

GRAND PRÉ NATIONAL HISTORIC SITE:  
AN ECONOMIC IMPACT ASSESSMENT OF A UNESCO WORLD  
HERITAGE DESIGNATION

By

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Thesis

submitted in partial fulfillment of the

requirements for the Degree of

Bachelor of Arts

with Honours in Economics

Acadia University

March, 2009

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This thesis by Adam W. MacLeod  
is accepted in its present form by the  
Department of Economics  
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## Acknowledgements

I would like to express my most sincere thank you to both Dr. Vanblarcom and Dr. Kayahan for your guidance throughout this project. Without your help my average spending per visitor estimate wouldn't be the same. I appreciate the time and efforts you have put in to helping me complete what has become my most comprehensive work at Acadia.

On a more personal note, I would love to thank both of my family for their support, and for cutting out useless newspaper articles for me in any attempt to try and help out. Finally, thank you to Dave Mair and Hayden Lindskog for spending their fifth and *final* final year with me and for encouraging me throughout this project.

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## Abstract

As the ease of travel continues to progress, tourism has become the world's principal economic activity, and more attention is being placed on cultural sites as an area to expand the industry. Grand-Pré National Historic Site in the Annapolis Valley of Nova Scotia, has realized this trend in tourism, and in hopes of strengthening their position and attractiveness as a cultural destination, it is applying for a UNESCO World Heritage Site designation. World Heritage Sites are significant properties around the world which exemplify an outstanding level of cultural diversity and natural wealth. Along with being recognized as a cultural destination, Grand-Pré is looking to take advantage of another benefit of the designation; the belief that as a Heritage Site, there will be an increase in the level of public awareness which would in turn spark an increase in visitation to the area.

This paper estimates if there is any truth to the belief that an increase in tourism occurs due to a World Heritage Site designation. Given the declining trends in tourism for Grand Pré and the Annapolis Valley, this could be a way to attract new visitors to the area and sustain the local tourism industry.

In the summer of 2008, 278 surveys were collected asking visitors about their awareness and the importance of the site as well as their spending habits while visiting the area. Visitation statistics to Nova Scotia were used to create a regression model to be able to measure what kind of visitation impact a UNESCO designation could have on the area. Using these data, I assessed the potential economic impact of visitor spending attributable to a UNESCO designation on the site and local economy.

An increase of 6.2% in the number of visitors to Grand Pré due to a UNESCO designation was estimated. An average spending of \$68.72 per visitor was estimated using our survey data. This information was analyzed under both a historical and forecasted scenario of visitation to Grand Pré, to develop the increase in tourists to the site and the spending of new visitors due to a UNESCO designation. It is concluded that a UNESCO designation at the National Historic Site of Grand Pré could have considerable positive economic impacts for the site and local economy for years to come.

# Chapter 1

## Introduction

### 1.1 Nova Scotia Tourism Industry

The Nova Scotia department of Tourism and Culture describes the province as a place of scenic beauty and rich heritage with many truly unique vacation experiences. For example:

“We take great pride in our province and invite you to discover a maritime travel destination like no other. The seven regions of Nova Scotia lead you around the province, where you’ll explore our breathtaking shores - from towering cliffs and long peaceful beaches to picturesque bays and charming villages. There is no shortage of ways to discover our natural beauty and enjoy our renowned hospitality and charm. (Nova Scotia Department of Tourism, Culture and Heritage, 2009a)”

This appeal has made it both an international travel destination and a place for out of province Canadians to visit. Nova Scotia has averaged 1.9 million non-resident visitors since 1990. Of the estimated 2.1 million non-resident tourists in 2007, 10.5% were from the United States, and 4% were non-US international travelers. Tourism in the province is a billion dollar industry, with these expenditures creating approximately 33,000 jobs, with far reaching induced and indirect impacts. The total payroll of these jobs is approximately \$519 million (Nova Scotia Department of Tourism, Culture and Heritage, 2009b).

A significant but declining portion of the visitation and spending in Nova Scotia can be attributed to the Annapolis Valley region. The Annapolis Valley is located on the western shore of the Nova Scotia peninsula and is home to the population centers of Digby, Kentville, and Wolfville. Of the \$1.3 billion in revenues attributed to tourism in 2007, \$137 million, or 10.3% come out of the Annapolis Valley (Tourism Insights, 2008). This area is home to many tourism destinations that are both scenic and cultural, including the National Historic site of Grand Pré. Grand Pré has long been seen as the symbolic epicentre for the deportation of the Acadians from the area (Johnston and Kerr, 2004).

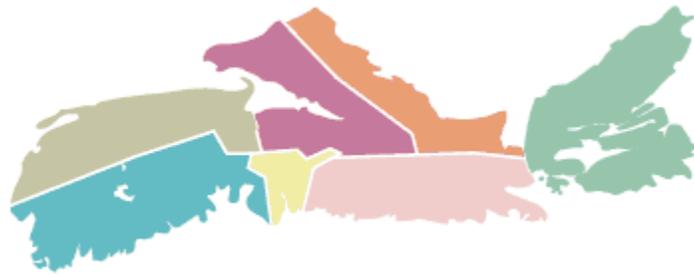


Figure 1.1.1 Map of seven regional tourism areas of Nova Scotia

The National Historic site of Grand Pré is one of many sites with significant cultural and historical implications in Nova Scotia.

The past is present every day in Nova Scotia. Explore the colourful fishing town of Lunenburg. Relive a day in the life of 1744 at the Fortress of Louisbourg, the largest reconstruction of its kind in North America. Pass through the immigration sheds of Pier 21 National Historic Site in Halifax where over a million immigrants, troops, war brides, and evacuee children started their new lives. Experience the noon day cannon at Citadel Hill, commemorated as a nationally significant symbol of Halifax's role as a principal naval station in the British Empire (Nova Scotia Department of Tourism, Culture and Heritage, 2009c).

These sites are not alone in providing a destination with rich heritage. Many other sites in and around the province commemorate the extensive and diverse history of Nova Scotia. These are major attractions for tourists and an area of focus for tourism promotion efforts aimed at preserving natural and cultural heritage resources (Nova Scotia Department of Tourism, Culture and Heritage, 2008d). In order to do this, the government of Nova Scotia has supported efforts to have both the Joggins Fossil Cliffs and Old Town Lunenburg sites in their successful designation as United Nations Educational, Scientific and Cultural Organization (UNESCO) World Heritage sites. They are taking similar strides in helping Grand Pré's current bid in becoming a designated World Heritage Site. The Chronicle Herald (2009) has reported that "three levels of government will contribute a total of \$1.3 million to a project that would see the area receive recognition as a worldwide historic and cultural treasure. The bid process, being prepared by a nomination advisory board, began two years ago." The government believes this will raise the awareness of cultural sites in Nova Scotia, and in turn, make the province a more attractive destination.

## 1.2 History of Grand Pré

Grand Pré was named after the vast meadow on which the settlement was located. When the salt marshes in and around the Port Royal area were flooded, Acadian families started to look for other suitable marshes in the vicinity. Many regions were founded at this time in and around Les Mines (Minas Basin), and one of the areas they discovered

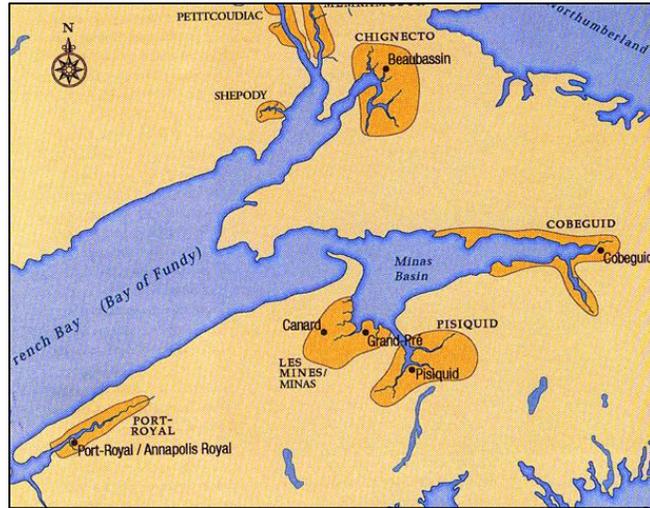


Figure 1.2.1 Map of Acadia

came to be Grand Pré, which was settled in the early 1680s.

