

Socio-Economic Benefits of Helicopter & Snowcat Skiing in British Columbia

June 2002



B.C. Helicopter & Snowcat Skiing Operators Association

**Analysis of Socio-Economic Benefits of Helicopter and
Snowcat Skiing in British Columbia**
June, 2002

An Initiative of the
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EXECUTIVE SUMMARY

The socio-economic impacts of the heli-ski and snowcat industry refer to means by which the industry contributes, either positively or negatively, to the broad changes in social and economic lifestyles of community organizations and residents. This study begins to quantify these impacts in order to more accurately design and influence the policy and protocol which shape the nature of the heli-ski and snowcat skiing industry.

This study was completed at the initiative of the BC Helicopter and Snowcat Skiing Operators Association (BCHSSOA). It was divided into two primary components: Economic Impacts (as completed by Mr. Kent Stewart of Western Management Consultants and Dr. Atif Kubursi of Econometric Research Ltd.) and Socio-Economic Impacts (as completed by Dr. Peter Williams).

Economic Impacts

The members of the BCHSSOA were canvassed by way of a detailed economic and financial survey in December, 2001. The collected data was carefully evaluated utilizing a Demand Economic Impact Model.

Results indicate that the Heli-Ski and Snowcat Ski Industry is an important and ongoing economic contributor to British Columbia's tourism industry. Specific findings for British Columbia-based heli-ski and snowcat resorts, based on recently compiled data for the 2000 - 2001 season, indicate the following:

- Approximately 28,000 skiers accounted for 95,000 skier-days over the course of the winter season. In addition to their ski days in BC, they spent another 23,000 days in other parts of BC during their trip.
- Over 88% of these skiers come from outside BC. The results indicated that 53% of these skiers come from the USA, 35% from Europe, while only 12% were Canadian. Their spending therefore represents significant export revenue to BC.
- Only 4% of the market are BC residents.
- The heli/snowcat industry benefits all regions of BC. The Revelstoke/Selkirks region accounts for 31.2% of the visitors. Likewise, the Coastal region accounts for 27.2%; the Golden region accounts for 22.7%; the Blue River/Valemount region accounts for 17.1%, and the Northern region accounts for 1.8% of the total.
- The communities in each region benefit directly from operator spending. Operators estimate that 41% of total direct spending (\$38 million) is spent locally in their nearby communities, while a further 18% (\$16.7 million) is spent within the region in which they operate. Only 23% of the total spending occurs outside British Columbia.

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- Heli/Snowcat operations are a significant source of employment within all regions of BC. Operators estimated total direct employment of 1,137 people, 648 of which were full time employees. In each participating community in BC, the heli/snowcat industry is a significant employer.
- The heli/snowcat industry sustains almost 2,500 person-years of employment annually, and this employment is distributed throughout the regions.
- The economic impact of the heli/snowcat industry is even more impressive. Based on initial direct spending in BC of \$92.6 million, the industry creates a value-added impact of almost \$103 million. This is the annual impact of the industry, assuming that the business remains strong.
- The importance of the heli/snowcat industry can be compared to the lift-serviced alpine ski resort industry in BC. While alpine ski resorts accounted for an estimated direct revenue of \$281 million 1999/2000, the fiscal 2001 operational expenditure by the heli/snowcat operators was over \$91 million, or 32.8% of the downhill figure.
- The alpine ski resorts registered 5.6 million skier days to the 42 BC operators in 1999/2000 while the heli/snowcat operators estimate approximately 95,000 skier days. As a comparison, the heli/snowcat visits equates to about 2% of the alpine skier days.
- The gross revenue per alpine skier day was \$52 in 1999/2000. The heli/snowcat industry revenue per skier day was \$1,012 in the same year. It is important to note that 88% of the heli/snowcat revenue is from sources outside of BC.
- The heli/snowcat industry contributes around \$60 million a year to three levels of government in terms of all forms of taxation. The provincial share of this revenue is 40%, or \$24 million a year. Local governments, and many of them smaller local governments, receive about 9% of the tax revenue, or \$5.4 million a year.
- The industry also supports imports for Canada of \$17.4 million and from international origins, of \$13.1 million.
- The impact of capital spending by the industry was aggregated over the past four years. The \$30 million in spending sustained valued added impacts of \$33.4 million.
- The estimates made in this study are considered to be very conservative, for the following reasons:
 - The ski season in 2000/2001 was a particularly bad snow year, and visits were markedly down in many heli/snowcat areas.

- Tourism spending has not been fully captured; more research should be done in this area in future years.
- The direct expenditures of operators is understated because of those who did not respond, and due to the inclusion of only the full member operators of BCHSSOA. The 20 or more affiliate members account for at least an additional 5% to the total.
- Direct spending is understated due to the leasing arrangements for helicopters and snowcats.

Socio-Economic Impacts

The Socio-Economic Impacts of heli and snowcat skiing were determined through a series of surveys and follow up interviews via phone fax and e-mail in November and December, 2001 and January, 2002. These were conducted with members of the BCHSSOA as well as residents of the local communities where the heli/snowcat stage and operate from.

While there are some variations in the perceived intensity of agreement with the type and extent of impacts generated, several socio-economic changes are commonly perceived to have been induced by BC's heli and snowcat skiing industry. The following list highlights the areas of primary socio-economic strength and challenge for the industry:

- The industry has direct socio-economic contact with at least 33 communities in BC.
- Many of these communities are relatively small Interior based centres with limited economic bases, historically linked to extractive resource industries, primarily logging.
- More recently these communities have been taking on a growing set of tourism and other service industry endeavors.
- The economic linkages associated with the heli/snowcat industry come primarily in the form of purchases of food and beverage supplies, equipment and business supplies, staff accommodation and other related business services, as well as sources of employment.
- These and other economic ties are considered by the operators to be significant stimulants to generating additional community revenues, creating local jobs, and expanding the income generating possibilities for local residents and businesses.
- Many of the heli/snowcat operators have conducted their operations near BC communities for several years, and feel strongly that their operations have made important contributions and benefits to those communities. Specifically, they feel that their operations have:
 - Improved the overall social life and vitality of the local community.

- Been a positive source of skill development for the local residents.
- Expanded the availability and variety of a wide range of goods and services to the community as a whole.
- Exposed and provided significant opportunities to build awareness of other peoples and cultures.
- Community residents ranked heli and snowcat skiing contributions to their community's winter tourism economic base as being relatively strong.
- Compared to other commercially based winter tourism activities, the community residents rated the heli/snowcat industry as being second to alpine skiing with respect to community-focused investment and development, job creation, revenue generation, as well as local property tax generation.
- Community residents also ranked heli/snowcat activities third overall behind in terms of creating income for local businesses as well as, increasing the variety of goods and services available for local communities.
- Generally residents were most positive about the heli/snowcat industry's economic (as opposed to social/cultural) contributions to their communities.
 - Four of the top five positive impact indexes generated were associated with economic effects perceived to have been induced by the heli/snowcat skiing industry.
 - These were related to the industry's positive (but modest) effects on revenue generation, job creation, and income generation for local businesses and people, as well as local investment in these communities. (Part of the reason for the moderate rating of the industry's economic impact may be related to a perceived need for it to work more closely with local communities to generate higher profile and even greater economic linkages).
- Residents perceived the industry to have played relatively less favorable social and environmental roles in their communities. These perceptions were related to the industry's perceived role in contributing unfavorably to disputes between visitors and residents, land use conflicts, the safety and security of residents, and diminishing the quality of local environments.
- Residents from economic, social and government organizations within the community rated the socio-economic impacts of the industry quite similarly. Few statistically significant differences in the opinions they expressed were evident. Only the respondents from

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community economic organizations placed significantly more positive emphasis on the industry's role in generating favorable investment and development opportunities, as well as improvements to the quality of the environment in the communities.

- Resident ratings of the relative significance of the socio-economic impacts induced by the industry varied little.
- Residents from the Revelstoke / Selkirks region expressed the greatest level of favorable opinion concerning the heli and snowcat skiing's effects on their communities. They placed greatest levels of overall positive reaction on the role the industry played in generating positive economic advantages, as well as improved social vitality.
- Lowest overall levels of favorable reaction to the industry's effects were reported for the Golden/Purcells regions. Here opportunities for local business and jobs were considered to be the most favorable and significant spin-offs emanating from the industry.
- In all regions, the least positive impacts were tied to the industry's role in creating land-use conflicts as well as other visitor – resident disputes.
- Industry operators and community residents expressed strong agreement concerning the general direction of the various impacts induced by heli/snowcat operations.
- However, it was also apparent that the industry operators placed stronger and more favorable emphasis on the relative significance of these changes.
- For both groups the greatest levels of significant and favorable impact were related to primarily economic changes.
- The least favorable rankings were linked to the industry's role in contributing to the cultural and environmental quality of the communities.
- There was general agreement that the industry is contributing positively (if not substantially) to the social life and vitality of local communities.
- Both groups suggested that the industry's role in increasing opportunities for residents and community organizations to meet and interact with interesting new people and cultures was one of the more significant and favorable socio-economic changes induced by these operations.
- In terms of the overall significance of the social impacts generated, both groups ranked the industry's role in increasing entertainment variety, availability of goods and services, and learning opportunities for residents in somewhat similar and moderately significant terms

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- Industry and resident groups rated the significance of disputes between visitors and residents, land use conflicts as being especially problematic.
- Unprompted commentaries received from respondents suggest that there was some underlying urgency to address these growing concerns. This is an especially important issue given that there was substantial difference in the relative significance rankings provided by the two groups with respect to the role the industry is playing in changing their area's environmental quality.
- Operators rate the industry's role in impacting the environment much more favorably than do local residents.

I. INTRODUCTION

In response to a Request for Proposals from the BC Helicopter and Snowcat Operators Association (BCHSSOA), Brent Harley and Associates were engaged in September 2001 to complete an Analysis of Socio-Economic Benefits of Helicopter and Snowcat Skiing in British Columbia.

The coordinating consultant was Mr. Brent Harley, President of Brent Harley and Associates Inc., *The Resort Planning Group*. Dr. Peter Williams, Director of the School of Resource and Environmental Management at Simon Fraser University was in charge of the social impact analysis component of the study. Mr. Kent Stewart, Director of Western Management Consultants, was responsible for the economic analysis and impact evaluation aspects of the study. Dr. Atif Kubursi, President of Econometric Research Ltd. adapted his tourism economic impact model for the purpose of this work in British Columbia.

This report describes the methodology and results of the study. The appendices, as separate documents, contain the content of the social and economic studies in their entirety.

I.1 GOALS OF THE STUDY

The goals of this study were to:

- Collect economic and social data for the entire industry for the areas within which Association members are active;
- Undertake modeling (as necessary or appropriate) using the input data from the helicopter and snowcat industry as a foundation;
- Prepare a detailed analysis of the findings to describe the economic benefits (direct, indirect and induced) that flow from helicopter and snowcat skiing (and associated activities) in British Columbia;
- Develop a report approach and format that could be up-dated in future years;
- Provide a document that will be useful to the industry in its dealings with all levels of government and with public users of Crown land;
- Describe, in a general sense, how these compare to the benefits that flow from other tenured users of provincial Crown lands.

This work aimed to include the following:

- Identify the current economic status of the industry;
- Identify levels of direct and indirect community, regional, provincial and federal economic benefits (on annual, per square kilometer, and per client-day bases);
- Significance analysis of this information on a provincial level;
- Identify the role that the industry plays in the changing economic (economic dependencies, etc) and social fabric of the communities and regions in which it operates;

- Identify key data gaps, and recommend means to address;
- Identify the long-term sustainable growth prospects for the industry, including constraints on growth.

1.2 METHODOLOGY

In order to achieve the project goals, the study was broken into a series of sequential tasks. As described below, these included:

- Task 1: Project Initiation
- Task 2: Data Collection: Operator Data
- Task 3: Data Collection: Community Data
- Task 4: Aggregating the Information
- Task 5: Economic Impact Assessment
- Task 6: Social Impact Analysis
- Task 7: Conclusions
- Task 8: Final Report

1.2.1 Task One: Project Initiation

In order to initiate this socio-economic evaluation, the study team assembled all existing studies of a similar nature. The attributes of these analyses were reviewed and summarized. Subsequently, the project methodology was finalized. We looked to the Steering Committee to:

- contact each of the members of the Association ,
- to introduce the study team,
- to reinforce the importance of the information being gathered in a timely fashion and,
- to emphasize that all information will be kept confidential.

Following this, the economic and socio-economic survey instruments were developed in a manner that enabled the researchers to gather all of the necessary raw data needed to complete the agreed upon economic and social analyses.

1.2.2 Task Two: Data Collection: Operator Data

All available data was pertaining to the tenured heli and snowcat operations throughout British Columbia. The basic data sets that need to be gathered for economic impact purposes included the following:

- ***Capital spending*** – This aspect was broken out to two kinds of spending:
 - “One time” spending on capital construction and equipment. This figure was aggregated and estimated from the capital spending data of operators, suppliers,

- communities and government organizations.
- Working capital items that could be annualized.

- ***Operational Spending*** – Based on the annual financial statements of operators.
- ***“Associated Spending”*** – The spending of heli and snowcat skiers in British Columbia but outside the operators businesses or their packaged experiences.

Each of the heli/snowcat operations was contacted by phone in order to introduce them to the project team and to inform them directly of the process that is underway. At that time, we described the survey, outlined the desired information, and detailed the project timelines. The survey was “fronted” with an Association letter informing the respondent of the importance of the survey, and assuring them of the confidentiality of their data.

