of Ontario. This was an incursion not lacking in complex trade dynamics. The British arrived on the shores of Hudson’s Bay in 1670. In the following decades the Hudson’s Bay Company were establishing their own chartered interests in the indigenous landscape. Skirmishes among Indigenous peoples themselves, the French, the British and First Nations they worked to ally with, including the Mississauga and the Iroquois Confederacy, characterized a precarious stability (Careless 1987). A treaty between First Nations secured by the French ceasing hostilities between the Mississauga and the Iroquois was agreed upon in 1700, securing the Niagara Peninsula and lands North of Lake Ontario for the Mississauga (Smith 1975).

Changes in the land¹¹

As the French struggled to maintain their trade networks, they established more military garrisons and trade posts. In 1673, to manage travel further south than Quebec, they constructed Fort Frontenac near the Bay of Quinte on the north east shores of Lake Ontario at the head waters of the St. Lawrence River. In 1678, they established Fort Niagara on the other far side of Lake Ontario where it joins Lake Erie to control trade routes there. In 1701, the French to over Detroit from Jesuit missionaries that had preceded them across the Niagara peninsula, took control the passage south and west (Ladell 1993).

The garrisons of the of the French, with increased military presence by decree of King Louis XIV, introduced new relationships between settlement and food lands neither seen nor practiced at that time by indigenous peoples north of the Appalachians. The garrison outposts appeared as settlements in concentrated and relatively permanent built form. The garrisons were very unlike the campsites or villages of longhouses of the Iroquoian or Algonquian peoples that could be quickly erected or taken down as families moved seasonally on the landscape. The garrisons were built as fixed structures. On the coasts of lakes or rivers, land parcels were provided that came up from the shorelines for individual households to farm – they proved to be the first iterations of Southern Ontario's cities.

This pattern of settlement and land use was starkly different from the pattern of regional Indigenous peoples. Save from Jesuit missionaries who endeavored to live with and convert indigenous to Christianity, the French made little encroachments on the Indigenous landscape outside garrisons beyond what commerce and war required. They received the bulk of dry and preserved goods from ships sailing the transatlantic networks, while they grew fresh goods like produce or dairy within the outposts. Though still somewhat seasonal, the fixity of settlement and reliance on distant lands for food was a central difference between Indigenous and French habitation on the landscape.

Farms were in the form of *Seigneurs*, mostly kept by missionaries (Ladell 1993). *Seigneurs* were long and narrow strips of land sprawling away from the shorelines

¹¹ Subtitle inspired by Cronon's (1983) ecological history of 18th century New England *Changes in the Land*.

(though much smaller than the band territory of the Ojibwa). Within the garrisons, the French endeavored to create a *Neo-Europe*, recalling the plants, animals, and husbandry practices of their old-world (Crosby 1986). On these farms, the French kept livestock and grew fruit and vegetables that they spawned from seeds and animals they had brought with them on their transatlantic journey (Jones 1946). Within garrisons lived soldiers, missionaries, and families of government officials that were often inclusive of marriageable women and indentured labour. These settlers brought with them all they needed for the success of the outpost. This included livestock such as poultry, cattle, oxen, hogs, and horses, seed for familiar produce and for fodder, as well as farm implements and equipment (Jones 1946).

Outside of, and in the lands between the garrisons, however, remained a somewhat altered indigenous landscape wrested by the French and inhabited by the Mississauga. The Mississauga carried on their customary Ojibwa lifestyle, ecologically entwined and fluid in their patterns of settlement and food lands, recreating a bio-cultural region of sorts within the southern-most forest belts of prairie grasses and mixed forests of oak, cedar and unique hardwoods. But they did so amongst new networks of both bioregional and transatlantic trade.

The Mississauga played off both the French and British merchants, as well as with other territorial interests of Indigenous Peoples (Schmalz 1991). In the spring and summer the Mississauga cleared and maintained garden clearings, planting corn, squash and beans. They started even to grow corn in larger surpluses to trade with the Potawatomi and Wyandot south and west of Lake Erie, in exchange for furs to trade with French Garrisons, strengthening their position as the interchange between bio-regional and transatlantic networks in the precarious stability on the landscape altered by conditions of the fur trade (Schmalz 1991).

The trade with the Potawatomi sought furs in addition to the furs the Mississauga hunted and collected over the winter. They maintained their fluid patterns of habitation, ranging from Detroit, west of the Niagara Peninsula, east to Fort Niagara, and over land to Fort Frontenac along the north shore of Lake Ontario. Mississauga habitation in the southern forest belts, as well elicited its peculiar effects on the landscape. As the

Mississauga moved across the landscape forest clearings they left in their wake turned to new meadows scattered with oak saplings in the midst of the mixed wood forests.

A time of social and ecological interactions

The character of inter-cultural and material transactions between Europeans and First Nations was mixed. In some ways these transactions were constructive. Early French explorers and missionaries, and traders later on, depended on indigenous people's knowledge of how to move and live in the forest belts (Saul 2008). Those that did not adapt to the manner of eating and sheltering in the ways of the Indigenous Peoples often died of scurvy and exposure (King 2012). Moreover, Indigenous People's manner of hunting was the primary source of European settler wealth.

Social relationships were also keys to survival and success of the Europeans in what was to them foreign land. Marriage was the traditional way of building alliances. In the words of Saul: "Marriages were carefully negotiated between the daughters of chiefs or of other leaders and strategic players among the newcomers" (2008, p. 11). Indigenous-European marriages were common, and from these relationships emerged the Métis people.

There is also an agricultural legacy of these constructive inter-cultural transactions. Early French settlers learned of the regional ecology of berry bushes and medicinal plants, and techniques of boiling down saps for sugar and using maple syrup. French missionaries and farmers adopted indigenous planting practices, planting beans, squash and indigenous corn in their seigneurs. Planted along with their seeds they brought with them, adopting some of the indigenous farming techniques delayed nutrient deficiency in the soils resulting from the fixed and perennial nature of their own agricultural practices. Of course, in that they also folded manure into their fields, the manner of agriculture in the French seigneurs on the new lands was truly hybrid.

The settlers also shared seeds with the indigenous people, including grains like wheat, barley, rye and oats, as well as pulses, herbs, gourds, and watermelon. The French also planted fruit trees, providing peaches, plums, apples and pears as new supplements to indigenous diets (Jones 1946). In the wake of the French, wherever they managed to establish Forts, elements of Métis culture and lifeways, including seigniorial patterns of

land tenure and farming, were left behind. First nations bio-cultural regions were not only connected to transatlantic networks, but were also in many ways made anew, entirely altered. Patterns of habitation, and of settlement and food getting changed, as new ways of organizing the land for settlement and food getting were introduced.

Other transactions, however, were catastrophic to indigenous people and their livelihoods – transactions that were rooted in profound cultural misunderstandings. As early as 1637, Jesuit missionaries were trying to make indigenous people give up their “nomadic” ways and take up the French manner of farming (King 2012, p. 105). In this year, the Jesuits tried to build a town in which indigenous peoples were encouraged to come and be schooled in the ways of Christianity, and to settle into seigneurs year-round. At its height, 167 indigenous people were living there, but by 1649, the population was reduced to just two Jesuit missionaries. But this was not their last attempt. The Jesuits travelled across the ocean to convert indigenous peoples to Christianity, and to do so they worked to alter indigenous ways of life – trying to change ways that First Nations socially and ecologically ordered the land (Ladell 1993; Rogers 1994).

The process, however, was not one of entirely human-to-human interactions. Viruses along with animals and seeds were brought over from Europe, and each had the capacity to alter not only the ways of indigenous peoples, but also the ecology of indigenous bio-cultural regions (Crosby 1986). In time these ecological interactions worked to undermine indigenous livelihoods in as profound a way as other social process like trade and religious evangelism. Epidemics and disease introduced by Europeans devastated populations of indigenous peoples throughout the 17th and 18th centuries. Small pox particularly claimed elders of First Nations who were the transmitters of ritual, and of political and technological skills. The ecological disruption of such cultural reproduction further undermined indigenous life-ways and facilitated indigenous peoples reliance on Europeans and European goods for their very survival (Trigger 1994).

Livestock brought over by Europeans disrupted the social and ecological basis of indigenous bio-cultural regions as well. Livestock thrived so well on indigenous grasses, that even as the French population at Fort Frontenac waxed and waned, by 1721 an island across from the Fort came to be known as Hog Island because so many pigs were kept there (Jones 1946). Animals let to graze and rummage outside of garrison walls trampled

soils, facilitating transformation of native grass species and the very composition forests.¹² They furthermore were often the culprits ruining farm plots of indigenous peoples' villages for their lack of fencing.

The century and half following settler contact in the 16th century can be considered a prolonged period of transition, in which changes occurred both on the landscape and in the land itself. Though the Mississauga were secured by treaty with the Iroquois the territory in the southern forest belts in 1700, new patterns of habitation and land use were being introduced by the French, and the land itself was contested territory among the French and the British. The thirty three years between 1680 and 1713 was marred by war and conflict, after which a brief stability was meted out in which the Mississauga engaged with French, British and other Indigenous merchants in the Niagara Peninsula and north of Lake Ontario. In 1756, however, a battle again erupted between the French and British that merged into the trans-continental Seven Years War. In what was fought of that war in Southern Ontario territory between 1756 and 1763 between European powers, Indigenous peoples were actively involved. The Iroquois, for example, aligned with the English, the Ojibwa and the Huron with the French (Careless 1987). Though perhaps, not recognized at the time by First Nations, to the European winner of the war, went the forest belts.

It is in this period that Europeans began to re-imagine the landscape, dawning the idea of North America and the place of indigenous peoples within it. The Seven Years War culminated in the French transferring control of their North American territory and attendant trade networks to the British (Careless 1987). New treaties were signed that in the eyes of the British provided the ability lay out-right claim to the region, and moreover, the ability to lay out a framework to impose a whole new system of property and land rights practically unknown to indigenous peoples – a system of property relations recognizable to them only by its fixed and sedentary characteristics, first iterated on the Southern Ontario landscape by the French. If it was the fact of abundance cultivated by Indigenous Peoples on the landscape that first encouraged Europeans to settle on Southern Ontario's shores, it was the fluid nature of indigenous habitation that would

¹² Cronon (1983) describes this ecological interation between European livestock and the transformation of forest composition on the New England landscape very well. Equivalent processes can be said for Southern Ontario ecological history, as the two share many similar ecological characteristics.

lead to the practical erasure of indigenous bio-cultural regions from the landscape altogether. This erasure proceeded under the new institutional arrangements set forth by the British in 1763.

3.3 1763-1841: Constructing a Colonial Landscape - Organization of Land and Property in British North America

New institutions by colonial decree

In the latter half of the Seven Years War, following Britain's victory on the Plains of Abraham (1759), Britain proceeded to occupy French forts and began to implement changes to administer *British* North America. As for their relations with indigenous peoples, the First Nations who had been allied with the defeated French, like the Ojibwa and the Huron, and who had lived, traded, and intermarried with the French, were alarmed to learn that they were now considered to be under British sovereignty. The Treaty of Paris officially ended the British-French war in 1763, outlining the terms that transferred territory the French had claimed in North America to British possession. The Iroquois, on the other hand, who had been allied with the British, expressed similar dismay at their hubris, regarding new British decrees on what the Iroquois considered their territory to be overstepping the bounds on lands thereunto unclaimed by Europeans (Ladell 1993).

In the same year that the Treaty of Paris was signed, the British Crown passed the Royal Proclamation (1763). The Royal Proclamation was a decisive document, establishing the basis of government administration in the British North American territory. The Royal Proclamation had both immediate and long term implications.

Over the long term, the Royal Proclamation is regarded as the foundation of governance in Canada. The Proclamation set the boundary defining the Province of Quebec where those residing in historically French territory could keep their language, religion and laws. The Proclamation is also considered the basis of treaty rights for First Nations peoples (Saul 2008). It recognized all lands outside of established forts (what had been prior to the Seven Years War the French forts of Frontenac, Niagara, and Detroit) as Indian Territory. All fur traders travelling through Indian Territory were to acquire a permit to do so. The Proclamation further stipulated that only the British Crown could purchase land from First Nations in the presence of council on both sides, restricting private individuals from such transactions. Only after transfer had been negotiated could the land then be distributed by grant or sale to settlers. These stipulations regarding Indian Territory were as pertinent at the time in laying out the conditions for legitimate

transfer of land rights – at least in the eyes of the British – from Indigenous peoples to European settlers, as they are today in determining legal claims in treaty disputes and Canada’s treaty rights obligations to First Nations Peoples.

Among short-term implications, scholars consider the Royal Proclamation to have been a strategy to maintain peace with Indigenous peoples at the time. By recognizing Indian Territory, the declaration of land outside of established forts between the Mississippi and the Appalachians is considered a manner of British compromise with Indigenous peoples, resolving increasingly volatile relations with First Nations (King 2012; Surtees 1994).¹³ Nevertheless the proclamation outlines the conditions under which control of territory could be transferred to British hands. It provided for the unique legal quality that enabled the process in which the Southern Ontario landscape was transferred from First Nations claims to colonial control to unfold with minimal outright war. As well, the proclamation postponed a rapid influx of Europeans, as squatting by British settlers had taken place in the early 1700s in New England, and allowed for a more orderly pattern of European settlement (Saul 2008).

Land appropriation with geopolitical purpose

A decade after claiming lands from the French, Britain’s control of North America was assaulted by desires for American independence. In the midst of American Revolutionary War (1775 -1783), the British sought to strengthen their claims to land in the Southern Ontario region. Agricultural settlement was a primary mechanism for doing so. It was quite strategic. Many loyal to the British Crown in the 13 Colonies fighting for independence were fleeing to garrisons in safer British territory. To better provision for both refugees and the garrisons and establish a “buffer” to secure territory, British officials sought to acquire lands in Indian Territory for agricultural settlement (Jarvis 1975, p. 3).

The first acquisitions were made outside of Fort Niagara. A strategic north-south thoroughway across the river connecting Lake Ontario and Lake Erie, the number of Loyalist refugees pouring into the Niagara Peninsula as a result of the Revolutionary War

¹³ Tensions between First Nations and the British at the time of the Royal Proclamation were high, leading to The Pontiac War in 1763 (White 1991).

was mounting. Providing for them was difficult. There was some food grown in military garrisons, but supplies had to be brought via transatlantic networks, through Quebec and across Lake Ontario at great expense. In 1781, the decision to acquire lands adjacent to the Fort from the Mississauga was made. For a four mile strip of land along the Niagara River between Lake Ontario and Lake a Erie, the British Exchanged 300 suits of clothing (Surtees 1994).

Soon after the transfer was arranged, the land was surveyed. Parcels of long rectangles of 200 acres were drawn out on the land, and were granted to individual refugees. These refugees were the first United Empire Loyalist, those loyal to the British crown fleeing from American colonies, to settle in what was the first British act of town building in Southern Ontario (in what was then considered to be the Province of Upper Canada). Not only was land granted, however, but settlers were also provided with provisions, livestock and farm implements. Arrangements were made for the settlers to provide food for the fort at subsidized cost – an arrangement between the garrisons and new farm settlements that was repeated in many instances of town building and agricultural settlement as a strategy to ensure the colony's success (Jones 1946; Surtees 1994). By 1782, after one year, the settlement at Niagara not including the military is recorded as having sixteen families, totaling 68 men, women and children, along with 49 horses, 42 cows, 30 sheep and 103 hogs, and 236 acres cleared (Ladell 1993, p. 56).

The transfer of land in Indian Territory from the Mississauga to the British at Niagara was the first foray of the British beyond the garrisons established by the French. In the context of the American Revolutionary War, incursion and settlement into Indian Territory continued. The British sought to prevent the potential for boundary disputes with the Americans by establishing on expanded tracts of land via agricultural settlement – settlement that could be relatively subsistent and as well provide for the requirements of garrisons. But with each treaty transferring land in Indian Territory from Indigenous control to British control, delineations of indigenous bio-cultural regions on the landscape were erased.

What proceeded was a colonial project of land appropriation. Settlement continued on the back of a tenure system drawn from the traditions of British common law. Treaty after treaty as land was transferred from Indian Territory to British control in

exchanges for cloth, other manufactured goods, and sometimes money, land parcels were drawn out on the land by British survey officials and recorded on a cadastre – a map showing the extent of a parcel to be distributed as private property (Scott 1998). Parcels were provided under fee simple arrangement. Once distributed, British settlers were free to use the land, buy it and sell it (Ladell 1993). Cadastres came to show not only the extent of a parcel's boundary, but also its owner and value.

In the transfer of land from Indian Territory to British Control in Southern Ontario, the British did attempt to abide by the terms set out in the Royal Proclamation. Breaches, however, did occur. Sometimes these breaches were well intentioned. During the Revolutionary War, thousands of loyalist refugees poured into the Niagara peninsula (Schmalz 1991). British officials permitted what they thought at the time to be temporary camps outside their Forts in land the Royal Proclamation had decreed Indian Territory (Ladell 1993). A year after the War's end, in 1784, the British signed a treaty for the huge tract of land refugees were already occupying for their permanent accommodation. Nearly 10 million acres were transferred from the Mississauga, from the western shore of Lake Ontario, east along the north shore of Lake Erie, for trade goods equaling roughly £1180 at the time (Schmalz 1991; Ladell 1993; Surtees 1994).

In other instances, however, the breaches were more inspired by personal interests of local leaders. Around Fort Detroit, individuals took it upon themselves to purchase lands directly from First Nations, in breach of the Proclamation, intending to profit from their sale as Loyalist refugees poured in. In the 1780s, some of these land transfers were considered null and void by colonial officials, but others were disputed for nearly a century.¹⁴

Nevertheless, the process of British government land acquisition from the First Nations, and the land's subsequent survey and distribution for settlement imposed a system of tenure unfamiliar to indigenous peoples – setting the terms of fee simple tenure arrangement that still prevails today.¹⁵ The land transfer process continued apace. Britain

¹⁴ This is particularly the case for what became Essex County (Ladell 1993)

¹⁵ As land was granted to loyalists, many assumed it was given under conditions of free-hold property, a Lockean and Jeffersonian conception of outright ownership (Hargrove 1980). It was unwelcome to many settlers when it was decreed they would be required to pay tax per acre of land granted, and that parcels were granted in fee simple arrangements. This inspired many demands for "responsible government" in later years (Ladell 1993, 69).

scurried to take control of territory before a newly independent United States of America could make claims of Indian Territory for itself. In 1784, land tracts around the Bay of Quinte, and several tracts leading all the way up to Montreal were transferred in British treaty exchanges with the Mississauga (Surtees 1994). In each case, surveyors were sent immediately to begin the settlement processes, and a series of adjacent townships to support Fort Frontenac (later renamed Kingston) with provisions were formed.

The bio-cultural regions of the Mississauga, not only split by new political borders between British North America and the United States, were being further diminished as Britain strained to maintain colonial control of the Southern Ontario landscape. Having lost access to trade routes south through the Hudson River with American independence, British authorities thought to connect their tracts of land between the Niagara Peninsula and the Bay of Quinte, gaining control of the Toronto Carrying Place as a safe transport route North, through fur-rich territory to the Hudson Bay (Surtees 1994). “The Toronto Purchase” (Surtees 1994) occurred in 1787, covering land from Etobicoke Creek to the lands around Kingston.¹⁶ Steps were taken to survey the land immediately, to establish the town of York (now Toronto) in 1788 (Surtees 1994).

Landscape changes under colonial conditions

Indigenous peoples quickly realized that the treaties signed with the British were not to share the land but to surrender it outright, threatened with violence if they tried to inhabit the landscape as they once did for their livelihoods. The Royal Proclamation set out a scale for military land granting, in which 5000 acres went to field officers, 3000 to captains, 2000 to lieutenants, 200 to non-commissioned officers, and 50 acres to privates. After American independence, a primary concern to British colonial officials came to be the loyalty of incoming settlers to the British crown (Ladell 1993). After the war, a steady stream of Loyalists continued to come north. The threat to the security of the province by the movement of settlers from America in search for free land under the guise of British Loyalty was thought to be high. In 1789, colonial officials extended

¹⁶ The purchase constituted another area surrendered by First Nations without proper regard for the provisions of the Royal Proclamation. The boundaries north and west were disputed, the western boundary not confirmed until 1806, and the northern boundary not for a century, when a treaty to surrender lands to Lake Simcoe was finalized in 1923 (Surtees 1991). Land claim disputes have been ongoing as of the early 2000s (Fullerton, Robinson and Lickers 2003).

grants of 200 acres to the sons or daughters of each family whose loyalty before the war had thought to be established (Ladell 1993). As well, families that had “proved their loyalty to the crown” (Ladell 1993, p. 78) could receive 100 acres, plus 50 acres per family member (and up to 1000 acres more could be bought).

Leung (2012) describes the survey process as the “clinical approach” taken by Crown officials to organize the land in a manner suitable for its distribution. This was mimicked throughout the Southern Ontario landscape, though there were subtle variations. The survey practice at the time was the six-mile wide, single front township, where along a waterway or coast the first concession road was made parallel to the waterway, and called Front Street. Long rectangles were then drawn perpendicular to the Front, stretching away from the shoreline roughly three times longer than they were wide. A second concession road was laid at the other end of the parcels from the front, and the process was repeated. Perpendicular roads to connect concessions were laid down every five or so parcels (Ladell 1993). In the first township around Kingston, the six-mile wide township was practiced with 175 lots of 120 square acres, 25 lots across and seven concessions deep, totaling 21 000 acres. In later townships, standard parcels came to be 200 acres. Despite the variation, the lines created by the survey were drawn across the terrain as if on a clear slate, the cadastral map determining land distribution on the landscape. Cadastral maps did not consider much of any geological features of the terrain it carved up, showing little of the boundaries of natural features.

When John Graves Simcoe arrived in the Town of York in 1791 to be the first Governor General of the Province of Upper Canada, he had a vision of settlement beyond simple loyalty to the British crown, but for the creation of “a thoroughly British society” (Ladell 1993, p. 93). Hoping to establish a land owning aristocracy reflecting the foundations of British Society,¹⁷ he proffered what came to be known as Simcoe’s Proclamation. Simcoe granted land, sometimes up to 5000 acres, to leading officials and “deserving citizens” (Ladell 1993 p. 93). It was soon decreed that Simcoe’s associates, being the first to receive land grants of such large proportions, took the best land in the hearts of new townships. Another tactic of Simcoe’s to encourage thoroughly British

¹⁷ For a discussion of a landed aristocracy as the legal and ecological foundations of British Society in Victorian Britain see Duncan (1954).

settlement was to grant 1200 acres to “nominees” who could bring a group of their own settlers with them (Ladell 1993, p. 93). These came to be known as “Association Towns” (Ladell 1993).

Overall, this manner of encouraging settlement and imposing tenure was rife with problems. Firstly, land parcels were granted at a scale much too big for single family units to inhabit. Settlers were encouraged to build a house, a fence, and to clear a specific acreage on the property within a few years. But what remained not cleared was effectively prohibited for others to use. In other words, the parcels were simply too large for a single family to *improve* (Li 2007). Moreover, many would come to obtain land, not to settle, but for purely speculative purposes. These were “land jobbers” or in other words, speculators, who came simply to profit from acquiring and selling land to settlers coming later (Ladell 1993, p. 95). Simcoe’s Proclamation particularly encouraged thousands of settlers to move north from America, making claims to the best and biggest parcels they could.

Despite these differences in the survey pattern, not all townships were intended to be equal. A major variation made one township among them unique. Though the location of York was first considered a good location for a trading post and military garrison for its position on the Carrying Place, its distance from the US border prompted Simcoe to designate York as the capital of Upper Canada (Ladell 1993). This designation in 1797 meant that British government officials and their families were lured to York for political positions. These officials secured the best of Simcoe’s land grants for themselves, often several parcels closest to the Front (Master 1947).

This designation and the resultant land distribution pattern are important. The location of York as land nearest the lake lying mostly in the southern forest belt made it among the most fertile location of the prior Mississauga bio-cultural region. This ecological zone was scattered with clearings from past Mississauga. As Mississauga bands abandoned clearings as they were moved off to make way for settlement, processes of ecological succession took over. Meadows of prairie grasses and small oaks emerged in their place. Clearings made by other indigenous peoples, like the Petun and Neutral abandoned decades before similarly existed among townships along Thames river valley in the Niagara Peninsula and on the north coast of Lake Erie (Jones 1946; Kelly 1970).

But in York particularly, large numbers of these parcels were granted to officials who were least likely to engage in farming. Many of these parcels would be leased, however, to newly arriving settlers on conditions to farm the land (Jones 1946; Ladell 1993). As settlement increased, these fertile oak plains were spoken of in settler brochures on the European continent, warning or welcoming potential settler farmers of the kinds of land they should be aware of when choosing parcels (Kelly 1970). Some settlers avoided these meadows thinking of them as a sign of poor soil, and therefore inappropriate for the needs of farmsteading. But others were attracted to the meadows, happy to forgo clearing the forest themselves (Kelly 1970).

After the first wave of settlement by the United Empire Loyalists, and Simcoe's founding of the Town of York, a second wave of settlement was inspired after the British-American war of 1812. In this context of conflict with the US, Colonial officials of Upper Canada wanted increased settlement from the British Isles. This coincided with the end of the Napoleonic Wars (1803-1815), which for Britain, though victorious, the end had incited an industrial slump that led to the emigration of British subjects to the colonies: Australia, South Africa, and Upper Canada included (Ladell 1993).

Some of these immigrants to Upper Canada had acquired land through land boards used to administer land parcel distribution, though many bought land from other settlers (Jones 1946; Ladell 1993). Land bought from landed settlers included those who had gained land from military grants given as a result of the War of 1812 principally east of York along the north shore of Lake Ontario. Many of these ex-soldiers found themselves with more land than they could handle, and they were ready to trade or sell their land for anything from gallons of rum to petty cash (Jones 1946). Upon British appropriation, a market in land had emerged for the first time on the Southern Ontario landscape. By 1836, roughly two decades after the war of 1812, the British had attained territory through treaty from the Mississauga covering practically the entire Niagara peninsula and the north shore of Lake Ontario as far as the northern reach of Lake Simcoe (Surtees 1994). In 1815, 141 townships had been laid out, but by 1841 there were 330, the second half of which was prompted mostly by British emigration from the United Kingdom (Ladell 1993, p. 119).

