Center for Responsible Travel
Washington, DC and Stanford University
Transforming the Way the World Travels

Economic Impact of Bear Viewing and Bear Hunting in The Great Bear Rainforest of British Columbia




Produced by

Center for Responsible Travel (CREST)

with

Pacific Analysis Inc. **Small Planet Consulting**

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Economic Impact of Bear Viewing and Bear Hunting in the Great Bear Rainforest of British Columbia was produced by the Center for Responsible Travel (CREST), a non-profit organization based in Washington, DC and at Stanford University, in order to share knowledge and deepen understanding of critical issues in the field of tourism.

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Purpose of Study and Acknowledgements

The Center for Responsible Travel (CREST), a research institute headquartered in Washington, D.C. and affiliated with Stanford University, undertook this study to assess the economic impact of bear hunting and viewing tourism in the Central and North Coast of British Columbia, an area designated as the Great Bear Rainforest. The study is intended to fill a void in the literature concerning the value of these two types of wildlife recreation in this specific region. Studies and surveys done over the past three decades have varied somewhat in their methodologies and none, to date, compared bear hunting and viewing for both grizzly and black bears within this specific geographical region. In addition, different economic figures are cited in the media and popular publications, all of which vary widely depending on author and intended audience.

The research is based on Stanford University's academic standards and the protocols of the Institutional Review Board (IRB). For the economic analysis, the study uses the same methodology that Statistics Canada uses to determine the GDP estimates of other industry sectors and therefore the economic estimates are comparable to other Statistics Canada GDP measures. All financial figures are in Canadian dollars.

The study involved a site visit and interviews, surveys of bear-viewing companies and guide outfitters, review of past studies and other literature, and collection and analysis of government regulations, practices, and statistics. Those surveyed and many of the interviews were conducted anonymously and therefore individual names, with a few exceptions, are not included.

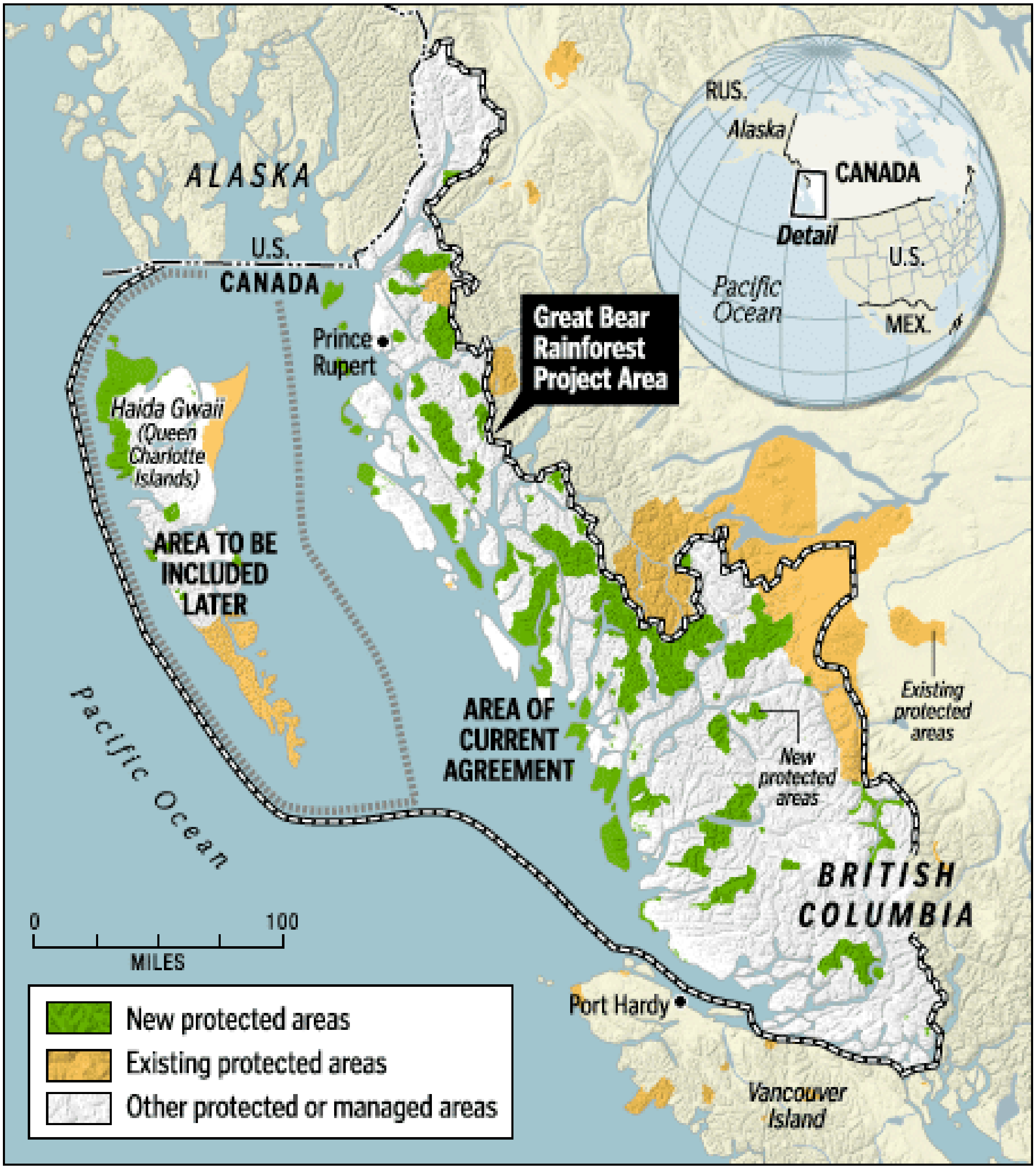
The project was directed by CREST Co-Director Martha Honey, Ph.D., in collaboration with two BC-based experts, statistical analyst Jim Johnson, Managing Principal, Pacific Analytics, Inc. and tourism professional Judy Karwacki, Managing Director, Small Planet Consulting. Claire Menke, CREST Program Associate at Stanford University, oversaw the IRB approval, initial research, and survey analysis. The CREST research and support team in Washington, DC and at Stanford included Kelsey Wiseman, Hayley Pallan, Kehan DeSousa, Austin Cruz, Gwendolyn Burke, Jeanette Lim, Roger Robinson, Ainhoa Aldalur, Alejandra Borja, Samantha Hogenson, and David Krantz. Martha Honey and Jim Johnson wrote the final report. William H. Durham, Ph.D., CREST Co-Director at Stanford University reviewed the research methodology and the final report. The study also built upon the research and approach in an April 2013 study conducted by Rosie Child of Victoria University which examined the economic value of grizzly bear viewing and hunting in virtually the same region.

The Center for Responsible Travel would like to thank the following for their assistance:

- Rosie Child of the Hakai-Raincoast Applied Conservation Science Lab at the University of Victoria whose April 2013 study examined the economic value of grizzly bear viewing and hunting in virtually the same area.
- Douglas Neasloss, Councillor, Kitassoo/Xaixais Band Council and members of the Coastal First Nations' Bear Working Group who provided information, insights, and interviews.
- The technical team (Ian Hatter, Manager; Mike Wolowicz and Carol Wrenshall) with the Fish, Wildlife and Habitat Management Branch of the Ministry of Forests, Lands, and Natural Resource Operations (MFLNRO), Victoria, British Columbia who provided statistics and maps and explained BC government policies.
- The bear-viewing companies and guide outfitters who participated in the surveys.
- The many BC organizations and individuals who provided information and analysis.
- Mike Robbins, Chair of the CREST Board and Catherine Ardagh, former CREST Program Associate who initially proposed CREST to undertake this study.

Finally, we are grateful to Tides Canada and The Nature Conservancy USA for providing financial support for this project. While this study could not have done without the help of all these people and institutions, the Center for Responsible Travel is solely responsible for its content.

Map 1.1: Great Bear Rainforest (GBF)



Source: http://alaskaoutdoornews.net/riversinletresort.com/Great-Bear-Rainforest-Park.htm

Acronyms

AtBC – Aboriginal Tourism BC

AAH - Annual Allowable Harvests

BC – British Columbia

BEAB - Black bear

BEAG - Grizzly bear

BCWF – BC Wildlife Federation

BMTA - Biodiversity, Mining, and Tourism Area

CBVA-Commercial Bear-viewing Association

CI – Compulsory Inspection

CORE - Conservation Outdoor Recreation Education

CREST – Center for Responsible Travel

CRH – Canadian Non-Resident of BC Hunter

EBM - Ecosystem-Based Management

EU – European Union

FTE – Full time equivalent for employment

GBF – Great Bear Rainforest

GBPU - Grizzly Bear Population Units

GDP – Gross domestic product or Added Value. The contribution to the economy or the sum of labor income, interest payments, depreciation, and profits.

GOA – Guide Outfitters Association

GOABC – Guide Outfitters Association of BC

GST – Goods and Services Tax

HST - Harmonized Sales Tax

HCTF - Habitat Conservation Trust Fund

IRB – Institutional Review Board

LEH - Limited Entry Hunting

MFLNRO - Minister of Forests, Lands and Natural Resource Operations

MU – Management Units

NCC – Nature Conservancy of Canada

NDP – New Democratic Party

NRH - Non-Resident of Canada Hunter

PST – Provincial Sales Tax

RH – BC Resident Hunter (qualified by place of residence and demonstrated completion of hunter safety training)

SLI – Supplementary Labor Income

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Executive Summary and Key Findings

This study is the first to compare the economic value of bear viewing and trophy hunting for both grizzly and black bears in the Central and North Coast of British Columbia, Canada, an area also known as the Great Bear Rainforest (GBF). The study assesses trends in these two sectors of wildlife recreation over several decades and analyzes the economic impact of each based on 2012 data. It examines both non-resident bear hunting with guide outfitters and independent resident hunters, as well as bear viewing offered by tourism companies in the designated GBF study area.

The study comes in the wake of controversy over trophy bear hunting in the Great Bear Rainforest, a 6.4 million hectare ecosystem on BC's north and central coast which is the world's largest intact temperate rainforest. Some 20,000 First Nations people live in the area, which is also home to grizzly and black bears, and is the only place on earth where the iconic all-white species of black bear – the Kermode or Spirit Bear -- is found. The BC government permits hunting of grizzly and black bears, but not the Spirit Bear.

In 2012, the Coastal First Nations announced a ban on bear hunting in this region, arguing that they are the stewards of the GBF.[1] In announcing an end to bear hunting, the First Nations cited, among other reasons, that trophy hunting for grizzly is threatening the growing ecotourism economy centered on bear viewing and that black bears should be included because it is impossible to tell which of them carry the Kermode gene. The BC government, contending that the province has the sole authority to regulate hunting, has continued to authorize hunting of black and grizzly bears in the Great Bear Rainforest, as well as in the rest of the province.

In defining the study area, CREST wanted to specifically examine the region where the Coastal First Nations proposed the ban. Since the BC government does not produce maps or data based on the geographical boundaries of the Great Bear Rainforest, CREST asked the Coastal First Nations' Bear Working Committee to provide a map of the territory they are including within their ban. CREST then entered a research agreement with the Fish, Wildlife and Habitat Management Branch of the BC Ministry of Forests, Lands, and Natural Resource Operations (MFLNRO) to provide hunting data related to this study area.

This study was carried out according to Stanford University's research protocols and with the approval of the University's Institutional Review Board (IRB). It used the same National Accounting criteria that Statistics Canada uses to determine the economic importance (GDP) of other industry sectors. The research team conducted a site visit and interviews with government officials, businesses, Coastal First Nation leaders, and associations and organizations involved in bear viewing or hunting. We conducted surveys (online and telephone) with bear-viewing companies and a sampling of tourists who participated in bear viewing in the GBF in 2012, as well as with several guide outfitters operating in the area. We also reviewed a wide range of publications, including all of the previous studies related to the economic value of hunting and wildlife viewing in BC. Most important among these were Rosie Child's comparative analysis of guide outfitters and grizzly bear viewing in the GBF and the MFLNRO-commissioned study by Responsive Management of the economic impact of resident hunting in BC, both of which were done in spring 2013.

The main findings of this report are:

1. The overwhelming conclusion is that bear viewing in the GBF generates far more value to the economy, both in terms of total visitor expenditures and GDP and provides greater employment opportunities and returns to government than does bear hunting. In 2012, bear-viewing companies in the GBF generated more than 12 times more in visitor spending than bear hunting: viewing expenditures were $15.1 million while guided non-resident and resident hunters combined generated $1.2 million. The study also finds that organized bear-viewing activities are generating over 11 times more in direct revenue for the BC government than bear hunting carried out by guide outfitters: GDP is $7.3 million for bear viewing and $660,500 for non-resident and resident hunting combined. Further, bear-viewing companies are estimated to employ directly 510 persons (or 133 FTE jobs) per year while guide outfitters generate only 11 jobs (or 4.8 FTE) per year in the GBF. In addition, bear viewing is attracting many more visitors to the GBF than is bear hunting.

2. Bear viewing, a newer activity than bear hunting, is growing rapidly in the Great Bear Rainforest. The study identified 53 bear-viewing companies currently operating in the GBF study area and of these, the great majority reported that their business has grown over the last five years (only one business reported a decline). None said they anticipate business will decline over the next 10 years. In addition, a number of sport fishing and other nature-based tourism companies indicated that they are expanding into bear viewing, and at least one guide outfitter has shifted to bear viewing. From interviews and the site visit it is clear that unguided and unorganized bear viewing, often with drive-in tourists who camp mainly in parks, is also growing rapidly, but this study was not able to assess the size or economic impact of this sector.

3. While it is not possible to determine the total number of tourists who come to the GBF for bear viewing, 25 companies that completed the visitor portions of the CREST survey reported handling a total of 11,369 visitors in 2012. In contrast, in 2012, 186 persons (74 non-residents and 112 residents), hunted grizzly and black bears in the GBF study area. This means that over 60 times more people engaged in bear viewing rather than bear hunting in the GBF. And this number only captures a fraction of the bear viewing sector. This study identified 53 businesses involved in bear-viewing tourism within the study area, plus an undetermined number – in the thousands -- of independent tourists who engage in unguided and unorganized bear viewing in the GBF.

4. Bear viewing is a key factor bringing international visitors to the Great Bear Rainforest. CREST surveyed guests who had visited the GBF in 2012 through these 25 companies. Of the 71 visitors who completed the survey, 79% said that bear viewing was the main reason they visited the GBF. These visitors spent on average 3.8 days in the GBF. Overall, those surveyed spent about one-quarter (26%) of their total vacation time in BC and 89% of their time in GBF in bear viewing.

5. In contrast, bear hunting in BC (including the GBF) has been declining since 1980, with less resident and non-resident hunters and fewer days spent hunting. Resident hunting in BC has declined more steeply than non-resident hunting: from 7.5% of the population in 1980 to just 2.5% in 2010. Non-resident hunters remained fairly consistent over last decade at about 5000 individuals per year, but fell 20% during the recent economic crisis. Between 1998 and 2012, the number of residents hunting black bears in the GBF study area declined from 198 to 65, while the number of resident grizzly bear hunters fluctuated between a high of 60 and low of 20, with 47 in 2012. Over the same period, the number of guide outfitters has been small, fluctuating between four and seven companies, with four companies operating in 2012.

6. The relatively low economic contribution of bear hunting and the declining hunter numbers in the Province as a whole come at a time when bear hunting is losing popular support as well, both in Canada and abroad. In September 2013, a poll by McAllister Opinion Research poll found that 87% of British Columbians support a ban on trophy hunting for bears in the Great Bear Rainforest, up from 73% in a similar survey in 2008. Further, the survey found that 91% of BC hunters agree that hunters should respect First Nations' laws and customs within First Nations' territory. In addition, the European Union's ban, beginning in 2001, on importation of grizzly bear trophies from BC has effectively stopped European hunters from coming to the province to hunt grizzlies although a small percentage still come to hunt black bears. In addition, since late 2005,

bear-viewing proponents have bought the exclusive territories from three hunting guide outfitters, thereby successfully halting non-resident hunting of grizzlies in these areas which include a large swath of the central coast.