I.2.3 Task Three: Data Collection: Community Data

We contacted and surveyed members of all of the communities within which the heli and snowcat facilities operate. The objective was to collect data and impressions as to the various impacts the operators have on their immediate jurisdictions, including:

- Expenditures by other businesses in support of the ski operators.
- Other tourism visitation to the community/region as a direct result of heli and snowcat skiing tourism.
- Community expenditures directly associated with heli and snowcat ski tourism.
- Other community social benefits and costs associated with heli and snowcat ski tourism.

I.2.4 Task Four: Aggregating the Information

The direct data was aggregated, according to operation/community location, at both the regional as well as the provincial level. It was also aggregated by tenured and non-tenured operations. This included the direct data from operators’:

- Revenue
- Direct employment
- Direct wages and benefit spending
- Purchases and supplies
- Capital and equipment
- Administration and General
- “One time” capital spending

Other, less tangible social benefits and costs were aggregated in the same manner, although in document form.

I.2.5 Task Five: Economic Impact Assessment

i) Background on the Models

The consulting team applied the Demand Economic Impact Model (DEIM) to estimate the province-wide economic impacts of these expenditures. The impact model used is a special application of a generic model (RIM – Regional Impact Model) developed by Dr. Atif Kubursi of Econometric Research Limited. It is a unique model that captures the economic impact of tourism expenditures at the local level (counties or economic regions), the provincial level and the national level.

The model utilizes a large set of economic and technical databases that are regularly published by Statistics Canada. These include the inter-provincial input output tables, employment by sector, taxes by type of tax and the level of government collecting it, prices of products, energy used in physical and energy units as well as many others.

ii) The Economic Outputs

Based on the input data, the model produced the economic estimates of impact for the heli and snowcat ski operators on a province-wide basis.

To assist the reader in interpreting the results of the economic impact analysis, some of the key terms and definitions used to describe the economic impact **outputs** are presented below:

- **Initial expenditures** – This figure indicates the amount of expenditures directly made by heli and snowcat skiers and by operators that support this industry. It is these expenditures that drive the results.
- **Value Added (Gross Provincial Income)** – This figure represents net output generated by the initial expenditures in the province. It is typically the sum of wages, rent, interest and profits in addition to indirect business taxes and depreciation minus subsidies.
- **Employment** – This refers to the total person years (full-time equivalent jobs) generated by spending on heli and snowcat skiing and its sustaining activities.
- **Taxes** – The impact system generates a large number of taxes (income taxes, GST, liquor and tobacco taxes, room tax, etc.) each of which is linked with the level of government receiving it. For example, the Federal government receives the proceeds from the GST tax, the Provincial government receives the room tax and the local government receives the property and business tax.
- **Imports** – These represent the goods and services acquired from outside the province to sustain the activities of the facilities and the expenditures of their visitor. They essentially represent

leakages from the province.

- **Multipliers** – These are summary measures that represent the division of the total impacts (direct, indirect and induced) by the initial expenditures. For example, the income multiplier associated with incremental tourism expenditures is calculated by dividing the total income (value added) impact by the initial incremental tourism expenditures. The only exception is that of the employment multiplier where total employment is divided by direct employment in order to preserve the common units. Thus, when a skier spends \$1,000 for a day of alpine skiing, this expenditure circulates through the economy... from the ski operator, to the lodge operator, to the food supplier, to the helicopter or snowcat supplier, to the equipment maintenance people and on to others in the economy. This multiplies the effect of the initial expenditure, benefiting many more people in the economy than the initial transaction would imply.

The outcome of this section of the analysis produced data that illustrate the total economic impacts of the heli/snowcat industry.

1.2.6 Task Six: Social Impact Analysis

A Social Impact Analysis was completed, focusing on the identification of the direct and indirect impacts that heli and snowcat operations have on the communities within which they are based and on their region within the Province. In this analysis, specific attention was paid to identifying the following:

- Number and type of jobs generated (direct and Indirect positions and wages, seasonality)
- Labour force displacement (migration from non-skiing to skiing related and tourism positions)
- Changes in land use and land value (growth in businesses, building permits, business tax revenues);
- Changes in standard of living (Improved services and infrastructure, inflation)
- Changes in political / economic system (resident versus non-resident focus)

This analysis documents both social benefits and any perceived social costs, including:

- Changes in recreation opportunities and human capacity building for residents
- Increasing positive community attitude, pride, and investment in the community
- Community “Branding”
- Perceived positive impact on summer tourism
- New developments in business sector, housing and other sectors perceived to be attributable to the ski business
- Increased integration of ski workers in the community
- Impact on domestic and international tourism flows

- Provincial image
- Possible incompatibility between ski workers and others in communities
- Friction based on crowding, increasing costs of goods/services, or other costs to residents
- Other negative impacts documented from survey work.

Data for this analysis was derived from:

1. Content analyses of secondary sources such as provincial, regional and community government publications, chamber of commerce directories, Tourism B.C. data bases, and local newspaper files.
2. Survey responses provided by heli and cat-skiing businesses; and
3. Personal interviews with key informants involved with community development initiatives in close proximity to heli and snowcat skiing operations.

Based on this assessment, the overall cumulative benefits to British Columbia from helicopter and snowcat skiing operations were identified.

I.2.7 Task Seven: Conclusions

The various analyses were tabulated and summarized. The results were compared to other types of operations, facilities and industries. These analyses formed the basis of our conclusions. At that point we produced a Draft Report for presentation and submission to the Steering Committee.

I.2.8 Task Eight: Final Report

Feedback from the Steering Committee was taken into account and our Final Report was produced and submitted.

1.3 SURVEY PARTICIPANTS

The BCHSSOA is made up of 21 members with a total of 32 heli and snowcat operations throughout British Columbia. They are as follows:

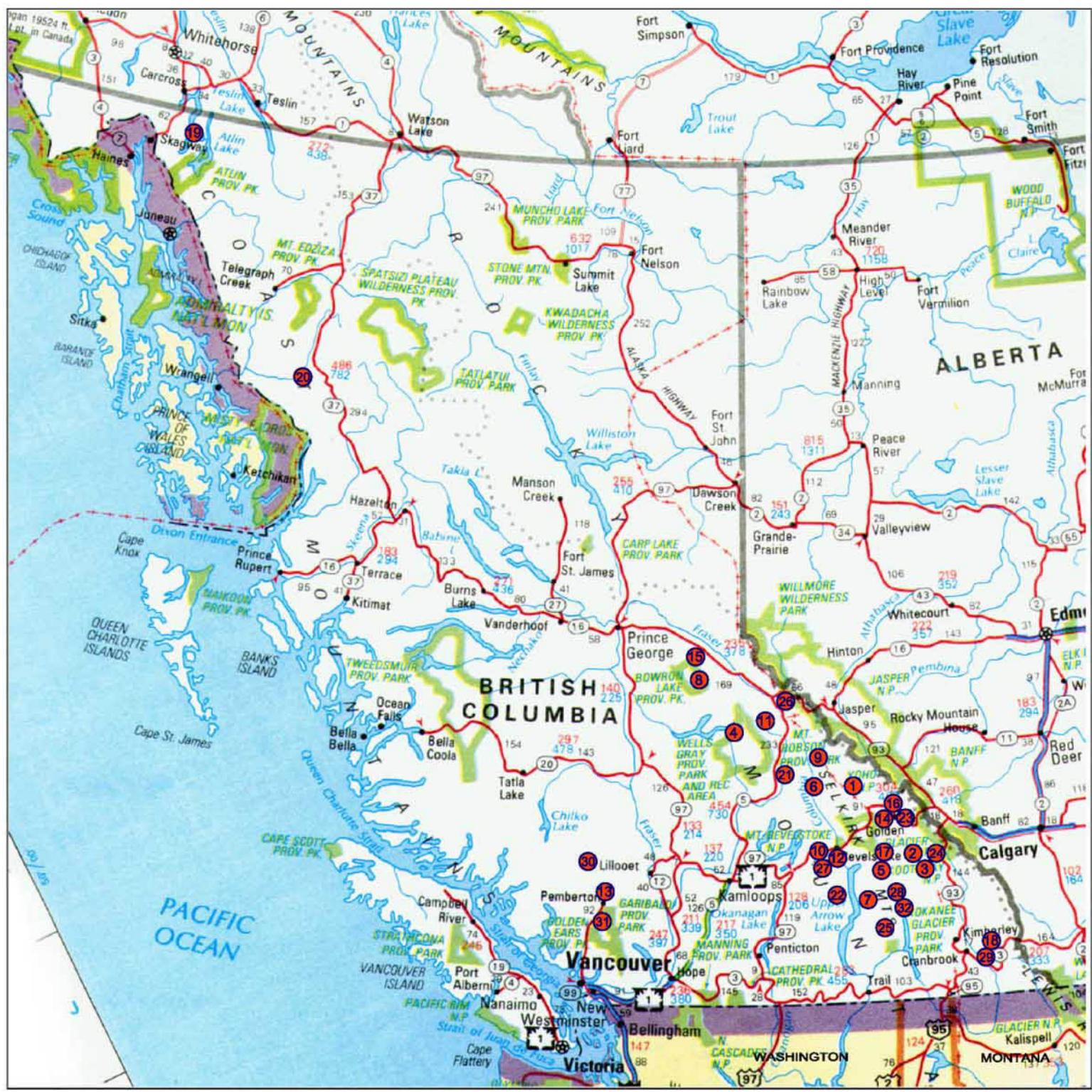
- CAT Powder Skiing Inc.
- Mike Wiegele Helicopter Skiing
- Great Canadian Heli-Skiing Ltd.
- Retallack Alpine Adventures Ltd.
- White Grizzly Adventures Ltd.
- Retallack Alpine Adventures Ltd.
- Whistler Heli Skiing
- Chatter Creek Mountain Lodges Ltd.
- Klondike Heliskiing Ltd.
- Island Lake Resort Group
- Radium Hot Springs Glacier Skiing Ltd. (R.K. Heli Ski Panorama)
- Great Northern Snow-cat Skiing
- Crescent Spur Heli-Skiing
- Selkirk Wilderness Skiing Ltd. (1975)
- TLH Heliskiing Ltd.
- Last Frontier Heliskiing
- Canadian Mountain Holidays Inc.
- Purcell Heliskiing
- Monashee Powder Adventures
- Cayoosh Heli Sports
- Selkirk Tangiers Helicopter Skiing Ltd.

The location of each operation is illustrated on Figure 1.

In order to consider regional impacts, the operations were divided into regions as illustrated in Figure 2.

Helicopter & Snow-Cat Operations in British Columbia

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- Legend:
- 1 CMH Heli-Skiing - Adamants
 - 2 CMH Heli-Skiing - Bobbie Burns
 - 3 CMH Heli-Skiing - Bugaboos
 - 4 CMH Heli-Skiing - Cariboo
 - 5 CMH Heli-Skiing - Galena
 - 6 CMH Heli-Skiing - Gothics
 - 7 CMH Heli-Skiing - Kootenay
 - 8 CMH Heli-Skiing - McBride
 - 9 CMH Heli-Skiing - Monashees
 - 10 CMH Heli-Skiing - Revelstoke
 - 11 CMH Heli-Skiing - Valemount
 - 12 Cat Powder Skiing
 - 13 Cayoosh Heli-Sports Ltd.
 - 14 Chatter Creek Mountain Lodges
 - 15 Crescent Spur Heli-Skiing
 - 16 Great Canadian Heli-Skiing
 - 17 Great Northern Snow Cat Skiing Ltd.
 - 18 Island Lake Lodge
 - 19 Klondike Heli-Skiing
 - 20 Last Frontier Heli-Skiing Ltd.
 - 21 Mike Wiegelo Heli-Skiing
 - 22 Monashee Powder Adventures
 - 23 Purcell Helicopter Skiing
 - 24 R.K. Heli-Skiing Ltd.
 - 25 Retalack Alpine Adventures Ltd.
 - 26 Robson Heli-Magic Inc.
 - 27 Selkirk Tangiers Heli-Skiing
 - 28 Selkirk Wilderness Skiing Ltd.
 - 29 Sno Much Fun Cat Skiing Inc.
 - 30 T L H Heli-Skiing Ltd.
 - 31 Whistler Heli-Skiing Ltd.
 - 32 White Grizzly Adventures Ltd.



Web Sites Links:
 For Central Website directing you to the individual webpages of each of these companies, go to:
<http://www.eng.ualberta.ca/civil/avalanche/bchssoa.htm>

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Helicopter & Snow-Cat Regions in British Columbia

June 2002



- Legend:**
- 1 CMH Heli-Skiing - Adamants
 - 2 CMH Heli-Skiing - Bobbie Burns
 - 3 CMH Heli-Skiing - Bugaboos
 - 4 CMH Heli-Skiing - Cariboo
 - 5 CMH Heli-Skiing - Galena
 - 6 CMH Heli-Skiing - Gothics
 - 7 CMH Heli-Skiing - Kootenay
 - 8 CMH Heli-Skiing - McBride
 - 9 CMH Heli-Skiing - Monashees
 - 10 CMH Heli-Skiing - Revelstoke
 - 11 CMH Heli-Skiing - Valemount
 - 12 Cat Powder Skiing
 - 13 Cayoosh Heli-Sports Ltd.
 - 14 Chatter Creek Mountain Lodges
 - 15 Crescent Spur Heli-Skiing
 - 16 Great Canadian Heli-Skiing
 - 17 Great Northern Snow Cat Skiing Ltd.
 - 18 Island Lake Lodge
 - 19 Klondike Heli-Skiing
 - 20 Last Frontier Heli-Skiing Ltd.
 - 21 Mike Wiegele Heli-Skiing
 - 22 Monashee Powder Adventures
 - 23 Purcell Helicopter Skiing
 - 24 R.K. Heli-Skiing Ltd.
 - 25 Retallack Alpine Adventures Ltd.
 - 26 Robson Heli-Magic Inc.
 - 27 Selkirk Tangiers Heli-Skiing
 - 28 Selkirk Wilderness Skiing Ltd.
 - 29 Sno Much Fun Cat Skiing Inc.
 - 30 T L H Heli-Skiing Ltd.
 - 31 Whistler Heli-Skiing Ltd.
 - 32 White Grizzly Adventures Ltd.