But perhaps the abruptness of the imposition of fee simple tenure and the British organization of land through private property in this colonial context is best demonstrated by the consternation of the Mississauga. Upon realizing that the treaties signed with the British were not to share the land, but to surrender it outright, the Mississauga protested government officials boisterously as Loyalist settler farmers obstructed their access to hunting and fishing grounds (Smith 1975). At best, the Mississauga were often charged with trespass, at worst they had dogs set on them, or were shot if they tried to cross settler farms (Jones 1946; Rogers 1994)

Nevertheless, the social structure of settlement and townships in the following years came to be recognizable by where a settler was located in relation to the most prominent towns; how far away from the front newcomers settled, if they were along major water-ways, how deeply situated away from major towns they were (or in which forest belt), and particularly their proximity to the town of York (Wynne 1979; Russel 1983; Darrock and Saltow 1994; Clarke 2001). These variations for example determined characteristics like whether land was rented or owned (Marr 1984), and the speed and pattern in which forests were cleared on land parcels for farming (Russel 1983) and the kind of cropping systems practiced once land was cleared (Jones 1946). The value of land was determined less in relation to ecological features, than by administrative settlement patterns. This was the naissance of colonial landscape of Southern Ontario.

New settlement and food lands relationships

The colonial landscape of Southern Ontario undergirded a pioneer economy of subsistence and trade. Like the French, the British relied heavily on transatlantic networks and set up farms of fixed and sedentary nature. Unlike the French, the British started to organize the landscape and its ecology in an expanded form beyond just garrisons and trading posts. Arriving already embedded in capitalist relations for transportation, provisions, and equipment to carve out farmsteads on a land parcel, settlers engaged in simple commodity production balancing the products of their agricultural labour between subsistence and trade. And agricultural settlement began contributing to a British mercantilist economy, with wheat at its foundations (Fowke 1957).

It took three generations to reduce the lower forests belts to fields (Jones 1946), but colonial trade and the creation of markets in land and agricultural commodities determined this process. As soon as Loyalists were granted title to a parcel, they just as quickly sold their rights to a parcel to speculators. In the case of parcels granted to loyalist kin, “Loyalist Rights” were most commonly sold to speculators. Over three million acres came to be distributed to children of loyalist settlers (Ladell 1993). However, in many cases, children counted on inheriting their father’s land that they helped to clear, rather than leave to start the hard work of clearing their own parcel.

By the 1840’s a very small portion of the land granted to Loyalists, former soldiers, government officials, and associates of the Lieutenant Governors were occupied, and much had transferred to the hands of those waiting to sell the land to make a profit. But if parcels were not cleared, speculators would not receive returns on their investment. Clearing land to make it fit for farming was a primary mode of raising the land parcel’s value. Speculators did not necessarily clear the land themselves. Migrants from the British Isles in the second wave of immigration often supplied the labour for wages. Those arriving in Upper Canada with insufficient funds to buy land and livestock for themselves could earn and save money as hired hands (Russell 1983). Renting parcels to incoming settlers from Europe was common (Grey and Prentice 1983). There were many such arrangements for renting land. Jones (1946) describes three such arrangements: in one, tenants provided their own implements; in another, tenants had implements provided to them by the landowner; A third was sharecropping, where arrangements were made to share the yield of crops grown on the land between the tenant and land owner. Many tenants were not asked for much at all – provided they cleared the land and prepared it for farming (Jones 1946). Overall, however, it was enough for a speculator to secure title on a parcel by putting a down-payment of only 1/10th of the asking price, placing a wooden sign marking it sold, only to wait until neighboring parcels were cleared around them. This raised the value of their parcel enough for them to sell the land to gain a profit.

In this context the relationship between food lands and settlement became much more complex. Arriving already embedded in capital relations for transportation, provisions etc., settlers engaged in simple commodity production balancing the products of their agricultural labour between subsistence and trade, contributing to a British

mercantilist economy (Fowke 1957; Friedmann 1978). As settlement expanded into the interior the relationship between farms and towns came to rely on proximity. Proximity in the sense that the relationship between farms and towns can be seen on the landscape in a particular spatial dimension, in which the typical pattern of land use corresponded to the distance it was from a town (von Thunen 1826; Sinclair 1967).

As townships were filled, roads would be extended to provide for new concessions, and as new lots were located further from the town front, town and country came into distinct new roles. Towns continued to produce their own food, with farms on the agricultural land within their boundaries or adjacent to them provisioning the array of foodstuffs required for the town's success. On these farms a variety of crops were grown: a mix of vegetables, peas, squash, tubers and corn along with orchards. Livestock also pastured fields left fallow, ate fodder crops grown in rotation with the vegetable crops and provided meat and dairy (Jones 1946). This is where the relationship between towns and farms overlapped, as towns were themselves a site of food production, and together with farms in close proximity they grew the variety of food eaten by non-farmer city-dwellers, like government officials, merchants, the clergy, artisans, trades people and the military.

The towns themselves also remained primarily trading posts that claimed and guarded territory. They also remained somewhat dependent on transatlantic trade for manufactured goods etc. and as well continued to act as the hub through which commodities drawn from the protected territories passed through for transatlantic trade. But a new dimension of towns emerged. Towns became nodes for merchants to facilitate the expansion of settlement into the interior. Through towns, transatlantic networks did not simply link up with existing networks on the landscape as did the French, but transatlantic networks extended into the interiors of the landscape, forging new settler networks as settlers established what Fowke (1957) recognized as continually expanding agricultural frontiers.

But at a certain distance, the role of agriculture for settlers far from townships changed. The products of agriculture could no longer serve the city. Farmers within or adjacent to townships grew many of the foodstuffs provisioning towns providing a variety of goods to local markets. But farmers coming from far away could not compete

in urban markets. Farmers with land too far away to sell in cities directly, had to carefully balance the agricultural products they produced for long distance export with those they grew for their own home consumption. In this way wheat to export to Britain was particularly important to the pioneer economy, along with potash and timber.

As Fowke (1957) explains, as settlers arrived in Upper Canada they were already embedded in capitalist market relations. If not land, then transportation, some extent of accommodation, equipment to make a farmstead out of a forested land parcel, and provisions along the way were required to be purchased – if not out-right then, on some form of credit. Settlers needed to start commodity production as quickly as possible upon arrival to pay for the loans they had received or to purchase more implements to make farm improvements. Wheat could be grown in abundance with relatively little labour. Wheat was light in weight and durable, so it could be stored and transported easily; in winter, wheat could be moved on sleds and across frozen rivers to reach the Town of York, to be put on ships bound for Britain where it was in more or less in constant demand.

The British Corn Laws (1815-1846), although established by the Crown to protect English farmers in the period of the Napoleonic War, also favoured farmers in the colonies. Wheat farmers in Canada were further advantaged over their American competitors when Britain lowered tariffs for Canadian wheat in 1828 (McCallum 1980; McCalla 1983).¹⁸ Wheat also differed from other products grown in Southern Ontario at the time in that most other farm produce, like dairy products, could only be exchanged in barter for other goods as supplement to self-provisioning. Each pioneer settler household in the interior in this period were producing much the same goods, being so remote from markets they were most all self sufficient (Cohen 1988). Wheat on the other hand commanded a cash payment for its trade over to Britain, and was therefore a ready cash-crop. Colonial officials also facilitated the wheat trade, trying to encourage as much wheat shipped from Canada to Britain as possible, supporting not only more agricultural settlers to Southern Ontario at this time for increased wheat production, but also the

¹⁸ Revisions to the Corn Laws in 1828 stipulated that importation tariffs in Britain would be lowered when domestic prices got too high. When Upper Canada was excluded from the British wheat market, farmers looked to America to sell their wheat, particularly with the completion of the Erie Canal.

construction of mills and the trade in flour as well.¹⁹ Colonial officials also supported merchants in setting up cross-road stores, creating secondary hamlets to the principle townships. The relationship between settlement and food lands, therefore, was not only one emblematic of regional subsistence, or one confirming territorial control, but also as a relationship integrating and extending transatlantic networks of capital into the interior (Fowke 1957).

This complex relationship of settlement and food lands, the self sufficiency of agricultural settlers in the interior, and the commodities traded for export that travelled through towns, all express the social relations that slowly transformed the ecology of the region, converting forests into farms and the indigenous landscape into the colonial landscape of Southern Ontario.

Ecological transformation

For a typical settler arriving on a parcel of land, clearing land of forests was most often their primary task. Arriving in the spring, trees were cut down and with only the stumps still standing underbrush were burned so as to expose as much of the soil as possible. Depending on the size and type of trees, it could take a year to clear anywhere from just a few acres to up to ten acres of forest. As for the logs, settlers from the district would assist each other in turn, piling them into heaps. Logs were used for fencing and to build cabins of simple design. With dismal roads, only farmers with easy access to rivers could get timber to market. Other logs were burned and turned into potash, a commonly traded fertilizer both in barter, but as well for money.²⁰

The denuded land was netted with the roots of the cut trees. Soil was prepared for wheat to plant in autumn. First, seeds of a kind that did not require ploughing were the first to be sown. Depending on the soil this could be turnips or potatoes, which could be plotted into holes made between the stumps. Turnips and potatoes could also provide feed for livestock. Corn, with lessons learned from the indigenous, was planted in patches with squashes and beans. This was key as it made up much of the farmer's subsistence while

¹⁹ The Canada Trade Act in 1822, and the Colonial Trade Act of 1831 are examples of two Acts that facilitated the wheat trade in Upper Canada.

²⁰ Potash itself developed into a formidable sector in Southern Ontario until the 1850s. It was exchanged among local farmers and exported to Britain and the United States (Jones 1946; McCalla 1983)

clearing the land. By autumn, wheat would be scattered in the 4-5 acres that had been cleared that year, and scratched into the soil with a harrow. It was not uncommon for a Loyalist settler to arrive alone, clear some acres, build an initial cabin and sow some wheat, to return the next year with his family having a crop ready for sale, to enable the purchase of other consumer goods, like tea (Jones 1946).

In each subsequent year, another five or so acres would be cleared for wheat to be scratched in, while the previous year's clearing would be left to pasture. The pasture was often sprinkled with clover, leaving root structures to decay. Buckwheat might also have been spread as, along with clover, it was thought to "tame the soil" (Jones 1946, p. 73), replenishing nutrients and fixing nitrogen in the soil. In five or six years the root systems of the stumps would be decayed in a clearing of ample acres, with soil loose enough for ploughing. With enough money saved from the sale of wheat, Oxen were bought (or borrowed from a neighbor) to hitch up to stumps and yank what was left of stumps and root systems out of the ground. Depending on the kind of trees that were standing, it could take as much as six years for the roots to decay enough to plough; twelve years if the property was in the regions of the northern pines where stumps would hardly decay at all (Jones 1946).

Over decades, the lots of forest lands were converted to cultivatable soil. Farmers continued to rely heavily on wheat for cash. With inexpensive land and large waves of immigration making labour ample, farmers wanted to grow as much wheat on as much land as possible, practicing extensive agriculture. This is not to say that wheat was the only crop that was sown. A typical 200 acre lot was a mixed-farming operation with wheat and other coarse grains and legumes sown with some semblance of rotation. Livestock was treated to pasture, commonly sheep, cattle and hogs with stables as well for draft animals – either oxen or horses depending on the farmer's affluence. Robert Russell (1854), an English climatologist and agronomist travelling the region at the time, recalls one farm in the township of Georgina south of Lake Simcoe having 25 acres of their 200 acre parcel taken with oats, 16 with peas, 5 with turnips, one with potatoes and half an acre with corn – while dedicating 60 acres to wheat; one half spring wheat and the other half winter wheat. Though nothing is mentioned of the remaining hundred acres, one can presume it was taken up with a fallowed ground (as summer fallow was a

common method of the era), pasture, and remaining woods where ground was perhaps too wet or generally unsuitable to cultivate (Jones 1946). As for dairy, each settler household produced milk, butter and cheese for home consumption. This was generally the task of women in the household. It is generally considered that “self-sufficient aspects of the economy dominated until at least the 1840s” (Cohen 1988, p. 64).

However, with Southern Ontario firmly established as a colony, more colonial legislation, like The Canada Trade Act in 1822, and the Colonial Trade Act of 1831, encouraged as much wheat to pass through Southern Ontario routes in transatlantic trade as possible. These acts proved to support wheat growers and also multiplied the number of active mills for the trade of flour. It therefore became not uncommon for farmers to plant wheat crop after wheat crop, mining the soil of its nutrients. In extreme, wheat would be planted each year until the crop that came up was diminished by half, and only then leaving it fallow (Jones 1946).

With this trade traffic and increased commodity production, more cross-road stores, hamlets, and villages popped up throughout the Southern Ontario interior representing substantial capital formation (Fowke 1957, p. 19). As well, the Town of York became the most significant site for convening trade of networks that extended into the interior. In 1803 Lt. Governor Peter Hunter proclaimed the heart of town, at the apex of all means of transportation by land and water, “the market block.” With growth in both population and its significance in transatlantic and regional trade, York was first incorporated as a city in 1834 and renamed Toronto. Meanwhile, British capital interests hoping to use their connection to the British Crown to maintain the movement of transatlantic trade through British territory lobbied for the construction of canals to counter competitive US prices.²¹ The Rideau Canal was completed in 1832, and carried enough wheat on which the town of Ottawa was founded. The same canal boosted interior commodity production as well, enabling a transatlantic timber trade. In the winter, male farmers south of Lake Simcoe went north to cut trees in what became a booming sector as well, in many ways recalling a seasonal movement of value production as

²¹ The Erie Canal built across the border in America was completed in 1817 connecting Lake Erie at Buffalo to Albany, New York, became a trade route that drew resources away from British towns of Toronto and Montreal toward an American route.

Indigenous Peoples had done, but with a totally renewed production focus— alternating between wheat and timber instead of general cultivation and hunting.

By the 1840s a checkerboard of farms stretched to cover most of all the Southern Ontario landscape. Indigenous were pushed further and further from British settlement. The Crown purchased more land, as it was needed for the towns, farms and trade of British settlement. Reserves were provided for First Nations, but they were on the fringes of settler society. Some First Nations did get land, like the Six Nations. This was however, in large part based on the legacy of military alliances that were critical to Britain's success in maintaining a presence in the North American territory. Under the leadership of Joseph Brant, who maintained close family and military relations with British officers and gentlemen, the Iroquois Six Nations negotiated nearly one million acres along the Grand river in the Niagara Peninsula, becoming the first Indian reserve in British North America in 1784 (Tooker 1984). But overall, actions taken by the Colonial government concerning “what to do” with the remaining indigenous peoples made up much of what was the colony's “Indian Policy,” and these actions were generally just extensions of policies designed to make room for settler townships and farms (King 2012, p. 83).

As settlement stretched into the backwoods, indigenous livelihoods were actively undermined. The destruction of large segments of Upper Canada's forests deprived big game like moose and bear of their habitat. With their hunting, gathering, and fishing lands diminished, some First Nations like the Huron, Petun, and Iroquois settled in villages with more permanent structures where they established schools and churches (Rogers 1994). Moreover, colonial officials and missionaries pressured many First Nations to adopt a European style of farming. On some reserves particularly those around settlement, like the Six Nations Reserve on the Grand River, indigenous people who took up European farming raised peas, potatoes, squash, carrots and cucumber, and raised wheat and oats, engaging in local town markets and transatlantic trade. They also had apple trees and orchards, and kept livestock, like oxen, cattle, horses and sheep, and poultry like chickens turkeys, geese and ducks (Rogers 1994). These were in replacement, however, of what they had farmed before. With fences dividing and bounding the land on the Southern Ontario landscape, Indigenous were no longer able to practice the kinds of fluid habitation the once did.

The institutional conditions set forth by the Treaty of Paris and the Royal Proclamation in 1763 oversaw a project of land appropriation that transformed the landscape. From a Southern Ontario landscape infused with indigenous bio-cultural regions, though one that had been somewhat altered in the wake of French presence, emerged by 1840 a Southern Ontario landscape bespoke by colonialism. New ecological relationships appeared in this period, expressed not only by markets in staple commodities – principally wheat for export – but by the emergence of a market in land itself. Bio-cultural regions were not only wiped out, but as forests were reduced to fields and the terrain bound by fences, the very livelihoods of indigenous peoples were physically undermined.

The expansion of a pioneer economy, however, was not to remain stable. Infrastructure projects like the Rideau Canal cost an extraordinary amount of money, straining the finances of a colonial government. This became especially pertinent as railroads were on the verge of becoming the dominant means transport. As well, increasing demands for wheat in Britain would inspire the repeal of the Corn Laws all together, soon ending the regions preferential treatment of trade with Britain. These dynamics of politics and trade, both internal and external to Southern Ontario at the time, indicated the pioneer economy would not proceed as it had any longer. The next quarter century would witness a rearrangement of institutions, the preambles of nation-building that worked to re-order the landscape for new markets, new forms of production, and faster more reliable transportation.

3.4 1841-1867: The Shifting Colonial Landscape - Forging the Railroads and the Reciprocal Evolution of Farms and Towns in a Rapidly Changing Landscape.

Colonial rearrangement

The period from 1841-1867 witnessed a re-working of both political boundaries and trade relationships in ways that both grappled with Southern Ontario's colonial structure, and as well laid foundations to embark on a project to build a nation. In 1841 an imperial Act of Union joined together politically, landscapes divided by the royal proclamation – the landscape of neo-British agricultural settlement, with that of the neo-French *habitants*. The Act amalgamated the legislatures governing each of these landscapes, those of Upper and Lower Canada, forming the single, unified Province of Canada.

Under colonial structures of land-ownership and taxation, the populations of both the colonial Southern Ontario and Quebec landscapes had increased their demands for “responsible government,” in which government ministers are responsible to local electorate in parliament, rather than to the Crown (Careless 2013). Unification established a single legislature, formed in the traditions of the Westminster System, providing both populations in both the Southern Ontario and Quebec landscapes the same number of representatives.²² By 1848, reforms achieved through the new unified legislature is said to have established the practical tenets of responsible government reform (Ducharme 2006). Beyond political representation, however, unification had other objectives. Unification also sought to create a stronger fiscal entity among the British North American colonies. Since the construction of the Rideau Canal was commissioned in the 1830s, the governing entity of Southern Ontario, in the form of Upper Canada, had run into debt. Joining with the more populous Quebec and the legislature of Lower Canada, gave the unified colonial province a stronger tax base (Fowke 1957).²³

²² Unification followed the recommendations of Lord Durham's report commissioned after Quebec rebellion in 1837 (Ducharme 2006).

²³ The Act of Union is also said to have empowered British immigrants in relation to French cultural (francophone) residence in the central colonies. Though Lower Canada was more populous – a legacy from French settlement and intermarriage in the 17th and 18th centuries – British migration to Upper Canada was stronger (on the political culture in the central colonies in the 19th century, see Saunders 1967 and Wise 1993).

Nor was the joining of the Southern Ontario and Quebec landscapes into a single political entity the only colonial rearrangement in this period either. In 1846, the repeal of the Corn Laws in Britain removed imperial preferences for wheat from British colonies. Principally to protect English land-owners and then promoting staple-wheat production in the colonies, the demand for wheat in Britain as the “manufacturer of the world” became too great. Though Britain’s wheat imports from Canada had increased in many years after the Corn Laws repeal, the repeal itself affected the political culture of the farmers in Southern Ontario, who prioritized wheat for export while growing other crops for subsistence.

The repeal of the Corn Laws fueled local interests supported by British capital to nurture commerce with the U.S., but trade with the U.S. proved complicated. Though the U.S. was a potential economic partner for continental trade, it was at the same time a competitor in trade to Britain. The border between British North American colonies and the United States had divided the ecological zone of the lower Great Lakes Basin, which also extended south and west. On this basis American farmers produced and traded many of the same goods, as did the farmers in British Canada.

The new trade dynamic for farmers in Southern Ontario in many ways prompted the forging of the first railroads in British North America, which were needed to lessen the expense and make faster the flow of goods through the St. Lawrence River. In no small part, the railroads were to ensure that domestically produced goods would not be diverted to trade routes servicing Britain that went through the U.S., where railroad infrastructure was being constructed quickly, financed by a central government of the republic.²⁴ The risk of goods produced on the Southern Ontario landscape becoming U.S. exports was high (Fowke 1946; 1957). The burgeoning cities in the U.S. represented an opportunity to sell agricultural goods, of both wheat and other higher-value commodities to emerging U.S. markets. Though this proved advantageous for Southern Ontario farmers, for merchants and financiers in Toronto, and as well in Montreal, this

²⁴ Fowke (1957) suggests that one reason steel technology and railroads developed quicker in the U.S. than in British Canada is that the former British colonies had withdrawn from the imperial economic relationship earlier (like preferential trade represented by the Corn Laws). The National government in America that formed after the Revolutionary War was in a better position to finance improvements to American trade routes. Colonial provinces in British Canada did not have the financial clout until after the Act of Union.

represented a threat to the orientation of transatlantic trade and a loss of profits (Fowke 1957).

As a response to the potential loss of trade with Britain to the U.S., financiers on both the Southern Ontario and Quebec landscapes lobbied the unified legislature for assistance in railroad projects on the British side of the border. The Province of Canada subsequently passed legislation to finance rail projects in 1849 and 1852, and in 1852 construction on the Grand Trunk Railway began (McCalla 1993). Backed with credit from the united colonial government, the Grand Trunk Railroad was a chance for Toronto and Montreal to remain central in the flow of goods to Britain, and perhaps even become the recipient of continental trade, tapping into the westward expansion of US agricultural settlement to potentially increasing their overall exports.

Re-ordering the landscape

In the middle of the 19th century, steam railway technology had begun to advance. It was developing quite quickly in the United States, which after canal construction, became the established means for expanding the American agricultural frontier – particularly to Chicago and further into the Midwest (Cronon 1992). The advanced development of trade routes in the U.S. through the construction of national railroads, was at the same time fueling steel manufacturing in Pennsylvania, New England, and the Eastern Sea Board, and expanding consumption and commerce in the United States.

Industrial development in the U.S. also had its impacts on farmers and merchants north of the border. American rail lines were attracting trade with farmers on the Southern Ontario landscape, especially where the rail lines came close to the border. For example, the American Ogdensburg Line, completed in 1850, attracted commerce from north of the St. Lawrence River, around the lower Ottawa Valley and from areas near the Bay of Quinte. Farmers between Kingston and Montreal were connecting with the Ogdensburg line linking to Boston and New York (Jones 1946). Similar lines with terminals at Detroit and Niagara on the U.S. side of the border attracted agricultural products grown elsewhere in Southern Ontario (Fowke 1946).

To stop the “pull” of goods from the foreign termini, the united colonial Province of Canada facilitated an immense amount of capital to organize for railroad construction

on the Southern Ontario landscape. In the first two years of Grand Trunk construction, 800 miles of track were laid (Officer and Smith 1968). By 1856 the Grand Trunk line opened up cutting across the Niagara Peninsula from Sarnia (then a hub for Chicago-bound traffic) through to Toronto, and onto Montreal. Other railroad companies also benefited from the legislation of the unified Province. By 1860, rail lines created corridors running west of Toronto to Guelph, and onto London and to Detroit, hoping to reverse the flow goods from producers on the land in the Niagara Peninsula. As well another rail line created a corridor south of Toronto to Hamilton, around Lake Ontario and onto Buffalo. Rail lines by 1860 eventually ran north to the Muskoka region around Lake Huron, to Lake Simcoe, to Georgian Bay, and sprang up east of Toronto from the Grand Trunk Line to Peterborough and Lindsay around the Kawartha Lakes (Masters 1947).

At first, for the areas that were supplying U.S. markets – such as the lower Ottawa Valley, and parts of the Niagara peninsula – land use had already started to shift. Industrial expansion on the eastern seaboard of the U.S. expanded American markets greatly. The railroads underpinned this expansion by facilitating the transfer large amounts goods – higher-valued goods for domestic food markets, such as livestock, poultry, eggs, and dairy. Farmers on the Southern Ontario landscape began participating in this trade as best they could, focusing on growing surpluses to their subsistence livelihoods. For the first time on the Southern Ontario landscape, crops other than wheat were becoming commercial.

As railroad construction proliferated across the Southern Ontario landscape, interests among farmers, merchants and financiers began to merge. Trade started to bloom: continental markets were expanding geographically, and were deepening in the diversity of commodities for sale. Railroads enabled more farmers on the Southern Ontario landscape to participate in diversified trade, while merchants gained their own pull for grains from farmers in the U.S. Midwest. Financiers also sought opportunities to invest in mining and forestry, with rail reaching the Muskokas and around Georgian Bay. A broad base of support grew for the colonial provinces in Canada – not just the central united province, but the Maritime colonies as well – to engage in a free trade agreement with United States. The result was the Reciprocity Treaty (1854-1865).

The Reciprocity Treaty, though set for duration of 10 years, had immense impact on the Southern Ontario Landscape, dovetailing with the force of the railroads and other technological, industrial, advancements. The Treaty eliminated trade duties for all foodstuffs and for raw materials for industry (Officer and Smith 1968; Ankli 1971; Fowke 1957). With the Treaty facilitating trade opportunities and the railroad enhancing transportation, farmers who had been destined to balance on-farm production between wheat as a commercial crop and all others for subsistence, were better enabled to participate in continental markets in new ways. Diversification of commodity production on farms throughout Southern Ontario started to reflect that.

Wheat persisted as a staple crop on many farms. Britain's demand for wheat imports on international markets remained high, with wheat exports from Southern Ontario not reaching its apex for decades to come (McInnis 1982).²⁵ But exports of other commodities increased dramatically. Rye and barley exports from Southern Ontario rose, for example, as New England brewers looked for quality coarse grains for beer making and distilleries. Exports in livestock, as well dressed meat, dairy, and fodder crops grew as well in these years (Officer and Smith 1968; Ankli 1971; Drummond 1987).