7. The 2013 MFLNRO-commissioned study conducted by Responsive Management, *Expenditure of British Columbia Resident Hunters,* suggests resident hunter expenditures reached $230 million in 2012. However, its findings raise questions and its estimates appear inflated in a number of areas. A study by BC STATS for the year 2003 estimated resident hunter expenditures at $70 million, and since then the number of resident hunter licenses declined from 160,000 to just under 80,000 in 2012, according to MFLNRO statistics. A threefold increase in expenditures since 2003 contrasts strongly with a 50% decline in people hunting and it suggests that there may be some errors in the results. In addition, the 2013 study may have overinflated the number of hunter days and spending per day, and since these feed directly into the calculation of total expenditures, one must question the validity of the total expenditure estimate of $230 million. These apparent errors may be due to the fact that the study accepted the telephone responses as stated and did not benchmark to any known data. For example, total licenses and tags (specie licenses) for the province are estimated at just over $9 million in the study,[2] whereas according to MFLNRO, the actual value of licenses and tags collected was only approximately $6.0 million for 2012,[3] a value roughly 65% of the study's estimated value. Given these uncertainties, it is not really possible to say how accurate the 2013 study is.

8. Whatever the actual amount generated by resident hunting in BC and the GBF (an amount this report questions as inflated), this spending represents a circulation of already existing money rather than new money entering the province. Resident dollars spent on hunting are dollars not available to be spent on other goods and services and therefore, as most economists would advise, resident hunting should be viewed as providing no substantive economic impact to the BC economy.

9. Even assuming that resident hunting actually contributes to the economy, it is also true that non-resident grizzly hunting has a higher economic contribution rate than does resident grizzly hunting ($244,600 in non-resident grizzly GDP for four kills or $61,000 per kill compared to $60,000 for resident grizzly GDP for six kills or $10,000 per kill).

10. The BC government's administrative apparatus overseeing bear hunting is complex, cumbersome, and costly. The MFLNRO technical team that provided data for this study said they had no information on the cost of managing bear hunting, but several officials

indicated that the government is spending more on bear hunting management than it is receiving from bear hunting. The current system includes a mixture of different categories designated for hunting – Limited Entry Hunting (LEH) areas, guide areas, guide territories, Wildlife Management Units (MUs), Grizzly Bear Population Units. etc. – that frequently overlap and make it difficult to determine where bear kills actually occur. In addition, because the BC government does not recognize the GBF as a legal geographic entity, it does not collect any bear-hunting data specific to this region. The data and maps provided by MFLNRO's technical team were based on Management Units and LEH areas, some of which extended beyond the GBF borders. Further, the government compiles only estimates (often with wide variances in percentages of accuracy) on the number and location of black bears killed by hunters. Only grizzly bear kills are officially tracked via a compulsory reporting system, and even here data in the government's own spreadsheets were, on occasion, inconsistent. The government's management and monitoring systems therefore proved unable to answer the basic question: How many bears are hunted and killed each year within the Great Bear Rainforest?

Chapter 1: Bear Viewing

The Great Bear Rainforest: An Overview

- **GBRF Description**

The Great Bear Rainforest (GBF) in Canada is an expansive region along the western coast of British Columbia (BC), north of Vancouver Island. It stretches 250 miles from the Discovery Islands to the Alaska panhandle (see Map 1.1 above). Although referring to a similar geographic region, different groups call this roughly 32,000 km^2 (12,000 sq. miles) territory along British Columbia's central and northern coast by different names, each one carrying a distinct political significance. The BC government refers to the region as the Central and North Coast.[4] First Nations, wildlife viewing tourism companies, environmental nonprofit organizations, and many academics refer to the area as the Great Bear Rainforest.[5] In contrast, guide outfitters usually refer to their specific hunting territories, as designated by the BC regional government, and not to the entire area. However, when explaining their relative locations, combinations of Central, West, and North Coast are commonly used on the different hunting websites. Many guide outfitters and resident hunters recognize the specific hunting regions that overlap with GBF, such as Skeena and Cariboo, but almost never use the term "Great Bear Rainforest."

This unique ecosystem holds great conservation significance: its 6.4 million-hectare ecosystem (almost 16 million acres) is the world's largest intact temperate rainforest,[6] representing 25% of all coastal temperate rainforest worldwide.[7] It is also home to grizzly and black bears, and is the only place on earth where the iconic all-white Kermode or Spirit Bear is found. In addition, between 18,000 and 20,000 coastal First Nations people live in this region; archeological evidence dates their settlements back at least 10,000 years. The advent of European settlement in 1800s brought "massive changes to social, spiritual and economic structures" of the coastal First Nations people which had "a profound negative impact on the peoples of the region." Today, however, the coastal First Nations bands are in the midst of a cultural and economic revival as they seek to gain greater control of decision making within the Great Bear Rainforest.[8]

The Great Bear Rainforest gained its name and reputation during the 1990s when environmental groups joined with coastal First Nations peoples to campaign for its conservation and protection. At that time the BC government and the logging industry called the forest the 'Mid-Coast Timber Supply Area' and the 'North Coast Timber Supply Area.' However, the international trend toward ecological conservation and protection gained local support in the

1990s, culminating in 1997 when environmental organizations adopted the 'Great Bear Rainforest' name as part of their initiative to protect the area. According to a Greenpeace report, "The new name reflect[ed] the thousands of grizzles, black bears and the unique white-coated Spirit Bears, which inhabit the region."[9]

- **Environmental Protection History**

Despite the name, the initial campaign centered around stopping commercial logging. As a Greenpeace report stated, "Escalating protests by indigenous First Nations, grassroots activists and environmental organizations"[10] against the destructive logging practices led to a series of resolutions to protect the ecological uniqueness of the GBF In 2006, the First Nations and the provincial government signed the Great Bear Rainforest Agreement to create "the largest rainforest protection plan in Canadian history."[11] This agreement designated protected areas where logging was prohibited and called for more consideration for the needs and culture of the First Nations, including "commitments to achieve a high level of human well-being in communities dependent on the rainforest."[12] In 2007 the Coast Opportunity Funds were established to help meet this last goal. These funds, totaling $120 million (half from government and half from private foundations and donor organizations), were tagged for the sustainable economic development and conservation of the communities in the GBF.[13] Further agreements were reached in 2009 to increase the areas "in conservation to 50% of the region" and to provide "a suite of human well-being initiatives for the First Nation communities."[14] The new agreement calls for Ecosystem-Based Management (EBM), including limiting risk to bears and other "focal" species.

Currently, about one third of the region's habitat is considered protected for key species including the grizzly bear. In 2006, the government, in consultation with First Nations and other stakeholders, designated about 300,000 hectares of public or Crown-land on the Central and North Coast as "biodiversity, mining, and tourism areas" (BMTAs) that are managed by the government "to contribute to the conservation of species [and] ecosystems." The 21 BMTAs are all adjacent to Conservancies or other Protected Areas and commercial logging and hydroelectric power projects are prohibited within them.[15]

Despite the agreements made between 2006 and 2009, a number of environmental organizations and First Nations bands continue to advocate further protections. In a 2013 report, the environmental organization Forest Ethics stated that "approximately one million acres remains to be made off-limits to logging before the region is ecologically safe."[16] The government has, however, been involved in funding the development of economic sectors and conservation plans meant to benefit the First Nations. Based on provisions in the 2006 agreements, a $120 million Coast Opportunity Fund package for conservation management and development of ecologically sustainable business ventures is intended to include First Nations' participation and livelihood improvement. Of this $120 million, $58 million has been set aside as an Economic Development Fund created to support environmentally sustainable businesses – including non-timber forest product initiatives, cultural tourism, sustainable fisheries, and green building projects. Meanwhile, members of First Nations communities have the opportunity to receive approximately $1.5 to $2.5 million annually in the form of grants to support conservation management projects within First Nation territories.[17] Additionally, as part of the Natural Areas Conservation Program, the GBF has received $30 million in conservation investments to date. Since 2007, the Canadian government and the Nature Conservancy of Canada (NCC) have worked in partnership to acquire and retire ecologically sensitive lands. The NCC and its associated organizations must match every federal dollar allocated to the program.

- **First Nations Trophy Hunting Ban for Bears**

In September 2012, the Coastal First Nations, an alliance of nine First Nations bands on the Central and North coast and the Council of the Haida Nation on Haida Gwaii, unilaterally declared a ban on trophy hunting for bears in their territories. Coalition spokesperson William Housty of the Heiltsuk First Nation said they had declared the ban because, among other reasons, trophy hunting was threatening "the First Nations' lucrative ecotourism opportunities." He argued, "Because we have not ceded any of this land to anybody, we feel that we have a voice and should have a voice in how these lands are managed, and this includes the bear hunt." [18] While much of the subsequent debate has centered around grizzly bears, the Coastal First Nations' ban includes black bears as well, in part because it impossible to tell which black bears are carriers of genes for the Kermode or Spirit bears.

BC's Minister of Forests, Lands and Natural Resource Operations (MFLNRO) Steve Thomson responded that the province has the authority to set hunting limits and the First Nations needs to respect that. He said the hunting industry is important because it contributes about $350 million to the province annually and is part of BC's heritage.[19] The Minister noted that over half of the GBF was already closed to grizzly bear hunting. The government's Fish, Wildlife and Habitat Management Branch estimated there were approximately 2000 grizzly bears in the GBF, of which less than half - some 970 bears - were in the areas open to hunting.[20]

The official policy is that grizzly bear-hunting licenses cannot exceed 6% of the total estimated grizzly population, and in practice, only 2% of the estimated grizzly population is hunted each year. Between 2004 and 2009, according to government data, 21 grizzly bears, or 2.1% of the population in the GBF, were reported to have died each year, with an average of 13 killed by hunters and 8 found dead as a result of non-hunting mortalities.[21] Minister Thomson estimated that only "one or two bears" would be "harvested" by hunters in the fall 2012. He maintained, "We believe that the current hunt is sustainable and is managed based on sound science."[22] Hunting organizations also voiced objections to the First Nations' declaration of a ban on bear hunting. "Our concern is that people without jurisdiction are unilaterally deciding something like this," said Scott Ellis, Executive Director of the Guide Outfitters Association of BC (GOABC) which represents outfitters catering to non-resident hunters.[23]

This was not the first attempt to ban bear hunting in BC. In 2001, a center-left New Democratic Party (NDP) government in BC declared a province-wide moratorium on grizzly hunting that was supposed to last three years. However, it was quickly overturned the next season when a center-right government won election. In 2001, as well, the European Union banned the entry of grizzly bear trophies from BC and in 2005, the European Union (EU) "voted unanimously to keep their doors closed to BC grizzly bear trophies because of what EU scientists say is a failure by the BC government to manage its grizzly bear populations reliably."[24] Following this decision, the number of Europeans coming to hunt grizzly bears in BC fell to "zero", according to the Guide Outfitters Association of BC.

In September 2013, the Coastal First Nations reaffirmed their call for a ban on bear hunting in the GBF with the release of a documentary on bear hunting, a new website, and a public opinion poll by McAllister Opinion Research showing that 87% of British Columbians support a ban on "trophy hunting for bears in the Great Bear Rainforest," up from 73% in a similar survey in 2008.[25] The controversy escalated following media revelations that a BC-born professional hockey player successfully hunted a young grizzly bear using a BC resident license even though he lives in the United States.[26] While the player contended he had applied for and received a legal resident hunting license, hunting opponents called for an investigation.

- **Arguments For and Against Bear Hunting**

In addition, environmental organizations and academic studies have questioned government estimates of both the overall size of the grizzly population and size of the annual "harvest" or kill by hunters. In 2005, for instance, the government stated there were as many as 17,000 grizzly bears in BC, while conservation groups and independent scientists put the number at closer to 4,000.[27] In 2010, a study by two environmental organizations found that the government's limits on grizzly hunting were frequently exceeded. "Held up against the government's own estimates of what is sustainable, the number of grizzlies being killed in BC is excessive," stated Dr. Faisal Moola, director of science at the David Suzuki Foundation.[28] In

November 2013, another study by six BC biologists from Simon Fraser University, University of Victoria, and Raincoast Conservation Foundation further challenged the government's mortality numbers. The peer-reviewed study, published in the scientific journal PLOS ONE, looked at "the effects of outcome uncertainty and components of biological uncertainty on hunt management performance" in 50 of the 57 Grizzly Bear Population Units (GBPUs) from 2001 to 2011. The study found, "Outcome uncertainty alone – discrepancy between expected and realized mortality levels – led to excess mortality in 19% of cases (population-years) examined. Accounting for uncertainty around estimated biological parameters (i.e., biological uncertainty) revealed that excess mortality might have occurred in up to 70% of cases."[29] As lead author Kyle Artelle, Raincoast biologist and PhD Candidate at Simon Fraser University, told the *Vancouver Sun*, "There is so much uncertainty in the management, it's like Russian Roulette."[30] Responding to the study, Andrew Wilson, Director of Fish and Wildlife in MFLNRO, said "we do not initially share its conclusions" and that "all evidence" suggests that "across most of the province robust [grizzly bear] populations remain."[31]

The controversy continues, with both sides citing different arguments and evidence for and against bear hunting, particularly in the GBF. The following are some of the most commonly heard arguments:

Table1.1: Non-Economic Arguments For and Against Bear Hunting

Arguments for Bear Hunting	Arguments Against Bear Hunting
Hunting quotas are based on "sound science" regarding size and distribution of the bear populations	Recent studies have shown that government science is faulty and more bear are being killed than have been authorized.
It's part of Canadians' cultural heritage. Hunting has been around 100 years; viewing is a new industry.	Trophy hunting for bears violates First Nations' laws and customs that have been around for some 10,000 years. And today, 87% of BC residents support the ban.
It removes large adult male bears & therefore fosters better bear viewing since single males kill cubs	Bears are a central part of the GBF's ecosystem; many plants and animals rely on bears.
Grizzly bear hunt is the most tightly managed hunt in BC	Size of population is very unreliable because BC government relies on expert opinion and modeling, not on-the-ground inventorying, for majority of the coast.
We need a hunt. Bears, like all species, need to be managed.	Grizzly bears are omnivores, and are hence controlled by bottom-up processes, based on food availability. The idea that they need to be 'controlled' has no ecological basis.
Bears need to be afraid of people or there will	Killing black bears should be banned because

be more wildlife-human conflicts.	they may be carriers of the Kermode gene.
There is no conflict between bear hunting and bear viewing.	Bear hunting drives bears away from people and therefore interferes with bear viewing.
Bear population is fine, healthy, and growing.	The population size and trajectory is so uncertain there is no conclusive evidence of a "fine, healthy, growing population."
Grizzly and black bear tags (specie licenses) for non-resident hunters have remained stable.	Over the last 30 years, the number of licensed resident hunters in BC have fallen more than half.

- **Previous Economic Studies**

While arguments such as these are part of the ongoing political debate, there are as well widely differing figures cited in the media and in studies by government agencies, wildlife associations, and environmental organizations for the economic value of these two types of recreation. For instance, the MFLNRO and the Guide Outfitters Association (GOABC) have in recent years repeatedly said that resident and non-resident hunting generates $350 million per year.[32]

Several studies, however, have found far lower numbers for hunting. In 2003 the same GOABC commissioned Pacific Analytics to do an in-depth study of the Guide Outfitting Industry in BC. That study found that the direct value-added (GDP) impacts of non-resident hunting was $40 million (in 2002 dollars) in 2002. Another study undertaken by the BC Government's official statistical agency, BC STATS, found the direct GDP value in 2003 of the resident hunting sector was $29 million and the non-resident hunting sector was $19 million, for a total of $48 million (in 1999 dollars). Taken together, these studies show a maximum total direct GDP value of $69 million for resident and non-resident hunting in BC a decade ago. Given the fact that both resident and non-resident hunting have contracted somewhat since the early 2000s, even after accounting for inflation, it is unlikely that the true value (in GDP terms) of the whole hunting sector to the BC economy was much above a $80-$90 million figure in 2012.