- Regions:**
- 1. Golden
 - 2. Revelstoke/Selkirk
 - 3. Blue River/Valemount
 - 4. Coastal B.C.
 - 5. Northern B.C.



Web Sites Links:
For Central Website directing you to the individual webpages of each of these companies, go to:
<http://www.eng.ucalgary.ca/civil/avalanche/bchssoa.htm>

Prepared for:
BCHSSOA
Study:
Socio-Economic Benefits of Helicopter & Snow-Cat Skiing in British Columbia

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II. HELICOPTER AND SNOWCAT SKIING

II.1 HELICOPTER SKIING OPERATION PROFILE

Heli-skiing is a sport with unique and special attributes and requirements. It is alpine skiing that utilizes helicopters to access mountainous terrain with significant vertical drops of untracked powder snow. Highly trained guides lead groups of skiers and snowboarders from predetermined helicopter landing pads at the tops of mountains, down a variety skiable slopes to points where they can be safely picked up. The attraction is the thrill and exhilaration of the skiing experience mixed with the backcountry wilderness, breathtaking scenery, and the camaraderie that is attached to a sense of adventure and achievement.

The heli-skiing tenure area has to be large in order to offer a variety of terrain with fresh powder snow conditions. The use of the tenure area requires careful management; tracking the runs that have been skied; measuring snow depths; measuring snow quality, and; determining snow stability and avalanche risk. The objective is to "farm the snow" in order to maximize powder snow availability for the skiers and in turn, deliver the desired high quality skiing experience.

The areas that are skied have between 25% to 80% slope gradients, coinciding with the capabilities of intermediate to expert skier/snowboarders. A typical ski run will have a vertical drop ranging from 600 to 900 metres.

The skied terrain has to receive consistent accumulations of snow throughout the ski season, typically from the beginning of December to the end of April. The area should have a mix of open bowl (above treeline or glacier) and tree skiing opportunities.

Heli-skiing is extremely weather dependant. Helicopters can only fly when the visibility is good. For the purposes of safety, the pilots must maintain up-to-the-moment knowledge of immediate weather patterns. This is particularly critical in the case of heli-skiing where remote areas can only be accessed by helicopter. In bad weather, with fast moving cloud cover, high winds and snowstorm conditions, caution must prevail. In such circumstances, flying above treeline, over snow covered mountains, glaciers and high elevation passes, is not possible. At best, they can fly direct, well-known, low elevation flight patterns.

In British Columbia, winter storm patterns can create conditions that will restrict high elevation helicopter travel for up to 30% of the ski season. Specifically, high winds, low elevation cloud cover and snow restrict or eliminate visibility over snow covered terrain, making it impossible to fly in the mountains. The exception is lower elevation terrain that has sufficient tree cover to enable visibility during more adverse winter conditions. For the heli-ski operator, "bad weather" terrain are the areas that meet all of the special attributes and requirements of heli-skiing plus guaranteed access and egress visibility. This is a relatively rare commodity. Without "bad weather" terrain the operation must shut down and wait for the weather to improve. This is critical to the success of the operation both in terms of the immediate economic returns as well as long

range return visitation and reputation.

In terms of economic viability, and in order to keep the expenses down as well as the perceived high cost of heli-skiing to a minimum, the ferrying time from the heli operators staging point to the skiing has to be kept to the shortest possible distances. Anything more than 15 to 20 minutes of flying time dramatically adds to the cost of the operation.

Heli-skiing is a guided sport. Typically in groups of 5 to 11 heli-skiers, depending on the size of the helicopter, the guide(s) lead the customers down the slopes in a very controlled fashion.

British Columbia is one of the few areas in the world with all of the natural attributes that are conducive to sustaining successful heli-skiing operations. With the advent of "fat skis" and freeride snowboards over the past ten years the sport has changed dramatically. Rather than the private domain of the macho expert skier, heli-skiing has become accessible to the wider demographic spectrum of adventure seeking intermediate to expert skiers. This has led to an increasing demand for heli-skiing as reflected in both the growth of heli-ski visits and the number of Heli-resorts in BC.

II.2 SNOWCAT SKIING OPERATION PROFILE

Snowcat skiing is a cross between a lift serviced ski area and heli-skiing. That is the operation is restricted to a well-defined area, typically on one or two mountains. The ski lifts are the snowcats. The objective is to ski or ride powder snow. As such, the experience is very much like heli-skiing with the similar level of thrill, adventure, and esprit de corps that makes skiers travel the world to have the opportunity to participate in the sport.

A major misconception is that snowcats can access any and all terrain on an as-desired basis. In fact, quite the opposite is true. Snowcats are virtually unable to climb in deep soft snow. As such, their movements are largely restricted to a snowcat road system. The planning, construction and maintenance of these roads make them as critical to the success of the resort as the skiing terrain itself.

A snowcat area operates in a carefully choreographed fashion, moving the skiers methodically around the mountain, once again "farming the snow". The cat, carrying up to 12 skiers and 2 guides, will climb to the highest point of a ski zone, where the guests are dropped off. From there they are led down untracked powder runs to a predetermined pick up point. The snowcat travels to that point and then proceeds up another part of the mountain. This continues throughout the day, ideally enabling the skiers to return to the base lodge on the final "home run". Typically a snowcat skiing operation offers multi-day packages, where the guests stay together in a remote lodge, appointed with facilities that cater to their every need.

III. ECONOMIC IMPACT

III.1 BACKGROUND

Western Management Consultants and Econometric Research Limited conducted the economic impact portion of the project. Confidentiality of individual operator data was strictly observed, and only these consultants were able to view individual data. From this the impact study produced aggregated data for the surveyed operators.

The 21 member operators of the BCHSSOA were surveyed in November and December of 2001. Specific information requests were made pertaining to:

- Capital and long term maintenance spending over the past 3 years.
- Fiscal 2000/2001 financial statements.
- Employment figures in terms of full time and part time employees.
- Wage rates for employees.
- Direct employment in their operations in British Columbia.
- Total heliski/snowcat visitors to their operation by origin of visitor.
- Estimated additional days spent in B.C. directly as a result of the ski visit.

Data was received from 19 of the operations, representing a high percentage of total skier visits. For most of these operations, this financial data was presented in the form of audited or unaudited financial statements for the years in question. The year-end dates were adjusted with the operators, so that all data reflected the fiscal year ending May 31, 2001.

The economic impact assessment follows the expenditures of the business rather than the revenues, for it is spending that creates economic impacts. For example, if a family's income from work were simply saved, the economic impact would come in the form of tax revenue to government but not much else. The fact that families spend much of their income on housing, transportation, groceries, recreation and other spending, creates jobs for builders, grocers, auto workers, and tourism suppliers like the ski industry. This spending creates multiplier effects that ripple through the economy, bringing benefits far beyond where the money is initially spent.

All businesses directly related to the heliski or snowcat operations were included where possible. Thus, if an operator owned a heliski or snowcat operation, a lodge, a restaurant and a retail outlet, financial results of all operations, where they were related to the ski business, were accounted for. However, in many cases the operators generated accommodation business for hotels they did not own. These direct impacts were not captured through direct data collection. As such, the direct expenditure data is believed to be relatively conservative.

The expenditures for significant summer operations were not included in the results. In most cases, however, these operations were a minor part of the business and would not exist if the ski operation were not in place.

III.1.2 Introduction to Economic Impact Analysis for the B.C. Heli/Snowcat Industry

A model of how economic impact is generated forms the basis of any economic impact estimate. The first fundamental basis of the conceptual model involves direct, indirect and induced expenditures. Skiers visiting heli/snowcat operations spend “new money” in the community and region. This new money is spent on products and services that the community and region “export” to the non-local visitors. That is to say, the ski operator and the region in which the operation is located “exports” a tourism service to the skier in return for revenue, which represents this injection of “new money” into the region.

However, the new money in the region (its skier revenue) does not start to work in the economy until the businesses and employees of these businesses in the region begin to spend it. Businesses like the ski operators incur costs for goods sold, hire contractors to provide some of the services, pay for insurance and other services, and pay their staff in operations, sales and administration. Heliski/snowcat businesses also acquire and invest capital in equipment, buildings and long term maintenance in order to provide their products and services. Employees of these businesses and their suppliers receive wages, which they spend on goods and services. All of these expenditures create rounds of additional spending in the economy.

III.1.3 Economic Impact Analysis and Methodology Economic Impact Analysis and Methodology

A dollar spent on a visit to a heliski or snowcat operation in B.C. circulates and recirculates within the economy, multiplying the effects of the original expenditures on overall economic activity. This process is referred to as the economic multiplier effect. It operates at several levels:

The initial expenditures for wages and materials to provide the heli/snowcat ski experience are generally referred to as the direct costs of operation and their effects are referred to as the initial (direct) effects.

Subsequent purchases by suppliers of materials and services to sustain the original and derivative expenditures are called the indirect effects.

The induced effects emerge when workers in the industries stimulated by initial and indirect expenditures spend their additional income on consumer goods and services.

Economic impact analysis is a useful mathematical tool capable of quantifying the patterns and magnitudes of interdependence among sectors and activities and the economic “benefits” that communities and regions derive from the export of their products and services. It is predicated on two fundamental propositions:

1. Regardless of the inherent value of primary activities such as recreation or tourism, to the extent that these activities involve the use of scarce resources, they generate economic

consequences that can be measured and compared.

2. Economic impacts are only partially captured by assessing direct expenditures. Inasmuch as the economy is a complex whole of interdependent and interacting activities, there are some significant indirect as well as induced impacts associated with each of the direct expenditures. These indirect and induced impacts are often larger than the direct impacts.

III.1.4 The Economic Impact Model

The impact model used is a special application of an open and expanded generic version of the Demand Economic Impact Model (DEIM) developed by Econometric Research Limited. It is a unique model that captures the economic impact of tourism expenditures at the local level (counties or economic regions), the provincial level (B.C.) and the national level. The model is based on a novel technology that integrates input-output analysis and location theory (economic base theory). It utilizes a large set of economic and technical databases that are regularly published by Statistics Canada.

An effort has been made to ensure that estimates were made in a conservative manner so as to avoid overstating the results.

III.2 DERIVING THE DIRECT TOURISM IMPACTS

III.2.1 Heliski/Snowcat Ski Operators Survey

Western Management Consultants conducted fax and telephone surveys of the members of the BCHSSOA operators, following up on the introductory letters sent by BCHSSOA. Operators were very responsive.

Initially a letter was faxed to all operators outlining the types of data being requested. A template was emailed or faxed to each operator identifying the capital and maintenance data required, the visitor data required and the "associated" visitation data needed. In addition to these data sets, the fiscal 2000/2001 financial statements of the operators, including all business units, was collected. Where operators had business operations in more than one region, the operational data was separated to allow us to present regional direct impact results.

The data was aggregated at the regional level first, and then on a province-wide basis.

III.2.2 Total Visitation, Tourism and Regional Distribution

The total skier visitation, estimated by all operators for the 2000/2001 fiscal year, was 27,922 (Exhibit 1). While accurate average length of stay data is not available, it is estimated that these

**Analysis of Socio-Economic Benefits
of Helicopter and Snowcat Skiing in British Columbia**

visits represent in the order of 95,000 skier days in British Columbia. This estimate compares favorably with that in the 1999/2000 Ski Season Review, completed by Mr. George McKay of British Columbia Assets and Land Corporation which estimated over 95,000 skier visits in this industry in 1999. It should be noted that these estimates are considered conservative as poor snowfall delayed the season, resulting in many operators opening a month later than is their usual practice.

Of the 27,922 skiers to visit the heli/snowcat operations, only 3,347 came from Canada, representing 12% of the market in fiscal 2001. B.C. and Alberta each represented 4%, while Ontario origins represented 2%. Visitors from the USA accounted for 53% of the market, or 14,869 visits to British Columbia operators. The US and Canada based visitors are generally on single purpose, activity-based trips, i.e. they come to ski and they wish to do little else.

International visitors come from more than fifty countries of the world, and accounted for 35% of the heliski/snowcat market in fiscal 2001. Some 9,706 visitors came in this fiscal year, and virtually all of these visits are specifically to ski in B.C.