The Acadians recognized the untapped agricultural potential of the area and began dyking and draining, a strategy used to make the land fertile. By the early 1700s, the district of Les Mines was the principle agricultural center for Acadia, and Grand Pré was its most populous settlement (Johnston & Kerr, 2004).

In 1713, the Treaty of Utrecht was signed in Europe, which gave Great Britain claims to a number of French territories in North America, including Acadia. The Acadian population took a neutral stance in the divide between France and England, and the post-Utrecht period was marked for the most part, by peace and prosperity. This was not to last.

In 1744, thirty five years after Great Britain gained sovereignty over the region, old conflicts were being rekindled in Europe between France and Great Britain, and the Acadian settlers were going to feel the effects. The matter of Acadian neutrality was starting to wear on the British administration with the increased tension between themselves and the French. In the summer of 1755, after the capture of French Forts in Nova Scotia, the British administration wanted to settle the Acadian question once and for all (Johnston and Kerr, 2004). The Nova Scotia Council made the decision to remove every man, woman and child of Acadian decent from the British colony of Nova Scotia.

On the 4<sup>th</sup> of September, 1755, a message was delivered to the Acadian inhabitants of Grand Pré saying that all men and boys over the age of ten were to arrive at the local church the following day. Upon their arrival, it was announced through interpreters by Lt.-Col. John Winslow, that they and their families were to be deported and all of their “Lands and Tenements, Cattle of all Kinds, and Live Stock of all Sortes are Forfitted to the Crown (Johnston and Kerr, 2004).” The deportation of the Grand Pré Acadians started five days later on the 10<sup>th</sup> of September. In total, approximately 2,200 people living in and around Grand Pré were deported to various Anglo-American colonies, including Massachusetts, Maryland and Virginia (Johnston and Kerr, 2004).

The deportation of the Acadian peoples effectively ended their settlement in the area of Les Mines. The ancestors of displaced Acadians did not let the tragedy become forgotten, and it remained an oral history tradition of the people until 1847, when a poem written by Henry Wadsworth Longfellow,

*Evangeline, a Tale of Acadie*, was published. The poem became known around the world as a tragic love story, and made Grand Pré, the home of Longfellow's 'Evangeline,' the most famous of the deportation sites (Johnston and Kerr, 2004).

In 1907, John Fredric Herbin, whose mother was an Acadian, led a campaign to have the site of Grand Pré preserved as a memorial. He bought the lands, and soon sold it to Dominion Atlantic Railway (DAR) on the condition the lands be deeded to Acadians so the site could be preserved as a memorial (Johnston and Kerr, 2004). They maintained the grounds until 1921, when it was transferred into the possession of the Société mutuelle de l'Assomption, who erected what is now the memorial church. The site remained this way until 1956, when in agreement with the federal government the Grand Pré Memorial Park was declared a national historic site. The site has since been further developed under the sponsorship of the Canadian government who maintain the purpose of the National Park to,

“commemorate the Acadians of the Minas Basin and the expulsion of the Acadians from their ancestral homeland; to protect for all time the memorial landmarks, cultural resources, ornamental gardens and physical environment that make up the special atmosphere and nature of the park; and to encourage public understanding, appreciation and enjoyment of the Acadian historical heritage (Parks Canada, 1985).”

### **1.3 Tourism Trends in Rural Nova Scotia**

Tourism in Nova Scotia has shown moderate growth of approximately 2.6% per year, in the last two decades with visitation increasing from 1.5 million tourists in 1992, to 2.14 million in 2007 (Nova Scotia Tourism Insights, 2008). However, much of this increase in visitation has occurred in the Halifax-Dartmouth area, while the rest of the province has experienced slower growth or even a downward trend in recent years.

Room nights sold in Halifax increased between the years of 2000 to 2008, rising from 1.249 million to 1.329 million, an increase of eight percent (Nova Scotia Tourism Insights, 2008). In 2007, the tourism revenues generated in Halifax were approximately \$654 million, a 20.6% increase from the tourism revenues in 2000 (Tourism Insights, 2008).

The tourism activity in the Annapolis Valley has not kept pace. Room nights sold in the region have seen a decline of thirteen percent from 310,500 in 2000 to 269,900 in 2007. Tourism revenues have decreased 11.6% during the same time period (Tourism Insights, 2008).

The National Historic Site of Grand Pré has suffered similar negative trends in tourism as has occurred in the Annapolis Valley overall. In 1998, 65,115 visited the Site, but by 2008, visitation had fallen to 28,516. This represents a 56% decrease over a ten year period.

Figure 1.3.1 Number of visitors to Grand Pré

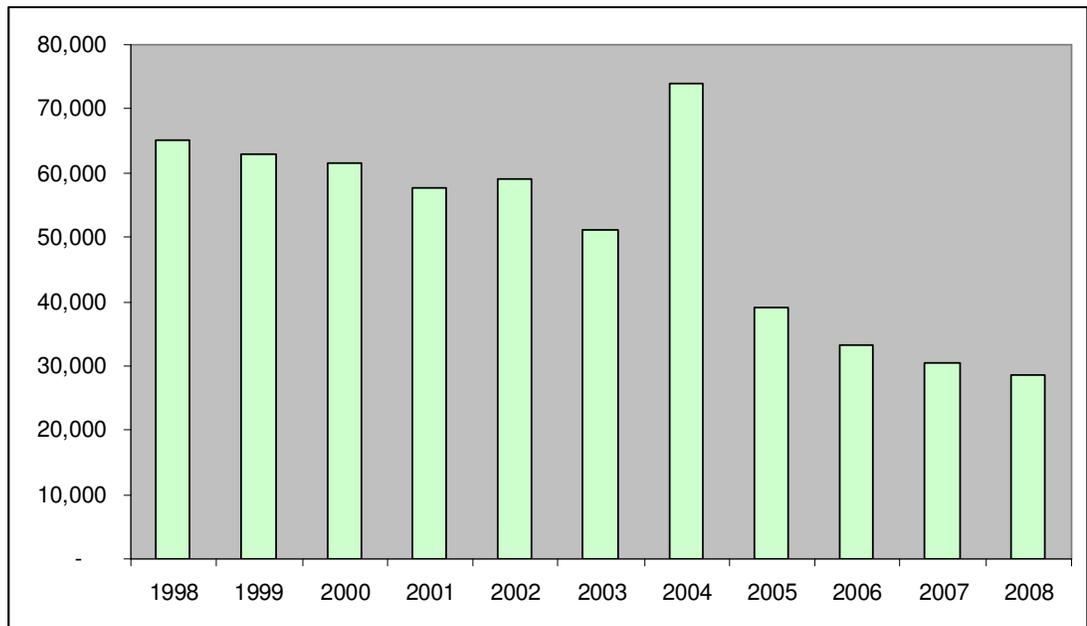


Figure 1.3.1 depicts the downward trend in the number of visitors to Grand Pré. Outside of 2004, the year of Congr s Mondial Acadien, a world Acadian celebration that resulted in a large increase in the number of visitors to the Site; there has been a consistent decline in the number of visitors from 1998 through to 2008.

This downward trend is something that Grand Pr  officials are trying to remedy. As one avenue to help accomplish this, Grand Pr  is applying for a UNESCO World Heritage designation. It is believed that the status of the designation and related publicity would result in an increase in the number of tourists visiting the site and generating positive economic impacts on the local economy.

## 1.4 What is a UNESCO World Heritage Designation

The United Nations Educational, Scientific and Cultural Organization (UNESCO) was established on the 16<sup>th</sup> of November, 1945. UNESCO has one hundred and ninety three member states and six associated members in the fields of education, science, culture and communication (UNESCO, 2009a). The objectives of the organization revolve around the promotion of equality of education, conservation and protection of history and science and promoting a mutual knowledge and understanding of peoples (Jones and Coleman, 2005). UNESCO describes itself as an organization that seeks to promote the identification, protection and preservation of cultural and natural heritage sites around the world considered to be of exceptional significance to humanity (World Heritage, 2009a).

The aforementioned ideals are embodied in an international treaty adopted and developed in 1972 by UNESCO at the convention concerning Protection of the World Cultural and Natural Heritage. UNESCO hopes to encourage participation of the local population, as well as the international community in conserving the world's cultural and natural heritage (World Heritage, 2009a). UNESCO World Heritage developed a list of sites with cultural and natural significance with outstanding universal value.

