

The Social and Economic Impacts of BC Recreation Sites and Trails



Prepared for the Ministry of Forests, Lands and Natural Resource Operations

Meyers Norris Penny LLP
2300 – 1055 Dunsmuir Street
Vancouver, BC V7X 1J1

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MEYERS NORRIS PENNY LLP

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1. EXECUTIVE SUMMARY

BACKGROUND

This report analyzes the economic impact of Recreation Sites and Trails BC (RSTBC). The study was commissioned by the Ministry of Forests, Lands, and Natural Resource Operations.

RSTBC manages over 1,300 sites and 800 trails in BC. The sites and trails are located in every region of the province, and provide important economic impacts and social benefits for BC residents and communities.

SITES USAGE

Recreation sites are used primarily for camping. One quarter of the sites charge user fees which generated \$1.21 million in 2009/10. We estimate that in 2009/10 there were 3.4 million user days spent at recreation sites. We estimate that 85% of site user days were attributable to local residents living within close proximity to the sites, and approximately 13% of site user days were attributable to other BC residents. An additional 2% of user days were attributed to visitors that come from out of the province.

Site User Days (2009/10)	Number of User Days	Percent of Total User Days
Local Residents Living within Close Proximity	2,862,968	85%
Other BC Residents	444,602	13%
Out of Province Residents	60,628	2%
Total	3,368,198	100%

TRAILS USAGE

There are approximately 11,600 kilometres of trails managed under the RSTBC. These trails are used for hiking, skiing, and biking as well as motorized use such as ATV riding, dirt biking or snowmobiling. User fees collected at trails generated \$1.61 million in 2009/10. We estimate that in 2009/10 there were 6.3 million user days spent on recreational trails. We estimate that 85% of trail user days were attributable to local residents living within close proximity to the trails, and approximately 13% of trail user days were attributable to other residents from within the province. An additional 2% of user days were attributed to visitors that come from out of the province.

Trail User Days (2009/10)	Number of User Days	Percent of Total User Days
Local Residents Living within Close Proximity	5,381,078	85%
Other BC Residents	835,650	13%
Out of Province Residents	113,952	2%
Total	6,330,680	100%

ECONOMIC IMPACTS FROM OPERATIONS

The operation of recreation sites and trails impacts the BC economy through expenditures on goods and services, the employment of workers and the generation of tax revenues for federal, provincial and municipal governments. As indicated in the table below, we estimate GDP generated by RSTBC in 2010/11 at \$14.80 million. We also estimate RSTBC to have created employment of roughly 300 full-time equivalents (FTEs) and to have generated \$3.78 million in revenues to the federal, provincial and municipal governments.

Operational Spending Impacts (2010/11)	Output	GDP	Employment (FTEs)	Federal Tax	Provincial Tax	Municipal Tax
Direct	\$12,252,666	\$8,219,528	213	\$1,503,173	\$756,144	\$44,908
Indirect and Induced	\$9,926,752	\$6,582,883	90	\$867,189	\$592,233	\$30,585
Total	\$22,179,418	\$14,802,411	303	\$2,370,362	\$1,348,377	\$75,493

*Please note that 2010/11 operational expenditures were similar to 2009/10 and that 2010/11 was used as a proxy for 2009/10.

ECONOMIC IMPACTS FROM USER SPENDING

User spending impacts the BC economy through the purchase of goods and services related to visits to recreation sites and trails. As indicated in the table below, we estimate GDP generated by the spending of recreation sites and trails users in 2009/10 at \$97.41 million. We also estimate user spending to have created employment of over 2,400 full-time equivalents (FTEs) and to have generated \$18.50 million in revenues to the federal, provincial and municipal governments.

User Spending Impacts (2009/10)	Output	GDP	Employment (FTEs)	Federal Tax	Provincial Tax	Municipal Tax
Direct	\$126,169,808	\$57,011,604	1,720	\$3,714,725	\$4,721,409	\$1,411,344
Indirect & Induced	\$84,500,965	\$40,400,681	690	\$4,005,021	\$3,727,796	\$917,324
Total	\$210,670,773	\$97,412,285	2,411	\$7,719,746	\$8,449,205	\$2,328,668

The following table shows the estimated impacts from user spending separated into those arising from site and trail users.

User Spending Impacts (2009/10)	Output	GDP	Employment (FTEs)	Federal Tax	Provincial Tax	Municipal Tax
Site Users	\$73,734,770	\$34,094,300	844	\$2,701,911	\$2,957,222	\$815,034
Trail Users	\$136,936,002	\$63,317,985	1,567	\$5,017,835	\$5,491,983	\$1,513,634
Total	\$210,670,773	\$97,412,285	2,411	\$7,719,746	\$8,449,205	\$2,328,668

COMBINED ECONOMIC IMPACTS FROM OPERATIONS AND USER SPENDING

The combined economic impacts from 2010/11 operations spending and from 2009/10 user spending are shown in the table below.

Combined Impacts – Operations and User Spending	Output	GDP	Employment (FTEs)	Federal Tax	Provincial Tax	Municipal Tax
Direct	\$138,422,474	\$65,231,132	1,934	\$5,217,898	\$5,477,553	\$1,456,252
Indirect & Induced	\$94,427,716	\$46,983,564	780	\$4,872,210	\$4,320,028	\$947,909
Total	\$232,850,190	\$112,214,697	2,714	\$10,090,108	\$9,797,581	\$2,404,161

OTHER ECONOMIC BENEFITS

Included in additional economic benefits provided by recreation sites and trails are:

- **Avoided health care costs.** Use of recreation sites and trails contributes to increased health and activity of regional populations by providing an easily accessible and low cost form of physical activity. In the current context of rising obesity rates and concerns over adequate physical exercise, having accessible and affordable opportunities for exercise are important components of an overall provincial strategy to reduce health care costs. We estimate usage of recreation sites and trails results in avoided provincial health care costs of between \$4.4 million to \$6.7 million annually.
- **Diversification of local economies.** Recreation sites and trails attract visitors who, in turn, support local restaurants, hotels, grocery stores, supply companies and other commercial establishments. This is a particularly important economic development tool for rural communities that have seen declines in their natural resource based economies.
- **Creation of partnerships.** Creating and maintaining sites and trails often relies on partnerships that include private companies, local municipalities, First Nations advocacy groups and residents. RSTBC has created collaborative partnerships that have helped to foster a culture of community pride.
- **Opportunities for training and interns.** Recreation sites and trails provide opportunities for individuals seeking to enter the recreation industry. Trainees and interns are provided with opportunities to learn new skills and/or improve upon old ones, generate work references, recognition and responsibility; and contribute to the community.

