



OHNIA : KARA AN ASPIRING GLOBAL GEOPARK

INTRODUCTION

What is a UNESCO Global Geopark?

Niagara has long been a world-famous destination, anchored by its iconic Falls. In fact, it has been a meeting place for Indigenous peoples dating back 12,000 years.

The tourism infrastructure that has developed over the decades at Niagara Falls specifically has entrenched this position and its effect has gradually cascaded through Niagara-on-the-Lake and into the rest of the region, primarily through its historical, agricultural and viticulture assets. The importance of tourism to Niagara's local economy is acknowledged by its designation as one of the Niagara Region's four pillars of economic development strategy. Recognition of its role has been accompanied by the desire to expand its impact throughout the region.

Several types of tourism already exist in Niagara, providing a spectrum of different opportunities in a variety of different cultural and environmental contexts. Many of these different types of tourism include mass, rural and farm, cycling, culinary, wine, brewery, and ecotourism. The inclusion of geotourism would serve to reinforce these existing tourism types, but also diversify into new areas, and new products and attractions, that highlight the unique character of the Niagara region.

Geotourism is a niche-market that has grown over the past 20-plus years. It is a form of nature-based tourism that showcases an area's geographical character, its "earth history" which includes geology and landscape, flora and fauna, and their interaction with humans to form a cultural identity. It is a niche that focuses on education, conservation, and sustainability (Megerle & Pietsch, 2017; Dowling, 2011; Farsani et al., 2011). It is through the growing phenomenon of geotourism that the relatively new concept of the "geopark" – and the official designation of the UNESCO Global Geopark – has emerged.

UNESCO defines its geoparks as a "single, unified geographical area where sites and landscapes of international geological significance are managed with a holistic concept of protection, education and sustainable development" (UNESCO 2016).

While the concept of geoparks date back to the 1990s, specifically with their establishment in Europe and China, it wasn't until 2004 that the Global Geoparks Network was formed under UNESCO. Furthermore, the official branding of the UNESCO Global Geopark did not occur until 2015. There are currently 140 UNESCO Global Geoparks in 36 countries, but only three of these are in Canada: Stonehammer in New Brunswick (designated a Global Geopark in 2010), Tumbler Ridge in British Columbia (2014), and Percé in Quebec (2018), signifying that the concept is relatively new in Canada. Members of the Niagara community through Geospatial Niagara have submitted an expression of interest to the Canadian National Committee for Geoparks to become a geopark. This has enabled the group to now market the concept and create a formal application as an "Aspiring Global Geopark". **The Ohnia:kara Aspiring Global Geopark is a non-profit grassroots effort to bring the brand to Niagara.**



What is UNESCO looking for?

In its application, UNESCO asks that the aspiring Global Geopark addresses 10 topics:

1. the importance of natural resources in the region and their sustainable use;
2. existing geological hazards, such as volcanoes and earthquakes, and disaster mitigation strategies;
3. climate change;
4. educational activities for all ages that spread awareness of geological heritage and its links to our geography, culture and heritage;
5. scientific research with academic institutions;
6. exploring the links between communities and Earth, including activities and partnerships with the arts and heritage communities;
7. the empowerment of women;
8. a sustainable economic development plan;
9. preserving and celebrating local and Indigenous knowledge by including those communities in the planning and management of the geopark; and
10. geo-conservation and the protection of geosites. (UNESCO 2016)



The UNESCO designation does not carry any regulatory status, although sites within the geopark may already be protected by local laws. Rather, it is best understood as an international brand that signifies to potential tourists that this is a destination with significant geological and geographical assets worth visiting. That may seem obvious in Niagara. However, the UNESCO Global Geopark brand was originally meant to support and encourage sustainable economic development in rural areas by showcasing their formidable geological sites. With that goal in mind, a Global Geopark designation could be a means to expanding tourism interest across the Niagara region, by increasing the economic benefits of tourism to all 12 of its municipalities as well as adding value to its core tourism areas of Niagara Falls and Niagara-on-the-Lake, and giving visitors more reason to stay in the region for longer periods.

This policy brief aims to introduce this relatively new concept to Niagara stakeholders and answer the question: What is a geopark, and how might it enhance an already popular tourism destination? This study will highlight challenges and opportunities that Ohnia:kara organizers face in their bid for designation. It includes a discussion of the branding process, the current impact of tourism in Niagara and how a geopark designation might differentiate itself; and a brief look at the impact of some current Global Geoparks. It will also build a case for local support of the initiative, placing the discussion within the realm of amplifying culture and tourism assets across the region to contribute to Niagara's overall economic development.