Farmers throughout Southern Ontario began replacing routines of summer fallow with more complex rotation systems, incorporating increased livestock, peas, root vegetables, and other coarse grains. With the size of livestock herds on farms increasing, fodder crops became increasingly demanded in both domestic and U.S. markets. As well with larger herds, more manure was contributed to fields. This is combination with more complex and diverse cropping systems, enabled the very removal of fallow fields from rotation. Overall acreage of crop land in Southern Ontario increased, the soil cultivated for a more diverse array of commercial goods than ever before (Drummond 1987).²⁶

Importantly, however, while trade opportunities arguably pushed many farmers to make changes to farming systems they employed, ecological pressures were also goading farmers in the same direction. Deforestation in the land clearing process, combined with the repetitive cropping of wheat as had been, and in some instances still was, common

²⁵ Wars on the European Continent in the second half of the 19th century kept demand for wheat from Canada high (See O'Toole 2006)

²⁶ For differences between farm systems on Southern Ontario and Quebec landscapes in this period and why, see McCallum 1980.

had lead to dramatic degradation of soil fertility. The system of fallow was only economical when one could simply move to clear another section of their parcel, or in the case of the indigenous habitation, move fluidly across the region – in either case keeping labour productive. In the fixed property system, however, when deforestation had reached its limit, the value of fallow was limited, and with no other crops required in subsistence lifestyles was practiced only when return from wheat yields made it obvious. Pests from perpetual wheat cropping eventually became a problem as well. Both wheat rust and the wheat midge, were plaguing Southern Ontario farmers since the 1840s (Jones 1946; McCallum 1980)

As for indigenous inhabitation on the Southern Ontario landscape, many bands of First Nations were the leaving the US in the early 1840s to settle in Southern Ontario. This migration was in part responding to the American Removal Act of 1840. The American Act pressured indigenous peoples around Lake Michigan and south of Lake Erie to take up lands further west. Although many bands, wishing to stay on lands that were ecologically similar to their own bio-cultural region around the Great Lake Basin, travelled north to settle on reserve lands, or yet un-ceded territory on the Southern Ontario landscape. In fact, it was only in the 1840s that the government of the British North American colonies and the U.S. started to limit the travel of indigenous peoples across the political border between them (Rogers 1994).

Nevertheless, with the landscape carved up not only by fences and declarations of private property, but with railroads, mining and increased settler populations, indigenous peoples in Southern Ontario were being pushed out of the way of settler development and onto to smaller reserves further north, away from settler society. The Crown purchased the last remaining un-ceded territory in the Niagara peninsula in 1854 (purchasing the Bruce Peninsula). Imitating the American Removal Act, the Province of Canada pushed many settled indigenous further north to Manitoulin Island. In 1851, 1856, 1857, and 1861, bands of the Ojibwa and Potawatomi were forced in each instance to give up thousands of acres of reserve lands on the Bruce Peninsula, pushing Bands of these First Nations onto smaller and smaller parcels (King 2012). Finally, lands on Manitoulin Island were purchased in 1862, and reserves we established there.

Changing relationships between town and country

With the reordering of the landscape came changes in the relationship between concentrated settlement sites and the settler farms in the interior. Overall more town centres appeared on the landscape. Hamlets and villages that began only as outposts of capital and interlocutors of long distance trade in the agriculture frontier were transformed as the railroad approached. As illustrated by the emergence of Guelph, Berlin, London, Adelaide, Lindsay and Peterborough, by 1860 these cross-road villages had attracted railroad companies to establish rail stations at their location, transforming these outposts into full-fledged whistle-stop towns. Multiple stores, storage sites and off-farm job opportunities came with the extension of the rail line through each (Masters 1947).

Moreover, with the potential for extractive industries opening up in the northern pine belt as the railroad reached north, the colonial government of the united Province looked to attract investment to expand agricultural settlement there, to provision northern mine and timber workers. The government commissioned construction of roads in what was called the Northern Ottawa Huron Tract between the north of Lake Simcoe and Lake Nipissing (Wynne 1979). As mining and forestry picked up in the region in the 1840s and 1850s, the colonial government began to survey lands around industry camps so that agricultural settlement could provision them.

In this period, however, more than the expansion of agricultural settlement to the north, rural-urban migration changed the relationship between town and country. For the first time, not only did regional farm populations flock to nearby towns to participate for wage-labour, but immigration from European rural communities also oriented to towns on the Southern Ontario landscape. The great famine in Ireland (1845-1859) prompted thousands of Irish to migrate to British North America, primarily to Southern Ontario where 90 000 Irish people came in 1847 alone (Fowke 1957). Unlike migration patterns in previous decades, immigrants in this period did not orient to farm settlement. Rather, they came to be employed in railroad construction and extractive industries (Fowke 1957). In this period, apart from diversified trade with the U.S., domestic food markets emerged on the Southern Ontario landscape too.

The expansion and deepening markets along with transport made possible a new scale of production. Markets facilitated opportunities to adopt technologies and the railroads made possible the transport of large and heavy machinery. Markets for industrial commodities appeared, and with them the wage opportunities to form domestic food markets. In this period, new kinds of capital equipment, like farm machinery and cheese making technology were introduced to the Southern Ontario landscape, further altering the relationship between settlement and food lands.

The first reapers were imported from the U.S. in 1854 (Jones 1946); Cheese making technology for factory production was introduced onto the Southern Ontario landscape in 1864 (Cohen 1988). Farm machinery saved labour on the farm, and cheese making technology moved dairy off the farm and into small factories. On the farm, the household organization of labour changed drastically. The tasks of dairying, like milking cows and cheese making, had been tasks of women and children. These tasks were integrated into household labour. Factory production of cheese separated the task of cheese making from milking, moving it to an off-farm setting. This quickly turned cheese making into a male dominated factory job as factories popped up in the first whistle stop towns (Cohen 1988). Farm equipment, on the other hand, initially on wheat farms, reduced the amount of labour required for fieldwork – a task of men in the household that engaged children and hired farm workers. After the introduction of farm equipment, 2nd and 3rd children of farm-families were no longer required for on-farm labour, and not looking to inherit the land they moved to work in mines, on the railroad, or into towns for factory work (Jones 1946).

Illustrating the demand for wage labour in towns, railway construction aside, 323 cheese factories appeared on the Southern Ontario landscape within seven years of the first cheese factory opening up (Cohen 1988). The combination of rail transport, domestic demands for food products, and emerging markets in industrial commodities, connected farms and towns in new ways. The foundations for the growth of manufacturing towns were laid.

Meanwhile, land prices in this period also started to increase. The combined forces of markets for diversified highly valued agricultural commodities and railroad investment buying up land to lay down tracks and to construct stations, pushed up land

prices everywhere throughout Southern Ontario. Improved farmland in the years of the Grand Trunk construction increased in value by as much as 50 percent (Jones 1946). Even in the far reaches of the interior, land prices were rising. One farmer speaking with a reporter in 1854 commented how, on account of the railroads opening up the trade of livestock and dairy, the rent of “the best pasture-land south of Lake Simcoe” rose by 8 shillings an acre (Russell 1857, p. 39). From the perspective of land prices alone, it is not all together surprising that the flood of new immigrants in this period flocked to off-farm work in towns. Most were coming over with little money, and with the price of land increasing buying land outright was out of reach. Renting land also stopped being seen as a stepping stone to owning a parcel as it had once been considered. Though after the introduction of farm machinery, neither was the demand for on-farm labour enough to attract immigrants to farm work. Especially in wheat fields where there was simply no longer demand for labour (Jones 1946).

The changing relationship of town and country was not merely attracting people off the farm, nor merely changing what, how, and for whom food was produced. Nor was it only that towns themselves grew, becoming more dense in settlement and somewhat expanded in their built form. But the changing relationship also altered the very configuration of towns as a site of food provision and as concentrated multi-species habitat (Kehraj 2013). The extent to which town sites produced their own food from internal or adjacent farms changed, and with that so did their populations of animals like cows, chickens, pigs and horses. During this period, the relationship between food lands and urban settlement still overlapped, with space still for farm plots and gardens to produce food in the city, but the numbers of animals in the city was increasing: horses for transport, cows for milk and for meat, as well as sheep, pigs, and poultry were still raised by town residents (Kheraj 2013). But they were joined in numbers by animals of the herd in transit as freight commodities, the numbers of which were increasing rapidly. As well, by the 1860s two more public market houses were added in Toronto to go along with the St. Lawrence: the St. Andrews Market, and the St. Patrick Market. This was part of the emerging domestic food market.

Moreover the sites of domestic food markets themselves were becoming more significant in their political stature. Toronto’s importance in the circuitry of a domestic

food market grew, and its markets were attracting more people from further afield in the region. The market in the heart of the city, the initial St. Lawrence Market, at the crossroads of rail and port, grew to such importance that it became the City Hall of Toronto in 1845, doubling as the site for both exchange and as the city's central site for decision-making.

At the same time, throughout towns in Southern Ontario the role of merchants began to change as well. Merchants metamorphosed from being primarily an interlocutor between local producers of staple commodities and distant markets into mediating domestic food markets as well. Grocers began to appear, the role of which would henceforth change the character of food distribution. Grocers were food retailers for the domestic market, purchasing wholesale produce from main market squares and from farmers directly to sell to urban residences that lived further at a distance from central markets but were not involved in subsistence food production.

Two kinds of grocers appeared in this period (Winson 1993). The first were groceries selling fresh fruit and vegetables, and semi-processed foods like cheeses, along with imported teas and chocolate. The other retail shops were butchers. These butchers mostly slaughtered live animals themselves. No longer did interior townships where the railroads passed through act merely as outposts for the purchase of wheat and the selling of farm implements. They became sites of commercial operations in their own right. Food retail stores popped up by train stations to serve the non-farm community and their role grew as a mediator between food coming from the country, food staying in town for consumption, and food leaving the town for export.

A national political economic project?

Though the processes that unfolded in this period cannot be considered apart of a designated project of nation building – it being difficult to pin down when after the Act of Union in 1841, the prospect of Canada as a federated nation-state was distinctly foreseen – the foundation of such a project was undoubtedly laid. In fact, conditions by the 1860s made the prospect of confederation, from a settler perspective, seem practically inevitable.

The investment of capital to maintain and expand the centrality of British Canada to transatlantic trade proved to be unsuccessful – ultimately, these efforts were bounded

by geography (Fowke 1957). Despite the expansion north for forestry and mining (with some attempt to encourage farming there as well), and despite the growing local markets, the U.S. by this time was expanding their agricultural frontier west of the Mississippi. British interests to maintain the relevance of passage through the Southern Ontario landscape onward to transatlantic trade were threatened by the perceived limitlessness of American expansion – expansion that was without the physical boundary of the Great Lakes and thousands of kilometers of Precambrian shield rock that any potential British expansion west had to contend with.

Likewise, the initial purposes for encouraging settlement on the Southern Ontario landscape had by the 1860s become there somewhat anachronistic. Decades of settler occupation on the landscape made the established provinces somewhat secure, the border between the Province of Canada and the U.S. mutually recognized and more or less enforced. As well, the simple provisioning of towns by adjacent farms had progressed to the extent that most of the region was enveloped in domestic food markets to some extent. In this way, towns and farms had evolved reciprocally, in mutual relation to each other, as economic activity within the region expanded and diversified. But overall, agricultural settlement in the region had ceased. To the extent that agricultural settlement provided opportunity for commerce, finance, and the growth of industry (at least in Britain if not on the local landscape under colonial conditions), the opportunity on the Southern Ontario landscape no longer presented itself.

By the mid 1850s, the cultivatable land in the Province of Canada was mostly settled. Land prices were increasing, and many farmers were turning to growing crops to feed emerging local and continental markets.

By the 1860s, it looked as if there was nowhere to expand. And as Fowke remarks: colonial vitality in Canada at the time “derived only from an ever-expanding circumference of economic activity” (1947, p.4). But the conditions of colonialism were at once impetus for, and the very circumstances holding back, further expansion.

The Reciprocity Treaty was anticipated as a mechanism for commercial expansion by reorienting commodity exports south, reaching continental markets. But the Civil War that erupted in United States (1861-1865) made its renewal seem unlikely (Fowke 1957). The Province of Canada had tried to expand northward, setting up the

Bureau of Agriculture in 1852, with the nearly exclusive task of trying to attract immigration to land parcels in the northern Ottawa-Huron tract and to link them to mining interests – even offering land to incoming settlers for free who would provision mining camps (Fowke 1957). But these attempts were unsuccessful as such lands were on the fringes of the Precambrian shield and therefore not very fertile. Immigrants from Europe were more attracted to lands in the American west, for which they had to pay, rather than the lands in the northern pine belt they could get for free (Fowke 1957). The potential for continual expansion and attendant investment opportunities in British North America, required another strategy.

The strategy came to depend on a railroad traversing the Precambrian shield – over a thousand kilometers of rock north and west over the Great Lakes. In the face of steady westward expansion of the United States threatening the annexation of lands owned by the Hudson's Bay Company, British colonial expansion westward was perceived as dire and something to be done with haste. But at the same time, the expenditure to do so would be immense, not just in terms of infrastructure, but also to claim the lands that Britain chartered the Hudson's Bay Company to explore, to defend the lands from U.S. interests, and to reshape the extant bio-cultural landscapes of the Indigenous and Métis peoples.

Colonial responsibilities for the expansion were evidently too much for Britain to take on (Fowke 1947; 1957). But British financiers still desired the investment opportunities expansion posed. On this premise, the national project was born: the Province of Canada, in step with British financial interests, sponsored the idea of confederation – proposing the political configuration joining the maritime provinces with the Province of Canada to create a fiscal nucleus strong enough to back British investors expand trade networks to the pacific coast.

Under the framework of confederation, an agricultural frontier would expand, tying new settlement on the North-West Continental Plains to transatlantic using the Southern Ontario landscape an integral hinge. This would affect the Southern Ontario landscape profoundly, proceeding on the foundations of domestic markets forged in this period. As Southern Ontario was integrated into a new institutional arrangement of Canada, as a federated nation-state, it adapted to westward expansion.

3.5 1867-1914: Confederation to the First World War - The Southern Ontario Landscape within the Canadian Nation-State Adapts to Westward Expansion.

Confederation

Under the framework of confederation, the Southern Ontario landscape was incorporated into a federated liberal nation-state. Under the British North America Act of 1867, Canada had strengthened its fiscal nucleus by joining the maritime British provinces and the central Province of Canada into a unified nation-state. It also relieved imperial Britain of the burden to defend expanded territory. The Southern Ontario landscape, with its concentration of settler population, improved farmland and the most dominant port on the north shores of the Great Lakes, was once again provided its own provincial legislature entrenching a more localized form of responsible government, separate from Quebec and the landscapes of other provinces.

But confederation had explicit political and economic intentions (Fowke 1946; 1957). While it relieved Britain of colonial responsibility in the project to occupy territory all the way to the pacific coast, it also prioritized the interests of British capital in the process. Westward expansion represented the opportunity for ample profit in providing transportation for settlers westward and from transporting the agricultural produce of these settlers back east and onto transatlantic trade. It also provided the potential to gain from all of the industrial commodities, like farm machinery, for the grand land parcels on the Great Plains, to be shipped to prairie settlers. There was also money to make in constructing the railway itself, especially as steel manufacturing and industry gained momentum domestically. By 1870, the western territory of Rupert's Land was purchased from the Hudson's Bay Company by the federal government of Canada and the construction of the Canadian Pacific Railway began.

The Southern Ontario landscape adapts to westward expansion

Under confederation, however, not only did railroad development embark north and west, over and across the Great Lakes Basin, but railroad development continued apace within Southern Ontario. In fact, the pace at which hamlets and villages morphed into manufacturing towns only quickened.

Domestic industrial interests were keen to expand rail lines for non-agricultural natural resources, specifically lumber and minerals. In 1868, work was completed on a rail line from Toronto to Lake Nipissing opening the northern reaches of Georgian Bay – what were the traditional lands of the Ojibwa – to mining and forestry. In 1876, lines to Wellington County, Grey County and Bruce County opened up the area below Lake Huron for potential resource extraction as well.

In each instance, the rail line transformed the hamlets and villages they passed through. Each morphed into manufacturing centres, populating the Southern Ontario landscape with more towns. Urban industrial and commercial nodes appeared in increasing numbers. Regional railway lines were moving people and commodities swiftly. Master's refers on the decade between 1865 and 1875 as "The Great Boom Period" (p. 95) on account of the sheer volume of economic development that occurred in Southern Ontario on the back of a regionally expanding railway.

As the movement of timber and minerals progressed, factories and mills popped up in towns along the railway lines, the most significant being for farm machinery, cheese making, and eventually canning and milk production as innovations in the period provided for such technologies at the time. After the first reapers were introduced, for example, labour-saving farm equipment of all kinds were being manufactured domestically, from seed drills to horse drawn threshing machines with different machines appropriate for different cropping systems.

More than just the railway, the recently established federal government encouraged the development of cities. Policies supported industrial development, restricting imports on a wide variety of manufactured goods (Nader 1976). Import tariffs prompted many branches of U.S. manufacturers to set up plants in Southern Ontario. By 1880, practically "every town and important village had a small factory" including foundries for cast iron manufacturing components, or mills for wood parts (Jones 1946 p. 201). By the 1890s canning and processing plants for fruit and vegetables started to open up in Southern Ontario (Gertler 1991). In 1905, pasteurization was introduced, and fluid milk plants further increased factory jobs on the edge of towns (Ankli 1992). Towns grew into manufacturing centres, and urban-rural migration increased as opportunities for factory jobs expanded.

In lock-step with the growth of towns, the nature of agricultural production continued to change. In this period, complex mixed farming systems took over staple-wheat production as the dominant form of farming. Growing domestic food markets and continental trade with the U.S., facilitated farmers to switch to farm systems with greater ecological integrity.

Though the structural foundations for a shift away from wheat production in Southern Ontario toward other “high value” crops took place in the earlier period, especially during the active years of the Reciprocity Treaty (Isbister 1977; McInnis 1982), after confederation farmers in Southern Ontario shifted more comprehensively away from wheat to complex mixed farming systems (Watson 1947). This occurred as the prairies were opened up for wheat production.²⁷ Southern Ontario farmers were unable to compete with the price of wheat imported from the huge farms established on the prairies, on which farmers were aided by labour-saving machinery.

The Canadian Pacific Rail (CPR) opened the agricultural frontier to the west in 1883, servicing Winnipeg. The first shipment of wheat from the western prairies on to Britain through an entirely Canadian route took place one year later. After the prairies were opened for settlement, Ontario’s booming urban centers began to import wheat from the west, not only for further export but for domestic use as well (Watson 1947). Southern Ontario farmers were pressured to shift their production to other agricultural commodities, employing farming systems that diversified the production of high-valued goods like livestock, meat, dairy, fruit, vegetables and tobacco, which were increasingly in demand.

Though Southern Ontario also remained highly connected to transatlantic trade. Not only did Southern Ontario act as a pivot for the yields of agricultural settlement west, the export of agricultural commodities from Southern Ontario farms to Britain remained important, though they changed in kind.

The first commodity, other than wheat, to experience a boom in trade with Britain was livestock. Increasing purchasing power of industrial labour in Britain was increasing British meat consumption. Britain had become

²⁷ Eventually the accompanying rise of a price-making world wheat market reinforced this shift (Friedmann 1978).

increasingly dependent on livestock imports when a domestic outbreak of an infectious cattle disease, pleuro-pneumonia, took a serious toll on Britain's domestic cattle supply in the second half of the 19th century. Evans (1979) accounts that between 1869 and 1876 cattle losses in Britain as a result of the disease were in the millions. The livestock industry in Southern Ontario had developed a lot in the years of The Reciprocity Treaty, but upon its abrogation, farms directed almost their entire cattle production to Britain. After 1879, Britain imposed regulations on any cattle entering Britain to minimize "the bovine scourge" (Fowke 1957; p. 196). But Canada, playing on its close political relations with Britain, skirted these regulations for 10 years by banning transfer of cattle from the U.S. on trade routes through domestic borders. The heightened cattle trade with Britain during these years (between 1879 and 1889) enabled Southern Ontario to maintain a foothold "in the greatest livestock market" in the world until World War One, even as land for cattle ranches was being granted on the prairies (Evans 1972).

Moreover, cheese and butter trade was equally as integrated with Britain as was cattle. In 1877, special trains with refrigerated compartments started to operate between Stratford, Ontario and Montreal. Once in Montreal, the cheese was transferred to ships with special cold compartments destined for Britain. By 1881, cheese was the most rapidly growing component of Southern Ontario agricultural production (McInnis 1982). By 1890, 80% of cheese production was exported, primarily to Britain on specially equipped ships (Ankli 1992). From the 323 cheese factories in Ontario in 1873, the number grew to 1237 factories in 1906 (Cohen 1988).

The colonial approach to "Indian Policy" also remained committed to undermining the livelihoods of indigenous people in the new framework of federalism. In fact the approach was only invigorated, and with often lethal results. The federal government assumed full responsibility of relating to and administering indigenous communities, establishing the Department of Indian Affairs. They soon began residential schools for indigenous youths, attempting to culturally extinguish First Nations' connection to the land. In 1874, the

federal department set up the Shingwak Home for Indian Boys and Wawanosh Home for Indian Girls in Sault St. Marie, a settler town near the Indian Reserve on Manitoulin Island (Rogers 1994). Indian residential schools, along with day schools, developed to sever the continuation of Indigenous cultures, removing children from their families and communities. In an amendment to the Indian Act in 1884, attendance in residential schools became compulsory. In these schools students were forbidden to speak their languages or practice any part of their culture, and in many cases were given vocational training, including European style farming (Rogers 1994). Catholic and Protestant churches played a large role in the administration of these schools, practically competing with each other “in the race for Native converts” (King 2010, p. 109). Conditions and discipline in these school were so harsh, however, that Indigenous youths perished either in custody of the schools or in the cold trying to escape them.

Evolving foot-prints, evolving relationships

Both farms and cities in this period adapted to westward expansion and economic development under the framework of a federated nation-state, the foot print of each on the Southern Ontario landscape changing. The evolution of these foot-prints, however, remained reciprocal, in mutual relation to each other.

Apart from the initial garrisons and ports, the spatial parameters of towns themselves were the products of subdivision. Subdivision in this period proceeded as an unfettered practice in relation to the *fee simple* tenure arrangements in which property owners came to occupy the land. Subdivision had been considered a simple extension of one’s rights to private property (Hodge 1991). The act of partitioning one’s parcel into several lots with independent status as smaller, alienable, units of property had been recognized as the prerogative of the landowner.

As railroad development exploded in the first decades of this period, each instance in which hamlets and villages metamorphosed into towns proceeded similarly (Hodge 1991). A rail company purchased land through which their track would cross. Boosters, who in many cases were the individuals who received the initial and largest land grants, lobbied rail companies to place train stations on their land. Once stations were secured,

the same boosters provided building lots around the stations by subdividing their parcels to make room for village stores on one side of the tracks, factories and warehouses for industry on the other, along with lots for housing in the surrounding areas, as they were required.

As industrial development in towns progressed, the populations of these urban areas swelled. Many have attributed the waves of farmers leaving their farms for the city to the effects deforestation and soil degradation (McCallum 1980). This was surely an aspect of it. On poorer soils, farmers could be “out-competed” in supplying new and different kinds of markets. Watson (1947) argues, however, that beyond farmers leaving farm livelihoods because of marginal land conditions, social factors also induced this migration off the farm and into towns and cities. Urban centres offered a “pull” factor on the landscape, attracting whole farm families enamored with “the city idea” and the spread of city services (Watson 1947, p.148). With continuing off-farm migration and the swelling urban populations, the demand for housing in urban centres skyrocketed, expanding their spatial foot print.

The ecology of towns and cities continued to change. One aspect of this change was the interactions of humans with non-human species within them, in relation to their growing populations, expanding built form, but also the way in which food was being produced and distributed. This is illustrated by Toronto’s population of cows: in 1871 there were over 1000 cows in the city, in 1891 there were half that number, and by 1911 cows numbered in the dozen (Cohen 1988). Compare this decrease in the number of cows to the number of butcher shops appearing, and they were increasing in the same period. By 1880 there were 165 butcher shops listed in Toronto, and as Kehraj explains “the geographical distribution of butcher shops in Toronto reveals that these shops spread with the growth of the city” (p. 133). But urban growth did not displace animals entirely; rather it changed the composition of animals present. The number of chickens in Toronto, for example, increased to over 20 000 by 1914, living in people’s backyards (Keraj 2013).

Such changes in urban centres reflected several changes in rural areas. Despite the migration out of rural Southern Ontario during this period, overall cultivated acreage did not decrease. Rather, between 1871-1891 there was a steady increase in the size of both land holdings, and the proportion of cultivated acres within each holding (Par 1985).

In moving away from wheat, farmers looked to tailor their farm enterprise to other thriving food markets. Each remaining farmer could potentially engage in a whole range of tradable goods for either expanding local markets or for export. After the regionally comprehensive shift away from wheat, therefore, competition among farmers in the other agricultural products increased.

Competitiveness of farm operations in relation to the new markets for agricultural commodities in the late 19th century depended on several factors: on soil fertility, access to markets, and ability utilize farm machinery effectively (Par 1985). This contributed to two tendencies of farm enterprises: farm consolidation, but also regional specialization.

The dynamics of vegetable growing, as well as in livestock and meat production under the new market conditions illustrate the variables contributing to farm consolidation.

With more ample urban centres on the landscape, vegetable growing became profitable in more places outside the tight-knit radius of more urban communities. But also, and just as significant, canning factories became huge purchasers of single crops – not simply of a variety of vegetables such that could end up wholesale for fresh produce in retail markets, but of single fruit and vegetable commodities. Growing for processing markets also meant that a large amount of the same crops were needed year after year. For farmers to outcompete other farmers for potential (and the most consistent) outlets for their farm products, farmers started to procure as much good land as they could cultivate, both if they were located on the fringes of booming towns, or if they found themselves close to where canning facilities located – like in Prince Edward County (a small peninsula on the north-west shores of Lake Ontario) where many canning facilities located in the 1880s. Competition among farmers in these sub-regions prompted farmland consolidation (Par 1985). As for livestock, with the increasing markets for livestock in export to Britain farmers increased the size of their herd. Farmers looking to maintain the biggest herds required increased supplies of fodder. They subsequently invested in farm machinery and in additional farmland to supply their own.

Along with consolidation, farms also began to specialize in relation to sub-regional growing conditions and market access. Striving to outcompete each other under new market conditions, farmers specialized in what their landholding could best produce.