In reviewing past studies, the economic value of bear viewing seems equally – perhaps even more – imprecise and less carefully tracked than bear hunting. For instance, while the BC STATS study mentioned above calculated the economic value of resident and non-resident hunting and trapping, it did not assess the value of wildlife viewing. In a "Note to Readers" the study stated, "Wildlife viewing is an activity that is becoming more and more popular but at this point no data on the value of this component … [are] available."[33] Several studies that did look at the value of wildlife viewing in BC, did so without breaking out either bear viewing as a separate activity or the GBF as a distinct geographical area, and, as with hunting, the estimated economic values varied widely. A 1995 study estimated that the direct use value of wildlife viewing in BC was $505 million[34], while another study based on 2001 data found that BC's nature-based tourism contributed $1.55 billion in revenue.[35] A third study, also based on 2001 data, estimated that "the total GDP impacts of commercial nature-based tourism" was $783 million, while direct impact was $429 million.[36]

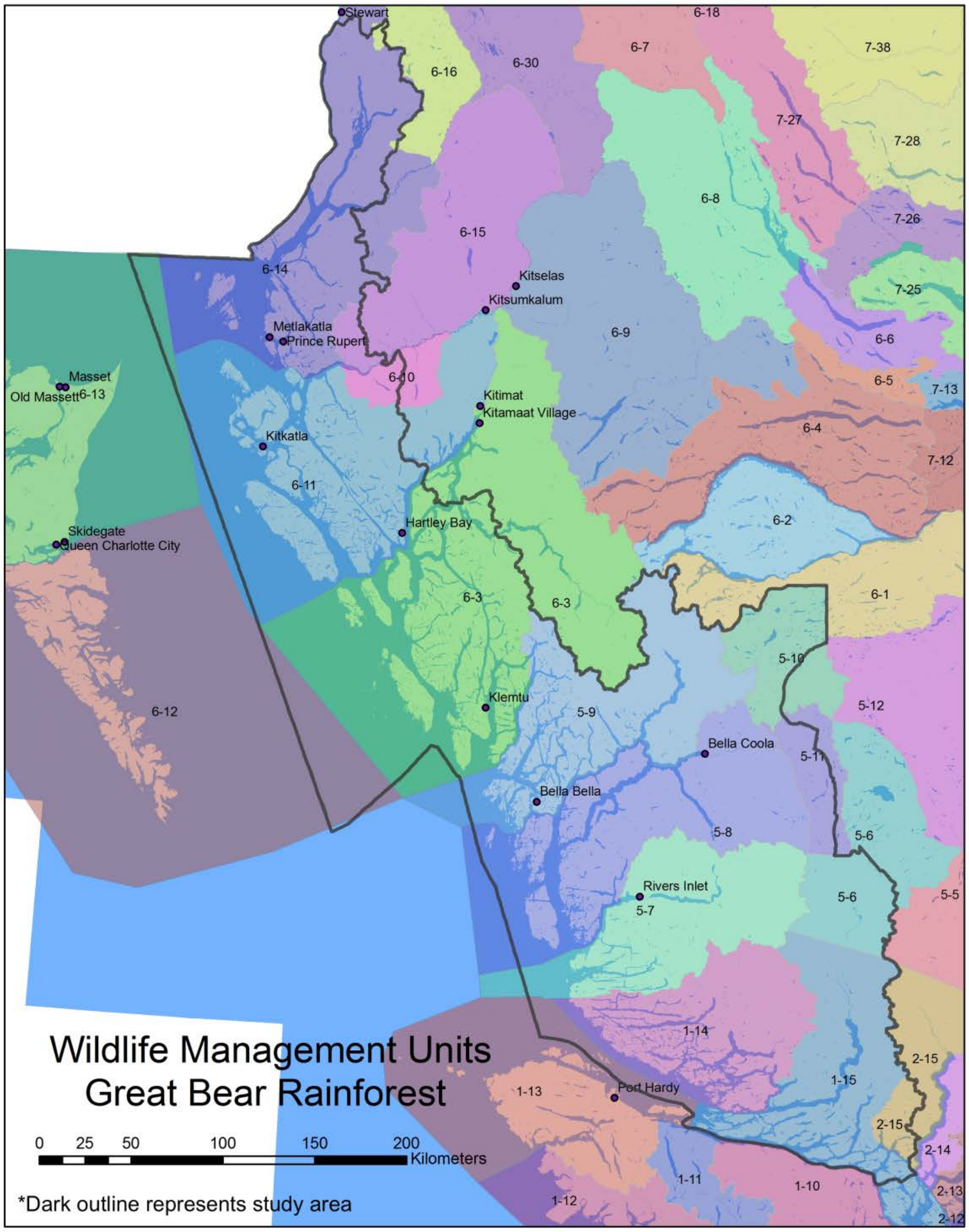
Only a few studies have sought to compare the economic value of hunting and viewing in BC. For instance, the 1995 study by the Ministry of Environment, Lands and Parks (mentioned above) compared grizzly bear hunting (both resident and non-resident) and viewing in BC. It found that resident and non-resident hunters spent a total of $2.83 million on grizzly bear hunting. It further estimated the total direct expenditures by resident and non-resident hunters for all types of hunting in BC at $144 million. In terms of viewing, the study found that 25% of people in BC took trips that included bear viewing. While noting, "Seeing a grizzly or a black bear is usually the high point of such visits," the study determined no economic value for bear viewing itself. It did, however, estimate that the total direct use value of all wildlife viewing outings in BC was over $505 million per year, or 3.5 times more than for hunting.[37] In 2003, Raincoast Conservation Foundation commissioned another study that compared the economic value of grizzly bear hunting and viewing in BC. It estimated that for "ecotourism operations involving grizzly viewing, total revenues directly attributable to the presence of grizzlies are approximately $6.1 million annually" while the revenue generated by "grizzly hunting activities" conducted by guide outfitters was $3.3 million.[38] This latter figure makes intuitive sense, given that in 2002, grizzly hunting days represented 2.8% of total hunting days in the province.[39] Over the next decade, there were no other studies comparing the economic value of bear hunting and bear viewing in all or part of British Columbia.

- **The CREST Study**

This current study, undertaken by the Center for Responsible Travel (CREST), in collaboration with two BC-based firms, Pacific Analytics and Small World Consulting, focuses on the economic value of the bear hunting and bear viewing industries in the Great Bear Rainforest. CREST decided to undertake the study because we were struck by the diverging and possibly inaccurate figures on the economics of bear hunting verses bear viewing within the area where Coastal First Nations have declared the bear-hunting ban. As we were beginning our research, we received an unpublished paper by Rosie Child, a student at the University of Victoria on the economics of grizzly bear hunting by guide outfitters and viewing in the Central and North Coast.40 This paper has proved to be the most relevant and recent (April 2013) study and we are pleased to have been able to work with the author and to incorporate much of her data in this study. Our study goes a few steps beyond Rosie Child's work because we look at both grizzly and black bears and unguided resident hunters as well as non-resident hunting by guide outfitters.

In defining our study area, we wanted to specifically examine the region where the Coastal First Nations proposed the ban. Since the exact geographical boundaries of the GBF are not recognized by the BC government, we asked the Coastal First Nations' Bear Working Committee to provide CREST with a map of the territory they are including within their ban. This map (included below) served as the official study area used in this analysis. We had two versions, both with the same geographical area: one labeled as the "Great Bear Rainforest" which we used with bear-viewing companies and associations and the other labeled as the "Central and North Coast" which we used for bear-hunting companies and associations as well as government agencies. In soliciting data from MFLNRO, for instance, we asked the government officials to provide statistics for bear-hunting activities within the area on this map.

Map 1.2: Great Bear Rainforest Study Area, super-imposed over hunting Management Units



Source: Map created by Vern Brown, Central Coast Bear Working Group, Klemtu, British Columbia.

Analysis of Bear-Viewing Tourism in the Great Bear Rainforest Study Area

Compared with commercial or trophy hunting for bears, commercial bear viewing is a fairly young industry. Grizzly viewing was first introduced in BC as an organized tourism activity in the 1990s.[41] Viewing operations are far less regulated than hunting as there are no official licenses or training programs for either companies or guides.

In lieu of government regulations, bear viewing operators are supported by several membership associations that work to promote viewing as a sustainable and financially beneficial activity. The most important is the Commercial Bear Viewing Association (CBVA) of British Columbia, which was created "to promote sustainable bear viewing in British Columbia and aid in the protection of wild bears and their ecosystems."[42] This organization has a set of bear viewing 'best practices' which are listed on its website. It has also set up a program to train bear guides to be CBVA-certified, however this is a voluntary program rather than compulsory as are the licenses and guide training courses required for hunting.[43] There are currently fourteen member companies, including a number of the largest and best known nature tourism companies in BC, that offer at least some bear-viewing trips in the Great Bear Rainforest.[44]

As an organization, CBVA is also against trophy hunting, and their website states that the bear-viewing industry contributes more to the economy than bear hunting. Their website explains: "One threat to bears that we as an organization have been dealing with is the lifting of a moratorium on trophy hunting of grizzlies in BC."[45] While not quoting any figures, the Association also says that, "[s]tudies have shown that the bear-viewing industry contributes overwhelmingly more to the provincial treasury than all of the grizzly hunting businesses combined."[46]

The driving force behind the bear-hunting ban is the Coastal First Nations, an alliance of the Wuikinuxv Nation, Heiltsuk, Kitasoo/Xai'xais, Nuxalk, Gitga'at, Metlakatla, Old Massett, Skidegate, and Council of the Haida Nation that are "working together to create a sustainable economy on British Columbia's North and Central Coast and Haida Gwaii." Its website explains, "For the past decade the Coastal First Nations has charted a course that has strengthened the connections between our communities, our environment, and our economy. The Coastal First Nations model supports the re-emergence of a sustainable economy while taking into account the cultural and ecological diversity of the Great Bear Rainforest." This involves promoting a range of sustainable economic activities including renewable energy, carbon credits, forestry, non-timber forest products and shellfish aquaculture, and ecotourism.[47] In declaring a ban on bear hunting for sport in the GBF, Coastal First Nations created Guardian Watchmen who "patrol known hotspots and document suspected trophy hunting activities." In 2013, Coastal First Nations launched its Bears Forever Project to build a wider public campaign to support the ban. Its activities have included a website, documentary ("Bear Witness") and media outreach and public speaking. It has also commissioned a public opinion poll and scientific research studies.[48]

Other organizations that help to promote bear viewing either directly in the GBF or within BC include:

Bella Coola Valley Tourism Association promotes tourism development in the Bella Coola Valley through marketing, organizing tourist services, lobbying government and encouraging growth in local tourism businesses. Led by former hunting guide Leonard Ellis and bear-viewing guide Doug Baker, the association is headquartered in Bella Coola.[49]

The **BC Wilderness Tourism Association** advocates for sustainable land use on behalf of nature-based tourism operators. Members include businesses and associations from a variety of wilderness tourism sectors, such as the Commercial Bear Viewing Association of BC and the Guide Outfitters Association of BC. The current Executive Director is Evan Loveless, and the President is Jim DeHart of the BC River Outfitters Association. WTA is headquartered in Cumberland, BC.[50]

Aboriginal Tourism BC (AtBC) is a non-profit promoting sustainable Aboriginal tourism. The goal of AtBC is to assist in the development of culturally rich tourism businesses and activities. Based in Vancouver, AtBC's CEO is Keith Henry.[51]

Destination BC (previously Tourism BC) is the provincial government marketing board. Its purpose is to market all sectors of tourism in BC in order to increase revenues, employment, and other economic benefits. Led by recently appointed CEO Marsha Walden, Destination BC provides training and leadership in marketing to tourism stakeholders in the private and public sectors. Its headquarters are located in Vancouver and Victoria, BC.[52]

Cariboo Chilcotin Tourism Region a regional DMO works with Destination BC to provide marketing assistance for the tourism industries in the Cariboo, Chilcotin and Central Coast regions of BC. They are headquartered in Williams Lake, BC.[53]

- ### Analysis of Bear-Viewing Companies

A centerpiece of our research was a survey with tourism businesses offering bear viewing within the study area. We compiled the database of bear-viewing companies through a modified snowball sampling technique that included using a variety of sources:

- **Web based research:** we looked for websites that advertised that they offered bear viewing in the GBF. This yielded an initial list of about 70 companies.

- **Literature review:** we culled names from a number of previous studies (described above), most importantly Rosie Child's April 2013 *Coastal Grizzlies* study in which she has a list of 36 ecotourism grizzly viewing ecotourism operators, of which she identified 23 grizzly viewing operators in her study area.

- **Nature Tourism and Wildlife Associations:** We also compiled names from several industry membership organizations including the Commercial Bear Viewing Association of BC, Bella Coola Valley Tourism, Wilderness Tourism Association, Aboriginal Tourism Association of BC, Cariboo Chilcotin Tourism Region, and Destination BC.

- **Site Visit with Interviews and Survey Trials:** We gathered and cross checked names during a field trip in July 2013 which included meetings and in-depth interviews with government officials, associations, companies and guides in Vancouver, Comox, Nanaimo, Victoria, Surrey, and Bella Coola. (A site visit to Bella Bella had to be cancelled at the last minute because a devastating fire burned government offices and the only grocery store in the town.) We also administered the draft bear-viewing survey to about 8 companies in order to test it.

- **Additional in-depth interviews** were carried out by telephone. These provided not only details on a number of the bear-viewing companies but also important information about how bear viewing operates and its growth. In all, we interviewed approximately two dozen people.

We included companies as part of our bear-viewing pool that 1) operate in our study area, 2) operated in 2012, and 3) demonstrated on the survey that they are a company involved in bear viewing.[54]

Based on information gathered during the field trip as well as surveys used in earlier wildlife studies in BC, we produced the final versions of both our bear viewing and bear-hunting surveys. The bear-viewing survey contains the following five sections: Background Information on the company, Bear-viewing information, Employment Information, Financial Information, and Trends. We identified 73 companies to be administered the revised survey. Beginning in August 2013, we sent these companies via email (when available) the survey and accompanying materials. We also provided a hyperlink to SurveyMonkey, the web-based survey tool that allows easy collection and tabulation of survey results. We followed up the initial emails with multiple emails and phone calls. Of our original pool of 73 companies, we disqualified 20 when we determined they were out of the study area, were not in operation, or were not offering bear viewing.

Of the remaining 53 qualified companies, six companies failed to respond to our emails and phone calls and 17 did not complete the survey because of either because of lack of time (since this was the height of the tourist season) or because the survey did not apply to them (bear viewing is not a significant part of their business). A total of 30 of the qualified companies completed all or a significant part of the survey, representing a statistically valid sampling of 41.1%.