The World Heritage List currently consists of eight hundred and seventy eight properties. These include 679 cultural, 178 natural, and 25 mixed properties in 145 states. Canada is home to fifteen of these sites, the first being designated in 1978 at the L'Anse aux Meadows National Historic Site in

Newfoundland and the Nahanni National Park in the Northwest Territories (World Heritage, 2009b).

Nova Scotia is currently home to two World Heritage sites. Old Town Lunenburg was the first to receive the designation in 1995, and is described by UNESCO as “the best surviving example of a planned British colonial settlement in North America (World Heritage, 2009c).” The second site was designated in 2008 at the Joggins Fossil Cliffs, which has the most complete fossil record from the period of 318 to 303 million years ago. The National Historic Site of Grand Pré is looking to become the third site in Nova Scotia to successfully apply to UNESCO and join the list of World Heritage sites and garner the symbolic benefits of the designation.

As described by the World Heritage convention, belonging to the list of sites means belonging to an international community with strong appreciation for significant cultural and historical sites. The sites have access to the World Heritage Fund, which annually, makes approximately US\$4 million available to assist the preservation and promotion of Heritage sites. Finally, UNESCO believes there is an increase in public awareness due to the designation which will increase tourist activities at the site and bring important funds to the site and local economy (World Heritage, 2009d). Grand Pré hopes to take advantage of all of these benefits by achieving a World Heritage designation.

## **1.5 Study Rationale: UNESCO, Grand Pré and Tourism**

As the ease of travel continues to progress, tourism has become the world's largest industry, and more attention is being placed on cultural sites as an area to expand the industry (Goeldner, McIntosh and Ritchie, 1995). Grand Pré National Historic Site in the Annapolis Valley of Nova Scotia realizes this trend in tourism, and in hopes of strengthening their position and attractiveness as a cultural destination, it has applied for a UNESCO World Heritage Site designation. Along with the recognition the designation would bring as a cultural destination, Grand Pré is looking to take advantage of another benefit of the designation; the belief that as a Heritage Site, there will be an increase in the level of public awareness which would in turn, spark an increase in tourist activity to the area.

This paper looks to estimate the economic impact associated with a World Heritage Site designation for Grand Pré. Given the declining trends in tourism for Nova Scotia and the Annapolis Valley, such a designation could provide a way to attract new visitors to the area, providing economic benefits for the local tourism industry. It is hoped that the analysis contained in this thesis will be relevant not only for Grand Pré and the Annapolis Valley, but for other sites around the world considering a similar strategy to help expand their tourism industry.

## **Chapter 2:**

### **Literature Review**

Tourism is the world's foremost economic activity and the importance of developing the industry can contribute significantly to the success of an economy. UNESCO and its World Heritage list declare there are significant economic benefits to obtaining a designation. Through an increase in tourism and global awareness, local economies surrounding cultural and natural sites should benefit from having a designation (World Heritage, 2009d). As the importance of tourism has increased, many studies have been conducted to assess the actual impact of a designation with few definitive results.

Buckley (2004) investigates the contribution of World Heritage listing to tourism in Australia. Observations in this study were extracted from several National Parks in Australia. The author attempts to make a comparison of the economic value of tourism sites before and after they were designated, and at similar unlisted sites during the same time period since other factors outside of the designation could have affected tourism as a whole. However, there are many gaps in Buckley's data that render his study incomplete. Rarely did a site have data on the total number of visitors, and the data that was used is conflicting. This is the case because tourist numbers reported by the International Visitor Survey are three times higher than the numbers obtained from on ground surveys in the same year. Buckley admits to this problem in

his data, stating that “visitor numbers and origins are generally too incomplete to track historical trends except at the broadest scale.”

Bojić (2007) evaluated legal and economic implications of Natural World Heritage designation at Plitvice Lakes National Park, Croatia. Bojić claims the site has important economic impacts on two counties surrounding the Park, but fails to quantify the impact or develop a model in which she bases her assumptions. Bojić also mentions the many possibilities for small family tourism development and the establishment of private accommodations as good wealth opportunities in the region. These assumptions might be true, however the research lacks any sort of statistical basis to support the assumptions that significant economic impacts occur from the designated site.

Hambrey Consulting (2007) developed a commissioned report based upon documented experience from sites around the world in order to make recommendations for maximizing the benefits of UNESCO designated areas in Scotland. They suggest that benefits vary between different sites depending on the base of the site itself and the nature of the economy. The report states four benefits a site appears to receive: enhanced leverage for funding, raising awareness, an enhanced tourism profile and enhanced opportunities for branding. There lacks any statistical data proving this to be true in Scotland, and instead looks at what kind of impacts other sites have had. It fails to reference specific impacts from the World Heritage designation and what kind of tourism growth can be expected.

Blacik (2007) assesses the under representation of Africa on the list of UNESCO World Heritage Sites. Blacik finds that a thirty percent increase in tourism can be expected in the first year alone; however, she argues that this has negative outcomes on local communities trying to maintain their cultures. Conclusions aside, this increase in tourism is not based on any statistical data; instead it comes from an interview with Hervé Barre of UNESCO, and lacks the necessary information to support the claim of a thirty percent increase in the first year after designation.

Soares et al. (2007) estimated the impact of the classification at the Portuguese World Heritage destination of Sintra. Their study is based on a comparative analysis of tourist demand before and after the designation. They assessed the visitation numbers to two palaces in Sintra between 1990 and 2004. The results revealed a lack of evidence of increased tourism numbers. The study admitted difficulties in obtaining concrete data, and stated the trouble in quantifying the entrance and exit of tourists to and from Sintra. An empirical study was also conducted to determine the level of knowledge about the classification. The results showed most respondents had knowledge of the designation prior to visiting the site and 50% admitted the classification influenced their decision to visit Sintra. This study is one of the more complete analyses of World Heritage designation, but acknowledges complications in quantifying the impact due to difficulty in obtaining tourism visitation numbers.

The number of studies is noticeably increasing as time progresses, with most of the reviewed literature being written from 2007 onwards. The progress in developing a quantitative model of economic impact is fairly evident,

however many of the studies lack sufficient data to properly assess the increase in tourism attributed to a World Heritage designation. These difficulties in quantifying the visitation of tourists to a particular designated site resulted in the inability to estimate the increase in tourism due to a designation. In each case which was reviewed, significant problems arose. In examining the shortcomings of previous studies, this paper looks to build upon their work and attempt to advance the search aimed at measuring impact UNESCO has on tourism and the local economy of a classified site.

First, the study looks for another site that had a UNESCO designation, with tourism attributes and characteristics similar to Grand Pré. This was found at the closest site geographically, Old Town Lunenburg. By quantifying the impact of UNESCO designation on the percentage of non-resident Nova Scotia visitors to Lunenburg and then applying it to the level of visitation to Grand Pré, a prediction of the impact of a UNESCO designation on tourism could be estimated. To minimize the problems of identifying and quantifying the number of tourists entering and exiting a specific study area, the increase in the percentage of visitors coming to Nova Scotia that visit Lunenburg is calculated. There exists no direct data on tourism visitation to Lunenburg before and after the UNESCO designation. Looking at the percentage change in visitors to Nova Scotia since the designation will simplify measuring the number of visitors attributable to the UNESCO designation at Lunenburg. In doing this, while taking into account other economic factors such as the US CAN exchange rate, inflation rate, and other events which would have influenced the visitation, a

regression analysis is conducted to isolate the impact UNESCO has on tourism to Lunenburg. This impact on Lunenburg can then be translated to the case of Grand Pré to estimate a change in tourism due to designation. In order to determine the direct impacts of tourism spending Grand Pré has on the surrounding area, survey data will also be taken into account to measure the average spending of tourists in and around Grand Pré to develop an estimated monetary value of direct and indirect spending by tourists.

To summarize, this study aims to quantify the impact of UNESCO World Heritage designation on a tourism site in terms of visitation and visitor spending. The details of the methods adopted in this paper will be presented in the next section.

