

Blomidon Provincial Park:  
An Economic Impact Study of Camping & Analysis of  
Factors Determining Camper-Group Participation in Hiking

by

N. Michael Ball

Thesis

submitted in partial fulfillment of the

requirements for the Degree of

Bachelor of Arts with

Honours in Economics

Acadia University

April, 2004

© Copyright by N. Michael Ball, 2004

This thesis by N. Michael Ball  
is accepted in its present form by the  
Department of Economics  
as satisfying the thesis requirements for the degree of  
Bachelor of Arts with Honours

Approved by the Thesis Supervisor

Brian Van Blarcom April 23, 2004  
Dr. Brian VanBlarcom Date


Approved by the Head of the Department

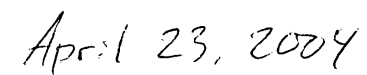
John Davies 26/04/04  
Dr. John Davies Date

Approved by the Honours Committee

A. [Signature] 17 May 2004  
(typed name) Date

I, N. Michael Ball, hereby grant permission to the University Librarian at Acadia University to provide copies of the thesis, on request, on a non-profit basis.

  
\_\_\_\_\_  
Signature of Author

  
\_\_\_\_\_  
Date

## Acknowledgements

The list of individuals without whom this thesis could not have taken shape is extensive and I would like to express my most sincere thanks to everybody who contributed to its success.

I would like to express my thanks to the entire department of economics for their input, advice and encouragement. I would especially like to thank Dr. VanBlarcom for his support and guidance throughout the entire project, from inception to completion. I also appreciate the efforts of Dr. Janmaat for his insights and mathematical genius, and Dr. Tugwell for his input, and his words of wit and wisdom. In addition I would like to thank Heather Harvie for her assistance in preparing questionnaires and Tim Clark, without whom I would likely still be entering data.

I would also like to thank the Nova Scotia Department of Natural Resources for their cooperation and assistance, with special thanks to Webster Andrews and John Murray.

Last, but certainly not least, I would like to thank my family and friends who have supported and encouraged throughout my thesis. Special thanks to Betty Ball for meticulous proof-reading and Dana Merrigan for encouragement and patience.

## Table of Contents

Abstract	x
Chapter 1: Introduction	
1.1 The Tourism Industry in Nova Scotia	1
1.2 Project Rationale	4
1.3 Blomidon Provincial Park	5
1.4 Cape Split	8
Chapter 2: Economic Impact Studies	
2.1 What is an Economic Impact Study	11
2.2 The Rationale for Economic Impact Studies	14
2.3 Relevance to Tourism	16
2.4 Some Basic Principles	17
2.5 Understanding and Using Multipliers	22
Chapter 3: The Binomial Logit Model	
3.1 Introduction	25
3.2 Applicability to Tourism	27
Chapter 4: Data Collection	
4.1 The Questionnaire	28
4.2 Distribution and Collection of Questionnaires	30
4.3 Question Rationale	32
Chapter 5: Methods and Results	
5.1 Questionnaire Delivery and Response Rates	38
5.2 Demographics of Camper-Groups	39

5.3 Economic Impact Study	45
5.4 Binomial Logit Regression	57
Chapter 6: Implications for Marketing and Development	
6.1 Introduction	62
6.2 Demographics	66
6.3 Logit Regression Analysis	73
6.4 Conclusions	75
Chapter 7: Conclusions	
7.1 Summary	76
7.2 Implications of this Research	78
Literature Cited	79
Appendix A: Camper Questionnaire	A
Appendix B: Camper Letter	C
Appendix C: Correlation Matrix	D

## List of Figures

### Chapter 1

- 1.2.1 Map of Blomidon Provincial Park 7
- 1.3.1 Map of Cape Split 10

### Chapter 2

- 2.1.1: The impact of Non-resident Expenditures on Local  
Economic Activity 12
2. 2.1: The Conceptual Rationale for Undertaking Economic  
Impact Studies 15
- 2.5.1: The flow of Tourist Dollars in the Local Economy 24

### Chapter 3

- 3.1.1 Binomial Logit Model (Equation) 26
- 3.1.2 Linear Combination of Coefficients in Binomial Logit  
Model (Equation) 26

### Chapter 6

- 6.1.1: A Simplified Model of the Tourism System 63

## List of Tables

### Chapter 5:

5.2.1: Estimated distribution of groups camping at Blomidon Provincial Park by origin	40
5.2.2: Respondent distribution with/without dependents	42
5.2.3: Respondent distribution according to gender of adult group members	42
5.2.4: Estimated distribution of camper-groups by presence of dependents	43
5.2.5: Average importance of Blomidon Provincial Park, hiking at Blomidon Provincial Park and hiking at Cape Split in determining camper-groups visit to the area (differentiated by origin of camper-group)	43
5.2.6 Average importance of Blomidon Provincial Park, hiking at Blomidon Provincial Park and hiking at Cape Split in determining camper-groups visit to the area (differentiated according to presence of dependents)	44
5.3.1: Origin of questionnaire respondents	46
5.3.2: Total and average gross expenditures by Non-Local Nova Scotians	47
5.3.3: Total and average incremental expenditures by Non-Local Nova Scotians	49
5.3.4: Total incremental expenditures by Non-Local Nova	50



Scotian camper-groups	
5.3.5: HST adjusted total incremental expenditures by all Non-Local Nova Scotian camper-groups during the 2003 season	51
5.3.6: Final demand changes generated by all Non-Local Nova Scotian camper-groups	52
5.3.7: Final demand output and earnings multipliers for Kings County, Nova Scotia	53
5.3.8: Total output and earnings generated in the study area due to Non-Local Nova Scotian visitor expenditures	54
5.3.9: Total output and earnings generated in the study area due to Non-Nova Scotian Canadian visitor expenditures	54
5.3.10: Total output and earnings generated in the study area due to Non-Canadian visitor expenditures	55
5.3.11: Total output and earnings generated in the study area due to non-local visitor expenditures	56
5.4.1: Descriptive statistics of variables in logistic model	59
5.4.2: Results of logit regression analysis	60
Chapter 6:	
6.1.1: Total output and earnings generated in the study area due to non-local visitors	62
6.2.1: Non-local camper-groups by origin	67
6.2.2: Camper-groups differentiated according to presence or absence of dependents	69

## Abstract

This study includes a demographic profile of camper-groups staying at Blomidon Provincial Park, a county-level economic impact study of non-resident visitors camping at the park and a binomial logit regression analysis examining factors involved in determination of camper-group participation in hiking on the nearby Cape Split trail.

During the 2003 season self-administered questionnaires were distributed to camper-groups staying at Blomidon Provincial Park. It was found that more than fifty percent of non-resident campers at Blomidon Provincial Park reside within the province of Nova Scotia and a further twenty-five percent reside in other Canadian provinces. In addition, it was found that approximately seventy-five percent of camper-groups were traveling without dependents (children under fifteen years of age).

Incremental expenditures made by non-local camper-groups were shown to be responsible for creating (through direct, indirect and induced effects) approximately \$166 thousand in expenditures and \$25 thousand in income. Nearly sixty percent of these impacts were a result of non-local Nova Scotian groups. Non-Nova Scotian Canadian camper-groups and non-Canadians camper groups were responsible for the remaining forty percent with twenty-two percent and eighteen percent respectively.

A logit regression analysis found that the key factors in determining a camper-groups' propensity to hike at nearby Cape Split were the number of nights the party stayed at the park, the number of males in the group, the importance of the park in determining visitation to the area and the importance of hiking at Cape Split in determining visitation to the area.

# Chapter 1

## Introduction

### 1.1 Introduction: The Tourism Industry in Nova Scotia

Tourism in Nova Scotia has a long history. More than a hundred years ago Robert McLeod included a chapter titled *Nova Scotia as a Locality for a Vacation* in his book *Markland or Nova Scotia Its History, Natural Resources and Native Beauties*. McLeod says the following about vacationing in Nova Scotia:

For a certain class of tourists, Nova Scotia has no attraction. It is destitute of such human antiquities as may be found in most other portions of the globe... Professional globe-trotters will find here little to tickle their jaded appetite for wonderful things. Having thus made a clean sweep of all lofty pretensions, we may honestly bring out our wholesome attractions for ordinary mortals who are seeking a good locality for a vacation, and we confess to a sense of modest pride in the variety and abundance of good things at our disposal (McLeod, 1903)

A century ago, McLeod pitched Nova Scotia as a land of vast natural beauty and resourceful, hospitable people. Much of what McLeod proclaimed more than a hundred years ago still echoes through the advertising campaigns designed to bring tourists to Nova Scotia today. The Nova Scotia Department of Tourism and Culture uses the following pitch:

It is our pleasure to introduce you to Nova Scotia, where our scenic beauty, rich heritage and vibrant culture offer you a truly unique vacation experience.

We take great pride in our province and invite you to discover a seacoast destination like no other... Come and 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 and Culture, 2004a).

Nova Scotia is no longer devoid of the “wonderful things” appealing to the “professional globe-trotters” referred to by McLeod; art galleries, music festivals, live theatre, fine dining and casinos now attract to this province those individuals who might be less inclined to spend their time with nature. In fact, during 2004 Nova Scotia will play host to three events which the American Bus Association considers to be in the top one hundred events in North America (American Bus Association, 2004). However, the natural environment continues to have a dominant role in tourism advertising campaigns and continues to draw many visitors to Nova Scotia each and every year.

According to the Nova Scotia Department of Tourism and Culture, approximately 2.14 million visitors came to Nova Scotia in 2003 and an increase in visitation is projected for 2004 (Nova Scotia Department of Tourism and Culture, 2004b)(Nova Scotia Department of Tourism and Culture, 2004b)(Nova Scotia Department of Tourism and Culture, 2004b)(Nova Scotia Department of Tourism and Culture, 2004b)(Nova Scotia Department of Tourism and Culture, 2004b)(Nova Scotia Department of Tourism and Culture, 2004b)(Nova Scotia Department of Tourism and Culture, 2004b)(Nova Scotia Department of Tourism and Culture, 2004b)(Nova Scotia Department of Tourism and Culture, 2004b)(Nova Scotia Department of Tourism and Culture, 2004b). It has been estimated, by the Nova Scotia Department of Tourism and Culture, that tourism was responsible for creating \$1.3 billion in direct expenditures in 2002. These expenditures were responsible, directly and indirectly, for approximately 35,000 jobs and \$489 million in wages and salaries (Nova Scotia Department of Tourism and Culture, 2003).

Nova Scotia’s tourism performance in 2002 was impressive and agencies of the government of Nova Scotia have set a somewhat lofty and highly publicized goal of

“100% tourism revenue growth by 2012” (Nova Scotia Tourism Partnership Council, 2004). Realizing this goal would result in direct tourism expenditures of more than \$2.5 billion and nearly \$1 billion in direct and indirect salaries and wages for Nova Scotians. If this goal is to be realized, significant contributions and commitments will be required from all parties involved in Nova Scotian tourism: municipal, provincial and federal governments, public and private enterprises and the growing and diverse population of Nova Scotia.

Of the \$1.3 billion tourist expenditures made in Nova Scotia in 2002, approximately \$168 million, or approximately thirteen percent, occurred in the Annapolis Valley region, which includes Kings County. The Nova Scotia Department of Tourism and Culture also estimates that approximately one percent of tourist expenditures, more than \$1 million, were made at campgrounds throughout the province (Nova Scotia Department of Tourism and Culture, 2003).

## 1.2 Introduction: Project Rationale

The primary objective of this study is the assessment of the economic impact of camping at Blomidon Provincial Park on the economy of Kings County, Nova Scotia. It should be noted, however, that the economic impact associated with camping at Blomidon Provincial Park does not represent the entire impact of the park on the local area due to the high number of individuals who visit the park but do not camp there. However, this study focuses only upon camping visitors to Blomidon Provincial Park.

In addition to estimating the economic impact of visitor campers at Blomidon Provincial Park, this study will also explore the connection between camping at the park and hiking at nearby Cape Split. A binomial logit model will be employed to explore the relationships between the probability of members of camper-groups hiking at Cape Split and demographic characteristics of those groups. Given the popularity of the Cape Split hiking trail and its close proximity to Blomidon Provincial Park, it is possible that future developments of either of these properties could have impacts, positive or negative, upon the other.

### 1.3 Introduction: Blomidon Provincial Park

Blomidon Provincial Park, situated on the rugged headland of Cape Blomidon, the legendary home of Mi'kmaq demigod Glooscap (Dunlop & Scott, 1998), is renowned for its spectacular panoramic views overlooking scenic Minas Basin, home of some of the world's highest tides (Saunders, 2001). The park occupies approximately 759 hectares of the Cape Blomidon promontory and provides visitors with exceptional opportunities for camping, hiking, beachcombing and nature appreciation (Nova Scotia Department of Natural Resources, 2003a).

Considered by some visitors to be "a hidden gem" (Anonymous, 2003), Blomidon Provincial Park opened in 1973 with twenty-seven sites and in 1974 was expanded to seventy sites. A group camping area was developed in 1981. The Parks division of the Nova Scotia Department of Natural Resources considers Blomidon Provincial Park to be a "destination park renowned for its spectacular views, high cliffs, a variety of habitats, striking natural features, abundant wildlife - and the world's highest tides wash its shores" (Nova Scotia Department of Natural Resources, 2003b). With a seasonal occupancy rate of less than fifty percent, Blomidon Provincial Park receives moderate usage with brisk weekend visitation and lower weekday usage (Nova Scotia Department of Natural Resources, 2003b).