COMMUNITY AND SOCIAL BENEFITS

Included in the additional community and social benefits provided by recreation sites and trails are:

- **Recreation benefits.** Sites and trails offer cost effective recreation benefits to BC communities, and may positively impact a community's ability to attract and retain residents.
- **Educational.** Sites and trails offer citizens educational benefits and provide a safe accessible place for skill development. The types of training that can be undertaken at sites and trails includes sport specific training, outdoor/wilderness skills, environmental education, and learning about the history and heritage of a particular area.

- **Environment.** Sites and trails can help to encourage the protection and conservation of natural resources. Sites and trails offer an experience in a natural environment while helping to sustain the aesthetics of the region and the communities. Many sites and trails help create and preserve green spaces and provide habitat for wildlife.
- **Heritage and culture.** Many recreation trails provide links to historic and cultural sites or trace the network of trails which once existed to facilitate trade and travel for Aboriginal peoples. In BC, sites and trails are used extensively for hunting and fishing purposes. Use may be characterized by commercial use (i.e. outfitters, sports fisheries), subsistence use (i.e. local hunters/fishers) and even ceremonial use.
- **Transportation alternatives.** Trails are also used for purposes other than recreation as they play a role in connecting communities to one another and provide transportation alternatives.

2. INTRODUCTION

2.1 INTRODUCTION

The BC provincial government launched the Recreation Sites and Trails Program in 1939, with the goal of maintaining, managing and developing recreational sites and trails in the province. Since that time, the program has grown to become an important part of the social, economic and environmental fabric of BC communities. At present, the BC Ministry of Forests, Lands and Natural Resource Operations through Recreation Sites and Trails BC (RSTBC) maintains over 1,300 sites and 800 trails located in every region of the province.

Recreational sites and trails are located on Crown lands outside parks and settled areas. Recreational sites are most commonly campgrounds without a reservation service. Recreational trails contain no camping facilities and are used for outdoor activities such as hiking, horseback riding, mountain biking, ATV riding, cross-country skiing and snowmobiling.

Many sites and trails have recently experienced large growth in the number of BC resident users, and continue to attract domestic and international visitors. Recreation sites and trails are being marketed and promoted as part of the Province's tourism infrastructure. They are seen to be an important component for developing the domestic tourism market and as such strengthen and diversify local communities in rural areas.

2.2 REPORT LIMITATIONS

This report is not intended for general circulation, nor is it to be published in whole or in part without the prior written consent of Meyers Norris Penny LLP ("MNP"). The report is provided for information purposes and is intended for general guidance only. It should not be regarded as comprehensive or a substitute for personalized, professional advice.

We have relied upon the completeness, accuracy and fair presentation of all information and data obtained from public sources, believed to be reliable. The accuracy and reliability of the findings and opinions expressed in the presentation are conditional upon the completeness, accuracy and fair presentation of the information underlying them. As a result, we caution readers not to rely upon any findings or opinions expressed and disclaim any liability to any party who relies upon them as such.

Additionally, the findings and opinions expressed in the presentation constitute judgments as of the date of the presentation, and are subject to change without notice. MNP is under no obligation to advise of any change brought to its attention which would alter those findings or opinions.

Finally, the reader must understand that our analysis is based upon estimates, founded on past events giving an expectation of certain future events. Future events are not guaranteed to follow past patterns and results may vary, even significantly. Accordingly, we express no assurance as to whether the estimates underlying the economic and financial analysis will be achieved.

3. OVERVIEW OF BC'S RECREATION SITES AND TRAILS

3.1 HISTORY OF RECREATION SITES AND TRAILS IN BC

The Recreation Sites and Trails Program was launched in 1939, when the British Columbia Forest Service established a Parks Division to manage public recreation on Crown land. In 1956, this Division was transferred to the Ministry of Recreation and Conservation and given the mandate to manage only those lands within provincial parks, leaving the majority of British Columbia's public lands without formal recreation management.

In 1971, the British Columbia Forest Service resumed the role in recreation management and re-established the Recreation Sites and Trails program to address the need for recreation management on Crown land outside of parks and established areas. A key aim of the program was to build facilities in areas where public recreation used to concentrate in order to address safety and sanitation problems that had developed.

In 2005, the responsibility for managing public recreation on Crown lands outside of BC Parks was transferred to the Ministry of Tourism, Sports and the Arts. At present, responsibility for the Recreation Sites and Trails Program resides with the BC Ministry of Forests, Lands and Natural Resource Operations.

To address evolving community needs and to adapt to general trends in recreation management, the Recreation Sites and Trails program underwent notable changes during the past decade.

Notable adaptations and initiatives that have affected the Recreational Sites and Trails Program include:

- Introduction of user fees in 1999 to off-set the cost of service provided.
- Development of a partnership model for managing recreation sites and trails (introduced in 2003 as a means to keep facilities open and reduce cost to government).
- Development of the draft *Trails Strategy for British Columbia* (initiated in 2006 and completed in 2009). The draft Strategy outlines a pro-active, coordinated and collaborative approach to regional trail planning in British Columbia.
- A Memorandum of Understanding, developed in 2007, with the Ministry of Agriculture and Lands, Ministry of Transportation and Infrastructure, Ministry of Environment and Tourism BC to develop a governance model and management plan for the Spirit of 2010 Trail (Trans Canada Trail).
- Development and implementation of a marketing plan, including products such as a new website, interactive web maps, display materials, maps and rack cards to promote recreation sites and trails and increase use by 30% by 2015.
- Upgrades to existing recreation sites and trails and the development of new facilities occurred in 2009, with funding provided by provincial/federal infrastructure and employment programs.

3.2 THE RECREATION SITES AND TRAILS PROGRAM IN BC

Recreation Sites and Trail BC (RSTBC) within the BC Ministry of Forests, Lands and Natural Resource Operations is responsible for developing, maintaining and managing the network of 1,319 recreation sites and 818 recreation trails that provide safe, quality recreation opportunities for the public. These recreation sites and trails encourage public participation in outdoor recreation activities and contribute to increased levels of physical fitness and improved population health. In addition, recreation sites are an essential component of British Columbia's tourism infrastructure and play an integral role in expanding the Province's tourism sector. RSTBC also contributes to the ministry's responsibility for integrated land management with specific attention to managing public recreation use on Crown lands outside recreation sites and trails.