## Chapter 3

### Methods

In order to estimate the potential economic impact of the designation on the National Historic Site of Grand Pré, two tools will be used. Firstly, regression analysis will be conducted to isolate the impact a UNESCO designation will have on a particular site. In order to accomplish this, the case of Old Town Lunenburg will be assessed and the results will be applied to the Grand Pré site. Secondly, two hundred and seventy eight surveys were collected in the summer of 2008 asking the spending habits of individuals while visiting the site. Using these data an estimated spending average can be established to quantify the economic impact of tourism on the local economy to Grand Pré. This will be further broken down into subcategories of spending, including accommodation spending, retail spending and food and beverage spending to determine the economic impact of UNESCO for various categories. These estimates can then be applied to our estimated increase in the number of tourists visiting the site to quantify the forecasted economic impact of the designation.

### 3.1 Regression Analysis

Regression analysis is a statistical tool used to determine the relationship between an independent variable and dependent variables. In the case of Grand Pré, we are interested in estimating the effect that UNESCO designation has upon the level of tourism to the site and surrounding area. In order to accomplish this goal, data must be assessed from a previously designated site. Old Town Lunenburg will fill this role because it is the only existing UNESCO site in Nova Scotia with data related to visitation pre and post designation. We would also expect them to be affected similarly by the fluctuations in the Canadian exchange rate and the inflation rate in Nova Scotia. These variables will be taken into account when isolating the impact of a UNESCO designation, as well as the influence other tourist events might have on the level of tourism to Lunenburg. Our regression function will be written as follows:

$$Y_t = \beta_0 + \beta_1(UNESCO_t) + \beta_2(USCANFX_t) + \beta_3(INF_t) + \beta_4(EVENT_t) + U_t$$

The goal of this regression is to isolate the  $\beta_1$  coefficient in order to quantify the impact of the UNESCO designation on tourism. Holding the other variables constant, the percentage change in tourism to Lunenburg because of UNESCO can be discovered and applied to the visitation numbers at Grand Pré in order to forecast the expected impact of a designation at the historical site of Grand Pré on visitation.

The dependent variable,  $Y$ , represents the percentage of visitors coming to Nova Scotia that visit Lunenburg. We explain the variation in this variable

using the explanatory variables of exchange rate, UNESCO, inflation rate and the influence of other tourism events. In order to develop this variable, data was assessed from the 2004 Nova Scotia Tourism Exit Survey.

Our  $Y$  variable of the percentage of visitors coming to Nova Scotia that visit Lunenburg was created by the following equation:

$$Y = \frac{Y_1}{Y_2} = \frac{\text{Number of parties visiting Lunenburg}}{\text{Number of parties visiting Nova Scotia}}$$

The numerator,  $Y_1$ , of the number of parties visiting Lunenburg was found by taking the accommodation nights sold in Lunenburg, and dividing it by the average accommodation length. This was done so those groups staying more than one night were not counted twice. This number was then multiplied by the ratio of visitors to those who stayed overnight in Lunenburg to include those visitors who came to Lunenburg but did not stay overnight. This is shown in the following equation:

$$Y_1 = \frac{\text{Accommodation nights sold in Lunenburg}}{\text{Average accommodation length}} * \frac{\text{Visitors to Lunenburg}}{\text{Stayed overnight in Lunenburg}}$$

The denominator,  $Y_2$ , of the number of parties visiting Nova Scotia is calculated by taking the average number of visitors to Nova Scotia and dividing it by the average party size of 2.2 people (2004 Nova Scotia Exit Survey). This is shown in the following equation:

$$Y_2 = \frac{\text{Average number of visitors to Nova Scotia}}{\text{Average party size}}$$

This ratio of parties visiting Lunenburg to parties visiting Nova Scotia will give us the percentage of parties who visit Lunenburg of those who come to Nova Scotia.

We assume that this ratio,  $Y$ , and any fluctuation in the number of parties coming to Lunenburg will be reflective of changes in the number of visitors. Henceforth, rather than referring to the percentage change in the number of parties due to UNESCO designation, we will simply identify it as a change in visitation.

The *USCANFX* variable represents the US-Canada exchange rate, which denotes the value of CAN\$1 in terms of American Dollars. Of the estimated 2.1 million tourists visiting Nova Scotia in 2007, 223,800, or 11% of these individuals, were from the United States. This is the largest total of visitors from a foreign country, and the exchange rate can influence the decision of American tourists to visit Canada. When the Canadian dollar is strong in comparison to the United States dollar, as it has been in 2007 and 2008, the cost of visiting Canada for Americans is higher, and you would expect a smaller number of tourists visiting from the United States as compared to when the Canadian dollar is worth less. In other words this would imply a negatively correlated concurrent relationship, as the Canadian dollar appreciates in value an expected decrease in international tourists would occur.

Inflation in prices of goods and services would also contribute to the expense of visiting Nova Scotia. If inflation leads to an increase in the cost of, for example, an overnight stay at a hotel, then it would be expected to cause a

decrease in visitation to the area. As the cost of goods and services rises, a negative impact on tourism would be expected.

In order to account for temporary increases in tourism due to particular events, the *EVENT* variable is introduced. This variable would take the value '1' if in that particular year there was a high profile tourism event that occurred in the region. Tall Ships Festivals can be given as examples of such events which brought a significantly larger portion of tourists to Lunenburg than would have otherwise occurred. A positive impact on the percentage of visitors to Lunenburg would be expected when an event occurs.

Finally, the *UNESCO* variable was introduced. This is a dummy variable similar to the *EVENT* variable, where it takes the value of 0 before the designation in Lunenburg (up until 1995), and 1 after the designation occurred in 1996. The UNESCO coefficient of  $\beta_1$ , holding all other variables constant, will generate the percentage change, on average, in visitation to Nova Scotia who visit Lunenburg due to the World Heritage Designation. This percentage change in visitation is then be applied to Grand Pré to forecast the change in tourism would be expected after a designation.

### **3.2 Survey**

In the summer of 2008, tourists were surveyed at Grand Pré and particular locations around the historic site. The survey was comprised of fifteen questions which aimed to identify the origin and age of the visitor, as

well as various questions to develop a profile of their trip to Grand Pré. This survey was then used to develop an economic impact estimate of tourist spending in the area.

A total of 278 surveys were completed. In order to accurately gauge the relevance of each survey to Grand Pré, a question was asked about the influence the site had on determining their visit to the Grand Pré area. Tourists were asked to pick a point on a scale from zero to ten where zero represented no influence, and ten represented the park being the main single reason for being in the area. Only surveys where the influence of Grand Pré was greater than four were taken in to account when developing a spending profile of a visit to the park. Furthermore, only those surveys which indicated their primary reason for visiting the site were assessed. This eliminated those individuals or groups whose spending would have occurred in the absence of the site as indicated by their responses, since the site itself had very little influence on their trip to the area.

To gauge the spending impacts of tourists in particular divisions of the local economy, visitors were asked to estimate the amount they spent in various categories.

<b>Estimated amount spent for:</b>	
a) Cost of accommodations	a)
b) Meals and beverages in restaurants	b)
c) Groceries/liquor at stores	c)
d) Vehicle rental	d)
e) Other shopping purchases	e)
f) Operation of private vehicle (repairs, gas, oil)	f)
g) Recreation and entertainment	g)
h) Inclusive travel package	h)
i) Other (please specify)	i)

Figure 3.2.1 Source: UNESCO Grand Pre Park Visitor Survey

Using these estimates, an average amount spent in a visit to the Park can be established. It will then be applied to the visitation numbers to quantify the impact of the tourism attributable to Grand Pré National Historic Site.

The impact will be broken down further into the various subcategories found in table 3.2.0, and placed through an input/output model to find the multiplier effect of direct spending. This will determine the indirect impacts of tourism in the area. The data will further analysed in Chapter four.

## Chapter 4

### Results

#### 4.1 Data

The independent variables of *UNESCO*, *USCANFX*, *INF*, and *EVENTS*, as well as our dependent variable of the percentage change in visitors who come to Nova Scotia that visit Lunenburg, were each assessed between the years of 1990 to 2007, giving us a sample size of eighteen years. The data for the exchange rate and inflation rate was retrieved from Statistics Canada (CANSIM). The events and UNESCO variables were dummy variables taking the value of 0 in the years where the variable did not apply, and 1 when the variable was taken in to account. Table 4.1.1 denotes the descriptive statistics of each variable.