Table 1.2: Survey of Bear-Viewing Companies: Response Rate

	# Companies Identified & contacted	# Disqualified (out of area, closed, don't do bear viewing)	# Qualified companies	# Qualified but did not complete survey	# Qualified but did not respond	# of Qualified companies that completed survey
Sum	73	20	53	17	6	30
Percent of Total	100%	27.4%	72.6%	23.3%	8.2%	41.1%

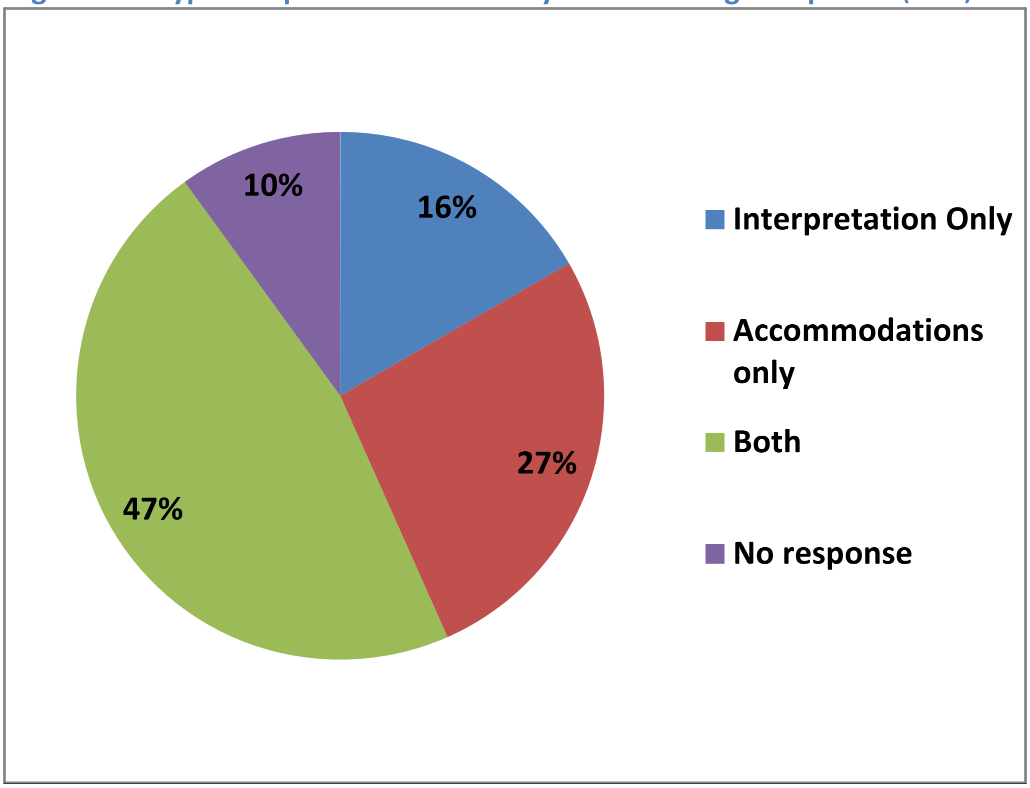
- **Profile of Companies**

Those surveyed represent a range of types of companies. A majority offer accommodations, from bed and breakfasts to motels and hotels, cabins and cottages, trailer parks and tent sites, and small ships; several offer more than one type of accommodation. Most offer bear viewing through interpretation and guided and unguided tours; again, some offered more than one option.

Table 1.3: Basic Operation Data (n=30)

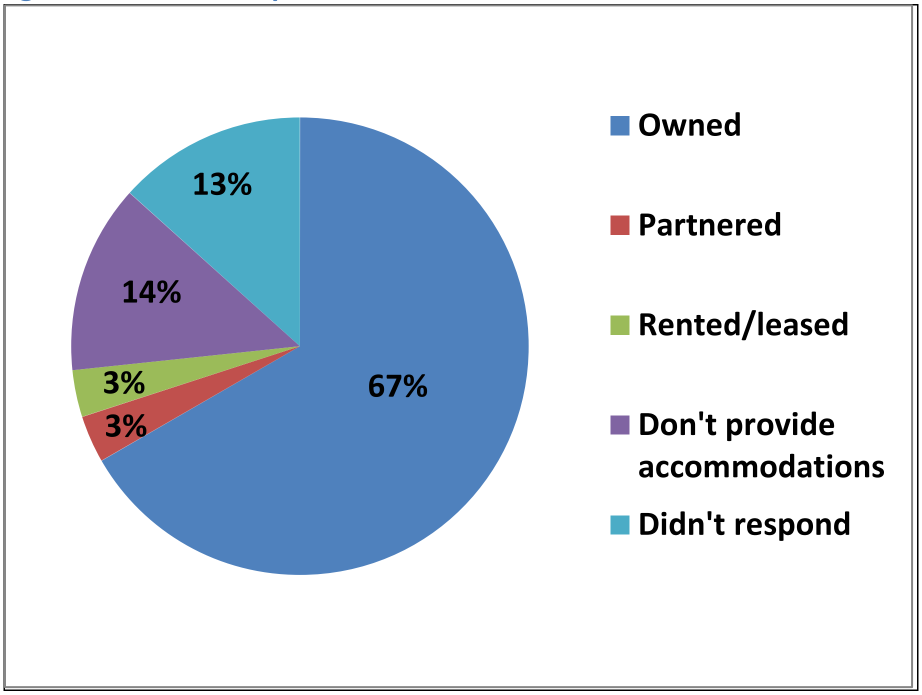
	Offer Interpretation	Provide individual guide(s)	Provide tour operator	Bed & breakfast	Hotel or motel	Cabins or cottages	Lodge or inn	Tent site or trailer park	Small ship (with lodging)
% of total	63%	43%	60%	10%	13%	17%	23%	13%	43%

Figure 1.1: Type of Operations offered by Bear-Viewing Companies (n=30)



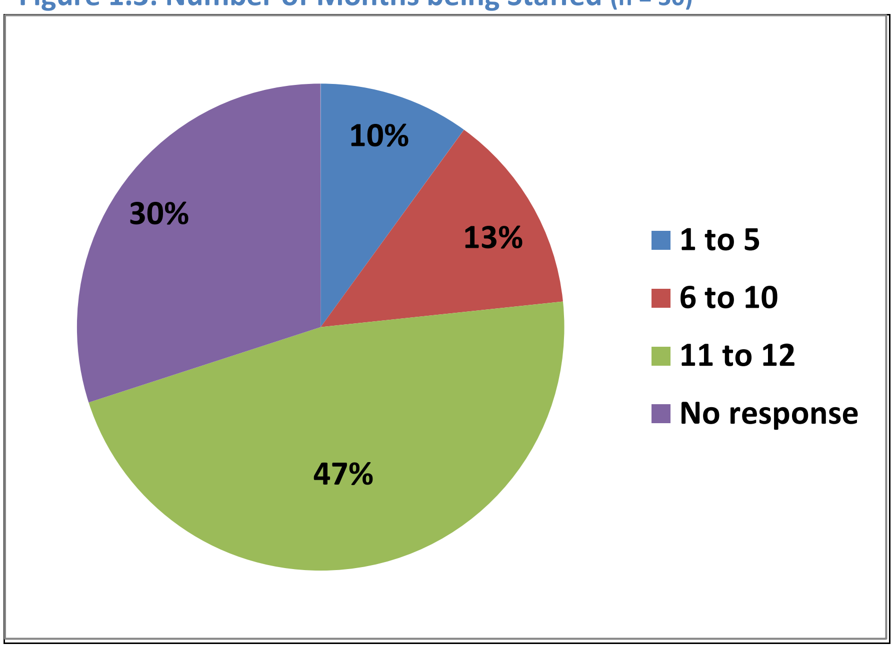
In terms of how long they have been in operation, one company, Shearwater Resort, began in 1947, while another three-quarters of the companies have opened since the 1990s. On average, the companies have been in operation for about 16 years. A majority of the accommodations – 67% – are owned by the person we contacted, while smaller percentages either had partners (4%) or rent or lease (3%) their business. The total bed capacity of these 30 businesses was 618; on average they could each accommodate 20 guests per night.

Figure 1.2: Ownership of Accommodation (n=30)



About half of respondents – 14 companies -- reported that they are staffed full time (11 or 12 months per year). Since the bear viewing is seasonal – about 4 to 5 months per year – some of these companies offer other activities such as skiing and fishing while others employ the owners or administrative staff year round.

Figure 1.3: Number of Months being Staffed (n = 30)



We put together a fuller portrait of how bear-viewing companies operate and what they are advertising from examining websites and interviewing owners, managers, guides, and associations. The BC government's tourism website, HelloBC, promotes bear viewing as a memorable wildlife experience: "Perch in an elevated viewing platform and witness grizzly bears pounding on and devouring spawning salmon. Drift silently in a riverboat and listen to a black bear and her cubs munching fresh grass sedges. Or catch a glimpse of an elusive white Kermode bear lumbering along a mossy riverbank."[55] Websites of companies offering commercial bear viewing usually describe what types of bears – black, spirit, grizzly – visitors can expect to see while traveling in a particular part of the GBF. Tweedsmuir Park Lodge which is located within a provincial park, markets abundance: "On some occasions, our guests see 15-20 different Grizzly Bears in a single float!"[56]

Companies either have a lodge or base point where they meet their clients, and subsequently take them bear viewing (sometimes included with other activities or other wildlife viewing) either by boat or on land. Boat-based viewing, including floating down rivers, gives tourists access to visit more difficult to reach places where grizzlies and even the rare spirit bear may be found. Most companies emphasize that their excursions are not simply to view bears, they also are wilderness and educational experiences for tourists. Bluewater Adventures describes bear viewing as part of a rich wilderness experience: "Adventure into this remote wilderness, seeking wildlife, meeting native guides … learn why the Great Bear Rainforest is one of the last gems on the Pacific Coast." Maple Leaf Adventures emphasizes experiential learning, "You'll also learn the 'behind the scenes' information about how the estuaries work and support the life of the Great Bear Rainforest,"[57] and, "You'll visit modern villages, talk with local residents, and see the ancient art traditions still in place today."[58]

Bear-viewing companies offer a range of tours, from relatively inexpensive day excursions to luxury, all-inclusive tour packages. For instance, "Doug on the Trail" run by ex-forester and naturalist Doug Baker who works mainly out of the Tweedsmuir Park Lodge, and Bella Coola Grizzly Tours, run by ex-hunter Leonard Ellis both offer affordable, half-day or single-day bear-viewing trips for about $100 to $150 per person.[59] Spirit Bear Lodge, a First Nations owned, high-end accommodation in Klemtu offers 3 to 7 night "eco-cultural" bear-viewing package tours featuring Spirit, black and grizzly bears and including one night at Shearwater Resort in Shearwater and round trip airfare from Vancouver.[60] A seven-day tour costs about $5000 plus taxes.[61] Multi-day charter boat packages, including accommodations, meals, guides, and transport, are considerably more: a fourteen-day Maple Leaf Adventures package is $5625[62] while a customized seven-day package with Pacific Yellowfin Charters usually averages $7000 to $9000 per person.[63]

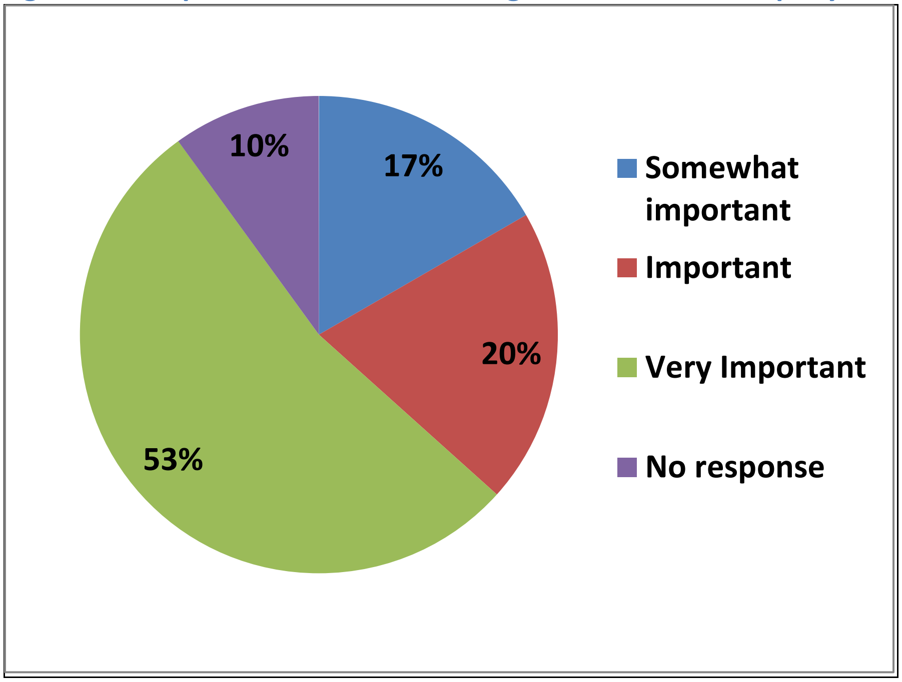
So far there are few government regulations for bear viewing[64] and there is no government required guide-training program or requirement that visitors hire guides to do bear viewing. However, as the popularity of bear viewing grows, so too have concerns that bears may become habituated to humans and that this may increase the odds that visitors will be injured.[65] For this reason, CBVA runs a guide training certification program and most bear-viewing operators recognize that proper training for bear watching guides is essential for safety. This helps to ensure that the bears are viewed from appropriate distances, so as not to invade a bear's environment and to help provide an authentic visitor experience of witnessing a bear's natural behavior.

In 2012, the Tweedsmuir Provincial Park opened a bear-viewing platform overlooking a river where grizzly and black bears come to catch salmon. Parks officials explained they built the platform, which is free, as a safe spot for bear viewing in order to try to group together the large numbers of visitors who were bear viewing without guides. The platform, which is officially open during September, the peak bear-viewing season, has been welcomed by bear-viewing businesses. One bear-viewing guide explained in an interview, "I was always worried about people dangerously pursuing bears, including mothers with cubs, on their own. So I'm happy to see the 'independent' viewers corralled at the bear-viewing station. Lots of people are going there." A local owner echoed these views: "We had a huge problem with paparazzi – drive-in cars and campers with cameras in one hand and pepper spray in the other. It was brutal." Parks officials say about 1,600 visitors per year are using the bear-viewing station and they hope that it will gradually become self-supporting with visitor donations. BC Parks is considering turning over management of the Tweedsmuir viewing station and the surrounding campgrounds to the First Nations band in Bella Coola in order to help provide them with some local jobs and revenue.[66]

- **Bear-Viewing Data**

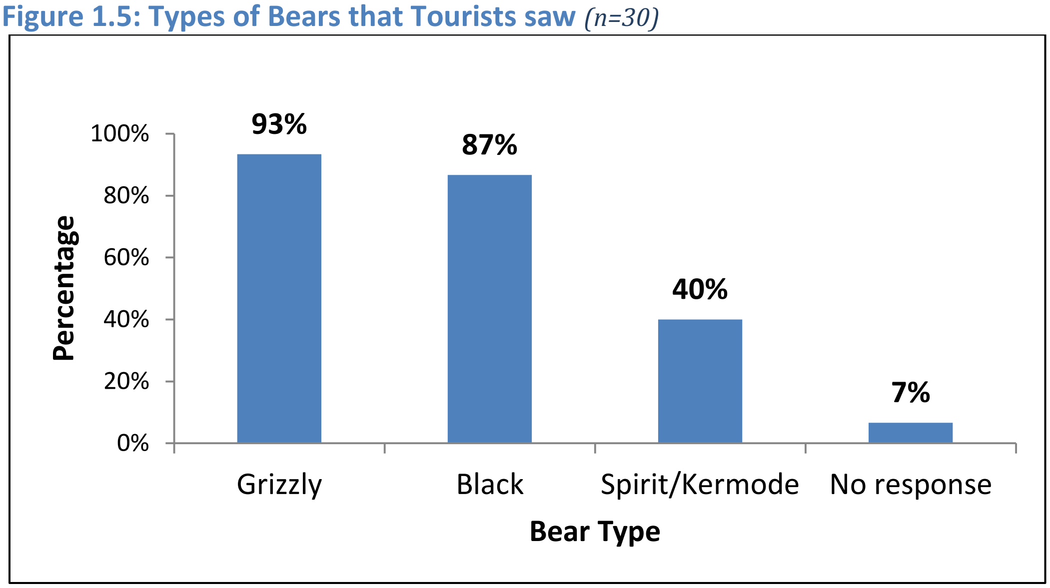
The survey revealed that bear viewing is a significant economic activity for these companies. Over half the companies (53%) said that bear viewing is "very important" to their business, another 20% said it is "important", and a further 17% described bear viewing as "somewhat important." Of those surveyed, 25 businesses reported handling a total of 11,369 bear-viewing visitors in 2012; five others provided no information.