THE PROCESS

Ohnia:kara, the Mohawk word for “neck between two bodies of water”, is proposed to be congruent with the boundaries of the Regional Municipality of Niagara. It has identified 78 “geosites” of geological, environmental, or cultural interest in all 12 municipalities of the region, but that list continues to grow as the group consults with stakeholders. The sites range from the Welland Canal to the Wainfleet Bog to Beamer Falls, as well as historical sites from the War of 1812 and the Mewinza Archeology Gallery in Fort Erie. The Niagara Peninsula Conservation Authority and the Niagara Parks Commission already oversee the bulk of the proposed sites, which should be considered an advantage as there is already infrastructure in place (trails, signage, parking, programming) for visitors and residents to enjoy many of these local assets.

A UNESCO Global Geopark carries a four-year designation after successfully completing an application that includes a dossier of information and a site visit from technical experts. The application should demonstrate the area has “geological heritage of international value” as assessed by scientific professionals, with accompanying details of geo-conservation pressures and efforts. A management team with a business and marketing plan should be in place. Part of the process includes having already implemented geopark projects as proof of commitment and capacity. Information signs at geosites and educational programs offered to schools are such examples.

The designation is re-evaluated every four years, through a progress report and another site visit.

The Ohnia:kara initiative is currently at the beginning of its application process. It has a steering committee and organizers have been making contacts with other geoparks and participating in international conferences and workshops. Once completed, the application will be vetted through the Canadian National Committee for Geoparks (CNCG) before moving to UNESCO for final approvals.

ROLE OF TOURISM IN NIAGARA'S ECONOMY

Tourism has been identified by Niagara Region as one of four priority sectors in its economic development and growth strategy, alongside agribusiness, manufacturing, and transportation/logistics.

The tourism sector employs approximately 18 per cent of Niagara's workforce, or almost 40,000 people, and has a location quotient of 1.8 relative to Ontario (Niagara Region Economic Development, 2019). This signifies the concentration of a specialized labour pool in this region.

TOURISM NUMBERS

The latest data from the Ontario Ministry of Tourism shows that the St. Catharines-Niagara Census Metropolitan Area had approximately 12.9 million "person-visits" in 2017. About 8.4 million came from Ontario (another 292,000 visitors from the rest of Canada), 1.1 million came from overseas, and 3.1 million from the U.S. Total expenditures were approximately \$2.36 billion. The ministry numbers measure, among other things, how many nights people stayed in the CMA, what type of accommodation they used, and what they did while they were here. We know, for example, that less than half of those who visited from Ontario stayed overnight (2.98 million) and the majority of those for only a couple of nights. Less than half of overseas visitors stayed overnight in the CMA, the bulk of those spending two nights or less.

(Note: The St. Catharines-Niagara CMA does not include Grimsby or West Lincoln. Overseas visitors counted were over the age of 15.)

It is a cross-sectoral industry that includes food and beverage, accommodation, performing arts, spectator sports, heritage institutions, and gambling. As such it provides quality-of-life amenities to residents while marketing to visitors outside the region.

Niagara Falls and its established tourism base is central to the region's competitive advantage. However, challenges in "growing and enriching the experience" moving forward have been identified in recent discussions around the strategic growth of the region (Niagara Region Economic Development 2018, p. 14).

Some of the challenges include:

1. encouraging return visits
2. increasing the number of overnight stays
3. making the entirety of the Niagara region a destination for those seeking a wine, culinary, or arts experience.

In a geopark model, Niagara Falls anchors the tourism experience, but the region-wide potential is realized. Brouder and Fullerton have referred to it as a "cascade effect" (2015). That is, Niagara Falls is still the focal point for tourists, but the rest of the region might also benefit. This policy brief recognizes that tourists to the region are not all alike. The casino buses travelling down the QEW are not necessarily filled with aspiring geotourists. Nor are the bus tours that take international visitors for a quick day trip. The geopark appeals to a separate genre of tourist (and resident) and lends a different perspective to Niagara's assets.

WHY DO WE NEED A GEOPARK?

If Niagara is already such a popular destination, why do we need to be officially designated as a Global Geopark?