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Figure 4.1.1 Descriptive statistics of variables

<b>Variable</b>	<b>Mean</b>	<b>Minimum</b>	<b>Maximum</b>	<b>Standard Deviation</b>
<i>UNESCO</i>	0.667	0	1	0.485
<i>USCANFx</i>	0.759	0.637	0.931	0.088
<i>Inflation</i>	1.971	1.89	2.051	0.048
<i>Event</i>	0.167	0	1	0.383

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The UNESCO variable has a mean value of 0.667, implying that Old Town Lunenburg held the UNESCO designation during 66.7% of the time period covered in our sample. The average exchange rate over the time period was \$US 0.76 = \$CAN 1, the average rate of inflation was 1.97%, and tourist

events occurred in 16.7% (three of eighteen) of the years covered by our sample.

## 4.2 Regression Results

A regression was run using the aforementioned data to find the  $\beta$  coefficients and the significance of each variable. Recall that we are looking to isolate the impact of the UNESCO designation on the percentage of visitors to Nova Scotia who will go to Lunenburg.

Figure 4.2.1 Regression results

Variable	Coefficient	Std. Error	t-Statistic	Prob.
<i>Intercept</i>	4.412	1.450	3.042	0.009
<i>UNESCO</i>	1.240	0.326	3.807	0.002
<i>USCANFx</i>	0.032	1.857	0.017	0.986
<i>Inflation</i>	-0.020	0.108	-0.186	0.855
<i>Event</i>	0.613	0.353	1.735	0.107

<i>R-squared</i>	0.621	<i>Mean dependent var</i>	5.352
<i>Adjusted R-squared</i>	0.504	<i>S.D. dependent var</i>	0.866
<i>S.E. of regression</i>	0.610	<i>Akaike info criterion</i>	2.079
<i>Sum squared resid</i>	4.836	<i>Schwarz criterion</i>	2.327
<i>Log likelihood</i>	-13.712	<i>F-statistic</i>	5.320
<i>Durbin-Watson stat</i>	1.436	<i>Prob(F-statistic)</i>	0.009

From these results we can derive our p-values and our regression equation to be:

$$Y_t = 4.41 + 1.24 \text{ UNESCO}_t + 0.03 \text{ USCANFX}_t - 0.02 \text{ INF}_t + 0.61 \text{ EVT}_t$$

(0.01)      (0.00)                      (0.99)                      (0.86)                      (0.10)

The slope of the *USCANFX* variable is equal to 0.03, implying that a one unit increase in the Canadian dollar (CAD) will lead to a 0.03% increase in the share of Nova Scotia tourists who visit Lunenburg. The coefficient maintains an incorrect sign; an appreciation of the CAD should not have a positive impact on tourism. However, it is an insignificant impact due to the fact that the p-value is greater than the 5% significance level.

The *INF* coefficient had a value of -0.02, meaning a 0.02% decrease in the share of visitation coming to Lunenburg out of Nova Scotia, for every one percent increase in inflation. It is a statistically insignificant coefficient at the 5% level of significance.

The *EVT* coefficient indicated that a high profile tourist event in the Lunenburg region increased the proportion of visitors who come to Nova Scotia that visit Lunenburg by 0.61% on average. This variable is significant at the 10% level.

The UNESCO coefficient is found to have a  $\beta$  value of 1.24. This implies that the designation at Old Town Lunenburg has led to a 1.24% increase in the share of people coming to Lunenburg of visitors to Nova Scotia. It is statistically significant at the 5% level. Using this positive and significant value of visitation attributable to the UNESCO designation, we will compute the percentage change in tourism on Lunenburg. This info can be applied to the visitation numbers at Grand Pré in order to estimate the expected increase in tourism to the area after a UNESCO designation at the Historical Site.

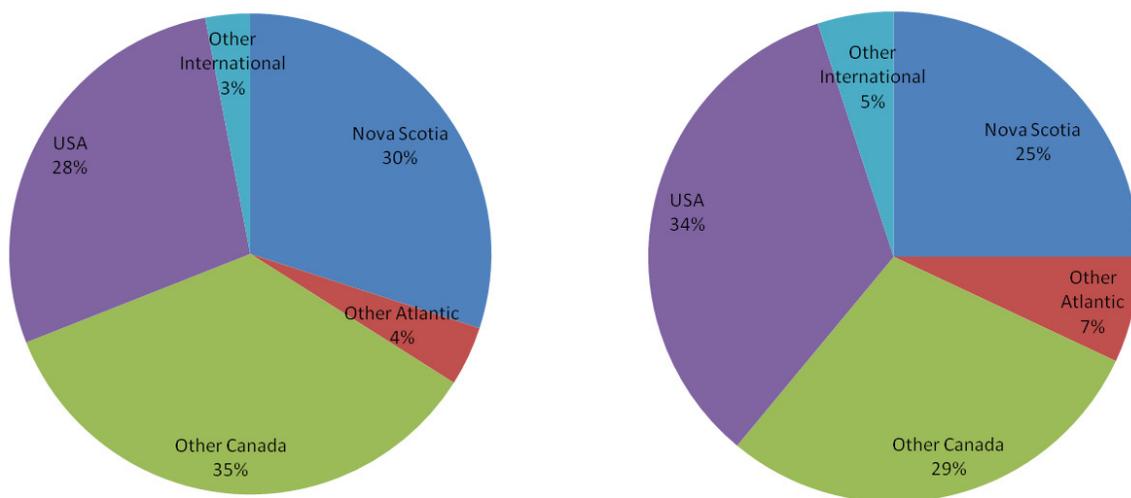
However, before we do this, we will analyze our Grand Pré survey data to generate the average spending per visitor.

### 4.3 Survey Results

In the summer of 2008, 284 surveys were completed at the National Park at Grand Pré. The respondent's geographical distribution is illustrated in the following charts:

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Figure 4.3.1 Geographical distribution of survey respondents, 2008



Geographical distribution of visitors, 2007

Geographical distribution of respondents, 2008

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Of the survey respondents, 68% were from outside of Nova Scotia, with the largest portion being from the United States (34%). Non-Atlantic Province Canadians comprise the second largest portion of respondents, totalling 29% of the surveys. The geographical distribution of survey respondents is reflective of the actual geographical distribution of visitors to the park (collected by Parks

Canada), as shown by comparing the geographical distribution of survey respondents to the geographical distribution of park visitors in Figure 4.3.1. From this we can conclude that the survey sample is an accurate portrait of the population of those who visit Grand Pré.

The survey asked for the respondent's spending while in the Grand Pré area. An average spending per visit to Grand Pré will be used to calculate the economic impact of the Historical Site on the local community, and the potential impact created through a World Heritage designation.

In order to establish the average spending by out-of-Nova Scotia tourists, visiting Nova Scotia, only surveys denoting the following characteristics were considered: (1) Surveys which reported their primary reason for visiting the area was for the historic site. (2) Surveys which reported the site's importance in their trip to the area as being equal to or greater than four on a scale of 1 to 10. (3) Respondents whose origin was outside of Nova Scotia.<sup>1</sup> This narrows the spending impacts of out-of-province survey respondents to be strictly attributable to the historical site and would have not occurred in the absence of the site. (4) Next, those surveys which reported zero spending in all of the categories are treated as a non-response and therefore are excluded from the analysis. This is due to the fact that it is very unrealistic for an out of province tourist to incur no spending while visiting the Grand Pré area, especially since there is an admission charge to visit the Park. This narrowed the number of

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<sup>1</sup> Average spending estimate is not sensitive to the inclusion of Nova Scotian visitors who came to the site and were outside of 30 minute distance.

surveys to 106, and from these, the spending averages per tourist were calculated.

Summing the average spending made in each category, we find the total average spending per person, visiting the site of Grand Pré to be \$68.72 (Figure 4.3.2). Using this figure, along with the UNESCO coefficient of 1.24%, we can establish an estimate of tourism visitation attributable to a World Heritage designation and the resulting economic impact on the local economy.

