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Estimating the Tourism Volume and Value in Parks and Protected Areas in Canada and the USA

Introduction

Science and management are fundamentally dependent upon measurement. The volume, flow, scale, and impact of a phenomenon are understood through measurement. The more comprehensive and precise the measurement, the better the understanding.

The public use of parks and protected areas is an important societal activity in Canada and in the USA. This use has economic, social, cultural, and environmental impacts. The understanding of these impacts is influenced by the measurement of the volume of the use and its identified value. Data on public use of parks and protected areas are important for most aspects of management. Maintenance operations require knowledge of use levels and demands. Visitor services and protection are dependent upon the needs and numbers of visitors. Natural resource protection is partially dependent upon the visitor use type and volume. Local communities and businesses are very interested in use and expenditure levels (Hornback and Eagles 1999).

All park agencies collect some data on the level of public use of parks. Typically, the definitions and approaches to use measurement are developed by each management unit or park agency. There is no accepted international standard for public use measurement in parks and protected areas; however, Hornback and Eagles (1999) recently proposed one. Tourism volume measurement is useful because of the benefits provided to society by tourist activity. Furthermore, in the interest of retaining and protecting natural resources it is important to establish amenity value.

Worldwide, there is a low emphasis placed on the collection, compilation, and distribution of coordinated park-use data. This is probably due to the single-purpose agency structure, the competition between agencies, and the lack of a coordinated, international park tourism management structure.

It is politically dangerous for any park agency to fail to report use levels and economic impacts on a continuous and consistent basis. Senior politicians, government policy-makers, and business planners make decisions

based upon the available information. Those sectors with weak or incomplete information risk being undervalued when policy, planning, and management decisions are made.

This paper presents a collection of park-use data from Canada and the USA. The purposes of the research are to document the gross volume of and benefits derived from the public use, compare this use between the two countries, and better understand the methodological issues involved. The authors hope that this paper will further the task of better management of the collection, compilation, and distribution of public-use data from parks and protected areas.

Methodology

The public-use data were collected from park agencies in Canada and the USA. The Canadian data largely comes from two national surveys (Wilkie 1997; Murphy 1997). In Canada, the national park, national historic park, and wildlife area data come directly from the relevant agencies. For two regional park agencies in Ontario, the data came from their Web sites (Niagara Parks Commission 1998; St. Lawrence Parks Commission 1998). The 36 regional conservation authorities in Ontario have not had a comprehensive compilation of use data for almost 20 years, so an old figure was used. Some caution is necessary because of a mixture of calendar-year and fiscal-year data for 1996. All of the Canadian data are valid for 1996, except for those from conservation authorities and the regional park systems in Ontario.

The U.S. data come from a variety of sources. Most are for 1996. The Army Corps of Engineers data are for 1997 (E. Rossman, personal communication, 1 October 1998). The data on state parks come from the National Association of State Park Directors (1997) and are for the 1995-1996 year. The data for the National Park Service, the Bureau of Land Management, the Bureau of Reclamation, and the U.S. Fish and Wildlife Service are from the U.S. Statistical Abstract (1997). The NOAA estimate of usage comes from internal NOAA files (Bunce 1999). NOAA is undertaking a project to develop more precise methods for recording the visitation to the national marine reserves. For the purposes of this paper, only a very rough estimate of visitor-days from NOAA sites is used. The U.S. data are a mixture of visitor-entry and visitor-day figures.

Initially the authors had hoped to include visitation figures from Mexican parks so that a continental view could be obtained. However, it was discovered that Mexico has no national standard or system for the systematic collection of park-use data. Therefore, no such data are available.

Each agency in Canada and the USA uses agency-specific definitions for visitation and varying approaches to measurement, leading to some difficulty when data are grouped from different agencies. To assist with standardisation, the World Commission on Protected Areas has suggested standard definitions for the basic terms

that describe public use of parks and protected areas (Hornback and Eagles 1999). These definitions are found in Table 1.