Figure 1.4: Importance of Bear-Viewing Tours to Your Company? (n=30)



The companies surveyed reported that on average they offer bear viewing 4.41 months out of the year. Most companies offer bear viewing via walking tours, while 80% reported that at least some of their viewing was done via watercraft. They further estimate that, on average, tourists have two to three bear sightings per day. A majority of the companies -- 54% -- said that they "always" or "often" see bears. Asked what types of bear viewing they offer, almost all the companies that responded listed both grizzly and black bears, while 12 companies also listed Kermode or Spirit bears.

Figure 1.5: Types of Bears that Tourists saw *(n=30)*



Over half the companies (57%) reported that their bear-viewing areas overlap with areas where bear hunting takes place. However, when asked how often their clients see bear hunters while out viewing, only one company responded that they “always” do, another 6 said they “occasionally” to, while over half (18) said they never do. In addition, only one company reported that in 2012 its visitors had seen a carcass left by hunters. This is significant because one of the common accusations opponents of bear hunting make is that those bear viewing often run into hunters. In practice, this survey indicates that while viewing and hunting territories overlap, viewers rarely find bear carcasses.

- **Employment**

The survey requested data from the bear-viewing companies on total employment, and total employment months, the latter enabling a calculation of Full-Time Equivalent (FTE) employment. After adjusting the data to account only for employees linked to bear viewing within the Great Bear Rainforest, the average number of employees per company is approximately 9, with just 2 to 3 full time individuals and the rest contract and seasonal. The most common jobs are guides, followed by managers, office staff, and accountants. Also listed were skippers, deck hands, and engineers for boats; servers and cooks/chefs for restaurants; and caretakers and cleaning staff for accommodations.

In total, the number of people directly employed in bear viewing on the GBF is estimated at 510. But it must be understood that many of these people are employed either seasonally (that is, only for a few months during the peak bear-viewing seasons) or are hired for specific jobs (guiding and the like) that may only entail a few days during the whole season. Anecdotal findings from interviews revealed that most of those working in the bear-viewing sector do a range of other jobs in the off seasons. Asked if it is possible to make a living from wildlife viewing, one guide in Bella Coola said, “The possibilities are increasing. The season, which is three to four months, is widening. But,” he added, “most people do other things. I, for instance, drive a bus.”

Using the information on FTEs by company (that is, months of employment for each employee), the FTE employment in the Great Bear Rainforest is estimated at 111. When accounting for the indirect and induced FTE jobs generated by bear viewing, the total contribution of provincial FTE jobs is estimated at 133.

Table 1.4: Bear-Viewing Jobs in Study Area, 2012 (n = 30)

	Direct	Indirect	Induced	Total
Employment	510	13	12	**535**
Employment (FTE)	111	11	10	**133**

The average FTE wage is calculated to be just over $44,000 (including gratuities), but of course most of the employees, being part-time and/or seasonal, do not earn this amount. The total amount received by employees of bear-viewing companies in 2012 is estimated to be $4.9 million (including gratuities).

In terms of gratuities, many respondents said they had no idea how much their staff received in gratuities. However, those that responded gave answers that ranged from $1000 to $40,000 for their entire staff during 2012. These estimates, augmented by information from other wildlife viewing studies, were used to determine total gratuities in the sector, estimated at approximately $210,000. In Table 1.5 below, gratuities are included in both Visitor Spending and in Labor Costs (in Wages and Salaries).

- **First Nations Employment**

Historically, tourism in the GBF has been dominated by southern owned and operated companies with little in the way of benefits for First Nations. Coastal First Nations leaders interviewed for this study stated that they consider bear viewing as an important employment opportunity for their communities.

The survey asked bear-viewing companies how many employees (full time, seasonal, and contract) were from the towns and communities around and in the GBF. Nearly one-third of respondents (7 out of 25) said none, while the other companies responded that from one to all their employees were local.

Asked how many employees were from the Coastal First Nations, a majority (13) of the 24 companies that responded said none, one-third (8) said they employed one to three, and only two had significant numbers of Coastal First Nations employees: Shearwater reported that 12 out of its 75 employees (16%) are from Coastal First Nations and Spirit Bear Lodge reported that 20 out of a total of 28 employees (71%) are Coastal First Nations members. Spirit Bear Lodge is the only company that completed the survey that is owned by a Coastal First Nation community. There are, however, a number of First Nations along the North and Central coast working towards establishing their own bear viewing operations, many with financial support from the Coast Opportunity Funds. Anecdotal data from interviews suggests that there is considerable bias against hiring First Nations. Given these findings, it would appear that, to date, First Nations' employment in non-First Nations owned bear-viewing companies, with some exceptions, is limited.

Economic Value of Bear Viewing

The survey collected detailed financial information from bear-viewing companies – revenues, wage and salaries, various material expenses, interest and depreciation costs, and capital investments. One of the important aims of this study is to assess the economic importance of the bear-viewing sector in the designated study area to the BC economy and compare these findings with the value of the bear-hunting sector in this same study area. It should be noted that the methods used in this study are the exact same methodols that Statistics Canada uses to determine the GDP estimates of other industry sectors such as forestry and mining. As such, the estimates presented in this report are directly comparable to other Statistics Canada GDP measures.

In order to estimate these economic impacts, it was first necessary to determine the financial characteristics of the firms operating in the study area. As stated above, our research identified 53 tourism companies involved in bear viewing in the GBF in 2012, and 30 responded to the survey. Of these 30, 13 firms provided detailed financial information through answering the survey's questions and another two sent in full financial statement that they had prepared for income tax purposes. Accordingly, we received full financial data from almost 30% (15 out of 53) of the total number of firms offering bear viewing, while these responses represent almost 60% of estimated total revenue generated by bear-viewing companies since more data were supplied by the larger firms. These statements were sub-divided by business type (land-based guided, water-based guided, and small, land-based non-guided operations).

Revenues for businesses which did not provide complete financial data were estimated where possible based on information provided regarding the number of guided trips, the number of clients escorted on each trip, and the cost per person for each trip, effectively providing an estimate of their total bear-viewing revenues. For other firms, revenues were based on the number of rooms, and the average costs of accommodation and/or bear-viewing tours.[67] Each of the firms for which we did not have financial statements a financial structure was assigned according to their business type (e.g., water-based operations expenses were used to estimate non-compliant water-based companies), after which an aggregate financial statement including all 53 firms was generated. It should be noted that for three of the largest companies that have other significant revenue generating activities (sport fishing and heli-skiing) in addition to bear viewing, we included only the portion of their revenue and expenses from bear viewing in our data. This prevented the survey's financial data being skewed by non-bear-viewing income and expenses.

Table 1.5 Bear Viewing: Economic Impacts ($000)

	Direct	Indirect	Induced	TOTAL
Visitor Spending[1]	$15,109.0			
Company Revenues[2]	$14,114.9	$1,884.0	$1,700.8	**$17,699.8**
Material purchases[3]	$6,805.6	$756.2	$596.3	**$8,158.1**
GDP[4] --- of which	$7,309.3	$1,127.9	$1,104.6	**$9,541.7**
Labor costs	$4,889.6	$722.2	$646.3	**$6,258.1**
Wages and Salaries[5]	*$4,486.9*	*$584.1*	*$434.4*	***$5,505.4***
Mixed Income[6]	*$0.0*	*$57.9*	*$157.6*	***$215.5***
Benefits (Supplementary Labor Income or SLI)	*$402.6*	*$80.3*	*$54.2*	***$537.1***
Employment	510	13	12	**535**
Employment (FTE)[7]	111	11	10	**133**
Total Taxes	**$2,483.9**	**$241.6**	**$207.8**	**$2,636.0**
Total Federal Taxes	***$971.4***	***$145.0***	***$99.0***	***$1,215.4***
Total Indirect Taxes[8]	$724.8	$7.2	$13.3	$745.2
Personal Income Taxes	$194.6	$111.5	$59.7	$365.8
Corp. Income Taxes	$52.1	$26.3	$26.0	$104.4
Total Provincial Taxes	***$1,512.5***	***$96.6***	***$108.8***	***$1,717.9***
Total Indirect Taxes[8]	$1,421.9	$46.0	$76.9	$1544.8
Personal Income Taxes	$68.5	$39.4	$20.9	$128.9
Corp. Income Taxes	$22.1	$11.1	$11.0	$44.3

[1] Visitor Spending includes company revenues plus gratuities plus HST (or Harmonized Sales Tax) charged. Beginning in April 2013, the 12% HST reverted back to a 5% GST (Goods and Services Tax).
[2] Company Revenues includes gratuities earned by employees.
[3] Material Purchases refers to all goods and services purchased by companies, excluding labor costs.
[4] GDP (Gross Domestic Product) represents the contribution to the economy and is defined as Company Revenues minus Material Purchases or, equivalently, the sum of labor costs, interest payments, depreciation and profits.
[5] Wages and Salaries include estimated gratuities, even though gratuities are not, strictly speaking, a labor cost to companies; gratuities are paid by clients directly to the employees.
[6] Mixed Income is unincorporated income including self-employed earnings
[7] FTE Employment (Full-Time Equivalent) converts total jobs (full-time, part-time and seasonal) to full time full season jobs.
[8] Indirect taxes (Federal and Provincial) include taxes such as gasoline taxes, liquor taxes, etc. and also includes net HST payments to the respective governments.

The data collected in the survey relate to *financial* data, not *economic* data, and it is economic data that enable an estimate of the contribution to the economy.[68] In order to generate these economic estimates, the individual financial expense items from the aggregate financial statement (described above) are mapped to their appropriate Input-Output category and then the necessary adjustments to account for margins and taxes are made (see Appendix A for a complete explanation of how these adjustments are determined). The result is an aggregate National Accounting statement from which, when run through the BC Input-Output Model, all the impacts in this study are calculated (see Table 1.5 above).

These bear-viewing companies produce economic benefits for BC in a variety of ways. The businesses collect fees from their clients (the tourists) for services and then purchase goods and services required to provide those services (e.g. food, insurance). As explained in Appendix A, the difference between the revenues and the purchase of goods and services (adjusted to confirm to National Accounting standards) is equal to the GDP or the contribution of the industry to the economy.[69] In addition, the industry employs people to deliver those services, and they are paid wages and benefits (labor income). Finally, the industry pays taxes and levies to the various levels of government. Some of these taxes are paid by the tourist (e.g. GST [or Goods and Services Tax], accommodation taxes, Provincial Sales Tax (PST), hunting and fishing licenses). Other taxes are paid by the individual tourism companies, usually for the right to use government property (e.g. crown land leases, park user fees, municipal property taxes), or for other rights (e.g. satellite telephone licenses, water licenses). Additionally, there are the corporate and personal income taxes paid by firms and employees respectively.

Moreover, companies also pay another level of taxes to government. When a company purchases a good (and sometimes a service), there often is a federal or provincial tax embedded in the purchase price. For example, the price of gasoline at the pump consists of a multitude of federal and provincial taxes, even though on the financial statement the entire cost of gasoline is assigned to fuel purchases alone. Under National Accounting these taxes are removed from the cost of the good and reallocated to a tax category, and therefore the true contribution to governments can be identified.

The usual measure of the importance of an industry to an economy is its ***direct*** contribution to GDP.[70] But the importance of an industry goes well beyond that measure. Every industry purchases goods and services that it uses to generate its product. In the present context, the bear-viewing sector generates ***indirect*** impacts on the BC economy as a result of the purchases of administration goods and services, transportation services, repairs and maintenance services, marketing, etc. These purchases generate additional activity for the businesses supplying these goods and service and therefore, in order to evaluate the true value of bear viewing to BC, these indirect impacts must be measured.

The wages and salaries paid (including management remuneration) by the bear-viewing sector result in additional economic activity from these wages being spent on consumer goods and services. In addition, the companies supplying consumer goods and services to the bear-viewing sector will increase their own labor payments as a result of increased demand. Again, in order to measure correctly the total value of the bear-viewing sector to the BC economy, it is important to identify these ***induced*** impacts. The latter two impacts (indirect and induced) are calculated by running the aggregate National Accounting statement through the BC Input-Output Model. A much fuller explanation of indirect and induced impacts can be found in Appendix A.

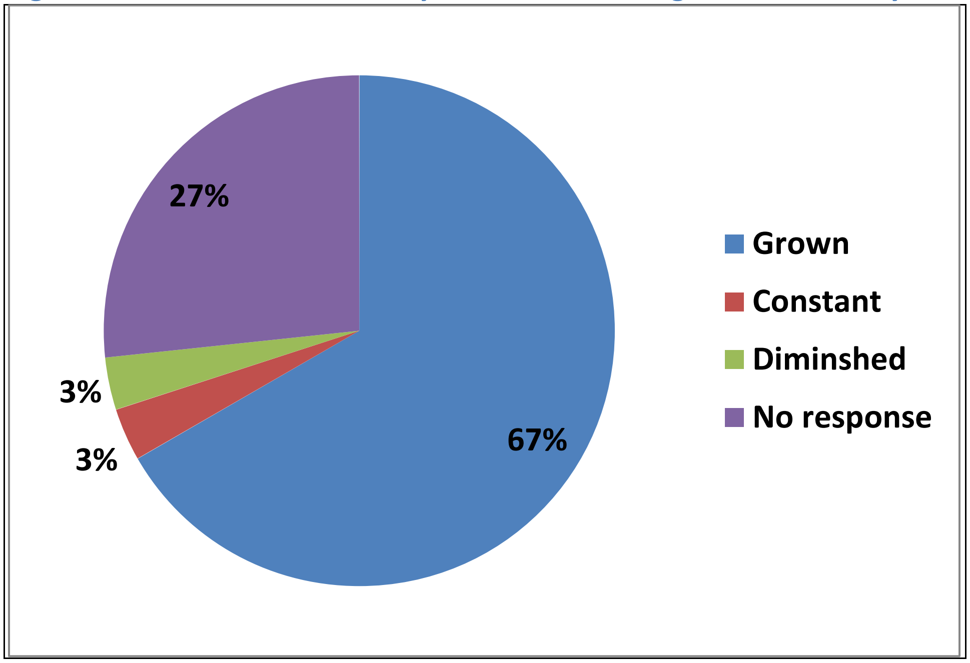
As highlighted in Table 1.5 (above), direct visitor spending on bear viewing in 2012 (including gratuities and Harmonized Sales Tax [HST] payments) is estimated at $15.1 million, of which $14.1 million (including gratuities which are then paid as additional wages) went to the bear-viewing firms (the difference being HST payments). After subtracting the material expenses of these firms (excluding labor costs) the estimated contribution to the BC economy (GDP) is $7.3 million. Labor Income totaled $4.9 million going to 510 employees. On an FTE basis, 111 full time jobs are created by the bear-viewing sector with an annual wage (including gratuities) estimated at $44,000.[71] The overall contribution to government coffers (including net HST) is estimated at $2.5 million, of which $1.0 million went to the federal government and $1.5 million went to the provincial government.

In addition to these direct impacts, Table 1.5 (above) also highlights the indirect and induced impacts generated by the bear-viewing sector in the year 2012. Overall, including direct, indirect and induced activity, the sector generated $17.7 million in company revenues which resulted in $9.5 million in GDP. This activity was responsible for a total of $5.5 million in labor income and a total of 535 jobs (133 Full-Time Equivalent jobs): 510 from the direct impact and 25 from indirect and induced impacts. At the same time, governments received a total of $2.6 million in taxes and levies. Of this, the federal government received $1.2 million and the BC government the remaining $1.4 million.