Branding Niagara as a UNESCO Global Geopark may provide an institutional path for the entirety of the region to gain international recognition by drawing attention to the extent of the existing geological and cultural assets, including its many smaller waterfalls, trails, historical sites, wineries, and artisans. For organizers, these branding efforts come with opportunities and challenges. Tourist amenities and attractions are already abundant, and the geopark can take advantage of this infrastructure to establish its own brand of tourism and add value to a visit, highlighting geological assets and earth history (which includes its interaction with humans through culture and heritage). However, the challenge occurs in: 1. differentiating what it can offer to the experience and, 2. quantifying its impact on the established tourism sector as well as the local economy at large.

What difference will a UNESCO Global Geopark make and how can it be measured? The difficulty lies in that often these geosites are not gated (Lemky, 2014), or they may be one of several reasons someone might visit an area.

This could be mitigated through geopark-specific activities and attractions. For example, if it had its own visitors' centre and took visitor counts at its promoted geosites. Because one goal of the Ohnia:kara initiative is to attract tourists already at

¹Location quotients measure employment concentration in a geographical area compared to a larger geographical area, in this case Niagara to Ontario. If the LQ is greater than 1, that indicates a larger proportion of workers in a sector than the larger area, and a comparative advantage in terms of a specialized labour pool. Agriculture (location quotient 1.94), arts/entertainment/recreation (1.92 LQ), and food/accommodation (1.75 LQ) are the three most significant sectors in Niagara in terms of employment (Niagara Region Economic Development 2018, p. 13).

Niagara Falls to explore the surrounding region (in the hopes they might spend more time in the area), taking counts and surveys at geosites in the surrounding municipalities would give some indication if that strategy is working. Other solutions may include on-site surveys, website visits via on-site QR codes, or “passport” programs in which visitors get stamps for each site visited and then trade them in at the end of a vacation for a small reward.

Determining whether or not the geopark brand is attracting tourists who otherwise would not have made the trip to Niagara may be more difficult. Overall numbers gathered by Statistics Canada before and after the branding can be compared, but one would be challenged to measure how much can be attributed to the actual geopark versus other factors.

This ability to differentiate becomes a significant issue not only when looking for funding and partnerships, but also when making its case to UNESCO in seeking official designation.

The Niagara Escarpment, for example, has been a UNESCO World Biosphere Reserve since 1990. In the case of such branding overlap, UNESCO stipulates an “Aspiring Global Geopark” must show how it would add value to the region both independently and in cooperation with other designations. In this case, Ohnia:kara may argue that as a promoter of geotourism, it can help the Biosphere Reserve tell its story by guiding people to lesser known geosites as the escarpment winds to its greatest asset, Niagara Falls. There are other overlaps, as well: with Ontario Parks, the Niagara Peninsula Conservation Authority, the Niagara Escarpment Commission, and the Niagara Parks Commission.

Megerle and Pietsch (2017) recognized this trade-off in the case of German geoparks – the risk of decreased visibility of a geopark due to the larger profile of established protection agencies, versus the benefit of geosites already enjoying degrees of legislated protection and administrative oversight. In the German case, geoparks overlapped with nature parks, national parks, and a UNESCO Biosphere Reserve. Risks included competition between brands² and confusion amongst the public about the difference between them. The danger was having this play out with businesses and other stakeholders questioning the value of paid membership in a geopark. But the research also saw the opportunity of working with higher-profile organizations with better financial resources and infrastructure to mount joint marketing campaigns and joint activities .

GEOPARKS AROUND THE WORLD: THE COSTS AND BENEFITS

There is evidence that designated Global Geoparks are having positive economic impacts on their regions.

China, for example, housed 204 national geoparks in 2017 (35 of them UNESCO Global Geoparks), and each was estimated to generate \$26 million USD per year (Ng 2017), or approximately \$34.5 million CAD. The geopark brand has been used in China since 2000 as part of a rural poverty alleviation strategy with the geoparks directly employing 20,500 managers and administrators, and 464,000 part-time and full-time frontline workers (Ng 2017).³

Of course, China could be considered an outlier due to its population size and the sheer number of geoparks. A peer-reviewed study by Farsani et al. (2011) looked at employment numbers in a survey of 25 Global Geoparks in Europe, Asia (excluding China, which did not answer the questionnaire), Australia, and South America. It found an average of 18 people were directly employed by a geopark’s administration. This did not count indirect employment impact in related industries such as food and beverage, accommodation, or retail.