EXHIBIT 1: TOTAL HELI/SNOWCAT SKI VISITORS, BY REGION AND ORIGIN Fiscal 2001										
	B.C.	%	CAN	%	USA	%	INT'L	%	TOTAL	%
Region 1	142	2.2%	688	10.9%	3,320	52.4%	2,330	36.8%	6,338	100%
Region 2	586	6.7%	1,442	16.5%	4,879	56.0%	2,398	27.5%	8,719	100%
Region 3	147	3.1%	495	10.4%	2,748	57.6%	1,531	32.1%	4,774	100%
Region 4	205	2.7%	719	9.5%	3,727	49.1%	3,148	41.5%	7,594	100%
Region 5	1	0.2%	3	0.6%	195	39.2%	299	60.2%	497	100%
TOTAL	1,081		3,347		14,869		9,706		27,922	

In addition to the direct skier visits, operators estimated that heli/snowcat skiers accounted for another 23,045 days of visitation while in B.C. (Exhibit 2). International visitors often stay an additional day on the way to heli/snowcat ski and another day or more when leaving B.C. Based on previous work conducted by the consultants, we view this to be a conservative estimate of the associated tourism visitation.

EXHIBIT 2: TOTAL TOURISM VISITOR-DAYS SUSTAINED BY HELI/SNOWCAT SKIING IN B.C. Fiscal 2001										
	B.C.	%	CAN	%	USA	%	INT'L	%	TOTAL	%
Region 1 Golden	86	2.1%	246	6.0%	2,570	62.2%	1,313	31.8%	4,129	100%
Region 2: Revelstoke/Selkirks	206	2.1%	1,120	11.7%	5,844	60.9%	2,629	27.4%	9,593	100%
Region 3: Blue River/Valemount	75	1.1%	467	7.1%	3,825	57.9%	2,315	35.0%	6,607	100%
Region 4: Coastal B.C.	30	1.7%	108	6.1%	691	38.9%	976	55.0%	1,775	100%
Region 5: Northern B.C.	2	0.2%	6	0.6%	390	39.2%	598	60.2%	994	100%
TOTAL	399		1,947		13,320		7,831		23,098	

III.2.3 Direct Spending by Region

The initial (direct) non-recurrent and recurrent spending related to the heli/snowcat ski industry is illustrated in Exhibit 3. Non-recurrent spending, spending primarily on capital and maintenance items, is aggregated for B.C and "other Canada" only for the period 1998 - 2001. The minor international non-recurrent spending, under \$200,000, was treated as an "import" in this assessment. Non-recurrent spending is assumed to be "one time" expenditure. The example might be the spending of one operator on a new lodge. The lodge expenditure would occur once in perhaps 20 years. Over the entire group of operators, however, there is significant capital expenditure each year, as operators decide to grow their business or maintain and repair facilities and equipment. For the purposes of this project, four years of capital data was considered to be a reasonable "snapshot" of the expenditure levels of this sector.

Almost half the non-recurrent spending, 40%, occurred in Region 3 (Blue River/Valemount) during the period from fiscal 1998-fiscal 2001. Region 1, the Golden area accounted for almost 31% of spending. These two regions accounted for 71% of non-recurrent spending.

The remaining non-recurrent spending occurred in Region 2 (Revelstoke/Selkirks) and in Region 5 (Northern B.C.), which together accounted for 25% of spending. What is clearly evident from these data is that capital and long-term maintenance spending for heli/snowcat operations lands in the interior regions of British Columbia. It is mainly spent in B.C. (81%) and it is mainly spent in smaller communities in British Columbia (e.g., Valemount, Revelstoke, Golden, etc.).

EXHIBIT 3: DIRECT (INITIAL) SPENDING, BY REGION (CANADIAN DOLLARS)				
<i>Spending Category</i>	<i>Non-Recurrent Spending (fiscal 1998 - fiscal 2001)</i>	<i>Percent of Total</i>	<i>Recurrent Spending (fiscal 2001)</i>	<i>Percent of Total</i>
Region 1: Golden	\$ 9,230,403	30.7%	\$16,745,675	18.1%
Region 2: Revelstoke/Selkirks	\$4,139,619	13.7%	\$34,762,948	37.5%
Region 3: Blue River/Valemount	\$12,090,866	40.2%	\$26,812,102	29.0%
Region 4: Coastal B.C.	\$1,245, 944	4.1%	\$9,749,489	10.5%
Region 5: Northern B.C.	\$3,386,124	11.3%	\$4,566,536	4.9%
TOTAL	\$30,092,956	100%	\$92,636,751	100.0%

Recurrent expenditures, comprising predominantly of spending on ski operations was \$92,636,751 for the fiscal year ended May 31,2001. The Golden region (Region1) accounted for just fewer than 20% of expenditure. Region 2(Revelstoke/Selkirks) alone accounted for almost 40% of spending on operations (37.5%), while the Blue River/Valemount region accounted for almost 30% of the total. Coastal and northern regions together accounted for 15% of the business.

The communities in each region benefit directly from operator spending. Operators estimate that 41% of total direct spending (\$38 million) is spent locally in their nearby communities, while a further 18% (\$16.7 million) is spent within the region in which they operate. Some 77% of the total spending occurs in B.C. Heli/snowcat operations are a significant source of employment within all regions of BC. Operators estimated total direct employment of 1,137 people, 648 of which were full time employees. In each community in BC, the heli/snowcat industry is a significant employer, and these skilled jobs are paid at well over minimum wage levels.. This is an export industry, and these employees in small communities in British Columbia are working in a significant international export industry.

The importance of the heli/snowcat industry can be compared to the lift-serviced downhill ski industry in BC. While downhill skiing had an estimated direct revenue of \$281 million 1999/2000, the fiscal 2001 operational expenditure by the heli/snowcat operators was over \$91 million, or 32.8% of the downhill figure. Downhill figures suggest 5.6 million skier days to the 42 BC operators in 1999/2000 while the heli/snowcat operators estimate approximately 95,000 skier days, or under 2% of the skier-visits of downhill.

The gross revenue per skier-day for downhill was \$52 in 1999/2000; for the heliski/snowcat

industry, revenue per skier day was \$1,012 in the same year. This revenue is primarily revenue from international exports. The average daily expenditure for snowcat and heliski visitors *far exceeds* the average spending of most visitors to British Columbia. According to Tourism British Columbia data, visitors from North America spend between \$45 and \$102 Canadian, with the US visitors spending on average \$102 per day. Overseas visitors spend between \$76 and \$99 per day on average. These magnitudes are *one tenth* of the spending of a heliski/snowcat visitor per day. Over what is commonly a weeklong ski experience, the heliski/snowcat visitor will outspend the average visitor by about \$6,300. So the value of each heliski visitor to the BC tourism economy is exceptional.

Again what is clearly evident from these data is that recurrent initial expenditures in the heliski/snowcat industry are significant, are national and international export dollars, and are distributed throughout the interior regions and in smaller communities in British Columbia.

III.3 ECONOMIC IMPACT OF THE HELISKI/SNOWCAT NON-RECURRENT EXPENDITURES

Expenditures on capital and maintenance are treated as "one time" spending from an economic impact perspective. Three years of capital spending data was collected from operators and treated as an aggregate figure of investment made by operators for the impact period. Since these are considered as non-recurrent expenditures and tend to be variable from year to year, we treated them as a one-time total so that the appropriate tax treatment of the data could be factored into the impact estimate.

The total economic impacts of these capital and maintenance expenditures were calculated using the impact model, and are illustrated in Exhibit 4. These data are presented for investments made in B.C. and in "other Canada" respectively. U.S. and International capital investment have been captured in the Imports calculations.

EXHIBIT 4: ECONOMIC IMPACT OF NON-RECURRENT (CAPITAL AND MAINTENANCE) EXPENDITURES IN BRITISH COLUMBIA AND OTHER CANADA (1998-2001)			
(In Thousands of 2001 Dollars)			
Impacts	Capital and Maintenance		Total
	B.C.	Other Canada	
<i>Initial Expenditures</i>	\$24,238	\$5,855	\$30,093
<i>Value Added</i>			
Direct	\$8,733	\$2,791	\$11,524
Indirect & Induced	\$18,500	\$3,335	\$21,835
Total	\$27,233	\$6,126	\$33,359
Multiplier	1.12	1.05	1.11
<i>Employment (person yrs)</i>			
Direct	96	27	123.1
Indirect & Induced	227	57	283.7
Total	323	84	406.8
Multiplier	3.36	3.09	3.30

Impacts	Capital and Maintenance		Total
	B.C.	Other Canada	
<i>Labour Income</i>			
Direct	\$5,851	\$1,635	\$7,486
Indirect & Induced	\$11,779	\$1,934	\$13,713
Total	\$17,630	\$3,569	\$21,199
<i>Taxes</i>			
Federal	\$5,851	\$1,033	\$6,884
Provincial	\$4,868	\$659	\$5,527
Local	\$1,263	\$589	\$1,852
Total	\$11,982	\$2,281	\$14,263
<i>Imports</i>			
From Other Provinces	\$3,479	\$353	\$3,832
From Other Countries	\$2,664	\$1,231	\$3,895
Total	\$6,143	\$1,584	\$7,727

Source: Econometric Research Limited

III.3.1 Summary of Economic Impacts of Non-Recurrent Expenditures

The aggregate economic impacts of capital and long term maintenance spending by the B.C. heli/snowcat industry in the 1998/2001 period is treated as a "one time" injection into the B.C.

economy. The economic impact of this injection is assumed to occur entirely in the years identified and will not continue after this period. While this assumption does not match reality, it is a useful measure of the total capital invested in order to realize the operational results for the year 2001, which are considered in the next section.

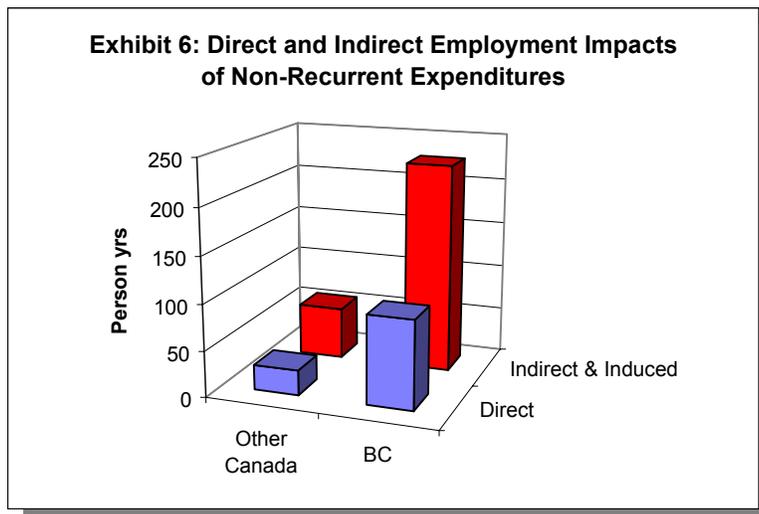
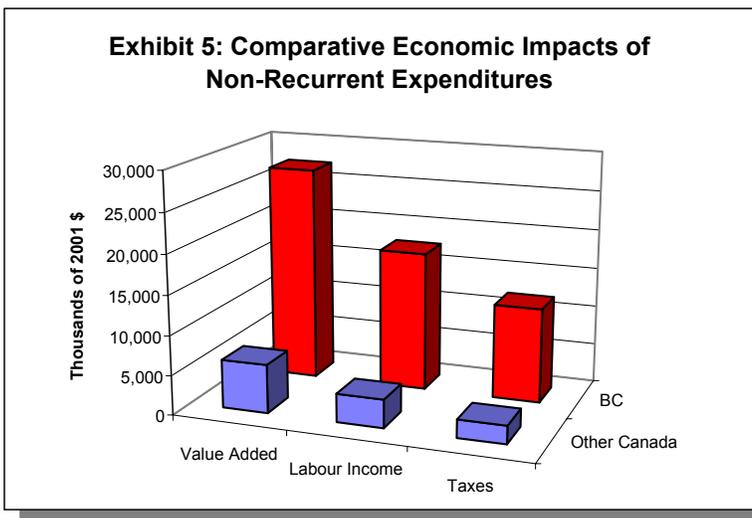
The economic impact of non-recurrent expenditures can be summarized as follows:

III.3.1.1 Initial Direct Spending

- Capital and long term maintenance initial direct spending by operators, deemed to be a *non-recurrent* expenditure, was estimated to be almost \$30.1 million in fiscal 2001. Of this amount, \$24.2 million, or 81% of the total spending occurred in British Columbia. Capital spending was 20.8 million in B.C. and \$5.61 million elsewhere in Canada. Long term maintenance spending was \$3.41 million in B.C. and \$246,000 elsewhere in Canada.

III.3.1.2 Value-Added Impact

- Capital and maintenance expenditures contributed a value-added impact of \$33.4 million over the period. Over 80% of capital spending and 93% of long term maintenance spending occurred in B.C.



III.3.1.3 Employment Impact

- The employment impact based on non-recurrent spending on capital and maintenance sustained 407 full time equivalent (FTE) jobs over the period. Some 348 FTE were attributed to capital spending, with 268 (77%) of jobs accruing to B.C. The jobs induced by the economic activity far exceed the direct jobs created by the activity.

III.3.1.4 Taxation Impact

- The B.C. Heliski and snowcat ski industry created taxation benefits to Canada in the order of \$14.3 million from non-recurrent spending during the period from 1998 - 2001. The B.C. share of this impact was \$12 million, 84% of the total.
- Taxation benefits from non-recurrent spending accrue to all levels of government. The federal share of benefits was 48%, or \$6.88 million. The provincial share was 39%, or \$5.53 million. The municipal share was 13%, or \$1.85 million.