For the purposes of this paper, and due to limitations in the available data, all visitation is assumed to be domestic. This assumption may be unrealistic, but until more comprehensive and accurate data are available, it is not possible to accurately indicate the level of foreign visitation.

Park and Protected Area Visitation in Canada and the USA

Park visitation in Canada and the USA is estimated as 2,626,275,241 visitor-days of activity in 1996 (Table 2). The massive size of visitation illustrates the importance of this outdoor

Table 1. Basic definitions for public use measurement of parks and protected areas

The following definitions are taken from Hornback and Eagles (1999). It is important to note that not all park agencies in Canada and the USA collect visitor data using these protocols.

Visitor: a person who visits the lands and waters of a park or protected area for the purposes mandated for the area. A visitor is not paid to be in the park and does not live permanently in the park.

Visit: a measurement unit involving a person going onto the lands and waters of a park or protected area for the purposes mandated for the area.

Visitation: the sum of visits during a period of time (usually annually, quarterly, or monthly).

Entry: a person going onto lands and waters of a park or protected area for any purpose and not specifically excluded for statistical purposes.

Exclusions: park or protected area use which is neither visitation nor entries for statistical purposes as defined above. Exclusion examples include:

- **Tenants or residents** within park boundaries (including guests);
- **Government employees**, volunteers at, or contractors to the park/protected area (including concessionaires and their employees);
- Brief, **incidental passage** into the park/protected area boundary by pedestrian or vehicular traffic; and
- Persons engaged in the pursuit of specific **legal rights of use** (e.g., subsistence hunting and fishing, traditional ceremonies) unless there is a legal or official requirement to report.

Count: the direct observation and immediate recording, measurement by instrument, or recording by registration form (such as fee collections) of park or protected area use.

Visitor-nights: the count of persons staying overnight in a park or protected area for a purpose mandated for the area.

Entry-nights: the count of persons staying overnight in a park or protected area for any purpose.

Visitor-hours: the total length of time, in hours (both continuous and intervals), that visitors stay in the park while visiting for a purpose mandated for the area.

Entry-hours: the total length of time, in hours (both continuous and intervals), that visitors and entrants stay in the park for any purpose.

Visitor-day: an average length of stay consisting of 12 hours.

Tourist: a person travelling to and staying in a place outside their usual environment for not more than one consecutive year for leisure, business, and other purposes.

Table 2. Park visitation in Canada and the USA, 1996

	Jurisdiction	Visitation (visitor- days)	Country total
Canada	National Parks and National Historic Parks	38,782,237	
	National Wildlife Areas	96,980	
	Provincial and Territorial Parks	76,444,296	
	Canada subtotal		**115,323,513**
USA	National Park Service Areas	295,000,000	
	National Forests	849,182,000	
	BLM National Resource Lands	123,611,000	
	Corps of Engineers	377,477,100	
	National Wildlife Refuges	31,200,000	
	NOAA Marine Reserves	4,500,000	
	Bureau of Reclamation	90,000,000	
	State Parks	739,981,628	
	USA subtotal		**2,510,951,728**
	Grand total		***2,626,275,241***

recreation activity within the national and provincial/state parks of Canadian and American society. More than 2.6 billion visitor-days of outdoor recreation activity has a correspondingly large economic, environmental, and social impact. This large volume of activity, previously unpublished, must be viewed as a rough estimate, given the variety of measurement and reporting approaches.

Economic Implications of Visitation

In addition to the total number of visits, which alone indicates their economic importance, there are two main reasons why any data collected by park and protected area authorities and managers on visitors are potentially of considerable significance from an economic perspective:

1. Information that includes the details of the origin of visitors, the distance they travel, the frequency of visits, the number in each party, and the length of stay on site, as well as expenditures on travel, entry fees, accommodation, clothing, equipment, food, etc.—especially if those expenditures are made in close proximity to the destination—facilitate the estimation of the local economic impact of such park and protected area visits.
2. Such information also helps establish the overall value of the parks and protected areas to society, as well as assisting in decision-making concerning the allocation of resources, especially national and state/provincial funding.