In this way, farms began to concentrate on commodity production that best suited the ecological zones they were located in, emerging sub-regions dedicated to particular *kinds* of agricultural production. Just as the agricultural settlement in the prairies opening it up to become “the great granary” (Masters, 1947, p. 172), districts in Southern Ontario began to achieve their own distinction in special branches of agriculture. For example, the Niagara region south of Hamilton became known for fruit, central Niagara peninsula and north of the Thames river for cattle rearing, south of Lake Simcoe for market gardening, and Hastings county east of Toronto and toward Kingston for dairying (Jones 1946).

This regional specialization however, occurred along a second axis as well – in relation to distance from urban centres and/or processing facilities. This axis was more relevant to the production of some commodities than for others. For fruit and vegetables this axis was relevant, link in relation to canning facilities in Prince Edward County and as well in the areas surrounding Toronto that became engulfed in market gardening. Another interesting example, and particularly significant for organization of agricultural production in later years, was dairying.

With cheese and butter factories increasingly dotting the Southern Ontario landscape and the urban form taking shape around manufacturing centres, the dairy industry had specialized into two streams: *fluid* milk to be sold fresh as milk and cream, and *industrial* milk to make butter, cheese, ice cream and powdered milk (Lawr 1972; Mitchell 1975; Ankli 1992; Winson 1993; Ebejer 2010).²⁸ After the introduction of bottling and pasteurization in 1900 and 1905 respectively, fluid milk processors set up in urban centres to provide milk to urban residents. This distribution, however, was highly site specific, as glass bottles of milk – distributed through home delivery, to be returned and refilled – were aspects of fluid milk production still bound by distance. The location of processing of fluid milk was constrained by proximity to urban residents. The

²⁸ The distinction between *fluid* and *industrial* milk only became formalized with the introduction of regulations regarding each production process in the early 20th century. Each came to fall under separate regulatory jurisdictions: fluid milk under provincial jurisdiction because it was traded only within provincial boundaries, and industrial milk under federal jurisdiction because the end products of industrial milk (cheese, butter etc.) were trade interprovincially and internationally. The initial bifurcation of milk into two distinct commodity streams began in this period, earlier than the formal recognition of either fluid and industrial milk in terms of policy might suggest (Mitchell 1975; Ankli 1992; Winson 1993).

distribution of cheese and butter on the other hand, as commodities, were less restricted by distance, enabling cheese and butter to locate further from towns, as they had been throughout this period –the factories for cheese and butter scattered across the landscape.

The locational distinctions among the processors pervaded into distinction among producers, producing milk for either the fluid or industrial streams. Although fluid and industrial milk is essentially the same commodity, they came to differ in both production costs and market price for the two end uses of the product. Producers for fluid milk concentrated around towns, close to pasteurizing and bottling facilities. This meant, however, that farms producing milk for the fluid stream incurred higher costs of both land and labour, relative to producers of milk whose product could not reach the fluid milk market. Land values were higher relative to other land further away. Moreover, dairy remained a labour intensive operation, milking technology not yet introduced. Farms in proximity to urban centres meant that wages had to compete with the wages of other manufacturers. To compensate for the higher costs associated with fluid milk production; milk for the fluid stream fetched higher prices than milk for the industrial stream. In spatial terms however, producers of milk for the fluid stream tended toward increasing size and specialization, appearing adjacent to town centres. Producers of milk further afield of towns and cities, on the other hand, continued to sell their milk to cheese and butter factories. Producers of milk for the industrial stream did not specialize as much in milk production as did producers for the fluid milk stream. In fact, to the contrary, farmers for industrial milk tended to have fewer cows, individual farms producing less milk as a component of their overall farm production. Though combined, much more milk for the industrial stream was being produced on the Southern Ontario landscape all together.

In these ways, the evolution of farms, in terms of consolidation and regional specialization, and cities, in terms of their growing populations and increasing opportunity for wage labour in food processing and manufacturing, was reciprocal – the change in one realm entwined with changes in the other. This evolution, however, hinged in this period on an increasingly active land market, which in no small part was invigorated by the westward expansion of the nation, and the incorporation of continental lands into the Canadian land market as the agricultural frontier expanded.

The processes unfolding in this period increased the amount of both willing sellers and willing buyers of land. The opening of the prairie lands to settlement after 1883 provided many farmers the opportunity to sell the land they had acquired, to purchase (potentially larger) tracts of land out west. This was not uncommon. Not only did one often gain a profit exchanging through the market a parcel of land in Southern Ontario for a parcel of land in the prairies. But farm households familiar in the ways of wheat growing were presented the opportunity to continue growing wheat, a crop they were most familiar with. Between 1881 and 1891 alone, the farm population of Ontario fell by 180 000. Of which 120 000 farmers and their families left Southern Ontario for agricultural prospects in the Canadian prairies and mid-western United States, while 60 000 migrated to Southern Ontario towns and cities (Watson 1947).

Among willing buyers of land, were land seekers looking to profit from the conversion of land to urban related uses. As more urban housing was demanded in towns and cities, those looking to fulfill it were purchasing more land around the extant built form of urban centers. Simply the anticipation of the growing urban foot print increased the amount of land in the hands of speculators. Though other farmers became willing buyers of land as well be it the farmer looking to increase their herd of livestock, acquiring land for fodder through purchase or rent, or farmers looking to gain more fertile land for vegetable growing. Nevertheless, the dominant characteristic of this invigorated land market was the increasing price of land, as towns and farms changed and the Southern Ontario landscape adapted to western expansion.

Rumblings of crisis

By the end of the 19th century, the dominant processes in this period facilitated by the institutional framework of confederation started to waver. The velocity of evolution of farms and cities by the end of this period is considered by the declaration of a “land boom” on the Southern Ontario landscape in the years 1890-1913 (Hodge 1991, p. 91).

The volatility of the transatlantic trade networks in the years leading up to the First World War drastically affected commercial activity in Southern Ontario. Agriculture producers, food processors and manufacturers all suffered as a result of unstable export markets. That farmers in Southern Ontario began to tailor their production to specific

kinds of markets left them particularly vulnerable. But along with all of the changes that had taken place on farms economically and geographically, farmers as a political force began to articulate their demands differently.

With consolidation and regional specialization of farming, farmers in Southern Ontario were no longer a homogenous group producing the same commodity. Rather, as farmers began to dedicate themselves to distinct commodities like fruit, vegetables, livestock, dairying for either cheese or milk, or other cash crops like fodder or tobacco, they started to organize themselves to pursue distinct social, political and economic interests. So much did the interests among farmers begin to diverge that J. J. Morrison, farmer leader and boisterous proponent of agrarian interests in the early 20th century lamented that the emergent heterogeneity of farmers had blinded them to the “broader bearing” of a unified farm movement (CTE Morrison ctd. in Johnston 1990, p. 238).

In the urban context, faults were appearing on the landscape in relation to town construction. Hodge describes the maddening pace of subdivision as it unfolded after 1890:

“Such old land grantees as the Canadian Pacific Railway, The British American Land Company and the Hudson Bay Company became more aggressive in their efforts [to provide building lots], often to the extent of influencing the location of municipal development. On a smaller scale, but equally pervasive, were a coterie of individual landowners (large and small), their agents and brokers all anxious to share in the potential profit of new growth.” (1991, p. 92)

Subdivision more often began to occur on terrain incongruent with existing built-up areas. Many speculators subdivided plots further away from already established municipal utilities so as to invest in cheaper land in anticipation of higher profits.

But rampant subdivision was stretching municipal resources. The Province of Ontario, enabled by the federal framework of the BNA Act of 1867, had designated municipal authorities the responsibility to provide services to property, inclusive of roads, water, sewage, and fire protection. Correspondingly, the province designated property taxes as the only source of revenue municipalities had to pay for the services to property they were responsible for. As subdivision proceeded unrestrained, municipalities were left to connect these neighborhoods with services, no matter if their location was

incongruent with already built service areas of the municipality or not. From 1890 to 1913, municipalities found themselves competing to extend utilities and services further and further into their immediate hinterland (Hodge 1991). Those that hesitated to make these expenditures often found building and associated tax revenues going to adjacent municipalities, practically forcing them to stretch their resources to further and often erratic reaches. By extending services, however, they were out on a limb financially until the value of these lands appreciated enough for tax revenues to recuperate the cost.

Moreover, there was corruption. Wolfe (1994) describes how the roles of both the speculator and the developer often overlapped. The advent of electric tramways, for example, running in Toronto as early as 1892 allowing housing of factory labour to be built further from the location of factories themselves, meant that the entrepreneurs who built them could simultaneously buy up all of the land around their projected line and subdivide it, “thus reaping benefit from both land sales and the transportation systems” (Wolfe 1994, p. 14).

Pollution was an aspect of ecological change within urban boundaries signaling fissures in city construction. Pollution from industry along with growing slums and shanty housing, had many people in urban environments living in squalor. As early as 1897, cities were enabled by the Province to authorize districts where certain industries were unable to locate. Butcher shops and the ability for cattle to roam the streets also became increasingly regulated (Keraj 2013). These were initial attempts to manage the noxious effects of industries like slaughter houses and tanneries in urban areas, in efforts to curb the negative environmental impacts of industries that were exacerbating issues of public health (Hulchansky 1982).

As political power and attention increasingly derived from, and focused on, the arrangement of farms and towns, demands started to cry out for the power to rearrange them. When buyers of urban land stopped, as it did after 1913 when international markets collapsed, municipalities were left in financial ruin. Similarly farmers were left in no better personal position, many having invested in both land and machinery to produce products for markets hardly expressing any demand. Municipalities began to demand for provincial legislation to enable them to direct urban expansion that they were being held responsible for. Farmers on the other hand, began to organize into commodity groups, to

better position themselves in relation to the markets they had come to serve. It is in the fray of institutional reform that the recognition of the primordial relationship between food lands and urban settlement was lost.

3.6 1914 -1947: Creating the Urban Rural Divide - The Foundations of Urban Planning and Agricultural Policy in Times of Global Crisis.

Sprouting the urban-rural divide

The period between 1914 and 1947 witnessed, along with two World Wars and The Great Depression, the beginnings of the urban-rural divide. Among broad institutional reforms that took place in this period, the primordial relationship between farms and cities, grounded in ecological management of the landscape and in food provision, began to be ignored. The relationship between food lands and settlement did not cease, but rather it was overshadowed by the perceived needs of capital in either the urban or rural realm, shaped in the context of war and economic depression. The relationship itself also evolved becoming ever-more grounded in market-relations – more than in a market for land, but in increasingly elongated commodity supply chains.

The urban-rural divide emerged through regulations and policies of many kinds, but to a large extent unfolded in the context of two specific paths of institutional reform: One that endeavored to formalize the processes of city building, particularly in response to rampant subdivision and concerns over urban pollution and public health; Another institutionalizing agrarian power, developing a framework of interest inter-mediation between farmers, processors, and government, in which agricultural policy came to be formed. Both paths of institutional reform represented a continuation of social and ecological organization on the landscape in terms of markets: along the lines of capital, investment, and trade, maintaining liberal notions of private property rights. However, each diverged along separate trajectories, attuned to matters either of urban settlement or of rural farms as they endured in this transitory period – each institutional path facing separate challenges, interests and objectives.

Formalizing city construction

Volatility of the transatlantic trade networks in the years leading up to the First World War had drastic effects on commercial activity in Southern Ontario. This had affected municipal authorities in a particular way. By 1913, the rush of migrants to towns and cities had slowed. Few were buying up the abundance of smaller lots that had been

made available through the rampant subdivision occurring since the 1890s, and local authorities were left unable to recuperate costs of extending services (Hodge 1994; Wolfe 1994). As early as 1912, municipalities began demanding that the Province of Ontario provide them with mechanisms to control subdivision activity. Municipalities argued that local authorities required the ability to manage development pressures to avoid financial ruin, and so they needed planning-enabling legislation from the province (Hulchansky 1982). In that year, the Ontario legislature passed *The City and Suburbs Act*. The Act enabled cities with a population of 50 000 or more to draw up subdivision plans.

This Act was a small step to formalizing city construction. While it did enable, it at the same time inhibited the authority of municipalities to control subdivisions. Subdivision plans were essentially designed to harness previously extended private property rights, but only under certain conditions. Though the new tool to dictate suburban design was established, it was only extended to municipalities of appropriate size – only Toronto, Ottawa and Hamilton had a population of 50 000 at the time. And while it did provide for planning activities – enabling select municipalities to designate the location and design of suburban neighborhoods, including the number and size of lots, open spaces, and to reserve terrain for the placement of utilities like arterial roads and other infrastructure – it restricted these activities to a suburban ribbon between the existing urban boundaries outward eight kilometers. In setting the conditions under which municipal authorities could control subdivision activity, the province was careful to keep in check what they considered to be a re-interpretation of private property rights, mindful not to be construed as overbearing (Hulchansky 1982). Probably the biggest limit to local authority in regards to subdivision planning, was the creation of the Ontario Railway and Municipal Board (ORMB). The ORMB was created as an arbitrating body through which the provincial government could scrutinize subdivision plans with higher authority.²⁹

These conditions, however, had unintended consequences, particularly in regards to the pace and character of farmland conversion to other settlement-related uses outside of the urban ribbon. That the authority for subdivision planning was only granted to municipalities of a certain size, the majority of municipalities on landscape (most being

²⁹ The Ontario Railway and Municipal Board (ORMB) is now known as the Ontario Municipal Board (OMB).

under 50 000 as of 1912) were left unable to control the general expansion of the built form around their boundaries. Even though they had been experiencing the same erratic encroachment of the urban expansion onto farmland that larger municipalities had been experiencing (Nader 1976).

And more than outside of the major cities, that subdivision control was granted only within suburban ribbons, the rights of land owners within the boundaries of the largest cities to sever their property were not limited either.³⁰ As of 1912 there were still many farms within the boundaries of the biggest cities persisting on the initial 120 or 200 acre parcels (Kheraj 2013; Drummond 1997). *The City and Suburbs Act*, however, provided no authority to municipalities to maintain land parcels intact within them.

Overall, the *Act* did not go very far in enabling municipalities to comprehensively plan development and growth of cities both inside and outside the built form of the existing urban areas. What it did do was appease many who thought a practical solution to the problem of unchecked subdivision and inefficient public expenditures was required (Hulchansky 1982). Though how the character of subdivision control came to effect farms went unrecognized. In this manner, the process of subdivision control unfolded with an intrinsic urban bias, with little consideration of food lands.

Significantly, this bias was carried forward into subsequent legislation. Five years after the *City and Suburbs Act*, in 1917, the Act was reformed and renamed the *Planning and Development Act*. It provided the option for municipalities (again only those of a certain size) to form a town planning commission, permitting them to create a general plan. In a general plan, cities could specify the kinds of land uses appropriate to specific districts within their boundaries – the practice came to be known as zoning. This did provide more policy space for sufficiently large municipalities to plan the city as a whole, as opposed to simply planning within a suburban ribbon. But again, concerns for the integrity of the land market prevailed over the ability of authorities to actively plan for land use more broadly on the landscape.

³⁰ To sever a parcel means the same as to subdivide it: “authorizing the separation of parcel in order to create [another] lot that can be conveyed [separately]” (Caldwell 2002, p. 3). Subdivision came to refer to process outside of the city and as part of the urban expansion, while “to sever” came to refer to the similar act within the built form already (*ibid.*)

Similarly to the development of subdivision controls, the opportunity for a town planning commission and the ability to instigate a general plan was not extended to smaller municipalities. Nor for that matter was any general plan enforceable by legislation. Also, along with subdividing and severing property and attempts to regulate these practices, ultimate scrutiny of attempts to design the urban form through zoning remained in the hands of the province. Again, the province was wary of permitting intervention in the land market and the ORMB retained its position as arbitrator, exercising “effective control of development” inside and adjacent to municipalities (Hulchasky 1982, p. 32).

While the legislation to permit zoning was enacted in 1917, town planning commissions did not practice more comprehensive zoning until much later in the period. Early ability to regulate structure height and density on a parcel was authorized by way of restrictive covenants, placed directly on the title of properties. Ostensibly early restrictive covenants were justified with concerns of public health, including fire safety, though as they varied from lot to lot many recognize the practice of levying restrictive covenants as a means to maintaining property values (Moore 1979). Toronto did not pass a bylaw specific to zoning until 1936, and even then it was more just a catalogue of existing restrictive covenants (Van Nus 1979).³¹ Throughout the province, it was often the case that even where zoning restrictions in the form of bylaws were enacted, they were highly amenable to spot-zoning, often changed to suit prevailing interests in any specific lot (Van Nus 1979). Even when plans were drawn, they remained loosely enforceable and spottily enacted. Toronto drew up six general plans for the city between 1911 and 1944, which had little influence on zoning patterns (Moore 1979).

With these reforms formalizing city construction, the construction of cities lost its concern for how urban residents were to provision food, while property rights and how a person’s equity in property would be maintained was prioritized.³² Wolf (1994) describes the practice of urban planning in the period to be an entirely reactive process. Zoning for residential, commercial or industrial areas, as they emerged within existing city

³¹ Kitchener passed what is considered to be the first zoning bylaw in Canada in 1924 (Wolfe 1994).

³² Equity in one’s property is the equivalent to the market value of property subtracting the outstanding balance of one’s mortgage. Urban planning regulations such as zoning came to be interpreted by many as an encumbrance – a regulation not prohibiting the passing of title on to another, but diminishing the property’s market value – thereby diminishing one’s equity in the property (Osterhoff 1979; Ziff 2010).

boundaries or in new suburban developments, were seldom categorized until predominant tendencies of land use in these areas were established. That land had been used predominantly for agriculture prior to subdivision or severance had little influence on the outcomes of land use after subdivision or severance took place, or for that matter, on any proposed designation of land use within the urban form. Throughout the period, the prevalence of food lands in and around concentrated settlement was lost, as designating land for farming was treated as the residue of a past development cycle (Hodge 1994).

Amid the years of the Great depression and the Second World War, tensions between the demands for overarching city design through subdivision control and zoning on the one hand and demands to maintain the integrity or unencumbered workings of the land market on the other, continued. As a result, those working in the Town Planning Commissions came to take a more managerial role. With little sway over eventual land use, planners exercised their role by focusing on the design of arterial roads and the placement of public infrastructure, with an eye particularly to facilitating the most efficient movement of goods and people (Van Nus 1976; Hodge 1991; Ward 1999). As automobiles became increasingly used, the view of the city as an efficient, functioning unit only became more embedded in planning practice. With automobiles, furthermore, suburban life came to have great public appeal, and vehicular traffic on city freeways became increasingly demanded, again corresponding with the smooth flow of goods and people within city boundaries. The *Planning and Development Act* remained unchanged until 1946.

Institutionalizing agrarian power

Volatility of both international and domestic markets in this period, with them collapsing first in 1913, gaining momentum in the wake of First World War, only to collapse again in The Great Depression (1929-1933), affected the livelihoods of farmers drastically. The market conditions, to which farmers had tailored their agricultural production, were changing, and not always in ways advantageous to farmers.

Canning is a good example. Though the industry was first characterized by a large number of small firms, dominant canning enterprises in this period were emerging (Gertler 1991). In the face of market volatility, some individual canning factories faced

bankruptcy, while other firms in the canning industry were organizing syndicates to lower costs of manufactured inputs like boxes and aluminum cans. In 1915, Dominion Cannery Ltd. – an amalgamation of seventeen independent canners – started to purchase more independent canning operations, gaining substantial control in the industry by removing competition (Winson 1993). Many of the operations purchased by the Dominion Cannery were closed as soon as they were bought.

By the depression era, 50 more independent canners were consolidated into Dominion, forming Canadian Cannery Ltd., which by some reports made it the most “dominating position among canners” in both domestic and transatlantic markets (Winson 1993, p. 99). This had the effect of enabling canners to wield concentrated power in the markets for fruits and vegetables to the extent that no single actor could have ever done before. Not only could they begin to set prices that farmers received for their goods,³³ they also demanded orders of a particular commodity like peas, carrots, or potatoes, in so great a quantity that a single farmer could not fill the order.

The changing market conditions interacting with the social, economic and geographic legacies of agricultural commodity production in the previous period, gave rise to farmers organizing along commodity lines. Farm lobbies emerged that worked to entrench themselves in policy formation and state decision making (Badgley 1996).

Starting before World War One, agricultural producers began to organize themselves into producer-run cooperative marketing associations. Organizing in this way enabled farmers to meet demands of processors, but also endeavored to increase their bargaining position in the sale of their produce. These associations quickly began to lobby government for support in pooling resources together among them. But overall, in the first decades of these cooperative marketing associations, engagement of farmers was limited. Participation was not mandatory, and there were many instances of larger farms refusing to oblige cooperative support, instead engaging with processors on their own, often undercutting cooperatives’ prices (Gertler 1991).

It was not until the collapse of international and domestic markets for agricultural products during the depression, that farmers converged around demands to increase state

³³ Cannery lowered prices they gave to farmers when their revenues declined after the 1929 market crash (Winson 1993)

intervention in support of cooperative marketing legislation. In 1934, the *Natural Farm Products Marketing Act* was the first legislation mandating compulsory marketing boards in Canada.³⁴ This legislation was quickly reformed to embed marketing legislation at the provincial level, and in 1937, the *Farm Products Control Act* in Ontario enabled compulsory marketing boards to establish on the Southern Ontario landscape. The first marketing boards emerged for several fruit and vegetables, as well as dairy, and tobacco (Gertler 1991).

The formation of marketing boards in this period instilled amongst farmers political consciousness along commodity lines. Farmers to organized into commodity groups based on the fact that farmers were tailored to specific markets corresponding to sub-regional ecological and market conditions. Not only were they often neighbors in sub-regions but also they were more greatly invested in land and machinery in ways most similar to other producers specialized in the same commodity. As Badgley notes, as farmers organized into distinct groups of specific commodity producers, cooperative marketing associations can be considered the “cornerstone upon which agrarian populism was built” (1996, p. 165). Commodity specific cooperative marketing associations came to be the organizing principle through which farmers advocated for farmer-supportive policy. In establishing these coop marketing associations, however, farmer interests came to be articulated in the relation to their markets position. Therefore the market interests of farmers came to be prioritized in their demands, as opposed to considerations of ecological conditions that had equally played a role in orienting those shared market interests in the first place.

As the government engaged with marketing associations, delineated along specific commodity lines, it mediated farmer interests directly in relation to processors. Gertler describes the framework established in this period to mediate farmer-processor relations as “a corporatist structure for interest intermediation” (1991, p. 235): a form of corporatism applied to a particular sector or sub-sector of the economy. The structure appeared on the Southern Ontario landscape as a triangular institutional relationship between the provincial agricultural ministry, farmer-run marketing boards, and a business

³⁴ This legislation followed similar legislation in Australia, the first country to enable mandatory marketing boards in 1925

organization representing processors. This was mimicked at the federal level in commodities that fell to the federal government to regulate.³⁵ And it is through this kind of corporatist three-corner structure – with negotiations between a strong state agency, a business association representing capital, and organized farmers – within which agriculture policy came to be negotiated, both in Ontario and across the country.

In this framework agrarian power was institutionalized, however, farmer interests became tempered in the face of capital interests. The demographics on which the governments, both provincial and federal, gained their mandate were shifting. It is roughly in this period that demographics of both the Southern Ontario landscape, and the country as a whole, started to shift in favour of urban communities.³⁶ In relation to this shift, governments worked to mediate the interests of farmers with the interests of urban consumers and those of the processing and manufacturing industries that were principle employers in the towns and cities.

The interests of farmers and producers were often secondary to that of processors (Badgley 1996). For example, though compulsory marketing boards were enabled provincially by the legislation in 1937, the dominant type of marketing board to emerge on the Southern Ontario landscape was that of the “negotiating agency” (McMurchy 1990). “Compulsory cooperative” marketing boards would have provided effective monopoly power to producers. By contrast, negotiating agencies acted more like arbiters in setting the prices for commodities between marketing boards and processor representatives. Negotiating boards would oversee the creation of “marketing plans” setting the terms in which contracts are negotiated between individual farmer and processor, rather than setting the price of produce.

Moreover, government support to farmer associations was only lent in ways that accommodated capital interests. For example, in providing physical and institutional infrastructure, such as cold storage facilities, grading, and inspection, reforms were established that suited both marketing needs of farmers and market efficiencies for processors. Such reforms rationalized the price and quality of goods making supplies for

³⁵ Commodities traded within a province fell under provincial jurisdiction, while commodities traded predominantly inter-provincially or internationally fell under federal jurisdiction.

³⁶ Provincially, the 1911 census shows over 50% of the population in Ontario living in urban communities, federally, this shift to urban majority is not shown until the census in 1931 (Statistics Canada 2011).

processors more stable, and it furthermore helped to accomplish government objectives of increasing domestic and international trade (Gertler 1991). This is in contrast, however, to efforts of farmer associations that did not succeed. Badgley (1996) points out, for example, that farmers attempted in the 1920s and 1930s to organize buyer-cooperatives to reduce costs of farm machinery and other inputs. However, these cooperatives never received the same supportive legislation that marketing cooperatives received. The lack of state support for farmer buyer-cooperatives, Badgley insists, illustrates how state priorities for policy formation tended to align more directly with processor and manufacturer interests than they aligned with the interests of farmers.

Federally, the corporatist framework unfolded similarly. Building on the ideas of the national project in the 19th century as market conditions changed in the first half of the 20th century, Skogstad (2008) suggests agricultural policy in the interwar years came to be justified through tropes of self-sufficiency. With the transformation of landscapes in the western half of the continent practically complete – generally re-organized for wheat and cattle production by the 1920s (Fowke 1946) – along with the fall away of Britain as a dominant purchaser of Canadian goods including wheat, beef and cheese (Friedman and McMichael 1989), ideas promoting Canada as a nation with regionally organized, reinforcing economic sectors, were developing.

In this period an overarching national objective developed to orient everything from agricultural production to freight to finance in support of an internally organized national economy (Fowke 1957). One example is the transportation subsidy for prairie grains to help dairy and meat production in the east. These subsidies were legislated in *The Feed Grain Freight Assistance Act* passed during the Second World War (Skogstad 2008). This example of agricultural policy formed within a national corporatist framework, did just as much to support farmers across the country (linking wheat farmers in the prairies to livestock farmers in Southern Ontario) as it did to support the railway companies (with public funds) and the meat packing and dairy processors (with subsidized commodity inputs). Meat packing and dairy processors especially gained, however. Located primarily in Southern Ontario, they often leveraged their concentrated market power in these agricultural processing sectors to realize more of the potential

gains of this subsidy in relation to livestock and dairy farmers, further squeezing prices given to farmers in return for their products (Mitchell 1975; Winson 1993).