III.3.1.5 Import Impacts

- The heliski and snowcat industry also sustains economic activity outside British Columbia, through large imports of supplies and services.
- Capital and maintenance imports from other Canadian provinces total \$3.36 million, while imports from other countries total \$3.9 million, for a total import value of \$7.7 million for non-recurrent expenditures.

Non-recurrent expenditures are an important element of economic impact, because they reflect the confidence and the commitment operators have in the business. Often, increased annual expenditures on operations will follow (with some lag) lumpy or one-time investments in capital and long-term maintenance.

III.4 ECONOMIC IMPACT OF RECURRENT SPENDING IN THE B.C. HELI/SNOWCAT INDUSTRY

Recurrent expenditures by guests and operators drive the economic impact of the heli/snowcat industry in B.C. These expenditures will occur every year if the industry is strong and growing. They would, of course, drop if visitation fell away for any reason.

Data was gathered from operators in great detail. Their financial statements were aggregated at the regional level and then again on a province-wide basis to yield initial direct spending estimates. These estimates then formed the basis for the economic impact calculations.

The total recurrent expenditures and economic impact are represented in Exhibit 7 (page 23).

III.4.1 Income (Value-Added) Impact of Recurrent Heliski/Snowcat Expenditures

III.4.1.1 Initial (Direct) Expenditure

Initial (direct) recurrent expenditures totaled \$92.6 million in fiscal 2001. The largest share of this direct spending, 99% was attributable directly to the ski experience. A further million dollars in direct expenditure was generated through the additional days people spent at tourists in B.C. as a result of their heli/snowcat visit.

There is expenditure data missing for two operators who together might represent another 5% in direct spending, as well as the other 20 or so provisional members of BCHSSOA, who could represent an additional 5%. Therefore the above figure is a conservative estimation of the actual figures in our judgement. This initial direct spending compares favorably with the data presented in the 1999/2000 Ski Season Review, which estimated direct spending to be \$91.4 million in that year.

The tourism direct expenditure figure, in our view, is extremely conservative for two reasons:

1. Operators underestimated the number of days their customers spent in Canada on their way to and from their ski experience.
2. The average daily expenditure data for tourists by origin country is very low relative to the spending patterns of these wealthy customers.

In the future BCHSSOA might have its members track this data more closely to generate more accurate estimates.

Operators were asked to estimate where their direct expenditures were made. Respondents estimated their spending as follows:

- Local 41%
- In the Region 18%
- In B.C., outside their Region 18%
- Outside B.C. 23%

These estimates are very close to the actual direct spending estimates, which find that 81% of spending occurs in B.C.

EXHIBIT 7: ECONOMIC IMPACT OF RECURRENT EXPENDITURES IN BRITISH COLUMBIA OF HELSKI OPERATIONS AND TOURISM (In Thousands of 2001 Dollars)			
Impacts	Operations B.C.	Tourism B.C.	Total
<i>Initial Expenditures</i>	\$91,622	\$1,014	\$92,636
<i>Value Added</i>			
Direct	\$60,220	\$318	\$60,538
Indirect & Induced	\$41,428	\$768	\$42,196
Total	\$101,648	\$1,086	\$102,734
Multiplier	1.11	1.07	1.11
<i>Employment (person yrs)</i>			
Direct	1,202	11	1,213
Indirect & Induced	1,229	17	1,246
Total	2,431	28	2,459
Multiplier	2.02	2.55	2.03
<i>Labour Income</i>			
Direct	\$40,779	\$210	\$40,989
Indirect & Induced	\$28,073	\$479	\$28,552
Total	\$68,852	\$689	\$69,541
<i>Taxes</i>			
Federal	\$30,272	\$303	\$30,575
Provincial	\$23,742	\$257	\$23,999
Local	\$5,346	\$62	\$5,408
Total	\$59,360	\$622	\$59,982
<i>Imports</i>			
From Other Provinces	\$17,162	\$219	\$17,381
From Other Countries	\$12,980	\$163	\$13,143
Total	\$30,142	\$382	\$30,524

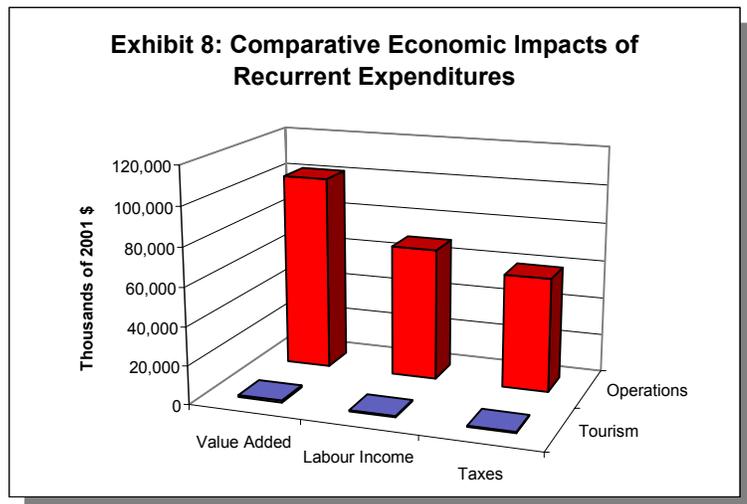
Source: Econometric Research Limited

III.4.1.2 Value-Added Impact

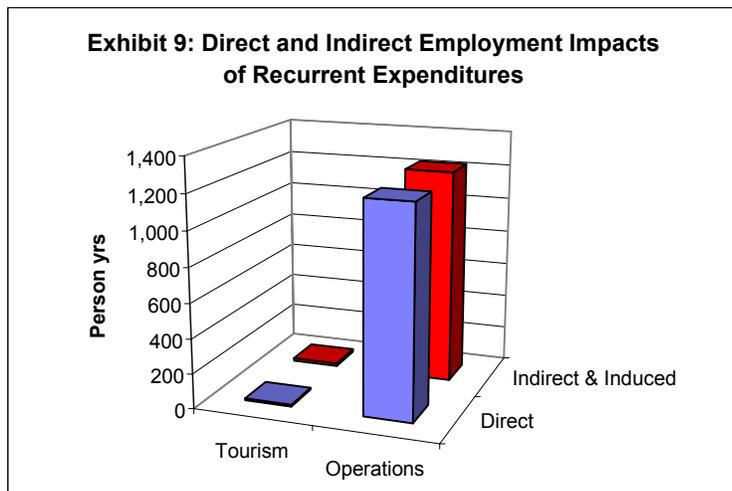
- The income of B.C. (value-added) was increased by \$102.7 million as a result of the initial tourism expenditures by the heliski/ snowcat industry.
- The multiplier measure for the total value-added impact was 1.11 for this fiscal year. This is in the average range for tourism multipliers and reflects the interdependency of the world today.

- The direct impacts, as you will find in most economies, are less than initial spending. For this industry, initial spending of some \$92 million yields direct value-added of \$61 million. The indirect and induced impacts add \$42 million, for a total value-added impact over \$100 million.

III.4.2 Employment Impact Sustained by Heliski/Snowcat Operations



- The industry sustained 2,459 person years of employment in fiscal 2001 as a result of its economic activity. The share of total is almost the same for direct employment (1,213) as for indirect and induced employment (1,246).



- The total labour income from recurrent expenditures is \$69.5 million, or 68% of value-added impact. The implication of these figures is that the average salary paid to workers in the heli/snowcat industry is \$28,280 based on the total value-added impact. This figure is higher than is found in many subsectors of the tourism industry. While detailed figures were not available to differentiate guides from lodge workers, for example, over 70% of all employees made over \$11 per hour.

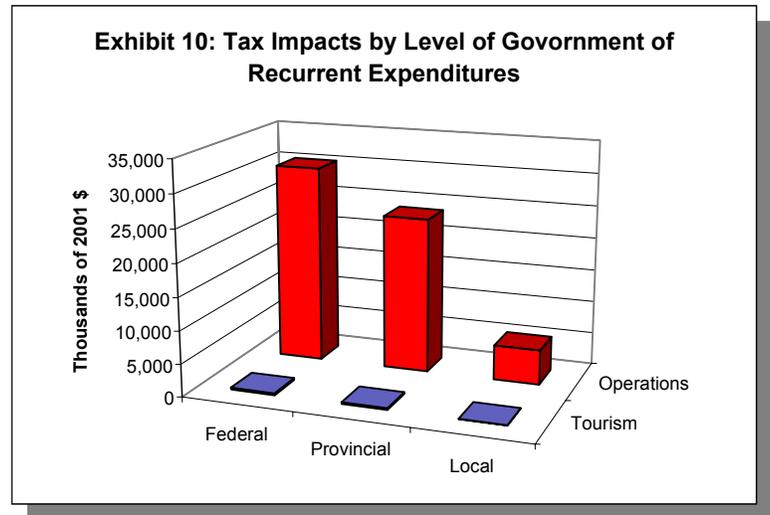
This is compared to minimum wage in BC of under \$8 per hour. The base wages as well as the average salaries based on the value-added impact suggest a sector that is a strong contributor to employment and to economic impact through payments to labour.

Direct employment estimates developed by the impact model (1,213), compare favorably with the estimates from the survey (1,137) and with the estimates from the 1999/2000 ski season review (940), given that each was missing some of the respondents. These direct employment impacts include the FTE jobs that direct suppliers sustain in their efforts to meet the demands on their products and services of the ski operators.

The employment figures reflect an important aspect of this industry, as these are not minimum wage jobs. These are skilled jobs, and whether people work as mountain guides or on the hospitality side of the business, average wages are more than double the minimum wage, and annual per capita employee payments exceed those in other areas of the industry.

III.4.3 Taxation Impact of the B.C. Heliski/Snowcat Industry

- The total taxation impact of recurrent expenditures on heli/snowcat skiing was just under \$60 million in fiscal 2001.
- The federal share of this taxation was 51%, or \$30.6 million.
- The provincial share was \$24 million, or 40% of total taxation.
- Municipalities shared only \$5.4 million of the taxation, or 9% of the total.



III.4.4 Impacts of Heli/Snowcat Skiing on Imports

Tourism expenditures on skiing in B.C. “leak” out of the regions and the province to bring economic gains to supplier regions. Alberta likely receives the major share of the benefit of these operations in B.C., based on operator responses.

These “leakages” represent imports to B.C. in order to sustain the tourism impact of the heliski/snowcat industry.

- The import impact of recurrent expenditures is estimated to be \$30.5 million in fiscal 2001.
- Imports from other Canadian provinces are estimated at \$17.4 million, or 57% of the total. Other countries benefit in the order of \$13.1 million, or 43% of the total.

Recurrent, annual expenditures in support of the tourism businesses that represent the heliski/snowcat industry are the lifeblood of successful tourism.

The economic impact of this industry is both significant to tourism in B.C. today, and important to its future. This industry serves primarily international tourists. Its impacts represent export

value to British Columbia.

III.5 ECONOMIC IMPACT CONCLUSIONS

The economic impacts of the heliski/snowcat ski industry are very significant for British Columbia. Impacts are distributed across non-urbanized regions. Employment of almost 2,500 people in B.C. on a recurrent basis is sustained. Taxation returns over \$30 million annually to government coffers.

The non-recurrent impacts of this industry are indicators of the faith operators have in the future of their businesses, and represent a significant injection into the B.C. economy. Recurrent expenditures and impact, in that they are "export" dollars, are extremely important to the economy. The recurrent impact alone added \$102.7 million to the B.C. economy in fiscal 2001. The direct recurrent spending in 2001 (\$92.6 million) represents almost 33% of the total estimated revenue for mountain resorts in B.C. in 1999 (\$281million), the latest year for which there is data. This is a significant subsector of tourism.

This industry also represents winter tourism, and helps address the challenge of seasonality faced by all tourism destinations in Canada.

While the data gathered and assessed is accurate, it also understates the real impact. First, some 22 affiliate member businesses of BCHSSOA, and two members of BCHSSOA were not counted in the information. The economic impact estimate, in the judgement of the consultants, is conservative by some 10% as a result of this missing data.

Secondly, tourism estimates are very conservative of what we believe to be the actual level of tourism spending. This is because operators have underestimated the additional days of visitation they have created for the skiers. It is also because average daily spending data by country of origin has been used to estimate the expenditure. It is our view that this data is far below what is actually spent by these skiers on a daily basis while in B.C. Attempts should be made in future years to address these conservative estimates.

Third, direct spending is understated due to the leasing arrangements for helicopters and snowcats. The operators tend to lease their equipment from helicopter companies. IN some cases, the significant return from this leasing revenue has permitted these companies to develop other lines of business, including engine overhauling, major maintenance and associated lines. Such threshold leaps are not reflected in the economic impact estimates. The ski business also allows these companies to maintain crews, maintenance, operations, and services in BC during the winter months, where they might otherwise be operating in another province or country. Not only is this equipment operating in BC, it is also available to other sectors of the BC economy in part as a result of the ski business that forms its base business in the winter months. , Future work may address this question more fully.

Finally, the year 2000/2001 was not a typical year for the business. Snow was a problem in many regions, and many ski days were cancelled. Thus the figures are very conservative estimates of impact. Despite these issues in fiscal 2000/2001, the recurrent impact of the heliski/snowcat industry was very significant for British Columbia.

The B.C. Heliski and Snowcat operators are significant contributors to tourism in British Columbia. They contribute to the value of tourism, accounting for about 3% of the Tourism GDP from international sources as identified in The Value of Tourism: Building Tourism with Insight (Tourism British Columbia, February, 2002). This significant contribution can continue and even grow if the sector is able to thrive.