- **Future Trends**

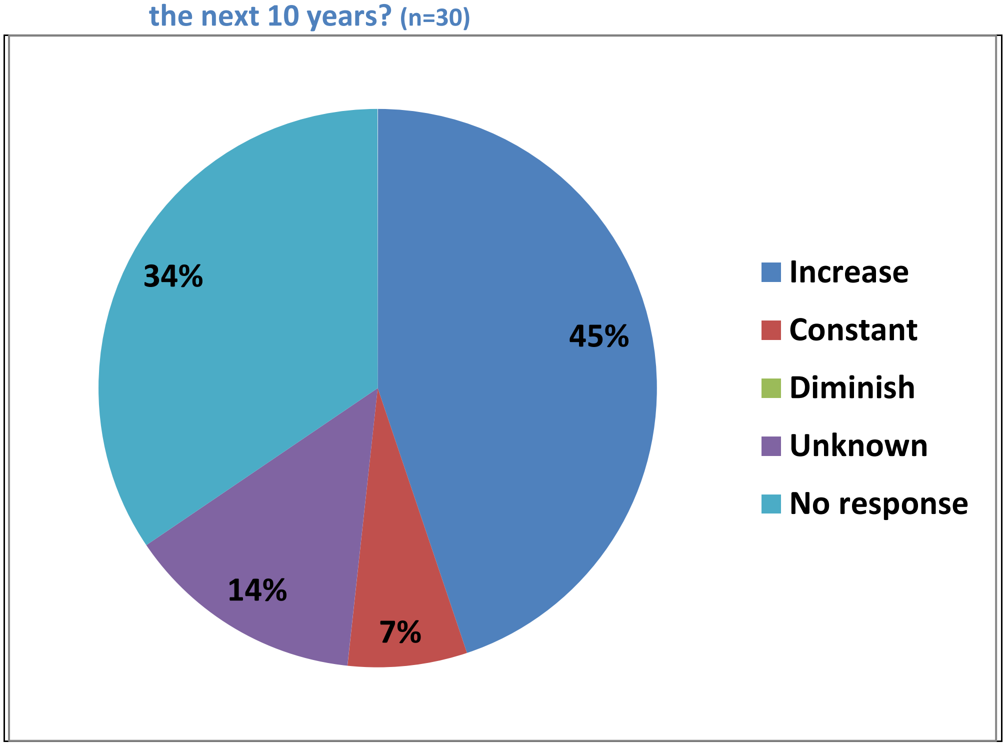
The survey, field interviews, and other studies and articles all indicate that bear viewing is growing within the GBF. Asked if the size of their business had changed in the last five years, 67% of the companies surveyed said it has increased, while just 3% said it had diminished and another 3% said it had remained the same; 27% of the companies had no response.

Figure 1.6: How has the size of your business changed in the last 5 years? (n=30)



Asked if they expect bear-viewing tours to increase over the next ten years, 45% said that they expect it to increase, 7% said they expect it to remain constant, while no companies said they expect their bear-viewing business to decline.

Figure 1.7: How do you expect your company's growth to change over the next 10 years? (n=30)



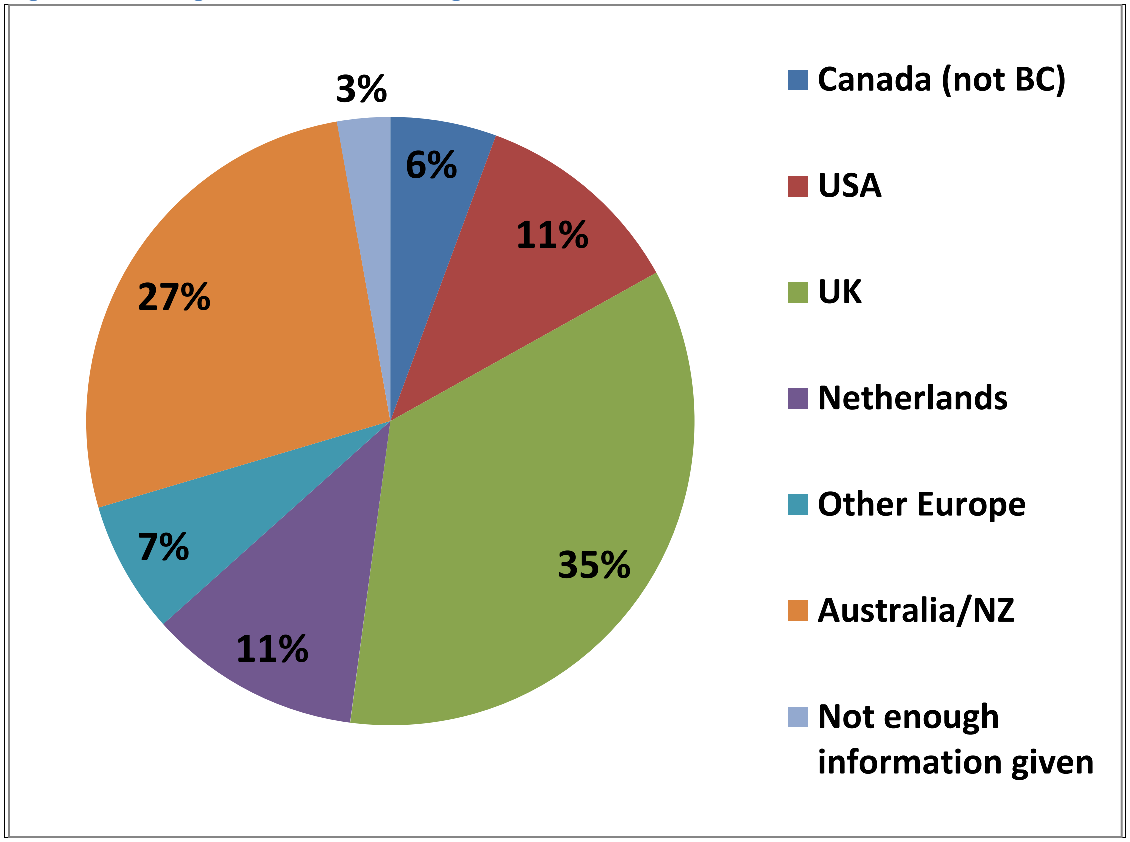
As this survey illustrates, bear viewing is widely seen as an increasingly popular tourist attraction in the GBF and in BC as a whole. Many of its proponents see that this industry is growing and is likely to continue to grow in the future. Kevin Smith, President of Maple Leaf Adventures and a certified bear-viewing guide, writes, "On the coast alone, not even taking the interior into the picture, I have witnessed an enormous growth of small and medium sized businesses offering new bear-viewing opportunities as part of their companies' tourism options. There are dozens and dozens."[72] Smith argues that BC's abundance of wildlife "provides a unique offering for BC, helping to establish its position in the adventure travel market, so that a BC industry, operated by BC owners and employing BC residents, may prosper."[73]

Analysis of Visitor Surveys

In addition to the above analysis of bear-viewing companies, we also sought to measure the fuller economic impacts on BC of visitors who take part in bear viewing in the GBF. We therefore approached a representative sampling of the bear-viewing companies who responded to our survey, to ask for their assistance in surveying some of the visitors they hosted during 2012. The objective of this short survey was to find out what these visitors did and how much they spent in BC before and after the bear-viewing part of their vacation. A number of the dozen companies we contacted agreed to send out the survey to 10 to 20 of their clients, with a cover letter from CREST explaining the purpose of the short survey that was being conducted according to Stanford University's IRB protocol. We again used SurveyMonkey and during a ten-day period in September 2013 we received the responses.

While we are not certain of the total number of visitors who were sent the survey by bear-viewing companies, 95 people responded to the survey. Of these, 71 individuals (75% of respondents) completed the survey. Those responding were from a wide range of countries, with the U.K. topping the list, followed by Australia and New Zealand (combined), then the U.S. and The Netherlands with equal numbers of responses, followed by elsewhere in Europe, and last Canada.

Figure 1.8: Origins of Bear-Viewing Tourists in the Great Bear Rainforest (N=71)

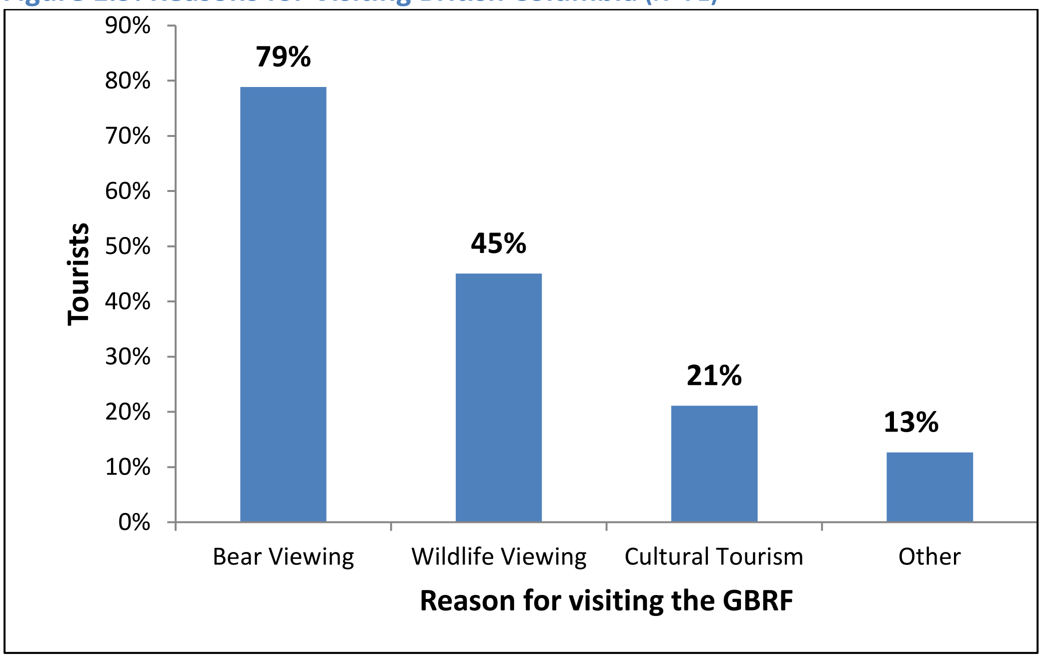


We recognize that this breakdown of nationalities may not accurately reflect the total composition of non-BC residents and foreigners taking part in bear viewing in the GBF, but it does reflect anecdotal information that unlike trophy hunting, the tourism sector involved in bear viewing is more diverse and not dominated by the US market.

It is also recognized that growing numbers of Canadians and US visitors are driving to and camping in parks such as Tweedsmuir in Bella Coola, where they do bear viewing, along with fishing and other activities. These independent visitors are virtually unrecorded and therefore their economic impacts are largely undetermined. Our research was not able to capture the economic value of this segment of the bear-viewers, which according to parks officials, is clearly expanding in parts of the GBF that are accessible by road and water. However, anecdotal evidence from interviews with government officials and tourism operators indicates that the economic impact of campers, as compared with viewers on more organized guided tours, is very limited. As one Bella Coola lodge owner explained in an interview, "Hundreds of fishermen come in RVs packed with their food. They only buy gas and a bit of dairy. They freeze the fish and take them out. Most stay at provincial campsites and on private property. They pay almost nothing. It's absolutely useless for the Valley."

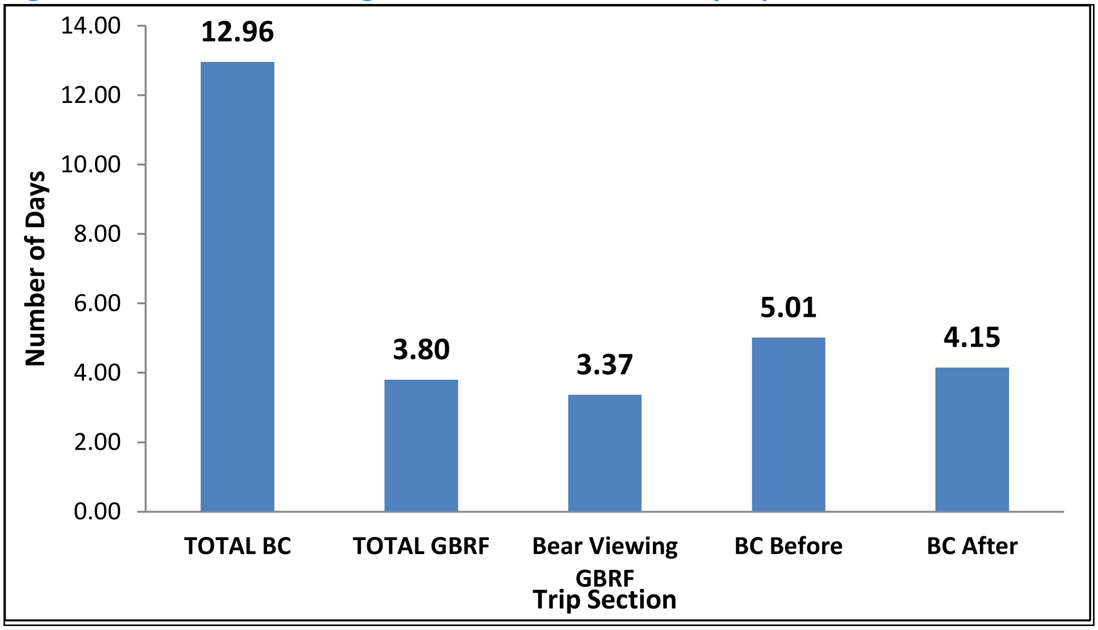
When asked what were their main reasons for visiting BC, some respondents listed several activities. However, more than three-quarters (79%) put bear viewing as a reason. It is therefore clear that, for these visitors, bear viewing was the primary reason why they came to the province.

Figure 1.9: Reasons for Visiting British Columbia (N=71)



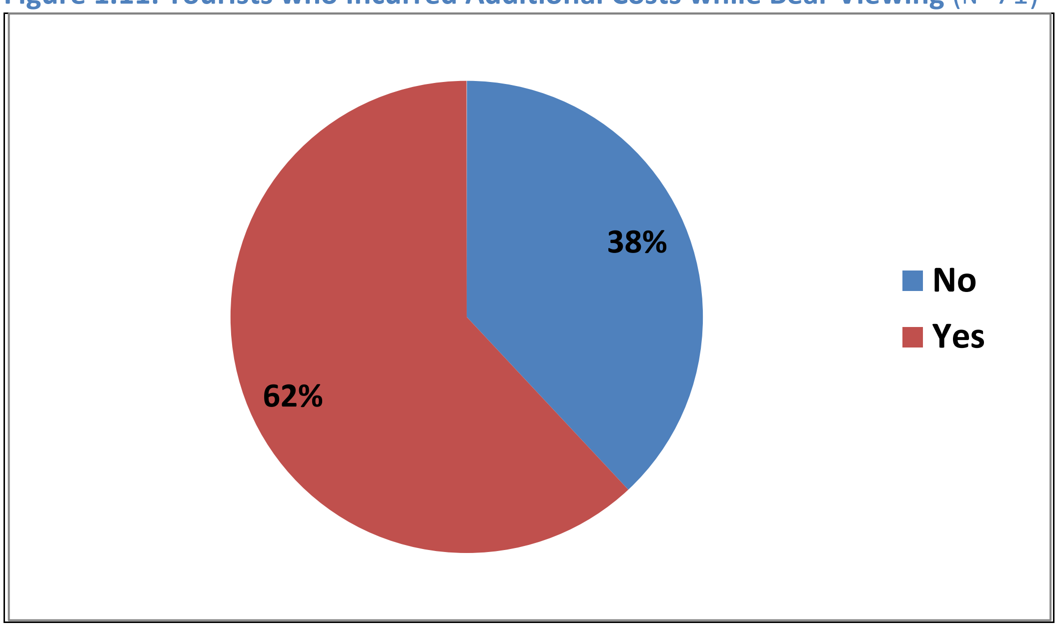
In terms of the length of visits, they ranged from a minimum of two days to a maximum of twenty-four days in BC and a minimum of one day and maximum of eighteen in the GBF. On average, they spent 3.8 days in the GBF. While in the GBF, the length of time viewing bears ranged from one to thirteen days, or on average, 3.37 days. This means that these visitors spent about one-quarter (26%) of their time in BC and 89% of their time in GBF involved in bear viewing.

