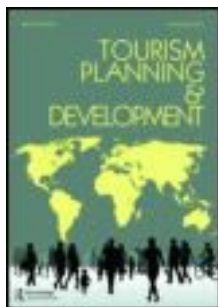


This article was downloaded by: [12.159.160.137]

On: 05 March 2014, At: 15:48

Publisher: Routledge

Informa Ltd Registered in England and Wales Registered Number: 1072954 Registered office: Mortimer House, 37-41 Mortimer Street, London W1T 3JH, UK



Tourism Planning & Development

Publication details, including instructions for authors and subscription information:

<http://www.tandfonline.com/loi/rthp21>

Toward a Conceptual Framework of Terroir Tourism: A Case Study of the Prince Edward County, Ontario Wine Region

Tara Holland^a, Barry Smit^a & Gregory V. Jones^b

^a Department of Geography, University of Guelph, Guelph, Ontario, Canada

^b Department of Environmental Studies, Southern Oregon University, Ashland, OR, USA

Published online: 28 Feb 2014.

To cite this article: Tara Holland, Barry Smit & Gregory V. Jones (2014): Toward a Conceptual Framework of Terroir Tourism: A Case Study of the Prince Edward County, Ontario Wine Region, *Tourism Planning & Development*, DOI: [10.1080/21568316.2014.890125](https://doi.org/10.1080/21568316.2014.890125)

To link to this article: <http://dx.doi.org/10.1080/21568316.2014.890125>

PLEASE SCROLL DOWN FOR ARTICLE

Taylor & Francis makes every effort to ensure the accuracy of all the information (the "Content") contained in the publications on our platform. However, Taylor & Francis, our agents, and our licensors make no representations or warranties whatsoever as to the accuracy, completeness, or suitability for any purpose of the Content. Any opinions and views expressed in this publication are the opinions and views of the authors, and are not the views of or endorsed by Taylor & Francis. The accuracy of the Content should not be relied upon and should be independently verified with primary sources of information. Taylor and Francis shall not be liable for any losses, actions, claims, proceedings, demands, costs, expenses, damages, and other liabilities whatsoever or howsoever caused arising directly or indirectly in connection with, in relation to or arising out of the use of the Content.

This article may be used for research, teaching, and private study purposes. Any substantial or systematic reproduction, redistribution, reselling, loan, sub-licensing, systematic supply, or distribution in any form to anyone is expressly forbidden. Terms &

Conditions of access and use can be found at <http://www.tandfonline.com/page/terms-and-conditions>

Toward a Conceptual Framework of Terroir Tourism: A Case Study of the Prince Edward County, Ontario Wine Region

TARA HOLLAND*, BARRY SMIT* AND GREGORY V. JONES**

*Department of Geography, University of Guelph, Guelph, Ontario, Canada and **Department of Environmental Studies, Southern Oregon University, Ashland, OR, USA

ABSTRACT *Wine tourism is a growing industry in Ontario that can be a boon to regional economic development in rural areas. Increasingly, rural economies are based on the commodification of regional resources that can be environmental, cultural, symbolic, or human. Little research has investigated these characteristics in relation to the distinctive terroir that may be promoted by regional wine sectors to attract and maintain wine tourism. This article develops a conceptual framework of terroir tourism through a review of relevant literature and a case study of the Prince Edward County (PEC) wine region. Findings indicate that PEC, though having a fledgling wine industry, is well positioned to market the wine experience and product based on a unique regional identity and to link the wine sector with its economic development strategy.*

Introduction

Research into rural change in developed regions investigates what is commonly termed as “rural restructuring” on rural economy, society, and space (see Mackay, Perkins, & Espiner, 2009 for a review). As many rural areas move away from being dominated by primary production and large farms, there exists economic opportunity for agricultural producers to differentiate their products through changes in farming practices or association with a local food tradition. An example is the proliferation of geographic branding through a specialized label, as is evidenced in the cheese industry (e.g. Roquefort cheese) and in the wine sector (e.g. Champagne) (Murdoch, 2000). Marsden and Smith (2005) argue that it is not just the label of local that is important, but how the local place is constructed and used in relation to new forms of economic and social networks; which in turn provide a basis for innovation and new forms of economic development.

The rise of rural tourism has been implicated as a significant driver of social and economic change in many rural areas (Butler, 1998). Roberts and Hall (2001) define rural tourism as a “country experience” which encompasses a wide range of attractions and activities that take place in agricultural or non-urban areas. A subset of rural tourism is agritourism, in which tourists visit farms for the purposes of enjoyment, education, or personal involvement in the activities of the farm or agricultural operation (Collins, 2010).

Correspondence Address: Tara Holland, Department of Geography, University of Guelph, Guelph, Ontario, Canada N1G2W1. Email: hollandt@uoguelph.ca

Agritourism has been promoted and utilized as a means of economic diversification and agricultural landscape preservation, as well as a response to consumer demand for amenity countryside uses (Che, Veeck, & Veeck, 2005). Examples of agritourism are wide-ranging and can include visits to artisanal cheese plants, apple orchards, lavender farms, and local farmers' markets. One of the most visible forms of agritourism is wine tourism (Carmichael, 2005; Hashimoto & Telfer, 2003), which is often marketed as an experience of a certain lifestyle, landscape, and culture—a conceptualization that embodies the notion of *terroir*.

The term *terroir* refers to a small-scale area where the microclimate and soil impart particular, distinctive characteristics to food produced there (Barham, 2003). *Terroir* has been used to explain agriculture for centuries, but more recently the discourse on *terroir* has promoted the association of place and product quality in the minds of many consumers (Trubek, 2008). With respect to wine, many people believe that all of the features of a winegrowing region taken as a whole—its *terroir*—culminate in a distinctive influence that can be tasted in the wine (Sommers, 2008). These ideas have been recognized and endorsed by some national agencies, especially in Europe, and translated into a regulatory framework that protects geographical indicators. An example is the Appellation d'origine contrôlée (AOC), which regulates certification of wines, cheeses, butters, and other agricultural products in France. Many AOC designations are specifically constructed to ensure a link between the taste of a product and the *terroir* of its region of origin (Bowen & de Master, 2011).

Following suit with the European model for appellation of origin, Canada's wine industry has developed around designated "Viticultural Areas" that produce distinctive wines. In 2000, the Vintner's Quality Alliance (VQA) Ontario was established as the regulatory body that administers Ontario's wine appellation system and allows consumers to identify wines based on the areas where the grapes are grown and the winemaking practices that are used in the wine's production. As more consumers become aware of Ontario's wine appellations, winemakers have the opportunity to capitalize on their *terroir* through wine sales in restaurants, at Liquor Control Board of Ontario (LCBO) stores, and on-site at the winery. These on-site sales are often the lifeblood of small-scale wine producers; thus, the need for strategic, innovative marketing of their distinctive product and place is paramount to attracting wine tourists.

It is well established in the tourism literature that "geographical diversity, regional structure, heritage, distance, natural attractions, culture and available activities have the potential to provide spatially exclusive marketing opportunities for regions" (Deery, O'Mahony, & Moors, 2012, p. 292). An opportunity exists for a conceptualization of this work with reference to the distinctive *terroir* that may be promoted by regional wine sectors to increase and maintain wine tourism.