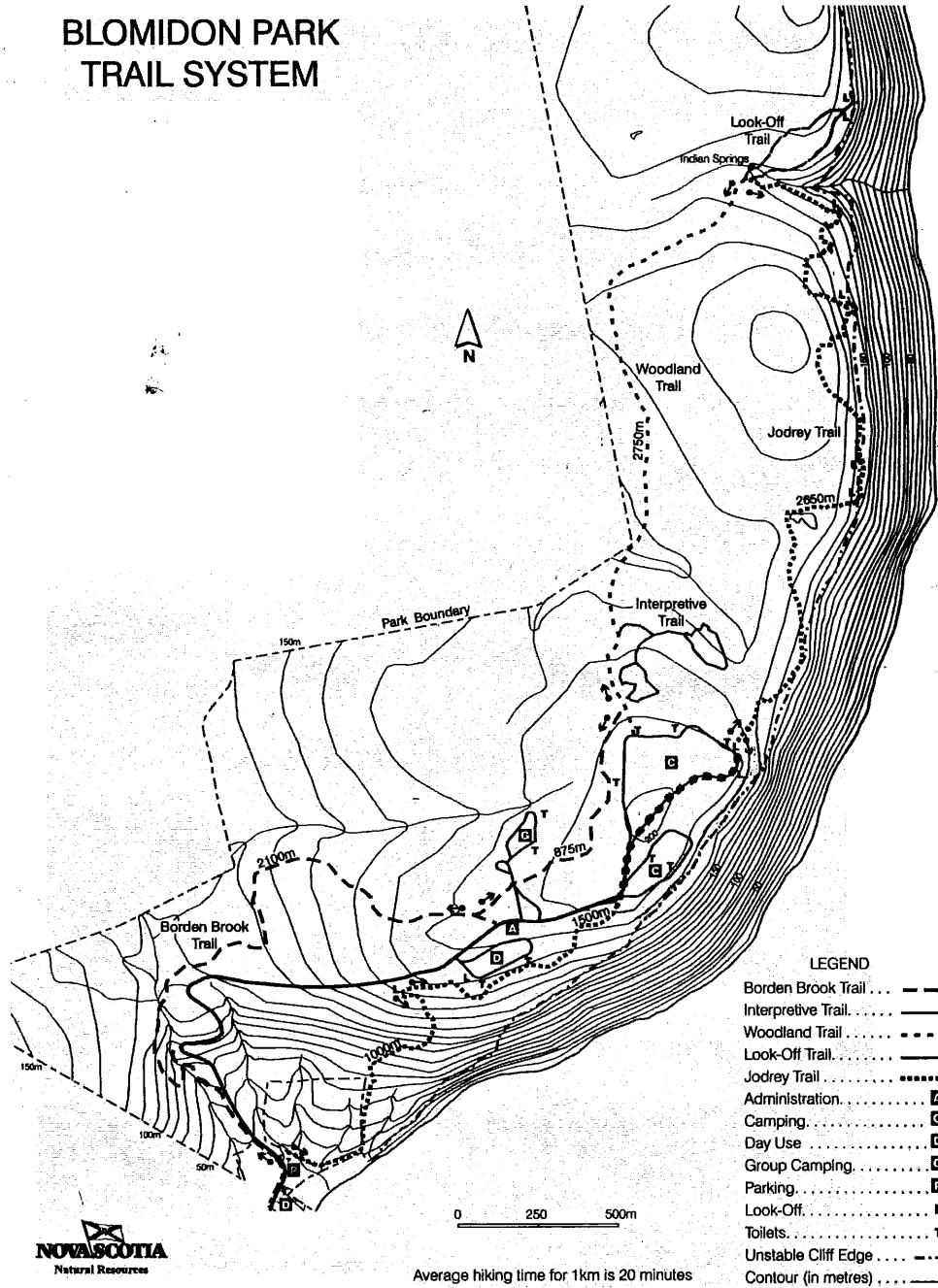
In addition to a seventy site campground, Blomidon Provincial Park offers two picnic areas, an unsupervised beach and nearly fifteen kilometers of hiking trails (Nova Scotia Department of Natural Resources, 2003a). Visitors to the park have access to numerous natural habitats including bog, softwood and hardwood forests via the

interconnected trail system (Gardner Pinfold Consulting Economists Limited, 1999) and, with a little luck, may encounter such rare species as *Allium tricocca*, *Eubbranchipus intricatus*, and *Falco peregrinus*: Wild Leek, a rare variety of Fairy Shrimp and the Peregrine Falcon. A map of Blomidon Provincial Park, from an informational and promotional brochure about the park (Nova Scotia Department of Natural Resources, 2003a) can be found in figure 1.2.1.



Figure 1.2.1 Map of Blomidon Provincial Park

**BLOMIDON PARK  
TRAIL SYSTEM**



Source: Nova Scotia Department of Natural Resources, 2003a

## 1.4 Introduction: Cape Split

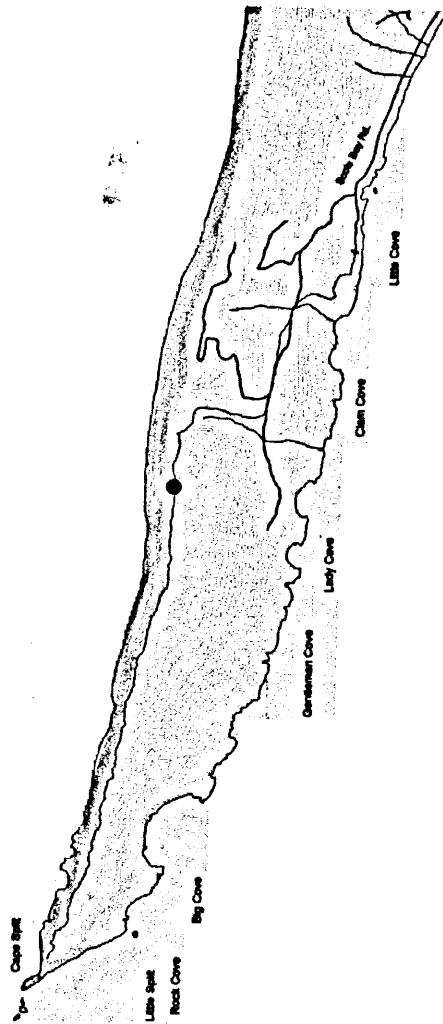
Cape Split is located north of Scots Bay and is home to one of the most popular hiking trails within the province of Nova Scotia. The Cape Split trail originated from paths formed by sheep and cattle left to graze on the peninsula (Lebrecht, 1992). For many years this trail has been extremely popular with hikers from the local area and around the globe. During 1998, the number of hikers on the Cape Split trail was estimated to be nearly 16,000 with approximately sixty percent of these hikers being from outside of Nova Scotia and a further twenty one percent being non-local Nova Scotians (Gardner Pinfold Consulting Economists Limited, 1999).

Forty years ago Charles E. Greb, then director of the Greb Hiking Bureau, described Cape Split as a “rugged, rewarding outing” (Greb, 1964). Since then, Cape Split has been included in many trail guides and articles including, but certainly not limited to, *Five Great Canadian Hikes; Something for Everyone – from Day-tripper to Hard-core Backpacker*, *Feast on the East: Get Your Fill of Fall With 10 of the Best Hikes in the Maritimes*, and *Discover Nova Scotia The Ultimate Nature Guide* (Lebrecht, 1992; Marriner, 1997; Saunders, 2001).

This well established trail stretches through more than seven kilometers of mature forests across both private and government owned lands and offers incredible views of the Bay of Fundy to all visitors (Saunders, 2001). A map of the Cape Split trail, courtesy of the Nova Scotia Department of Natural Resources, can be found in figure 1.3.1 (Nova Scotia Department of Natural Resources, 2003c).

During the summer of 2002 the Nova Scotia provincial government purchased much of the property upon which the Cape Split trail lies. Tim Olive, Department of Natural Resources Minister, described this purchase as, "the most significant public land acquisition in decades, if not ever, in this province" (Guardian, 2002). A price tag of \$5 million for 280 hectares of land with an appraised market value in excess of \$15 million, but which many individuals would consider priceless, represents a good deal for the provincial government (Rodenhiser, 2002). However, ownership of the Cape Split property comes with a great deal of responsibility for the province. The property needs to be properly managed to ensure that its natural integrity is preserved for future generations while at the same time liabilities regarding public safety are addressed. Media sources have speculated about development plans including designation of the property as a new provincial park or even acquiring sufficient land between the Cape Split property and Blomidon Provincial Park to enable the incorporation of the two properties into a single park. Since its purchase, more than a year and a half ago, no management plan has been established for the Cape Split property (Andrews, 2004).

Figure 1.3.1 Map of Cape Split



scale bar

Scale 1:50,000



## **Chapter 2:**

### **Economic Impact Studies**

#### **2.1 Economic Impact Studies: What is an Economic Impact Study?**

An Economic Impact Study (EIS) involves estimation of incremental economic activity that results from a specific event, facility, government policy or other economic stimulus, which would not occur in the absence of said stimulus (VanBlarcom, 1999).

Economic impact studies can be applied to various types of economic stimuli; however, the remainder of the discussion will focus on the application of these analyses to recreation and tourism related activities.

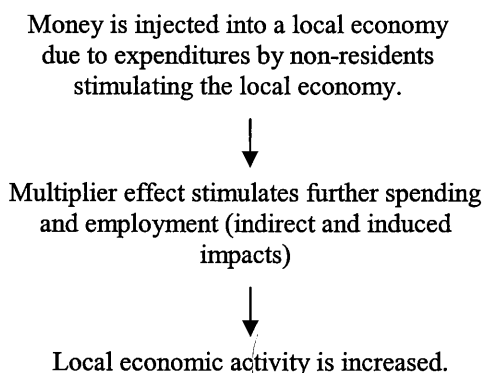
The focus of a tourism related EIS is typically on expenditures made by non-resident visitors are related to a particular event, program or facility. In general, direct expenditures by visitors, such as admission fees for a particular venue constitute only a small portion of the total economic impact resulting from the stimulus being scrutinized. In order to fully assess the economic impact of an activity or facility, all expenditures related to the activity or facility, such as accommodations, travel related expenses or shopping purchases which occur within the local community need to be considered (Vogelsohn & Graefe, 2001). In addition, secondary or "ripple" effects of non-resident expenditures should be examined (Fleming & Toepper, 1990). These effects are discussed in section 2.5.

Conceptually, direct economic impacts are very straightforward; non-resident visitors purchase goods or services within the study area while visiting the specific facility or event. These expenditures are received directly by local businesses. Indirect impacts, however, occur when a portion of the revenue received by local businesses is spent on other local goods and services. Induced impacts occur when the incomes created through the direct and indirect impacts are recycled throughout the local economy, generating additional activity. Although a clear distinction can be made between induced and indirect economic impacts, they are often considered to be a singular effect, referred to simply as indirect impacts (VanBlarcom, 1999). Figure 2.1.1, which has been adapted from *Assessing the Economic Impact of Recreation-Based Tourism Events: A Guide for Recreation Practitioners* (VanBlarcom, 1999) illustrates the basic sequence of events resulting from an injection of funds into a local economy.

---

Figure 2.1.1: The impact of Non-resident Expenditures on Local Economic Activity

---



Source: VanBlarcom, 1999

---

Clear definition of the area being studied in an EIS is of paramount importance. The definition of the study area enables differentiation between residents and non-residents and distinction between local and non-local expenditures. Clearly defined boundaries are also necessary to ensure that appropriate multipliers are incorporated in the calculations of indirect impacts. While the scale of a study region may vary from that of an individual community to that of an entire nation, more often than not, the boundaries of an EIS will mirror geopolitical boundaries, so as to be consistent with pre-existing data and to ensure that identification of the boundaries is clear to all parties involved in the study (VanBlarcom, 1999).

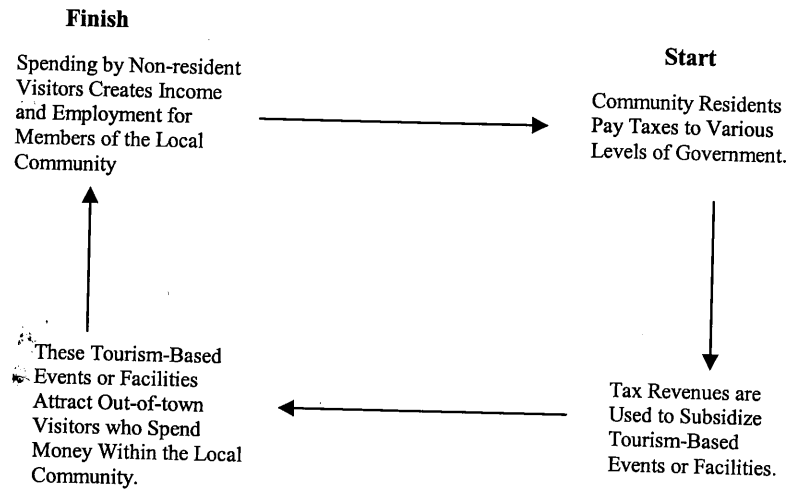
## 2.2 Economic Impact Studies: The Rationale for Economic Impact Studies

The rationale for conducting an economic impact study can vary depending on the nature of the stimulus in question. In some instances an EIS may be used by a publicly funded event or organization to justify the use of scarce tax dollars. An EIS may be conducted as a means to raise community awareness and “to express pride and appreciation of being part of the community”(Graefe & Wells, 1996). It has also been suggested that an EIS may be used by governmental organizations when faced with difficult choices between competing worthwhile projects in light of the growing constraints on public spending (Goldman, Nakazawa, & Taylor, 1997).

Consider figure 2.2.1, which has been adapted from *A Guide for Undertaking Economic Impact Studies: The Springfest Example* (Crompton, Lee, & Shuster, 2001). This figure illustrates members of a community providing funds, in the form of taxes, to municipal, provincial or federal governments, which in turn may use a portion of these funds to subsidize, in part or in whole, tourism-based events or facilities. The subsidized event or facility attracts non-resident visitors who spend money within the local community creating employment and hence income for community residents. The community members pay taxes and the cycle continues (Crompton et al., 2001).



Figure 2.2.1: The Conceptual Rationale for Undertaking Economic Impact Studies



Source: Crompton, Lee, & Shuster, 2001

The rationale for conducting an EIS, however, ultimately comes down to examining return on investment. In the event of a publicly funded economic stimulus, such as illustrated in figure 2.2.1 and as will be explored in this study, it is important to consider the net benefits to the community members of the study area rather than the net benefits to the government agency subsidizing the event or facility (Crompton, 1999b).

### 2.3 Economic Impact Studies: Relevance to Tourism

A universally accepted definition of tourism, regrettably, does not exist. However, the definition resolved at the International Conference on Travel and Tourism Statistics, held in Ottawa, Canada in 1991, is likely the most frequently adopted (Beaver, 2002).

Tourism is thus defined as:

The activities of a person traveling to a place outside of his or her usual environment for less than a specified period of time with a main purpose other than the exercise of an activity remunerated from within the place visited (Frechtling, 1991).

This commonly adopted definition is somewhat convoluted and it has been clarified by Beaver as follows:

Tourism comprises the activities of persons traveling to and staying in places outside of their usual environment for not more than 1 consecutive year, for leisure, business and other purposes (Beaver, 2002).

Since tourism, by definition, involves the influx of non-residents into a community outside of their normal environment, it follows quite logically that any expenditure made by these persons would represent an injection of funds into a local economy, thus increasing the economic activity of that community. Tourism then, by definition, lends itself quite naturally to economic impact analysis and a great number of such studies have been performed on tourism-based stimuli.

Special events, such as a concert or festival, or permanent facilities, such as hiking trails or campgrounds, attract non-resident visitors who, by purchasing goods and services within the area, inject funds into the local economy thereby generating increased local incomes (VanBlarcom, 1999).