The Recreation Sites and Trails Program is delivered through a headquartered office, 4 regions, and 18 districts across British Columbia. Approximately 90% of program staff are based in region and district offices.

Recreation sites and trails are managed in three ways under this operational program:

- **Service Contracts.** Recreation sites and trails that are unable to attract a partner are maintained by the Province under a fee for service contract. In 2009, more than 700 recreation sites and almost 50 trails were managed through fee for service contracts.
- **User Maintained.** Recreation sites and trails that are used infrequently or are not market ready are maintained by users. Recreation staff monitor these sites and trails. In 2009, there were 301 recreation sites and 565 trails that were user maintained.
- **Partnership Agreements.** In 2003, a province-wide request for proposals was put forth to find partners to maintain recreation sites and trails. In addition to providing maintenance services, partners are responsible for supervising the use at recreation sites and trails as well as covering the cost of service provided through user fees or other funding programs. Under the partnership agreement, government is responsible for replacing infrastructure and covering other significant operating costs as well as providing third-party liability insurance to agreement holders. In 2009, there were 198 partnership agreements for the management of 294 recreation sites and 207 recreation trails. User fees were charged at 105 recreation sites and 41 trails. Partners include 17 First Nations Bands, 70 associations and societies, 61 clubs, 10 forest companies, 8 municipalities, 8 recreation groups and 24 private individuals. In recent years the level of interest in maintaining recreation sites under partnership agreements has diminished. At the same time, however, there has been a renewed interest in partnerships for the development and management of trails. This has been driven by increasing public demand for trails, the Trails Strategy for British Columbia, and recent federal and provincial employment and infrastructure initiatives.

The 2010/2011 budget for RSTBC tis shown in the table below.

Recreation Sites and Trails Program Annual Expenditures (2010-2011)	
BC Provincial Government Expenditures	
Budget Breakdown	Expenditures (\$)
Salaries	\$2,960,468
Operations	3,612,196
Capital	1,400,000
Road Maintenance	1,360,000
Compliance & Enforcement	31,800
Forests for Tomorrow (planting)	50,000
Subtotal Government Expenditures (Provincial)	\$9,414,464
Federal Government Expenditures	
Subtotal Government Expenditures (Federal)	\$750,000
Non-Government Expenditures	
Partners	\$2,139,544
Volunteers	540,000
Subtotal	\$2,679,544
TOTAL	\$12,844,008

3.3 DESCRIPTION OF SITES AND TRAILS

Recreation sites are typically situated in remote areas, offering visitors a simple, rustic, and affordable camping experience. These sites offer only basic facilities such as picnic tables, outhouses, fire pits, and, where appropriate, boat-launching ramps. Potable water and electricity

is not provided at recreation sites. Supervisory services are only provided at a limited number of sites with on-site operators.

Fees may be charged depending on the recreation site. Sites managed through partnership agreements may charge camping fees to pay for the services (e.g. supervision, daily maintenance, facility maintenance etc.) provided by the agreement holder. Camping fees can range from \$12-\$15 per night for a person, family, or party of six. Sites that do not charge fees are managed through partnership agreements or maintenance contracts that provide the agreement holder alternative ways of recovering the costs. One quarter of the sites charge user fees generating \$1.207 million in fiscal 2010.

British Columbia is endowed with an extensive network of recreation trails that are set in spectacular natural settings (there are approximately 11,600 kilometres of trails managed by RSTBC. Recreation trails are used for many different purposes, which can be divided into two recreational use categories: non-motorized uses and motorized uses. Non-motorized uses of trails include hiking, horseback riding, mountain biking, and cross-country skiing. Motorized uses include ATV riding, dirt biking and snowmobiling. There are also many heritage trails in the province that provide a historical and cultural perspective to the development of British Columbia.

Similar to recreation sites, some recreation trails levy user fees while others are free of charge. Fees are charged for usage of trails managed under a partnership agreement whereby the partner charges a fee for services provided (e.g. trail grooming, brushing, etc.). Trail fees generated \$1.612M in fiscal 2010.

According to the Draft British Columbia Resident Outdoor Recreation Study, 73% of BC residents indicated that have been to a Recreation Site or Trail in the past 5 years (of those that responded to the follow-up survey). Respondents who had been to a recreation site or trail in the past year averaged a total of 17 user days at recreation sites and trails. Roughly 67% of respondents said they were likely to visit a trail or site in the next year, while 46% stated that they were very like to do so.

3.4 RECREATIONAL TRENDS

Recent trends in recreation preferences have highlighted the role that sites and trails now play in providing recreation infrastructure for BC residents and communities. These trends include¹:

- **Activity choices.** The lives of British Columbians are becoming increasingly busy. As a result, there is an increasing preference for less structured, more informal, and individualized activity that can fit easily into varied schedules and changing routines. The ability to incorporate lifestyle and wellness into daily routines is becoming increasingly important, making outdoor recreation especially attractive.
- **Increased cost of organized sports.** The cost of participation in organized sports activities has continued to rise; consequently, more affordable activities, such as those conducted at sites and trails, have increased in popularity.
- **Integrated recreation.** Facilities and recreational venues that allow for the integration of multiple recreation uses/activities are becoming more valuable. This integrated approach increases the utility, accessibility and operational benefits of a single facility/venue.
- **Environmental awareness.** A growing concern for the environment has led to increasing support for protection of green space, including recreating sites and trails. Public infrastructure that minimizes its carbon footprint is increasingly attractive, both to users of that infrastructure and to decision makers who are increasingly focused on public stewardship.

¹ <http://www.bcrpa.bc.ca/about-bcrpa/what-trends-affect-recreation>

There is also a growing interest in learning about the natural environment as demonstrated by the growing popularity of outdoor experiences.