These two aspects of the possible utilisation of data are considered in turn to indicate the implications for the safeguarding and management of parks and protected areas.

The local economic impact of visits to parks and protected areas. There have been many estimates of income and employment generation resulting from tourism, applying both the Keynesian multiplier model and input–output analysis (Archer 1973; Archer 1977; Pye and Lin 1983; Sinclair and Sutcliffe 1988; Johnson and Thomas 1990, Donnelly et. al 1998). Both approaches permit the calculation of the value of the multiplier as the ratio between the income and employment generated and the initial change (increase or decrease) in visitor gross expenditures or tourism-related investment. Input–output analysis goes further than the Keynesian multiplier method as it provides estimates of the multiplier values for economic sectors, other than those directly serving tourism, such as food and drink, electrical equipment, textiles, and infrastructural services. Accurate measurement using these models involves not only estimating income and employment directly stemming from the initial round of expenditures but also that arising from indirect and induced effects. It is also important to ascertain the "leakages" from first-round direct spending, as this clearly lessens the impact. Thus, for example, if parks and related local businesses draw employees from outside the immediate area and import most supplies, the beneficial effect will be much lower than the initial expenditure would suggest. The more remote parks are, the higher the likelihood of substantial leakages.

With respect to nature tourism, there are some studies of its impact concerning the generation of benefits for local communities in the form of, for example, entry fees, provision of accommodations and services. Swan-

son and Barbier (1992) considered the economics of wildlife, Christ (1994) examined revenue generation in Kenya's game reserves, and Wells (1997) documented the range of financial and economic impact studies of nature tourism. However, they are not as broad as the more general tourism studies.

There are two shortcomings with multiplier and input–output approaches. The first is that they tend to underestimate the many other forms of benefits (discussed below) which parks and protected areas generate. The second is that they measure only the gross benefits because the costs associated with, say, increasing visitor numbers and frequency of visits are completely ignored. For example, traffic congestion, disturbance to wildlife, damage inflicted on fragile ecosystems, and the production of solid waste and pollution are not accounted for or deducted from the gross benefits to establish whether indeed there are net positive benefits or not. These externalities often impose direct costs on park authorities because expense is incurred in mitigating their effects.

To ascertain the full multiplier and input–output values arising from parks and protected visits is very expensive in terms of both money and time. It is extremely unlikely that such exercises would ever become a standard and routine aspect of data collection by park authorities and managers. Studies would have to be confined to one-off occasional investigations at specific and representative sites. The use of input–output analysis, being a more comprehensive approach, is not feasible at the local level. It requires studies at a sub-national or national level. However, recognising that these approaches can show that the impact of visitors' expenditure is both positive and far-reaching is enough to demonstrate the local economic value of the existence of parks and protected areas. In practice, a reasonable estimate of their economic impact can be obtained from information on first-round expenditures using income and employment coefficients from previous research related to nature tourism. There is some recent evidence (given below) of the magnitude of the economic impact of the use of national and provincial parks in Canada and public lands in the USA.

The social benefits (value) of parks and protected areas. Except under specific conditions, economics accepts that prices paid in the market (exchange value)—for instance entry fees—do not necessarily represent the value consumers (visitors) attach to the goods and services they purchase. Where there are no entry fees, i.e., access is free to parks and protected areas, this does not suggest a zero value. In such cases, therefore, means have to be devised to attach value. Furthermore, as the subject of environmental economics has developed it has been recognised that there are two elements to the benefits visitors derive from the use of heritage and natural resources, namely *value in use* and *non-use value* which, however, make up total economic value (Allison et al.