Federal and Provincial agriculture policy often supported each other. Provincially in Ontario extension services supported farmers providing research on produce varieties, husbandry practices, and irrigation technologies (Jones 1946). Money, however, was most often supplied to marketing associations for this research, which aimed to increase production (Buckley and Tihanyi 1967; Bagdley 1996). Federal support, meanwhile, provided subsidized credit opportunities to farmers through *The Farm Improvement Loans Act* (1944), providing farmers with short term loans to implement the research of provincially financed extension services (Skogstad 2008), though the fertilizer and farm machinery required to go along with seed varieties and irrigation practices that were developed through this research were often only available through private companies (Mitchell 1975; Winson 1993).

Overall the support provided to farmers in the context of market volatility was provided only to the extent that the particular policy responded to grievances of both farmers and the interests of capital – processors, manufacturers, or the railway alike. Market processes were always prioritized over responsibilities to manage soil, water and other aspects of landscape ecology. A final example is provided in the way that subsidies were eventually provided to shore up net farm incomes. With much of the support having lent to farmers only increasing their production capacity, while not attending to falling rates of return for the product, the federal *Agricultural Prices Support Act* of 1944 established commodity specific government bureaus to act as a kind of purchaser-of-last resort for farm products. These “price-support” or “stabilization” boards as they came to be called provided floor prices for several agriculture commodities, mediating sales when the market price fell drastically, providing the difference between the floor price and the selling price to shore up incomes for farmers.³⁷ Stabilization boards were established only for commodities regulated by the federal government, including industrial milk, corn, soy, slaughter cattle, hog, sheep, oats and barley. Little consideration was given to the implications that falling agricultural commodity prices had on land use practices, as

³⁷ The *Agricultural Price Support Act* resembles programs the United States had been undertaking since 1933 to “stabilize, support, and protect farm income and prices” (USDA, ND). A purchasing desk was incorporated as the Commodity Credit Corporation (CCC) in 1948.

farmers were encouraged to produce higher yields as efficiently as possible with the specific floor price guaranteed. Moreover, with support for farmer incomes established in this way, the costs of supporting farmers was born by government, and not privately, either by processors and manufacturers – the urban consumer responsible to pay for farm income support through government tax dollars if not by direct food purchasing. The environmental impacts of food production on the landscape, hardly considered.

The obscured but persisting relationship between farms and cities

The divergence in the institutional processes of managing urban settlement and rural farms, however, did not cease the evolution of each in relation to the other – the persistence of their primordial relationship evident in the changing nature of food provision and ecological management practices. Zoning, for example, contributed to changing the way urban populations interacted with food they ate.

Provisioning meat, for instance, though one could still purchase live animals at the St. Lawrence market in Toronto in this period, it became far more common for animals to be slaughtered, processed and packed for sale in meatpacking facilities, and sold cut and packaged through retail butcher shops. Large meat packing facilities had already emerged in Toronto by the turn of the century. One of the largest, an off-shoot of William Davies & Company had a capacity of nearly half a million hogs per year by 1900 (Kehraj 2013). Driven by public health concerns over the various small abattoirs amongst neighborhoods in Toronto, however, the city opened a large-scale public industrial slaughtering facility in 1914, opening the Toronto Municipal Abattoir west of the St Lawrence Market but still close to the harbour. The municipal abattoir facilitated the dwindling of independent butcherries that slaughtered fresh meat within neighborhoods. After 1914, thousands of animals were coming into the city, but they were shipped and herded straight to meat packing facilities. The locations where these plants were established became the “industrial zones” of the city, with meat rendering plants often adjacently located on site. At the same time, many of the sites within the city that became “residential areas” had zoning regulations restricting the ability for properties to keep large animals. Butchers that were generally abattoirs themselves were restricted from slaughtering animals on site in residential areas. Urban residents came to no longer

live within sight or smell of animal slaughter, as meatpacking and rendering plants and the racket made by transporting livestock and other wholesale goods were zoned out of sight. There was little mediating space reserved or created allowing animal husbandry and slaughter in the city to continue in any semblance to the way it had been practiced before.

Correspondingly, with the rise of low cost dressed meats from meat packing plants that could be timely delivered, a new kind of retail outlet emerged. Combination stores, selling both groceries and dressed meat started to appear in this period (Winson 1993; Kehraj 2013). In the Great Depression, the character of retailers shifted even more. Starting in 1925, many retail outlets were going out of business and being replaced by retailers pursuing economies of scale. Single companies started to buy independent retail outlets, integrating the wholesale and retail businesses. This was the introduction of chain retailers. The concept worked, Winson explains, “because retail chains achieved greater buying power...and were able to outcompete on price the small independent grocers” (1993, p. 161). Though it was not tidal displacement of independent grocers by retail chains, the largest expansion of retail chains took place in this period. The picture Canada-wide shows that by 1941, chains had over 25 percent of the retail food market, while only five percent of total groceries could be considered chain-retailers with more than four stores under a single owner (Winson 1993).

Zoning combined with the emergence of retail chains altered urban residents’ connection the bio-physical roots of their existence. Commodity relations increasingly obscured changes taking place in agricultural production, and the effects of changing market conditions for agricultural products on farmer livelihoods.

With retailers increasing their buying power by integrating wholesale and retail, processors as well as suppliers of farm implements were also trying to reduce costs and increase efficiencies of scale. By the depression era, processing firms were in such a dominant position in the market for agricultural products that there was little recourse when they decided to reduce prices given to farmers (Winson 1993). Meanwhile, there was little competition within the farm implement market, so while the prices farmers were receiving for their produce was decreasing, the prices farmers paid for farm

equipment hardly decreased at all (Winson 1993). Farmers were left increase production at all costs through production efficiencies, at the expense of the environment.

During this period, some of the last bastions of direct connection between farmers and cities gave way to markets, which obscured the relationship between them. Governments and capital interests divided responses to capital crises, between rural and urban populations. On the one hand support for farmers aimed to interfere as little as possible with the competitive market system of pricing. Agricultural policy, as it was rooted in a corporatist framework, paid little attention to how land was being used, only that agricultural products were provided to processors and urban consumers for as little as possible. On the other hand, tools developed to regulate urban planning excluded food lands from within urban boundaries. Initiating to balance urban expansion and municipal expenditures, the development of urban planning tools prioritized public health and the integrity of the urban land market, ceasing to concern themselves with food provision of urban dwellers. As the workings of several market chains eventually came to include chain/combination retail stores, a wedge emerged between the unabated encroachment of the urban built-form into prime agricultural farmland and the increasing focus of agricultural production on production efficiencies at the expense of the environment. The process controlled only by the need to ensure the flow of goods and people.

Taken together, the urban-rural divide foreshadowed the persistent degradation of the ecological infrastructure of the Southern Ontario landscape as the post-war trajectory of farms and cities embedded unsustainable practices in the food system. With parallel policy processes established in this period for each agricultural policy and urban planning, larger capitals interested in urban real estate and agricultural commodities would come to orchestrate the Southern Ontario landscape under these very headings, with little consideration of the environmental effects.

3.7 1945-1973: Industrialization of the Southern Ontario Landscape - Intensive Farm Production Amid Encroaching Urban Settlement.

Post-War Global Political Economy and the Southern Ontario landscape

After the Second World War, The United States had emerged in a new position of power relative to Britain and other European nations devastated by conflict. Having supported the war effort not only militarily but also materially and financially – holding much of Britain’s post-war debt – the U.S. was in a position to coordinate global commerce (Friedmann and McMichael 1989; Friedmann 2005).³⁸ In 1947, when western nations came together to negotiate the rebuilding of global trade networks, the U.S. insisted on exempting agriculture from market liberalization in order to preserve the import controls necessary to sustain its domestic farm programs. Accordingly, the General Agreement on Tariffs and Trade (GATT) institutionalized liberal notions of market-led development and free trade, but at the same time excluded agriculture, insulating the sector from international forces of market liberalization.

The GATT was part of what McMichael (1996) coined as the *development project* of the post-war era, in which international rules for global trade were designed in such a way as to rebuild a global economy on a foundation of national economic growth (p. 37). The internal national economies achieved in the late 19th and early 20th century by “developed” countries, particularly the United States, was framed as the bastion to which nation-states the world over should strive.³⁹ “Industrialization,” with mutually reinforcing sectors, emerged as the symbol of national development success (McMichael 1996, p. 36).

Influenced by the United States and with its shared British colonial past, Canada followed suit. On the back of national development ideals developed in previous decades of crisis, Canada participated part and parcel of the development project as it was projected on a global scale. Indeed, Canada already had its own internal national economic logic that had built up through its experience of western expansion, which it

³⁸ One manifestation of America’s new hegemonic stature in global affairs was the design of the Bretton Woods System, tying the world’s currencies and global exchange rates to the American Dollar (Friedmann 2005).

³⁹ This model of “development” was preached particularly to the post-colonial states and those caught in the balance between western capitalist and soviet communist spheres of influence in this post-war period. (McMichael 1996).

had bolstered through the war effort.⁴⁰ It also had its own national programs regulating agricultural production by the end of WWII, in the form of price supports and subsidized credit. Accordingly, Canada continued the goal of national development wielding macro-economic policy that prioritized industrialization through integrated, mutually reinforcing sectors.

As the period drew on, the power of industry and urban consumers grew in relation to the family farm. Agricultural policy shifted from supporting family farms generally, to supporting only the most capital intensive ones specifically – supporting more broadly an agri-food industry to produce more composite food products, rather than simply farmers themselves. While urban planning oversaw a continual process of land conversion from agriculture to urban related uses, and accommodated the intensification of industrial production in the design of cities.

Overall, in the decades following the Second World War, the Southern Ontario landscape was reshaped to support a new degree of intensive agricultural production and reorganized to provide for the desires of a large, urban, and affluent population. The rural-urban divide during this period deepened as market relations mediating urban settlement and food lands, were streamlined, concentrated, and expanded territorially – again changing the footprint of farms and cities themselves.

The Consolidating Agri-food Sector

After the Second World War, industries turned from producing for the war effort toward civilian production. With international rules designed to facilitate national economic development, industrial capitals positioned themselves to gain from nationally organized agricultural production. The potential for agricultural production to become a profitable centre for commerce, trade, and finance was renewed. Much of the technology and innovation that was geared toward combat was reoriented to producing machinery and chemicals to industrialize agriculture and food manufacture (Friedmann 1991). Companies that built tanks for the military, for example, refocused themselves to build tractors for farmers. Chemical companies that first produced ammonia for bombs and

⁴⁰ Canada emerged from WWII as part of a group of lower tier (in relation the US) developed countries that included Australia, New Zealand and Argentina.

DDT to protect soldiers from malaria, began producing farm-oriented fertilizers and pesticides (Mitchell 2002).

As well, processing became more complex following industrial logics of mass production and cost reduction, separating processing into multiple commodity components. Agricultural commodities were disarticulated and reconstituted for different purposes – product and by-product, each becoming a source of capital accumulation (Friedmann 1991). The role of agricultural production as a basis for capital accumulation was reinvigorated – but as an element of industrialized production chains that saw the disarticulated elements of production each as a potential sources of capital accumulation. And as more things were processed, advertising dollars were used to encourage people to buy more composite and frozen foods (Friedmann 1991).

Even in livestock husbandry, animal production was disarticulated into the different lifecycle stages. Beef and pork husbandry separated into calf operations and feedlots, while poultry and egg production separated into hatcheries, broiler chickens (or turkeys) and pullets (egg layers). The world's largest corporate industrial capitals produced feed-grains to facilitate (and profit from) the fattening process (Weis 2007; 2013).

The national regulation of agriculture incited companies to leap across borders to set up subsidiaries in distinct national contexts. American subsidiaries moved into Southern Ontario. The power of industrial actors in relation to farmers grew, as corporate control began to dominate in what emerged as a distinctive agri-food sector. This was especially pertinent for Southern Ontario's fruit and vegetable production. Products like jams or canned goods produced in small, independent operations going back to the 19th century began to be bought out by larger corporate subsidiaries – only to be shut down. In 1956, for example, Southern Ontario's then largest canning consortium dating back to the depression era, Canadian Cannery Ltd., was taken over by the California Packing Corporation (part of Del Monte). The corporate entity proceeded to shut down many of the processing facilities scattered regionally throughout Southern Ontario – like those in Prince Edward County, the birthplace of Ontario canning – concentrating the company's processing activities south and west of Toronto. The remaining independent processors

left had to quickly invest in processing technologies to intensify production just to avoid being forced out of business (Winson 1993).

Vertical Integration and corporate coordination of land use

As large corporate industrial firms set up in Southern Ontario, processors and manufacturers pursued strategies of vertical integration, entering into multiple points, or stages, along the supply chain of the production process (Mitchell 1975; Winson 1990, 1993). Vertical integration was one way for manufacturing and processing capital to reduce risk and minimize cost (Winson 1993). This strategy as well had major impacts on the independent processor, as production and processing capital along the supply chain became increasingly concentrated. Poultry production is an illustrative example. Vertical integration and capital concentration along several stages of poultry production in Southern Ontario resulted in a few corporations dominating either side of egg and broiler chicken farms (OMAF 1972). By the mid 1960s, a large percentage of each of the feed manufacturing, hatcheries, and poultry processing segments of the industry were run by only a few companies and their subsidiaries. Reportedly, contracts with farms often stipulated that for the farmer to have their birds processed by a company, they were required to purchase feed and chicks from a subsidiary of the same company (OMAF 1972).

As farmers were locked into contractual obligations with large corporate processors and manufacturers, small and medium sized independent companies lost their customer base and disappeared. But as small and medium sized independent processors lost out so too did small and medium scale producers, as they saw their options to market their commodities dissolve away as well (Winson 1990). Independent processing plants were market lifelines for small and medium scale farmers, and as they disappeared, farmers had to do more to accommodate corporate demands in order to get their produce to market. This created a negative feedback loop, compounding the tendency toward consolidation of the industrial agri-food supply chains into fewer and fewer hands. This affected farm structures in such a way as to have distinct impacts on agricultural land use.

As capital concentrated along supply chains, farmers were pressured to standardize production (Bowler 1992). By vertically integrating, agri-food capital began

to coordinate farm production, dictating decisions internal to the farm structure that had previously been the prerogative of the farmer. This is what Winson coined the “capitalist coordination” of farming (1990, p. 381), which became apparent in each of the livestock, dairy, fruit and vegetable supply chains.

In fruit, vegetables and dairy, contracts with processors dictated not only the quantity of produce to be exchanged, but also specified quality – demanding uniformity of each commodity unit. Though the subject-matter that contracts were to cover was established in consultation with farmer negotiating agencies, contracts began to determine planting and harvest schedules, including the application of agrochemicals for weeds, insects and disease, and in many instances established that hybridized seeds tailored for mechanized farming and transport were provided. Contracts formalized how cost burdens of standardized farming procedures and extended handling would be shared, however negotiating agencies on behalf of the farmers did not determine with whom processors should contract (Winson 1993).

Meanwhile, the largest corporate industrial firms demanding standardized goods of a certain size, ripeness, and price, focused their procurement, purchasing only from those producers who could accommodate their orders. In this way, a purchasing bias of corporate processors toward the larger farmers investing in land, machinery and agrochemicals emerged. Simply by the way they awarded contracts, the largest corporate industrial firms went a long way in determining land use practices of farms (Winson 1993). Non-intensifying farms were pressured to exit from that commodity market, choosing to specialize in other commodities due to lack of contracts or exit from farming all together.

In some vegetable commodities, particularly peas, corn and wax beans, processors engaged in agriculture production directly as a secondary or complementary enterprise to their primarily non-farm agricultural interests, leasing land and hiring labour to secure the agricultural commodities that were to become their product-inputs (Winson 1993).

Winson (1993) explains how the particular qualities of different agricultural commodities, like perishability, and the standard of technology for the production of a certain crop were principle reasons why industrial processing and manufacturing capital pursued either farming themselves or contracting with farmers as dominant strategy to secure their

inputs. Reportedly, however, industries engaging in farming themselves – or “corporate farming” as this form of vertical integration came to be known – was stimulated in the 1950s and 60s in Southern Ontario by an increasing availability of land held by speculators that could then be rented to corporate farming firms cheaply (OMAF 1972, p. 54). In the commodities where corporate farming was widespread, prices were reduced so much that the effect was similar to the pressure of contracts; farmers were pressured to choose either to intensify or get out of the market.

The growth and concentration of industrial processing and manufacturing capitals not only effected dynamics internal to the farm structure, but also effected change at a landscape level. The way that these larger corporate firms organized their purchases not only determined land use practices on individual farms, but also began to determine the dominant agricultural production of entire sub-regions. As large American subsidiaries were coming in to set up plants in Southern Ontario, different processors of different goods set up in particular locations where conditions were most economical for the production of their products, which became streamlined in both size and location. Location choices played out according to its own geographical logic, depending on how the subsidiary intended to procure its inputs and how it related to the operations of the larger parent company (Hart 1992, Atchison 1992; Winson 1993). The settlement and growth of corporate processing and manufacturing firms had distinctive impacts on the landscape. Just as corporate industrial capital started to dictate land use practices, the market (in the form of processor and manufacturer demand for the agricultural commodity) began to dictate where on the landscape a commodity was produced

In this way, the matrix of diverse sets of specialized domestic trade networks, in which a variety of small to medium scale farmers within specialized sub-regions fed small to medium scale processors, manufactures, and grocers with a variety of commodities, gave way to territorially expanded footprints of standardized, agri-food supply-chains. Sub-regions of specialized producers, in which farmers made their own production decisions and land use practices to grow a specific crop or set of crops, gave way to sub-regions of standardized crop producers, in which the decision making capacity of farmers was reduced. Each commodity supply-chain supported fewer, but larger, producers of standardized crops that linked backward to a few concentrated

corporate-industrial manufacturing firms of farm inputs, and forwards to a few concentrated corporate-industrial processing firms of composite food-stuffs.

Around Leamington, in Essex County on the northwestern shore of Lake Erie is case in point. The H. J. Heinz Company located in the hamlet in 1908. By 1950 technical innovations in both hybridized breeding and harvesting machinery for tomatoes made the tomato one of the first vegetable commodities amenable to capital intensive production (Winson 1993). As the Heinz Company grew and intensified production of ketchup and baby food processing, utilizing a specific variety of tomato that could withstand the rigor of large scale mechanized harvesting, Leamington became synonymous with processing tomatoes, becoming the largest tomato producing region in Canada but with a particular variety of processing tomato – the Heinz Company becoming the fulcrum of the sub-region's economy. Although as one observer of Leamington's tomato reputation described it, "Heinz's bottled ketchup doesn't need Canada's best tomatoes – they rely on ingredients like high fructose corn syrup to do most of the heavy lifting" (Modica, ND).

In the post-war Southern Ontario landscape, at the end of the more complex agri-food supply chains, chain/combination retail stores were organized to new extremes. Urban consumers began to purchase food, not in grocery stores or even grocery chains, but in *supermarkets*. Copying the retail model as it emerged in the US in the first half of the 20th century, supermarkets were established in Southern Ontario by the 1950s. Supermarkets adopted the principle of mass merchandising, selling high volumes of select products with low profit margins. They accomplished this, in part, by innovating on the retail experience itself: combining "self-service" that allowed customers to move throughout the store selecting their purchases, with "check out" that focused the cash-exchange at the exit. Under new stable post-war economic and regulatory conditions, supermarkets were able to undertake the strategy of large volumes of inexpensive goods to new heights in relation to the consolidating industrial agri-food sector (Burch and Lawrence 2007). Stocks in the supermarkets became less and less representative of food from a farm, and increasingly representative of the composite food stuffs manufactured through elongated and industrialized agri-food supply chains (Friedmann 1991).

The consolidating agri-food sector with vertically integrated supply chains had dramatic effects on the landscape's ecology. "Tractorization," as Winson (1985, p. 425)

calls it, inclusive of the increasing use of farm machinery and the application of agrochemicals, relocated animals in the farm system as it standardized crop production. Where once animals served as an integral component of a typical farm structure as draught animal, nutrient recycler and supplementary product for either household or market consumption, tractors and agrochemicals played a large role in moving livestock to concentrated animal feeding operations where animals became solely used and understood as a commodity produced by specialized farmers in large, capital intensive factory conditions.

Linkages and complementary relations between crops, animals, and soils as exemplified in the *milpa* of the indigenous landscapes, or even in the mixed farming systems of early commercial family farms, were broken. The integrated cycle of nutrients, water and energy were torn into linear relationships, effectively requiring external inputs of nutrients and energy for farm production increasingly applied on one end, creating an aggregation of waste on another. For example, with the removal of animals from typical farms and into specialized, concentrated animal feeding operations, animal waste became redefined as a liability rather than as a resource, as it was concentrated and separated geographically from other crop producing farm enterprises. Moreover, the farm structure as it was integrated into the agri-food sector came to require not only large agrochemical inputs, but also reduced crop diversity, making crop-systems even more vulnerable to pests and disease (Altieri 2000). The capital coordination of farming to intensify food production through productivity increases and economies of scale locked farmers into perpetual engagement in land use practices that required the continual application of agrichemicals in ever larger amounts in order to produce a single commodity, compounding the degrading effects to the environment on both individual farms and on a landscape level.

As the development project wore on, agricultural policy and urban planning at first (in the post-war context of politics and trade) started to subtly support the new forms of industrialized market relations. As the agri-food sector continued to consolidate, however, such policies began to reinforce the process industrializing the landscape as a whole, as a shift in power relations occurred in the political sphere, reflecting the shift in power toward industrial interests and growing number of urban consumers in relation to

farmers. Agricultural policy began to actively encourage, while urban planning worked to accommodate the industrialization of the Southern Ontario landscape.

Post-War Agricultural Policy

The first sign of the growing power of industrial capital in relation to farmers was in 1949 when the federal government legalized the sale and marketing of margarine. This product made from hydrogenated oils, most notably soy but also from animal fats like seal and whale, directly competed with butter. Margarine was banned in Canada from 1886-1948, a sign of the power of the domestic dairy lobby concentrated at the time in Ontario and Quebec. In 1948, the Supreme Court of Canada found the law prohibiting margarine to be beyond the powers of the federal government, and the federal government moved to reform the ban the following year. The timing of the margarine case and subsequent legislation corresponded with negotiations with Newfoundland into confederation, one of the dominion's largest manufacturers of margarine, whose principle margarine company was owned by Unilever, the worlds oldest transnational company.

Though seemingly a small token to industrial interests, the lifting of barriers on the marketing and sale of margarine had unforeseen consequences to the stability of contemporary agriculture support programs, with particular effect on the Southern Ontario mixed dairy farmer. The stabilization boards that were the price-supporting entities that were legacies of the war era, tried to maintain farmers on the land by providing income support for farms during periods of depressed commodity prices in international markets. A typical farmer receiving income support from the federal government is illustrated by Mitchell's characterization of the mixed hog, grain, and industrial dairy operation that used "low but stable cheques" from stabilization boards to manage their farm income (1975 pp. 119-126). These farmers were situated in areas further out from cities, those of Middlesex, Oxford, Perth and Waterloo counties in the Niagara peninsula and in Durham and Peterborough counties of South Eastern Ontario who, unlike fruit, vegetable and fluid milk farmers, did not orient their production to urban consumers and processing firms but rather to interprovincial and international markets. These farmers mitigated risks in commodity prices by growing several crops and

livestock, insuring themselves at least a minimum income through commodity specific price support boards from the federal government.

Butter, however, utilized 75 per cent of the provinces industrial milk production, and with the sudden consumer access to the less expensive butter substitute, the demand for industrial milk dropped dramatically (Mitchell 1975). Consequences were two-fold. One, the price for industrial milk dropped in 1950 and then stagnated, hovering around the floor price set by federal legislation. Two, the drop in demand for industrial milk resulted in a federal surplus through the price support board for industrial milk that the federal government then had to manage.

The federal government began ridding their surpluses of industrial milk by selling powdered milk to export markets at a subsidized price or simply gave it away as food aid (Mitchell 1975). But the federal expenditure on managing industrial milk surpluses, spending on both farm income support and surplus management, would soon become a seed of discontent among urban tax payers, demanding reforms to the farm support programs in years to come.

Margarine, however, was just the harbinger of the shifting political economy, as a more systemic contradiction in the post-war framework of federal agriculture support programs unfolded. Although the stabilization boards insulated farmers from international market prices, they did not always succeed in stabilizing farmer income. In reference to the floor price of farm commodities, some farmers were enticed to maximize their income, utilizing federally subsidized credit to invest in production efficiencies and economies of scale. These farmers became larger more intensive commercial family farms (particularly of industrial milk), taking on debt to buy or lease more land and increasing production through purchases of better feeds and milking technology. The floor prices, however, were rigid, and once calculated, they were unable to accommodate for the rising costs of farm production in the form of land, labour and capital inputs. Within this framework of farm supports, farmers suffered unprecedented pressures on their farm income. As input costs rose steadily, record production levels kept market prices near the floor price (Mitchell 1975).

Throughout the 1950s, Canada tried to balance farmer interests with the goals of attracting more corporate industrial investment in tune with the progressing development

project, continuing its war-era farm-income support programs but with subtle changes. In 1958 the *Price Stabilization Act* superseded the 1944 *Price Supports Act*, formalizing the floor price formulae across supported commodities and raising the floor price for dairy slightly to guarantee 80% of the average price of the previous five-year period. In 1959 the *Farm Credit Loan Act* superseded the *Farm Improvements Loan Act* (1944), tailored more specifically to subsidize credit for the mechanization and growth of farms (Skogstad 2008). In this way, agricultural price supports continued to protect family farms but at the same time encouraged their relations with agri-food industry (Friedman 1993). The new legislation rewarded large family farms that increased productivity and scale by increasing marginally the minimum price they could receive for their goods, while encouraging them to purchase technologies from farm equipment and chemical industries by making the requirements for subsidized credit more specific.