## 2.4 Economic Impact Studies: Some Basic Principles

Economic impact studies can provide meaningful and quantifiable outcomes. However, it is extremely important that the outcomes of any EIS be “taken with a grain of salt”. Crompton suggests that “economic impact analysis is an inexact process and output numbers should be regarded as a ‘best guess’ rather than as being inviolably accurate” (Crompton et al., 2001). Perhaps a little more cynically, Curtis (1993) characterizes the individuals who conduct economic surveys as follows:

They are in truth the exact equivalent of an expert witness in a lawsuit who comes to testify in support of the side that is paying the expert’s bill. An expert whose testimony harms his employer’s case doesn’t get much repeat business (Curtis, 1993).

This reaction may be perceived by some as being somewhat overdramatic. However, it does illustrate that an EIS can be misleading if it is improperly executed, either due to “honest mistakes” resulting from a lack of understanding of economic impact analysis or due to malicious adoption of inappropriate techniques in order to generate misleadingly large figures (Crompton, 1999b). Fortunately, there are some basic principles which can be applied to an EIS to ensure that it is as clear and accurate as possible.

### **Exclusion of Local Residents**

The analysis of an economic stimulus should include only new money being injected into the economy of the study area through non-resident expenditures. Expenditures by locals should be excluded under the assumption that, in the absence of the economic stimulus being scrutinized, the local residents would have spent their

money, either now or later, on other goods and services within the area (Chhabra, Sills, & Cabbage, 2003). Since expenditures by locals would have been made regardless of the presence of the event or facility in question, they do not represent a net economic gain to the local economy.

Crompton warns of the temptation to some practitioners to include expenditures by residents of the local community in order to avoid calculating economic impact figures which are "too small to be politically useful" (Crompton, 1999b). Conversely, Crompton also points out the following:

If there is evidence to suggest that an event keeps some residents at home who would otherwise leave the area for a trip, then these local expenditures could legitimately be considered as an economic impact since money has been retained in the host community that would otherwise have been spent outside it. However, such evidence is very difficult to collect and is likely to be tenuous, so the accepted convention by economists is to disregard all expenditures by local residents and to recognize that the resultant impact figures may be somewhat conservative (Crompton, 1999b).

#### **Exclusion of "Time-Switchers" and "Casuals"**

Crompton, in several publications, suggests that expenditures by visitors who could be categorized as "casuals" or "time-switchers" should be excluded from economic impact studies (Crompton, 1999b; Crompton et al., 2001). Crompton defines casuals as those visitors who are already in the study area, attracted by other features, and who elect to attend the event or visit the facility being studied. Time-switchers are defined as those individuals who were planning on visiting the study area, but changed the timing of their visit so as to coincide with the particular event being analyzed (Crompton, 1999b).

The approach advocated by Crompton is commonly used when an EIS is being conducted on an event or festival (Felsenstein & Fleischer, 2003). However, as Crompton

admits, the exclusion of expenditures by these individuals is not without peril. While casuals may have been in the area for reasons other than the stimulus being studied, it is very possible that the duration of their visit may be lengthened, hence their spending increased, due to the stimulus (Crompton, 1999b; Crompton et al., 2001).

An alternative approach to exclusion of expenditures by time-switchers and casuals is the approach of visitors rating the importance of the stimulus being studied on their trip to the community being studied, then applying that rating to their spending as a measure of incrementality. For example, a visitor may suggest that the economic stimulus being studied is fifty percent responsible for his or her visit to the study region. If this were the case, only fifty percent of the expenditures made by this visitor should be included in the EIS. This approach has been utilized in studies including *A Survey of Nova Scotia Hiking Trail Users* and *Renoir's Portraits: Impressions of an Age, Visitor Profile and Economic Impact Study* (Gardner Pinfold Consulting Economists Limited, 1999; Research Resolutions, 1997).

Consider the following hypothetical situation: On a particular weekend two events are being held within the same community and the economic impact of both is being studied separately. It is possible that a visitor to the area that weekend would not have elected to visit in the absence of one or both of the events. However, the combination of two simultaneous events was sufficient to attract them to the community. Further, let's assume that the relative importance of each event is equal in the mind of the visitor.

Under the methodology proposed by Crompton, expenditures made by this visitor could not be included in an EIS of either of the events. However, under the alternative

method the expenditures made by the hypothetical visitor could be divided between the two events and included in both studies.

In addition to allowing the inclusion of expenditures by visitors who might otherwise be classified as casuals, it is possible that this approach may provide a somewhat more accurate estimation of the economic impact of a specific stimulus. Suppose a visitor was attracted to a region primarily, but not exclusively, by a specific stimulus. If, for example, the visitor considered the stimulus to be ninety percent responsible for drawing him or her to the region, the study could weight the expenditure made by this individual accordingly: with the remaining ten percent which was attributed to an influence or influences other than the specific stimulus being excluded from the study. Since the stimulus is only partially responsible for attracting the visitor to the area it would seem prudent to consider only a portion of the expenditures made by this visitor to be relevant to the study being conducted.

If it is possible to have visitors rate the relative importance of the stimulus to their visit to the region during the data-collection process. This affords those conducting the EIS the opportunity to appropriate only the relevant portion of expenditure to the stimulus being studied. However, if the required data is not available and cannot be collected, it is safer to err on the side of a conservative estimate and exclude the expenditures of casuals and time-switchers.

A specific event or festival may attract individuals to an area over a very short and well defined time period making it much easier to distinguish so-called time-switchers and exclude their expenditures from the economic impact study. However, when considering a stimulus which attracts visitors over an extended period, detection of such

individuals becomes a more difficult and less meaningful process. Blomidon Provincial Park is open for camping for most of the Nova Scotia tourism season and as such it is unlikely that camper-groups visiting the park are doing so during the tourism season because they are unable to during other times of the year.

## 2.5 Economic Impact Studies: Understanding and Using Multipliers

In *A Dictionary of Economics* a multiplier is defined as “a formula relating an initial change in spending to the total change in activity which will result” (Black, 2002).

The multiplier impact of tourism expenditures can be thought of as:

The total sales, output, or other measure of economic benefit generated once the initial visitor spending has worked its way through the economy under study through interindustry transactions (the “indirect impact”) and through employee consumption expenditures (the “induced impact”) (Frechtling & Horvath, 1999).

A useful analogy for considering the multiplier impact of tourism expenditure, which has been credited to Brian H. Archer, states that:

The impact of this injection of outside money can be likened to the ripples set up in a pool if more water is poured into the system. The pool represents the economy, and the additional water symbolizes extra spending by the outside visitors. The ripples show the spread of money through the economy (Howard & Crompton, 1995).

Figure 2.5.1, adapted from *The Economic Impact of Tourism in Metropolitan Victoria, B.C.* (Liu & Var, 1983), illustrates the impact of multipliers as described by Frechtling and Horvath.

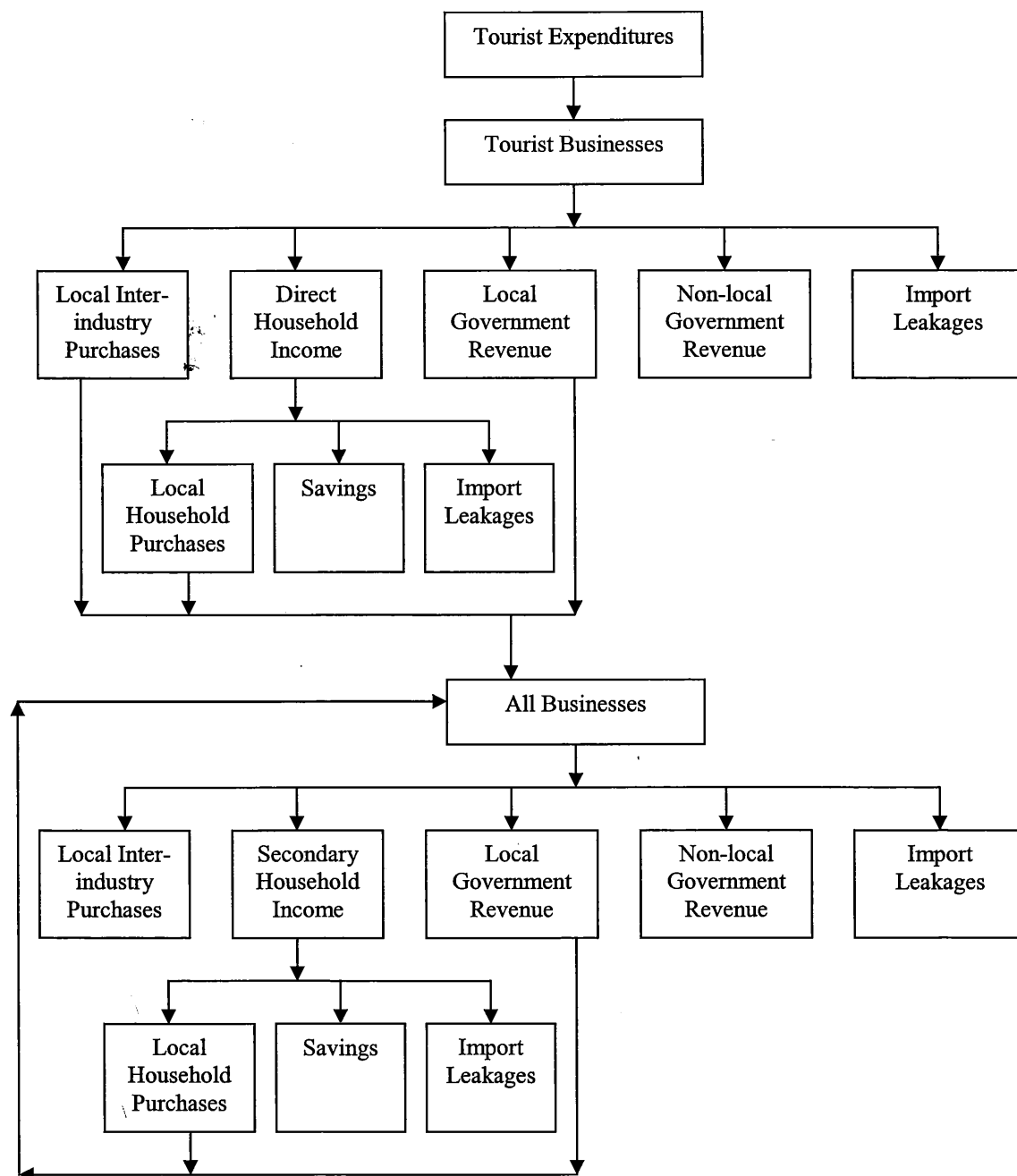
The findings of an EIS may be expressed in many ways, with the most common being in terms of sales, income, or employment generated in the study area. All of these involve the use of multipliers. Sales, income and employment multipliers are used to compute the direct, indirect and induced impacts of an additional unit of visitor spending on changes in the local community relating to increases in business turnover, additional household income generated and increases in full-time equivalent job opportunities respectively (Howard & Crompton, 1995).



In many studies the economic impact is expressed in terms of personal income generated (Felsenstein & Fleischer, 2003; Gardner Pinfold Consulting Economists Limited, 1999). There are several reasons why this is the preferred approach to take when relating economic impacts. Firstly, reporting economic impacts in terms of personal income will make the findings more tangible and meaningful for members of the public or government officials who may be funding the stimulus in question through tax-payer dollars.

Secondly, the economic impact of a stimulus is likely to appear significantly greater if it is expressed in terms of increased sales, rather than increased personal income (Crompton, 1999b). If an EIS is being conducted in order to gain public support for a proposed or existing stimulus or to justify the subsidization thereof, it may be tempting to relate the impact in terms of sales, rather than income. However, this is a temptation best avoided. This is not to say that economic impacts in terms of increased business turnover are of no value or that they should not be reported, rather that the impact may appear to be misleadingly large to members of the general public if it is stated in terms of sales rather than income.

Figure 2.5.1: The flow of Tourist Dollars in the Local Economy



Source: Liu &amp; Var, 1983

## Chapter 3

### The Binomial Logit Model

#### 3.1 The Binomial Logit Model: Introduction

The binomial logit model is an estimation technique which can be applied when dealing with a binary qualitative, or dummy, dependent variable (De La Vina & Ford, 2001; Studenmund, 2001).

If a dichotomous dependent variable (for example a dependent variable set equal to one if an individual will participate in a specific tourist activity and set to zero if the individual is not participating) is regressed against explanatory variables using the ordinary least squares (OLS) method (this method is known as a linear probability model) it is likely that most of the predicted values of the dependent variable would fall between zero and one. This suggests that the predicted value of the dependent variable could be interpreted as the probability that the individual will participate in the activity being examined given that individual's characteristics (Kennedy, 1998; Studenmund, 2001).

Linear probability models, however, can be problematic in that the expected value of the dependent variable is not bounded between zero and one, as would be expected when examining a probability. Furthermore, a probability in excess of one, or less than zero, does not conceptually make sense. One approach which may be used in this situation is application of a bounded, or constrained, linear probability model in which it is assumed predicted values less than zero are equal to zero and that predicted values in excess of one are equal to one. Another approach is application of an estimation

technique, such as a logit or probit model, which ensures that the estimated conditional probabilities will indeed lie between the logical limits of zero and one (Gujarati, 2003).

The binomial logit model avoids the unboundedness problem of the linear probability model by using a cumulative logistic function in examining the likelihood, or odds, ratio rather than the probability directly (Studenmund, 2001). The discrete choice is a probability function which can be converted into linear form through the logit transformation (De La Vina & Ford, 2001). The parameters are estimated through maximum likelihood methods and the model takes the form presented in equation 3.1.1.

$$P_i = e^z / (1 + e^z) \quad (3.1.1)$$

In equation (3.1.1)  $e$  is the base of the natural logarithms and  $z$  is the linear combination of the coefficients and the independent variables ( $X_i$ ), which are typically socioeconomic, demographic and environmental factors (De La Vina & Ford, 2001). See equation (3.1.2).

$$z = B_0 + B_1X_1 + \dots B_nX_n \quad (3.1.2)$$

### **3.2 The Binomial Logit Model: Applicability to Tourism**

Logit models have been applied to many studies both within and outside of the realm of economics. Logit models have been applied to topics ranging from the demand for religion (Smith & Sawkins, 2003), to attendance behaviour and demand for higher education (Bishop, 1977) and use of contraceptive pill among Hispanic women in the United States (Brown, Villarruel, Oakley, & Eribes, 2003).

Logit models have been employed in estimation of discrete choice models such as participation or nonparticipation in a tourism or recreation activity (De La Vina & Ford, 2001). These authors explored potential demand for, and factors in, choosing a cruise vacation and found that income and previous experience, amongst other factors, were statistically significant while gender, age and other factors were not (De La Vina & Ford, 2001). Other research has suggested that air travelers evaluate airlines largely on the basis of the actual or perceived degree of physical comfort associated with their trip (Hu & Bruning, 1986). Logit models have also been used for tourist-market segmentation and in profiling tourists (Johns & Gyimothy, 2002; Luzar, Diagne, EC Gan, & Henning, 1998).

