

Algonquin Provincial Park Visitor Expenditures and Impacts

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Abstract

The Federal Provincial Parks Council (now known as the Canadian Parks Council) called for the development of a common framework to measure the economic value of protected areas. The Provincial Economic Impact Model (PEIM) is a standardized tool to estimate the economic impacts of parks in Canada, as part of the common framework. Visitor spending data and park budget data are input into the PEIM to generate estimated impacts, measured by labour income, gross domestic product, and employment.

Five distinct visitor types in Algonquin Provincial Park were examined (i.e., day visitors, car campers, interior visitors, lodge visitors, cottage leaseholders). Visitor information was collected through detailed visitor surveys in 1999 and 2000, and visitor profiles were developed. Average amount spent per person-night for each visitor type was multiplied by yearly park visitor numbers to estimate total annual spending for each visitor type. Using the PEIM, annual spending for these five visitor types was estimated at approximately \$20 million. This paper contains a modest selection of study results. This is the first time precise calculations have been done for Algonquin Provincial Park.

Introduction

Competition for limited government funds, agency restructuring, desire for fiscal accountability, and increased park visitation have contributed to an atmosphere which is supportive of park agency efforts to better understand the park and its visitors from an economic perspective. Knowledge of the economic impacts of parks is relevant to governments when considering conservation policy and allocating funds (Pearson, Russell and Woodford, 1999). As such, a growing interest exists in developing widely accepted standards for assessing parks' contributions to the economy, including economic benefits associated with visitor spending generated by tourism activities within the park and in the surrounding areas.

Measuring Benefits

Measures of park economic benefits can be used for planning, policy analysis, budget justifications and marketing. There are many different ways to assess the value of benefits associated with parks and protected areas (The Outspan Group, 2000b; World Commission on Protected Areas, 1998; Coopers and Lybrand Consulting, 1996; Dixon and Sherman, 1990). Some benefits are more difficult to quantify than are others. For example, assigning value to benefits associated with species diversity or ecosystem protection is more nebulous than quantifying the value of tourism spending. Although it is common for studies to focus on calculating benefits that are more straightforward to measure, the value associated with less tangible benefits should not be overlooked.

Three categories of benefits are recognized in the common framework adopted by the Federal Provincial Parks Council (The Outspan Group, 2000a). Personal benefits are received by individuals. In the context of parks, they may include benefits received by those who visit the park as well as those who enjoy the resource indirectly (e.g., through books or movies). Business and commercial benefits are the benefits received by businesses and the surrounding community from spending that is caused by establishment, development or existence of a park (Department of Canadian Heritage, 1999). Societal benefits are benefits derived from public goods where the benefits accrue to members of society (e.g., ecological functions of parks such as oxygen production). This study focussed on business and commercial benefits.

The area in which benefits are being assessed is defined through an account register. It sets the boundaries for the analysis. Benefits to a local area will be different than those that accrue to a regional or provincial area (Department of Canadian Heritage, 1999). Analysis for this study was set at a provincial scale.

Provincial Economic Impact Model (PEIM)

Developed in partnership by the Department of Canadian Heritage and the Canadian Tourism Commission, the Provincial Economic Impact Model (PEIM) is a user-friendly computer application for estimating the economic impacts of expenditures at the provincial level on heritage activities such as the development and operation of natural areas, protected areas, parks and historic sites, and the tourism spending associated with these events. As part of the efforts to develop a common framework to measure the economic value of protected areas, the Federal Provincial Parks Council (now known as the Canadian Parks Council) has proposed the PEIM be adopted as a standardized tool for assessing economic impacts of provincial parks in Canada. The PEIM assesses business and commercial benefits at a provincial level.

The main inputs required for the PEIM are park budget data (e.g., infrastructure expenditures, operating and maintenance expenditures, and wages and salaries) and visitor spending data. Impacts of visitor spending are examined in this paper. There are three possible approaches to using the model based on time, budget and data availability.