The early to mid-1960s, however, represented a challenging period for industrial dairy farmers - the practitioners of the mixed farms for whom the federal support programs were once intended. With industrial dairy prices remaining consistently low, there was a dramatic exodus from mixed farming and dairy. These farmers sold or leased their land to those who remained. By 1966, the industrial dairy industry was left with drastically reduced numbers, while those remaining had further differentiated between farmers who were committed to intensifying production through capital investment and growing their operation, and those who were more reticent to accrue debt, deciding instead to remain on their acreage and “hang-on” (Mitchell 1975).⁴¹

The years 1966 and 1967 subsequently witnessed some of the largest ever farm protests, first with dairy farmers rolling their tractors to Toronto to demonstrate at Queens Park for better milk prices, only to join up with Quebec counterparts for a larger protest at the federal parliament in Ottawa the following year. This was a watershed moment in Canada’s overall agricultural policy direction. By this time, four corporate dairies were beginning to dominate milk processing in Ontario: Silverwood, Dominion, Beatrice and Borden, each of which had their hand in both industrial and fluid milk production (though

⁴¹ Mitchell (1975, p. 24) demonstrates that between 1961 and 1966, the numbers of those farms reporting industrial dairy cattle dropped by 28%, while in the same period farms reporting fewer than 12 industrial dairy cows dropped by 37%, while those reporting 32 cows and up increased by 80%. These are Canada-wide numbers, though Ontario and Quebec was home to 80% of industrial milk producers at the time.

they maintained them in separate operations). At the same, the federal government was distressed over its fiscal expenditures, urban residents questioning the distribution of large amounts of income support to farmers while managing some of the largest industrial dairy surpluses accruing through its stabilization boards in the history of the program (Mitchell 1975; Skogstad 2008). If not a direct response to the demonstrations, then to the overall shift in political economic conditions, the federal government partnered with provinces to form the Canadian Dairy Commission (CDC). This was the official beginning of supply management.

Supply management and the quota system that developed around it favored farms of large scale and capital intensive production. Though designed through the corporatist framework among farmers, processors and the Ministry of Agriculture, the cards were stacked unevenly against the mixed farmers among the industrial dairy producers. Not only were the overall numbers of industrial milk producers diminished, but producers were divided among those who refrained from intensifying milk production, either because they did not want to or were not in a position to, and those who were trying to industrialize production through capital investment and economies of scale.

Accordingly, the CDC maintained a position that subsidies, in some form, were necessary, inclining to prioritize keeping costs of farm commodities down for processors and consumers. But in order to reduce the government's costs, the CDC endeavored to discourage the mixed farms of industrial milk producers from continuing in operation. As Mitchell explains, "The task of the CDC was to eliminate milk surpluses, reduce levels of government subsidies, and discourage the marginal producer from continuing in operation" (1975, p. 123).

This was a huge departure from the initial war and post-war farm support strategy of trying to keep farmers on the land, electing rather to support only the most capitalized farms while actively routing out the mixed commodity producer from the landscape. In the first year of the CDC, direct subsidies to industrial milk producers were continued in the form of stabilization cheques, but a Subsidy Eligibility Quota (SEQ) was introduced. Industrial milk producers were allotted an SEQ according to their previous year's production, and any milk production beyond that did not receive a subsidy. In subsequent years the SEQ was set at a minimum, which in 1968-69 was 12 000 pounds of milk, and

which was then incrementally increased in each year after that. This policy, Mitchell explains, “cut off any producer who kept half a dozen or so milk cows from receiving a break-even price for their product” (1975, p. 124). This mechanism of supply management as well insulated a national economic space, maintaining import restrictions on milk to ensure that the controls over milk supply and price could function. The very economic space etched out for producers, however, worked to streamline national production to the extent that only the most intensive and specialized farms were able to thrive. Smaller producers were given a one-time phase-out payment that they could use to re-orient their production to other commodities or get out of farming all together. Effectively, any producer receiving a subsidy was to make investments in labour or milking technology to meet the incrementally rising SEQ.

A year after the CDC was created, the Ontario government followed suit by unveiling a purchasing desk for fluid milk, with an eye to integrating the fluid milk and industrial milk industries – a step that corporate processors (who had their hand in both, though operated in separate facilities) had, in practice, already made. The Ontario Milk Marketing Board (OMMB) was formed in 1968. This Board’s role was to similarly establish a quota system to regulate and rationalize the supply of fluid milk, managing all purchases from fluid milk producers within the province (Winson 1993; Ebejer 2010). Subsequently, the OMMB shifted deliveries away from the smallest plants and toward the largest firms, centralizing fluid milk production (Mitchell 1975).

In 1971, the industrial and fluid milk categories were officially integrated. Though again, in the way that they were integrated, fluid milk producers who were most heavily invested in land and capital equipment than their industrial milk counterparts were greatly advantaged. By allowing fluid milk producers to deliver any milk produced above a fluid milk production quota into the industrial stream – a privilege not reciprocated for industrial producers – the integrated quota system (administered jointly by the CDC, the OMMB, as well as other provincial marketing boards in central and eastern Canada) better guaranteed that fluid milk producers would receive a subsidy for their entire production. This facilitated future increases in the minimum production requirement for price supports (Mitchell 1975).

The move to integrate milk production streams of fluid and industrial milk pressured more of the remnant medium scale industrial dairy farmers out of milk production (Mitchell 1975; Winson 1993; Skogstad 2008). Geographically speaking, this again advantaged the more capital intensive fluid milk producers that were positioned closer to cities and the biggest processing plants, and in the interior provided more opportunity for farmland to consolidate as the medium scale industrial farmers sold or leased their holdings to the remaining largest dairies.⁴²

While a shift in power in the political sphere is seen clearly in dairy, a broader based shift in power away from farmers and toward industry and urban consumers is made visible in the way another program unfolded in Ontario: The *Agricultural Rehabilitation and Development Act* (ARDA). There were two distinct phases of the ARDA program, the first from 1961-1966, and the second from 1967-1972.⁴³ By 1960, decreases in the cost of food throughout the agri-food supply chain disproportionately burdened the farmer, as gains were hoarded by corporate industry. Input costs were rising as farmers realized big losses on the prices they were receiving for their agricultural products.

Introduced in 1961 as a federal program, ARDA empowered the Federal Minister of Agriculture to enter into agreement with each province to provide funds for rural “rehabilitation and development.”⁴⁴ The funds delivered through ARDA were to meet two objectives. Provincial programs had to either increase “incomes and employment opportunities in rural areas;” or improve “the use and productivity of resources in rural areas” as either a means to raise rural incomes or as an independent objective in itself (Buckley and Tihanyi 1968, pp.93-94).

Although the funds distributed were modest, and the programs that were rolled out under ARDA were particular to each province, ARDA is significant in several ways. First is its purposeful attention to land use, illustrating a unique example of government policy intervening directly in the land market in rural parts of the Southern Ontario

⁴² For a recap of the traditional geographic dispersion of the fluid versus industrial dairy producers, see above in section 5. Also Mitchell 1975.

⁴³ Renamed the *Agriculture Rural Development Act* (ARDA) after 1966, it retained the same acronym.

⁴⁴ The program was based on the previous assistance programs enacted to assist prairie farmers in the 1930s, namely the Prairie Farm Rehabilitation Act (PFRA, 1935) and the Prairie Farm Assistance Act (PFAA, 1939), where federal and provincial governments cooperated to assist farmers stricken by drought.

landscape after the entrenchment of private property rights. And second, in the way that ARDA was rolled out in Ontario, one can see the shift away from supporting family farms in general, to prioritizing support for only those farms that looked to intensify production through investment in capital equipment and land.

In the 1961-1966 phase, intervening in the farm structure of mixed farmers was not considered a policy priority for Ontario. Rather, Ontario was more concerned about the abandonment of northern lands – a legacy from the 19th century. Those who had received free land in the upper regions of the Great Lakes Basin prior to western expansion were abandoning these parcels that were too far from processors and of marginal quality for fresh produce production. Ontario used ARDA as an opportunity to consolidate these underutilized lands to make them more productive, having in mind their possible suitability for pasture.

Accordingly, in the 1961 Canada-Ontario ARDA agreement, the province set money aside for a “consolidation project” aiming to acquire blocks of 1500 acres to lease to ranchers who were determined to have “sufficient capital” (Buckley and Tihanyi 1967). It was thought that assembling land and providing it on advantageous leasing terms to farmers of sufficient capital would induce private investment into the beef-cattle industry further north. Another project was also proposed to purchase large tracts of unoccupied land and put them into agricultural production by giving farmers the opportunity to use their home farm for more intensive production while herding cattle elsewhere, falling under the heading of “community pastures” (Buckley and Tihanyi 1967). After 5 years, however, few of these projects were ever actually implemented. Funds were used scarcely for consolidation programs in Ontario, but no monies had been used for community pastures.⁴⁵ Exceptional of the 1961 iteration of ARDA as well was the creation of the Canada Land Inventory (CLI). The CLI aimed to create a national information database classifying land for its capacity to support different land uses, particularly with regard to agriculture and forestry. The CLI was the only initiative under

⁴⁵ In 1972, the Province of Saskatchewan unveiled a Land Bank Program in which the province purchased land and distributed it under lease and purchase agreements to farmers (See Mitchell 1975). It would be interesting to investigate if there was any connection between this land bank initiative with ARDA program funding.

ARDA to be contributed to by all provinces in the country, to lasting effect (Buckley and Tihanyi 1967).

In 1967, the frame of the ARDA programs in Ontario shifted dramatically, from one carrying on the 19th and early 20th century mindset of utilizing land and making it most productive by encouraging or maintaining the presence of family farms, to streamlining support for only the most capital intensive farms intending only them to persist in operation. In this way, the second iteration of ARDA dovetails in kind, and timing, with supply management in dairy. And marks a stark transition in the nature of agricultural policy as it intended to effect the structure of farming, illustrating the government's perceptions of the most appropriate farms to suit the needs of Canadian society.

By 1967, studies had begun to show that roughly one-third of Ontario farm families from 1960-1965 were earning a minimum net cash income of only \$2000 from farming alone, and that more than 50 per cent of these farm families' disposable income was coming from off-farm work or government transfer payments (Buckley and Tihanyi 1967). Although off-farm work supplementing farm income had never been an historical anomaly – lumbering and farming, for example, having been two complementary productive activities for many farm households for the duration of the 19th and early 20th centuries, as well as other divisions of household labour along different but complementary tasks of value-creation (Parson 1984; Cohen 1988) – rather than recognizing off-farm labour as a kind of pluri-activity of farm households, income-related challenges of farm activities were instead interpreted as there being too many farms and under-employment of agricultural labour. In the 1967 ARDA agreement, Ontario subsequently pursued a strategy to increase farm incomes by decreasing the number farmers and consolidating the remnant farmland. Rural income improvement was linked to enterprise enlargement through managed farmer exit and farmland consolidation (Buckley and Tihanyi 1967).

Between 1967 and 1972, 7.2 million dollars were committed under the second Canada-Ontario ARDA Agreement to bring about 1000 farm consolidations in Ontario, focusing on particular locations where the market price for land fell under the \$100 per acre as a target purchasing price. This was achieved by combining vocational training to

facilitate those exiting farming (called the “manpower training program,” a federal program that was part of the *Adult Occupational Training Act* 1967) with farm enlargement programs made available to particular farmer candidates wanting to invest in their farm operation. The farm enlargement program matched those who wanted to sell their farms with those who wanted to enlarge. The land seller had their land purchased at market price by the government, and the government then leased it for 5 years to an enlargement applicant. Enlargement applicants were assessed by their net-income: Farmers with gross farm receipts of \$4 000-\$6 000 were regarded as having potential but with demonstrable need of assistance to become what was considered a “viable” farm enterprise (Brinkly and Tihanyi 1967).⁴⁶ The five-year lease was meant to “enable the farm operator to increase productivity without tying capital up on land purchase,” thereby eventually positioning the farmer to purchase the land outright (Buckley and Tihanyi 1967, p. 144).

After 1967 the overall routing out of the mixed and/or pluri-active farm from the Southern Ontario landscape, witnessed in both the naissance of supply management and in Ontario’s execution of ARDA, was committed to as a generally positive policy position on a broader basis. The 1969 Federal Task Force on Agriculture Report echoes the approach. The report argued that contemporary problems of commodity-specific surpluses and high expenditures on farm support were a result of there being too many farmers who did not farm cost-effectively. An explicit goal of the report’s recommendations was to reduce the farming population of Canada from 9% of the total population to 3%, something that would have been unthinkable only decades before. Though the Task Force did not consider such land-specific programs as ARDA, the report did recommend supply management be extended to other commodities based on the example of dairy. In 1972, the federal government enacted the *Farm Products Marketing Agencies Act*, enabling national supply management frameworks in other commodities.

⁴⁶ The policy aimed to exclude farm enterprises considered to have enough physical or financial resources to obtain credit from existing sources.

Urban Planning

Perhaps one of the most illustrative examples of urban planning facilitating the industrialization of the Southern Ontario landscape is the construction of the Ontario Food Terminal (OFT) in the 1950s. The construction of the OFT was prompted by sheer congestion in Toronto's St. Lawrence Market, as an increase in goods from expanded regional markets started to strain its capacity. By the first half of the 20th century, the volume of food delivered to the voracious urban region of Toronto started to test the bounds of the market's infrastructure. Eventually, the growing use of truck transport added to the mayhem of market days that made the construction of a new transport hub for agricultural products necessary (Campsie 2004). In the years following WWII, the U.S. interstate highway system had already been completed, and supermarket chains were popping up everywhere in Canada, unveiling their retail strategy to provide high volumes of low-priced products. The OFT was poised to serve the flow of agricultural products on large transport trucks carried from further afield regionally and from the United States.

The province purchased a 40-acre site in 1951 in Etobicoke (now the southwest corner of Toronto) to designate a new market terminal for fresh produce. Publicly owned and legislated provincially under *The Ontario Food Terminal Act*, the OFT was designed as an aggregation hub where registered buyers (grocers, supermarkets, and other retailers) could meet with growers and wholesalers. In 1952, the OFT began as a simple covered farmers market, and in 1954 a U-shaped wholesale terminal was opened beside it. Within the first ten years, 300,000 tons of produce a year was moving through the OFT (Campsie 2004).

The construction of the OFT marks the beginnings of a wider process of land conversion, particularly around the Toronto area, as the perceived need for land shifted from supporting predominantly agricultural use to urban-related use in relation to the anticipated growth of regional markets and the expansion of urban settlement on the landscape. Its location was decided in the midst of planning for the Gardiner Express Way, and was boxed in by roads and highways to the north (the Queensway), south (the Gardiner Expressway) and west (Park Lawn Road) the planning of which was underway by the municipality of Toronto. A rail line extended along the OFT's southeast corner. Accordingly, the OFT aligned seamlessly with the predominant urban planning

philosophy that it should facilitate the flow of goods and people, organizing the landscape to prioritize vehicular traffic in support of an efficiently flowing, and intensifying, industrialized market economy.

The OFT, however, must be further contextualized within the wider transformation of the Southern Ontario landscape taking shape at the time. When the site for the Terminal was first designated, it was just outside the City of Toronto. Etobicoke was its own municipality and the surrounding landscape was interwoven with market gardens that lay between the OFT and Toronto's southwest side (Fridman, Baker and Whyte 2013). Its location, however, marked the changing spatial dynamics of the land market in Southern Ontario.

Following Martin's (1984) conceptualization of land market dynamics, in which the land conversion process is conceptualized by a land parcel's transfer from one kind of land market (in which both buyers and sellers intend for the land to remain in agricultural production) to other kinds of land markets (in which the buyers and sellers in the land market no longer intend for the land parcel to remain in agricultural production), the OFT illustrates the anticipation of wider land conversion of agricultural land to non-agricultural urban uses. Its intention to act as hub for the flow of agricultural goods from a greater distance, which was made more timely and orderly by truck transport on freeways, sacrificed the competitive advantage of market garden surrounding Southern Ontario's largest municipality to prioritize the sale of wholesale produce that could be purchased by supermarkets at the OFT. The OFT illustrates the further entrenchment of the urban-rural divide supporting the industrialization of the Southern Ontario landscape through its ability to extend market relations geographically, as well as economically and socially.

The process of land use conversion links directly to persistent land price increases, as land parcels were transferred from one land market to another, which Martin theorizes as "the ratchet effect" (1984, p. 188). Part of this ratcheting effect associated with land conversion is related to land being valued in the market no longer in relation to its productive use, but instead as land with trunk services connected to it, like sewage and electricity. It also relates to the relative position of different agents in the land market and the strong bargaining positions of speculators, builders, and home buyers relative to

potential farmers, all informed by the functioning urban planning framework rationalizing the land market (Martin 1984).

After WWII, the urban population of Southern Ontario swelled. Soldiers returning home came back to settle in cities rather than integrating back into the farm economy. Nuclear family structures were growing exponentially in the baby-boom generation. As well, rural-urban migration was high, given the increasing capitalization of agriculture, and increased employment opportunities in the fledging agri-food sector and other industries (Nader 1976). As a result, housing and the legislation needed to enable planning functions to organize housing construction and urban expansion came to dominate government decision making (Hodge 1991).

In 1946, the federal government initiated a drive for home building, setting up the Canada Mortgage and Housing Corporation, as well as the Community Planning Association of Canada. That same year in Ontario, the *Planning and Development Act* established in 1917 was reformed into the *Ontario Planning Act*, which extended planning capacities already received by the three largest cities in Ontario (Toronto, Hamilton and Ottawa) to counties and smaller incorporated towns and cities. The 1946 Act extended these planning tools to a wider array of municipalities by mandating planning units of three variations: 1) a municipality, 2) an entire county, and 3) a small municipality or group of small municipalities within a county (called a 2nd tier planning unit or authority), all of which depended on urban densities. The 1946 Act also mandated that general plans be legally supported, making planning commissions of planning units responsible for preparing *official plans* that would then have to be adopted by elected officials – a recommendation advocated by planning professionals since 1912. Zoning and subdivision regulations were extended to the planning units to achieve the intent of official plans, as had not been extended to smaller municipalities before (Hodge 1991).

Prices for land on ever-expanding fringes of urban settlement began to reflect increasing demands for single detached housing (Spurr 1976). By the early 1950s, the price of land in these areas was already out of reach for buyers intending agricultural use. In 1953, Toronto was re-incorporated as Metropolitan (Metro) Toronto, providing increased resources for suburban planning of larger areas. Most of the early acreages approved for subdivision occurred north, northeast, and west of the city. By 1972, it is

estimated that the Toronto region was steadily consuming 2 500 acres of land each year, converting it from its predominantly agricultural use for new residential development (Spur 1976).

Subdivision approvals in the Metro Toronto region occurred on progressively larger tracts of land to accommodate “Newtown” design of suburban communities: a design comprehensively planning suburban nodes that provided for necessary services to large populations, which included other social services like schools, shopping, and airports – but not farming (Spurr 1976, p. 124). This was not just the character of expansion in Toronto. Between 1946 and 1965, nearly 10 000 subdivision plans were processed around urban settlements in the various planning units, reflecting the spatial expansion of hundreds of municipalities in Ontario and an urban population growth of three million people – people separated from any kind of farm production – in this period (Hodge 1991).

Through the development of official plans, urban planning departments across the province declared the direction and design of urban expansion. The plans excluded agricultural uses of lands within the urban realm and surrounding area, and at the same time accommodating for the flow of good and people needed to provision the suburbs with products from the growing agri-food sector.

Digging deeper into the way urban planning influenced the landscape, it is evident that the evolution of urban expansion did not happen independently or merely alongside changes occurring in regional food lands, rather, the process to accommodate the rapid expansion of urban settlement, enabled the consolidation of the agri-food sector. As the land market changed anticipating farmland conversion, the dominant cropping systems on fields in closest proximity to towns changed as well – from fruit, orchards and market gardens (what had become traditional crops in urban adjacent fields) to cash crop monocultures, particularly grains and oil seeds and other standardized agriculture crops for processing. This occurred as suburban plans sign-posted the path of urban development, increasing land prices in the surrounding areas. It was not simply the crop patterns changing either, but in the context of the land conversion process, the agricultural interests in the land changed. An abundance of land was made available that corporations could rent cheaply because many land owners were primarily interested in holding land

for speculative purposes. Speculators were increasingly buying and holding land from farmers until the municipality extended subdivision planning to envelop the parcels so it could then be sold for higher prices. In the mean time, the land was rented back to corporate interests looking to integrate their operations with farming, and to other farmers as well looking to intensify their farm enterprises, though in both cases on short term contracts. By 1970, for example, 40 development firms owned over 40 000 acres in the region in anticipation of urban development around Toronto, 17 000 of which was in Mississauga just north and west of the OFT (Spurr 1976). Every time planning commissions released official plans outlining the area for potential subdivision, the private sector moved accordingly to assemble large acreages, not only within this identified zone for urban expansion, but also outside that zone in anticipation of future changes (Bunce 1981; Hodge 1991).

In the midst of this process, Berry observes what he calls the “impermanence syndrome” (1978, p. 3). Farmers feeling that the area in which they are farming will not remain an agricultural community for very long, they subsequently stop investing time and energy in the land and might actively seek out speculators to sell their land to. They may passively speculate on the land themselves, either renting the land or planting it with crops that require little labour and investment, typically cash crops of grains and oil seeds until the time is right to “cash in” (Berry 1978, p. 3). Bryant and Fielding (1980) observed this phenomenon in areas undergoing rapid conversion of farmland in the face of urban expansion. Starting in this post war period they observed an increase in the amount of rental land appearing in the Waterloo region, and a subsequent changing of crops to grain-corn and oilseeds, primarily for silage, margarine, and high fructose corn syrup. Bryant and Fielding also consider the terms of lease agreements. They note how leases were generally short term, typically a one year lease, and they further suggest a positive correlation between these precarious rental situations and the strict use of rental land by farmers for cash crops, especially grain-corn. Many have since made a connection between short term leases and poor soil management (Bunce 1985; Fraser 2004; Fairbairn 2013).

Statistics showing the change of farmland holdings, and the loss of farmland to urban expansion between the years 1951-1971, also suggests the degree of industrial

transformation occurring on the Southern Ontario landscape during this period. The number of farm holdings in Ontario reduced from nearly 150 000 farms in 1951, to just under 95 000 in 1971 – a reduction of nearly 37 percent. Farmland in the province was reduced from nearly 20 million acres to just under 16 million acres in the same time period, a reduction of roughly 23.5% (Statistics Canada, 1983). Importantly, however, just as forests were not converted into farms in an even fashion across the landscape during the 19th century, neither did urban expansion convert farms into the built urban form during the 20th century in an even pattern. This encroachment occurred in incomplete waves in spotty and fragmented stages. Of the land that remained in agricultural use nearest expanding urban areas, speculators purchasing it anticipating urban expansion held land in agricultural production until it could be included in suburban plans. Showing furthermore that while the urban planning process did not much consider farmland, it enabled the capitalist coordination of farming by increasing the supply of land that could be rented cheaply. This land moreover, was often held in precarious rental arrangements that only encouraged farming practice inconsistent with the land's long term potential for continued agricultural use. Often the slow and disarticulated was the pace and character of decline of the social and ecological infrastructure underpinning food lands before conversion of farmland to non-farm uses actually took place (Martin 1984; Berry 1978).

Moreover, urban expansion had its effects on the landscape inside the built form of urban settlement as it did outside, suggesting the industrialization of the landscape was truly holistic. Within the boundaries of the built form itself, urban growth was deteriorating the ecological infrastructure, especially around river valleys. Despite the once critical role of rivers and waterways to farming, construction of highways, housing, and commercial units paved over much of the farmland near riverbanks, and the city encroached onto the ravines. The error of reducing riverbanks to the water's edge became tragically apparent in 1954, when Hurricane Hazel struck Toronto causing severe flooding and damaging homes in the river valleys, and killing 81 people. Reaction to the disaster included a ban on urban development in the ravines within Toronto. As well, amalgamating several small conservation authorities, the Toronto and Region

Conservation Authority (TRCA) was created to manage the ravine system and adjacent lands within the city.

And despite the distinct and parallel policy approaches to building farms and cities, the changes that occurred in both the urban and rural realms remained intrinsically connected. In other words, though the urban-rural divide deepened, the evolution of the separate urban and rural experience remained mutually determined. In one aspect this unfolded through underlying commodity chains and market relations that provided not only the increase in composite food-stuff coming to market, but also the consumers needed to purchase these items and as well the consumer goods needed to shop for and prepare them – in the forms of cars, microwaves, refrigerators etc. (Friedmann 1991). In another aspect, however, the intrinsic relation was grounded in more than just market relations. It was unwittingly orchestrated by agricultural policy and urban planning, taking no account one of the other. Agricultural policy encouraged fewer but larger farms with fields of standardized mono-cultures in rural realms, dotted with facilities for concentrated animal factory operations. While urban planning reciprocated this process, accommodating the changes the rural realm experienced, rationalizing the market driven process of expanding cities, designing them to facilitate the flow of goods and people with an emphasis on vehicular traffic. A mutual functionality was established between the productive activities in both rural and urban components of the landscape. Though these activities were organized separately, the effects of each converged to industrialize the landscape as a whole.

Stability unravels

The industrial landscape, however, was not without its own contradictory dynamics. The impetus for restoration of urban ravines arose noticeably in reaction to Hurricane Hazel, hoping that restoration could control flooding and counteract erosion to protect the city from future extreme climactic events. Though the creation of the TRCA as a reaction to such degraded ravine systems can be considered a precursor to broader, regionally conscious zoning beginning to account for distinctly “non-urban” land-use. Demand for such zoning went beyond the Hurricane Hazel incident, and was bubbling up with some magnitude in relation to other problems manifest in the urban-rural

relationship. As urban settlement encroached onto rural spaces, urban dwellers started to take an interest in rural environments in new ways. The boom in suburb and freeway construction demanded building materials. Market demand for inexpensive and accessible aggregate was high. It was sourced in the very lands to which agriculture was confined. Moreover, affluent city dwellers began demanding rural estates and idyllic countryside experiences for recreation and leisure. Urban populations were not simply encroaching upon, but were infiltrating rural spaces. Tensions between both real and perceived land use conflicts increased: farmers intending lands in the rural realm for capital intensive agricultural production, mining and construction interests demanding land for the very same minerals that were the foundations of agriculturally-rich soils, and urban dwellers desiring those same lands for quiet living and potential retreat from suffocating urban living experiences.