## Chapter 4:

### Data Collection

#### 4.1 Data Collection: The Questionnaire

The questionnaire used in this study can be found in Appendix A and was based, in part, on questionnaires used in *A Survey of Nova Scotia Hiking Trail Users* and *Renoir's Portraits: Impressions of an Age, Visitor Profile and Economic Impact Study* (Gardner Pinfold Consulting Economists Limited, 1999; Research Resolutions, 1997) and is similar to questionnaires employed in other studies. The questionnaire used by Gardner Pinfold Consulting Economists Limited is considered to be a suitable basis as it was used to solicit information from similar tourists, at similar locations throughout Nova Scotia in 1998. In fact, their study included trail users within Blomidon Provincial Park and at nearby Cape Split.

Due to budgetary constraints, personal interviews were not possible so it was necessary to adopt self-administered surveys in order to collect data for this study. Given the necessity of adopting a self-administered approach to surveying, creating a concise questionnaire was of the utmost importance. A shorter questionnaire requires that the respondents commit less time to complete it, therefore they are more likely to participate in the study (Crompton et al., 2001). In addition, shorter questionnaires are less likely to result in respondents providing answers without giving proper consideration (Sheatsley, 1983).

In addition to being relatively brief, it was also necessary to create a questionnaire which is easy to comprehend. Since no interviewer would be present to assist respondents it was imperative that survey questions could be easily understood. The primary objectives of creating an easily understood questionnaire were to minimize the investment of time required to complete the questionnaire and to minimize the possibility of alienating or discouraging respondents who might be confused by a more complicated questionnaire.

Somewhat contrary to the objective of creating a concise questionnaire was the goal of soliciting information which would allow for empirical analysis in addition to an economic impact study. Information was required to explore the significance of hiking both within the park and at nearby Cape Split on groups' decisions to visit Blomidon Provincial Park, and to examine some of the demographics of visitors to the park. The latter information may be valuable to provincial governmental agencies involved in maintaining, developing and promoting Blomidon Provincial Park.

Accompanying each questionnaire was a brief letter welcoming respondents to the park, explaining the objectives of the study, and providing some background information. The letter assured the respondents of the confidentiality of any and all information provided and encouraged respondents to contact members of the park staff, or the researchers, if they required assistance or were interested in further information about the study. A copy of this letter can be found in Appendix B.

## 4.2 Data Collection: Distribution and Collection of Questionnaires

Questionnaires were distributed to camper-groups staying at Blomidon Provincial Park between the twenty-seventh of June and the first of September during the 2003 season. Copies of the questionnaire were provided to staff at Blomidon Provincial Park and were intended to be distributed to each camper-group as they registered. All staff members were briefed on the survey and the relevance of the research being conducted in an effort to encourage distribution of the questionnaires and to enable them to field any questions which might be asked of them by questionnaire-respondents. Park employees were also instructed not to destroy unanswered questionnaires so that distribution and response rates could be determined. A count of questionnaires remaining at the park was conducted on a weekly basis, or more frequently if needed, and additional questionnaires were prepared and delivered to the park if the available supply dropped below one hundred.

The instructional letter accompanying the questionnaire requested that respondents "place completed surveys in the green, survey-deposit box located between the exit gate and the park office". This receptacle was secured with a heavy-duty padlock to discourage individuals from tampering with the completed questionnaires. Members of the park staff were not provided with a key to access the deposit box so as to ensure that completed questionnaires were not misplaced or tampered with. Limiting access to the completed questionnaires also helped to ensure that information submitted by respondents was kept confidential. Completed questionnaires were retrieved from the park weekly.

After being retrieved from the park, completed questionnaires were held in a



locked filing cabinet in a private dwelling. At the end of the camping season at Blomidon Provincial Park, undelivered questionnaires were counted and all completed questionnaires were transferred to a secure office on the Acadia University campus until the data could be entered into a spreadsheet and stored electronically. Data entry was completed by a team of two people so as to minimize the chance of human error and to ensure that all data was entered in as timely a manner as possible. All completed questionnaires are kept on file to ensure that electronic data can be verified in the future should it be necessary.

### 4.3 Data Collection: Question Rationale

The rationale supporting each question on the questionnaire used for this study is explained below:

1) What is your permanent place of residence?

This question was used to collect data which would allow the differentiation of visitors into the categories of Nova Scotian, Canadian, and Non-Canadian. The subdivision of visitors into the aforementioned categories allows the exploration of the impact on the local economy made by these groups individually as well as collectively.

2) If you are a resident of Nova Scotia, do you live within a 30 minute drive of Blomidon Provincial Park?

This question enables the differentiation of local and non-local respondents from within the province of Nova Scotia. As was discussed in Chapter 2, an EIS includes only expenditures made by individuals who are not residents of the study area.

3) Including yourself, how many males and females in your group fall into the following age categories? The term "group" refers to all of the people traveling together and sharing expenses.

	Male	Female		Male	Female
14 and under			45 – 54		
15 – 19			55 – 64		
20 – 24			65 – 74		
25 – 34			75 and over		
35 – 44					

The purpose of this question is multi-faceted. Firstly, it provides a breakdown of the members of each camping group in more detail than is collected in the registration process. This information may give the government agencies involved with the park a better understanding of the individuals who frequent the campground and allow for appropriate development and marketing of the campground in the future. Secondly, and of far greater importance to the EIS, this question will focus the respondents' thinking upon the members of their group which may allow for more accurate answers in the subsequent question regarding group expenditures (Crompton et al., 2001).

4) How many nights did your group camp at Blomidon Provincial Park?

Obviously, knowing how many nights a group camped at the park is essential in calculating the average length of camper visits to the park. There exists an obvious connection between the duration of a group's visit and the level of expenditures made by a group; the greater the amount of time a group spends within the area, the higher their level of expenditures is likely to be as they will have more time to visit attractions and spend money within the area.

5) Have you camped at, or visited, Blomidon Provincial Park in the past 24 months? If so, how many nights/times?

The aim of this question was to gain insight into the familiarity of visitors with Blomidon Provincial Park.

6) Have you camped at other Nova Scotia Provincial Parks in the past 24 months? If so, how many nights?



In *Renoir's Portraits: Impressions of an Age, Visitor Profile and Economic Impact Study* it is suggested that a question such as number seven is a useful but relatively gross measure for establishing the proportion of consumer expenditure which can be attributed to a specific tourism-based economic stimulus (Research Resolutions, 1997).

Furthermore, the eleven point scale employed here is easy for respondents to answer and is a practical, uncomplicated means of estimating the proportion of consumer spending which should be attributed to camping at Blomidon Provincial Park. Each point on the scale can be converted into ten percentage points, ranging from zero ("no influence", 0 on the scale) to one hundred ("single main reason", 10 on the scale), and this percentage is applied to expenditures by the visitor group to allocate only the relevant spending to the EIS (Research Resolutions, 1997).

9) On the scale below please rate the influence, if any, which you would say that hiking at Blomidon Provincial Park had in determining your visit to the park. The scale is designed such that 0 represents no influence and 10 represents the trails being the main single reason for visiting the park.

0	1	2	3	4	5	6	7	8	9	10

Question nine uses an eleven point scale to determine the relative importance of hiking within the park on the visitor group's decision to visit the park. This information could prove to be useful for governmental agencies when developing the park or planning advertising strategies.

10.a) Do the members of your party plan to hike Cape Split during this visit to Blomidon Provincial Park?

10.b) If you answered yes to 10.a, please rate the influence, if any, which you would say that hiking at Cape Split had in determining your visit to Blomidon Provincial Park on the scale below. The scale is designed such that 0 represents no influence and 10 represents hiking at Cape Split as being the main single reason for visiting the park.

0	1	2	3	4	5	6	7	8	9	10

This question explores the connection between camping at Blomidon Provincial Park and hiking at nearby Cape Split. Given the acquisition of the Cape Split property by the provincial government in 2002, this information may be useful in planning future developments of both the park and the Cape Split property. Campers were asked if they plan to hike Cape Split, rather than if they did hike Cape Split for two reasons. Firstly, phrasing the question in this manner will allow for individuals who plan to hike Cape Split during their visit, but have not done so at the time the questionnaire was completed to indicate that they plan to hike Cape Split. Secondly, phrasing the question in this manner allows for those respondents who had planned to hike Cape Split during their visit but were prevented from doing so by external factors, such as weather, to indicate that they had planned to hike Cape Split.

11) The following question deals with spending in the area during your visit to Blomidon Provincial Park. The area is defined as the area within 30 minutes drive of the park. Please give all answers in Canadian dollars and include taxes.

<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)

In order to conduct an EIS it is necessary to have data relating to expenditures made by non-local visitors; question eleven collects this data. Categories "a" through "h" encompass nearly all of the expenditures mentioned by interviewees in the study by Gardner Pinfold Consulting Economists Limited and, given the similarities between the subjects of the two studies, it is likely that these categories would encompass the spending by visitor groups camping at Blomidon Provincial Park. In addition, category "i" provides respondents the opportunity to record any expenditures which they feel do not fall into either of the preceding categories. It is necessary to differentiate categories of visitor expenditure as different categories are associated with different multipliers. Also, by considering the categories separately the respondents are encouraged to think carefully about expenditures made within the local area.

The definition of "area" used in questions seven through eleven was adopted from and is consistent with the definition employed in *A Survey of Nova Scotia Hiking Trail Users* (Gardner Pinfold Consulting Economists Limited, 1999).

## Chapter 5

### Methods and Results

#### 5.1 Methods and Results: Questionnaire Delivery and Response Rates

Between June 27<sup>th</sup> and September 1<sup>st</sup> of 2003, 974 surveys were distributed to camper-groups at Blomidon Provincial Park. According to the camper-registration database provided by the Nova Scotia Department of Natural Resources, 1,722 camper-registrations were recorded during this time, representing a delivery rate of approximately fifty-seven percent (56.56%). Of the surveys distributed during this time period, 338 were completed and returned representing a response rate of nearly thirty-five percent (34.70%). Furthermore, the 338 returned surveys represent nearly twenty percent (19.63%) of the total number of registrations at the park during the study period.



## 5.2 Methods and Results: Demographics of Camper-Groups

Throughout this study, camper-groups are categorized as one of the following: Non-Canadian; Non-Nova Scotian Canadian; or Non-Local Nova Scotian. Differentiation of camper-groups into these categories allows for exploration of the economic contribution to the local area by each category of camper-group, as well as the combined economic impact of all campers. The categories of Non-Canadian and Non-Nova Scotian Canadian are easily understood and represent those camper-groups who normally reside outside of Canada and those who reside within Canada but outside of the province of Nova Scotia, respectively. Non-Local Nova Scotians are defined as those camper-groups who reside within the province of Nova Scotia but their place of residence is located such that Blomidon Provincial Park is greater than a thirty minute drive from their home. This definition is consistent with the definition employed by Gardner Pinfold Consulting Economists Limited in *A Survey of Nova Scotia Hiking Trail Users* (Gardner Pinfold Consulting Economists Limited, 1999) and approximates Kings County.

More than fifty percent of the camper-groups who registered at Blomidon Provincial Park during the study period were residents of Nova Scotia. Of the 1,722 camper-registrations during the study period, 1,024 (59.5%) were Nova Scotian camper-groups. The remaining registrations consisted of 430 (25%) Non-Nova Scotian Canadian camper-groups and 268 (15.5%) Non-Canadian camper-groups. The distribution of camper-group origin from the camper-registration database is almost mirrored in the completed and returned surveys. Of the 338 completed and returned surveys 203 (60%)

were Nova Scotian camper-groups, 84 (25%) were Non-Nova Scotian Canadian camper-groups and 51 (15%) were Non-Canadian camper-groups.

The data available in the camper-registration database do not differentiate Local Nova Scotians from Non-Local Nova Scotians. However, the Nova Scotian respondents to the questionnaire can be differentiated; 24 camper-groups were from the local area and the remaining 179 Nova Scotian camper-groups were non-local. According to the Department of Natural Resources a total of 2032 camper-groups registered at Blomidon Provincial Park during the 2003 season, from May 16<sup>th</sup> to September 1<sup>st</sup> (Murray, 2004). If we apply the distribution of Non-Nova Scotian Canadian and Non-Canadian camper-groups from the camper-registration database and assume that the distribution of Local and Non-Local Nova Scotian camper-groups responding to the questionnaire is representative we can estimate the origin of camper-groups as illustrated in table 5.2.1, below. This breakdown of camper-groups by origin is used in conducting the economic impact assessment in section 5.3.

---

Table 5.2.1: Estimated distribution of groups camping at Blomidon Provincial Park by origin

---

Origin of camper-group	Estimated number of camper groups	Percentage
Non-Canadian	316	15.5
Non-Nova Scotian Canadian	507	25.0
Non-Local Nova Scotian	1,066	52.5
Local Nova Scotian	143	7.0
<b>Total</b>	<b>2032</b>	<b>100.0</b>

---

In addition to differentiation of camper-groups by origin, the questionnaire data also make it possible to distinguish between those groups traveling with dependents and those traveling without dependents. For this analysis, dependents are defined as those individuals less than fifteen years old. The decision to term those individuals under the age of fifteen as dependents is based on the following premise: It is unlikely that individuals under the age of fifteen years would be camping in a group that does not include a parent, guardian or other adult considered to be responsible for the child. It would appear to be more probable, however, that individuals ranging in age from fifteen through nineteen would be camping with groups of friends which do not include a specific guardian or chaperone.

Of the 338 returned and completed questionnaires, 337 contained data regarding the ages and genders of members of the camper-group. One questionnaire contained only information regarding the total number of individuals in the camper-group and therefore could not be used in the following analysis. Table 5.2.2 shows the distribution of camper-groups, distinguished by the presence of dependents in the group, obtained from questionnaire respondents.

The categories of camper-groups presented in Table 5.2.2 can be further subdivided according to the gender of the adult members of the camper group. In this analysis, adults are defined as those individuals fifteen years of age or older. Table 5.2.3 provides the breakdown of the above groups according to the gender of adult group members.

Table 5.2.2: Respondent distribution with/without dependents

Camper-group	Total number of survey respondents	Percentage of total (%)	Average number of individuals in camper-group
Group Traveling with Dependents	86	25.52	4.21
Group Traveling without Dependents	251	74.48	2.28
<b>Total</b>	<b>337</b>	<b>100.00</b>	<b>2.77</b>

Table 5.2.3: Respondent distribution according to gender of adult group members

Camper-group	Gender of adult group members	Total number of survey respondents	Percentage of total (%)
Group Traveling with Dependents	Male only	2	0.59
	Female only	7	2.08
Group Traveling without Dependents	Male/Female mix	77	22.85
	Male only	8	2.37
	Female only	26	7.72
<b>Total</b>	Male/Female mix	<b>217</b>	<b>64.39</b>
		<b>337</b>	<b>100</b>

By applying proportion of camper-groups in the sample traveling with and without dependents, as shown in Table 5.2.2, to the total number of camper-registrations at Blomidon Provincial Park during the 2003 camping season we can estimate the total number of camper groups traveling with and without dependents, as shown in Table 5.2.4.

