

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

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ABSTRACT

Visitation to the parks and protected areas of the United States of America and Canada is an important part of the outdoor recreation industry in these countries. The social, economic and environmental impacts of this visitation are related to its volume. This paper contains the first ever estimation of the overall park and protected area visitation for the Canada and the US. It contains data from all the national and provincial/state programs, including state, provincial, and national parks and other forms of protected areas such as wildlife refuges, national forests and national historic sites.

In 1996 there was an estimated 2,626,275,241 visitor days of recreation activity in the parks and protected areas of Canada and the US. This use level is an underestimate, due to structural and financial limitations within the park agencies. The associated economic impact was calculated to be between US \$236 billion and \$370 billion for that year.

The US has many more protected areas, and higher levels of land area in parks, than does Canada, even though Canada is a slightly larger country. The recreation use density per hectare of parkland in the US is 11 times higher than in Canada. The visitation level per person in society is 2.4 times higher in the US than in Canada. Reasons for these differences are suggested.

There is an urgent need for the adoption of standard approaches to the collection of park tourism data in these two countries. The use of one such standard is proposed.

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 is 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 at large by tourism, and because in the interests of retaining and protecting natural resources, it is important to establish amenity value.

There is a low emphasis placed on the collection, compilation and distribution of co-ordinated park use data in Canada, in the USA and globally. This is probably due to the single-purpose agency structure, the competition between agencies and the lack of a co-ordinated, international, park tourism management structure.

It is politically dangerous for any park agency to not 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 countries, and to 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 in

parks and protected areas.

METHODOLOGY

The public use data was collected from park agencies in Canada and the United States. 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 conservation authorities and the regional park systems in Ontario.

The US data comes from a variety of sources. Most US data is for 1996. The US Corps of Engineers data is for 1997 (E. Rossman, personal communication, October 1, 1998). The data on US state parks comes from the National Association of State Park Directors (1997) and is for the 1995-1996 year. The data for the National Park Service, the Bureau of Land Management, the Bureau of Reclamation and the US Fish and Wildlife Service is from the US 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 is used. The US data are a mixture of visitor entry and visitor day figures.

Each agency in Canada and the US uses agency-specific definitions for visitation and uses varying approaches to measurement, leading to some difficulty when data is 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 Appendix 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 is available, it is not possible to accurately indicate the level of foreign visitation.

PARK AND PROTECTED AREA VISITATION IN CANADA AND THE USA

The park visitation in Canada and the United States is estimated as 2,626,275,241 visitor days of activity in 1996 (Table 1). The massive size of this visitation illustrates the importance of this outdoor recreation activity within the national and provincial/state parks of Canadian and American society. The figure of 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.

THE ECONOMIC IMPLICATIONS OF PARK AND PROTECTED AREA VISITATION IN CANADA AND THE USA

In addition to the total number of visitations, which indicates their importance, there are three 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. Information which includes the details of the origin of visitors, the distance they travel, the frequency of visits, the number in each party, the length of stay on site, as well as expenditure on travel, entry fees, accommodation, clothing, equipment, food etc., especially if it is in close proximity to the destination, facilitate the estimation of the:

- local economic impact of such park and protected area visits, and
- value of the parks and protected areas to society.

Ascertaining the impact and value of such resources assists in:

- decision-making concerning the allocation of resources, especially federal (national) and state/province funding of parks and protected areas.

These three 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 very many estimates of income and employment generation resulting from tourism applying both the Keynesian multiplier model and input-output analysis (Archer, 1973; 1977; Pye & Lin, 1983; Sinclair & Sutcliffe, 1988; Johnson & 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 expenditure 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 expenditure 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 buy in (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 accommodation and services. Swanson and Barbier (1992) considered the economics of wildlife, while 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 which have been undertaken. However, they are not as broad as the more general tourism studies which have been undertaken.

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, 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 (I-O) values arising from parks and protected visits is very expensive in terms of both monetary and time costs. 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 I-O 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 show 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 expenditure 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 this latter case, 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 use of heritage and natural resources, namely value in use and non-use value which make up total economic value (Allison et al., 1996; Bowers, 1997; Bagri et al., 1998) of total economic value (TEV) posits that for many amenity resources and natural environments non-use value can be much greater than use value because they are unique, irreproducible or if degraded, irreversible trends may be set in train, leading to their destruction. Total economic value, thus, in addition to the market-based exchange value, consists of option, bequest and existence non-use values which 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 main methods which can be applied to ascertain the exchange (user) value of unpriced natural resources and option, bequest and existence value (non user). These are the contingent valuation method (CVM), Hedonic price method (HPM) and travel cost method (TCM). They are fully explained with examples of their application in publications such as Allison et al. (1996), Braden & Kolstad (1991), Fletcher et al. (1990), Hanley & Spash (1993), Mitchell & Carson (1989) and Sinclair & Stabler (1997).