The degree of detail required increases with each approach. The first approach requires total expenditures by all visitors (spending categories are not required). Information on visitor origin (i.e., location of permanent residence) and visitor motivation (i.e., level of influence the park had in determining their choice of this area as a stop or destination on their trip) is not required. Crude estimates are generated through this approach.¹ The second approach requires information on visitor origin and spending categories (e.g., transportation, accommodation). This approach may be suitable when typical survey information is available. Approximate estimates are generated through this approach. In addition to the information required for the second approach, visitor motivation is required for the third approach. This approach takes into account the percentage of visitor spending that can be attributable to the park according to the visitor origin, and level of influence the park had upon the decision for the trip. This approach generates the most credible estimates.

The PEIM generates estimated impacts for labour income, gross domestic product (GDP) and employment. These measures are frequently used to describe economic impacts. This study examined the application of the PEIM using the third approach (i.e., information on visitor origin and visitor motivation are required) with data obtained from Algonquin Provincial Park visitors.

Study Area

Algonquin Provincial Park (Figure 1) is the oldest and one of the best-known parks in Ontario. It covers an area of 7,725 km. A provincial highway travels for 56 km through the narrow south section of the park. The park has 12 campgrounds accessible by car (8 which are located along the southern highway corridor) with over 1200 campsites. As well, there are 29 interior access points which provide entry into 1500 km canoe routes, 170 km of backpacking trails, and over 1500 interior campsites. Of the total recorded visitors to Ontario provincial parks in 2001 (i.e.,

¹ *It is unlikely that 100% of all visitors' expenditures are attributable to the existence of the park. It is possible to use only the expenditures that took place on the day of the park visit, however this does not capture visitors who came from far away and spent significant amounts of money on the way. It also includes spending by visitors whose main motivation was not the park. These concerns can be alleviated by collecting information on visitor motivation.*

visitor statistics are not recorded for all the provincial parks), visitors to Algonquin accounted for roughly 9% (Ministry of Natural Resources, 2002).

Figure 1. Location of Algonquin Provincial Park.



Methods

Expenditure data for five distinct visitor types to Algonquin Provincial Park were collected through visitor surveys in 1999 and 2000. Surveys were distributed at park entrances, camping registration offices, and the park visitor centre. Surveys were returned either to drop boxes inside the park or via regular mail to the University of Waterloo. A total of 1131 valid surveys were analyzed to produce visitor characteristics and expenditure information for day visitors ($n=289$), car campers ($n=437$), interior visitors ($n=221$), lodge visitors ($n=62$), and cottage leaseholders ($n=122$). This is the first time information has ever been collected on lodge visitors and cottage leaseholders. Tour bus visitors and summer youth camps were not included in this study. For each visitor type, the average amount spent per person-night was multiplied by yearly park visitor numbers to generate estimates of total annual spending.

Results and Discussion

Profiles were created for each visitor type. Demographic variables examined include group composition, average length of stay, average income, level of education, trip motivation, park use and activities pursued. Comprehensive spending

data were also collected. Demographic results may be considered in conjunction with expenditure results to enhance insights. However, expenditure results are the focus of the ensuing discussion.

Spending by Visitor Type

Different units of measurement can be used to report visitor spending. Day visitors, car campers, interior visitors and lodge visitors who completed the survey reported group expenditures for one trip. From this information, total average amount spent per group per trip is easily calculated. Total average expenditures per person-night were also examined. Person-nights are calculated by multiplying group size by length of stay (e.g., if 2 people stay 2 nights in the park, this counts as 4 person-nights). These results are summarized in Table 1. Cottage leaseholders reported expenditures over a 12-month period, rather than for one trip. Results for cottage leaseholders are discussed separately.

Table 1. Average expenditures by visitor type.