We can infer from these numbers, versus those in China, that the number of people directly employed by a geopark depends on how its management board has decided to run the business and could vary greatly. For example, does the geopark run its own tours, have its own museum, or a dedicated visitors’ centre?

In the Farsani survey, direct employment by geoparks included seasonal workers in visitor centres and as tour guides at sites, as well as facility coffee shops and those working in other

²Which can result in too many signs. Biosphere Reserves had better funding and could afford more signage which led to a higher profile than the geopark in which it was situated.

³The challenges of operating the brand have included managing such a “high demand for facilities and amenities, visitor management, environmental and heritage protection, and recruiting young people to work in remote parks.”

amenities. The survey found revenue-generating activities run directly by the geoparks included recreation/sports activities, themed restaurants, spas, and bakeries; "geoproducts", and partnerships with existing businesses. Other activities designed to increase the awareness of the geopark and its benefits included education programs (workshops, conferences, tours), and conservation activities (p. 75-76).

An economic impact study conducted for three of **Portugal's** four Global Geoparks in 2014 (the fourth had just opened) found that visitor numbers had doubled since designation. (The parks had been designated between 2006 and 2014, but no indication was given for the timeframe of the increase.) All indicators, as self-reported by the managers, saw various increases in employment, number of restaurants, available beds, hotels, visitors from the school community, average expenses per visitor/day, average length of stay, and overall number of visitors.

The estimated average income (which it reported as average "economic benefit" to the community) of the three parks was 424,940 Euros per year (approx. \$647,398 CAD), 57 per cent of revenues from government sources (mainly municipal and regional), 19 per cent from private sources, and 24 per cent classified as "external".⁴

The study found the initial cost of earning the UNESCO designation ranged from approximately 30,000 Euros to 80,000 Euros (\$45,000 to \$121,000 CAD), including marketing and management plans, inventory and assessment of geo-heritage sites, and a technical team (Portuguese National Commission for UNESCO, 2014, p. 55). The annual cost of affiliation, including the work of technicians, promotional rate payments to the Geopark networks, and participation in conferences, was estimated at 5,417 Euros (\$8,100 CAD).

In the **United Kingdom**, a 2013 report estimated the annual financial benefit that its seven Global Geoparks brought was 18.84 million pounds (\$32 million CAD) – taking into account the estimated "cost of status" at 330,000 pounds (\$562,000 CAD) or approximately 47,000 pounds each (\$80,000 CAD) (UK National Commission for UNESCO, 2013, p. 12).

The report stated that the designation had been used to increase tourism numbers which in turn brought spill-over effects into the local economy and the seven parks had secured a combined 4.6 million pounds/year in funding (\$7.8 million CAD), not accounting for revenues from visitor spending. Its Marble Arch Caves Geopark, given as an example, attracted 250,000 visitors per year which the report equated to an annual 3.9 million pounds (\$6.6 million CAD) in visitor spending per year due to the UNESCO designation (pg. 14).

SOURCES OF INSPIRATION

Part of the campaign to become a UNESCO Global Geopark, and retain its standing, is to network with already established Global Geoparks in order to gain insight, not only into best practices, but to gain ideas and inspiration into what is possible. Two geoparks that stand out as relevant to the Niagara experience are the **English Riviera Global Geopark** in South Devon, England and the **Beaujolais Global Geopark** in eastern France. But we have also included **Hong Kong** as a brief talking point – considered an urban geopark, it provides an example of how an already world-famous destination has used the branding.

English Riviera

The English Riviera UNESCO Global Geopark in southwest England is an interesting comparative case for Niagara as it has been a popular domestic vacation destination pre-dating its 2007 UNESCO designation. The English Riviera has declared itself an "urban" geopark with a population of 134,000 over 62 square kilometres, including the resort towns of Torquay, Paignton, and Brixham, around Torbay.⁵

This area became well-known during the Napoleonic Wars when the families of naval officers settled in the area and word spread of its attractiveness. It was also once the United Kingdom's largest fishing port. These days, tourism is its dominant industry, recording nine million bed-nights per year and employing 15,000 people either directly or indirectly.