With respect to both economic impact and social benefits approaches and combinations of the two, because in effect they can be considered additive in respectively measuring dynamic and static values, there are a number of illustrative studies. Allison et al. (1996) consider heritage conservation, Sinclair & 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 Park 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 take cognisance 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 \$831,200,000. That year there were 6,900,000 visitor days of activity in this park system (OMNR, 1992). Therefore, the economic impact per visitor day of use amounted to Can \$120.46, using the direct use value approach.

The Canadian Parks Service (1992) calculated \$73.42 of tourist expenditures for each day of visitation to Bruce Peninsula National Park, and \$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 the State 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 \$83.00 per day and international visitors spent \$72.50 in 1992/93, but this is explained by his calculation of an element of total economic value, not just market expenditure (J. Carlsen, personal communication, May 13, 1998).

Both the Ontario study and the New South Wales study 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 between 65 and 80 cents to the US dollar. To make comparisons, an exchange rate of 75 cents to the US dollar is used. Therefore, in US 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 ranges between \$236 billion dollars and \$370 billion dollars in Canada and the USA combined. These figures must be accepted with caution, given the limitations of the data. However, the estimations 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 value estimates.

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

The first is of a 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 which 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 the values applying the methods which have been outlined above. Showing that the value of parks and protected areas is much higher than entry charges and the visitor spending per day can assist in justifying national and sub-national 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 characteristic of many natural resources. Since amenity use seldom yields a return in the commercial sense, there is a danger, where there is competition for the use of land resources (for example, agriculture, forestry, mining, water supply, electricity generation or development), that because these alternative market-based activities yield higher returns, they appear to be a 'better' allocation of land, i.e., they appear to be more profitable. This ability of land uses traded in the market, to outbid non-market ones, further distorted by tax-breaks and grants and subsidies which inflate commercial issues and land 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 data base, in order to facilitate economic analysis to substantiate the case for maintaining national parks, is reinforced. Just how important parks and protected areas are to Canada and the United States of America, 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 last 400 years the two countries have frequently exchanged ideas in the field of park and protected area management. Therefore, one might expect that comparisons of the two countries will show a high degree of similarity in the land area protected and the recreation use levels.

The park systems can be compared in several ways. The overall area in parks and protected areas, the park area as a percentage of the country, the park visitation as compared to the park area, and the park visitation compared to the national population are all important measures.

Total Park Area

Canada and the USA are large countries, and similar in size. However, the USA has many more protected areas, 1,878 compared to 861 in Canada, and much more land area in formal protection, 198,714,037 ha compared to 94,900,514 ha (Table 2) (World Conservation Monitoring Centre, 1998). Importantly, the USA has the largest amount of protected area of all countries, and Canada is in fourth place, behind Greenland and Australia. Both the USA, with 21.2% of the country protected, and Canada, with 9.6% of the country protected, are more aggressive in the establishment of parks than the global average of 8.8% of area protected per country.

The USA has a larger and institutionally more complex system of parks and protected areas than does Canada, especially by the national government. This reflects the stronger role played by the national government in resource management. After the US 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.

As Canada developed, land owned by government was retained by the provinces, for those British colonies that existed before Confederation, or transferred to the provinces, for those provinces created by the Federation, 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 of this land 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

The volume of park visitation has important impacts on parkland. Table 3 presents data on the visitation per hectare of parkland in Canada and the United States. The United States has a much higher density of use of its parks and protected areas than does Canada. Canada has a much smaller population, and the parks are generally much more remote from the population. The USA has approximately 9 times the population of Canada. However, the use density is 11 times higher, suggesting a higher outdoor recreation participation rate on park land in the USA.

Park Visitation and Population of the Country

The level of park use by a population is an indication of the importance of parkland (Table 4). In Canada, the total park visitation divided 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 use level of parkland by Americans. These calculations ignore the fact that a percentage of the visitation in each country is foreign. There are several possible explanations for this finding. First, the US parks are generally closer to the population centers. Second, the US parks have a longer outdoor season of amicable weather for outdoor recreation. Canadian parks typically have the vast majority of their use in only a 4-month period, the warm summer months and time of school holidays. Third, the USA has many more parks than does Canada, 1,878 compared to 861. Fourth, the USA has 21.2% of the country in parkland, compared to 9.6% for Canada. These latter two features presumably provide for a more equitable distribution of parkland throughout the country.