- **Importance of health.** Physical activity plays a large role in chronic disease prevention and management. There is an increasing awareness of the health benefits of physical activity as demonstrated by the rising proportion of Canadian adults who are active. Children and youth activity, however, is considered to be a serious problem evidenced by the tripling in obesity rates over a 15 year period. Recreation sites and trails are venues that contribute to personal health.²
- **Shifting demographics and diversity.** BC's population is rising with the median age increasing by about 2.1 years every 5 years. Moreover, the proportion of adults older than 65 is estimated to increase from 13.6% in 2001 to approximately 24.1% in 2031.³ An ageing population alters preferences and capacity to participate in recreation activities, affecting the services and venues required. While members of the Baby Boom generation will continue to be active, their preferences are predicted to shift to less strenuous physical activities and the outdoors. The population of BC is also growing from strong migration from other provinces and countries. This growth places increased demand for recreational venues and open spaces. Many ethno-cultural groups place a premium on large areas for gatherings and events for which recreation sites provide suitable venues.⁴

3.5 RECREATION SITES USE

To estimate the number of user days spent at recreation sites we have again relied on data from a variety of studies and sources, as well as on information gathered through interviews with program representatives. The studies and sources are described in the Appendix, and the steps involved with the estimation are as follows:

- The inventory of recreation sites and trails was used to create a database of all sites and trails which included information on fees, number of sites, seasonality and user days (where available).
- The maximum use of the sites by season was determined from the number of campsites at each site and the number of nights in the season.
- From an analysis of campsite fee data and interviews with program representatives an overall occupancy rate of 30% for sites was estimated.
- The maximum site use estimates were combined with the 30% occupancy rate to estimate the number of nights used per season.
- The estimated number of nights per season was used to determine total user days per party and per season.
- Using data from the Travel Survey of Residents of Canada and other surveys we estimated the average party size for campers in BC to be between 3.2 and 4.2 persons. We then applied this estimate to the user days by party to determine total user days.
- Using data from the Travel Survey of Residents of Canada and other surveys we estimated that for every overnight site user there are 1.5 day users.

Using this approach we estimate there were 3.4 million user days spent at BC sites in 2009/10. We estimate that 85% of site user days were attributable to local residents living relatively close to the trails, approximately 13% of site user days were attributable to other residents from within the province, and 2% of user days were attributed to visitors that came from out of the province.

² 2006 Strategic Plan for the Parks and Recreation Sector in BC – BC Recreation and Parks Association

³ Ibid

⁴ Ibid

Site User Days	Number of User Days	Percent of Total User Days
Local Residents Living within Close Proximity	2,862,968	85%
Other BC Residents	444,602	13%
Out of Province Residents	60,628	2%
Total	3,368,198	100%

3.6 TRAIL USE

To estimate the number of user days spent on recreation sites and trails we have relied on data from a variety of studies and sources, as well as on information gathered through interviews with program representatives. The studies and sources are described in the Appendix, and the steps involved with the estimation are as follows:

- The inventory of trails was used to create a database of all trails that included information on fees, number of sites, seasonality and user days (where available).
- Detailed information on snowmobile fees, passes and user data for 17 trails was used to estimate the total number of snowmobile user days for the 17 trails (68,155).
- The number of user days for the 17 trails was extrapolated to the remaining snowmobile trails in the province to estimate a total number of snowmobile user days.
- From an analysis of previous studies (Outdoor Recreation Survey 89-90, Draft BC Outdoor Recreation Study 2009) and interviews with program representatives, the proportion of trail users that are snowmobilers was estimated at 5% of total users.
- Under the assumption that snowmobilers constitute 5% of all trail users the estimated number of snowmobile user days was multiplied by 20 to estimate the total number of trail user days.

Using this approach we estimate there were 6.3 million user days spent on recreation trails in 2009/10. We estimate that 85% of trail user days were attributable to local residents living relatively close to the trails, approximately 13% of trail user days were attributable to other residents from within the province, and 2% of user days were attributed to visitors that came from out of the province.

Trail User Days (2009/10)	Number of User Days	Percent of Total User Days
Local Residents Living within Close Proximity	5,381,078	85%
Other BC Residents	835,650	13%
Out of Province Residents	113,952	2%
Total	6,330,680	100%

4. ECONOMIC IMPACT ANALYSIS

4.1 ECONOMIC IMPACT ANALYSIS METHODOLOGY

When assessing the economic and social contributions of an industry or a program it is useful to draw distinctions between economic impacts, broader economic benefits, and community or social impacts.

Economic impacts are generally viewed as being restricted to quantitative, well-established measures of economic activity and include:

- **Output** is the total gross value of goods and services produced by a given company or industry measured by the price paid to the producer (versus the price paid by the consumer, which can include transportation and retail mark-ups). This is the broadest measure of economic activity.
- **Gross Domestic Product (GDP), or value-added** refers to the additional value of a good or service over the cost of inputs used to produce it from the previous stage of production. Thus GDP is equal to net output, or the difference between revenues and expenses on intermediate inputs. It is the incremental value created through labour or mechanical processing. Total GDP is a more meaningful measure of economic impact, as it avoids double counting during each round of impacts.
- **Employment** is measured in terms of full-time equivalents (FTEs). A person year is the number of labour hours associated with one individual working full time for one year (roughly 1,825 hours per annum). Thus, direct person years of employment may reflect a greater number of jobs.
- **Government Revenues** are estimates made up of the provincial and federal shares of personal and corporate income taxes, commodity taxes (PST and GST), as well as other commodity taxes such as gas taxes or air transportation tax. Municipal taxes include levies collected by local governments.

Economic impacts may be estimated at direct, indirect, and induced levels. Direct impacts are changes that occur in “front-end” businesses that would initially receive expenditures and operating revenue as a direct consequence of the operations and activities of a facility or project. Indirect impacts arise from changes in activity for suppliers of the “front-end” businesses. Induced impacts arise from shifts in spending on goods and services as a consequence of changes to the payroll of the directly and indirectly affected businesses. The total impact of any given initial expenditure by a project is calculated by adding the direct, indirect and induced impacts.

Economic impacts of recreation sites and trails operations and user spending were estimated using an input/output methodology using the BC Input-Output Model. Input-Output modelling is the most widely used and accepted economic impact methodology, and the approach facilitates comparisons between reported results for different industries and activities.

In contrast to economic impacts, economic benefits include measures that may be broader in scope, and may include both activity-based and outcome-based measures. These benefits may also describe long-term or downstream activity that would not normally be captured in economic impacts. While economic impacts utilize standard measures that can be estimated for nearly any type of project, economic benefits and their accompanying measures may vary greatly from

project to project. Economic benefits may include diversification of local economies, creation of partnerships and creation of opportunities for trainees or interns.