This paper reviews the existing scholarship in three areas: the (re)valuation of rural places, *terroir*, and wine tourism. These bodies of scholarship have been developed mostly independently, but are integrated here to build a conceptual framework of *terroir* tourism. This conceptualization represents the unique characteristics of a place that can be used to attract wine tourists and ultimately serve as a driver of economic development in rural areas. The framework is applied empirically to a case study of the Prince Edward County (PEC) winegrowing region in southeastern Ontario, Canada, in order to characterize the wine sector in terms of the components of *terroir* tourism.

(Re)Valuation of Rural Places: Countryside Commodification

Associated with the literature on contemporary rural change has been a focus on the "commodification of the countryside". This scholarship proposes that the countryside in

developed countries has moved away from being a place oriented only toward primary production to one also oriented toward the sale of non-traditional rural commodities, services, lifestyle choices, and experiences—in other words, a *consumption* countryside has developed (Cloke & Goodwin, 1992; Curry, Koczberski, & Selwood, 2001; Marsden, 2002; Tonts & Grieve, 2002). Perkins (2006) views commodification/consumption as a central part of the re-resourcing of rural areas that has taken place as a result of restructuring.

In the 1970s and 1980s, the paradigm of productivist agriculture was being challenged by a number of emerging social, economic, and political pressures. These pressures included: a growing environmental awareness among the public and a related shift in consumer preference toward organic and local food; social and political attempts to relieve the financial burden of over-production; and an intensifying globalized economy (Marsden, 2002; Ward, 1993). These concerns precipitated a revolution in the political economy of agriculture, in which the focus of the state shifted from the regulation of production and consumption toward promoting the model of free trade. In many regions, this deregulation led to a social and economic “crisis” in the countryside, where small farm owners—now vulnerable to the market forces of global capitalism—were essentially forced out of agriculture (Woods, 2005).

In light of these changes, there are various ways in which local rural actors have attempted to create new opportunities for income generation. According to Ray’s (1998) theory of *rural culture economies*, rural development can be cast in terms of assigning value to local cultural resources, which can be physical, symbolic, and/or human. Central to this theory is that the new rural economy is founded on regional (or territorial) identity and the sale of a rural community’s endogenous resources, rather than solely on the sale of primary commodities (Mackay et al., 2009).

Examples of emerging rural culture economies include the growth of place promotion, tourism, commercial recreation, and local heritage advertising (Kneafsey, 2001; Mitchell, 1998). An important component of the rural economy model is the theme of how rural identities are created as part of economic development (Ray, 1998). The re-valuing of rural resources has been characterized in terms of the sustainable development/sustainability of rural areas (Garrod, Wornell, & Youell, 2006; Marsden & Smith, 2005). Indeed, some authors argue that contemporary rural development may rely on the capacity of a region to be promoted through its amenity attributes (Argent, Smailes, & Griffin, 2007; Holmes, 2006; McCarthy, 2008).

Terroir

Terroir is an elusive concept that has been characterized by various authors and approaches (e.g. van Leeuwen & Seguin, 2006; Moran, 2006; Trubek, 2008; Vaudour, 2002). Terroir (in the context of wine) involves a complex interaction among physical, cultural, and socio-economic factors that ultimately defines the wine styles and quality that come from a particular region. Vaudour (2002) develops a typology of viticultural terroir, whereby terroir is characterized as the intersection of four components: plant growing, territory, identity, and advertising (Figure 1).

The “plant-growing” terroir is based on the notion that the quality of agricultural products is related to the agronomic properties of a farmed environment. Microclimate and soil type are assumed to have a great effect on the ability of a region or site to produce quality grapes. The climate and soil determine the grape varieties best suited to the region (Bowen et al., 2005; White, Whalen, & Jones, 2009); the viticulture and viniculture are then adapted to local terroir, resulting in the characteristic wine style a region produces (Jones, 2006a; Pincus, 2003).

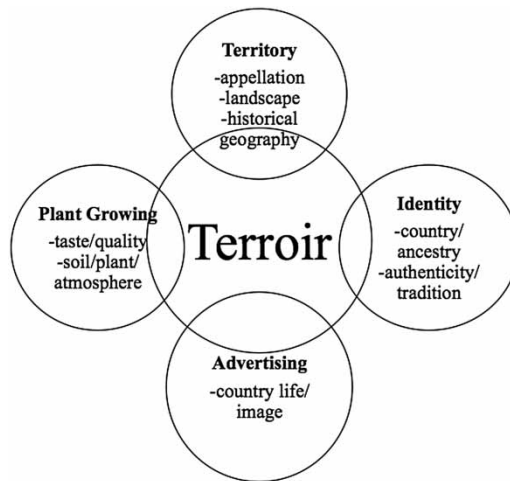


Figure 1. A typology of viticultural terroir.
Source: Adapted from Vaudour (2002).

It is well established that environmental properties are not sufficient to explain the popularity of certain wine-producing geographical locations; a concept that Vaudour (2002) argues is enhanced by a socioeconomic context of success (e.g. limited merchant supply and high consumer demand). This type of market success speaks to the “territory” aspect of terroir, which is expressed in Europe (and, to a less legally strict extent, in Canada) through appellation systems and over time becomes a historical geography—think, for instance, of the storied wines from Burgundy or Bordeaux.

“Identity” terroir relies on a type of landscape perception that associates various sociological and cultural meanings to a geographical place, an idea that Moran (2006) distinguishes from that of territory through a discussion of “land as an economic asset” (territory) and “place as a cultural experience” (identity).

Finally, “advertising” terroir refers to the most recent incarnation of the term, which is to relate terroir to a region that creates original products (such as Champagne, France).

Amid the oft-contested underpinnings of the term, Moran (2001) stresses the importance of the human factor in crafting terroir, noting, “Great wines ... are created by people understanding where they work and expressing its qualities in their product” (p. 43). Bisson, Waterhouse, Ebeler, Walker, and Lapsley (2002) argue that the concept of terroir associates wine quality with minimal vineyard inputs or manipulation. The authors also point out that the heightened tourism that accompanies new wine regions is an important value-added economic aspect of wine production. With respect to emerging wine-producing regions, Johnson and Brewer (2007) underscore the importance of regional brand image, suggesting that today’s wine consumers “value a wine more greatly when it comes from somewhere rather than nowhere” (p. 163). These consumers expect wine from a particular region to display unique qualities that set it apart from wines of the same varietal from other regions (Bisson et al., 2002).

Terroir qualities that are apparent in some wines have been examined in the literature: research in the Niagara Peninsula winegrowing region of Ontario, for example, used descriptive analysis to document a statistically significant taste difference in Riesling wines produced in two sub-appellations (Douglas, Cliff, & Reynolds, 2001). Bowen et al. (2005) developed a Geographic Information System model to study the relationships among site conditions, management practices, and vineyard performance (including grape

and wine quality) in the Okanagan and Similkameen valleys of British Columbia. The authors found that while quality wine-grapes are grown on a broad range of soil types within and among the six regions studied, there are significant regional differences in varietal suitability. To capitalize on these distinctions, terroir can be and is often used in marketing as an image for a winegrowing region (Turner & Creasy, 2003).