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Figure 4.3.2 Categorized average spending

<b>Spending Category</b>	<b>Value (CAN\$)</b>
<i>Inclusive travel package</i>	22.39
<i>Meals and beverages in restaurants</i>	17.34
<i>Groceries/liquor at stores</i>	2.15
<i>Vehicle rental</i>	2.74
<i>Other shopping purchases</i>	11.19
<i>Operation of private vehicle (gas, oil)</i>	4.84
<i>Recreation and entertainment</i>	7.73
<i>Inclusive travel package</i>	0.07
<i>Other</i>	0.28
<b>Total average spending</b>	<b>68.72</b>

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#### **4.4 Tourism impact of UNESCO designation**

In order to determine the percentage increase in visitation to Lunenburg, we must first find the average number of visitors to Nova Scotia that visit Lunenburg. On average, twenty percent of non-resident visitors to Nova Scotia visit Lunenburg (2004 Nova Scotia Visitors Study). This can be multiplied by

the average number of visitors to Nova Scotia between the years of 2002 to 2008 (2.14 million), to find the annual number of visitors to Lunenburg over that time period.

$$\begin{aligned} \text{Average visitors to Lunenburg 2002-08} &= 2.14 \text{ million NS tourists} * 20\% \\ &= 428,000 \end{aligned}$$

It is therefore estimated that the annual, average number of visitors to Lunenburg was 428,000.

Next, the increase in the number of tourists who visited Nova Scotia after the UNESCO designation in Lunenburg must be established. To do this, we take the 1.24% increase in visitation we identified using the regression model and multiply it by the average number of visitors to Nova Scotia between 2002 and 2008.

$$\begin{aligned} \text{Forecasted visitors coming to Lunenburg due to UNESCO designation} &= \\ 2.14 \text{ million NS tourists} * 1.24\% \text{ UNESCO impact on share of NS visitors going} & \\ \text{to Lunenburg} &= 26,536 \end{aligned}$$

Using this equation, the predicted number of visitors coming to Lunenburg because of the UNESCO designation is 26,536. To find the percentage increase in visitation to Lunenburg due to the UNESCO designation, we will divide this number by the historical average of visitors to Lunenburg<sup>2</sup>.

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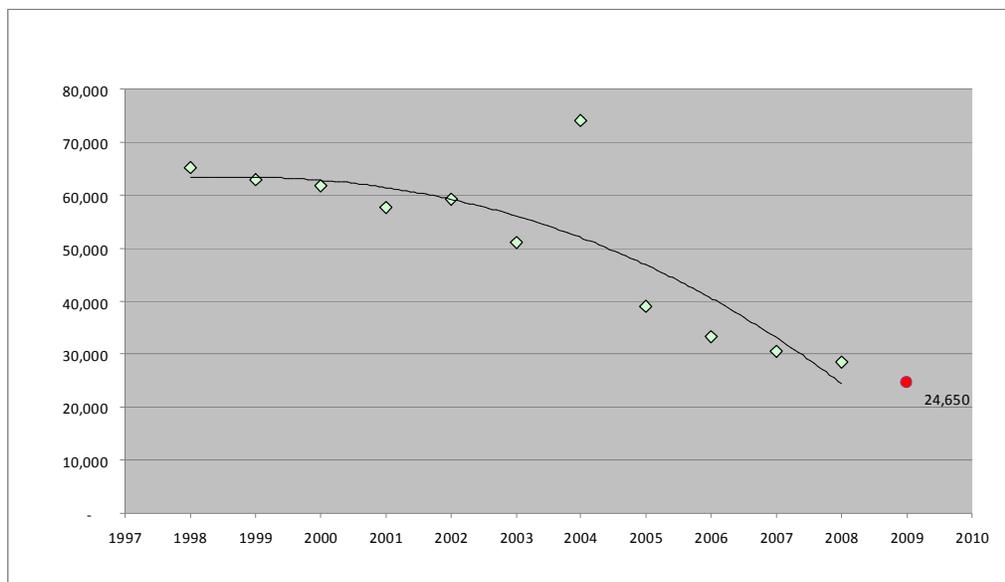
<sup>2</sup> We calculate the percentage change in visitors as opposed to just the change in visitors because Grand Pré has a different base number of visitors per year than does Lunenburg.

$$\text{Impact of UNESCO designation as \% of people visiting Lunenburg} = \frac{26,536}{428,000} = 6.2\%$$

The impact of UNESCO designation as a percentage of people visiting Lunenburg was calculated to be 6.2%. This 6.2% increase in the number of people visiting Lunenburg after the designation will now be used as our estimated increase in visitation we would expect at Grand Pré were it to receive a designation.

We will calculate two figures for visitation to Grand Pré to estimate the impact of a UNESCO designation: (1) a historical average based on the years from 2002 to 2008 and (2) a forecasted visitation for 2009 given the trend in visitation to Grand Pré. The historical scenario of a UNESCO designation at Grand Pré is reflective of visitation returning to where it has been in the past, rather than where it looks to be going given the current downward trend. The forecasted scenario looks at this trend and develops an estimate of visitation for 2009 with this in mind. Multiplying these visitation numbers by the impact of UNESCO designation as a percentage of people visiting Lunenburg will give us an estimated change in tourism due to the designation. Furthermore, by using the average spending per visitor, we can develop the corresponding economic impact of a UNESCO designation applicable to each scenario.

Figure 4.4.1 Number of visitors to Grand Pré with 2009 forecast



The historical scenario of visitation is found by taking the average number of visitors to the site between the years of 2002 to 2008. The average number of visitors for this time period is 45,000 people. Applying a 6.2% increase in visitation due to a UNESCO designation, to the average number of visitors to Grand Pré, our estimated increase in visitors is 2,790 more people visiting because of the designation. Taking this number of new tourists, multiplying it by our average spending per visitor of \$68.72, we find the spending of new visitors in the local economy to be approximately \$191,729.

The forecasted scenario takes in to account the downward trend in tourism since 2002. To find a forecasted number of visitors for 2009, we will use a regression analysis taking into account a time trend in downward

visitation and any events (such as the Congrès Mondial Acadien in 2004) that would have caused an unusual change in visitation. The time trend variable is equal to the number of years after 1998, where 1998 takes the value of 1. Therefore, in the case of 2009 visitation, the time trend variable will be equal to 12. The attractions variable is a dummy variable where years that held tourist events at Grand Pré took a value of 1; otherwise it is equal to zero. In 2009 no attractions are scheduled so it will take the value of 0. The regression equation and results will be:

$$\begin{aligned}
 \text{Forecasted visitation to Grand Pré} &= \beta_0 + \beta_1(\text{timetrend}) + \beta_2(\text{attraction}) \\
 &= 72,508 - 3,988(12) + 29,000(0) \\
 &= 24,652
 \end{aligned}$$

When considering the downward trend in visitation and the effect of other attractions, the predicted visitation to Grand Pré historical park is equal to 24,652. Our 6.2% forecasted increase of visitors for 2009 is then 1,530 more people visiting the site because of a UNESCO designation. Multiplying the number of new tourists by the average spending per visitor of \$68.72, we find the predicted spending of new visitors to be approximately \$105,142. A summary of the historical and forecasted impacts is found in Figure 4.4.2.

Figure 4.4.2 Tourism and economic impact estimates for Grand Pré

	Impacts	
	Trends: Historical (2002-2008)	Predicted (2009)
<i>Average number of Visitors to Grand Pré</i>	45,000	24,650
<i>Increase in number of visitors (Average * 6.2%)</i>	2790	1530
<i>Average spending per visitor</i>	\$68.72	\$68.72
<i>Spending of new visitors</i>	\$191,729	\$105,142
<i>Average total visitor spending associated with Grand Pré</i>	\$2.7 million	\$1.5 million

We find that a UNESCO World Heritage designation would have a considerable economic impact on the Grand Pré site and surrounding area (ranging from approximately \$100,000 to \$200,000 under the forecasted and historic visitor estimates respectively). The spending of new visitors at Grand Pré constitutes a 7% increase in spending associated with the Site. A sensitivity analysis on the percentage increase in visitation will now be performed to discover an estimated low and high amount of visitation to the site and the economic impact of both scenarios. The multiplied impacts of the spending of new visitors via an input-output model will also be assessed.

#### 4.5 Sensitivity Analysis

A confidence interval of our dependent variable was constructed to find a low and high estimate for the percentage increase in visitation to Lunenburg under each of the historical and forecasted scenarios. The confidence interval

was done at the 95% level, implying that in 95 out of 100 samples, the interval will contain the mean population number of visitors.