1996; Bowers 1997; Bagri et al. 1998). Total economic value posits that, for many amenity resources and natural environments, non-use value can be much greater than use value because they are unique or irreproducible, and, if degraded, irreversible trends may be set in motion, leading to their destruction. In addition to market-based exchange value, total economic value thus consists of option, bequest, and existence of non-use values that are emerging from studies of willingness to pay for natural environments. In short, their value is much higher than effective demand in the market as expressed through the payment of entry fees (where applicable) or proxy entry charges estimated from, for example, travel costs calculated from knowledge of the distances travelled by visitors to parks and protected areas.

It is not possible to explore in detail in this paper the three main methods that can be applied to ascertain the use and non-use values of unpriced natural resources. These are the contingent valuation method, Hedonic price method, and travel cost method. They are fully explained, with examples, in publications such as Allison et al. (1996), Braden and Kolstad (1991), Fletcher et al. (1990), Hanley and Spash (1993), Mitchell and Carson (1989) and Sinclair and Stabler (1997).

There are a number of studies that illustrate combinations of the economic impact and social benefits approaches, because in effect they can be considered additive in respectively measuring dynamic and static values. Allison et al. (1996) consider heritage conservation, Sinclair and Stabler (1997) tourism, while the Ontario Ministry of Natural Resources (1992) more specifically assessed the impact of visits to provincial parks. Carlsen (1997) employed a combined approach in Australia, and the Canadian Parks Service (1992) simply estimated daily expenditures. As with economic impact studies, the valuation of parks and protected areas based on the benefits derived from them by visitors should be cognisant of associated costs, especially of increased visitor numbers, congestion, disturbance of wildlife, erosion of paths, and degradation of fragile ecosystems.

The Ontario Ministry of Natural Resources found that in 1992 the value of total output arising throughout the economy from expenditures by visitors and government on Ontario provincial parks amounted to CDN$831.2 million. That year there were 6.9 million visitor-days of activity in this park system (OMNR 1992). Therefore, the economic impact per visitor-day of use amounted to CDN$120.46, using the direct use value approach. The Canadian Parks Service (1992) calculated CDN$73.42 of tourist expenditures for each day of visitation to Bruce Peninsula National Park, and CDN$116.42 for each day of visitation to Pukaskwa National Park. This approach measured use value only.

Carlsen (1997) used secondary data to evaluate tourism and recreation values on public lands in a region of New South Wales in Australia. He calculated both the economic impact

and a quasi-value total economic value based upon user surplus estimated by using the travel cost method. He found that 66% of all visitors to the area visited public lands (mainly beaches, rivers, national parks, and state forests) during their holiday in the region. He estimated that the economic benefit derived from tourism and recreation on such public lands in New South Wales in Australia was AUS$187.69 per day of recreation. This figure may seem to be on the high side given that domestic visitors spent AUS$83.00 per day and international visitors spent AUS$72.50 in 1992-1993, but this is explained by his calculation of an element of total economic value, not just market expenditure (J. Carlsen, personal communication, 13 May 1998).

Both the Ontario and the New South Wales studies provide a range of figures for use in calculating value of parks and protected areas. Over the period of the studies the Canadian and Australian dollars were relatively at par, but traded between 65 and 80 cents to the U.S. dollar. To make comparisons, an exchange rate of 75 cents to the U.S. dollar is used. Therefore, in U.S. dollars the economic impact rates are $90.35 to $140.77 per day of recreation. If one assumes that the 1996 figure of 2,626,275,241 entrances to Canadian and American parks represent visitor-days of activity, and one accepts an impact range of $90 to $141 per day, the value for park tourism is US$236-370 billion in Canada and the USA combined. These figures must be accepted with caution, given the limitations of the data. However, the estimates do show that park-based outdoor recreation is a very important economic activity in American and Canadian society. Even these estimates underestimate value because they do not include option, bequest, and existence values.

Estimates of the magnitude of the economic impact and partial evaluation of total economic value, from the admittedly incomplete data available, demonstrate the benefits visitors both confer upon, and derive from their use of, parks and protected areas. These estimates have two important strategic implications.