In “Old World” European wine-producing countries, such as France, Italy, and Spain, “terroirs” are geographically defined areas regulated by strict appellation systems. Taking a cue from Old World traditions, the Canadian wine industry has designated nine primary Viticultural Areas that are recognized to produce wines certified by the VQA system (Figure 2). The majority of these appellation wines come from Ontario appellations (PEC; Pelee Island; Erie North Shore; and Niagara Peninsula, which is further divided into ten distinct growing areas). Owing to the growing success of the wine sector, the Ontario Wine Strategy (2010–14) is investing \$5 million per year for five years to promote Ontario’s wine industry—these funds are earmarked for marketing activities and tourism development activities (Ontario Ministry of Consumer Services, 2010).

Wine Tourism

Mitchell and Hall (2006) give a comprehensive overview of the state-of-the-art of wine tourism research. They identify seven themes from the literature: the wine tourism product; the size of the winery visitation market; winery visitor segments; the behavior of the winery visitor; the nature of the visitor experience; wine tourism and regional development; and biosecurity risks posed by visitors. None of these, however, is explicitly linked to creating a tourism strategy based on terroir. For the purposes of developing the conceptual framework for this paper, two of these themes will be further explored: the wine tourism product and wine tourism and regional development.

The wine tourism product can be viewed as an intersection of the tourism and wine industries situated within the broader context of the wine region and winescape (Hall, Johnson, & Mitchell, 2000). This product is a combination of developments specifically related to

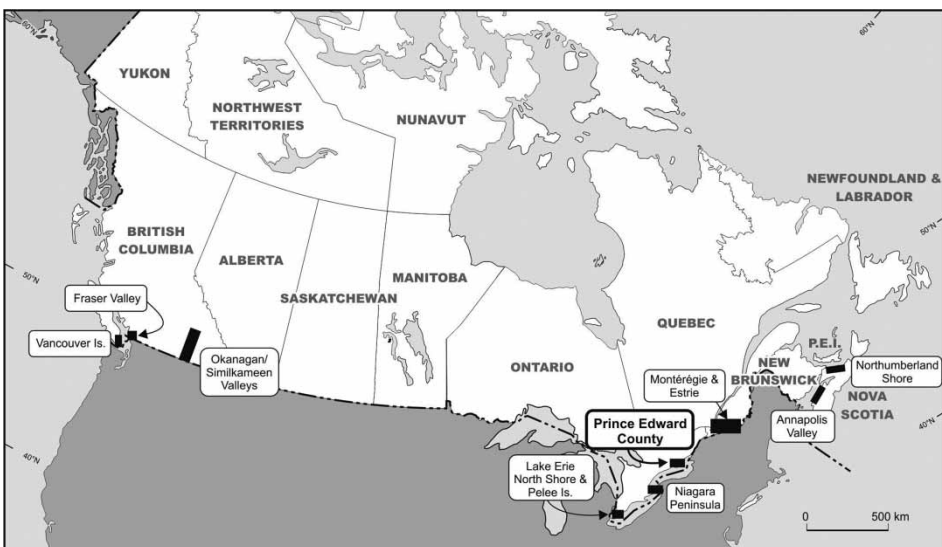


Figure 2. Viticultural areas in Canada.

wineries and public investment in wine tourism (Getz & Brown, 2006). According to Cambourne et al. (2000), the development of wineries and vineyards as tourism products has encouraged entrepreneurs to enter the wine industry with small-scale production and lifestyle as motivations. While most wine regions have at least some wineries that host visitors, the percentage of “cellar door” business as a part of wine tourism is significantly greater in “New World” wine regions, especially in Canada and the USA. For example, while the Burgundy region of France has some 5,000 wineries, in 2000 less than 1% of them hosted winery visits (Cambourne et al., 2000). In Champagne, Charters and Menival (2011) found that the nearly 5,000 small producers who sell wine at their cellar door do not believe they are involved in wine tourism, while the large wineries that are increasingly visited by tourists view wine tourism as irrelevant to their marketing strategy (Mitchell, Charters, & Albrecht, 2012). In contrast, in the Okanagan Valley of British Columbia, close to 70% of wineries sell their product on-site (Williams & Dossa, 2003) and these wineries are all listed as part of the Okanagan wine route.

Wine routes/trails and wine festivals are an important part of the wine tourism product, as they can provide a medium for the network development among wine producers and between wine producers and the broader tourism sector (see Telfer, 2001). Wine routes can be used to market regions as wine and food tourism destinations (Hashimoto & Telfer, 2003). Houghton (2001) suggests that wine festivals may be an important precursor for future wine tourism; her study showed that visitors to a wine festival often were prompted to make a subsequent visit to a winery and further that festivals provided a new audience for a region’s wine.

Several studies have investigated the role of wine tourism in regional development. Hall et al. (2000) suggest that the economic restructuring measures taken as a result of a rapidly changing global economy have increased the importance of wine tourism as a driver of rural development. Wine tourism may be implicated in development directly (through the creation of jobs and sale of local merchandise) and indirectly (e.g. regional promotion for investment through wineries, vineyards, and wine) (Mitchell & Hall, 2006).

Throughout the last two decades, the global pattern of wine production has undergone a fundamental shift, where new players have emerged and organizational changes have reshaped the way wine is produced and marketed (Cassi, Morrison, & Ter Wal, 2009). For newly developing wine regions, organizing into clusters (entities that are linked by common or complementary objectives, embedded in a given region) can be a way for small-scale producers to pool resources and knowledge in order to achieve economies of scale and gain bargaining power to negotiate with buyers (Blandon, Henson, & Cranfield, 2009). Hall et al. (2000) suggest that “in the context of wine tourism such networks are critical as there is a need to create linkages between businesses which have previously identified as being in separate industries with separate business foci” (p. 208).

Research into learning, innovation, and clustering suggests that local socioeconomic institutions are critical to economic growth and development—and yet in the wine industry, economic success is often explained in terms of natural advantages (the “plant-growing” aspect of terroir) (Guthey, 2008). There has therefore recently been a surge of institutional analyses of the wine industry that have focused on characterizing emerging regional clusters of knowledge and innovation networks in the context of globalization. Partnership and network development is documented in the wine industry in various ways. An example is the formation of agro-ecological partnerships by California winegrowers, who have managed to link their sustainable farming practices, environmental quality, and wine quality (Warner, 2007). Growers and their organizations have simultaneously engaged in developing more sustainable practices while reaching out to other growers, regulatory agencies, and consumers with increasing interest in purchasing foods (or wines) that

reflect their environmental values (Barham, 2003). Many regional wine industries have begun to forge associations with tourism industry sectors promoting high-quality wines and a regional cuisine. Telfer (2001) maintains that as long as strong network linkages are established and maintained, the wine sector has the potential to play an important role in rural tourism development.

A Conceptual Framework of Terroir Tourism

Based on the review and synthesis of relevant literature, a conceptual framework of terroir tourism (Figure 3) is proposed that can be used to characterize the potential for a region’s wine sector to attract tourists and ultimately serve as a driver of rural economic development. Terroir tourism is defined here as a regional tourism strategy that commodifies the distinctiveness of a winegrowing region, both in terms of marketing and product. Terroir tourism is framed as a combination of the wine tourism product, viticulture and winemaking, and regional development—which intersect to give a winegrowing region a unique regional identity. The framework is used to guide a case study of the PEC winegrowing region in Ontario.