Table 5.2.4: Estimated distribution of camper-groups by presence of dependents

Camper-group	Estimated total number for the 2003 camping-season
Group Traveling with Dependents	519
Group Traveling without Dependents	1513
<b>Total</b>	<b>2032</b>

Table 5.2.5 and Table 5.2.6 show the average importance attributed to Blomidon Provincial Park, hiking at Blomidon Provincial Park and hiking at Cape Split as indicated by respondents according to the eleven-point incrementality scale used in the questionnaire. Table 5.2.5 differentiates survey respondents according to origin, while Table 5.2.6 differentiates respondents according to the presence or absence of dependents. Also included in these tables, in the columns furthest to the right, is the average total expenditures made by camper groups.

Table 5.2.5: Average importance of Blomidon Provincial Park, hiking at Blomidon Provincial Park and hiking at Cape Split in determining camper-groups visit to the area (differentiated by origin of camper-group)

Origin of camper-group	Average importance of Blomidon Provincial Park	Average importance of hiking at Blomidon Provincial Park	Average importance of hiking at Cape Split	Average total expenditures (\$)
Non-Canadian	6.422	4.767	2.930	164.49
Non-Nova Scotian	6.493	3.853	2.667	127.06
Canadian				
Non-Local Nova Scotian	8.341	5.259	2.892	127.02

As is the case in an EIS, discussed in chapter 2, residents of the local area are excluded from this analysis based on the premise that they were not enticed to visit the local area by Blomidon Provincial Park or by Cape Split. The information presented in Table 5.2.5 is based upon the responses of the 288 questionnaire respondents used in conducting the EIS presented in section 5.3.

Like Table 5.2.5, Table 5.2.6 shows information pertaining to average importance of Blomidon Provincial Park, hiking at Blomidon Provincial Park and hiking at Cape Split in determining visitation to the local area. Table 5.2.6 also shows the average expenditures made by the camper groups as they are differentiated. The information in Table 5.2.6 is based on 309 questionnaires which are the questionnaires used to compile the information presented in Table 5.2.2 with the local camper-groups excluded.

---

Table 5.2.6 Average importance of Blomidon Provincial Park, hiking at Blomidon Provincial Park and hiking at Cape Split in determining camper-groups visit to the area (differentiated according to presence of dependents)

---

Camper-group	Average importance of Blomidon Provincial Park	Average importance of hiking at Blomidon Provincial Park	Average importance of hiking at Cape Split	Average total expenditures (\$)
Group Traveling with Dependents	7.592	4.000	1.618	163.52
Group Traveling without Dependents	7.445	5.015	2.974	120.09

---

### 5.3 Methods and Results: Economic Impact Study

The methodology employed in this study is similar to the methodology employed in numerous other economic impact studies including *A Survey of Nova Scotia Hiking Trail Users* and *Renoir's Portraits: Impressions of an Age, Visitor Profile and Economic Impact Study* (Gardner Pinfold Consulting Economists Limited, 1999; Research Resolutions, 1997; VanBlarcom, 2002).

#### Survey Results

Of the 338 completed and returned surveys, 288 were usable in computing the economic impact of camping at Blomidon Provincial Park on the local economy. The fifty disregarded surveys represent twenty-four camper-groups identified as locals and twenty-six which were either incomplete or illustrate clearly a misunderstanding of the survey or the study area. As was discussed in chapter two, expenditures made by local residents should not be included in economic impact studies as they do not represent a net economic gain to the local economy under the assumption that in the absence of the stimulus being studied local residents would have spent their money, either now or later, within the area. Returned questionnaires which did not contain expenditure-related data were considered to be incomplete and could not be used for estimation of economic impact. Respondents who indicated that their group had made no accommodation-related expenditures were excluded from the calculations. There is a fee of eighteen dollars per campsite per night at Blomidon Provincial Park and failing to report accommodation-related expenditures suggests that the respondent either did not understand the survey, or

did not camp at the Park. In addition, two respondents indicated that their group had rented recreational vehicles within the local area; however, no businesses within the study area rent recreational vehicles. Reporting expenditures relating to the renting of recreational vehicles suggests that the respondents did not understand the term "study area" as defined in the questionnaire. The breakdown of questionnaire respondents, by origin, used in estimating the economic impact of Blomidon Provincial Park on the local area is presented below in Table 5.3.1.

Table 5.3.1: Origin of questionnaire respondents

Origin of respondent	Number of Respondents	Percentage
Non-Canadian	43	15.0
Non-Nova Scotian Canadian	75	26.0
Non-Local Nova Scotian	170	59.0
<b>Total</b>	<b>288</b>	<b>100.0</b>

### Gross Expenditures

The methodology employed to estimate the economic impact is presented below in a stepwise manner using the data pertaining to the Non-Local Nova Scotian category of camper-groups. Similar calculations were performed to estimate the economic impact of camper-groups defined as Non-Nova Scotian Canadian and Non-Canadian. The economic impacts on the local area due to expenditures made by these camper-groups are presented



in table 5.3.9 and 5.3.10 respectively. In addition, the combined economic impact of all non-local campers at Blomidon Provincial Park is presented in table 5.3.11.

Table 5.3.2 presents the total and average expenditures made within the study area by Non-Local Nova Scotian camper-groups. The expenditure categories are consistent with the categories outlined on the questionnaire with the exception of the category of Inclusive travel (Question 11, category h) which was omitted because no survey respondents indicated expenditures in this category. Standard Industrial Classification (SIC) codes used by Industry Canada and Statistics Canada (Statistics Canada, 2004) are listed alongside the corresponding expenditure category. The Other category was given the SIC code of J0000 because all expenditures listed by respondents in this category are considered as retail expenditures.

Table 5.3.2: Total and average gross expenditures by Non-Local Nova Scotians

Expenditure Category	SIC Code	Total Expenditure (\$)	Average Expenditure (\$)
Cost Of Accommodations	Q0000	6,004.00	35.32
Meals and Beverages in Restaurants	Q0000	2,723.32	16.02
Groceries and Liquor at Stores	J0000	4,878.50	28.70
Vehicle Rental	R0000	100.00	0.59
Other Shopping Purchases	J0000	2,964.00	17.44
Operation of Private Vehicle	J0000	3,678.79	21.64
Recreation and Entertainment	R0000	1,030.50	6.06
Other (specified)	J0000	214.00	1.26
<b>Total</b>		<b>21,593.11</b>	<b>127.02</b>

Table 5.3.2 presents the gross expenditures made by Non-Local Nova Scotian respondents. However, in order to better represent the expenditures for which Blomidon Provincial Park is directly responsible, the expenditures in each category are weighted according to the relative importance of the park as a determinant of visitation to the local area, as indicated by the respondent in question eight of the survey. The eleven-point scale used to measure the relative importance of Blomidon Provincial Park as a determinant in destination choice for camper-groups constitutes a practical, straightforward method of determining the proportion of consumer expenditures for which the park is responsible and allows for a corresponding proportion of expenditures made by these camper groups to be included in the economic impact study. Each point on the scale can be easily converted into ten percentage points ranging from zero (0 on the scale) to one hundred percent (10 on the scale) with the corresponding percentage of expenditures being included in the impact study (Research Resolutions, 1997).

The approach of weighting tourist expenditures according to relative importance of the stimulus being studied was discussed in Chapter 2 and is particularly relevant to stimuli such as Blomidon Provincial Park. In addition, due to the rural location of the park, it is unlikely that so-called casuals, defined in Chapter 2 as those visitors who are already in the area attracted by other features (Crompton, 1999b), would be significant.

Table 5.3.3 presents the total and average incremental expenditures made by Non-Local Nova Scotian camper-groups.

---

 Table 5.3.3: Total and average incremental expenditures by Non-Local Nova Scotians
 

---

Expenditure Category	SIC Code	Total Incremental Expenditure (\$)	Average Incremental Expenditure (\$)
Cost Of Accommodations	Q0000	5,020.50	29.53
Meals and Beverages in Restaurants	Q0000	2,102.92	12.37
Groceries and Liquor at Stores	J0000	4,260.30	25.06
Vehicle Rental	R0000	100.00	0.59
Other Shopping Purchases	J0000	2,593.10	15.25
Operation of Private Vehicle	J0000	2,984.85	17.56
Recreation and Entertainment	R0000	834.05	4.91
Other (specified)	J0000	172.05	1.01
<b>Total</b>		<b>18,067.77</b>	<b>106.28</b>

---

The average incremental expenditure per Non-Local Nova Scotian camper-group for each expenditure category is extrapolated to the total number of Non-Local Nova Scotian camper-groups registered at Blomidon Provincial Park throughout the camping season (1066), from table 5.2.1. Table 5.3.4 shows the estimated incrementally adjusted total expenditures by all Non-Local Nova Scotian camper-groups during the 2003 season. Total incremental expenditure made by this visitor group is estimated to be \$113 thousand.

Table 5.3.4: Total incremental expenditures by Non-Local Nova Scotian camper-groups

Expenditure Category	SIC Code	Total Incremental Expenditure (\$)
Cost Of Accommodations	Q0000	31,466.29
Meals and Beverages in Restaurants	Q0000	13,180.18
Groceries and Liquor at Stores	J0000	26,701.69
Vehicle Rental	R0000	626.76
Other Shopping Purchases	J0000	16,252.41
Operation of Private Vehicle	J0000	18,707.75
Recreation and Entertainment	R0000	5,227.46
Other (specified)	J0000	1,078.33
<b>Total</b>		<b>113,240.87</b>

### Tax Adjustments

Many of the expenditures made by camper-groups visiting Blomidon Provincial Park are subject to the Harmonized Sales Tax (HST), a value added tax of fifteen percent (Dilney, 1997). The fifteen percent tax is applied to all industries except for "Groceries and Liquor at Stores" and "Operation of Private Vehicle". Groceries purchased in stores are not subject to the HST tax while liquor purchased at stores and gasoline (which accounts for most expenditures included in the "Operation of Private Vehicle" category) are subject to different taxation which is accounted for in the retail margining process, to be discussed later. The applied HST tax rate in these industries is zero. It is assumed that the proceeds of the HST do not remain within the local area; rather they are transferred to the provincial and federal governments. Accordingly, the value of this tax must be deducted from the expenditures made by camper-groups (VanBlarcom, 2002). Table 5.3.5 shows the applicable tax rates for the industries associated with direct expenditures made

by camper-groups. Total expenditures in each category, reduced by the applicable sales tax rate, appear in the column furthest to the right of table 5.3.5 and totals 104 thousand dollars.

Table 5.3.5: HST adjusted total incremental expenditures by all Non-Local Nova Scotian camper-groups during the 2003 season

Expenditure Category	SIC Code	Total Incremental Expenditure (\$)	Applicable Sales Tax Rate (Percent)	Total Tax Adjusted Incremental Expenditures (\$)
Cost Of Accommodations	Q0000	31,466.29	15	27,361.99
Meals and Beverages in Restaurants	Q0000	13,180.18	15	11,461.03
Groceries and Liquor at Stores	J0000	26,701.69	0	26,701.69
Vehicle Rental	R0000	626.76	15	545.01
Other Shopping Purchases	J0000	16,252.41	15	14,132.53
Operation of Private Vehicle	J0000	18,707.75	0	18,707.75
Recreation and Entertainment	R0000	5,227.46	15	4,545.62
Other (specified)	J0000	1,078.33	15	937.68
<b>Total</b>		<b>113,240.87</b>		<b>104,393.30</b>

### Retail and Wholesale Margining

Expenditures made by camper-groups associated with retail trade do not truly represent the impact to the local economy and must be adjusted by trade margins, that is, the difference between the price the retailer charges the consumer and the cost to the retailer of acquiring the goods. These margins include labour earnings, profits (if they remain within the study area) and certain other expenses (Frechtling & Horvath, 1999). The margining process involves multiplying the value of retail expenditures by the

proportion of those expenditures which can be attributed to the local wholesale and retail industries. The aggregate retail trade industry margin for Kings County, Nova Scotia, is estimated to be 28.2 percent while the aggregate wholesale trade margin is estimated to be 9.4 percent (VanBlarcom, 2002). Retail sales expenditures are often adjusted for transportation trade margins as well as retail and wholesale trade margins; however, all goods sold in Kings County are assumed to be imported into the region in an effort to account for leakages associated with transportation and non-local production (VanBlarcom, 2002). Retail expenditures are denoted by SIC code J0000 in tables 5.3.2 through 5.3.5.

Table 5.3.6 shows the final demand changes, adjusted for incrementality, HST, and wholesale and retail trade margins, generated by Non-Local Nova Scotian camper-groups visiting Blomidon Provincial Park during the 2003 season.

---

Table 5.3.6: Final demand changes generated by all Non-Local Nova Scotian camper-groups

---

Industry	SIC Code	Total Tax Adjusted Incremental Expenditures (\$)	Final Demand Changes Adjusted for Wholesale and Retail Trade Margins and Sales Tax Leakages (\$)
Wholesale Trade	I0000	0.00	5,685.09
Retail Trade	J0000	60,479.65	17,055.26
Accommodations/Food/Beverages	Q0000	38,823.02	38,823.02
Services	R0000	5,090.62	5,090.62
<b>Total</b>		<b>104,393.30</b>	<b>66,653.99</b>

---

Table 5.3.7 shows the final demand direct income, or earnings, multipliers and sales, or output, multipliers for Kings County, Nova Scotia relating to the industries relevant to this study. These multipliers were developed by VanBlarcom in *A Comparison of Methods Used in Assessing the Economic Impact of Tourism on a Sub-Provincial Economy in Nova Scotia* (VanBlarcom, 2002). The multipliers used in this study are derived from a location quotient adjusted provincial input-output model. The input-output model upon which these multipliers are derived was developed by the Nova Scotia Department of Finance and the location quotients are a measure of concentration of industries within Kings County compared with concentration of those industries in Nova Scotia as a whole.

---

Table 5.3.7: Final demand output and earnings multipliers for Kings County, Nova Scotia

---

Industry	SIC Code	Output Multiplier	Earnings Multiplier
Wholesale Trade	I0000	1.276	0.155
Retail Trade	J0000	1.245	0.128
Accommodations/Food/Beverages	Q0000	1.607	0.267
Services	R0000	1.622	0.341

---

The output and earnings multipliers presented in Table 5.3.7 can be used in conjunction with the final demand changes shown in Table 5.3.6 to estimate the total output and earnings generated in the study area due to Non-Local Nova Scotian visitors camping at Blomidon Provincial Park. These estimates are presented in Table 5.3.8.