The first is of more immediate concern to park authorities and managers in that it could influence the allocation of funds from government. By extending the amount and range of data that can be routinely collected, often by automatic mechanical and electronic means, and by conducting occasional surveys (both by interview and self-completed questionnaire), the basis can be created for estimating values, applying the methods outlined above. Showing that the value of parks and protected areas is much higher than entry charges and visitor spending per day can help justify funding over and above direct revenue generated by parks themselves. In effect, their social value can be used as a political lever to indicate the need for funds to acquire, extend, and manage these natural resources in the same way the grants and subsidies to the arts are justified.

The second implication is related to

the issue of the non-priced characteristics of many natural resources. Since amenity use seldom yields a return in a commercial sense, there is a danger, whenever there is competition for the use of land resources (for example, agriculture, forestry, mining, water supply, electricity generation or development), that these alternative market-based activities will appear to be a "better" allocation of land because they seem more profitable. The ability of market-traded land uses to outbid non-market ones, which is further distorted by tax breaks and grants and subsidies that inflate values even more, is a constant threat to natural environments such as those in parks and protected areas.

Thus the argument for a more comprehensive and better-quality database is reinforced. Just how important parks and protected areas are to Canada and the USA, and their global significance, is indicated in the next section, underlining the case for the systematic collection and analysis of key statistics.

Comparisons Between the USA and Canada

The USA and Canada are similar in background, sharing comparable European cultural roots. Over the years the two countries have frequently exchanged ideas in the field of park and protected area management. Therefore, one might expect that comparisons between them would show a high degree of similarity in the proportion of land area protected and the recreation use levels. The park systems can be compared in several ways. The overall extent of parks and other protected areas, that area as a percentage of the country, park visitation compared with the park area, and the park visitation compared with the national population are all important measures.

Total park area. Canada and the USA are large countries, similar in size. However, the USA has many more protected areas, 1,878 compared with 861 in Canada, and much more land area under formal protection, 198,714,037 ha compared with 94,900,514 ha (Table 3; World Conservation Monitoring Centre 1998). Importantly, the USA has the largest amount of protected area of any country, Canada being in fourth place behind Greenland and Australia. Both the USA, with 21.2% of the country protected, and Canada, with 9.6%, are more aggressive in the establishment of parks than the global national average of 8.8%.

The USA has a larger and institutionally more complex system of parks and protected areas than does Canada, especially at the national level. This reflects the stronger role played by the national government in resource management. After the U.S. Civil War, the national government tended to retain public lands upon the creation of the western states. This provided a rich resource base for the creation of park and protected areas by the national

Table 3. Park area in Canada and the USA

	National area (sq km)	Number of protected areas	Extent of protected areas (ha)	Percent of national area under protection
Canada	9,922,385	861	94,900,514	9.6%
USA	9,372,614	1,878	198,714,037	21.2%
Global Total	*148,208,846*	*12,754*	*1,320,369,100*	*8.8%*

Table 4. Use density (visitation per unit of area) in Canada and the USA

	Protected area visitation	Area of protected area (ha)	Visitation per ha
Canada	115,325,509	94,900,514	1.2
USA	2,510,951,728	198,714,037	12.7

government. As Canada developed, land owned by government was retained by the provinces (for those British colonies that existed before Confederation) or was transferred to them (for those provinces created after Confederation), giving provincial governments the primary opportunity and role in the establishment of parks. The provinces primarily used the institution of provincial parks as their protected area approach. Most of the government-owned crown land outside of parks is devoted to forestry, mining, and hunting, with little formally established as reserves. There is a substantial amount of outdoor recreation occurring in Canada on crown land outside of formally established reserves. However, very little is known about the volume and distribution of this recreation.

Park visitation and park area: use density. The volume of visitation per unit of area has important impacts on parkland. Table 4 presents data on the visitation per hectare of parkland. The USA has a much higher overall level of use—11 times higher. Canada has a much smaller population (one-ninth the size), and the parks are generally much more remote from the centres of population.