Application of the Framework: PEC Wine Region, Ontario

General Description of the Study Area

PEC (referred to by residents as “the County”) is located in Southern Ontario at the eastern end of Lake Ontario (Figure 4). It is an island community encompassing less than 700 square kilometers, with over 800 kilometers of shoreline. The permanent population is approximately 25,000. Since its settlement, agriculture has been the mainstay of PEC’s economy and it continues to be a strong and growing sector: in 2006, agricultural receipts in PEC totaled \$76.7 million, an increase of 3.75% over the 2001 total (Statistics Canada, 2007). However, this region is also undergoing a period of transformation associated with the process of rural restructuring, evidenced in part by the changing composition of PEC’s agricultural industry from mainly large traditional farms to a mix of large farms and small to medium “diversified” farms.



Figure 3. A conceptual framework of terroir tourism.

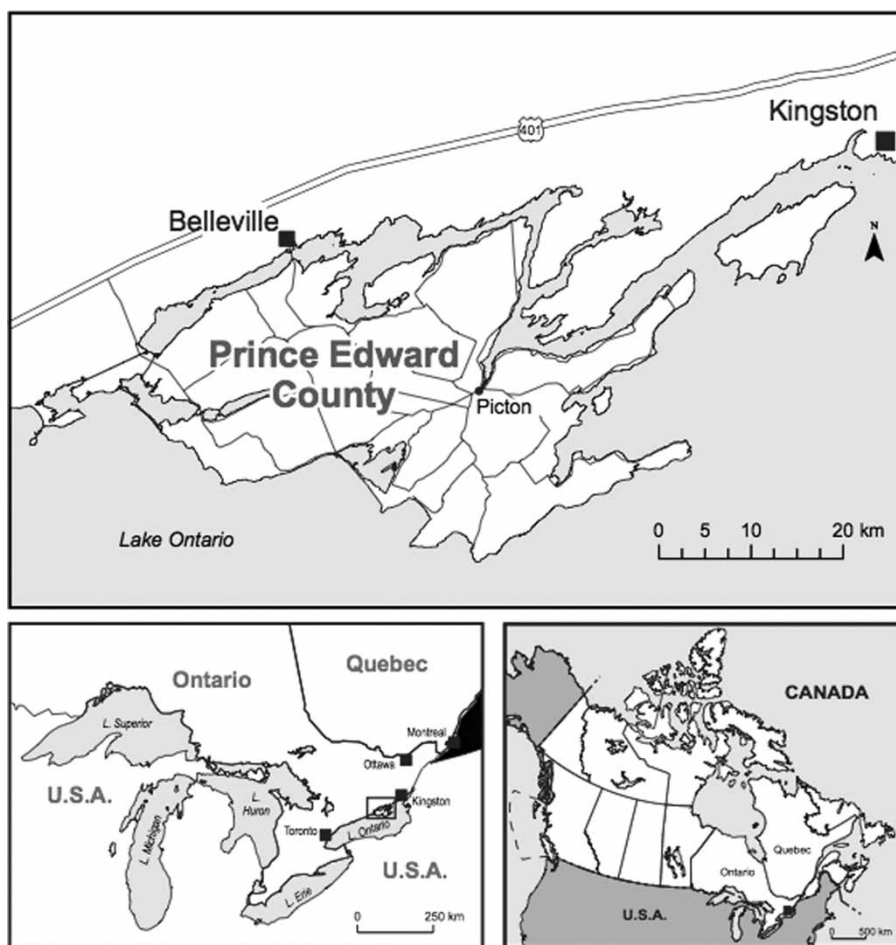


Figure 4. Geographical location of PEC.

Viticulture is an emerging and dynamic sector that has experienced tremendous growth in the last decade. Grape growing in the region dates back to the 1800s, but the first *Vitis vinifera* (traditional European winegrapes such as Chardonnay and Pinot Noir) were planted in the early 1980s. PEC was named a Designated Viticultural Area in 2007, making it Canada's newest official wine region. From 2000 to 2010 the region increased from having one vineyard and 20 acres of land devoted to producing grapes to having 13 vineyards encompassing over 750 acres. The vineyards now support 30 PEC wineries. In the last decade there has been a major increase in investment in PEC as a wine region, a tourist center offering a mix of culinary, artistic and heritage amenities, and as a potential site for a knowledge-intensive creative rural economy (Stolarick, Denstedt, Donald, & Spencer, 2010).

Methods

For the case study, a qualitative research approach was adopted using interviews with key stakeholders and content analysis of secondary documentation regarding Ontario and PEC wine tourism. Over the course of the 2011 growing season, 23 in-depth, semi-structured

interviews were conducted with PEC vineyard and winery proprietors (hereafter referred to as wine “producers”) to document their winemaking and marketing philosophy, factors leading to or constraining success in marketing and selling their product, and strategies for attracting tourists. Additional interviews were given with representatives from Taste the County, the Ontario Culinary Tourism Alliance, and the PEC Economic Development Office and the responses from these latter interviews and the document review were used to contextualize the winery/vineyard interview responses. The results of the study are framed here in terms of the terroir tourism framework to characterize the PEC wine sector as a terroir tourism destination.

Wine Tourism Product

PEC is home to 30 wineries, all but two of which offer some kind of tasting room/cellar door sale wine tourism experience as well as a vineyard tour if the vineyard is on site. Wineries and tasting rooms are found in as varied locations as barns, hangars, solar-powered buildings, a straw-bale insulated barrel room, and the walk-in basement of the proprietor’s house. Several of the wineries have accommodations on-site: these range from a modern inn to a farmhouse that can be rented out for extended stays. The wineries and vineyards are uniformly small in scale; results from the interviews indicate that the main avenues for product sales are at the cellar door, local restaurants, Kingston, the Greater Toronto Area, Ottawa, and the LCBO (Ontario’s provincial government-owned liquor retail stores). Challenges with selling wines to the LCBO were frequently brought up by the producers and included cost (the LCBO takes roughly 53% of the sale price of the wine) and difficulty consistently producing the volume required by the stores. The most commonly cited sales challenge, however, was the seasonal nature of the business—winery operators are actively searching for opportunities to increase their sales over the winter months when tourism in PEC wanes.

Twenty-six (87%) of the wineries are members of the PEC Winegrowers Association (PECWA), which publishes an annual wine route map detailing the locations of the wineries and vineyards and which can be traveled by bicycle or automobile. The producers highlighted the importance of winery visits to their business; all but two of the respondents said that at least one-third of their wine sales are from the cellar door, with some selling upwards of 80% of their product through this avenue. According to a study conducted by the PEC Economic Development Office for the 2009/2010 fiscal year, the County wineries had total sales of \$8.5 million, of which over half (\$4.3 million) was through on-site winery retail stores (Economic Development Officer, personal communication, July 25, 2011). As such, the ability to “sell” the tourist on the wine is of paramount importance for these small businesses. The wine tasting experience varies slightly at each winery; however, either the winemaker or owner (who is often the same person) is usually in house pouring wines and offering educational information regarding their wines. While the impetus for offering these value-added products is certainly partly financial, producers consistently made reference to enjoying the direct interaction with their customers and ensuring that the experience was a fulfilling one for the wine tourist. One producer noted,

We like to interact with our clientele directly, which we can do through the tasting room, and they tell us what they’re tasting and we tell them what we are expecting them to taste. In fact ... when we introduce our wines we explain what we’re striving for, making that particular wine. And the outcome, what the wine is like, if you take a bottle off the shelf in the LCBO, you are not going to get that at all.