Figure 1.10: Visitors: Average Number of Vacation Days Spent in BC (n=71)



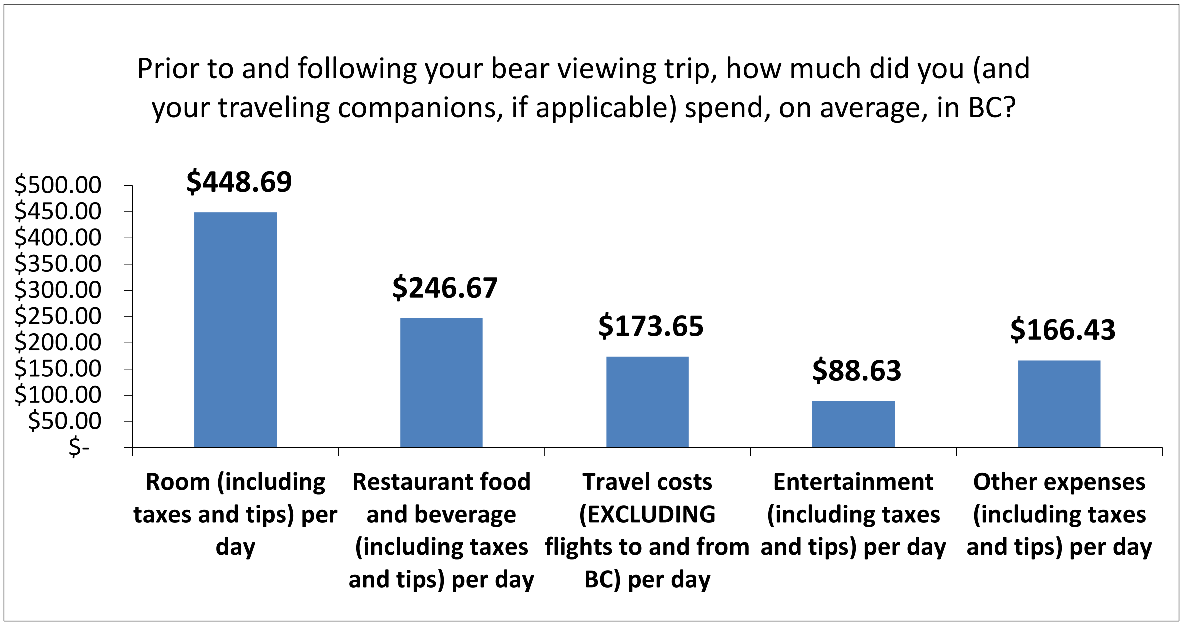
The survey also asked if visitors incurred additional expenses beyond the cost of their bear-viewing packages. Of those who responded, 62% said they did incur additional expenses.

Figure 1.11: Tourists who Incurred Additional Costs while Bear Viewing (N=71)



For those who incurred additional expenses, 90% reported that they bought souvenirs, 47% said they paid tips to their bear-viewing guides, 37% said they paid other tips, 16% said additional expenses went for transportation (16%), and 29% listed other miscellaneous items. The survey also asked visitors to itemize the amount they spent in BC before and after their bear-viewing trip in the GBF. The survey showed that on average visitors spent $449 on lodging, $247 on restaurants, $174 on travel costs within BC, $89 on entertainment, and $166 on miscellaneous expenses, for an average total of $1,124 per respondent.

Figure 1.12: Average Spending in BC Before and After Bear View Trip (n=71)



The survey also captured some comments about visitors' experiences and expenditures in BC. Here is a sampling:

Table 1.6: Visitor Comments re: Experiences and Expenditures

The bear viewing was the highlight of our whole trip which included two weeks in Alberta and British Columbia and a seven-day cruise to Alaska (which was our main reason for stopping in Vancouver). My friend and I have travelled all over the world in the past 20 years and our bear viewing trip to Knight Inlet was the truly the trip of a lifetime. We plan to return with our partners in 2015.
We organized our trip across Canada as one off. Rooms, transport self drive, flights were all paid prior to outset. We paid for meals only during visit and on return our total expenditure for thirty-three day trip across Canada from Montreal to Vancouver staying in five-star hotels and eating in good restaurants total cost door to door £23,000(UK pounds).
We travel through the world only for bear viewing.
We booked a holiday in which rooms ,rental car and entertainment was included . We paid 2,500 euro's per person (excluding the flight).
Stayed with family.
Well worth the expense of visit. Beautiful country lots of real wild life in natural environment.
Vancouver is our second home [away] from home these days.
The Total Costs were around 5,000 Euros

Total trip was prepaid before we left Australia. Would have been only incidentals during the trip.
Package tour with Evergreen Tours
I stayed at motel in Vancouver and ate there. After the stay at Knight Inlet Lodge, I hired a car and drove around Vancouver Island, staying two nights at Torino and doing a kayak tour, and visiting various tourist attractions in the area. Then spent a night in Victoria.
We spend about 20,000 Euro for the whole 21 days (including flights)
The trip to BC was undertaken a year ago and our accounts for the trip are not available at this stage. We spent well in excess of $5,000 during the trip.
Our trip was a package from the UK which cost around 22,000 Canadian dollars
We travelled with a camper and spend about 6,000 dollars
Costs are rough estimates. For two people. In total we spend about 9,000 Euros, excluding the Knight Inlet Lodge and the flights to/from Canada.
I am a wildlife artist. Bears are my favorite subject.

What these comments illustrate is that unlike the guide outfitter hunting packages which are fairly uniform in terms of price and content bear viewing in the GBF is done in a range of ways, from lower budget trips by car or camper in which visitors stay in provincial parks or private camp site to mid-range trips which include staying in smaller guest houses or B&Bs and hiring a guide for a day of bear viewing via land or water, to a small number of high end lodges and luxury boats offering multi-day bear-viewing tours, often combined with cultural and other wildlife activities.

- **Visitor Spending**

It is clear from the above section that additional contributions to the economy from bear viewing stem from visitors and their pre- and post-bear-viewing spending. Based on the above surveys, it is clear that that the economic impacts from this extra spending are not trivial. Average pre- and post-days spent in BC for the, albeit non-random, sample of bear-viewing visitors (the sample is somewhat biased toward overseas visitors and thus likely over-estimates spending to some degree) was reported as just over 9 days, with average daily spending of approximately $1,100 for the travelling party or close to $10,000 of additional spending per holiday party.

Roughly three quarters of respondents indicated that bear viewing in the GBF was their primary reason for taking a vacation in BC, suggesting that without the opportunity to view bears in the wild in the GBF, many, if not most, of these travelers would not have chosen BC as their holiday destination. Accordingly, the roughly $10,000 of spending for these holiday parties ought to be considered the result of bear viewing in the GBF.

Unfortunately the survey did not ask about the size of the party associated with the $10,000 of spending, nor was the sample of respondents' representative of the average bear-viewing client. As such, the survey data do not enable an estimate of total spending associated with bear viewing in the GBF. Nevertheless, it is clear that the level of additional spending directly connected to bear viewing in the GBF is substantial and only serves to increase the importance of the bear viewing sector to the BC economy. As noted, a more complete description of the survey results can be found below.

Chapter 2: Bear Hunting

History of Bear Hunting in British Columbia

Bear hunting has existed in British Columbia (BC) since before European settlement. In the mid-1900's, the BC government designated grizzly bears as a game species and began to establish management strategies for sustainable bear hunts. Over the past century, national parks, provincial parks, and recreational areas have been designated as protected areas due in part to their importance to the grizzly bear. Hunting is a recognized "outdoor recreational opportunity that is permitted in many BC Parks," but hunting in parks is more regulated – "more conservatively" – than on crown land outside of parks, states a 2010 Ministry of the Environment report.[74]

The provincial ministries in BC that oversee the management of the bear populations have undergone a series of different names and functions. Today the provincial Ministry of Environment and the Ministry of Forests, Lands and Natural Resource Operations (MFLNRO) are the two primary agencies in charge of regulating bear hunting in BC. While responsibilities have shifted between the ministries, the Fish, Wildlife and Habitat Management Branch, now housed within MFLNRO, manages the different licenses and regulations for bears and hunting for other wildlife species in the province. A myriad of intertwined and difficult to decipher regulations exist for the entire province for resident and non-resident hunters, as well as for grizzly and black bears. Even an organization dedicated to hunting, the BC Wildlife Federation (BCWF) which represents resident hunters, is scathingly critical: "Wildlife Allocations have become extremely complex and confusing over the past 30 years, making it a difficult issue to understand." According to the BCWF, "From 1981 – 2005, allocations were seemingly ad hoc, quota and regulation related decisions were not consistent, clear or transparent. The old policy was not followed, agreements were often made behind closed doors and changes to quota were made through the environmental appeal process."[75]

- **Historical Data Issues**

One issue the CREST study team faced is that, historically, the GBF has not been recognized geographically by BC government and therefore it does not correspond precisely to the government's Wildlife Management Units (MUs), Grizzly Bear Population Units (GBPUs), Limited Entry Hunting (LEH) zones, guiding territories, or other official areas related to hunting. As a consequence, the MFLNRO technical team which provided statistics for this study could not produce accurate data on the numbers of licensed hunters or days spent hunting black and grizzly bears or the numbers of black bears killed within this report's GBF study area. In a memo, a technician conceded, "I know of no way of calculating the number of hunters or days spent hunting grizzly bear or black bear and no way of apportioning black bear harvest per your study area boundary. This problem occurs for both resident and non-resident hunting." The technician added, "The only data we have provided which is specific to the EBM [GBF study area] boundary are Grizzly Bear Compulsory Inspection records. We were able to do this because we know the exact location of harvest." The technical team provided numerous spreadsheets from which the study team attempted to answer this study's basic questions: how many hunters and hunting companies are operating in the GBF and how many grizzly and black bears are being hunted each year?

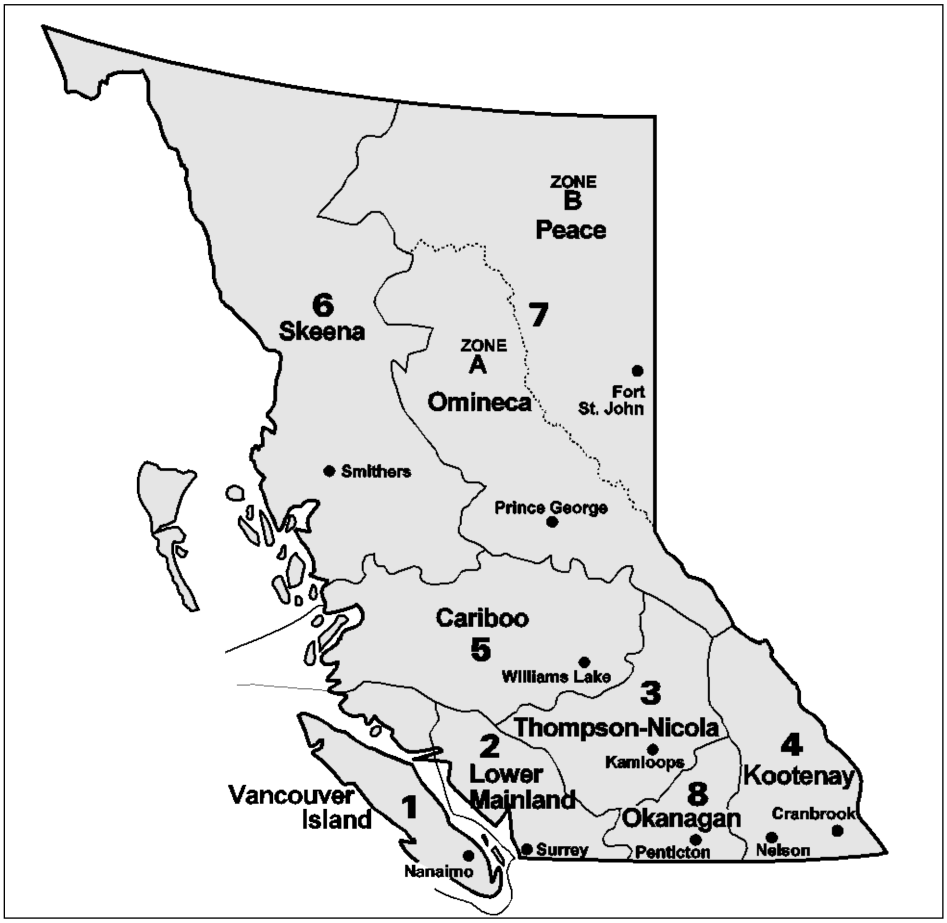
While the data provided did enable us to identify the profile of non-resident hunting, they were impossible to assess with perfect accuracy the economic value of resident bear hunting. Rather, as elaborated below, the study team has chosen, where necessary, to use MFLNRO data from an area that is somewhat larger than the GBF. In this manner, we are erring on the side of over-estimating the impacts of hunting, particularly the economic value of resident hunting. By choosing this strategy, we reasoned that, should our findings show that bear viewing is of greater economic value than bear hunting, we can be more confident in our conclusions.

- **BC Government Hunting Regulations**

The provincial government defines resident hunters as either (1) Canadian citizens whose primary residence is in BC and who spend the majority of six months out of the year in the province; or (2) non-citizens whose primary residence is in British Columbia and who spend the majority of every calendar month in BC. Non-resident hunters are defined as Canadians living outside BC, as well as all foreign hunters. Resident hunters can hunt without a guide, while non-resident hunters are required to hire a guide outfitter.

Each year the BC government sets two official hunting seasons per year, spring and fall, with the exact dates varying depending on species and location or Management Units.[76] The BC province is divided into nine administrative regions which are further split into 225 Wildlife Management Units "for the purpose of efficient game management."[77] The Great Bear Rainforest study area encompasses parts of regions 6 (Skeena), 5 (Cariboo), 2 (Lower Mainland) and 1 (Vancouver Island), although it does not coincide precisely with the boundaries of these regions.

Map 2.1: Hunting Regions of the BC Province



Source: Ministry of Forests, Lands, and Natural Resource Operations, 2013.

A central focus of the BC government's bear-hunting regulations has always been on grizzly bears, the far rarer of the two species. Except for a brief moratorium in the spring of 2001, grizzly bears have been under a management system since the mid-19th century that is designed, the BC government states, to "ensure that the hunt is sustainable." The provincial management has designated 56 discrete populations units (known as Grizzly Bear Population Units or GBPUs) that are used to set land use priorities and to establish the Annual Allowable Harvests (AAH) or the highest acceptable mortality from hunting and other causes that is permitted within a GBPU while still maintaining a viable population.[78] As of 2012, 41 of BC's Grizzly Bear Population Units were open, and the rest had been designated as threatened or closed for grizzly hunting.[79]

According to the government, AAH are never set above 6% of the estimated grizzly population and only about 2% of the population is allowed to be hunted each year. Although most bears are killed through government-authorized sport hunting, a range of other factors cause grizzly (and black bear) mortality including human-bear and livestock-bear conflict, road and rail kills, and poaching, among other causes. The Ministry of Environment states, "Since 1976, an average of 340 grizzly bears are known to have been killed from human causes each year (all known grizzly bear mortalities are recorded by the Ministry of Forests, Lands and Natural Resource Operations in the Compulsory Inspection database). On average: hunters legally kill 297, and 31 are killed by animal control officers due to human/bear conflicts. An average of eight is known to be killed illegally, and four are known to be killed on roads and railways, however some illegal and road- and rail-caused deaths go undetected."[80]

Since 1996, grizzly bear hunting in BC has been under a Limited Entry Hunting (LEH or lottery system) for resident hunters and a quota system for non-resident hunters. There is a symbiotic relationship between the percentage of grizzly bear licenses allotted to residents and non-residents: when one goes up, the other goes down. Annually, roughly 64% of the grizzly bear-hunting licenses are issued for residents and 36% for non-residents. According to MFLNRO's Fish, Wildlife and Habitat Management Branch, between 2004 and 2009, BC resident hunters killed on average 191 grizzly bears per year, while non-resident hunters killed on average 106 grizzlies per year, for an average total of 297 grizzlies "harvested" by hunters each year.[81] The Ministry contends that "the grizzly bear hunt is the most rigidly and conservatively controlled hunt in the province."[82]

In September 2012, Coastal First Nations announced a ban on all bear hunting within the Great Bear Rainforest. They contend that black bears must be included as well, in part because they are the carriers of the recessive genes that produces the rare white or cream colored Spirit (or Kermode) bear, which is found only in the GBF. Although Kermode bears are protected and cannot legally be shot, it is impossible for hunters to know if a black-colored black bear has the recessive gene that could produce white offspring.