CONSTRAINTS OF THE DATA

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

The figures in Tables 3 and 4 assume that all visitation is domestic, an assumption that is not valid. However, the vast majority of the tourism is domestic and for the park environment and the park managers, many of the impacts are similar no matter the home location of the visitor.

There are 2,738 internationally protected areas in the USA and Canada recognized within the United Nations list of national parks and protected areas (IUCN, 1997). The UN list only contains information on those areas that are 1,000 ha or larger. There are hundreds of parks smaller than 1,000 ha in Canada and the USA. Therefore, 2,738 is a minimum figure. These 2,738 parks cover an area of 293,614,551 hectares, or 22.2% of all the protected area in the world. However, there are a large number of parks and protected areas not reported in the UN list. Therefore, the official figures for park numbers and area covered is 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 under-reporting in official use figures.

Due to limitations in financial and personal 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 at 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 with a staff on a permanent basis. This agency does not estimate use in the non-operating parks, and therefore the reported figure of 8,500,000 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. Never-the-less these financial and personal 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 area 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. When use charges occur, careful tabulation of data numbers, 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 is collected on length of stay. Only when this data are available can visitor-hour or visitor-day figures be calculated. There is variance on the issue of exclusions, those who may just be passing through, live in the park or work in the park. This 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 in size and have important conservation significance. However, the agency does not have a visitor use 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, April 23, 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 is 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 over-estimated.

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

CONCLUSIONS

The outdoor recreation that occurs in the parks and protected areas in Canada and the United States 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 of visitor-day, all limit the accuracy of the data and the effectiveness of the findings. These research findings give support to the idea of a need for a standardized 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. A concrete representation of the value of these sites to society is the level of public use. 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 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 and the 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 placed into parkland, both for recreation and conservation purposes. However, the lobby groups and individuals demanding more parks were often silent about the need for money for management for these new parks. Accordingly, as indicated earlier in this paper, 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 public and the business sectors are not getting sufficient levels of 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 parkland much more than do Canadians. More availability of parkland, parkland 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 recognize the large area of parkland that is readily available for use in nearby Canada and may increase their use level. 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 them by society is large and under-reported. If this important figure is to be used in public policy, it would be more effective if developed in a coordinated and professional fashion across the two countries.

Under the North American Free Trade Treaty a standardized 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 standardization 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 assisting the fulfilment of a continental process for park tourism measurement and reporting in North America.

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Appendix 1**Basic Definitions for Public Use Measurement of Parks and Protected Areas**

Appendix 1 contains the basic definitions necessary for public use measurement in parks and protected areas, as 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 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:

A) **tenants or residents** within park boundaries (including guests),

B) **government employees**, volunteers at, or contractors to the park/protected area (including concessionaires and their employees),

C) brief, **incidental passage** into the park/protected area boundary by pedestrian or vehicular traffic, and

D) persons engaged in the pursuit of specific **legal rights of use** (e.g., subsistence hunting and fishing, traditional ceremonies) unless there is 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) 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) 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 1
 Park Visitation in Canada and the United States

Country	Jurisdiction	Visitation in 1996 (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 Parks Service Areas	295,000,000	
	National Forests	849,182,000	
	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	
	U.S. Subtotal		2,510,951,728
Overall			2,626,275,241

Table 2
Park Area in Canada and the United States

Country	Area of Country in Square km	Number of Protected Areas	Area of Protected Areas (ha)	Percent of Countries' Land Area in Protected Areas
Canada	9,922,385	861	94,900,514	9.6 %
United States	9,372,614	1,878	198,714,037	21.2 %
World Total	148,208,846	12,754	1,320,369,100	8.8%

Table 3

Park and Protected Area Visitation and Area in Canada and the United States

Country	Protected Area Visitation	Area of Protected Area (ha)	Visitation per ha
Canada	115,325,509	94,900,514	1.2
United States	2,510,951,728	198,714,037	12.7

Table 4
Park Visitation and Population

Country	Park Visitation	Population of Country	Visitation Per Person
Canada	115,323,513	29,606,000 ¹	3.9
United States	2,506,451,728	266,476,278 ²	9.4

¹ (Columbo, 1997), ² (CIA, 1997)