Another stated the importance of standing out in the minds of tourists, explaining that,

Customers will come in here and they will be repeat customers, they came last year and they remembered the great experience. We try, especially on the tasting bar, to really entertain the people; we have the little cheese crackers, we have all these little extra things that kind of grab their attention and pouring all of our wines on the tasting bar where as other wineries often only have 1 or 2.

While most wineries are associated with PECWA, there are several that are not, mostly due to political differences of opinion. Lack of membership in the organization was at times cited as a challenge for the visibility of wineries to tourists, especially since it means not being included on the wine route map. However, some producers noted that the wineries are all located in relatively close proximity to one another and therefore, if a tourist is following the wine route they will stumble on their wineries and vineyards even if they are not featured on the map.

In addition to producing the wine route map, PECWA organizes two wine events in PEC known as *Terroir* and *Wassail*. *Terroir* is an annual festival billed as “a County wine celebration” that acts as a showcase of PEC wines and, to a lesser extent, food (<http://www.countyterroir.ca/>). The event consists of a large tasting room in the fairgrounds of Picton, the administrative center of the County, and usually includes up to 20 exhibitors from PECWA wineries, who will pour wines and serve them with gourmet local food pairings. *Terroir* doubles as a promotional and educational event, where producers will introduce new varietals that are being grown and new wine styles produced from the previous and upcoming harvests. Several of the interview respondents singled out *Terroir* as the most important event for attracting new wine customers.

Wassail takes place over three weekends in November and December and was partly developed as a way to increase tourism in the off-season. The event “celebrates another harvest and the laying of the vines to rest” (<http://thecountywines.com/pecwaannualeventsc16.php>) and comprises a winery tour (either self-guided or by bus). The participating wineries pour samples of new vintages or specialty wines, such as mulled wines, and promote buying wines and associated merchandise (stemware, cork-screws, etc.) as Christmas gifts.

Another important local association is *Taste the County*, a not-for-profit marketing organization whose vision is to position PEC as “a unique and authentic tourism ‘gem’—a special rural destination for visitors around the world rich in culinary, arts, heritage, wine and agriculture, eco-tourism and natural attributes” (Taste the County, 2011). *Taste the County* promotes events that feature local food and wine such as *Countylicious* and *Taste: Community Grown*; many of the wineries are partnered with *Taste the County* and serve their wines at these events. In addition, individual wineries frequently organize and host smaller events, including gourmet meals prepared by local chefs and served at the winery, where courses are paired with different wines; harvesting events; casual cook-outs featuring pizza or barbecued food; and open house wine and cheese parties where local artists display their work. In most instances, customers are invited to these more intimate events through being on an emailing list or through social media such as Twitter and Facebook.

Viticulture and Winemaking

The practice of winegrowing in PEC has been described as “extreme viticulture” where the harsh southern Ontario winter is a significant environmental challenge to PEC growers. The growing season average temperature of PEC is 14.8°C; it is considered as a cool-climate region (1971–2000 climate normals; Jones, 2006a). Climatically similar regions include the Mosel and Rhine valleys of Germany, Champagne and Burgundy in France, and

Central Otago in New Zealand (Anderson, Jones, Tait, Hall, & Trought, 2012), although the winters in PEC are more severe due to its continental location. The growing season climate favors the ripening of cool-climate varieties such as Pinot Gris, Gewürztraminer, Riesling, Pinot Noir, Chardonnay (Jones, 2006b), and numerous hybrids. The principal climate limitations in PEC are winter freeze and spring frost damage. Damage to *vinifera* vines can occur at any time temperatures drop below -15°C , which can occur from November through April in PEC. Additionally, in the late winter as the vine starts to de-acclimate, fluctuations in temperature can cause more damage to vines than absolute cold (Heinricks, 2001). Fortunately PEC is located on Lake Ontario, which moderates its climate, making the winters and spring less severe than they could be given the latitude. The soils of PEC are mainly based on Cambrian limestone, which favors *V. vinifera* vines, with some patches of glacial till and some originating from ancient lakebed deposits (Heinricks, 2001).

Adaptation strategies to harsh winter conditions are widely used by growers and include: site, varietal and rootstock selection; burning fires to produce smoke or using wind machines to keep frost at bay; planting vines in higher density arrangements; and burying the vines in the winter (Holland & Smit, 2013). All of these necessary adaptations make for a labor-intensive operation, where most aspects need to be done by hand. The pioneer *V. vinifera* winemakers in PEC (in the late 1990s and early 2000s) developed the best methods for overwintering the vines, planting, and harvesting through trial and error and the new vineyard managers benefit from their experience. As one wine producer explained,

Initially the hard thing in the County was growing grapes. How do we bury, how do we unbury, how do we do it efficiently. The initial issue that we had was growing, but I think the viticulture overall now is very good. We've always been so petrified of the winters that we've put a lot of effort into the viticulture.

In terms of the winemaking, the philosophies of the various producers are similar in that they are all striving to make wines that represent a certain place, whether it is their particular vineyard or the PEC region more broadly. All of the producers interviewed made reference to the PEC terroir (though not necessarily explicitly) when describing their winemaking philosophy; one producer commented that "in my mind, that commitment is to the only place that I am truly unique and distinctive, and is shown when I make wine from grapes that I grow." The most common aspects of the terroir that were mentioned were the limestone soil and the climatic conditions suitable for growing and producing high-quality Pinot Noir and Chardonnay wines.

In most cases, producing a high-quality wine representative of the terroir was the primary factor cited as important to the producers; however, one commented that she was more focused on providing affordable and unassuming wines to the consumers: "It's a wine to buy a bottle today, drink it tonight, have a good evening and buy another one tomorrow. And it's 15\$." Seventy-two percent of the respondents produced VQA PEC wines (certified as wines made from grapes solely from PEC); however, there are instances where grapes are imported from Niagara in order to make certain blends, in which case wines may be labeled as VQA Ontario, but not VQA PEC. Two of the producers interviewed did not produce any VQA wines and the reasons cited were financial: there are several costs associated with being a VQA member, including an annual membership fee (approximately CAD \$1,500 in 2013) and fees for testing and chemical analysis of the grapes (approximately CAD \$250 per test) (Vintners' Quality Alliance Ontario Forms and Fees, 2013). However, it was also noted that there are costs associated with *not* being VQA certified: licensees (e.g. restaurants that purchase the wine) will charge surtax for non-VQA wines and consumers increasingly associate that label with higher quality.

Wine Industry and Regional Development

Over the last decade, PEC has moved through a series of economic planning and development strategies. In 2004, it was determined that while PEC had zero competitive advantages in attracting industry/manufacturing in a traditional economic development paradigm, it could succeed as an economy using a development model built on *quality of place* or amenity features (Taylor & Baeker, 2008), a model tied to the notion of a creative rural economy. PEC is a two-hour drive east of Toronto, two and a half hours southwest of Ottawa, and three and a half hours west of Montreal. According to Florida's (2002) creative economy theory, this location positions PEC in the middle of *The Mega Region* encompassing the Windsor to Quebec City corridor. The economy of this Mega Region is worth roughly 50% of Canada's gross domestic product (GDP). Therefore, the basic premise of the creative rural economy model in PEC was to explore the potential to tap into a portion of the economy of the Mega Region (Taylor & Baeker, 2008).