Social or community benefits may be quantitative or qualitative in nature and may address contributions made to local communities and general social development. Social benefits may include contributions to community heritage and culture, environmental initiatives and educational programs.

4.2 ECONOMIC IMPACTS FROM OPERATIONS SPENDING

The operation of recreation sites and trails impacts the BC economy through operations expenditures on goods and services, the employment of workers and the generation of tax revenues for federal, provincial and municipal governments. Using the 2010/11 program budget we estimate GDP generated by the operation of the BC sites and trails at \$14.80 million. We also estimate the operation of recreation sites and trails to have created employment of roughly 300 full-time equivalents (FTEs) and to have generated \$3.78 million in revenues to the federal, provincial and municipal governments.

Operational Spending Impacts (2010/11)	Output	GDP	Employment (FTEs)	Federal Tax	Provincial Tax	Municipal Tax
Direct	\$12,252,666	\$8,219,528	213	\$1,503,173	\$756,144	\$44,908
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Total	\$22,179,418	\$14,802,411	303	\$2,370,362	\$1,348,377	\$75,493

4.3 ECONOMIC IMPACTS FROM USER SPENDING

To estimate the economic impacts from user spending at recreation sites and trails we have relied on data from a variety of studies and sources, as well as on information gathered through interviews with program representatives. The studies and sources are described in the Appendix, and the steps involved with the estimation are as follows:

- Based a review of studies and interview information we have estimated average local resident spending at \$10 per user day. This estimate relies on data from studies that report local spending to range as high as \$18 per day.
- Spending by other BC residents and out of province visitors is based on data from the Travel Survey of Residents of Canada that reports BC residents spend an average of \$37 per user day and out of province residents (Albertans) spend an average of \$55 per user day.
- For estimates of sites and trails use, spending does not include equipment purchases. It is assumed that this spending would most likely occur in the home region of the user.

Using this approach we estimate GDP generated by the spending by users of recreation sites and trails in 2009/10 at \$97.41 million. We also estimate user spending to have created employment of over 2,400 full-time equivalents (FTEs) and to have generated \$18.50 million in revenues to the federal, provincial and municipal governments.

User Spending Impacts (2009/10)	Output	GDP	Employment (FTEs)	Federal Tax	Provincial Tax	Municipal Tax
Direct	\$126,169,808	\$57,011,604	1,720	\$3,714,725	\$4,721,409	\$1,411,344
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The following table shows the estimated impacts from user spending separated into those arising from recreation site and trail users.

User Spending Impacts (2009/10)	Output	GDP	Employment (FTEs)	Federal Tax	Provincial Tax	Municipal Tax
Site Users	\$73,734,770	\$34,094,300	844	\$2,701,911	\$2,957,222	\$815,034
Trail Users	\$136,936,002	\$63,317,985	1,567	\$5,017,835	\$5,491,983	\$1,513,634
Total	\$210,670,773	\$97,412,285	2,411	\$7,719,746	\$8,449,205	\$2,328,668

4.4 COMBINED ECONOMIC IMPACTS FROM USER SPENDING AND OPERATIONS

The combined economic impacts from 2010/11 operation spending and from 2009/10 user spending are shown in the table below.

Combined Impacts – Operations and User Spending	Output	GDP	Employment (FTEs)	Federal Tax	Provincial Tax	Municipal Tax
Direct	\$138,422,474	\$65,231,132	1,934	\$5,217,898	\$5,477,553	\$1,456,252
Indirect & Induced	\$94,427,716	\$46,983,564	780	\$4,872,210	\$4,320,028	\$947,909
Total	\$232,850,190	\$112,214,697	2,714	\$10,090,108	\$9,797,581	\$2,404,161

5. ECONOMIC BENEFITS

5.1 IMPACT ON HEALTH CARE COSTS

Physical Inactivity in Canada and BC

A number of recent reports and studies have identified physical inactivity as a contributor to obesity, type 2 diabetes, heart disease, and stroke, certain types of cancers, and injuries and chronic conditions in older adults. For Canada as a whole, studies have estimated that 62% of the population is not active enough to reap the health benefits of a physically active lifestyle. Furthermore, only 34% of Canadians aged 25 to 55 years are meeting the recommended hour of low-intensity activity every day or 30-60 minutes of moderate-intensity activity or 20-30 minutes of vigorous-intensity activity 4 to 7 days a week.⁵ Within BC, it has been estimated that 47% of the population is too inactive to reap the health benefits of regular physical activity.⁶

Recognizing the importance of physical activity, the BC Provincial Government has launched and participated in a number of initiatives directed at improving the levels of physical activity of residents. One such initiative, ActNOW BC, was launched in 2005 with the aim of making British Columbia the healthiest jurisdiction to host the Olympic and Paralympic Games. The Province set ambitious targets for the initiative for 2010, including a 20% increase in the proportion of B.C.'s population that was physically active or moderately active during leisure time, and a 20% reduction in the proportion of the B.C. population currently classified as obese or overweight.⁷ A similar initiative, the Winning Legacy (launched by the BC Healthy Living Alliance), consisted of 27 recommended strategies and community-based interventions. The strategies included encouraging and supporting walking groups and physical activity events, as well as enhancing access to places of physical activity.⁸ Other efforts to enhance physical activity in the province include Active Communities (AC), Bike B.C., and Daily Physical Activity (DPA).

Role Played by BC's Recreation Sites and Trails on Physical Activity

BC's recreation sites and trails provide an important resource for physical activity for many BC residents. According to the 2009 Draft BC Resident Outdoor Recreation Study, 73% of BC residents indicated they have been to a Recreation Site or Trail in the past 5 years (of those responding to the follow-up survey). The respondents who stated they had been to a site or trail tended to use them frequently (those respondents averaged over 17 days of use on recreation sites and trails in the past year).

The accessibility and affordability of BC recreational sites and trails can overcome many of the barriers to physical activities that often exist. A 1994 study found that key barriers to physical activity included the cost (especially for participation in organized sports) and access to recreational facilities (particularly in rural areas). BC's recreation sites and trails offer low-cost and readily available activity venues, thereby helping to fulfill a demand that exists amongst residents wishing to become more physically active.