While the economic impact of the geopark, specifically, was not publicly available, the English Riviera Geopark Organization is mentioned more than once as part of the area's tourism strategy moving forward as it aims to grow its visitor numbers. Between 2010 and 2015, this area saw a 12 per cent increase in domestic visitors and an eight per cent increase in their spending (to 274.4 million pounds in 2015, or \$464.5 million CAD). The number of overseas visitors increased by one per cent and their spending by three per cent. Overall, in 2015, there were 4.5 million trips made to Torbay and 436 million pounds (\$739.2 million CAD) spent.

The English Riviera Global Geopark calls itself an "urban geopark" though 45 per cent of its land remains undeveloped as farmland, woodland, or open space. It has its own visitors' centre, themed playground, and website promoting activities and trails centered around its 32 geosites. It encourages its business partners and commercial members to use the branding to "stand above the crowd" when seeking funding. The geopark operates within the established tourism community as one of 14 stakeholders in the Destination Management Group for the local authority. Its own management organization includes tourism, geography, heritage, business, and educational stakeholders, as well as members of the local council. (English Riviera UNESCO Global Geopark website).

⁴No definition was given for "external sources", but this would include entrance fees, etc.

⁵By way of comparison, Niagara's population is spread out across 1,854 square kilometres.

Beaujolais

The Beaujolais UNESCO Global Geopark in eastern France seems a natural case to study for Niagara due to its world-famous wine region (producing primarily red wine from the Gamay grape). This geopark located just northwest of Lyon, within view of the Alps, was designated in 2018 and makes the direct connection between its geological and hydraulic resources, and its viticulture, agriculture and history of its community. It currently has 26 geosites, ranging from historical buildings and sites, to vistas, trails, and protected areas. An interactive map of geo-activities on its website features guided tours and walks, museums and trails. As it is a new geopark, economic benefits are not available, and details about its structure are not yet publicly available. (Beaujolais UNESCO Global Geopark website).

Hong Kong

The Hong Kong UNESCO Global Geopark features outcrops of volcanic rock columns, other rock formations and historical relics that are about an hour's drive from the centre of the city. The city of seven million people acts as host to visitors who make the trek to see the geosites via land-based or water-based tours. Tour guides are accredited. It has a Geopark Visitors Centre, a Volcano Discovery Centre, and several smaller "Geoheritage Centres". It provides an example of how a world-famous city has used the UNESCO branding to enhance and diversify the visitor experience (Ng 2014, Hong Kong UNESCO Global Geopark website).

CONCLUSION

The UNESCO Global Geopark brand is meant to be used as a tool for communities to support and promote their natural resources and geological heritage through sustainable development practices, including geotourism, conservation, and education. The goal of this brief is to introduce this relatively new concept to economic development, tourism, conservation, and education stakeholders in Niagara. This region has already claimed its spot as a world-famous destination, thanks to the Niagara Falls and adjacent historical and cultural offerings. Wineries, breweries, and agritourism are adding to the draw of Niagara – the region – as a tourism destination. So much of this success already hinges on the uniqueness of Niagara's geography and geology, from the many waterfalls to the building and operation of the Welland Canal, to the soil and climatic factors that lead to a robust Niagara wine industry, particularly ice wine. Supporting a bid to become an internationally recognized geopark could even broaden the region's appeal to those looking for a recreational and educational geotourism experience, the benefits of which can be shared across all 12 municipalities of the region.

NEXT STEPS

By Charles Conteh & Carol Phillips

The vision behind the UNESCO Global Geopark initiative in Niagara is not disconnected from the economic and sociocultural advancement of the region, but rather constitutes another potential engine that can only further drive the tourism sector. It should also be emphasized that leveraging and promoting cultural assets is a fundamentally community-driven initiative if it is to be sustainable. This policy brief encourages all sectors to consider the benefits of a UNESCO Global Geopark and how they may each contribute to its use as a tool of sustainable economic development.

To articulate the essential elements moving forward in a successful local geopark initiative, a framework from Jennifer Clark's work on resilient regions is instructive (2017). There are four core characteristics of resilient and adaptive regions that could inform the strategic direction of the geopark initiative in Niagara. First, building a deep specialized team of local geopark "activists"; second, creating a legitimate platform of institutionalized intermediaries to connect the various organizations and interests invested in the region's natural, environmental and cultural assets; third, cultivating an awareness of geoparks as fundamentally about the management of relationships and narratives between stakeholders in Niagara and the world; and fourth, a clearly articulated role for government at multiple scales of authority. The rest of this section elaborates on each of these elements.