The resulting economic development strategy for the region had the notion of quality of place at its core and was built on four pillars: agriculture, tourism, commerce/industry, and arts/culture/history (Figure 5). The plan that emerged out of the economic development strategy in 2006 was developed on a series of assumptions that are collectively known as municipal cultural planning (MCP). MCP is supported in Ontario through MCP Incorporated, a coalition of seven provincial ministries, the Association of Municipalities of Ontario, individual municipalities, business, and cultural and community agencies (Taylor & Baeker, 2008). MCPI (2011) defines MCP as "the strategic and integrated planning and use of cultural resources in urban and community development". In PEC, much of this planning involves the wine industry. Since 2001, there has been \$45 million in wine industry investment, including the establishment of 12 new wineries, and an increase from \$0 per annum in wine sales to \$18 million. Additionally, \$50–\$85 million in wine sales is predicted five to seven years out, potentially doubling the agricultural GDP (Taylor & Baeker, 2008).

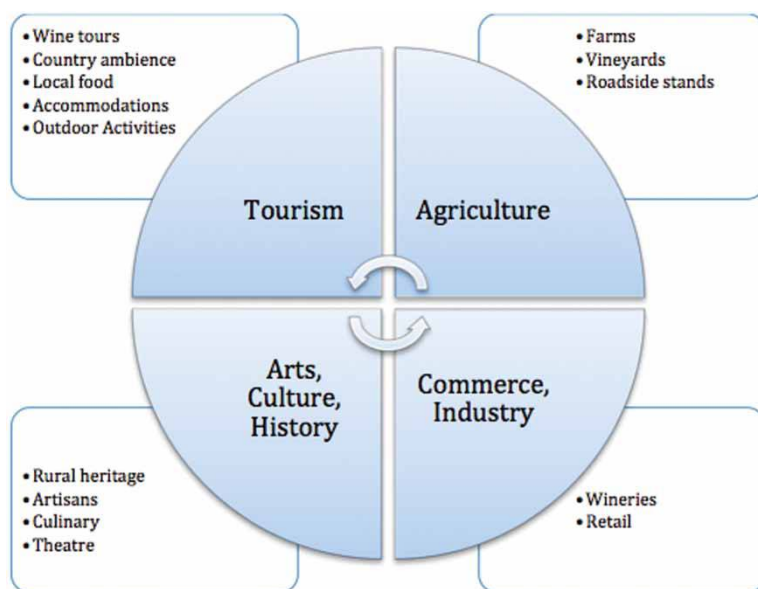


Figure 5. Economic development strategy for PEC. *Source:* Adapted from Caldwell (2010).

PEC has a strong seasonal tourism sector (from May to September) and draws as many as 440,000 tourists who spend approximately \$65.4 million annually (Caldwell, 2010). Aside from the wine tourism product, tourists are drawn to a variety of attractions such as Sandbanks Provincial Park, the rural countryside, historic inns, culinary experiences, cycling trails, and festivals. While this level of tourism represents a boon to the local economy, the seasonality of the industry creates employment challenges for local people as well as long-term sustainability of businesses (Caldwell, 2010). Seasonality was cited as a challenge for finding willing local laborers in the wine sector: the economic development officers and several of the winery operators mentioned that both the short-term nature of the required employment and the labor-intensive work hand harvesting grapes makes it difficult to hire local help. As a result, 50% of the vineyards employ offshore workers for these seasonal tasks. The wine sector, however, provides 110 full-time jobs in PEC (including the winery and vineyard owners) and approximately 200 seasonal and part-time jobs. About 75% of all of these jobs are held by residents of PEC. The total payroll is estimated as being in the range of \$4.5–\$5 million (Economic Development Officer, personal communication, July 25, 2011).

The economic development officers interviewed also noted that the wine industry has added a combination of messages to PEC tourism, including “buy and experience PEC wine; food from where you are, etc.” (Economic Development Officer, personal communication, July 25, 2011). They suggest that the burgeoning wine sector has helped to “get the word out there” about PEC and what it has to offer as a rural tourism experience. Also highlighted in interviews with both the economic development officers and wine producers was the collaborative nature of development within the wine sector. The economic development officers referred to a “distinct cluster of businesses” of which the wine sector is the main node and in which there is a spirit of cooperation where resources are pooled and proprietors work together toward the common goal of advancing the tourism product (Economic Development Officer, personal communication, July 25, 2011). Similarly, 100% of the wine producers cited collaborative enterprise as both a reason for their current successes in viticulture and tourism marketing and as an opportunity for potential expansion of the regional industry over the next decade.

Regional Identity

The core of the terroir tourism framework is the unique regional identity that is associated with a wine region. In PEC, this is evidenced in the focus of the regional economic development strategy (on what is termed as “quality of place”) as well as in the wine tourism product and the viticulture and winemaking. Wine producers interviewed consistently referred to this notion and their place as part of the “County experience” when explaining their philosophy or marketing approach:

In terms of the ambience, that’s here, and so I think that people really love the fact that this is such a rural environment and that we have the beaches and all those other kind of things, it’s a mix of the total experience, including the wine experience.

However, there was also present a sentiment that because PEC is a relatively new wine region, it will take years before this distinguishing component of terroir becomes part of the region’s grape-growing identity:

As many vineyards as there are in the world, there are that many ‘best ways’ of growing grapes. It’s amazing to me sometimes, the range and the variation in growing styles and adaptation ... a lot of time has to pass before it distills into a region’s growing style. You see it in the very, very old growing regions; you don’t see it in the young ones.

Similarly, in terms of the winemaking:

Part of it is just learning how to make the best wine from the grapes that you grow every year and discovering what really is the best expression of the fruit from my farm and region. So that's a learning curve and I think you learn it as the vineyards age. I think the challenge now is that we have young vintages. There isn't really a history or a culture yet in this region that would help to guide us through the various sort of cycles that we are just beginning to experience.

While winemakers are intent on producing and marketing distinctively “PEC” wines, they are cognizant of the time span needed to develop the same sense of terroir as experienced in the Old World wine regions. Nevertheless, where they can (and do) distinguish themselves is in the wine tourism experience that they offer.

Discussion and Conclusions

The terroir tourism framework offers a model for characterizing a wine region as an agri-tourism destination based on a unique regional identity. This notion is consistent with the literature on countryside commodification and rural culture economies, where a region can effectively sell its cultural resources. The model is unified by the concept of terroir, which has long been associated with the wine industry and understood as an expression of a particular place that is present in wines made in that place. Based on the review of the literature at the beginning of this paper, successful wine tourism depends on a number of factors; those highlighted in this framework are the wine tourism product (i.e. wineries, wine routes, and wine festivals), the viticulture and winemaking, and a reciprocal linkage to regional development. These factors intersect to produce a unique regional identity that can be used to attract tourist visitation.

The case study application of the framework to the PEC wine region yielded some notable results. In PEC, the cool climate is a constant challenge, but wine producers have a commitment to their land and have learned to capture the best of the terroir in their wines. Because the wine sector is relatively young in this region and the wineries and vineyards are small-scale producers, wine sales directly from the cellar door are extremely important to most wineries, as are events that showcase their wines. As such, wine tourism is a much-needed financial input. In terms of networking and knowledge clustering, interview respondents highlighted both horizontal linkages (with other wineries and vineyards) and vertical linkages (with the broader agri-food and tourism sectors) as important in learning the craft of viticulture, as well as in marketing and selling their products and wine tourism experiences. Sixty percent of the respondents said that the most important need for advancing their business over the next ten years was for more and broader marketing efforts to drive an increased visitation to the region. The second most important need identified was for more tourism facilities, services, and attractions.