Park visitation and national population. The level of park use by a population is an indication of the importance of parkland (Table 5). In Canada, the total park visitation di-

Table 5. Per capita park visitation

	Park visitation	Population of country	Visitation per person
Canada	115,323,513	29,606,000	3.9
USA	2,506,451,728	266,476,278	9.4

Population figures for Canada are from Columbo 1997; for USA, from CIA 1997.

vided by the overall population gives 3.9 visits per person per year. At 9.4 visits per person per year, there is a much higher per capita rate of park usage by Americans. (These calculations ignore the fact that a small percentage of the visitation in each country is foreign.) There are several possible explanations for this finding. First, as noted above, the U.S. parks are generally closer to population centres. Second, the U.S. parks have a longer outdoor season. Canadian parks typically receive the vast majority of their use over only a four-month period: the warm summer months and time of school holidays. Third, the USA has many more parks than does Canada, 1,878 compared with 861. Fourth, the USA has 21.2% of the country in parkland, compared with 9.6% for Canada. These latter two features presumably provide for a more equitable distribution of parkland throughout the USA.

Limitations of the Data

Data on visitation to parks and protected areas in Canada and the USA must be considered within the context of several inherent limitations.

The figures in Tables 4 and 5 assume that all visitation is domestic, an assumption that is not valid. Clearly the vast majority of the tourism is domestic. For the park environment and the park managers, many of the impacts are similar no matter the origin of the visitor.

There are 2,738 internationally protected areas in the USA and Canada recognised within the United Nations list of national parks and protected areas (IUCN 1998). The U.N. list only contains information on those areas that are 1,000 ha or larger. There are hundreds of parks smaller than that in Canada and the USA. Therefore, 2,738 is a minimum figure. These 2,738 parks cover an area of 293,614,551 ha, or 22.2% of all the protected area in the world. However, since a large number of smaller parks and protected areas are not reported in the U.N. list, this figure too must be considered an underestimate.

Some parks are large, with many access points. With minimal financial and staffing resources such parks frequently do not adequately document the number and duration of entries at all access points. This leads to underreporting in official use figures.

Due to limitations in financial and

personnel resources, many parks only collect visitor statistics during peak visitation periods. Some agencies attempt to estimate the uncounted visitation, but most do not. Some count the visitation in low-use periods over intervals of time—say, once every five years—and then report the counted figure as an estimate in uncounted years. Most do not. For example, Ontario had 372 provincial parks in 1996. However, only 104 were "operating" parks, that is, those with staff on a permanent basis. This agency does not estimate use in the non-operating parks, and therefore the reported figure of 8.5 million visitor-days of recreation for that year is a minimum. In Ontario, as elsewhere, the amount of visitation not being reported is very hard to estimate. Nevertheless, these financial and personnel resource limitations result in under-reporting of visitation.

Even with the wealth found in Canada and the USA, the park management agencies are modestly resourced. Most have fewer people and smaller financial resources than desirable to carry out their societal mandate. As a result, every action is weighed according to its costs and benefits. Throughout most of the two countries, the majority of funding comes from tax-based government allocations. There are a wide variety of pricing policies in the park agencies, but generally the outdoor recreation usage provides only a portion of the park income. Where use charges occur, careful tabulation of data, typically due to the demands of financial accounting, is done. However, when the entrance is free or below cost, tabulation is spotty. When the costs of data collection outweigh the benefits, most park agencies limit such collection. For these structural reasons, the level of park usage is frequently under-reported.

There is no standard for the collection and tabulation of park-use figures. Some parks collect data on visitor entrances, that is, the number of people entering. Less frequently, data are collected on length of stay. Only when these data are available can visitor-hour or visitor-day figures be calculated. There is variability on the issue of excluding those who may just be passing through, who live in the park, or who work in the park. This also makes the tabulation of overall data difficult.