IV. SOCIAL IMPACT ANALYSIS

IV.1 BACKGROUND

Dr. Peter Williams directed the socio-economic impact component of this report.

The socio-economic impacts of heli and snowcat skiing refer to the broad changes (positively or negatively) in the social and economic lifestyles of community organizations and residents that are perceived to have occurred as a result of the industry. These impacts are typically related to the way and extent that the industry and its clientele: use local resources and facilities; employ local versus imported labor; interact with local residents, enhance local amenities, services and lifestyles, and protect local heritage and environments. This phase of the study examines the socio-economic impacts from the perspective of the industry's operators and the residents of communities near to these operations.

IV.2 METHOD

While the direct economic effects of the heli-skiing industry can be quantified using economic methods of analysis, identifying its broader social impacts and economic effects is more challenging. Such changes are normally determined by asking informed industry and community stakeholders their perceptions of the type and extent of such changes generated by local tourism activity. As such the changes reported in this document are a combination of the perceptions of individuals working in community organizations and businesses, as well as on the ground examples of the effects generated by the industry. The following section describes the surveying procedures, interviewing focus, as well as the methods used to identify and assess those socio-economic changes associated with the heli and snowcat skiing industry. It should be noted that while impact assessments of this type have been conducted in tourism destinations elsewhere in North America (e.g. Oregon, Texas, etc.), no similar investigations have been conducted for the tourism industry in British Columbia. This study provides an evaluation procedure, which other sectors of the winter tourism industry may wish to follow in assessing their contributions to BC's communities.

IV.2.1 Industry Operators Survey

Surveying heli-ski industry personnel can provide useful insights into the specific initiatives undertaken by individual operators, which stimulate socio-economic change in nearby communities. Their comments can also help to clarify the focus (e.g., type and geographic location) and direction (e.g. positive or negative) of specific changes stimulated by the heli and snowcat skiing industry. In addition, their comments may also provide tangible examples of the kinds of initiatives the industry is taking to contribute to the social life and vitality of BC communities.

Phase 1 of this portion of the study involved surveying BC's heli and snowcat operators about their perspectives on the socio-economic effects of their operations on nearby communities. Surveys were conducted via telephone and Internet during the period of November through December of 2001. In total 21 of the 22 operators contacted participated in the interviews.

IV.2.2 Community Resident Survey

It was expected that the perspectives of the industry operators might emphasize primarily the positive changes their industry had generated in surrounding communities. To address this possibility, the researchers also gathered the perspectives of informed residents living in communities near heli and / or snowcat skiing operations. It was felt that local residents would be in the most appropriate position to assess the extent that their communities had been impacted by the industry's activities. It was also felt that while there might be some general agreement about the types of impacts generated, there could also be some ambivalence and / or contradictory perspectives concerning the extent to which such changes were positive or negative. In particular, these differences might be evident between respondents involved in local organizations with varying purposes, and between residents from different regions.

It was felt that residents involved in local economic and other community organizations would be most informed about the effects of various forms of economic development in their towns. Consequently, respondents to the community resident survey were randomly selected from sampling frames comprised of representatives of local economic and social-cultural organizations. While some of these respondents might have known a lot about the full impact of the industry in their community, others may have known less. The goal was to let the sampling process provide the study with a representative group of respondents from across the communities.

The respondents were from towns near the areas where heli and snow cat skiing operations occurred. They were initially contacted by telephone and asked if they would participate in the survey. If they agreed to participate, they were then sent (faxed or e-mailed) a standardized questionnaire with questions concerning their impressions of the socio-economic impacts of heli and / or snow cat skiing on their community. Upon completing the survey, they were asked to

return their responses by e-mail, fax or mail to the study team. Overall, 325 representatives, from 10 communities were contacted to participate in the study. Of this group, 243 persons initially agreed to answer the survey's questions. After three sets of call-backs, 128 community representatives actually completed and returned their survey instruments. This group was comprised of approximately 58% economic and 42% socio-cultural representatives associated with private sector, non-government, and government community organizations.

IV.2.3 Survey Content and Analysis

The types of socio-economic impacts explored in the study addressed well-recognized impact items typically associated with tourism destination regions, as well as others identified by the respondents during initial telephone interviews. These items dealt with a range of broad economic, social, cultural and environmental effects. Both the industry operator and the community surveys addressed many of the same socio-economic items in a similar questioning format. However, there was also other specific impact items which were unique to each group.

The interviews with industry operators and community residents went beyond identifying simply the extent to which specific impacts were perceived to have occurred, to determining the degree to which the impacts were considered to be positive or negative. This is an important point, because simply indicating the extent of agreement with a statement does not necessarily mean that a respondent evaluated the item positively or negatively. For example, it cannot be assumed that a respondent who agreed that "heli and snowcat skiing creates more employment" liked that change because the jobs created may have also been perceived to be seasonal, low paying or menial. Alternatively, disagreement with the statement does not necessarily mean that a respondent was necessarily opposed to heli-skiing development as an economic development tool. They may have been simply suggesting that more must be done to create greater economic linkages between the operation and their specific community.

To avoid this ambiguity in the interpretation of the industry operator and community resident responses, a **relative impact significance index** was created. In both surveys, this involved:

1. Measuring the **extent** to which specific socio-economic changes associated with heli-ski and snowcat skiing operations were perceived to have occurred.
2. Identifying respondent **preference** levels for these changes, and
3. Specifying a combined **relative impact significance index** for each of these changes (i.e. extent rating x preference rating).

For each type of impact examined, the relative impact significance index score could range from 25 (meaning a very large and much preferred impact) to 1 (meaning a very limited and most undesired impact.).

IV.3 FINDINGS

This section describes the overall socio-economic changes perceived to be associated with the heli and snowcat skiing industry in British Columbia. First, it describes the industry's overall effects as viewed from the operators' perspective. Second, the viewpoints of community residents concerning such impacts are presented. Finally, an overall summary of the socio-economic impacts of the industry on local communities based on the combined perspectives of both groups is presented.

IV.3.1 Industry Operators' Perceptions of Socio-Economic Changes

Overall, the operators clearly felt that their businesses provided many positive impacts to several near-by communities. The following section describes the extent and types of direct economic linkages the industry is perceived to have with communities in British Columbia. This is then followed with a description of operators' perspectives on the overall role the industry has played in influencing community life and vitality in these centers. It then identifies the operators' views on the extent and preference for a range of more specific changes induced by the industry's activities. Finally, the section presents the operators' ratings of the overall relative significance of these changes. .

IV.3.1.1 Economic Linkages With Communities

The quantifiable direct economic impact of the industry is presented elsewhere in this report. This section only reports on perceptions of the relative impact of these economic linkages with BC communities.

The industry as a whole reports having economic linkages with numerous small and medium sized communities. Indeed operators cited 33 BC communities with which they have economic ties (Table 1) Many of these communities are relatively small interior BC communities with economic bases linked primarily to extractive resource industries or more recently to a growing set of tourism and other service industry endeavors. The economic linkages associated with the industry come primarily in the form of purchases of food and beverage supplies, equipment and business supplies, staff accommodation and other related business services, as well as sources of employment. While these connections vary in both frequency of occurrence and size of contribution with each community and heli and snowcat skiing company, there are some overriding patterns.

Beyond Vancouver, the economic ties with BC communities tend to be dispersed. However, a few communities have frequent connections with the industry. For instance, the greatest concentrations of companies purchasing food and beverage supplies are linked to Golden, Vernon, and Revelstoke (Table 1). The purchase of equipment and other business supplies by heli and snowcat companies are most frequently associated with Revelstoke, Golden and Nelson. Other skiing related business purchases are linked most often with the communities of

Revelstoke, Golden and Blue River. Finally the provision of accommodation for company staff most frequently occurs in Vernon as well as Blue River, Golden and Revelstoke (Table 1).

Table 1. Communities Cited As Having Direct Economic Linkages To Heli and Snowcat Skiing Industry

Aldergrove	Golden	Lower Mainland	Prince George	Trout Lake
Blue River	Invermere	McBride	Revelstoke	Valemount
Calgary	Jaffray	Meadow Creek	Smithers	Vancouver
Cranbrook	Kamloops	Nakusp	Squamish	Vernon
Crescent Spur	Kaslo	Nelson	Stewart/Bell	Whistler
Fernie	Kelowna	New Denver	Sun Peaks	
Gold Bridge	Lillooet	Pemberton	Terrace	

IV.3.1.2 Overall Impacts Effects Near, or Adjacent To BC Communities

Many of the operators have conducted their operations with BC communities for several years. Consequently, several of them indicated that their overall socio-economic contributions to those communities were moderate or in some cases quite substantial.

Levels of agreement (mean score = 4.60) were strongest with respect to the industry's role in **increasing the overall social life and vitality** of these communities. Their contributions came in the form of:

- the provision of free and /or subsidized access to their ski programs and facilities
- the sponsorship of social services
- events and fundraisers for community organizations (e.g. recreation events such as outdoor competitions)
- community service foundation camps
- supplying community access to health and communication infrastructure (e.g. medical staff, emergency helicopter transportation service, internet resources), and
- creating community pride and awareness amongst locals and visitors (Table 2)

Table 2.: Level of Operators’ Agreement Concerning Overall Industry Contributions to Communities.

Impact Item	Mean Score*
Our ski business has made a positive contribution to the social life and vitality of the communities in or near which it operates	4.60
Our ski business has been a positive source of skill development for the local residents of BC communities in or near which it operates	4.50
Our ski business has made a positive contribution to the variety of goods and services of the BC communities in or near which it operates	4.35

* Scores based on a scale ranging from 1=strongly disagree to 5= strongly agree

The operators also believed that they played an important role as a **positive source of skill development** (mean score =4.50) for the residents of BC community in or near heli and/or snow cat business operations. These skill development opportunities came primarily in the form of chances for local people to: meet and exchange ideas with business people from around the globe, participate in subsidized winter guide certification programs, and take part in training sessions in hospitality and service related businesses. (Table 2)

Finally, their role in **creating a greater variety in the range of goods and services** for local communities was also considered to be substantial (mean score = 4.35) by these operators. Their contributions in this regard were primarily linked to: delivering recreation programming such as student learn to ski programs; creating new commercial facilities such as restaurants, retail and athletic goods stores; and providing summer recreation events, programs and camps. (Table 2)

IV.3.1.3 Operators’ Perspectives on Extent of Specific Socio-Economic Changes

As suggested earlier, operators felt that the presence of their operations had contributed to moderate and in some cases substantive increases in the overall social life and vitality of nearby or adjacent communities. Highest levels of support for this perspective were linked to the industry’s ability to:

- increase local community revenues;
- expand opportunities to meet interesting other people;
- create local jobs;
- build awareness of other peoples and cultures; and,
- expand the income generating possibilities for local residents and businesses. (Table 3.)

They were less convinced of the industry’s role in changing local levels of congestion, noise,

environmental quality, as well as cultural opportunities. Here there was some uncertainty in their responses (Table 3)

Table 3. Operators' Ratings of Specific Industry -Induced Changes.

Impact Item	Mean Response			Impact Type***
	Extent*	Preference* *	Relative Significance Index	
Revenue generated in the community	4.62	4.81	22.22	E
Opportunities to meet interesting people	4.43	4.76	21.09	S
Number of jobs in the community	4.38	4.76	20.85	E
Amount of income going to local businesses	4.24	4.86	20.61	E
Personal income of local residents	4.20	4.75	19.95	E
Investment and development spending in the area	4.32	4.58	19.79	E
Life and vitality of the community	4.21	4.60	19.37	S
Job-skill Level	4.20	4.55	19.11	E
Opportunities to learn about other people and cultures	4.21	4.50	18.95	S
Positive attitudes of local residents towards tourists	4.05	4.65	18.83	S
Career advancement	4.05	4.60	18.63	E
Understanding of different people and culture by residents	4.10	4.45	18.25	S
Pride of local residents	4.00	4.35	17.40	S
Variety of goods and services in the area	4.00	4.15	16.60	E
Community spirit among local residents	3.85	4.20	16.17	S
Amount of local property taxes collected	4.19	3.81	15.96	E
Awareness/recognition of the local culture and heritage	3.70	4.15	15.36	S
Variety of entertainment in the area	3.70	3.85	14.25	S
Quality of natural environment	3.20	4.10	13.12	EN
Variety of cultural facilities and activities in the community	3.37	3.85	12.97	S
Demand for cultural activities and programs	3.47	3.70	12.84	S

Level of traffic congestion in the area	3.20	3.40	10.88	EN
Noise level in the community	3.30	3.25	10.73	EN
Average	3.96	4.28	16.95	

* Mean scores based on a scale ranging from 1=large decrease change to 5= large increase change.

** Scores based on a scale of 1= least extent and most dislike of impact, to 25=largest extent and greatest preference of change. .

*** E= economic, EN = environmental, S = social change

IV.3.1.4 Operators' Preferences For Specific Socio-Economic Changes

Overall, operators felt quite positive about the changes their businesses had induced on local communities. They were most enthusiastic about their industry's role in creating various forms of economic spin-offs for local community businesses and residents. They were less positive about changes linked to noise and traffic levels, as well as cultural opportunities in and around BC communities near where their businesses operated. (Table 3).

IV.3.1.5 Operators' Perspectives on Relative Significance of Socio-Economic Changes

Overall relative significance indexes for each of the impact items were identified. This was done by combining the operators' extent and preference responses concerning the specific socio-economic changes perceived to have been created by the industry.