The wine sector in PEC is heavily implicated in the region's economic development strategy. There is an opportunity for a mutually beneficial relationship in that the wine sector can create jobs and draw tourists to the region, which will increase overall spending in PEC as well as increase sales and potential markets for the wineries. The location of PEC in the “Mega Region” offers the potential to tap into a spatially broad market of wine tourists. In order for the County to stand out as a premier tourist destination, the regional development strategy has been pinned on the “quality of place” model. As well as being present in development plans, this notion is visible in the viticulture and winemaking philosophies by the vineyard owners and winemakers. Most are committed to producing high-quality wines that represent the local terroir and are interested in offering a unique experience highlighting

that regional identity to tourists visiting their wineries. It was interesting to find that some growers and winemakers are hesitant to describe their product as yet in terms of terroir, as they feel that the wine sector is too young to have fully developed its own identity in this regard.

PEC's development strategy is somewhat of a unique case, so it remains to be seen whether the terroir tourism framework would be as readily applicable in other regions where the wine sector is not as intimately linked to the region's economic development. The framework developed here is solely focused on the wine industry; culinary tourism is a growing sector that can also capitalize on a sense of terroir and, although this was touched upon in this paper, the relationship between the wine tourism and culinary tourism sectors bears further exploration. In addition, the small scale of PEC wineries is of paramount importance in making tourism a necessary part of their business; it would therefore be instructive to apply this framework in larger, more established wine regions (such as Niagara) in order to discover differences and similarities in how wineries in these regions choose to market their product and whether terroir bears the same weight.

PEC is a growing wine region with a fledgling 12-year-old industry and is well positioned to continue expanding as a terroir tourism destination. Winery operators should maintain their horizontal linkages with one another to ensure collaborative effort toward the same goal and work to develop stronger vertical linkages with the broader agri-food and tourism sectors in order to promote their products and place as unique and attractive to tourists. The terroir tourism framework offers a starting point for the characterization of wine regions in terms of their potential for attracting tourists based on their unique regional identity. Application of this framework to other wine regions in Canada will serve the dual function of developing a process for comparison of priorities and strategies used to attract tourists in different locales, as well as for further refining the model.

Acknowledgements

Marie Puddister is thanked for producing the two maps in this paper. The authors are grateful to the helpful comments and suggestions of two anonymous reviewers.

Funding

This research was funded by the Social Sciences and Humanities Research Council Vanier Canada Graduate Scholarship Program and the Canada Research Chairs Program.

References

- Anderson, J. D., Jones, G. V., Tait, A., Hall, A., & Trought, M. T. C. (2012). Analysis of viticulture region climate structure and suitability in New Zealand. *International Journal of Vine and Wine Sciences*, *46*, 149–165.
- Argent, N., Smailes, P., & Griffin, T. (2007). The amenity complex: Towards a framework for analysing and predicting the emergence of a multifunctional countryside in Australia. *Geographical Research*, *43*, 217–232.
- Barham, E. (2003). Translating terroir: The global challenge of French AOC labeling. *Journal of Rural Studies*, *19*, 127–138.
- Bisson, L. F., Waterhouse, A. L., Ebeler, S. E., Walker, M. A., & Lapsley, J. T. (2002). The present and future of the international wine industry. *Nature*, *418*, 696–699.
- Blandon, J., Henson, S., & Cranfield, J. (2009). Small-scale farmer participation in new agri-food supply chains: Case of the supermarket supply chain for fruit and vegetables in Honduras. *Journal of International Development*, *21*, 971–984.
- Bowen, P. A., Bogdanoff, C. P., Estergaard, B. F., Marsh, S. G., Usher, K. B., Smith, C. A. S., & Frank, G. (2005). Geology and wine 10: Use of geographic information system technology to assess viticulture performance in the

- Okanagan and Similkameen Valleys, British Columbia. *Geoscience Canada*, 32, 161–176. Retrieved from <http://journals.hil.unb.ca/index.php/GC/article/view/2718/3167>
- Bowen, S., & de Master, K. (2011). New rural livelihoods or museums of production? Quality food initiatives in practice. *Journal of Rural Studies*, 27, 73–82.
- Butler, R. (1998). Rural recreation and tourism. In B. Ilbery (Ed.), *The geography of rural change* (pp. 211–232). UK: Addison Wesley Longman.
- Caldwell, W. (2010). *Resource materials for community economic development: Prospering with a stable or declining population*. Guelph, ON: School of Environmental Design and Rural Development, University of Guelph.
- Cambourne, B., Hall, C. M., Johnson, G., Macionis, N., Mitchell, R. D., & Sharples, E. (2000). The maturing wine tourism product: An international overview. In C. M. Hall, E. Sharples, B. Cambourne, & N. Macionis (Eds.), *Wine tourism around the world* (pp. 24–66). Oxford: Butterworth Heinemann.
- Carmichael, B. A. (2005). Understanding the wine tourism experience for winery visitors in the Niagara region, Ontario, Canada. *Tourism Geographies*, 7, 185–204.
- Cassi, L., Morrison, A., & Ter Wal, A. (2009). *The evolution of knowledge and trade networks in the global wine sector: A longitudinal study using social network analysis* (Report 09-09). Utrecht: Urban and Regional Research Centre.
- Charters, S., & Menival, D. (2011). Wine tourism in Champagne. *Journal of Hospitality and Tourism Research*, 3, 102–118.
- Che, D., Veeck, A., & Veeck, G. (2005). Sustaining production and strengthening the agritourism product: Linkages among Michigan agritourism destinations. *Agriculture and Human Values*, 22, 225–234.
- Cloke, P., & Goodwin, M. (1992). Conceptualizing countryside change: From post-Fordism to rural structured coherence. *Transactions of the Institute of British Geographers*, 17, 321–336.
- Collins, D. (2010). *Developing an agri-tourism operation in Ontario*. Ontario, Canada: Queen's Printer for Ontario.
- Curry, G. N., Koczberski, G., & Selwood, J. (2001). Cashing out, cashing in: Rural change on the south coast of Western Australia. *Australian Geographer*, 32, 109–124.
- Deery, M., O'Mahony, G. B., & Moors, R. (2012). Employing a lifecycle typology to generate a unified and strategic approach to regional wine tourism development. *Tourism Planning and Development*, 9, 291–307.
- Douglas, D., Cliff, M. A., & Reynolds, A. G. (2001). Canadian terroir: Characterization of riesling wines from the Niagara Peninsula. *Food Research International*, 34, 559–563.
- Florida, R. (2002). The economic geography of talent. *Annals of the Association of American Geographers*, 92, 743–755.
- Garrod, B., Wornell, R., & Youell, R. (2006). Re-conceptualizing rural resources as countryside capital: The case of rural tourism. *Journal of Rural Studies*, 22, 117–128.
- Getz, D., & Brown, D. (2006). Critical success factors for wine tourism regions: A demand analysis. *Tourism Management*, 27, 146–158.
- Guthey, G. (2008). Agro-industrial conventions: Some evidence from Northern California's wine industry. *The Geographical Journal*, 174, 138–148.
- Hall, C. M., Johnson, G., & Mitchell, R. (2000). Wine tourism and regional development. In C. M. Hall, L. Sharples, B. Cambourne, & N. Macionis (Eds.), *Wine tourism around the world* (pp. 196–225). Oxford: Butterworth Heinemann.
- Hashimoto, A., & Telfer, D. J. (2003). Positioning an emerging wine route in the Niagara region: Understanding the wine tourism market and its implications for marketing. *Journal of Travel and Tourism Marketing*, 14, 61–76.
- Heinricks, G. (2001). *Starting a vineyard in Prince Edward County? A viticultural primer for investors and growers*. Picton, ON: The Corporation of the County Prince Edward.
- Holland, T., & Smit, B. (2013). Recent climate change in the Prince Edward County winegrowing region, Ontario, Canada: Implications for a fledgling wine industry. *Regional Environmental Change*. doi:10.1007/s10113-013-0555-y
- Holmes, J. (2006). Impulses towards a multifunctional transition in rural Australia: Gaps in the research agenda. *Journal of Rural Studies*, 22, 142–160.
- Houghton, M. (2001). The propensity of wine festivals to encourage subsequent winery visitation. *International Journal of Wine Marketing*, 13, 32–41.
- Johnson, R., & Brewer, J. (2007). The balancing act between regionality and American Viticulture Areas (AVAs). *Journal of Wine Research*, 13, 163–172.
- Jones, G. V. (2006a). Climate and terroir: Impacts of climate variability and change on wine. In R. W. Macqueen & L. D. Meinert (Eds.), *Fine wine and terroir—the geoscience perspective* (pp. 1–14). St. John's, Newfoundland: Geological Association of Canada. Geoscience Canada Reprint Series No. 9.
- Jones, G. V. (2006b). Climate change and wine: Observations, impacts and future implications. *Wine Industry Journal*, 21, 21–26.