BC recreational sites and trails also align with the current trend towards individualized activity choices. Studies have shown that Canadians are tending to prefer less structured activities that can easily fit into varied schedules and dynamic routines (this trend has contributed to declines in organized sport participation). Canadians are pursuing a greater diversity of activities and are

⁵ Katzmarzyk, Peter T., Normal Gledhill, Roy J. Shepard, "The Economic Burden of Physical Inactivity in Canada", November 2000

⁶ "The Cost of Physical Inactivity in British Columbia" by Ronald Colman, PhD and Sally Walker, PhD for BC Ministry of Health Planning, November 2004.

⁷ ActNowBC, Measuring Our Success, Progress Report – II

⁸ The Winning Legacy: A Plan for Improving the Health of British Columbians by 2010

searching for ways to incorporate lifestyle and wellness into daily routines, therefore impacting the demand for outdoor recreation.⁹

Physical Inactivity and Health Care Costs

Inactivity has significant impacts on health care costs. In 2001, an estimated \$2.8 billion was spent in Canada on health care due to physical inactivity.¹⁰ Other studies have placed the total economic burden of physical inactivity in Canada at \$5.3 billion, of which \$1.6 billion was direct costs and \$3.7 billion was indirect costs.¹¹

In a 2004 study for the BC Ministry of Health Planning physical inactivity was estimated to cost BC as much as \$573 million per year, of which \$211 million was attributable to direct costs such as hospitals, physicians, drugs and institutions, and \$362 was attributable to the indirect costs of lost productivity due to premature death and disability.¹² (The \$211 million in direct costs represented 1.8% of total Provincial government spending on health care.) The report estimated that if the number of British Columbians who are physically inactive decreased by 10% (i.e. a reduction in the rate of physical inactivity from 38% to 34.2%), the Province could save an estimated \$18.3 million annually in avoided hospital, drug, physician and other direct costs.¹³

Investment in recreation infrastructure such as sites and trails represents a preventative approach for individual and community health that offsets spending on reactive investments in health care and social infrastructure. In fact, it has been estimated that 40% of chronic illness could be prevented by regular physical activity and it has been suggested that urban planning could provide opportunities for increased physical activity by offering walking and cycling alternatives (e.g. trails) to motorized transportation.¹⁴ A study conducted in 2004 demonstrated that the economic health benefits of active transportation alone in Canada amount to \$92 million per year.¹⁵

BC Recreational Sites and Trails and Health Care Costs

In the following table we outline initial estimates of the effect that use of recreational sites and trails by BC residents has on reducing or avoiding provincial health care costs. Because of the exploratory nature of this estimate, the calculations are necessarily based on data and assumptions from a variety of different sources. Consequently, these estimates should be viewed as directional in nature and caution should be taken with their use and interpretation. Nevertheless, the calculations illustrate how the recreational sites and trails provide opportunities for physical activity for a large number of BC residents, which, in turn, helps to reduce provincial health care costs. As shown in the table, the initial estimates are that usage of recreation sites and trails results in avoided provincial health care costs of between \$4.4 million to \$6.7 million annually.

⁹ "Recreation Infrastructure Renewal – a priority for our provincial budget", Province of British Columbia, Select Standing Committee on Finance and Government Services Budget 2011 Consultation, Submission from the BC Recreation and Parks Association

¹⁰ "The business Case for Active Transportation, the Economic Benefits of Walking and Cycling; Section 4.7.2; Go for Free, March 2004.

¹¹ "The Economic Costs Associated with Physical Inactivity and Obesity in Canada: An Update", Peter T. Katzmarzyk and Ian Janssen

¹² "Recreation Infrastructure Renewal – a priority for our provincial budget", Province of British Columbia, Select Standing Committee on Finance and Government Services Budget 2011 Consultation, Submission from the BC Recreation and Parks Association

¹³ "The Cost of Physical Inactivity in British Columbia" by Ronald Colman, PhD and Sally Walker, PhD for BC Ministry of Health Planning, November 2004.

¹⁴ Heart & Stroke Foundation of NS, 2004

¹⁵ "The Business Case for Active Transportation: The Economic Benefits of Walking and Cycling," Richard Campbell and Margaret Wittgens for Better Environmentally Sound Transportation, 2004, p. 42-43.

Estimate	Amount	Source and Assumptions
Total 2010 population of BC	4,530,960	BC Stats
Proportion of BC population that is too inactive to realize health benefits of physical activity	47%	1999 report by Canadian Fitness and Lifestyle Research Institute
BC residents that do not realize health benefits of physical activity	2,129,551	Calculated as 47% of 4,530,960
BC residents that do realize health benefits of physical activity	2,401,409	Calculated as 53% of 4,530,960
Total 2010 Provincial health care expenditures	\$17.285 billion	Canadian Institute for Health Information
Percentage of Provincial health care expenditures attributable to physical inactivity	1.8%	The Cost of Physical Inactivity in British Columbia” by Ronald Colman, PhD and Sally Walker, PhD for BC Ministry of Health Planning, November 2004
Provincial health care expenditures attributable to physical inactivity	\$311,130,000	Calculated as 1.8% of \$17.285billion
Provincial health care expenditures attributable to physical inactivity per inactive person	\$146.10	Calculated as \$311,130,000 divided by 2,129,551
Number of annual days with physical activity required to realize health benefits	208	Calculated as 4 days per week
Average number of days of use by users of sites and trails	17	Outdoor recreation survey
Proportion of physical activity requirement attributable to sites and trails usage	8.2%	Calculated as 17 divided by 208
Number of user days by BC residents for Trails	6,216,728	Section 4
Number of user days by BC residents for Sites and Trails combined	9,524,298	Section 4
Number of BC resident users of Trails	365,690	Calculated as user days divided by 17
Number of BC resident users of Sites and Trails	560,253	Calculated as user days divided by 17
Annual Provincial health care costs avoided by Trail users	\$4,366,690	Assumptions: <ul style="list-style-type: none"> • all users are physically active • trail usage accounts for 8.2% of physical activity requirement • avoided health care costs from physical activity are \$146.10 per person
Health Provincial health care costs avoided by Sites and Trail users	\$6,689,959	Assumptions: <ul style="list-style-type: none"> • all users are physically active • trail and site usage accounts for 8.2% of physical activity requirement • avoided health care costs from physical activity are \$146.10 per person

5.2 DIVERSIFICATION OF LOCAL ECONOMIES

Providing recreation sites and trails for visitors is seen as a method of diversifying local economies. This is an especially important economic development tool in rural communities that have seen declines in their natural resource-based economies. Sustainable tourism development is particularly appealing to these types of regions given the increase in recreation use on Crown lands and the need for communities to identify non-extractive methods of economic development.