Our low estimate for the percentage increase due to UNESCO is 2.75% and our high estimated percentage increase was 9.80%. The same impact analysis for visitation and spending due to UNESCO, as previously developed, can be constructed with high and low values (Figure 4.5.1).

Figure 4.5.1 Direct impacts of UNESCO designation

<b>Trends:</b>	<b>Sensitivity Analysis</b>			
	<b>Historical</b>		<b>Predicted</b>	
	<b>low</b>	<b>high</b>	<b>low</b>	<b>high</b>
<i>Average number of visitors to Grand Pré</i>	45,000	45,000	24,650	24,650
<i>Increase in number of visitors</i>	1,238	4,410	678	2,416
<i>Average spending per visitor</i>	\$70.00	\$70.00	\$70.00	\$70.00
<i>Spending of new visitors</i>	\$86,660	\$308,700	\$47,460	\$169,120

Following the same process as in the previous section, we can determine the low and high spending estimates of new visitors to Grand Pré. Taking the historical average of 45,000, we will first find the increase in number of visitors. Multiplying 45,000 by our low estimate of a 2.75% increase in visitation due to UNESCO, and our high estimate of a 9.8% increase in visitation due to UNESCO, we discover the increase in number of visitors to have a low estimate of 1,238 and a high estimate of 4,410. The low estimate of new visitors will spend approximately \$86,700, and the high estimate will spend \$308,700.

Using our forecasted number of visitors for 2009 of 24,650, the process can be repeated to find visitation increase to be a low of 678 and a high of 2,416, spending an estimated low of \$47,460 and a high of \$169,120.

## **4.6 Assessing Multiplied Impacts via an Input-Output Model**

In order to estimate the direct, indirect and induced impacts of the exogenous change in spending due to a UNESCO designation, an input-output model will be used. This will estimate both how the spending of new tourists will be divided between the various divisions of the economy, as well as the income generated by visitor spending. The re-spending of income generated by visitor spending is included in the final total spending generated figure. The spending division was done in the historical and predicted scenario described in Section 4.4, as well as using both our high and low estimated spending for both scenarios explained in Section 4.5. The model will be further explained in the forthcoming sections.

### **4.6.1 The Input-Output Framework**

Input-output (I/O) analysis attempts to quantify, at a point in time, the economic interdependencies of an economy. I/O accounting is a framework that explicitly recognizes interdependencies among productive industries of the economy and the elements of final demand. Final demand is the demand for goods and services consumed directly by ultimate consumers. Final goods and

services are referred to as final because they are not put back into the production process to make some other good. The interdependencies are characterized by the inter-industry structure, which shows the inputs that are combined to produce output. The I/O analysis framework is similar to a financial accounting framework that tracks purchases of and expenditures on goods and services in dollars. The I/O framework traces the dollar flows between businesses and between businesses and consumers in an economy.

The input-output model is summarized below in matrix form.

$$X^* = (1-A^*)^{-1} F^*$$

Where:

$X^*$  = the vector of total output

$(1-A^*)^{-1}$  = the closed model total requirements matrix (Leontief inverse)

$F^*$  = vector of final demand changes associated visitor spending

#### **4.6.2 The Kings County Input-Output Model**

The Kings County input-output model was developed in 2001 by Dr. Brian Vanblarcom of the Economics Department at Acadia University. The Nova Scotia input output (I/O) model forms the basis of the Annapolis Valley I/O model. The provincial I/O model for Nova Scotia is based on Statistics Canada data and produced by CANMAC Economic Consulting Ltd. The provincial I/O direct requirements matrix was obtained from the NS Department of Finance and adjusted via employment based location quotients (LQ) to

approximate the Annapolis Valley economy. The location quotient in this case is a measure comparing the concentration of an industry in Kings County and its concentration in the province of Nova Scotia as a whole.

Location quotients were calculated for each industry (excluding households). The rows of the direct requirements matrix are adjusted based on the LQ values. It is assumed that all wage payments are made to county residents, profits are treated as leakages and no adjustment is made for commuters. After adjusting the direct coefficients via the location quotients, the model is transformed into the total requirement matrix via the Leontief inversion technique described earlier. Given changes in final demand generated by the games, the model can be solved to estimate indirect and induced impacts on the local economy.

The model is closed with respect to households. In the standard or open model, household consumption is a column vector located in final demand and household income (comprised of wages/salaries/profits and other income) is a row vector contained in value added. When the model is closed with respect to households, the household row and column vector are incorporated into the endogenous (inter-industry) matrix. The processing sector is therefore expanded to include households as an industry and the inter-industry matrix reveals the relationships between the household industry and all other industries. As a result, the household sector is no longer exogenous but is now part of the internally determined portion of the model and therefore endogenous. The inclusion of households in the processing sector assumes part of the analysis is

to assess not only the impacts of inter-industry purchases but also the effects of household spending on the economy.

The closed model allows the direct, indirect and induced effects of an exogenous change to be captured. The inclusion of households in the inter-industry portion of the table results in multipliers that reflect not only the direct and indirect purchases from the household industry (labour inputs) by other industries but incorporates the effects of household income being re-spent in the economy. The economic activity resulting from the re-spending of income generated by the direct and indirect effects is known as the induced effect. The induced impacts are additional expenditures resulting from increased income brought about by increases in final demand.

One assumption inherent in the induced effects is that household income flows to residents and these residents spend their new income following the pattern of expenditures identified in the household expenditure column of the inter-industry matrix. Given the assumed leakages from the local economy (related to production of goods and industry profits), the closed model is most applicable due to its ability to capture the induced effects associated with the re-spending of income created via the direct and indirect effects.

#### **4.6.3 Converting Expenditures to Final Demand Changes**

Visitor expenditures therefore need to be converted to final demand changes by accounting for wholesale, retail and transportation margins, as well

as identifying direct leakages related to non-local production and taxes. Details of the conversions of visitor expenditures to final demand changes are discussed below.

*Sales Tax Adjustments:*

Most goods and services in Kings County are subject to the GST tax of 13 percent collected at the point of sale and remitted to the federal and provincial governments. The GST is a value added tax. Retailers add it to the price of goods sold. Businesses pay the GST on goods received, charge GST on their sales and remit the difference to the government. Some products, such as food items purchased at grocery stores are exempt from the GST. There is no GST charged on gasoline retailed to consumers. For gasoline, all taxes are levied at the producer level and included in the cost of gas sold to retailers. To account for GST leakages outside the local economy, tourist expenditures for all categories are reduced by the applicable GST rate when converting sales figures to local final demand.

*Trade Margin Adjustments:*

Visitor expenditures are equal to output attributable to visitors for all tourism expenditures except that associated with retail trade. Output generated by tourist retail spending is limited to the trade margins (the difference between the price charged for the good and the cost of acquiring that good). The margining process involves multiplying the value of retail sales by the wholesale and retail margins wholesale and retail trade industries respectively. The aggregate retail trade industry margin (adjusted for direct leakages via

location quotients) is 25.7 percent (of the purchaser price) and the aggregate wholesale trade margin is 14.6 percent. Retail sales expenditures, less wholesale and retail trade margins, are usually adjusted for transportation margins with the remainder (the producer price) being apportioned to the producing industry (usually manufacturing). In this model, since all goods sold are assumed to be imported into the region, leakages associated with transportation margins and non-local production are accounted for by treating the cost of the goods sold as imports.