Table 5.3.8: Total output and earnings generated in the study area due to Non-Local Nova Scotian visitor expenditures

Industry	SIC Code	Total Output (\$)	Total Earnings (\$)
Wholesale Trade	I0000	7,254.17	881.19
Retail Trade	J0000	21,233.80	2,183.07
Accommodations/Food/Beverages	Q0000	62,388.59	10,365.75
Services	R0000	8,256.99	1,598.46
<b>Total</b>		<b>99,133.55</b>	<b>15,028.46</b>

Total output and total earnings generated in the study area due to expenditures made by Non-Nova Scotian Canadian and Non-Canadian camper-groups can be generated in a similar manner to that described for Non-Local Nova Scotian campers. The total output and earnings generated by these groups are presented in Table 5.3.9 and Table 5.3.10 respectively.

Table 5.3.9: Total output and earnings generated in the study area due to Non-Nova Scotian Canadian visitor expenditures

Industry	SIC Code	Total Output (\$)	Total Earnings (\$)
Wholesale Trade	I0000	2,492.13	302.73
Retail Trade	J0000	7,294.76	749.98
Accommodations/Food/Beverages	Q0000	25,188.78	4,185.07
Services	R0000	1,614.55	312.56
<b>Total</b>		<b>36,590.22</b>	<b>5,550.34</b>



Table 5.3.10: Total output and earnings generated in the study area due to Non-Canadian visitor expenditures

Industry	SIC Code	Total Output (\$)	Total Earnings (\$)
Wholesale Trade	I0000	2,009.58	244.11
Retail Trade	J0000	5,882.28	604.76
Accommodations/Food/Beverages	Q0000	18,681.90	3,103.96
Services	R0000	3,441.81	666.29
<b>Total</b>		<b>30,015.57</b>	<b>4,619.13</b>

Additionally, Table 5.3.11 summarizes the aggregate economic impact, in terms of total earnings and total output, on the local area by all non-local camper-groups. Table 5.3.11 shows the total output (expenditure) generated in Kings County due to expenditures by non-local camper-groups to be \$166 thousand and the total earnings generated to be \$25 thousand.

---

Table 5.3.11: Total output and earnings generated in the study area due to non-local visitor expenditures

---

Industry	SIC Code	Total Output (\$)	Total Earnings (\$)
Wholesale Trade	I0000	11,755.89	1,428.03
Retail Trade	J0000	34,410.85	3,537.82
Accommodations/Food/Beverages	Q0000	106,259.27	17,654.78
Services	R0000	13,313.34	2,577.31
<b>Total</b>		<b>165,739.34</b>	<b>25,197.93</b>

---

## 5.4 Methods and Results: Binomial Logit Regression

### Overview of the logit regression analysis

The objective of applying a binomial logit regression model in this study was to examine factors involved in determination of camper-group participation in hiking on the nearby Cape Split trail. A total of 285 of the 338 completed and returned questionnaires were usable in the logit regression model, with the remaining 53 rejected due to either missing values or answers which demonstrate the respondent did not have a clear understanding of the questionnaire or study area. For example, returned questionnaires which did not contain information pertaining to age and gender of group members, did not contain expenditure data, or questionnaires which mentioned expenditures which could not have been made within the study area, such as rental of recreational vehicles, were excluded from this analysis.

A binomial logit regression model, using question 10.a ("Do the members of your party plan to hike Cape Split during this visit to Blomidon Provincial Park?") as a binary dependent variable, was employed in this study. Approximately thirty-five percent of respondents indicated that the members of their groups intended to hike at Cape Split during their visit. The dependent variable (HIKECSPLAN) was coded one for respondents who planned to hike Cape Split and zero for those who did not.

The independent variables used in this model included a trio of dummy variables indicating the location of their place of residence as per the categories described in section 5.2. (LOCAL for distinguishing between locals and non-locals, NOVASCOTIA for distinguishing between Nova Scotians and non-Nova Scotians, and CANADA for

distinguishing Canadians from non-Canadians). The age and gender categories of the questionnaire were compressed from eighteen to three categories differentiating dependents (DEPENDENTS) from adults, and further distinguishing male (MALE) and female (FEMALE) adults. Other variables in the model include the number of nights the group camped at Blomidon Provincial Park (NIGHTSTAY), number of visits to the park in the previous twenty-four months (BPP24MONTH) and number of visits to other provincial parks within the previous twenty-four months (OPP24MONTH). In addition, variables relating to the importance of Blomidon Provincial Park and Cape Split in attracting camper-groups to the area were included (BPPPRIME as a dummy variable indicating whether the park was the primary reason for visitation, BPPINC representing the importance rating given to the park, HIKEBPP representing the importance rating given to hiking at the park and HIKECS representing the importance rating given to hiking at Cape Split).

In interpreting the results of the logit regression, it is necessary to understand the coding of the dummy variables. The dummy variables relating to location of place of dwelling (LOCAL, NOVASCOTIA and CANADA) were coded such that a value of one was given to respondents who did not fit into the category. For example, a non-local Nova Scotian respondent would be coded as one-zero-zero, a respondent from another province in Canada would be coded as one-one-zero and a non-Canadian respondent would be coded as one-one-one for the variables of LOCAL, NOVASCOTIA and CANADA respectively. The dummy variable BPPPRIME, relating to Blomidon Provincial Park being the primary reason for camper-groups to the area, was coded as one for respondents

who indicated that visiting the park was the primary reason for their visit to the area and zero otherwise.

The remaining independent variables relating to the importance of Blomidon Provincial Park and Cape Split (BPPINC, HIKEBPP and HIKECS) represent the incremental importance rating, on an eleven-point scale, indicated by respondents in questions eight through ten of the questionnaire. Table 5.4.1 presents the descriptive statistics for each variable.

Table 5.4.1: Descriptive statistics of variables in logistic model

Variable	Mean	Median	Minimum / Maximum	Standard Deviation
Dependent Variable				
HIKECSPLAN	0.34035	0.000	0.000 / 1.000	0.47466
Independent Variables				
LOCAL	0.93684	1.000	0.000 / 1.000	0.24367
NOVASCOTIA	0.38246	0.000	0.000 / 1.000	0.48684
CANADA	0.14386	0.000	0.000 / 1.000	0.35156
MALE	1.0772	1.000	0.000 / 5.000	0.61753
FEMALE	1.1895	1.000	0.000 / 6.000	0.63292
DEPENDENT	0.52281	0.000	0.000 / 5.000	0.99842
NIGHTSTAY	1.7404	2.000	1.000 / 7.000	0.90924
BPP24MONTH	0.80351	0.000	0.000 / 14.000	1.9255
OPP24MONTH	2.9474	2.000	0.000 / 40.000	4.8157
BPPPRIME	0.71579	1.000	0.000 / 1.000	0.45183
BPPINC	7.4947	8.000	0.000 / 10.000	3.0761
HIKEBPP	4.7193	5.000	0.000 / 10.000	3.4425
HIKECS	0.34035	0.000	0.000 / 10.000	3.9894

### Results of the logit regression analysis

Output data from the logit regression analysis can be found in table 5.4.2. The binomial logit model does not support the frequently used F-statistic; however, the commonly reported chi-square statistic (De La Vina & Ford, 2001; Johnson, Bowker, English, & Worthen, 1998; Lee, Scott, & Floyd, 2001) for this model was calculated to be 305.836, significant at 0.0001. This allows the null hypothesis, that the coefficients of the independent variables equal zero, to be rejected and suggests that this model provided better prediction than a model with only the constant term (De La Vina & Ford, 2001). A correlation matrix of the variables used in this model can be found in Appendix C.

Table 5.4.2: Results of logit regression analysis

Variable	Coefficient Estimate	Standard Error	t - Stat	Significance	Slope (at Mean)
Dependent Variable					
HIKECSPLAN					
Intercept	-3.44220	2.52539	-1.363		
Independent Variables					
LOCAL	1.53316	2.40450	0.638	0.5235	0.348958
NOVASCOTIA	-0.298351	0.858923	-0.347	0.7286	-0.0679068
CANADA	0.845043	0.901957	0.937	0.3488	0.192337
MALE	-1.16096	0.662627	-1.752	**0.07977	-0.264243
FEMALE	0.111724	0.373593	0.299	0.7649	0.0254291
DEPENDENT	-0.142810	0.378164	-0.378	0.7054	-0.0325046
NIGHTSTAY	0.521015	0.329228	1.583	*0.1134	0.118587
BPP24MONTH	-0.133436	0.264008	-0.505	0.6136	-0.0303710
OPP24MONTH	0.0230311	0.0724768	0.318	0.7505	0.00524203
BPPPRIME	0.126434	0.899433	0.141	0.8879	0.0287772
BPPINC	-0.198128	0.121739	-1.627	*0.1037	-0.0450952
HIKEBPP	0.0417566	0.115515	0.361	0.7181	0.00950409
HIKECS	1.10176	0.171271	6.433	***0.0000	0.250768
Chi square	305.863			0.0000	

Note: \* Significance at 0.15 level. \*\* Significance at 0.10 level. \*\*\* Significance at 0.01 level.

The level of significance indicated for the independent variables in Table 5.4.2 are derived from the standard normal distribution due to the relatively large size of the sample size (Gujarati, 2003). Significance, at the 0.15 level, was shown in the variables relating to the number of nights the camper-group stayed at Blomidon Provincial Park (NIGHTSTAY) and the incremental importance attributed to the park in attracting the group to the local area (BPPINC), with the former being positively related to the probability of the group planning to hike at Cape Split and the latter being negatively related. The number of male adult group members (MALE) was shown to be significant at the 0.10 level and has a negative influence on the probability of a group hiking at Cape Split. The incremental importance of hiking at Cape Split was shown to be significant at the 0.01 level and is positively related to the probability of the group planning to hike at Cape Split. However, it should be noted that only thirty-four percent of the respondents indicated that they planed to hike Cape Split and provided a value other than zero for its incremental importance in determining their visit to the local area. The high level of correlation between this dependent variable and the independent variable may contribute to the high T-Statistic and level of significance.

The values in the furthest right column of Table 5.4.2, "Slope (at Mean)", represent the estimated effect on the probability of a camper-group planning to hike Cape Split of a one unit increase in the corresponding independent variable compared to the mean for all independent variables. For example, if a hypothetical camper-group, exhibiting mean values for all independent variables, extended their stay at Blomidon

Provincial Park by one night an increase in the probability of the group planning to hike Cape Split of 0.1185, or nearly twelve percent, would be expected.



## Chapter 6

### Implications for Marketing and Development

#### 6.1: Implications for Marketing and Development: Introduction

The economic impacts on the local economy which can be attributed directly to camper-groups at Blomidon Provincial Park are significant. However, it is possible that the impact on the local economy could be amplified with increased marketing and development of the park and complimentary attractions, such as Cape Split. Table 6.1.1, a simplified version of Table 5.3.11, shows total output (\$165 thousand) and earnings (\$25 thousand) generated in Kings County due to expenditures made by non-local groups camping at Blomidon Provincial Park during the 2003 season.

---

Table 6.1.1: Total output and earnings generated in the study area due to non-local visitors

---

Industry	Total Output (\$)	Total Earnings (\$)
Wholesale Trade	11,755.89	1,428.03
Retail Trade	34,410.85	3,537.82
Accommodations/Food/Beverages	106,259.27	17,654.78
Services	13,313.34	2,577.31
<b>Total</b>	<b>165,739.34</b>	<b>25,197.93</b>

---

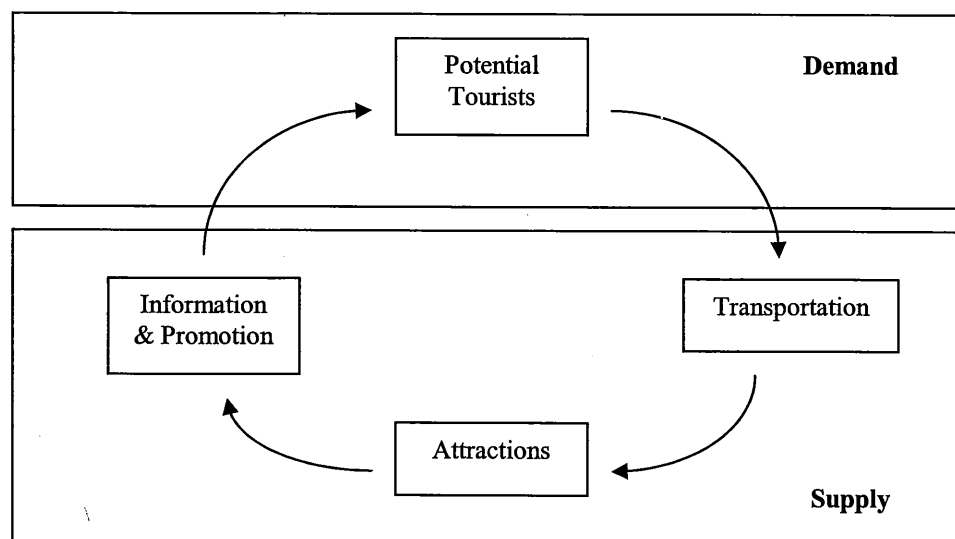
Figure 6.1.1, adopted from *Financing and Acquiring Park and Recreation Resources* (Crompton, 1999a), illustrates a simplified model of the tourism system. This figure shows that tourists use some mode of transportation to travel to attractions. In order to influence tourists to visit the attractions informational and promotional materials are provided to members of the population perceived to be potential visitors (Crompton, 1999a).

This tourism system is activated by attractions. Only in rare cases do people leave their home milieu and travel some distance by automobile, airplane or ship because they want to stay in a particular hotel or dine at a particular restaurant in a different locale. Most of the time, the desire to go to a destination on a pleasure trip is stimulated by its attractions (Crompton, 1999a).

---

Figure 6.1.1: A Simplified Model of the Tourism System

---



Source: Crompton, 1999a

---

In order to increase the economic impact of camping at Blomidon Provincial Park it will be necessary to either attract more tourists, persuade visiting camper-groups to extend the length of their stay, or both. There are three primary ways in which these goals can be realized: identify potential tourists so as to effectively distribute informational and promotional materials; create and distribute informational and promotional materials which will increase awareness and encourage visitation; increase the attractiveness of Blomidon Provincial Park and complimentary attractions through diligent management and development. Information pertaining to the demographics of camper-groups and findings of the logit regression analysis could enable governmental agencies, such as the Nova Scotia Department of Natural Resources, to more effectively target and attract potential camper-groups as well as understand the economic impact these parties will have on the local economy.