As well in this period, observers of rapid urban expansion first called attention to urban encroachment onto some of the most fertile soil, unique in quality, on which agriculture thrived. Ralph Krueger identified the dilemma of dissipating peach soils in the Niagara region in 1959, its disappearance driven by the expansion of factories and suburban neighborhoods outside of Hamilton. Krueger argued that the best place to grow peaches in all of Canada, in terms of soil-type and climate, was in jeopardy – that the very processes of urban expansion were undermining the very structure of capital intensive agricultural production that cities at the same time were evolving to accommodate.

The capital intensification of food production also began to attract dissent. Rachel Carson in 1962 published her book *Silent Spring*. In it Carson brought attention to the detrimental effects of synthetic pesticides, ubiquitous to capital intensive farm structures, on the environment, particularly biodiversity. Others brought attention to the impacts of manure and fertilizer run-off on water quality, and still more questioned the quality and the safety of the very food products of the industrial agricultural system.

By the early 1970s, public demands for policies to address some of the problems appearing economically, socially and environmentally on the landscape began to emerge. Political demands, however, were hardly cohesive. The agricultural and urban planning policies of this period cultivated powerful political and economic interests, particularly in

the form of corporate capitals, with which diverse articulations of broad public policy demands would come to confront. Corporate capital interests cultivated in this period did not just obstruct policy responses to problems emergent on the regional landscape in provincial and national legislatures, either. Rather, they outgrew national boundaries in several respects, increasing pressure on nation-states to deconstruct the regulations protecting domestic national economies. Correspondingly, the Southern Ontario landscape was thrust into a prolonged period of transition, with institutional cleavages along the urban and rural divide apparent, and demands for reform appearing in both local and global arenas of policy making alike.

3.8 1973-Present: Land Reregulation in Times of Global Capital Deregulation - Farm Preservation and Barriers to Diverse Sets of Rural-Urban Relationships

The urban reconsiders the rural

On the heels of Krueger's warning of dissipating peach soils in the Niagara region (1959), research mounted demonstrating that expanding cities were paving over much of Southern Ontario's best agricultural land. The Canadian Land Inventory (CLI) initiated by ARDA began collating information on the quantity and location of quality farmland nationwide. The CLI made clear that despite Canada's abundant land mass, *prime* agricultural lands were in fact quite scarce.⁴⁷ But more than illustrating the scarcity of prime agricultural lands, the CLI documented concretely the relationship between the proximity of urban settlement with prime agricultural lands demonstrating that the terrain closest to cities is where the best farmland lies – compounding the severity of the problems that urban expansion posed to food production (Agricultural Institute of Canada 1976).

But more than simply encroaching on scarce quality food lands, research accumulated arguing that the process of urban expansion was not simply converting the most fertile food lands to urban-related uses, but threatening the capital intensive model of farming that had been established. This research framed urban expansion onto farmland as a threat to agriculture productivity in rural communities (Bryant and Russworm 1979) – particularly in what came to being identified as the “urban fringe” (Munton 1974, p. 201). This research identified that urban sprawl was impacting farmland not only directly through the conversion process, but also indirectly: simply the *anticipation* of farmland conversion began to affect the internal farm structures of remaining farms (Berry 1978; Bryant and Russworm 1979; Bryant 1989; Bryant and Johnston 1992).

Reactions to the agricultural changes in urbanizing environments were mixed. Some highlighted that farmland rental allowed some farm enterprises to expand (Bryant and Fielding 1980). Though others pointed out how soil management practices of farmers on rented land, particularly with short term rental agreements, were questionable (Bunce

⁴⁷ *Prime* farmland according to the CLI is considered land classes 1-3, with class 1 signifying high soil quality located in optimum climactic conditions.

1985). Still others mentioned how high prices for farmland was undermining the profitability of what had become traditional farming operations in the urban fringe areas, particularly dairy, fruits and vegetables, as a result of higher property tax valuations (Berry 1978). More aspects of the farm conversion process and its effects on capital intensive farm structure in relation to the land market were also detected, including the tendency of farmland in the path of urban expansion to be idle for years, and in some cases the tendency of smaller farms to persist on subdivided parcels (Berry 1978; Bryant and Russwurm 1979). These effects of agricultural change in urbanizing areas were singled out especially, with particular indignation. Small farms were viewed as less productive and poorly managed in comparison to farms on large parcels of contiguous land. To the extent that small farms were contrary to ideas of the development project, their persistence was not welcome. But moreover, the aggregation of smaller farms and idle land together was cast as constituting a source of disease and infestation, and therefore a threat to remaining farm enterprises trying to sustain intensive production (Bryant and Russwurm 1979).

Beyond expansion of the built form however, new migration patterns of urbanites came with shifting expectations of rural spaces by urban inhabitants. In this context, concerns for preserving rural areas – as they had been cultivated over many years of post-war development – only heightened. Rural-to-urban migration continued apace, but by the late 60s and early 70s urban dwellers also started looking to move back into the countryside. Urban residents were coming to rural areas to seek the enjoyment of what came to be known as environmental, or countryside, *amenities* (Bryant 1989; Bunce 1998; Fietleson 1999). Rural spaces began to take on a new role. More than simply a land base from which to expropriate surpluses from agricultural production and resource extraction, urban interests began to *consume* the rural in a new way, demanding to experience qualities of rural living not considered available in the city. Fresh air, tranquil spaces, and ideal vistas, all fell under the rubric of countryside amenities sought after by people entangled in urban life. More and more, increasingly mobile urban and suburban populations became interested in consuming rural spaces in the form of recreation, tourism, rural estates and hobby farms (Cloke 1989).

Growing urban interests in rural spaces not only compounded problems associated with speculation and fragmenting of large land parcels on which intensive agriculture production was based, but brought to the fore new concerns into public consciousness. As urban populations infiltrated rural spaces, they brought with them interests in the landscape that were often antagonistic to farming. Dust, odor, tractor traffic, spillover and runoff of agrochemicals associated with intensive farming were an affront to the exurbanite countryside ideal (Bunce 1998). Furthermore the heavy use of agrochemicals and concentrated animal waste, hallmarks of intensive farming, came to be identified as hazards to public health and safety as well as degrading to countryside amenities like fresh air, clear water, and wildlife habitat.

In 1976, three documents were released; all pertaining to a strategy for maintaining intensive agricultural land uses while at the same time intending to mitigate perceived land use conflicts between urban and rural interests in the countryside. The province released a non-binding *Strategy for Ontario Farmland*, while the Ministry of Housing, in conjunction with Huron County, released a study entitled *Countryside Planning* that identified a planning methodology for rural areas (MacLaren 1976). The third publication was co-published by the three provincial ministries of Agriculture and Food, Housing, and Environment entitled *Agricultural Code of Practice*. The *Code* was, again, non-binding, but it suggested agrochemical and manure management practices to protect water sources, included a proposed strategy for manure spreading, and introduced a concept called Minimum Distance Separation (MDS). The objective of the MDS was simple: to create a formula to distance livestock operations from residences, thereby mitigating conflicts in the interface of farm and non-farm interests in rural spaces. The MDS suggested that for every new residential lot created in the agricultural area, there is to be a corresponding buffer limiting the establishment or expansion of livestock operations in the vicinity of the residents; meaning that not only would houses have to be placed a minimum distance from livestock operations, but the placement of houses would impact the potential location of farm activities in neighboring parcels (Caldwell 1995).

With these three documents, planning in Ontario took a decidedly regional turn. In 1978, the Province released *The Foodland Guidelines*, a legal document for which all planning units subject to the province would have to comply. *The Foodland Guidelines*

contained contributions from each of the three non-binding preliminary planning documents released in the few years before (Caldwell 1995). Overall, *The Foodland Guidelines* represented a watershed moment for land use planning, in that it was the first document to insert into the legal and jurisdictional provincial planning framework, an approach to planning acknowledging agriculture as a desired land use to maintain on the Southern Ontario landscape. *The Foodland Guidelines* required provincial ministries, municipal councils, local boards, commissions and the Ontario Municipal Board (OMB) to “have regard to” its stipulations. In this way, *The Foodland Guidelines* were implemented through its recognition in official plans at the county and municipal levels (Caldwell and Weir 2002).

The Foodland Guidelines articulated a vision based on the information provided by the Canadian Land Inventory, and focusing on the tools planning divisions had at their disposal the *Foodland Guidelines* emphasized subdivision/severance control and zoning as the tools to accomplish its proposed vision. Municipal and county officials were to identify agricultural districts through zoning, restricting the type of building permissible on *prime* agricultural land (land class 1-3 as identified by the CLI) and curtailing severance activity on properties consisting of such lands. *The Foodland Guidelines* stated clearly a position on desired farm structures to preserve, and pursued it by discouraging severance activity: “farm parcel sizes must stay sufficiently large” so as to maintain “flexibility” that allows agricultural activity to remain “economically sound” (Government of Ontario 1978, p. 17). The policy sought to minimize the land’s fragmentation into smaller parcels.

Meanwhile, however, farm consolidation and growth of farm enterprises were encouraged. *The Foodland Guidelines* did recognize and allow for subdivision and severances of certain kinds, particularly for surplus dwellings – residence buildings considered surplus to the farm enterprise, gained through farm consolidations. It also recognized and permitted other “farm-related” severances for buildings to be erected that complemented farm activity, including lot creation for hired help, or for family involved in the farming operation, as well as for retiring farmers wanting to sell their farm acreage but keep their house. Farm-splits (making one farm into two without the addition of buildings) were discouraged to the extent that they were considered superfluously

fragmenting the land base. That the remaining smaller parcels might hamper the flexibility for farming on the land at that location in the future was a principle concern (Caldwell and Weir 2002).

Where severances did occur, MDS formulas were translated from the *Agricultural Code of Practice* into *The Foodland Guidelines* establishing separation distances between residences and livestock buildings. *The Guidelines* explicitly suggests that the MDS formulae “reduce the likelihood of nuisance complaints” (Government of Ontario 1978, p. 16).

The Foodland Guidelines represented the establishment of a provincial land use planning framework for agriculture by prioritizing prime farmland for agricultural use. It did so, however, with a view to maintaining the intensive model of agriculture production and the industrial practices it had come to represent. In other words, rather than identifying the tensions between urban and rural interest in rural spaces as emergent contradictions in the design of farms and cities, they were boiled down simply to land use conflicts. The principle of intensive production, and the underlying relations linking capital accumulation in food production and urban expansion together, were never confronted. Rather, policy responses to growing tensions between urban and rural spaces as they each interfaced geographically closer together, took the approach to assuage the spatial *fit* of capital intensive farms existing alongside cities. The social and economic distance between the urban and rural experience, however, was left unresolved.

This planning approach had its detractors. The vision outlined in the *Foodland Guidelines* served interests of an urban population by potentially preserving the experience of the countryside for them, and mitigating some tensions arising from urban encroachment onto rural spaces. But farmers, developers and municipalities were reticent to align with this vision, as the burden of this planning approach fell unevenly onto them. For land developers, the potential for building lots and subdivision was further curtailed. For municipalities and counties, the potential revenue from property taxes applied to new urban residences was threatened. For farmers – the only stakeholders directly involved with using and managing the land to support their livelihood – they did not always acquiesce to what they saw as an infringement on their property rights as landowners. In re-regulating only the property consisting of land in agricultural use, the regulations

disproportionally affected the property rights of farmers and the equity they had invested in their land.

A new political economic project?

Paradoxically, as farmland came to be recognized as an important component of the landscape to preserve, the ability for farming enterprises to remain on the Southern Ontario landscape became much more tenuous. The entire framework within which farmers were making production decisions was changing, both as tensions started to appear amongst agricultural commodity groups nationally, and as established agricultural, industrial, and finance capitals vied for more international growth opportunities. Just as the decision making framework of farmers was changing underneath them in the ways that farmers could participate in the land market and make land use decisions, it was changing overhead in the ways agricultural policy began to reconsider nationally organized agricultural commodity markets and farm income support structures.

McMichael (1996) suggests that in the decades of the 1970s and 1980s began what he coins *the globalization project*: an idea of global economic management in which certain powers of nation-states to regulate and control domestic national economies are transferred to international financial institutions and corporations, and further, the very ability of states to regulate domestic markets are dismantled. The national regulatory spaces that had nurtured domestic national economies, particularly protecting agricultural commodity prices but also assembling support structures of social welfare, began to come under new sorts of pressure as both productive and finance capitals became increasingly international in scope (Friedman 1993; McMichael 2005; Fairbairn 2012).

The extent to which the globalization project has, or continues to displace the legacies of the development project is unclear. On the Southern Ontario landscape and in Canada nation-wide, cleavages appeared amongst desires to continue fortifying the national economy on the one hand, and to liberalize flows of capital through free trade and engagement in international markets on the other. In the agri-food sector this cleavage formed again, along commodity lines.

Nationally in Canada, for example, chicken and egg producers and processors competed for their share of the national market. By the 1970s, however, the distribution

of urban markets and processing facilities had become very uneven across the country, concentrating in Ontario, Quebec and B.C.. Inter-provincial competition began to cannibalize profits in what came to be known as “the chicken and egg war” (Mitchell 1975). Such domestic competition among producers and processors in different provinces threatened to destabilize the nationally organized economy, which in large part hinged on the free inter-provincial movement of goods (Skogstad 2008). To mitigate this pressure farmers and processors came together within the established corporatist frameworks, and on the heels of federal legislation enabling the expansion of commodity-specific supply management frameworks, constructed national supply management systems for their own inter-provincially traded goods. To this end, in a curious extension of national development logic, supply management frameworks were created each for eggs (1973), turkeys (1974), chickens (1979), and broiler chicken hatching eggs (1986). Premised on the experience of dairy, a quota system was established streamlining production to promote only the most intensive and specialized producers.⁴⁸ Import restrictions were also enacted in each newly supply-managed commodity to insulate the national market from international market pressures (Skogstad 2008).

But at the same time in other sectors, corporate capitals were outgrowing the national economic space that had nurtured them. Resistance to national protectionist policies from different elements of the agri-food sector intensified. Supermarkets, for example, were expanding into other aspects of the agri-food industry, concentrating capital and integrating into processing and financial services (Winson 1993; Burch and Lawrence 2007). By 1987, a handful of supermarket corporations controlled over 70% of food sales in Canada (Winson 1990; Skogstad 2008). In southern Ontario, the largest supermarkets had moved their operations out of the publically governed Ontario Food Terminal to their own distribution centres (Campsie 2004). New actors in the agri-food sector had also emerged. Skogstad (1993) identifies “second line” processors as those with less of a direct relationship with farmers than the “first line” processors that had traditionally engaged in corporatist policy frameworks. The growth of second line

⁴⁸ Quota systems were filtered through the provinces. The national agency set a nation-wide quota dividing it up amongst the provinces based on market size. The provinces distributed quota to producers as they saw fit (Skogstad 1990). In Ontario, the minimum quota was set high relative to other provinces (though it has changed in each commodity over the years), in part reflecting the interests of the few, but large, processors (Mitchell 1975; Young and Watkins 2010).

processors since the post war period reflects the development of a food-science industry making “substitutable” processed goods and ingredients, and agri-food capital marketing table ready food-stuffs and fast-food (Skogstad 1993; Friedmann 2005). Supermarkets along with these new kinds of processors pressed for the dismantling of national economic spaces that regulated their global reach as they sought to lower costs by expanding their pool of suppliers and streamlining supply chains internationally.

Among commodity groups, however, the cleavages between national and global interests were stark. Nationally in Canada, these cleavages appeared along a geographical axis, with western grain and livestock commodity groups pushing the government to take a strong free trade position, while commodity groups in Ontario, Quebec and B.C., who were disproportionately engaged with supply-managed markets, staunchly guarded domestic protections. In Southern Ontario, these cleavages appeared similarly but more concentrated as the range of agricultural production across the regional landscape remained diverse. Commodity groups in grains, oil seeds, cattle, and hogs were more internationally oriented than the dairy, poultry, and egg commodity groups that were supply-managed. Fruit and vegetable commodity groups, as well active in Southern Ontario, were just as divided. Some welcomed free trade negotiations, as they saw the opportunity to harmonize nationally regulated quality standards with other countries in ways that could open up trade across borders, while others were wary of international competition from more highly capitalized farmers in other parts of the world, particularly the U.S.. Fairly consistent among all commodity groups, however, was the reduced bargaining position of farmers in relation to agri-food interests and urban consumers within the corporatist frameworks for policy formation. Especially as both processing capitals and urban consumers had become dependent on the industrial and transnational orientation of the agri-food model of food provision and capital accumulation.

The tensions that emerged between national and international control of capital flows played out in international trade negotiations.⁴⁹ In 1988, Canada and the US signed a bilateral Free Trade Agreement (FTA) that extended to include Mexico in 1994

⁴⁹ In 1986, in conjunction with other second tier grain exporting nations, Canada formed the CAIRNS group to push agriculture onto the agenda of the Uruguay Round of GATT negotiations. The objective of the group was to increase their share of world grain exports amidst US and European export subsidies that were spiraling upward since the mid 1970s and were seen to be undercutting competitive access to world markets (Skogstad 2008).

(NAFTA). In 1995, the GATT Uruguay round concluded, establishing the World Trade Organization (WTO) that embodied several agreements pertinent to the national regulation of the agri-food sector.⁵⁰ Throughout the bilateral and multilateral negotiations, nation-states including Canada were challenged to preserve and protect existing national economic support programs and protectionist policies that to large extent had undergirded economic growth and profits domestically, while corporate interests intensified resistance to nationally regulated economic spaces (McMichael 1992).

The outcomes of the FTA/NAFTA and the GATT/WTO negotiations were mixed. The FTA/NAFTA excluded reference to major national economic support structures, like supply management, reserving those to be negotiated in the multilateral arena of the GATT. The FTA/NAFTA did, however, phase out most tariffs on commodities crossing the Canada-US border, and reduced production subsidies: The US reduced export subsidies on goods coming into Canada, and Canada repealed the longstanding subsidy for grain freight transportation (Skogstad 1992). For Southern Ontario farmers, each commodity group realized some losses and some gains, but overall meat, livestock and grain/oilseed commodity groups are considered to have been impacted more positively than fruit and vegetable commodities – especially in regards to rules targeting the fresh produce market (Skogstad 1992). However, to the extent that more radical demands of any single actor in the nationally organized agri-food sector for either market liberalization or national protection were mitigated in the FTA/NAFTA negotiation, Skogstad (1992; 2008) credits legacies of prior development: the federal division of legal authority over agriculture in Canada, and the corporatist framework of commodity groups embodying entrenched, commodity-specific, farmer-(first-line)processor alliances, each obstructed more radical demands on either end of the scale. Skogstad (1992) does contend, however, that provisions of the FTA/NAFTA were most consistent with the preferences of the most dominant agri-food capital interests.

The WTO's *Agreement on Agriculture* (AoA) was designed to open agricultural markets, though it did not entirely succeed in dismantling national farm support programs

⁵⁰ Of particular significance was the watershed *Agreement on Agriculture* (AoA), which represented the first significant push to include agriculture under the multilateral free trade arrangement since it was explicitly excluded from the GATT in 1946. There was also the *Sanitary and Phytosanitary (SPS) Agreement*, as well as a dispute settlement mechanism.

and protectionist policies across the board, particularly with respect to those policies of the most developed industrialized economies (McMichael 2005). Supply management frameworks in national economies were upheld, although other stipulations in the Agreement destabilized these very frameworks significantly. For example, stipulations to require a minimum level of imports across all commodities, and a stipulation requiring the conversion of quantity-specific import restrictions to more import-lenient tariff mechanisms⁵¹ undermined to some extent the stability of some supply managed markets in Canada, particularly dairy, as super markets could import manufactured food products like frozen pizza from second-line processors internationally (Skogstad 2008).

Perhaps the most significant outcome of the GATT/WTO, however, was the changes required of farmer income support programs. The AoA constructed a hierarchy of national farm support structures, distinguishing farm transfer payments linked with commodity-specific or volume-specific production (like commodity-specific stabilization boards were in Canada) from those that were not in relation to commodity or volume production requirements. The latter kinds of supports, described as decoupled support programs, were framed as non-distorting of international commodity prices and were upheld as legitimate forms of agriculture support.⁵² The former, however, were identified as distorting international market-prices, and if they were not removed, their application could be met by WTO sanctioned retaliatory action by trade partners.

In this context, Canada has made resolute changes to federal agricultural support programs to align with the stipulations of free trade agreements. Canada moved to decouple farm support programs by enacting the *Farm Income Protection Act* (FIPA) in 1991, effectively terminating the post-war *Stabilization Act*. In the years following, commodity specific stabilization boards were dismantled and a ‘whole farm’ approach to farm support programs was implemented (Skogstad 2008, p. 82). In the words of Ralph Goodale, the Liberal Agricultural Minister (1993-1997), the whole farm approach

⁵¹ Tariff Rate Quotas (TQRs), for example, do not outright restrict imports of supply managed commodities over a certain quantity, but set a higher tariff rate on imports of those commodities once a certain amount is reached.

⁵² This taxonomy was developed particularly in reference to the EU’s position on the *multifunctional* benefits of farming. Europe constructed the term “multifunctionality” to refer to benefits of farms and farming on the landscape in terms of specific environmental qualities, and benefits to rural communities. In some respects, it acknowledges the benefits of agriculture outside of commodity markets, but it was articulated in a way to achieve specific goals within international trade negotiations (McMichael 2005)

encouraged “farmers to make sound decisions based on the market and not on government programs” (Skogstad 2008, p. 77).

Mechanisms of farm support since have been consistent with the ‘whole farm’ approach articulated in FIPA, several of which have been implemented through a number of programs throughout the 1990s and 2000s, continuing today. Several programs have been employed to varying degrees making up the general policy suite of this approach, outlined in federal-provincial cost-sharing agreements. These include a farmer savings account matched by government transfer payments that farmers can access in times of low commodity prices (no matter what commodity crop the farmer is producing), extended crop insurance programs, provincial ‘companion’ programs tailored to provincially-specific commodity issues, and separate disaster relief funds (that have served as rainy day fund for incidences of inclement weather, including pests and disease, as well as for incidences of extreme drops in international commodity prices) (Skogstad 2008).

In Southern Ontario, consistent with the global political economic climate and national agricultural policy reforms, the Ontario Ministry of Agriculture, Food and Rural Affairs (OMAFRA) has not only encouraged producers to integrate into international market activity and adopt an export focus, but has restructured their own departmental resources with a view to increasing exports (Blay-Palmer and Donald 2007). Extension services, for example, that once supported farmers through applied research in production methods (geared since the 1960s to capital intensive production) shifted to support the development of “export and marketing expertise” (Blay-Palmer 2008, pp. 30, 75). The creation of the Foodland Ontario label to identify produce grown in the province is a case in point. Foodland Ontario is mandated to “promote increased sales of Ontario produce and improve market penetration” (Blay-Palmer 2008, p. 75).

Overall, the forces of market liberalization in the form of free trade negotiations altered significantly the national prerogatives to regulate and/or support domestic food production, suggesting the unfolding of a new globalization project. New foundations for international trade in agriculture were laid out in ways consistent with neoliberal ideology and globalized regulation of markets (Skogstad 2008; Weis 2007; McMichael 2007). But legacies of the development project also persist. Supply management frameworks have

been upheld, and while farm support structures have been dramatically altered, they still remain. Nevertheless, under these new institutional conditions Southern Ontario farmers have been made at once more vulnerable to international market competition, just as international market competition has been both intensified and encouraged.

The landscape corollary

Such political economic conditions drastically restructured rural space. In the decade following the signing of NAFTA and the establishment of the WTO (1996-2006) Ontario food exports increased 28% while imports to serve consumers increased 34%. The kinds of farm commodities being produced, where on the regional landscape they are being produced, and how much in relation to other farm commodities, have all been affected.

Capital equipment and processing infrastructure is also being hollowed out as plants close down and corporate actors in the agri-food sector integrate internationally. Since the 1950s, much of the mid-sized processors for fruits, vegetables, meats and dairy closed down, with only the largest corporate processors remaining. After the free trade agreements, however, the largest agri-food corporations with subsidiaries located in Southern Ontario have undergone significant restructuring with significant effects on the orientation of production in the agri-food sector (Blay-Palmer and Donald 2007). Campbell's for example, one of the largest purchasers of Ontario produce for processing, reconfigured its operations "to be part of a continentally rationalized, technologically sophisticated production system" that involved narrowing the line of products it manufactured on the Southern Ontario landscape (Blay-Palmer and Donald 2007, p.386). This significantly reduced the kinds of vegetables being demanded of Ontario vegetable producers. But it did not stop there. As recently as 2012, the last pickle processors moved out of Southern Ontario when Bicks Pickles concentrated its production in Wisconsin, looking to cut costs as "third party processors" input into an internationally rationalized supply chain from as far away as India (Hopper 2012). In 2013, The Heinz Company closed down its processing factory in Leamington, leaving the "tomato capital of Canada" with no local outlet for its principle commodity. Reflecting the loss of processing infrastructure, between 1996-2011, acreage of fruit production on the Southern Ontario

landscape diminished by 25% from approximately 70 000 acres to 50 000 acres. Acreage in vegetables reduced 18%, from roughly 160 000 acres to just under 130 000 in the same period (Statistics Canada 2011). Meanwhile, fresh fruit and vegetable imports have been increasing significantly. By 2010, 65% of the produce flowing through the OFT was imported in relation to only 35% coming from regional farms, and the OFT cannot be considered by far the largest aggregation hub in comparison to the distribution centers of Loblaws, Sobeys and Walmart (Wolfson 2010).

One of the more astounding changes in agricultural production on the Southern Ontario landscape has been the replacement of pasture as one of the largest components of total farm acreage in Ontario, with grain-corn and soy beans. Between 1996-2011 pasture decreased 35% from over 2.5 million acres to 1.6 million, while grain-corn and soy beans increased 18% and 28.5% respectively (Statistics Canada 2011).