<b>Spending Category</b>	<b>Value (CAN\$)</b>
<i>Inclusive travel package</i>	22.39
<i>Meals and beverages in restaurants</i>	17.34
<i>Groceries/liquor at stores</i>	2.15
<i>Vehicle rental</i>	2.74
<i>Other shopping purchases</i>	11.19
<i>Operation of private vehicle (gas, oil)</i>	4.84
<i>Recreation and entertainment</i>	7.73
<i>Inclusive travel package</i>	0.07
<i>Other</i>	0.28
Total average spending	68.72

Figure 4.6.1 Total direct visitor spending

	Historical		Predicted	
	low	high	low	high
<i>Accommodations</i>	\$27,719	\$98,740	\$15,180	\$54,094
<i>Meals and beverages in restaurants</i>	\$21,467	\$76,469	\$11,757	\$41,893
<i>Groceries/liquor at stores</i>	\$2,662	\$9,482	\$1,458	\$5,194
<i>Vehicle rental</i>	\$3,392	\$12,083	\$1,858	\$6,620
<i>Other shopping purchases</i>	\$13,853	\$49,348	\$7,587	\$27,035
<i>Operation of private vehicle (gas)</i>	\$5,992	\$21,344	\$3,282	\$11,693
<i>Recreation and entertainment</i>	\$9,570	\$34,089	\$5,241	\$18,676
<i>Inclusive travel package</i>	\$87	\$309	\$47	\$169
<i>Other</i>	\$334	\$1,191	\$183	\$652
<b>Total</b>	<b>\$85,075</b>	<b>\$303,055</b>	<b>\$46,592</b>	<b>\$166,028</b>

Figure 4.6.1 denotes how the direct spending of new tourists due to a UNESCO designation at Grand Pré is divided amongst all of the spending categories in the Survey. Accommodations would receive the greatest impact of visitor spending, followed by food and beverage purchases in restaurants.

Figure 4.6.2 Total direct, indirect and induced visitor spending

	Historical		Predicted	
	low	high	low	high
<i>Division A - Agricultural and related service industries</i>	\$779	\$2,775	\$427	\$1,512
<i>Division B - Fishing and trapping industries</i>	\$29	\$105	\$16	\$57
<i>Division C - Logging and forestry industries</i>	\$195	\$693	\$107	\$380
<i>Division D - Mining, quarrying and oil well industries</i>	\$54	\$194	\$30	\$106
<i>Division E - Aggregate Manufacturing</i>	\$2,639	\$9,399	\$1,445	\$5,149
<i>Division F - Construction industries</i>	\$608	\$2,164	\$333	\$1,186
<i>Division G - Transportation and storage industries</i>	\$1,128	\$4,017	\$618	\$2,200
<i>Division H - Communication and other utility industries</i>	\$2,411	\$8,590	\$1,321	\$4,706
<i>Division I - Wholesale trade industries</i>	\$5,322	\$18,959	\$2,915	\$10,387
<i>Division J - Retail trade industries</i>	\$9,762	\$34,775	\$5,346	\$19,052
<i>Division KLN Finance, Insurance, Real Estate</i>	\$6,950	\$24,756	\$3,806	\$13,562
<i>Division M - Business service industries</i>	\$1,164	\$4,145	\$637	\$2,271
<i>Division O - Educational service industries</i>	\$13	\$46	\$7	\$25
<i>Division P - Health and social service industries</i>	\$564	\$2,008	\$309	\$1,100
<i>Division Q - Accommodation/food/beverage services</i>	\$44,483	\$158,458	\$24,361	\$86,810
<i>Division R - Other Services industries</i>	\$13,011	\$46,348	\$7,127	\$25,392
<b>Total Spending Generated</b>	<b>\$89,112</b>	<b>\$317,443</b>	<b>\$48,803</b>	<b>\$173,904</b>
<b>Total Income Generated</b>	<b>\$37,336</b>	<b>\$132,997</b>	<b>\$20,247</b>	<b>\$72,862</b>

Figure 4.6.2 shows the how the direct visitor spending, combined with the indirect and induced spending, attributable to a UNESCO designation at Grand Pré, would be divided among the divisions of the economy. The accommodation and food and beverage services would see the greatest impact from visitor spending.

Now that the total spending generated by direct, indirect and induced spending has been estimated, the following section will describe what implications can be taken away from this thesis.

## Chapter 5

### Conclusion

Tourism is the world's foremost economic activity, surpassing other major industries such as autos, steel, electronics and agriculture. The World Travel & Tourism Council estimates the contribution of tourism and travel to gross domestic product in 2009 to be \$US 5,474 billion (World Travel & Tourism Council, 2009). This translates into 219 million jobs around the world. With this said, the importance of tourism is undeniable, and the study of tourism economics is relevant even on the smallest scale.

“Every job in tourism generates three more jobs in businesses supplying goods and services to the industry. Furthermore, this business creates more tax dollars proportionate to its size than does any other industry (Goeldner et al, 1995).”

One of the principal attractions for many tourists is the presence of cultural and historical sites. As described in Chapter One, this trend in tourism to historical sites has been recognized by many, including the United Nations Education, Cultural and Scientific Organization (UNESCO), who developed the World Heritage List to commemorate cultural and natural destinations with outstanding value to humanity.

Grand Pré is fortunate enough to have been the home of the Acadian people and their culture in the late 17<sup>th</sup> century. In 1956, a National Historic Site was declared at Grand Pré to commemorate the Acadian history of the area. In combining the National Historic Site at Grand Pré with a UNESCO World

Heritage designation, the goal is to expand a tourism market with significant positive impacts for the site and the local community. The purpose of this thesis was to quantify the visitation and economic impact a UNESCO designation could bring to Grand Pré.

Chapter Two reviewed the previous literature. Many studies looked to compare the differences in visitation before and after a designation to a site. The most significant problem related to insufficient data to properly quantify the impact of a UNESCO designation. Problems in data collection often arose when determining the actual volume of visitors to a designated site or area. This study took an empirical approach in attempting to quantify the impact of UNESCO World Heritage designation on a tourism site, using accommodation statistics from the Lunenburg Site, visitation figures to Nova Scotia, and a 2004 visitor study which identified the proportion of non-resident visitors to Nova Scotia that visited Lunenburg.

Chapter Three explained the methods used in conducting this analysis. The estimated impact on visitation was developed using a regression analysis. First, using the data outlined above, we looked to find a percentage increase in visitation to Lunenburg attributable to the UNESCO designation, which we could then apply to our site at Grand Pré. This allowed a quantification of the potential increase in tourism to the area due to UNESCO designation. Second, we used survey data to develop the average spending per visitor to Grand Pré. By applying this increase in spending to our estimated increase in visitation, we looked to quantify the economic impact a UNESCO designation would have on

the local economy around Grand Pré. The numerical findings were observed and discussed in Chapter Four.

The regression analysis, observing a time period covering both before and after the designation at the site, while taking into account other potentially influential variables on tourism, estimated a 1.24% increase in the share of tourists visiting Nova Scotia who go to Lunenburg. This figure was then transformed to a percentage change in visitors to Lunenburg due to UNESCO designation, which was found to be a 6.2% increase. Applying this increase in visitation at Lunenburg, to Grand Pré, we were able to estimate the increase in the number of tourists to the site. Survey data provided average per visitor expenditure figures attributable to Grand Pré to be \$68.72. Combining these elements generated an economic impact assessment of a UNESCO designation on the local economy encompassing Grand Pré National Park. The estimate contained two scenarios related to historic visitation figures and forecasted visitation figures for Grand Pré

Various policy implications for Grand Pré can be taken away from this study. The most important implication being that the UNESCO designation has the ability to offset, to some degree, the declining tourism industry in the Grand Pré area of Annapolis Valley by attracting visitors. Given the downward trend in tourism to Grand Pré emphasized throughout this paper, a 6.2% increase in tourism could cushion forecasted declines in visitation. The economic impacts associated with this increase in tourism and the spending of visitors could also

generate considerable income for local tourism related small businesses in the area.

A UNESCO designation can also act as a basis of advertising for the Site. Currently, the Site has no budget for advertising. A UNESCO World Heritage designation is a very recognizable title and can be used to promote visitation to the area on a national and international scale.

In mid February of 2009, the bid proposal to have Grand Pré designated received a major financial boost as the three levels of the Canadian government committed to contributing CDN\$1.3 million to the project. This symbolizes both the significance of the National Historic Site of Grand Pré, as well as the tourism industry to the Nova Scotian economy. In committing this amount to the bid proposal, the government has also recognized the potential impacts of a UNESCO designation and the importance of rural tourism in Nova Scotia. The government wants to take the opportunity to try and improve the attractiveness of the Grand Pré area and the Annapolis Valley to tourists. An effective advertising campaign featuring the UNESCO designation may allow Grand Pré to return to its historic average for visitors. In doing so, this could provide an injection of over \$300,000 per year into the local economy. In conclusion, it is understandable why the government believes this to be the case, as a UNESCO designation at the National Historic Site of Grand Pré could have considerable positive economic impacts for the Site and local economy for years to come.

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