- Kneafsey, M. (2001). Rural cultural economy: Tourism and social relations. *Annals of Tourism Research*, 28, 762–783.
- van Leeuwen, C., & Seguin, G. (2006). The concept of terroir in viticulture. *Journal of Wine Research*, 16, 1–10.
- Mackay, M., Perkins, H. C., & Espiner, S. (2009). *The study of rural change from a social science perspective*. Lincoln: Lincoln University.
- Marsden, T. (2002). Rural futures: The consumption countryside and its regulation. *Sociologia Ruralis*, 39, 501–526.
- Marsden, T., & Smith, E. (2005). Ecological entrepreneurship: Sustainable development in local communities through quality food production and local branding. *Geoforum*, 36, 440–451.
- McCarthy, J. (2008). Rural geography: Globalizing the countryside. *Progress in Human Geography*, 32, 129–137.
- MCPI. (2011). *Municipal cultural planning*. Retrieved from <http://www.ontariomcp.ca/>
- Mitchell, C. J. A. (1998). Entrepreneurialism, commodification and creative destruction: A model of post-modern community development. *Journal of Rural Studies*, 14, 273–286.
- Mitchell, R., Charters, S., & Albrecht, J. N. (2012). Cultural systems and the wine tourism product. *Annals of Tourism Research*, 39, 311–335.
- Mitchell, R., & Hall, M. (2006). Wine tourism research: The state of play. *Tourism Review International*, 9, 307–332.
- Moran, W. (2001). Terroir—the human factor. *Australian & New Zealand Wine Industry Journal*, 16, 32–51.
- Moran, W. (2006, February). *Crafting terroir: People in cool climates, soils, and markets*. Sixth international cool climate symposium for viticulture and oenology, Christchurch.
- Murdoch, J. (2000). Networks—a new paradigm for rural development? *Journal of Rural Studies*, 16, 407–419.
- Ontario Ministry of Consumer Services. (2010) *Ontario's wine strategy*. Retrieved from <http://news.ontario.ca/mcs/en/2010/04/ontarios-wine-strategy.html>
- Perkins, H. C. (2006). Commodification: Re-resourcing rural areas. In P. Clarke, T. Marsden, & P. H. Mooney (Eds.), *Handbook of rural studies* (pp. 243–257). London: Sage.
- Pincus, R. (2003). Wine, place and identity in a changing climate. *Gastronomica*, 3, 87–93.
- Ray, C. (1998). Culture, intellectual property and territorial rural development. *Sociologia Ruralis*, 38, 3–20.
- Roberts, L., & Hall, D. (2001). *Rural tourism and recreation: Principles to practice*. Cambridge: CABI.
- Sommers, B. (2008). *The geography of wine: How landscapes, culture, terroir, and the weather make a good drop*. New York: Penguin Group Ltd.
- Statistics Canada. (2007). *Prince Edward, ON, 2006 agriculture community profiles*. Retrieved from http://www26.statcan.ca:8080/AgrProfiles/cp06/TableList.action?prov=35&geog_id_amal=350313020&tab_id=1&search=search&lococode=23287&placename=prince+edward&placestart=0&geog_id=350313020&offname=Prince+Edward
- Stolarick, K., Denstedt, M., Donald, B., & Spencer, G. (2010). Creativity, tourism and economic development in a rural context: The case of Prince Edward County. *Journal of Rural and Community Development*, 5, 238–254.
- Taste the County. (2011). *Strategic plan 2011–2012*. Retrieved from http://tastethecounty.ca/photos/custom/2011_2012.TTC.%20Strategic%20Plan.pdf
- Taylor, D., & Baeker, G. (2008). *Economic restructuring through culture in small towns and rural areas: Building creative rural economies. A case study of Prince Edward County*. Gatineau: International Forum on the Creative Economy.
- Telfer, D. J. (2001). Strategic alliances along the Niagara wine route. *Tourism Management*, 22, 21–30.
- Tonts, M., & Grieve, S. (2002). Commodification and creative destruction in the Australian rural landscape: The case of Bridgetown, Western Australia. *Australian Geographical Studies*, 40, 58–70.
- Trubek, A. (2008). *The taste of place: A cultural journey into terroir*. Berkeley: University of California Press.
- Turner, P., & Creasy, G. L. (2003). Terroir—competing definitions and applications. *Australian & New Zealand Wine Industry Journal*, 18, 48–55.
- Vaudour, E. (2002). The quality of grapes and wine in relation to geography: Notions of terroir at various scales. *Journal of Wine Research*, 13, 117–141.
- Vintners' Quality Alliance Ontario Forms and Fees (2013). Retrieved from <http://www.vqaontario.com/>
- Ward, N. (1993). The agricultural treadmill and the rural environment in the postproductivist era. *Sociologia Ruralis*, 33, 348–364.
- Warner, K. D. (2007). The quality of sustainability: Agroecological partnerships and the geographic branding of California grapes. *Journal of Rural Studies*, 23, 142–155.
- White, M. A., Whalen, P., & Jones, G. V. (2009). Land and wine. *Nature Geoscience*, 2, 82–84.
- Williams, P., & Dossa, K. (2003). Non-resident wine tourist markets: Implications for British Columbia's emerging wine tourism industry. *Journal of Travel and Tourism Marketing*, 14, 1–34.
- Woods, M. (2005). *Rural geography*. London: Sage.