The collection and reporting of use levels is of low priority in some agencies. For example, the Canadian Wildlife Service manages national wildlife areas and national migratory bird sanctuaries. These two systems of protected areas are very large and have important conservation significance. However, the agency does not have a visitor-use data collection policy, a national office to collect the data, or a procedure to report the level of recreation use made of these sites (J. Robinson, personal communication, 23 April 1999). The low level of priority given to visitor management data in such agencies results in under-reporting of visitation.

The data included in this paper are reported as visitor-days. However,

some of it represents visits of undetermined length. For example, in this report each visit to Canadian national historic parks is included as a visitor-day. However, it is probable that each visit represents only a few hours of activity. In this way, some of the data purporting to be visitor-days will be overestimated.

On balance, given the structural issues inherent in tabulating use, the authors conclude that the reported public use levels tabulated in this paper are an underestimate of the actual use occurring, and certainly of the economic impact and value of that use.

Conclusions

The outdoor recreation that occurs in the parks and protected areas in Canada and the USA is a very large and impressive activity. With an estimated 2.6 billion days of use per year, this activity has major economic, social, and environmental impacts.

There are limitations to the data presented in this paper. Differing definitions of use, a wide variety of counting techniques, substantial under-reporting of data, and considerable difficulty in assigning a common definition to the term "visitor-day" all limit the accuracy of the data and the effectiveness of the findings. These research findings point to the need for a standardised approach to public-use reporting and management, both in the study area and elsewhere.

The lack of national and international data on parks and protected area use levels and economic impacts is a public policy deficiency. The level of public use is a concrete representation of the value of these sites to society. The under-reporting of this use does a disservice to the agencies and sites. The lack of continuous and consistent reporting of economic impact and the failure to attempt to measure social value is politically dangerous in an economic rationalist society.

Eagles (1995) and Van Sickle and Eagles (1998) reported a budget crisis in parks at national and provincial levels in Canada. The number of parks increased over the previous decade, as did the area of land and water under protection and park visitation. Conversely, the government allocations for management decreased in real and relative terms. This caused severe management and resource protection problems. There are several reasons for this situation. Governments in Canada responded positively to the many voices asking for more land to be designated as parks, both for recreation and conservation purposes. However, the lobbying groups and individuals demanding more parks were often silent about the need for money for management for these new parks. Accordingly, as indicated earlier, the park managers do themselves and their parks a disservice by not accurately counting, reporting, and interpreting the level of use of their parks in order to show their importance to society. Generally, in Canada and the USA the governments, the general public, and the business sectors are not getting sufficient data on public use and the economic impact and value of parks to make appropriate decisions on their

designation, protection, and management.

This analysis suggests that the citizens of the USA use their public parklands much more than do Canadians. More availability of parklands, those parklands being closer to cities, and longer outdoor recreation seasons are the likely reasons. The implications of this finding are many. The planning and management of parks and protected areas in the USA must occur within the context of much higher levels of use. The Canadian park managers are used at lower levels, something that may only be temporary. Over time, the large USA outdoor recreation market may start to recognise the large area of parkland that is readily available for use in nearby Canada and therefore increasingly shift usage there. This would put more pressure on the Canadian parks and on their tourism facilities.

The estimates of economic impact given in the paper are coarse and imprecise. However, they lead to the conclusion that the economic impact of parkland use and the value placed on it by society is large and underreported. If this important economic impact is to be used in shaping public policy, it would be more effective if information about it were developed in a coordinated and professional fashion across the two countries.

Under the North American Free Trade Treaty, a standardised industrial classification system has been established by the statistical agencies of Canada, the USA, and Mexico. Within that system there is a category for park tourism. Therefore, there is now an administrative procedure that can assist with the standardisation of park tourism data collection and reporting across the entire continent. It is a worthwhile goal for all park agencies and their public supporters to work towards the fulfilment of a continental process for park tourism measurement and reporting in North America.

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