The first element is the need to cultivate a critical mass of local geopark activists who are knowledgeable and passionate about the region's geological, geographic, cultural and historical uniqueness. As a strategic step, this would involve effective outreach to, and partnership with, local schools and post-secondary institutions to integrate geopark training modules into existing curriculum, and host regular public workshops to raise awareness about the region's stock of geopark assets. Ohniakara has already begun this outreach with programs in place at the post-secondary level.



Engaging people of diverse backgrounds and leveraging their skills and passions to create a compelling local ecosystem of geopark activists is an important part of developing a convincing and sustainable initiative. In fact, a major reason UNESCO gives for the designation of a Global Geopark is its educational

benefits – increasing awareness and appreciation for geology by teaching the communities within the geopark, as well as visitors, about the region's earth history.

Most importantly, geology and its role in earth history also provides a portal through which to learn about Niagara's Indigenous cultures which have existed here since time immemorial. With the help of Geospatial Niagara and the participation of Indigenous communities (such as the Niagara Regional Native Centre), educational units can be designed with hands-on experiences for students of all ages, elementary to post-secondary. As well, information at geosites, and on educational/promotional materials can also tell the story of the land from the Indigenous perspective.

The second element in the geopark region's strategic steps would be the creation of a platform for the institutional intermediaries that share the conservation and operational oversight of Niagara's physical assets. This platform can serve as facilitator and provide the glue that holds networks of disparate actors together. As we noted earlier, geoparks often overlap with nature parks, national parks, and biosphere reserves. An effective institutional intermediary platform will pre-empt competition between brands and confusion amongst the public about the difference between them. Moreover, it will address the concerns of businesses and other stakeholders questioning the value of paid membership in a geopark. The cooperation of these types of groups is essential to the upkeep, enhancement, and promotion of geosites. Working together, such an environmental network platform will not only provide the multidimensional perspectives for articulating and differentiating what a geopark can offer to the experience of visitors but also operationalizing those perspectives into quantitative indicators for measuring its impact on the established tourism sector as well as the local economy at large.



This platform could serve as the management team with a business and marketing plan. Where this new platform or management team fits within the

current Niagara tourism landscape is up for further discussion. But as we see from the English Riviera example, the initiative's inclusion in Niagara's tourism discussions and strategies is central to its success.

A third element in the initiative's strategic direction or next-steps is to frame its geopark initiative in terms of managing relationships and cultural narratives between Niagara and the world. Geopark assets are more than objects of nature. They are the critical relics of history that embody the natural heritage of a place. These relics provide the physical emblems that have

shaped the worldview and even belief systems of many generations of Indigenous peoples living in the region. The geopark initiative provides a mechanism for sharing those narratives with tourists from around the world, and with Niagara residents as well who may not be familiar with those stories embedded in these natural vestiges of the distant past. This third element ties well with the concept of branding.

The branding of a UNESCO Global Geopark provides an entrepreneurial opportunity to increase the number of, and expand existing, geotourism activities and visitor amenities. For those who have existing geopark-oriented businesses and events, the branding may help them build on their success by increasing international awareness of the geotourism opportunities in Niagara region.

The fourth and final element in the initiative's strategic next-steps is the question of the role of government. While there is a tendency to tout community initiatives with leadership provided by ordinary residents, the fundamental need for a clear role for local government leadership must not be lost or downplayed. A global initiative aimed at gaining the attention and winning the designation of UNESCO would require the backing, authority, legitimacy and resources of the state at various levels. To what degree, is a matter for discussion.

A geopark initiative for Niagara needs a broad agreement at the regional scale and requires a regional approach – and there is a tourism marketing structure in place for that. Meanwhile, tourism has been tagged by Niagara Region as a pillar of economic development moving forward and the industry is a major employer locally. The challenge is to leverage the entirety of Niagara's geographical and cultural assets to continue to grow the industry. The proposed Ohnia:kara geosites cut across regulatory, administrative, and operational lines. The Niagara Peninsula Conservation Authority, the Niagara Parks Commission, Parks Canada, Ontario parks, Niagara Escarpment Commission, St. Lawrence Seaway Authority, Niagara Region and its 12 municipalities all share responsibility for some facet of Ohnia:kara. Other than providing legitimacy to the efforts, what role can each level of government and regulatory body play? We should also bear in mind that Ohnia:kara provides an opportunity for greater recognition and appreciation for the role of Niagara's Indigenous peoples in the area's history and culture, which predates local governance structures.