Visitor Type	Total Average Amount Spent per Group per Trip (\$)	Total Average Amount Spent per Person per Night (\$)
Day Visitors	710	150
Car Campers	540	37
Interior Visitors	450	38
Lodge Visitors	1,600	230

Based on the results presented in Table 1, on average lodge visitors spent the most (\$1,600 per group per trip, or \$230 per person-night). The second highest average expenditure was by day visitors (\$710 per group per trip, or \$150 per person-day). Although car campers reported spending almost \$100 more per group per trip than interior visitors (\$540 and \$450 respectively), the average amounts spent per person-night are very similar (\$37 and \$38 respectively). This is because the influence of group size and length of stay are accounted for in the latter unit of measurement (amount spent per person-night). Group size and length of stay are not reflected in expenditures reported per group per trip. Lodge visitors spend approximately 6 times more than campers spend (car and interior) and day visitors spend approximately 4 times more than campers spend.

Uncommon to most provincial parks, cottage leaseholders were included as a visitor type in this study. There are approximately 305 cottage leaseholders in Algonquin Provincial Park. Annually, they spend very large sums of money on and at their cottages. The average total spent by cottage visitors affiliated with one cottage lease during one year was \$10,700. This total included three types of expenses

unique to cottagers (i.e., an average of \$2,000 spent on leases and bills, an average of \$3,500 spent on large renovations and an average of \$320 spent on furniture during one year). When these expenses were removed from total annual expenditures (for consistency of expenditures measured among all five visitor types), the average yearly amount spent by visitors on one cottage lease decreased to \$4,800. Included in this total was an average of \$450 spent on hardware and small repairs.

Total annual amount spent by each visitor type was required for the PEIM. Prior to visitor spending data being input into the PEIM, it was necessary to make adjustments for trip motivation and camping fees. Level of influence was factored into calculations, and park fees for interior visitors and car camping were removed. These adjustments were incorporated into the results discussed throughout the remainder of the paper.

Annual spending for the five visitor types studied was estimated at approximately \$20 million. Day visitors contributed most to the total spending (38%) with an estimated \$7.7 million spent. Next closest were car campers at 24%, whose spending totalled \$4.8 million. Similarly, interior visitors spent an estimated \$4.1 million, or 20% of the combined total. Despite having the highest average per person-night expenditures, lodge visitors only contributed to 14% of total annual spending (\$2.8 million) due to restricted visitor numbers. Although the average yearly amount spent by cottage leaseholder groups was quite large, the overall contribution to combined annual visitor spending was under 4% (\$730,000) due to the much smaller cottager numbers.

Spending by Visitor Origins

In addition to examining spending patterns by visitor type, spending was also examined by visitor origin. Recall that for two approaches, the PEIM requires knowledge of visitor origin. Categories of visitor origin were defined according to location of permanent residence:

- Local – within 80km of any park entrance;
- Rest of province – in Ontario beyond an 80km radius of any park entrance;
- Rest of Canada – outside Ontario but in Canada; and,
- International. – outside Canada.

The average amount spent per person-night for each visitor type based on the visitor origin is summarized in Table 2 (recall that adjustments were made to the visitor spending data for trip motivation and park fees prior to it being entered into the PEIM). Perhaps the most dramatic finding shown in Table 2 is the vast difference in day visitor expenditures according to their visitor origin. Average amount spent increases with distance. Local day visitors spent approximately \$15 per day,

compared to \$93 for day visitors from the rest of Ontario, \$217 for day visitors from the rest of Canada, and \$238 for day visitor to Algonquin whose permanent residence is located outside Canada.

Table 2. Average amount spent per person-night by visitor origin and type.

Visitor Type	Local Area	Rest of Ontario	Rest of Canada	International
Day Visitors (\$)	15	93	217	238
Car Campers	14	21	51	87
Interior Visitors	30	28	43	28
Lodge Visitors	192	197	237	223
Cottage Visitors	23	24	25	24

Park managers and staff may wish to augment the attention paid to day visitors, based on the favourable economic impacts they can generate. In Algonquin and elsewhere, collection of day visitor information has not been as systematic or as frequent as the collection of data for car campers and interior visitors. According to the results summarized in Table 2, local day visitors spend very little while visiting the park. Therefore, it is likely that impacts generated by local day visitors will be small. However, day visitors from the rest of Canada and international locations spend large amounts of money, comparable to the large amounts spent by lodge visitors (the latter visitor type is not common to most parks in Canada). Especially when the economic impacts of visitor spending based on visitor origin are considered (see the discussion regarding Table 3), this visitor type warrants further consideration in Algonquin, and possibly in other parks too.