Recreation sites and trail systems attract visitors, who then support local restaurants, hotels/motels, gas stations, and other commercial establishments. Analysis of established trails in BC has demonstrated that private sector ventures that succeed provide transport, camping facilities, groceries, supplies, hiking supplies and equipment, and food. Additionally, it has been determined that there is room for growth in more direct services providers, such as guiding, outfitting, and equipment rentals.¹⁶

Recreation sites and trails provide venues for tourists to enjoy the outdoors and engage in various recreational activities. Recreation site and trail systems have a strong potential to attract a substantial amount of visitors to a particular region thereby increasing opportunities for existing businesses and services and also creating new recreation and tourism-oriented enterprises (e.g. outfitters, cabin rentals, hotels, gift shops, supplier outlets etc.). In addition to the boost to tourism in general, recreation sites and trails have the potential to generate benefits for nature-based tourism. According to a report prepared by Tourism British Columbia's Research Services, close to 966,000 tourists spent a total of \$908.9 million dollars while at nature-based tourism businesses in British Columbia in 2001. Total employment resulting from commercial nature-based tourism activities was estimated at 20,766 with \$556.2 paid in wages, salaries and benefits. Overall, nature-based tourism businesses benefited \$1.55 billion in revenues and \$783 million in GDP for the province in 2001.¹⁷

Through partnerships with local recreation clubs and First Nations, members are being given opportunities to leverage the popularity of sites and trails in their regions to develop related businesses, particularly those that are linked to nature based tourism. For example, First Nations in the Kamloops area have been pivotal in creating a network of traditional trails for horseback riding. Future use of these horse trails could extend to guided tours, offering the Nation opportunities to realize the economic benefits of related tourism.

5.3 CREATION OF PARTNERSHIPS

Creating and maintaining sites and trails often relies on partnerships that include private companies, local municipalities, First Nations, advocacy groups and residents. RSTBC has fostered the development of approximately 200 partnerships with community organizations, associations and First Nations in the province. All together, these partners help to manage nearly 300 sites and 200 trails. Examples of partners include:

- Snowmobile Clubs/ Associations
- ATV Clubs
- Yacht Clubs
- Mountaineering and Hiking Clubs
- Mountain Biking Associations

¹⁶ <http://www.sunshinecoast-trail.com/SCTbusinessplan.pdf>

¹⁷ http://www.wilderness-tourism.bc.ca/docs/Characteristics_of_Tourism.pdf

- Recreation clubs
- Fish and Game Clubs
- Cycling Clubs
- Forest Education Societies
- First Nations and Aboriginal organizations
- Forest Companies
- Municipalities
- Individual Community Members
- Tourism Organizations

Partnership agreements may be up to 10-year terms. Partners are responsible for maintaining sites and trails, supervising use, and covering the cost of services provided either through user fees or other funding programs, such as the Forest Investment Account, Job Opportunities Program, and others. Government is responsible for infrastructure replacement and other significant operating costs, as well as providing third-party liability insurance to agreement holders.

The program has created effective and collaborative partnerships between government and community representatives that help to foster a culture of community pride. The partnerships also contribute to employment through site and trail management, operations, services and material suppliers.

The Job Opportunities Program exemplified the positive impacts that can be realized through effective community partnerships. The Job Opportunities Program was a Community Development program which provides short-term employment for impacted resource workers and those living in resource dependent communities. Partnering with this program has enabled extensive upgrading to sites and trails, as well as the development of new facilities. To date more than \$24.7M has been approved to hire 1064 resource workers to complete 130 projects at recreation sites and trails in 65 communities across British Columbia. These projects also retained and developed skills for workers who may otherwise be unemployed due to the economic downturn and issues facing Canada's natural resource economy. The Job Opportunities Program concluded on March 31, 2011.

5.4 OPPORTUNITIES FOR TRAINEES OR INTERNS

RSTBC offers volunteers the opportunity to contribute to the success of the recreation program, while at the same time providing opportunities for people to enter the recreation industry. Contributions to the program can provide volunteers with new and challenging experiences, the opportunity to learn new skills and/or improve upon old ones, the opportunity to generate work references, recognition and responsibility, and the opportunity to contribute to the community. Services of volunteers include¹⁸:

- Recreation site hosts
- Trail construction, maintenance, and rehabilitation
- Facility construction, maintenance, and rehabilitation
- Special projects, such as education program leaders or developing trail brochures
- Cross country ski trail track setting
- Wilderness/backcountry patrols

¹⁸ <http://www.sitesandtrailsbc.ca/documents/volunteer-handbook.pdf>

- Collecting recreation information
- Assisting in river or lake clean-ups

There are also a number of colleges and universities in the province that provide certificates and degree programs in recreation-related disciplines. Educational institutions such as Vancouver Island University, Thompson Rivers University, New Caledonia University, Capilano University, University of Northern BC and Simon Fraser University offer a number of related programs, such as Sustainable Leisure Management Programs, Recreation and Sport Management Diplomas, Tourism Studies Diplomas or Recreation and Ecotourism Programs. Students and graduates of these programs may find employment in the Tourism and Adventure Tourism sectors. Examples of positions held include campground attendants, mountain biking guides, trail builders, visitor information counsellors, marketing and research assistants, and snowmobile guides.¹⁹

¹⁹ http://www.cnc.bc.ca/Campuses/Valemount_Learning_Centre/Employment_Prospects.htm

6. COMMUNITY AND SOCIAL BENEFITS

6.1 RECREATIONAL BENEFITS

Recreation sites and trails offer cost-effective health and recreational opportunities to BC communities. In the current context of rising obesity rates and concerns over adequate physical exercise, having accessible and affordable opportunities for exercise are important. A 2007 Trails Survey of 91 BC representatives found that 83% of respondents felt that the health and fitness benefits of trails provided the greatest benefit to BC citizens.