The Ohnia:kara Aspiring Global Geopark provides an opportunity to broaden the appreciation for the entirety of Niagara's geological history and its impact on our cultural history through a means of sustainable economic development. For it to succeed, we suggest the geological "activists" and the tourism stakeholders must work closely together. This policy brief is meant only as a first step towards introducing the concept of a geopark to the Niagara community, outlining challenges and opportunities. What direction the geopark initiative takes is ultimately up to those relevant Niagara stakeholders.



REFERENCES

Beaujolais UNESCO Global Geopark.
<https://www.geopark-beaujolais.com/en/> (Accessed Dec. 6, 2018).

Brouder, Patrick and Chris Fullerton. 2015. Exploring Heterogeneous Tourism Development Paths: Cascade Effect or Co-evolution in Niagara. *Rural Tourism: Insights from the North Atlantic*, 15 (1-2): 152-156.

Clark, Jennifer. 2013. Working Regions: Reconnecting Innovation and Production in the Knowledge Economy. *Regions and Cities*: 66. Abingdon, Oxon; New York: Routledge.

Dowling, Ross, K. 2011. Geotourism's Global Growth. *Geoheritage*, 3: 1-13.

English Riviera UNESCO Global Geopark.
http://www.englishrivierageopark.org.uk/section_main.cfm?section=101 (Accessed Dec. 6, 2018).

Farsani, N.T., C. Coelho and Carlos Costa. 2011. Geotourism and Geoparks as Novel Strategies for Socio-economic Development in Rural Areas. *International Journal of Tourism Research*, 13: 68-81.

Hong Kong UNESCO Global Geopark.
http://www.geopark.gov.hk/en_index.htm (Accessed Dec. 6, 2018).

Lemky, Kim. 2014. "Assessing the Economic Impact of Geoparks," power point presentation to 6th International UNESCO Conference on Global Geoparks, Saint John, N.B.

Megerle, Heidi and Dana Pietsch. 2017. Consequences of overlapping territories between large scale protection areas and Geoparks in Germany: Opportunities and risks for geoheritage and geotourism. *Annales de géographie*, 5 (717): 598-624.

Niagara Region Economic Development. 2018. Economic Analysis & Forecasting Draft Discussion Paper.

Niagara Region Economic Development. 2019. Niagara Tourism Profile.

Ng, Sai L. 2014. Hong Kong Geopark: a paradigm of urban sustainable tourism. *Asian Geographer*, 31 (1): 83-96.

Ng, Young. 2017. "Economic Impacts of Geotourism and Geoparks in China," power-point presentation to the Global Eco Asia-Pacific Conference 2017, Adelaide.

Portuguese National Commission for UNESCO. Study on the Economic Value of the Connection to UNESCO Networks in Portugal. December 2014.
https://issuu.com/cbc_unesco_pt/docs/study_economic_value_unesco_network (Accessed Dec. 17, 2018).

UK National Commission for UNESCO. Wider Value of UNESCO to the UK, 2012-13. <https://www.unesco.org.uk/wp-content/uploads/2015/05/Wider-Value-of-UNESCO-to-UK-2012-13fullreport.pdf> (Accessed Dec. 17, 2018).

UNESCO. 2016. "UNESCO Global Geoparks."
<http://unesdoc.unesco.org/images/0024/002436/243650e.pdf> (Accessed Dec. 6, 2018).

Contact information

About the author: Carol Phillips, PhD, is the research coordinator at the Niagara Community Observatory, Brock University.

Photos

Page 1: Morningstar Mill, Comfort Maple

Page 2: Beamer Falls

Page 4: Niagara Gorge

Pages 6-7: Beamer Conservation Area Trail

Page 8: Ball's Falls

The Niagara Community Observatory at Brock University is a public-policy think-tank working in partnership with the Niagara community to foster, produce, and disseminate research on current and emerging local issues. More information on our office, and an electronic copy of this report, can be found on our website brocku.ca/nco

Contact Us

Charles Conteh, PhD
Director, NCO, Brock University
cconteh@brocku.ca

Brock University
Niagara Region
1812 Sir Isaac Brock Way
St. Catharines, ON, L2S 3A1 Canada

brocku.ca/nco
[@BrockNCO](https://www.instagram.com/BrockNCO)