Average expenditures for car campers followed a similar but less pronounced pattern as the one observed for day visitors. Average expenditures for car campers started at \$14 spent by local visitors and increased to \$87 spent by international visitors. The average amount spent for lodge visitors was consistently large (between \$190 and \$240), regardless of visitor origin. The amount spent by cottagers may appear rather small, especially in relation to the thousands of dollars spent by visitors on one cottage lease per year. However, the units of measurement in Table 2 are person-nights. Because the number of nights spent by visitors at the cottage throughout the year was quite large, the average amount spent per person-night was considerably reduced.

Estimating Provincial Economic Impact

After tabulating basic visitor expenditures and preparing the expenditure into the PEIM, provincial economic impacts of spending were Results according to visitor origin are shown in Table 3. According measures presented, spending by visitors from the rest of Ontario has impact on labour income (\$6.8 million), gross domestic product (\$10 employment (250 full-time equivalent jobs). Certainly the majority of to Ontario provincial parks are residents of Ontario. Spending by visi rest of Canada and from other countries contributes \$48,000 and \$1.8 m tively (almost approximately \$1.9 million). The smaller economic impa by visitors from these two origins may appear less significant.

Table 3. Estimated total provincial economic impact by visitor origin

Visitor Origin	Labour Income	Gross Domestic Product (GDP)	Empl (F
Local	\$18,000	\$28,000	0
Rest of Ontario	\$6,800,000	\$10,000,000	25
Rest of Canada	\$32,000	\$48,000	1
International	\$1,300,000	\$1,800,000	4
Total	\$8,100,000	\$11,000,000	30

However, it is useful to refer to the account register, or area in which being assessed; the PEIM assesses benefits at a provincial scale. framework being developed, a distinction is made between econom economic impacts. Benefits arise when monies spent reflect an im nomic activity within the defined area (i.e., the province) that w occurred without the park (Department of Canadian Heritage, 199 perspective, spending by local and Ontario visitors is not consid money added to the provincial economy. It is likely that most of th have likely been spent in the province anyway.

The impact of spending by visitors from outside Ontario is count tion to the provincial GDP generated by visitation to Algonquin origin is taken into consideration, Algonquin Provincial Park visito tributes almost \$1.9 million in net economic benefits to the provinc

As explained, expenditures by local and Ontario residents do not constitute a net addition to the economy. However, had the analysis been performed using a local or sub-regional model, as is done by the United States National Park Service with the Money Generation Model 2 (Stynes and Propst, 2002), then much of the money spent by Ontario visitors could be counted as economic benefits. One limitation of the PEIM is that results are not considered from the local or sub-regional scale, which local stakeholders are often more interested in than results for the province as a whole.

Conclusions

Measures of park economic benefits can be used for planning, policy analysis, budget justifications and marketing. Tourism spending is one type of traditional economic impact measurement, and was a primary focus of this study. Park visitor spending can be reported using different units of measurement, and in conjunction with other types of visitor data. Basic statistics on visitor spending can reveal patterns associated with different visitor types.

When calculating estimates of visitor spending, it is important to clearly identify the area of analysis, and to refer back to this area when interpreting the business and commercial benefits that accrue to the provincial economy as a result of the spending. Based on spending by visitors who come from outside Ontario, Algonquin Provincial Park contributes a net addition of \$1.9 million to the provincial gross domestic product. Results of this study suggest that perhaps increased attention should be directed towards capturing a better understanding of day visitors. This is the first time precise calculations have been done for Algonquin Provincial Park.

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