Increasing visitation to Blomidon Provincial Park may involve additional costs if it requires extending the season of operation. However, increasing visitation during the existing season would result in minimal costs in excess of those which are presently incurred in operating the park as additional staff would not likely be required. If seasonal occupancy rates were to increase, the marginal costs associated with increasing visitation during the existing season would be virtually non-existent. The Nova Scotia Department of Natural Resources considers Blomidon Provincial Park to be a "destination park" (Nova Scotia Department of Natural Resources, 2003b); however, camper-groups staying at the park during the 2003 season stayed, on average, less than one-and-a-half nights (average stay of 1.45 nights). An average stay of less than two nights, which would be equivalent to a weekend of camping, may suggest that the park is successful in

encouraging groups to visit but is not successful in retaining those groups for more extended periods of time. It is possible that the camper-groups most attracted to the park are those who do not have the ability or desire to take extended camping trips. It is also possible that the camper-groups making use of the park find that the amenities and attractions within the park do not entice them to extend their stay, or they are unaware of the attractions and amenities within or in close proximity to the park.

## 6.2: Implications for Marketing and Development: Demographics

A delineation of camper-groups by demographics will allow for a better understanding of who is using the park and the economic impact these parties have on the local economy. In addition, the primary users of the park can be thought of as being representative of potential tourists who might be attracted to the local area by the park. Identification of these potential tourists should allow for more effective promotion and appropriate development in the future.

In Chapter 5 it was estimated that approximately ninety-three percent of camper-groups at Blomidon Provincial Park during the 2003 season were non-locals. It was also shown that approximately seventy-five percent of camper-groups were traveling without dependents, defined as those individuals fourteen years of age or younger. Table 6.2.1 shows the estimated distribution of non-local camper groups. The average importance ratings given to Blomidon Provincial Park, hiking at the park, hiking at Cape Split and average total expenditures made by camper-groups are delineated by place of residence.

Table 6.2.1 shows that more than fifty percent of camper-groups staying at Blomidon Provincial Park during the 2003 season reside within the province of Nova Scotia but outside of the local area and a further twenty-five percent reside outside of Nova Scotia but within Canada. Nova Scotian or more broadly, Canadian, camper-groups can be considered the primary users of Blomidon Provincial Park as a campground. It would appear to be logical to consider non-local Nova Scotians and non-Nova Scotian Canadians to be the target-market of potential tourists who might be enticed to visit the local area due to Blomidon Provincial Park.

Table 6.2.1: Non-local camper-groups by origin

Origin of camper-group	Percentage of Total Camper-groups	Average importance of Blomidon Provincial Park	Average importance of hiking at Blomidon Provincial Park	Average importance of hiking at Cape Split	Average total expenditures (\$)
Non-Canadian	15.5	6.422	4.767	2.930	164.49
Non-Nova Scotian Canadian	25.0	6.493	3.853	2.667	127.06
Non-Local Nova Scotian	52.5	8.341	5.259	2.892	127.02

Table 6.2.1 also shows that the average expenditure per camper-group for non-local Nova Scotians and non-Nova Scotian Canadians is essentially the same at \$127. This suggests that the economic impact on the local economy of attracting these groups would be essentially the same. However, the incremental importance attributed to Blomidon Provincial Park is considerably higher for non-local Nova Scotians (8.3) than it is for non-Nova Scotian Canadians (6.5); therefore more of the impact of their expenditures could be attributed directly to the park.

In planning a marketing campaign intended to increase participation in camping at Blomidon Provincial Park it will be important to consider the costs associated with the campaign as well as the effectiveness of the campaign. Marketing across Canada, or around the globe, would certainly require a much greater investment than an in-province

campaign due to the scale of the campaigns. When considering the potential effectiveness of marketing it must be taken into account that both the direct and opportunity costs incurred by non-Nova Scotian tourists in traveling to and camping at Blomidon Provincial Park are greater than the costs which would be incurred by a Nova Scotian traveling intra-provincially to camp at the park. As a result it is possible that the larger scale campaigns (national or international) would result in less of an increase in visitation than would a provincial campaign.

Any increase in non-local camper-groups making use of Blomidon Provincial Park will likely have a positive economic impact on Kings County. However, if increases in visitation are due only to non-local Nova Scotians there will be no net economic benefit to the province of Nova Scotia. On the provincial scale, all Nova Scotians are considered to be locals and as such their expenditures do not represent a net economic gain. A marketing campaign intended to encourage tourists to camp at Blomidon Provincial Park would likely be funded primarily, if not entirely, by government agencies at the provincial level. With funding for an advertising campaign from a provincial level there would undoubtedly be a mandate to increase the economic impact not only to Kings County, but to the province of Nova Scotia as a whole. In achieving this it may be worthwhile for campaign planners to consider a marketing strategy which targets not only Nova Scotians, but also includes those potential non-Nova Scotian tourists who would incur the lowest costs associated with a pleasure trip to Blomidon Provincial Park, since it appears possible that lower costs may be associated with increased probability of visitation. Consequently, marketing efforts might want to focus on the Maritime or Atlantic provinces rather than solely on Nova Scotia.

---

 Table 6.2.2: Camper-groups differentiated according to presence or absence of dependents
 

---

Camper-group	Percentage of Total Camper-groups	Average importance of Blomidon Provincial Park	Average importance of hiking at Blomidon Provincial Park	Average importance of hiking at Cape Split	Average total expenditures (\$)
Group Traveling with Dependents	25.52	7.592	4.000	1.618	163.52
Group Traveling without Dependents	74.48	7.445	5.015	2.974	120.09

---

In addition to differentiation of camper-groups by origin it is important to consider the composition of camper-groups in terms of the presence or absence of dependents. Table 6.2.2 shows the estimated distribution of camper groups according to the presence or absence of dependents. Similarly to Table 6.2.1, the average importance ratings given to Blomidon Provincial Park, hiking at the park, hiking at Cape Split and average total expenditures made by these camper-groups are shown.

Table 6.2.2 shows that nearly seventy-five percent of camper-groups staying at Blomidon Provincial Park during the 2003 season were traveling without dependents. This group should be considered the primary users of the park. However, the fact that approximately twenty-five percent of camper-groups are traveling with dependents suggests that this group is also significant to the overall operation of the park, and should not be overlooked when marketing and developing the park and complimentary attractions within Kings County. In addition, per group average expenditures made in the



local area by groups traveling with dependents are notably greater than expenditures made by groups traveling without dependents. Although the primary users of Blomidon Provincial Park as a campground appear to be camper-groups traveling without dependents, it would appear that the economic impact on Kings County of camping at the park could be increased by attracting more camper-groups with dependents than by attracting more camper-groups without dependents.

A marketing campaign intended to increase participation in camping at Blomidon Provincial Park, by groups traveling with or without dependents, will need to consider the attractions which entice people to visit the local area and camp at the park. The average importance rating given to Blomidon Provincial Park in determining visitation to Kings County does not differ greatly between groups traveling with dependents and those traveling without dependents and was calculated to be 7.592 and 7.445 respectively. However, the average importance ratings for hiking, both within the park and at Cape Split, are higher for camper-groups traveling without dependents than for those traveling with dependents. A lower average importance rating by those camper-groups traveling with dependents may suggest that these groups do not consider hiking, especially at Cape Split, to be an activity which could be easily undertaken while traveling with children under the age of fifteen years.

The majority of users of Blomidon Provincial Park as a campground are those groups traveling without dependents and increasing visitation by these groups would have a positive economic impact on Kings County. If hiking, either at Blomidon Provincial Park or at Cape Split, were to be incorporated into a marketing strategy with the goal of encouraging tourists to camp at the park, it appears that the target potential camper-

groups would be those traveling without dependents, as those groups, on average, place a higher value on hiking.

If encouraging groups traveling with dependents to camp at Blomidon Provincial Park is a primary objective of a marketing campaign, informational and promotional materials should inform these groups of features other than hiking. At Blomidon Provincial Park groups traveling with dependents will find child-friendly features such as a playground and an (unsupervised) beach. It might also be of value to inform potential camper-groups that it is possible to hike only portions of the trails. Undertaking a fifteen kilometer hike with children may appear unattractive and daunting to some potential visitors; however, there are multiple points of entry onto the trail system at Blomidon Provincial Park and it is possible to undertake less extensive hikes which could be considered more child-friendly.

In 2002 the government of Nova Scotia purchased 280 hectares of land on the Cape Split peninsula; much of the Cape Split trail falls upon this land. There will undoubtedly be a great deal of pressure upon the government to preserve the environmental integrity of this property while at the same time developing the property as an attraction for both intra-provincial and extra-provincial tourists. To date, no management plan has been established.

In 1998 total trail use of the Cape Split trail was estimated to be 7,900 parties, with an average party size of two (Gardner Pinfold Consulting Economists Limited, 1999). This does not differ greatly from the average party size for the principal users of Blomidon Provincial Park as a campground; camper-groups traveling without dependents (average group size estimated to be 2.28). Given the similarities in the nature of camping

and hiking it would appear likely that groups taking part in either activity share certain characteristics. The similarities between hikers and campers should allow for the two properties (Blomidon Provincial Park and Cape Split) to be developed and managed as complimentary.

One hundred and nine questionnaire respondents, out of a total of 338, indicated that members of their group planned to hike Cape Split during their visit to Kings County. Application of this proportion to the total number of registered camper-groups at the park during the season suggests that approximately 655 camper-groups planed to hike the Cape Split trail. Comparing this number with the estimated annual number of hikers at Cape Split it appears that more than 7,000 groups, who could be considered as potential camper-groups, hike Cape Split but do not camp at Blomidon Provincial Park. Given that the trail at Cape Split is accessible year-round, while Blomidon Provincial Park is open for business for less than four months it is likely that some of the hiker parties could not make use of the park as a campground even if desired. It is also likely that a portion of these hiker parties reside within the local area and elect to return to their homes, rather than camp, following or preceding their hike. However, it seems unlikely that more than eighty-five percent of hiker parties at Cape Split would be locals or would be hiking outside of the primary tourist-season when Blomidon Provincial Park is open. It may be possible to increase camper visitation at the park and hiker visitation at Cape Split by marketing both properties jointly, either through distribution of informational and promotional materials which relate to both properties or through on-site marketing at both locations (provide informational and promotional materials for Cape Split to visitors at Blomidon Provincial Park and vice versa).

### **6.3: Implications for Marketing and Development: Logit Regression Analysis**

The logit regression analysis presented in Chapter 5 explored factors in determining the propensity of camper-groups at Blomidon Provincial Park to plan to hike at Cape Split during their visit to Kings County. The factors found to be significant are the importance rating attributed to hiking at Cape Split in the groups' decision to visit Kings County, the importance rating attributed to Blomidon Provincial Park in determining visitation to Kings County, the number of nights the camper-groups stayed at the park as well as the number of adult male group members. That there would be a significant relationship between planning to hike Cape Split and the importance rating given to Cape Split in the groups' decision to visit Kings County is not surprising. The other significant factors, however, may provide more insight.

The inverse relationship between planning to hike at Cape Split and the importance rating of Blomidon Provincial Park in determining visitation to Kings County suggests that those camper-groups who put higher importance on the park are less likely to plan to hike at Cape Split. This could indicate that for those camper-groups who rate the importance of Blomidon Provincial Park at a level above the mean, the park itself is the primary attraction and these individuals are content to remain within the park rather than participate in hiking at Cape Split. This finding appears to be in agreement with the average importance attributed to the park and Cape Split by questionnaire respondents, which was higher for the park than for Cape Split for all sub-categories of campers when differentiated by origin or by the presence or absence of dependents.

It appears that the number of nights the camper-groups stayed at Blomidon Provincial Park is positively related to the whether a group planned to hike at Cape Split. The strong correlation between these variables, however, does not necessarily imply the existence of a causal relationship whereby an increase in one will cause an increase in the other. It does suggest that groups who spend more time camping at Blomidon Provincial Park are more likely to plan to hike at Cape Split, or that groups who plan to hike at Cape Split spend more nights camping at Blomidon Provincial Park. The implication of this for marketing of both the park and Cape Split is quite obvious; if the mandate is to increase camping at Blomidon Provincial Park, a campaign to entice hikers to camp there is warranted. If the mandate is to increase participation in hiking at Cape Split, the campaign should focus on attracting those individuals who hike at Cape Split to camp at Blomidon Provincial Park.

The inverse relationship between the number of adult male group-members and the groups' propensity to plan to hike at Cape Split suggests that the higher the number of adult males in a group, the less likely that group is to plan to hike at Cape Split. If increasing participation in hiking at Cape Split is an objective it may be worthwhile for planners to direct the marketing towards females. However, before embarking upon a marketing campaign aimed exclusively or primarily at attracting females it would be prudent to investigate this relationship further.

#### **6.4: Implications for Marketing and Development: Conclusions**

It would appear that Blomidon Provincial Park and the Cape Split property are complimentary in nature; approximately one third of camper-groups making use of the park also hike at Cape Split. This complimentary nature should be taken into consideration in developing and marketing of these properties. Through marketing campaigns and on-site promotions it may be possible to increase the number of Cape Split hiker groups camping at Blomidon Provincial Park and it may be possible to increase the duration of stay of camper-groups by encouraging them to hike at Cape Split, both of which would result in increased seasonal occupancy rates at the park and hence increased economic impact on the economy of Kings County. Increasing participation in hiking at Cape Split, or increasing seasonal occupancy rates at Blomidon Provincial Park will, however, involve costs to the government agencies involved both in terms of direct costs of marketing campaigns as well as the monetary and environmental costs associated with development and upkeep of these properties.

## **Chapter 7**

### **Conclusions**

#### **7.1: Conclusions: Summary**

Chapter 1 provides basic background information on the tourism industry in Nova Scotia, introduces the project rationale and provides background information on both Blomidon Provincial Park and Cape Split. Chapter 2 introduces economic impact studies, outlines the importance and relevance of economic impact studies to the tourism industry and illustrates some basic principles of economic impact studies: exclusion of local residents, and the exclusion of "time switchers" or "casuals" or, as an alternative, having visitors rate the importance of the stimulus being studied and applying that rating to their spending as a measure of incrementality. Chapter 2 also provides background information regarding the use of multipliers in economic impact studies. Chapter 3 introduces the binomial logit model as an estimation technique which can be employed when dealing with a binary qualitative dependent variable.

Chapter 4 describes the self-administered questionnaire used in this study and the procedure followed in distribution and collection of the questionnaire. In addition, this chapter describes the rationale for the questionnaire questions and provides background information regarding the eleven-point incremental importance scale used in computing the economic impact of expenditures by non-local camper-groups at Blomidon Provincial Park.

Chapter 5 presents the methods and findings of this study including: survey delivery and response rates, delineation of camper-groups according to place of residence and presence of dependents, economic impact analysis and binomial logit regression analysis. The economic impact analysis shows that incrementally adjusted expenditures made by non-local camper-groups were responsible for creating (through direct, indirect and induced effects) approximately \$166 thousand in output (expenditures) and \$25 thousand in earnings (income). The logit regression analysis provides some insight into some of the key factors in determining a camper-groups' propensity to hike at Cape Split. Finally, Chapter 6 discusses some of the implications of the findings of this study on future marketing and development of Blomidon Provincial Park and the Cape Split property.