Despite the loss of pasture, the numbers of dairy and beef cattle have remained relatively consistent since 1996, but they have been concentrated in fewer but larger farms. Perhaps the biggest change in the livestock industry is the ability to produce beef from calf to slaughter within Southern Ontario. After NAFTA, cattle rearing in Southern Ontario was integrated with feedlots and slaughterhouses in the U.S., while local infrastructure to produce and process meat within the region has all but disappeared. One sub-regional production analysis of Frontenac and Lennox-Addington counties near Kingston showed that by 2001, nearly 51% of farms focused on beef cattle production. These operations birthed over 15 000 head of cattle annually, but 95% are shipped within the year to U.S. feedlots and only a portion return as dressed meat to Kingston supermarkets. The capacity to produce and process beef within the county itself has been reduced to two feedlots with a combined capacity of fattening 500 cattle annually and a single abattoir that imports fattened cattle from as far away as Argentina (Blay-Palmer 2008).

The change in what, where and how commodities are being produced in remaining food lands reflects and underpins other key social trends unfolding in rural spaces in the context of the domineering global-industrial model of agricultural production. As exports have increased, farmer incomes have steadily declined. Despite production increases, corporate actors among the international agri-food supply chains

are squeezing farmer incomes. Qualman (2012) indicates that in the last decade, despite the increase in the value of Canadian food exports, farmer income from on-farm production has sunk below zero, and any net income farmers gain is sourced not from agricultural markets but from the “whole farm approach” of government farm support programs in combination with off-farm occupations – practically the same conditions inspiring ARDA four and a half decades ago.

Along with falling farm incomes is a shrinking farmer population that is aging, reflecting the disruption of what was the traditional family-oriented farm succession arrangements since pioneer days. Fewer farm family kin have taken up the occupation of farming. The farming cohort in place after the NAFTA and WTO were signed have aged or exited farming, while new entrants have not taken their place (National Farmers Union 2011). Between 1999-2006, farm operators under the age of 35 declined by 49%, and by 2011 declined a further 13%. Meanwhile, the average age of farmers increased from 52.5 to 54 years between 2006-2011 (Statistics Canada 2011). Within a single generation, the traditional forms of succession that left land in the hands of new farmers as older farmers retired has been disrupted.

Unsettled farm-city relationships

But in the midst of this rural restructuring and agricultural change, as more consumers have come to appreciate rural spaces but are at the same time being supplied food more than ever by the heavily concentrated global-industrial agri-food sector, environmental and consumer movements have started to arise.

Blay-Palmer (2008) suggests that “food fears” have come to characterize the relationship of rural food lands to urban settlement in Southern Ontario. Blay-Palmer argues that the intensification of production in rural spaces in relation to the internationally integrated, capital concentrated, industrial agri-food sector have created the conditions for localized food scares – like the *E Coli* outbreak in 2000 in Walkerton Ontario (attributed to water contamination from manure-based run-off) and *BSE/Mad Cow* disease in 2003 (attributed to industrial livestock feed). These food scares in turn, Blay-Palmer continues, have created the conditions eliciting urban consumers to demand more diverse sets of urban-rural relationships, in the form of alternative food choices that

represent an array of different food-supply networks of specific organic, fair-trade, artisanal, or ethnic products.

Food fears have come to govern urban consumers food choices, in conjunction with other diet, social justice, and environment related concerns. Donald (2009) contends that food fears and related concerns are the “cracks” disrupting the industrialized and internationally integrated agri-food sector as it remains located and functioning on the Southern Ontario landscape. Within these cracks new and hybrid food supply networks have emerged. From them young urban born people have expressed desire to start farming operations with ecologically and socially minded principles. Foreign born immigrants have begun to think of engaging farming in Southern Ontario as an opportunity for a somewhat familiar lifestyle to the ones they had in the countries where they were born, but created in serving new emerging markets in the region. And businesses for different products are emerging trying to support regional farmers that express similar ethical virtues for value added goods that express value beyond only profit. These new hybrid food supply networks represent different sets of rural-urban relationships drawing on cooperative and mutual interaction between food lands and urban settlement. Donald (2009) identifies this phenomenon as the emergence of the *creative food economy* that in Ontario, between 1999 and 2006, has been the fastest growing sub-sector of the economy as a whole. Within the creative food economy, Donald (2009) identifies new “spaces of social inclusion” emerging in the form of new supply chains defining different production methods (p.24). Production methods that “improve opportunity for interaction” between both people and nature, and between urban and rural communities, offering better access to quality food in cities and better social and ecological integrity in farm systems (Donald 2009, p. 24). Food fears, and the creative economy are only some expressions of the increasing disaffection of urban consumers with their experience of food provision.

As cracks have emerged, however, the political momentum building within them has often been fragmented, and interests often only partially align. To some extent, the agri-food sector has tried to appropriate labels such as *local* (Dupuis and Goodman 2005) and *organic* (Guthman 2004) to exploit these cracks (Friedmann 2005). Furthermore, often when concerns of urban populations are translated into issues of quality, safety, and

access, conditions of food production as they take place in rural spaces are resigned to narrow consumption oriented political demands (Goodman and Dupuis 2002). For example, interests in local food are often uncritical of the relations of production as it might happen ‘next-door’ (Dupuis and Goodman 2005; Born and Purcell 2006; Levkoe 2011; Mount 2012). Relatedly, when concerns of food production are questioned and examined, they often fail to reconcile the pressures farmers face to maintain viable farm enterprises (McMahon 2011).

Particularly, as imports have increased, it has made it easier for interests in land to emerge that are disconnected from concerns related to food, particularly how and where it is grown. Alongside an increase in interests for rural estates among the urban elite, have also been increased interests in aggregate and quarry activity for highways, residences, commercial malls and high rises. These have ripped up the loamy soils that make up the quality food lands on the Southern Ontario landscape – the very foundations colonial settlement – for the sand, gravel and limestone underneath. Environmental concerns in reaction to visible environmental disruption of mining and quarries, particularly as urban populations infiltrate rural space, have incited political movements for conservation that either shallowly touch upon, or circumvent matters of food production (Bunce 1995).

Groundwork for the future?

Provincial and municipal governments continue use land use planning tools to address the shifting foundations of estrangement between urban and rural spaces, assuaging the spatial fit of different land uses. As more interests have emerged in the land that are unrelated to food production, and the number of retiring farmers increase with little intention of keeping farming within the family structure, the planning framework implicating agricultural lands has become more layered and complex. Nevertheless, the general principles set out in *The Foodland Guidelines* have been carried through provincial planning reform, and have not changed significantly.

In 1994, the Province of Ontario released a document entitled “a comprehensive set of policy statements” that was duly incorporated into *The Planning Act*. This set of policy statements outlined six categories of land use interests, including housing, infrastructure, natural heritage, conservation, aggregate and petroleum resources, as well

as one for agriculture (Government of Ontario 1994). The policy statement for agriculture replaced *The Foodland Guidelines*, but kept its key principles. The stated goal of the new agricultural land policy was to “protect prime agricultural areas for long term agricultural use” (Government of Ontario 1994, p. 13). Lot creation through severance was discouraged: fragmentation of the land base, and future “flexibility” of the farm enterprise remained key concerns. MDS formulae were also continued.

In 1996, the Province of Ontario released the *Provincial Policy Statement* (PPS), and again incorporated it into *The Planning Act*, replacing the 1994 comprehensive document. The 1996 PPS reflects a lesser commitment to keeping agricultural land for agricultural use (Caldwell 2012). The 1996 Statement allowed for areas to be excluded from prime agricultural areas for expansion of urban areas, as well as for aggregate extraction, and other non-residential non-agricultural uses where “the need is demonstrated” (Government of Ontario 1996, 2.1).

The effects of these policy statements are best seen in their implementation through lower level municipal plans, and how land use decisions at the municipal and county level were made. In the 1990s, the majority of new lots created in agricultural land throughout the province were for residential use (Caldwell and Weir 2002). A large percentage of these new residential lots were for retiring farmers who sold their land to other farm or non-farm related interests, but who severed their home from the property to retire in. Different counties had planning regulations for agriculture that to varying degrees protected the typical model of farming that had been taking place in their area (Caldwell and Weir 2002). The counties with “very active” agricultural industries have been considered to have the most “agriculturally conducive policies” to the extent that these counties, like Huron and Perth with prosperous livestock (including dairy) producers, intend to maintain land parcels of appropriate size for capital intensive farming practices. The counties, for example, have restricted severances beyond the stipulations of provincial policy (Caldwell and Weir 2002, p. 96). Such counties also have gone as far as to implement Minimum Parcel Sizes (MPS). In counties where urban pressure has been strongest, in those closest to large and expanding urban settlement areas, there has been correspondingly more severance activity (Caldwell and Weir 2002).

During the same time that a planning framework to manage food lands has been developing; other planning arrangements have been legislated alongside the *Planning Act*. These have been used to regulate land use in response to specific public concerns about the environment. Throughout the 1980s and 1990s, a coalition of Ontario-wide environmental and naturalist groups advocated for development controls on both the Niagara Escarpment and the Oak Ridges Moraine for purposes of environmental protection. The Niagara Escarpment is a prominent geological formation extending across Southern Ontario, from Manitoulin Island in the north, through the Bruce Peninsula to the Niagara River in the south. The efforts of these environmental and naturalist groups supported the formation of the Niagara Escarpment Plan and its revisions in 1985 and 1994 respectively. The impetus for the Niagara Escarpment Plan was damage caused by aggregate mining on the escarpment cliff face, which was highly visible to motorists travelling along the highway west of Toronto (Niagara Escarpment Commission 2013). The Oak Ridges Moraine Plan was initiated in 1994, leading to the Oak Ridges Moraine Conservation Act in 2001. The Oak Ridges Moraine is a geological landform that runs east-west across south central Ontario. On the heels of pressure from key environmental groups interested in protecting natural heritage and ground water sources (Whitelaw et al. 2008), the primary purpose of the legislation has been to protect the ecological and hydrological integrity of the Oak Ridges Moraine (Government of Ontario 2001).

Some have suggested that such achievements in legislation as the Niagara Escarpment and the Oak Ridges Moraine illustrate a renewed bioregional consciousness; that amongst the diversifying interests in rural spaces, geological features are being recognized for their contribution to ecological integrity of the landscape as well as a sense of place among inhabitants (Gilbert et al. 2009). However, despite their accomplishments, food production within these designated sub-regional areas have not much been considered. The efforts to achieve legislation to regulate development on the Niagara Escarpment and the Oak Ridges Moraine were instigated principally by urban, suburban and exurban populations (Whitelaw et al. 2008). Although the integrity of the watershed to support all sorts of economic activities on the landscape, including agriculture, was identified as a quality of the Oak Ridges Moraine worth conserving, food provisioning and the potential connections for food grown on these lands for regional

inhabitants does not seem to have played a large role in their development. In fact, farmers were just as often antagonistic to further regulation of their land development rights as they were aligned in support of their agricultural interests (Niagara Escarpment Commission 2013). Raja et al. (2010) contend that planning for food in a way that facilitates healthy eating and that accommodates for food's cultural, social and environmental profundity – rather than simply as a vector of commodity production – continues to be far from practiced.

In 2002, the province started to discuss a 'Smart Growth' strategy for land use planning issues, endeavoring to reconcile settlement and growth with sustainable resource use (Davidson 2007). Major components of Smart Growth in Ontario include planning reform, large area integrated planning, and infrastructure renewal (Caldwell 2012). In 2005 planning reform was undertaken, the province updating the PPS as a first step in the smart growth strategy. The 2005 PPS re-emphasizes a commitment for agricultural land to be prioritized for long term agricultural use, returning to stronger language reflected in the 1994 PPS. It binds lower level official plans to be "consistent with" its stipulations. Though in relation to expressions of the creative food economy, the 2005 PPS remains staunchly prioritizing the growth of farms with little in the way of enabling new spaces for production. The 2005 PPS elects to maintain pathways for farm consolidation, while making no concessions to the potential for an increased number of small farms to take the place of larger farms as farmer retire. It also is much more strict in terms of regulating severances on agricultural land, restricting severances for retirement purposes, farm help, and for family related involved in the farm enterprise. It does, however, maintain severances for surplus housing in cases of farm consolidations. The 2005 PPS also provides a province-wide "suggested" minimum parcel size of 100 acres. In cases of farm-splits, maintaining the size of parcels appropriate for capital intensive farming is prioritized, and new residences are disbarred, effectively restricting the emergence of new farm enterprises as opposed to enlarging existing ones. Caldwell (2012) contends that under this 2005 PPS arrangement, it is most often the commercial scale farmer seeking surplus dwelling severances, suggesting for whose interests these regulations are suited.

As part of the large area integrated planning component of the Smart Growth strategy, the *Greenbelt Act* (2005) and a complementary *Places to Grow Act* (2005) were

adopted. These two acts combined can be seen as a logical extension of the *spatial fit* approach to planning undertaken by the province as interests in land and land use in Southern Ontario have diversified. The *Greenbelt Act* designates “the greenbelt area” that combines the designated areas of the Niagara Escarpment Plan and the Oak Ridges Moraine Plan with other lands on which agricultural production and some small settlement areas reside, creating a contiguous arc of rural land around the Greater Golden Horseshoe urban area protected from conversion into urban space.

While the *Greenbelt Act* does protect 1.8 million acres of land from conversion into urban space, it does not restrict other uses like mining or quarries. The *Greenbelt Act* also stipulates minimum parcel sizes of 100 acres in areas designated as protected countryside and 40 acres in areas designated as specialty cropland.⁵³ No new residences can be placed on parcels made from farm splits. This again makes it easier for farmland to be consolidated than for new farm enterprises to develop. In many ways, the greenbelt represents layers of interest in the land within its boundaries, from those concerned with protecting the watershed and natural features on the landscape, to those concerned with aggregate and mining potential. Though the extent to which the formation of the greenbelt has respected the interests of farmers, and potential for maintaining food lands within it in the future is less clear (Neptis Foundation 2005).

The *Places to Grow Act* (2005), on the other hand allows the province to identify and designate growth areas for urban settlement. The Act directs urban intensification by establishing boundaries around urban settlement areas requiring intensification within them. It also enables regional growth plans to implement intensification targets. In 2006, the province created the first growth plan under the *Places to Grow Act*, adopting the growth plan for the Greater Golden Horseshoe (GGH).

Unsurprisingly, the boundaries drawn by the Greenbelt Plan and the Places to Grow Act, inclusive of the GGH growth plan, reflect more political realities than ecological ones. For example, many contend that the intensification targets set out in the places to grow act are not high enough to contain urban sprawl (Tomalty and Komorowski 2011). Moreover, there is ample Class 1 farmland lying between the inner

⁵³ Specialty cropland is primarily in the areas of the Niagara fruit belt and in the Holland Marsh. Most of the greenbelt area falls under protected countryside designation (Sustain Ontario 2009).

greenbelt boundary and the urban boundaries set by the GGH growth plan. This portion of farmland is in a regulatory twilight zone that has been named the “whitebelt” – land still zoned by counties as agricultural or rural, but that lie between the provincially protected greenbelt and the current edges of the projected growth area (Gombu 2010).

One report concisely describes the ecological characteristics of the whitebelt:

“The whitebelt area primarily consists of rural and agricultural land, and although it has less land use restrictions than the adjacent Greenbelt, it represents some of the best farmland (i.e. most productive Class 1 agricultural lands) left in Canada, as well as sensitive ecological areas, such as wetlands, that are exceedingly rare in Southern Ontario.” (Suzuki Foundation 2013)

Though lacking the protection afforded to the greenbelt, it is left remarkably vulnerable to conversion (Marion 2012).

Thousands of acres of the whitebelt are now owned by non-farm interests (Campsie 2008). While the best cropland closest to dense urban settlement is dedicated to corn and soy production for livestock and bio-fuel industries, furthermore facilitated by the precarious lease agreements in which speculative landowners make the land in the whitebelt available, five of the major municipal regions within the whitebelt have proposed to expand urban settlement into the area as part of their growth forecasts to 2031 (Suzuki Foundation 2013).⁵⁴

It is still the case that in order to be profitable in the post-NAFTA and WTO market environment, farmers in Southern Ontario are pressured both directly by policy and indirectly by market signals to intensify production through capital investments in land, machinery and agrochemicals. The urban-rural divide, and the markets mediating food lands and urban settlement, still loom large. The pressure of land conversion from expanding cities is further challenging the presence of food lands on the Southern Ontario landscape in the future, if only by threatening the dominant capital intensive model of farming while new farm structures face numerous barriers to entry. In fact, even as urban and rural spaces have fit and interfaced ever more closely together on the landscape, a wider gap has appeared with regard to urban and rural experience, manifesting socially, economically and increasingly, politically.

⁵⁴ The City of Hamilton, Halton, York, Durham and Peel

Problems, opportunities, legacies

Agricultural policy still orients farming toward a model of capital intensive agriculture, encouraging exports. And planning for agricultural land still endeavors to protect this model of farming. All the while farmers have become more vulnerable to global flows of capital, and more exposed to the volatilities of international commodity prices. Farm incomes have declined, and traditional forms of succession that left land in the hands of new farmers as older farmers retire have been disrupted. Food fears and environmental degradation have exposed to urban and rural populations alike the inherent contradictions of the landscape. This makes clear that agricultural and planning policies have yet to adequately confront the motives underlying the currently unsustainable configurations of farms and cities.

Property taxes remain a primary source of revenue for counties and municipalities, and councilors remain tempted to reap more taxes from higher valued land for urban settlement than from preserving agriculture. To the extent that zoning and subdivision/severance control remains a political decision for local authorities, and the ultimate arbiter of development conflicts remains in the hands of a provincial board historically biased toward the integrity of the land market,⁵⁵ the pressure to allow conversion of farmland into non-farm uses is relentless and speculative activity continues to push the price of farmland far beyond potential returns from agricultural use under current market conditions. That zoning bylaws continue to be perceived as relatively easy to change, highly capitalized non-agricultural interests continue to purchase farmland and lobby to change zoning designation after the purchase: “Ontario guidelines for farmland preservation are strong on paper,” observes Seccombe “but they lack the force of the law” (2007, p. 7).

The efforts to protect farmland through land use planning for agriculture have brought with it much of the environmental and social baggage of prevailing farm structures (Dunn 2013; Fietleson 1999). The contemporary approach to preserving farmland in the midst of deregulated capital flows and global commodity markets, not

⁵⁵ The ORMB has since rid the ‘R’ from its title and is now simply the Ontario Municipal Board

only biases against existing farmers in the way that it infringes on their development rights, but biases against future farmers by limiting how land parcels containing prime agricultural land can be conveyed and therefore the kinds of farming systems that can potentially be pursued. Minimum parcel sizes, meanwhile, are still sufficiently large that they require significant capital investment for profitable agricultural production (Sustain Ontario 2009). Moreover, by restricting the construction of housing on severed farm splits while allowing surplus dwellings to be severed, current policy biases highly capitalized commercial farms over potential new entrants into farming.

Overall, contemporary policy initiatives in response to the myriad economic, social, and environmental problems on the landscape are interacting with legacies of past historical periods. Established rules motivating capital intensive agriculture and urban expansion have locked in vested interests, making these rules hard to change. This is at the root of the barriers to the emergence of different sets of urban-rural relationship. Even though a large cohort of farmers come nearer to retirement and the land they currently hold changes hands, the rules, regulations and extant social and economic infrastructure that coordinate our farms and cities, continue to prioritize farm consolidation, capital intensification and urban expansion over new landscape configurations.

Small land parcels desired by many potential new farmers wanting to engage in more ecologically principled farming systems – farming systems that are less capital intensive and more knowledge and labour intensive – are difficult to acquire. Where small parcels appropriate for different farm systems are available, other barriers remain to ecologically holistic and integrated systems of farming. MDS formulae, for example, restrict livestock on farmland that lies within peri-urban areas, even at a small scale. Dairy and poultry quotas present other issues as only the most capital intensive growers can participate in those markets.

Though concerns of where, how, by whom, and for whom food is grown are now re-emerging, the inherent relationship between food lands and settlement persists unsatisfying to many. The seeds of a creative food economy suggest public disaffection with the current configurations of urban and rural, and a desire for society to be more closely linked geographically, economically, and socially to the regional ecology. In some ways, as concerns gain traction they are aligning with other pertinent social and

environmental movements (Campsie 2008). More and more food is being considered a “synergistic solution” to a variety of social and environmental problems (Friedmann 2012). In other ways however, powerful economic imperatives continue to preserve extant organization of the landscape premised on the principles of capital (Hudson 2010).

It is yet unanswered whether economic imperatives as they have developed within this historically structured regional terrain can reconcile with the imperatives of social and ecological sustainability to elicit new patterns of human activity. But it is on this ground, amongst these tensions, that the problem of accessing land for sustainable farming will be resolved. In one way or another cities and farms will continue to evolve, as will the relationship between them – each cause and consequent of the landscape underneath.

4. Conclusion

The dominant story I tell in this thesis is how the barriers to sustainable habitation we currently face have emerged, focusing on the historical relationship between settlement and food lands in Southern Ontario.

In the late 19th and early 20th centuries the institutions of agricultural policy and urban planning formalized as separate tools to mediate capital accumulation: one through food production, and the other via urban expansion. Each formed along distinct trajectories, according to specific challenges, interests, and objectives, and each changing the footprint of regional farms and cities according to their separate disciplines.

Nevertheless, the relationship between regional farms and cities remained deeply connected. Underneath the apparently separate spheres of agricultural policy and urban planning, the landscape unified the effects of each. The structure of farms and cities evolved in relation to each other, instilling an implicit mutual functionality between them. A functionality, however, that is based on expanding markets and premised on the intensification of food production, undermining the integrity of the landscape on which habitation depends.

As of recent decades, farmland is being recognized as an important component of the landscape to preserve. At the same time, however, the ability for farming enterprises to remain on the Southern Ontario landscape has become much more tenuous. Farmers have become more vulnerable to global flows of capital, and more exposed to the volatilities of international commodity prices. Farm incomes have declined, and traditional forms of succession that left land in the hands of new farmers as older farmers retire have been disrupted. Moreover, food fears and other aspects of environmental degradation are motivating demands for different configurations of farms and cities, and new kinds of urban-rural relationship that are more socially equitable and environmentally sustainable. But the rules that have structured farms, cities, and the current urban-rural relationship they imply, now present themselves as barriers to change. In the very creation of existing rules, particular interests are vested, for whom the cost of change is great.

I employ a *landscape approach* to tell this story. This approach builds on both landscape and food regime theory, and has enabled me to understand more deeply how

the processes of urban settlement and food provisioning have interacted within specific time periods, and how they have interacted with the regional ecology. The approach is premised on the dialectical relationship between institutions and ecological conditions. Institutional formation responds to the ecological conditions on the landscape and at the same time reshapes those very ecological conditions. New possibilities are then presented and in this way both institutions and ecological conditions co-evolve in cycles of mutual determination, continually reshaping the landscape. The cycles of this historical development appear as periods of alternating stability and transition: institutions emerging and disintegrating, ecology always evolving.

The boundary of any landscape is just as much politically as it is ecologically rooted, though in instances of bio-cultural regions, of land parcels, of municipalities, of plans like the Greenbelt, or of Southern Ontario, the political and ecological factors determining such boundaries are not always in balance. Nor can any landscape be understood in isolation. The Southern Ontario landscape is a changing part of an evolving global system. The institutional-ecological dialectic on the landscape manifests in relation to broader interactions of trade, migration and settlement, and social, technological, and ecological infrastructure that can permeate both borders and scale. The same can be said, moreover, for a landscape's internal components. This approach hopefully illuminates the reciprocal nature of productive systems in both urban and rural areas, as their construction and organization is ongoing.

In the telling this story in this way, however, another surfaces. I go back to indigenous organization of the landscape to show that something had gone on before, and from settler presence on the Southern Ontario landscape onward, institutions not indigenous to the region have organized and reorganized the landscape's social and ecological foundations. That is to say, the current configuration of farms and cities and their relationship to each other is not one that is natural or pre-determined.

Indigenous bio-cultural regions demonstrate a holistic vision of the landscape. One in which food and settlement are central expressions of habitation linked to forests, waters, and other central components of the regional ecology. Indigenous habitation illustrates unique qualities of sustainability and adaptability in which social and

biophysical requirements for survival are linked with ecosystem functions, allowing for value extraction as well value regeneration and landscape renewal.

We are now deep into a transition period. Crisis rears as it has become dramatically apparent that the rules established to determine land use are motivating practices that are degrading both the ecological and social fabrics of the landscape. While the context may be different, we can recover and recall landscape organization in a bioregional sense, establishing rules to promote land use practices that are better linked geographically, socially, and economically to the ecology of the region. But not simply holding indigenous landscapes dear, there is remarkable potential to use the tools we have created since indigenous bioregional organization to manage land use but which to date have been employed with specific objectives and myopic perspective.

Take ARDA, for example. Can community pastures and publicly mediated land exchanges be redeployed, but with different objectives? Instead of prioritizing capital intensification of farms can these tools provide those living in urban environments the opportunity to pursue food growing livelihoods? Can the potential pluri-activity of farmers, as persons with one foot in cities and one foot in farms, be embraced?

We can look even further back into settler experience, and see the ecological integrity of productive systems in the late 19th and early 20th centuries. We can see complex and diverse trade networks in which a variety of small to medium scale farmers within specialized sub-regions fed small to medium scale processors, manufactures, and grocers. We can see farmers as managers of the landscape making their own production decisions and determining their own land use practices to grow a specific crop or set of crops, cultivating farm systems of more ecological integrity. Again, this is not to hold dear productive systems of the past, but to observe a landscape template that can be deployed under contemporary conditions. What does this template look like, for example, when people live in cities more now than at anytime before in human history, and when processes of urbanization continue in Southern Ontario and demographics are changing? What does it look like in the context of new energy and information technologies?

If we can start to see and act on the landscape again as one that is unified, in which its components like settlement, food lands, forests, waters and so on, are and always will be part of a whole, then the barriers to sustainable habitation on the landscape

can be overcome. If we can embrace a landscape vision, there are solutions to the problem of land access for sustainable farming, and the opportunity can present itself for food and food production to be employed in its full potential, as a synergistic solution to the degradation of population and environmental health that we currently face. It is now time to look beyond the separate trajectories of farms and cities, of settlement and food lands, to embrace the mutual relation of one to the other, and renew the landscape for inhabiting it sustainably.

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