Sites and trails contribute to increasing the health and activity of regional populations by providing an easily accessible and low cost form of physical activity. Living in close proximity to sites and trails may positively impact a community's ability to attract and retain inhabitants. Numerous studies indicate that the closer one lives to trails, the more likely they are to use them. For example, a study in Massachusetts found that among 363 adults the likelihood of using a trail decreased by 42% for every .25 mile increase in distance from home to the trail²⁰. Similarly, a Minneapolis study also found sharp declines in trail use among bicyclists who had to travel 1.5 miles or further to access the trail²¹. With over 1400 sites and 800 trails across the province, most BC residents do not have to travel far to enjoy this type of recreation. This is particularly beneficial to those living in rural communities where there may be a shortage of recreational or sporting opportunities. According to the Draft 2009 BC Resident Outdoor Recreation Study, 84% of BC residents engaging in outdoor recreation do so to keep fit and healthy.

Program representatives in more remote districts indicated sites and trails offer greater health benefits to local residents. Many local residents are too busy to incorporate a regular fitness routine into their schedules (e.g. aerobics) and the sites and trails are used by local residents during their free time. Recreational activities are considered important to BC citizens. According to a Draft 2009 BC Resident Outdoor Recreation Study commissioned by Tourism BC/Ministry of Jobs, Tourism and Innovation and conducted by NRG Research Research Group, 91% of BC residents participated in at least one outdoor recreation activity over the past year. Similarly, 58% of residents felt that recreational activities are very important with an additional 27% identifying it as important²².

6.2 EDUCATIONAL AND SOCIAL BENEFITS

Sites and trails offer citizens educational benefits and provide a safe accessible place for skill development. The types of training that can be undertaken at sites and trails includes sport specific training, outdoor/wilderness skills, learning about the environment, or learning about history/heritage of a particular area. In BC, school programs offer educational experiences on sites and trails and the signage and trails markers also help to provide users with information on the area. A 2007 Trails Survey of 91 BC representatives found that 58% of respondents felt that the educational benefits of trails were either high or very high.

Sites and trails provide opportunities for socializing and are often used as a gathering place or location where people come together. Friends, families, children, people with disabilities, members of the community, and visitors can all use sites and trails. Sites and trails provide the opportunity for bonding, sharing, connecting with others, and creating a sense of unity. This social aspect creates community awareness, support and promotes volunteer efforts.

²⁰ Troped PJ, Saunders RP, Pate RR, et al. "Associations between self-reported and objective physical environmental factors and use of a community rail-trail." *Preventive Medicine*, 32(2): 191–200, 2001.

²¹ Krizek KJ, El-geneidy A and Thompson K. "A detailed analysis of how an urban trail system affects cyclists' travel." *Transportation*, 34:611–624, 2007.

²² NRG Research Group. "British Columbia Resident Outdoor Recreation Study". 2009. Commissioned by Tourism BC and the Ministry of Jobs, Tourism and Innovation.

The Draft 2009 BC Resident Outdoor Recreation Study also supports the notion that recreation through sites and trails, supports socializing. Their findings indicate the vast majority of outdoor recreation participants partake in these activities with their family members, friends and social clubs/groups (88%)²³.

6.3 ENVIRONMENTAL STEWARDSHIP

Further, sites and trails can help to encourage the protection and conservation of natural resources. Sites and trails offer an experience in a natural environment while helping to sustain the aesthetics of the region and the communities. Many sites and trails help create and preserve green spaces and provide habitat for wildlife.

Program representatives noted that community members take a sense of pride and ownership in local sites and trails, often volunteering their free time to help manage them. The use of local volunteers also provides community members with training related to site and trail maintenance, as well as environmental stewardship practices.

6.4 HERITAGE AND CULTURAL IMPACTS

Many of BC's trails provide links to historic and cultural sites. Historic trails trace the network of trails which once existed to facilitate trade and travel for Aboriginal peoples. Program representatives noted that local schools visit historical trails for learning purposes. Signage and trails markers enhance this experience by providing users with information about the history of the trails they are using. The management of sites and trails facilitates the preservation of the culture and heritage associated with areas across the province. Representing Aboriginal history in Canadian history has been challenging and sites/trails provide Canadians with the opportunity to learn more about Aboriginal heritage.

Sites and trails in BC are used extensively for hunting and fishing purposes. Use may be characterized by commercial use (i.e. outfitters, sports fisheries), subsistence use (i.e. local hunters/fishers), and even ceremonial use. For Aboriginal communities, hunting and fishing is an important cultural and ceremonial activity which may be partly supported through the preservation and maintenance of rustic sites and trails. For example, in the Kamloops District First Nation groups have lobbied for development and maintenance of sites as the sites provide resting areas along trails. These resting spots can be used for those on hunting or fishing trips.

6.5 TRANSPORTATION ALTERNATIVES

In BC, trails are also used for purposes other than recreation as they play a role in connecting communities to one another and providing a transportation alternative. Trails, such as the trail that connects Fort Fraser to Fort St. James, are used by local residents to travel between the communities. A trail between Kimberly and Cranbrook was recently paved and the trail now connects the two communities.

²³ NRG Research Group. "British Columbia Resident Outdoor Recreation Study". 2009. Commissioned by Tourism BC and the Ministry of Jobs, Tourism and Innovation.

APPENDIX 1- DATA SOURCES

Data sources

The analysis is based on data provided by representatives from the Ministry of Forests, Lands and Natural Resource Operations. Data were compiled for the 2009/10 fiscal year from regional districts that collect data on site and trail usage. The following data was made available and used in this study:

- A list of all sites and trails managed under the program including the region, district, number of campsites, seasonality, and any fees associated with the sites and trails.
- A list of fees collected for sites where data was recorded (approximately 100 sites) which provided detailed information on total fees collected, number and types of permits sold, site seasonality, and total number of campsites).
- 2010/11 operational expenditures (that were similar to 2009/10 expenditures and used as a proxy).
- The total number of visitors and pass holders for snowmobilers at 17 trails.
- Interviews with key informants, including Recreational Officers, Regional Managers, and other representatives that were used in part for usage estimates.
- 1989/90 Outdoor Recreation Survey conducted by the BC Ministry of Forests Recreation Branch.
- Draft 2009 BC Resident Outdoor Recreation Study commissioned by Tourism BC/Ministry of Jobs, Tourism and Innovation and conducted by NRG Research Group.
- 2007-2009 Travel Survey or Residents of Canada.