## **7.2: Conclusions: Implications of this Research**

The economic impact of visitor expenditure on the economy of Kings County is of interest to businesses, government agencies and the citizens of the county. Awareness of the economic contributions made by tourists is vital in development of informed public policy and when comparing the economic and social costs relating to tourism development (VanBlarcom, 2002). The findings of the economic impact analysis of this study provide those stakeholders developing and managing Blomidon Provincial Park and Cape Split with important benchmark information. This benchmark information will enable the stakeholders to better assess current and future policies and developments and evaluate the effectiveness of those policies and developments.

The findings of the demographic profile and logit regression analysis provides insight into characteristics of tourist camper-groups making use of Blomidon Provincial Park and provide information which will allow for promotion and development which may increase seasonal occupancy rates at the park and increase participation in visitor hiking at Cape Split.

## Literature Cited

- American Bus Association. (2004). *2004 Top 100 Events*, from <http://www.buses.org/top100events/>
- Andrews, W. A. (2004). Personal Communication. Kentville, Nova Scotia, Canada.
- Anonymous. (2003). Questionnaire Respondent #116. Ottawa, Ontario, Canada.
- Beaver, A. (2002). *A dictionary of travel and tourism terminology*. Wallingford, Oxfordshire, UK: CABI Publishing.
- Bishop, J. (1977). The Effect of Public Policies on the Demand For Higher Education. *The Journal of Human Resources*, 12(3), 285.
- Black, J. (2002). *A Dictionary of Economics* (Second Edition ed.). Oxford, UK: Oxford University Press.
- Brown, J. W., Villarruel, A. M., Oakley, D., & Eribes, C. (2003). Exploring contraceptive pill taking among Hispanic women in the United States. *Health Education and Behavior*, 30(6), 663.
- Chhabra, D., Sills, E., & Cabbage, F. W. (2003). The significance of festivals to rural economies: Estimating the economic impacts of Scottish highland games in North Carolina. *Journal of Travel Research*, 41(4), 421 - 427.
- Crompton, J. L. (1999a). *Financing and acquiring park and recreation resources*. Champaign, IL, USA: Human Kinetics.
- Crompton, J. L. (1999b). *Measuring the economic impact of visitors to sports tournaments and special events*. Ashburn, Virginia, USA: Division of Professional Services, National Recreation and Park Association.
- Crompton, J. L., Lee, S., & Shuster, T. J. (2001). A guide for undertaking economic impact studies: The Springfest example. *Journal of Travel Research*, 40(1), 79-87.

- Curtis, G. (1993). Waterlogged. *Texas Monthly*, 21(9).
- De La Vina, L., & Ford, J. (2001). Logistic Regression Analysis of Cruise Vacation Market Potential: Demographic and Trip Attribute Perception Factors. *Journal of Travel Research*, 39(4), 406-410.
- Dilney, P. (1997, March 1997). Harmonized Sales Tax: Times (and taxes) are changing! *CMA Management*, 71, 36.
- Dunlop, D., & Scott, A. (1998). *Exploring Nova Scotia a Guide to 445 Unique Adventures and Activities*. Halifax, Nova Scotia: Formac Publishing.
- Felsenstein, D., & Fleischer, A. (2003). Local festivals and tourism promotion: The role of public assistance and visitor expenditure. *Journal of Travel Research*, 41(4), 385 - 392.
- Fleming, W. R., & Toepper, L. (1990). Economic impact studies: Relating the positive and negative impacts to tourism development. *Journal of Travel Research*, 29(1), 35 - 41.
- Frechtling, D. C. (1991). Improving the World's Tourism Statistics: Recommendations of an International Conference. *Journal of Travel Research*, 30(2), 49 - 51.
- Frechtling, D. C., & Horvath, E. (1999). Estimating the multiplier effects of tourism expenditures on a local economy through a regional input-output model. *Journal of Travel Research*, 37(4), 324 - 332.
- Gardner Pinfold Consulting Economists Limited. (1999). *A Survey of Nova Scotia Hiking Trail Users*. Halifax, Nova Scotia: Nova Scotia Department of Economic Development and Tourism, Nova Scotia Sport and Recreation Commission, Human Resources Development Canada.
- Goldman, G., Nakazawa, A., & Taylor, D. (1997). Determining economic impacts for a community. *Economic Development Review*, 15(1), 48 - 51.
- Graefe, M., & Wells, M. (1996). An Economic Impact Study: How and Why to do one. *The Camping Magazine*, 69(2).

- Greb, C. E. (1964). *Hiking Trails in Canada A guide to Popular Hiking Trails in the Ten Provinces*. Kitchener, Ontario, Canada: The Greb Hiking Bureau.
- Guardian. (2002, July 3, 2002). N.S. government buys popular hiking area: Province purchase 280 hectare Cape Split, near Wolfville, for \$5 million to turn it into a wildlife park. *Guardian*, p. A5.
- Gujarati, D. N. (2003). *Basic Econometrics* (Fourth Edition ed.). New York, New York, USA: McGraw-Hill.
- Howard, D. R., & Crompton, J. L. (1995). *Financing sport*. Morgantown, WV, USA: Fitness Information Technology.
- Hu, M. Y., & Bruning, E. R. (1986). Decomposing Instrumental Product Importance to Predict Purchase Behavior. *Journal of Travel Research*, 25(2), 24-28.
- Johns, N., & Gyimothy, S. (2002). Market segmentation and the prediction of tourist behavior: The case of Bornholm, Denmark. *Journal of Travel Research*, 40(3), 316-327.
- Johnson, C. Y., Bowker, J. M., English, D. B. K., & Worthen, D. (1998). Wildland Recreation in the Rural South: An Examination of Marginality and Ethnicity Theory. *Journal of Leisure Research*, 30(1), 101-120.
- Kennedy, P. (1998). *A Guide To Econometrics*. Cambridge, Massachusetts: The MIT Press.
- Lebrecht, S. (1992, August 1, 1992). Five Great Canadian Hikes; Something for Everyone - from day-tripper to hard-core backpacker. *The Gazette*.
- Lee, J.-H., Scott, D., & Floyd, M. F. (2001). Structural Inequalities in Outdoor Recreation Participation: A Multiple Hierarchy Stratification Perspective. *Journal of Leisure Research*, 33(4), 427-449.
- Liu, J., & Var, T. (1983). The Economic Impact of Tourism in Metropolitan Victoria, B.C. *Journal of Travel Research*, 22(2), 8 - 15.

- Luzar, E. J., Diagne, A., EC Gan, C., & Henning, B. R. (1998). Profiling the nature-based tourist: A multinomial logit approach. *Journal of Travel Research*, 37(1), 48-55.
- Marriner, P. (1997). Feast On The East: Get Your Fill Of Fall With 10 Of The Best Hikes In The Maritimes. *Outdoor Canada*, 25.
- McLeod, R. R. (1903). *Markland or Nova Scotia Its History, Natural Resources and Native Beauties*. Berwick, Nova Scotia, Canada: The Markland Publishing Company.
- Murray, J. D. (2004). Personal Communication.
- Nova Scotia Department of Natural Resources. (2003a). Blomidon Provincial Park - Brochure: Nova Scotia Department of Natural Resources, Government of Nova Scotia.
- Nova Scotia Department of Natural Resources. (2003b). *Blomidon Provincial Park Infrastructure Plan* (Unpublished Document). Nova Scotia: Nova Scotia Department of Natural Resources, Government of Nova Scotia.
- Nova Scotia Department of Natural Resources (Cartographer). (2003c). *Cape Split*
- Nova Scotia Department of Tourism and Culture. (2003). *2002 Tourism Industry Facts*, 2004, from [http://www.gov.ns.ca/dtc/pubs/insights/docs/2002\\_IndustryFacts.pdf](http://www.gov.ns.ca/dtc/pubs/insights/docs/2002_IndustryFacts.pdf)
- Nova Scotia Department of Tourism and Culture. (2004a). *Explore Nova Scotia: About Nova Scotia*, 2004, from <http://www.novascotia.com/aboutns/default.htm>
- Nova Scotia Department of Tourism and Culture. (2004b). *Tourism Insights: Nova Scotia* Department of Tourism and Culture, Government of Nova Scotia.
- Nova Scotia Tourism Partnership Council. (2004). *The Nova Scotia Tourism Partnership Council Website*, 2004, from <http://www.nstpc.com/>
- Research Resolutions. (1997). *Renoir's Portraits: Impressions of an Age, Visitor Profile and Economic Impact Study*. Ottawa, Ontario, Canada: National Gallery of Canada, Canadian Tourism Commission, Department of Canadian Heritage.

- Rodenhiser, D. (2002, August 18, 2002). Cape Split Should Stay As It Is. *Daily News*.
- Saunders, G. A. (2001). *Discover Nova Scotia The Ultimate Nature Guide*. Halifax, Nova Scotia, Canada: Nimbus Publishing Limited.
- Sheatsley, P. B. (1983). Questionnaire Construction and Item Writing. In P. H. Rossi, J. D. Wright & A. B. Anderson (Eds.), *Handbook of Survey Research* (pp. 195 - 230). San Diego, California, USA: Academic Press.
- Smith, I., & Sawkins, J. W. (2003). The economics of regional variation in religious attendance. *Applied Economics*, 35(14), 1577.
- Statistics Canada. (2004). *Standard industry classifications and concordances, 2004*, from <http://www.statcan.ca/english/concepts/industry.htm>
- Studenmund, A. H. (2001). *Using Econometrics A Practical Guide* (Fourth Edition ed.). Boston, Massachusetts, USA: Addison Wesley Longman.
- VanBlarcom, B. (1999). *Assessing the Economic Impact of Recreation-Based Tourism Events: A Guide for Recreation Practitioners*. Wolfville, Nova Scotia, Canada: Acadia University.
- VanBlarcom, B. (2002). *A Comparison of Methods Used in Assessing the Economic Impact of Tourism on a Sub-Provincial Economy in Nova Scotia*. Unpublished Ph.D. Dissertation, Clemson University, Clemson, South Carolina, USA.
- Vogelsong, H., & Graefe, A. R. (2001). Economic impact analysis: A look at useful methods. *Parks & Recreation*, 36(3), 28 - 32.



9) On the scale below please rate the influence, if any, which you would say that hiking at Blomidon Provincial Park had in determining your visit to the park. The scale is designed such that 0 represents no influence and 10 represents the trails being the main single reason for visiting the park.

0	1	2	3	4	5	6	7	8	9	10

10.a) Do the members of your party plan to hike Cape Split during this visit to Blomidon Provincial Park? \_\_\_\_\_

10.b) If you answered yes to 10.a, please rate the influence, if any, which you would say that hiking at Cape Split had in determining your visit to Blomidon Provincial Park on the scale below. The scale is designed such that 0 represents no influence and 10 represents hiking at Cape Split as being the main single reason for visiting the park.

0	1	2	3	4	5	6	7	8	9	10

11) The following question deals with spending in the area during your visit to Blomidon Provincial Park. The area is defined as the area within 30 minutes drive of the park. Please give all answers in Canadian dollars and include taxes.

<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)

Thank you for completing the 2003 Blomidon Provincial Park Survey. The information collected in this survey is strictly confidential and will be used in assessing the economic impact of hiking and camping at Blomidon Provincial Park on Kings County.

If you would like more information about this survey please contact:

Michael Ball  
 c/o Dr. Brian VanBlarcom  
 Department of Economics  
 Acadia University  
 Wolfville, Nova Scotia  
 B4P 2R6  
 e-mail: michael.ball@acadiu.ca



## Appendix B

Department of Economics  
Acadia University  
Wolfville, Nova Scotia  
B4P 2R6

Dear Camper,

Welcome to Blomidon Provincial Park. Attached to this letter you will find a short, self-administered survey. This survey is designed with the aim of better understanding the economic impact of Blomidon Provincial Park on the local area, as well as understanding the influence of hiking, both within the park and at Cape Split, on visitation to the park. The information you submit is entirely confidential and cannot be traced back to you.

As you may know, in 2002 the provincial government acquired much of the property on which the hiking trail at Cape Split is located. The information from this survey will be important to the ongoing planning for the Cape Split property. In addition, this information will be used as the basis of an honours thesis in Economics at Acadia University.

If you have any questions or require any assistance with the completion of this survey please do not hesitate to ask a Park Attendant. For more detailed information you may wish to contact Michael Ball or Dr. Brian VanBlarcom at the Acadia University Department of Economics.

Please place completed surveys in the green, survey-deposit box located between the exit gate and the park office. On behalf of all those involved, we would like to thank you for your time and assistance.

Sincerely,

Blomidon Provincial Park Staff

## Appendix C

	1)	2)	3)	4)	5)	6)	7)	8)	9)	10)	11)	12)	13)	14)
	1.0000	0.1561	0.0290	0.0854	-0.0659	0.0776	-0.1390	0.0668	-0.0922	0.0140	0.0258	-0.0048	0.2806	0.8989
		1.0000	0.2043	0.1064	-0.1079	-0.0135	-0.1243	-0.0107	-0.1166	-0.0839	0.0603	0.1123	0.1089	0.1501
			1.0000	0.5290	-0.0985	-0.0303	0.0001	-0.1249	-0.2839	-0.1836	-0.2565	-0.2397	-0.0933	0.0032
				1.0000	-0.0513	0.0037	0.0057	0.0402	-0.1558	-0.0766	-0.0742	-0.1442	0.0248	0.0451
					1.0000	0.0886	0.0485	0.0985	0.1786	0.0594	0.0915	-0.0257	-0.0411	-0.0214
						1.0000	-0.0180	-0.0427	0.0393	0.0414	-0.0230	-0.0067	0.0229	0.0916
							1.0000	0.1927	0.0207	-0.0470	0.0183	-0.0134	-0.1395	-0.1279
								1.0000	0.1960	0.1472	0.0940	0.0650	0.0025	-0.0039
									1.0000	0.3262	0.1299	0.0741	-0.0397	-0.0786
										1.0000	0.0416	0.0350	-0.0221	0.0036
											1.0000	0.6057	0.2609	0.0399
												1.0000	0.4268	0.0334
													1.0000	0.3135
														1.0000

Correlation coefficients, using the observations 1 - 285  
5% critical value (two-tailed) = 0.1162 for n = 285

#### Variable Names

1)	HIKESPLAN	8)	NIGHTSTAY
2)	LOCAL	9)	BPP24MONTH
3)	NOVASCOTIA	10)	OPP24MONTH
4)	CANADA	11)	BPPPRIME
5)	MALE	12)	BPPINC
6)	FEMALE	13)	HIKEBPP
7)	DEPENDENT	14)	HIKECS