Based on this analysis, it was apparent that the greatest and most preferred changes induced by the heli and snowcat skiing industry were related to increases in the economic vitality of the communities (e.g., business and personal income, jobs). Also ranked highly in terms of overall significance were opportunities to meet people from other places and cultures. These opportunities were created by visitors coming to the communities as part of their heli and snowcat skiing activity. The operators also indicated that in relative terms the least significant changes linked to the presence of their operations near the communities were increases in noise, traffic and cultural opportunities. Increases in environmental quality were also deemed to be relatively insignificant as well. (Table 3)

IV.3.2 Community Resident Perspectives on Impacts of Heli and Snowcat Skiing Industry

The following section highlights the overall socio-economic changes induced by the heli and snowcat industry as perceived by residents of the communities near these operations. The section begins by describing the perceived relative economic contributions of this industry as compared to other winter-based tourism industries, which also contribute to the economic base of these communities. This is then followed with a discussion of residents' views on the extent and preference for these socio-economic changes induced by the industry. Finally the section highlights the relative significance of these changes as suggested by the residents.

IV.3.2.1 Residents’ Perceptions of Relative Economic Impacts of Heli and Snowcat Skiing Industry

As indicated earlier in this report, the heli and snowcat skiing industry is engaged in a wide variety of activities that generate significant economic impacts for governments, investors, operators and employees in British Columbia. Some of this impact is directed at local communities adjacent to such operations. However, the relative impact of this industry compared to other winter tourism businesses is unknown. To provide some perspective on this issue, community representatives were asked to rank the relative economic importance of the heli and snowcat skiing industry on their local communities, compared to other winter based tourism industries. More specifically, the perceived contributions of the heli and snowcat industry were compared with those of down hill skiing, snowmobiling, cross-country skiing, and snowshoeing.

Overall, the industry’s effect on the winter tourism economy in the study regions was considered to be important by the community representatives. Heli and snowcat skiing’s economic contributions were consistently ranked in the top three of all winter tourism pursuits examined. The industry ranked second only to alpine skiing with respect to its contributions to community-focused investment and development, job creation and local property tax generation. It also was ranked second to snowmobiling in terms of creating local revenues (Table 4). The respondents offered no estimation of absolute economic impact.

Table 4. Residents’ Rankings Of Heli and Snowcat Skiing’s Relative Economic Contribution To Winter Tourism

Type of Change	Mean Relative Impact Ranking *				
	Heli/Cat Skiing	Snowmobiling	Alpine Skiing	X-C Skiing	Snowshoe
Local Revenues	2.36	2.04	2.41	3.53	4.65
Community Jobs	2.15	2.38	2.02	3.68	4.75
Business Income	2.47	2.06	2.33	3.71	4.73
Goods / Services	2.50	2.16	2.17	3.42	4.60
Investment	2.15	2.73	2.00	3.62	4.77
Property Taxes	2.56	2.69	2.10	3.64	4.73

*Mean scores are measured on a scale ranging from 1=top relative ranking to 5=lowest relative ranking.

IV.3.2.2 Residents’ Perspectives on Extent of Specific Socio-Economic Changes

Community residents were asked to provide detailed descriptions of the extent of change that the heli and snowcat skiing industry was perceived to have created in their communities. Overall, the extent of change generated was perceived to be moderate in character. However, their perceptions varied considerably depending on the type of change or impact being assessed.

The economic changes to local communities brought on by the industry were perceived to be between limited to moderately extensive increases. The greatest changes were associated with increases in:

- revenue generated for local communities,
- local jobs created, and,
- investment and development spending in the area.

Above average changes were also believed to be associated with increases in the amount of additional income going to other businesses in these communities, as well as growth in local property taxes generated (Table 5).

Generally, residents perceived social changes generated by the industry to be less extensive than those associated with economic impacts. However, these changes also varied considerably in terms of their perceived extensiveness. The highest, yet still moderate, degree of social change was perceived to be associated with increased levels of land use conflict between the heli and snowcat industry and other local land users. Similarly, above average increases in social change were linked to the industry’s contribution to the life and vitality of local communities. In this regard, opportunities to meet, and learn about other interesting peoples and cultures, as well as have greater availability of recreation services were perceived to have been increased by the industry’s presence in the surrounding areas (Table 5).

Table 5. Residents’ Ratings of Specific Industry –Induced Changers

Impact Item	Mean Response			Impact Type***
	Extent*	Preference*	Relative Significance Index	
Revenue generated in the community	4.08	4.36	17.79	E
Number of jobs in the community	3.94	4.42	17.41	E
Opportunities to meet interesting people	3.88	4.34	16.84	S
Amount of income going to local businesses	3.78	4.23	15.99	E
Investment and development spending in the area	3.87	4.09	15.83	E
Life and vitality of the community	3.84	4.03	15.48	S
Availability of recreation services	3.69	4.04	14.91	S
Opportunities to learn about other people and cultures	3.55	4.10	14.56	S
Understanding of different people and cultures by residents	3.52	4.07	14.33	S
Variety of goods and services in the	3.54	4.01	14.20	E

**Analysis of Socio-Economic Benefits
of Helicopter and Snowcat Skiing in British Columbia**

community				
Personal income of local residents	3.46	4.02	13.91	E
Variety of entertainment in the area	3.53	3.82	13.48	S
Awareness/recognition of the local culture and heritage	3.43	3.88	13.31	S
Amount of local property taxes collected	3.57	3.44	12.28	E
Demand for cultural activities and programs	3.30	3.72	12.28	S
Variety of cultural facilities and activities in the community	3.25	3.69	11.99	S
Level of urban development	3.32	3.44	11.42	EN
Quality of local services (e.g., police, fire, medical and utilities)	3.09	3.53	10.91	EN
Financial resources of local services (e.g., police, fire, medical and utilities)	3.10	3.36	10.42	E
Safety and security of local residents	3.01	3.29	9.90	S
Quality of natural environment	2.78	3.49	9.70	EN
Land-use conflicts	4.00	2.10	8.40	EN
Disputes between visitors and residents	3.49	2.25	7.85	S
Average	3.53	3.71	13.10	

* Mean scores based on a scale ranging from 1=large decrease change to 5= large increase change.

** Mean scores based on scale of 1= least extent and most dislike of impact, to 25=largest extent and greatest preference of impact.

*** E= economic, EN = environmental, S= social impacts

IV.3.2.3 Residents' Preferences For Specific Socio-Economic Changes

The community respondents also cited their level of preference for the each of the economic and social changes they had previously identified. For many of the impact items, they were somewhat ambivalent about how they felt about these changes. However, several economic and social changes brought on by the industry met with their approval.

In particular, the community residents provided the greatest level of approval for the economic changes brought to local communities by the industry. The industry's role in contributing to jobs and revenue in the community, income for other local businesses and people, local investment and development spending were all regarded as being favorable (Table 5).

Similarly, some of the industry's perceived social effects on local communities were also believed

to be moderately positive. In this regard, highest levels of approval were given for the industry's contribution to:

- increasing opportunities to meet and learn about other people and cultures,
- improving community life and vitality,
- increasing awareness of local culture and heritage, and,
- expanding the availability and variety of recreation and entertainment options in the area (Table 5).

Conversely, community respondents were much less enthusiastic about other changes such as the industry's role in creating land use conflicts, as well as generating disputes between local residents and visitors. They also expressed below average levels of support for the industry's contributions to the following:

- the increased safety and security of local residents,
- the increased availability and quality of local social services and utilities,
- the level of local property taxes, and,
- the increased quality of the area's environment. (Table 5).

IV.3.2.4 Residents' Unprompted Perspectives on Socio-Economic Impact on Community Organizations

Several residents offered additional commentary in the form of letters, email notes and written remarks on their questionnaires concerning the impact of the industry. These unprompted responses suggested that far more favorable than unfavorable opinions existed concerning the industry's impacts. About two-thirds (68%) of all the comments provided about the impacts created on their organizations were favorable. Of the favorable comments received, the largest proportion of these were related to the industry's contributions to inducing positive economic change. In this regard, they tended to frequently mention the industry's role in generating new clientele and additional shared revenues and servicing opportunities for their specific organizations. However, about a third (32%) of all the comments provided by the representatives cited negative effects caused by the industry. The largest share of these negative comments was related to the lack of economic benefits generated by the industry for their specific organizations. In this regard, a common concern expressed was the need for greater linkages and alliances between the industry and their specific activities (Table 6).

Table 6. Residents' Unprompted Perspectives of Socio-Economic Changes to Community Organizations

Type of Change	Positive Comments # and % of Total Responses	Negative Comments (# and % of Total Responses
Economic Changes	35 (51.4%)	13 (19.1%)
Social Changes	11 (16.2%)	5 (7.4%)
Environmental Changes	0 (0.0%)	4 (5.9%)
Overall	46 (67.6%)	22 (32.4%)

IV.3.2.5 Residents' Unprompted Perspectives on Extent of Socio-Economic Impact on Overall Community

A further analysis of the responses concerning the industry's effects on their communities indicated somewhat similar but less positive sentiments. Overall, the respondents expressed more favorable (55%) than unfavorable (45%) opinions concerning the industry's impacts. Of the favorable comments received, the greatest share of them (75%) was related to positive economic changes the industry had made. These changes were largely related to diversifying the economic base, increasing local investment, and promoting awareness of the area in the marketplace. Favorable social changes cited by the community respondents were frequently related to the positive role the industry was playing in creating more "rounded", younger and vital communities.

Alternatively, the respondents were less enthusiastic about the contributions the industry was making to other social and environmental characteristics of their communities. More than half (59%) of all the social comments provided were negative in character. Their concerns were frequently related to the role the industry was playing in escalating recreational land use conflicts (primarily with snowmobilers), and increasing housing costs. The most frequently cited environmental concerns were linked to the industry's potential impact on wildlife and wilderness areas. In this regard, a frequent concern expressed was the need for greater linkages and alliances between the industry and their specific activities (Table 7).

Table 7. Residents' Unprompted Perspectives of Socio-Economic Changes To Communities.

Type of Change	Positive Comments (# and % of Total Responses)	Negative Comments (# and % of Total Responses)
Economic Changes	35 (41.3%)	17 (20.0%)
Social Changes	11(12.9%)	16 (18.8%)
Environmental Changes	1 (1.1%)	5 (5.9%)
Overall	47 (55.3%)	38 (44.7%)

IV.3.2.6 Operator's Perspectives on Relative Significance of Socio-Economic Changes

Based on the perceived extent and preference for changes generated by the heli and snowcat skiing industry, relative socio-economic impact indexes were created for each of the impact items examined. These indexes identify in relative terms, the changes that are perceived to be of most favourable or unfavorable overall significance for the communities. Generally, the higher the indexes score, the greater the perceived size and preference of the impact item to the community.

Based on this analysis, the most advantageous socio-economic impacts associated with BC's heli and snow cat skiing industry tended to be primarily economic in character. Four of the top five impact indexes generated were associated with economic effects perceived to have been induced by the heli and snowcat skiing industry. The top five indexes were related to the industry's effect on:

- revenue generation in local communities (17.79),
- job creation in local communities (17.41),
- opportunities to meet interesting people (16.84), and,
- income generation for local businesses (15.99). (Table 5)

The industry's least significant relative impacts tended to be tied to increased social and environmental changes. In particular the industry was perceived to have played relatively less favorable roles in:

- increasing disputes between visitors and residents (7.85),
- generating land use conflicts (8.40),
- and, diminishing the quality of local environments (9.70), and
- affecting the safety and security of residents (9.90)(Table 5)

IV.4 COMPARISON OF COMMUNITY STAKEHOLDER PERCEPTIONS OF IMPACTS

Because of the potentially varying interests and types of information on which respondents might have based their socio-economic impact opinions, The perspectives of residents linked to various economic, social and government organizations within these communities were compared. Few statistically significant differences in the opinions they expressed were evident.

IV.4.1 Economic and Government Stakeholder Comparisons

Economic and government stakeholders expressed no significant differences ($p = < .05$) in the average relative impact index scores they assigned to each of the items examined (Table 8). As well, the relative rankings of these impact indices by the economic and government groups in these communities revealed a strong, positive and statistically significant correlation ($r=+.92$) in their responses.

Table 8. Comparisons of Resident Economic and Government Stakeholder Perspectives on Overall Relative Significance of Impacts

ITEM	Mean Score		t-test	Sig.
	Gov*	Econ**		
Life and vitality of the community	15.00	16.65	-1.0990	0.275
Demand for cultural activities and programs	11.58	13.21	-1.3751	0.174
Variety of cultural facilities and activities in the community	12.00	12.57	-0.5251	0.601
Opportunities to learn about other people and cultures	15.47	15.56	-0.0633	0.950
Awareness/recognition of the local culture and heritage	12.67	14.30	-1.2022	0.234
Variety of entertainment in the area	12.95	14.75	-1.3427	0.184
Availability of recreation services	15.85	15.36	0.3210	0.749
Opportunities to meet interesting people	16.95	17.83	-0.5996	0.551
Understanding of different people and cultures by residents	15.76	14.72	0.7672	0.446
Revenue generated in the community	19.79	18.30	1.1025	0.274
Number of jobs in the community	18.37	17.80	0.5238	0.602
Personal income of local residents	14.88	15.23	-0.2189	0.827
Amount of income going to local businesses	17.94	16.24	1.1361	0.260
Variety of goods and services in the community	14.00	15.56	-1.1878	0.239

Investment and development spending in the area	17.37	17.31	0.0447	0.964
Quality of natural environment	9.11	11.67	-1.6812	0.097
Level of urban development	11.05	12.69	-1.3288	0.189
Quality of local services (e.g., police, fire, medical and utilities)	12.18	11.38	0.6016	0.550
Financial resources of local services (e.g., police, fire, medical and utilities)	11.28	10.77	0.4435	0.659
Amount of local property taxes collected	13.07	12.52	0.4108	0.683
Land-use conflicts	8.50	7.26	1.4457	0.153
Disputes between visitors and residents	6.94	7.58	-0.7013	0.486
Safety and security of local residents	9.50	10.67	-1.0630	0.292
Average	13.19	13.98	-0.9349	0.353

* Gov = government organization respondents

** Econ = economic organization respondents

IV.4.2 Economic and Social Stakeholder Comparisons

A further comparison between economic and social stakeholders' perceptions of impacts revealed somewhat similar results. No statistically significant difference ($p < .05$) existed in the overall average response of the two groups with respect to the relative significance of impacts generated by the industry (Table 9). However, significant differences were apparent with respect to a few specific impact items. In particular, the economic stakeholders placed greater emphasis ($p < .05$) on the overall significance of the industry's role in generating investment and urban development, as well as quality environments in the communities. Otherwise the two groups ranked the impacts quite similarly. A strong, positive and statistically significant rank correlation ($r = +.95$) existed in the relative impact rankings assigned by these groups of economic and social stakeholders.

Table 9.. Comparisons of Resident Economic and Social Stakeholder Perspectives on Overall Relative Significance of Impacts

ITEM	Mean Score		t-test	Sig.
	Econ*	Social		
Life and vitality of the community	16.65	15.91	0.6007	0.550
Demand for cultural activities and programs	13.21	12.11	1.0868	0.280
Variety of cultural facilities and activities in the community	12.57	11.71	0.9715	0.334
Opportunities to learn about other people and cultures	15.56	13.80	1.5357	0.128
Awareness/recognition of the local culture and heritage	14.30	13.63	0.5789	0.564
Variety of entertainment in the area	14.75	13.22	1.4188	0.160
Availability of recreation services	15.36	15.47	-0.0902	0.928
Opportunities to meet interesting people	17.83	16.25	1.3516	0.180
Understanding of different people and cultures by residents	14.72	13.64	0.9950	0.323
Revenue generated in the community	18.30	17.24	0.9500	0.345
Number of jobs in the community	17.80	16.94	0.8804	0.381
Personal income of local residents	15.23	12.90	1.8979	0.061
Amount of income going to local businesses	16.24	15.81	0.3696	0.713
Variety of goods and services in the community	15.56	13.50	1.8531	0.068
Investment and development spending in the area	17.31	14.19	2.6256	0.010
Quality of natural environment	11.67	9.03	2.0218	0.047
Level of urban development	12.69	10.03	2.7208	0.008
Quality of local services (e.g., police, fire, medical and utilities)	11.38	10.37	1.0745	0.286
Financial resources of local services (e.g., police, fire, medical and utilities)	10.77	9.91	0.9052	0.368
Amount of local property taxes collected	12.52	12.48	0.0380	0.970
Land-use conflicts	7.26	8.60	-1.7694	0.080
Disputes between visitors and residents	7.58	8.23	-0.9126	0.364
Safety and security of local residents	10.67	9.43	1.4522	0.151
Average	13.98	12.85	1.6619	

*Econ = economic organization respondents

IV.4.3 Regional Resident Comparisons

Comparisons of the resident responses on a regional basis uncovered some clear (but not statistically strong) variations in the overall significance of impact ratings and rankings. Residents from Revelstoke / Selkirks region expressed the greatest level of favorable opinion concerning the heli and snowcat skiing's effects on their communities. They placed greatest levels of positive significance on the role the industry played in not only generating positive economic advantages to the area, but also on its function as a vehicle for improving the areas social vitality, as well as opportunities to meet interesting people. Lowest overall levels of favorable and significant reaction to the perceived changes were reported for the Golden / Purcells region. Here opportunities for local business and jobs were considered to be the most favorable and significant spin-offs emanating from the industry. In all regions, the least favorable and significant impacts were tied to the industry's role in creating land-use conflicts as well as related visitor – resident disputes (Table 10).

Table 10. Comparisons of Regional Resident Perceptions of Relative Significance of Socio-economic Impacts

Item	Golden / Purcells	Revelstoke/ Selkirks	Blue River Columbia	Coastal B.C.	Northern B.C.	ALL
Life and vitality of the community	15.50	17.54	16.00	14.83	17.80	16.16
Demand for cultural activities and programs	13.21	12.86	11.68	10.36	15.25	12.60
Variety of cultural facilities and activities in the community	12.42	12.31	11.95	11.69	13.20	12.25
Opportunities to learn about other people and cultures	14.69	16.07	15.58	13.38	14.00	15.04
Awareness/recognition of the local culture and heritage	13.78	15.79	12.58	12.25	12.20	13.85
Variety of entertainment in the area	13.81	13.79	13.84	15.29	13.00	13.96
Availability of recreation services	15.58	15.13	14.90	17.00	16.20	15.53
Opportunities to meet interesting people	16.05	18.21	18.25	17.69	16.00	17.21
Understanding of different people and cultures by residents	14.21	15.29	14.32	13.20	16.00	14.51

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Revenue generated in the community	18.40	18.72	17.32	18.57	17.80	18.29
Number of jobs in the community	17.34	18.44	17.65	17.38	16.00	17.64
Personal income of local residents	12.88	14.67	16.06	16.10	15.60	14.36
Amount of income going to local businesses	16.24	16.30	15.95	18.18	17.25	16.45
Variety of goods and services in the community	14.92	13.54	14.16	15.92	16.00	14.58
Investment and development spending in the area	14.90	18.10	18.56	15.27	11.50	16.35
Quality of natural environment	8.53	11.42	13.39	9.08	11.50	10.34
Level of urban development	11.21	12.77	12.56	9.33	10.50	11.67
Quality of local services (e.g., police, fire, medical and utilities)	11.47	12.08	8.82	11.40	13.33	11.20
Financial resources of local services (e.g., police, fire, medical and utilities)	10.32	11.28	10.22	10.50	10.50	10.58
Amount of local property taxes collected	12.13	14.61	12.53	10.67	10.50	12.65
Land-use conflicts	6.84	8.41	9.48	7.64	8.75	7.92
Disputes between visitors and residents	7.29	7.60	8.52	7.90	5.00	7.63
Safety and security of local residents	9.55	10.63	9.94	9.40	11.25	9.98
OVERALL AVERAGE	12.93	14.30	13.56	13.51	13.42	13.50

IV.5 COMPARISON OF INDUSTRY OPERATOR AND RESIDENT PERCEPTIONS OF IMPACTS

Industry operators and community residents expressed strong agreement concerning the general direction of the impacts induced by heli-ski operations. For those impact items where direct comparability of responses was possible, it was evident that a statistically strong and positive correlation ($r = +.96$) existed in the relative impact rankings assigned by both groups. However, it was also apparent that the industry operators placed stronger and more favorable emphasis on the relative significance of these changes. For both groups the greatest levels of significant and favorable impact were related to primarily economic changes. The least favorable rankings were linked to the industry's role in contributing to the cultural and environmental quality of the

communities. Community residents were far more negative in their appraisal of the industry's role in creating environmental quality and land-use challenges in the regions where they operated. (Table 11).

Table 11. Comparison of Relative Significance Impact Rankings of Operator and Resident Respondents.

ITEM	Industry	Rank	Resident	Rank
Revenue generated in the community	22.29	1	18.23	1
Opportunities to meet interesting people	21.19	2	17.14	3
Number of jobs in the community	20.95	3	17.62	2
Amount of income going to local businesses	20.62	4	16.41	4
Investment and development spending in the area	20.56	5	16.35	5
Personal income of local residents	20.10	6	14.44	9
Life and vitality of the community	19.26	7	16.12	6
Opportunities to learn about other people and cultures	19.05	8	14.94	7
Understanding of different people and culture by residents	18.65	9	14.54	8
Amount of local property taxes collected	16.33	10	12.61	12
Awareness/recognition of the local culture and heritage	15.80	11	13.79	11
Variety of entertainment in the area	14.50	12	13.91	10
Variety of cultural facilities and activities in the community	13.42	13	12.17	14
Demand for cultural activities and programs	13.32	14	12.52	13
Quality of natural environment	13.20	15	10.34	15

IV.6 SOCIAL IMPACT ANALYSIS CONCLUSIONS

While there are some variations in the perceived intensity of agreement with the type and extent impacts generated, several socio-economic changes are commonly perceived to have been induced by BC's heli and snowcat skiing industry. The following section highlights the areas of primary socio-economic strength and challenge for the industry:

- The industry is perceived to touch a large number of smaller and medium sized communities in British Columbia communities from both economic and social perspective. It reports having economic linkages with at least 33 BC communities. Many of these communities are relatively small interior centres with limited economic bases linked primarily to extractive resource industries or more recently a growing set of tourism and other service industry endeavors. The economic linkages associated with the industry come primarily in the form of purchases of food and beverage supplies, equipment and business supplies, staff accommodation and

other related business services, as well as sources of employment. These and other economic ties are of considered by the operators to be significant stimulants to generating additional community revenues, creating local jobs, and expanding the income generating possibilities for local residents and businesses.

- Many of the operators have conducted their operations near BC communities for several years and feel strongly that their operations have played important roles in increasing the overall social life and vitality within these communities. Operators also feel that they have been a positive source of skill development and have created greater variety in the range of goods and services available for local communities. Linked to these overriding benefits are significant opportunities to build awareness of other peoples and cultures.
- Community residents ranked heli and snowcat skiing contributions to their community's winter tourism economic base as being relatively strong. Compared to other commercially based winter tourism activities, they rated the industry as being second overall with respect to community-focused investment and development, job creation, revenue generation, as well as local property tax generation. It was also ranked third overall in terms of creating income for local businesses as well as, increasing the variety of goods and services available for local communities.
- Generally residents were most positive about the industry's economic (as opposed to social/cultural) contributions to their communities. Four of the top five positive impact indexes generated were associated with economic effects perceived to have been induced by the heli and snowcat skiing industry. These were related to the industry's positive (but modest) effects on revenue generation, job creation, and income generation for local businesses and people, as well as local investment in these communities. Part of the reason for the moderate rating of the industry's economic impact may be related to a perceived need for it to work more closely with local communities to generate higher profile and even greater economic linkages.
- Residents perceived the industry to have played relatively less favorable social and environmental roles in their communities. These perceptions were related to the industry's perceived role in contributing unfavorably to disputes between visitors and residents, land use conflicts, the safety and security of residents, and diminishing the quality of local environments.
- Residents from economic, social and government organizations within the community rated the socio-economic impacts of the industry quite similarly. Few statistically significant differences in the opinions they expressed were evident. Only the respondents from community economic organizations placed significantly more positive emphasis on the industry's role in generating favorable investment and development opportunities, as well as improvements to the quality of the environment in the communities.

- Resident ratings of the relative significance of the socio-economic impacts induced by the industry varied little. Residents from Revelstoke / Selkirks region expressed the greatest level of favorable opinion concerning the heli and snowcat skiing's effects on their communities. They placed greatest levels of overall positive reaction on the role the industry played in generating positive economic advantages, as well as improved social vitality. Lowest overall levels of favorable reaction to the industry's effects were reported for the Golden / Purcells region. Here opportunities for local business and jobs were considered to be the most favorable and significant spin-offs emanating from the industry. In all regions, the least positive impacts were tied to the industry's role in creating land-use conflicts as well as other visitor – resident disputes. .
- Industry operators and community residents expressed strong agreement concerning the general direction of the various impacts induced by heli-ski operations. However, it was also apparent that the industry operators placed stronger and more favorable emphasis on the relative significance of these changes. For both groups the greatest levels of significant and favorable impact were related to primarily economic changes. The least favorable rankings were linked to the industry's role in contributing to the cultural and environmental quality of the communities.
- There was general agreement that the industry is contributing positively to the social life and vitality of local communities. Both groups suggested that the industry's role in increasing opportunities for residents and community organizations to meet interact with interesting new people and cultures was one of the more significant and favorable socio-economic changes induced by these operations. In terms of the overall significance of the social impacts generated, both groups ranked the industry's role in increasing entertainment variety, availability of goods and services, and learning opportunities for residents in somewhat similar and moderately significant terms
- Industry and resident groups rated the significance of disputes between visitors and residents, land use conflicts as being especially problematic. Furthermore unprompted commentaries received from respondents suggest that there was some underlying urgency to address these growing concerns. This is an especially important issue given that there was substantial difference in the relative significance rankings provided by the two groups with respect to the role the industry is playing in changing their area's environmental quality. Operators rate the industry's role in impacting the environment much more favorably than do local residents.

POST SCRIPT

For interested parties, complete copies of the following original research papers can be accessed through the offices of the BCHSSOA.

- **The Economic Impact of British Columbia's Heliski & Snowcat Sector** Western Management Consultants in association with Econometric Research Limited.
- **Social Impact Analysis of Heli and Snowcat Skiing in British Columbia** Dr. Peter Williams, Center for Tourism Policy and Research, Simon Fraser University School of Resource and Environmental Management.

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