Non-Resident Hunter and Guide Operator Regulations

BC's guide outfitter regulations for non-BC residents dates back a century. Since 1913, BC has required non-resident hunters to hire a licensed guide outfitter to go big game hunting. At that time, guide outfitters could obtain a license for just $5 and hunters could kill or "harvest" an unlimited number of both grizzly and black bears.[83]

Today the administration of the guided hunting industry in BC is mandated under the Wildlife Act and has undergone a number of changes, most recently since 2008.[84] Hunters not living in BC must purchase from the provincial government a non-resident hunting license. There are two types of non-resident hunting licenses: one for Canadian citizens whose primary residence is not BC and another for foreigners who do not live in BC. Both cost more than resident licenses. (See Table 2.1) Non-BC resident and non-Canadian hunters, referred to collectively as "non-residents," are also required to be accompanied by a licensed commercial guide outfitter or a resident with a non-commercial "Accompany to Hunt Permit"[85] for all big game hunts. There are eighteen big game species in BC, including grizzly and black bears. Guides are not required for non-residents who hunt small game, including bird, raccoon, and hare.

- **Non-Resident Hunters**

Approximately 5,000 non-resident hunters are currently being licensed each year to hunt in BC.[86] While the number of resident hunters has been declining (see Figure 2.1 below), non-resident hunting increased more than 20% between 1992 and 2002,[87] and has remained roughly steady in the decade since, except during the economic crisis. From a study commissioned by the Guide Operators Association of BC (GOABC), the province's leading outfitters organization, there were 5,061 non-resident hunters in 2002 who "harvested" a total of 4,182 "big game," including 1,243 black bear and 84 grizzly bears.[88] In the decade since "there's been no overall increase or decrease" in the number of non-resident hunters, says GOABC General Manager Scott Ellis. Ellis explained, however, that "the economic crisis did hurt. We're down 20% over pre-2008 levels, but at the same time grizzly bear and black bear tags (specie licenses) are very steady. Bear hunters are a resilient group."[89] It is also true that the increase in the Canadian dollar vis-à-vis the US dollar since the mid-2000s has made BC hunts relatively more expensive.

The great majority of non-resident hunters are foreigners and not from elsewhere in Canada. The same GOABC study found that, in 2002, 98% of non-resident hunting clients were non-Canadians. This included just over 85% from the U.S. (mainly the states of Texas, Washington, California, and Michigan) and nearly 12% from Europe (Germany, etc.).[90] In a 2013 interview, Scott Ellis said that "the biggest market, approximately 90%" of BC's non-resident hunters are from the United States. He said that because of the European Union's ban on the importation of grizzly bear trophies from BC, which was first declared in 2001, "there are now zero grizzly bear hunters from Europe" although "Europeans still make up about 10% of the non-resident black bear hunters."[91]

- **Non-Resident Hunter Licenses**

Prior to hunting, non-residents, like residents, are required to purchase species licenses for the specific types of animals that they intend to hunt. Non-resident species licenses for black bears and grizzly bears cost $180 and $1,030 respectively. The quantity of species licenses sold does not correspond to the number of animals killed because not all hunters are "successful." Species licenses for grizzly bears must be cancelled immediately after the kill is made and reported through the Compulsory Inspection system. Both the guide outfitter and the non-resident hunter must complete a Report and Declaration of Guide Outfitter form stating what species have been killed and in what location. BC government regulations stated that hunters must also present at designated Compulsory Inspection stations "the required parts of your kill"[92] which in the case of grizzly bears is the head and feet, as well as evidence of its sex (either the male's sex organs or the female's reproductive organs).

Since the CI system was first introduced in 1975, the ministry in charge of hunting (it has changed over time) has kept a database which the government considers "to be both complete and accurate." Until recently, Compulsory Inspections were carried out by the government, but the system has been largely privatized as part of the BC government's budget cuts, with in many areas of the province gun shops, taxidermists, gas stations, and other local businesses being contracted to serve as registered Compulsory Inspectors. There is some concern, expressed by officials with environmental organizations, that this privatization could lead to less accurate reporting of the number of grizzly bears killed by hunters.

The following is a list of the various fees related to non-resident hunters. These represent the BC government's revenue from non-resident bear hunting. As outlined below, the government also collects fees from a much larger pool of resident bear-hunters, but the cost of each license is considerably less.

Table 2.1: Non-Resident Licenses, Fees & Surcharges

License Description	License Fee (Gov.Revenue)	HCTF Surcharge	Total Price
Guide Outfitter	$450	$50	$500
Assistant Game Guide	$135	$15	$150
Non-Resident Alien Hunter	$126	$54	$180
Non-BC Canadian Hunter	$53	$22	$75
Non-Res/Alien Black Bear Species	$126	$54	$180
Non-Res/Alien: Grizzly Bear Species	$1,000	$30	$1,030
Non-resident Royalty: Grizzly	$1,000	--	$1,000
Non-resident Royalty: Black Bear	$75	--	$75

Source: Information provided to CREST by Fish, Wildlife, and Habitat Management Branch, October 2013.

Many of these licenses include a surcharge for BC's Habitat Conservation Trust Fund (HCTF), which is administered by a non-profit charitable foundation that raises funds from hunters, anglers, trappers, and guide outfitters in order "to pay for conservation work above and beyond that expected by government for basic management of wildlife and fish resources." This foundation receives 84% of its revenue from these surcharges. The HCTF website states that "[u]nlike license fees that contribute to basic management costs, conservation investments funded by HCTF surcharges benefit contributors by directly enhancing their opportunities to use and enjoy wildlife and fish resources."[93] To date, HTFC has provided over $140 million in grants for projects that restore and enhance BC's freshwater fish and wildlife, offer public education and information on wildlife management and conservation, and acquire lands for conservation purposes. Its board includes government wildlife officials and representatives from the two leading hunting associations (the BC Wildlife Federation and the Guide Outfitters Association of BC, described below) as well as the BC Trappers Association.[94] The wildlife-viewing sector is not officially represented.

- ### Guide Outfitters

The BC government mandates that a licensed guide accompany non-resident hunters during the hunt. Resident hunters may also hire guides, but the majority of guided hunters are non-residents. Guide outfitters are permitted to take up to two hunters on a hunt, and the hunting parties often include assistant guide outfitters (who are also licensed) and non-hunting visitors who accompany the non-resident hunters.

The cost of hiring a guide outfitter represents a considerable expense for non-resident hunters. Prices vary depending on the length of the hunt, species sought, and individual guide outfitter. However, professional guides also "increase the efficiency of a hunt (as measured by time taken to make a kill)."[95] Guided hunting trips typically run between 5 and 14 days and include accommodations in a lodge with cabins or tents, pack and riding animals, and satellite camps. Some guide outfitters also deploy boats for traveling in inaccessible regions on the coast. The 2002 GOABC study found that of guide outfitter revenues, 42% went for labor (excluding gratuities) with an average of 3.8 employees per outfitter), 39% for purchased inputs, 7% for provincial and local government taxes and fees, and 4% for interest and depreciation.[96]

Guide outfitter licenses are issued annually and authorize the holder to lead hunts of particular species in certain designated areas. These areas are designated Wildlife Management Units (MU) or a portion or zone of a MU. The guide license must be endorsed by the holder of the guiding territory with a certificate for the same area. Only one guide outfitter (plus an assistant) is authorized to guide in a guide area at a time. However, as a Fish, Wildlife and Habitat Management Branch memo explains, the picture can be more complex: "Guides move between areas, work for different employers over time, so that over the period of a year, more than one guide may have operated in an area. Alternatively one guide may have guided at different times in different areas."[97]

Until recently, the government published a list of all the guide outfitters in BC, including their names, addresses, Management Units in which they could hunt, and species for which they were authorized to hunt. The final edition of these publications, dated 2010-2011, listed over 259 guide outfits spread across BC. All but one was licensed to hunt black bears, and about 60% to hunt grizzlies.[98]

Licenses also set the quotas for grizzly bears, that is, the maximum number of grizzlies that clients of a guide outfitter may kill in the outfitter's guiding area during the license year. Although quotas do not limit black bears kills, there is a "bag limit" per hunter: two per license year for black bear and one for grizzly bear.

In addition to these species licenses, guide outfitters and Accompany to Hunt Permit holders must pay royalties to the provincial government for each animal taken by the non-residents that they accompany. The royalty for black bears is $75 and for grizzlies is $1000. Most guide outfitters pass this fee along to the non-resident hunters either directly or through trophy fees. (See Table 2.1)

Until recently, the number of grizzlies that guide outfitters were permitted to hunt each year was regulated through an annual quota system. However in 2012, the provincial authorities switched to a system that gives each guide outfitter a five-year allocation period (2012-2016) in which they are allowed annual quotas to kill up to a certain number of grizzly bears with a maximum total for the five-year period. An outfitter may choose to exceed an annual quota – as long as it is less than 30% of the cumulative five-year quota – as long as their number of kills over the five-year allocation does not exceed the total sum allotted for the period.

- **Guiding Territory Certificates**

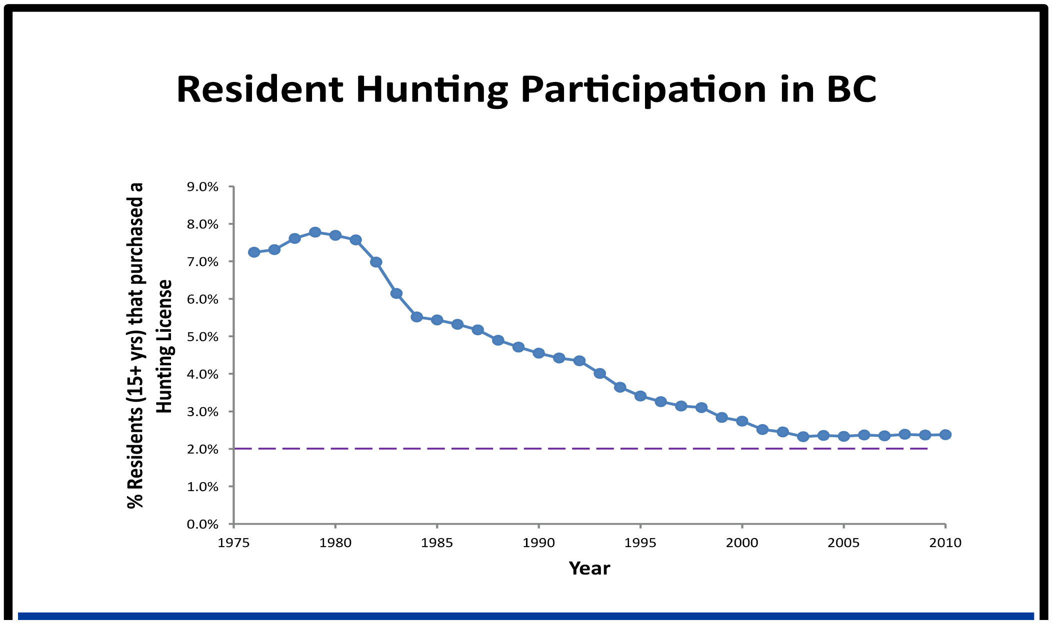
Guiding territory certificates give the holder exclusive control over guided hunts in the designated area. These certificates are issued for up to 25 years and are renewable. The land is Crown Land so the certificate holders, one for each territory, receive tenure to use it. Until 2008, the certificate holder and guide outfitter had to be listed as the same person, although another person or company could provide the financial backing for the guiding operation. In 2008, the Wildlife Act was amended to say that certificate holders and outfitters no longer must be the same person. However, certificates must be held in the name of "a natural person(s)" and therefore company names are generally not listed in government documents. Map 2.2 (below) shows the names of the certificate holders for the guiding territories in the GBF study area.

According to a bear specialist with the Ministry of the Environment, "The government doesn't charge anything other than an annual fee [for guiding territory certificates]. But on re-sales, the free market determines the cost of a territory. It's a willing buyer/willing sellers." Market value can be as high as $250,000 for a territory. The official added, "Certificate holders sell their territories as if they were real estate. One guide is given exclusivity over a territory but the boundaries shift all the time. So we have to keep moving the guide boundary territories."[99]

Resident Hunters

According to MFLNRO statistics, there are an estimated 79,000 "active" resident hunters in BC[100] – nearly sixteen times more than the non-resident hunters who visit BC each year. However, the percentage of the BC population applying for resident hunting licenses has been declining steadily, from a high of 7.5% of the population in 1980 to 2.5% in 2010.[101] As the resident hunters' association, the BC Wildlife Federation (BCWF), writes, "The resident hunter population in BC declined precipitously by over 50% from its peak in 174,000 in 1981 to a low of 84,000 in 2004." It adds, "During the same period guided non-resident hunters increased by more than 55% from ~3100 to 5000."[102] However, BCWF officials and recent reports[103] state that there are currently about 95,000 resident hunters throughout British Columbia. Based on this inflated estimate, BCWF claim that the number of resident hunters has "increased 12%"since 2004.[104] In fact, the recent MFLNRO commissioned study of BC resident hunters states that there are 79,210 "active" hunters" who hunted in the 2012-2013 season[105] and this would represents a *drop* of nearly 10% since 2004 when there were 84,000 hunters.

Figure 2.1: Resident Hunters as Percentage of BC Population, 1975 - 2010



Source: Ian Hatter, MFLNRO, "Hunter Recruitment and Retention in BC: A Progress Report," International Wildlife Management Symposium, December 9, 2011.

- ## Resident Hunter Regulations and Licenses

Resident hunting in BC is subject to its own separate and complex set of regulations that differ substantially -- in terms of fee structure, hunting areas, reporting requirements, etc. -- from the provincial regulations for non-resident hunting. Residents of BC are allowed to hunt without guides, but they must obtain hunting licenses and specific species licenses and, for grizzly bears, permits to hunt in designated zones. Before purchasing a hunting license, residents of BC must obtain a Hunter Number Card. These can be acquired at no cost following the completion of a mandatory 16 hour hunter safety course that costs $150.[106] This Conservation Outdoor Recreation Education (CORE) course is overseen by the BC Wildlife Federation, as the association which represents resident hunters (see below). Instructors, whom the Wildlife Federation has authorized, teach the short course as well as administer the exam. Residents can also opt to take the exam without taking the course. First Nations are exempted from the course.[107] Several types of resident hunting licenses, including youth, senior, initiation and regular licenses may then be purchased for varying costs (See Table 2.3).

Residents wishing to hunt grizzlies and other regulated wildlife species must pay a six dollar fee to be entered into a lottery system known as a Limited Entry Hunting (LEH) which authorizes hunting in specific areas, either MU or parts of MU known as LEH zones. Applications are then randomly assigned a number and filed sequentially from lowest to highest by computer with the lower numbers given more favorability of being drawn. The BC government recently introduced an enhanced odds system that reduces the chance of being drawn by 50% if an applicant was chosen in the previous years, thus varying the selection pool. Each permit that is awarded allows a particular number of hunts for an individual species within the issued year. Hunters who win this lottery are required to have, in addition to the LEH license, a regular hunting licenses which costs thirty-two dollars, as well as a “tag” or species license. For resident hunters, the grizzly bear species licenses cost eighty dollars. Under the CI system, resident hunters (as well as non-resident hunters) must report grizzly bear kills, as described above. Black bears are considered plentiful and are therefore covered under the General Open License rather than via the LEH lottery. BC residents with a hunting license and a $20 black bear species license can hunt anywhere in the province where there is an open season for black bears.

Table 2.3: Resident Hunters: License Types, Fees & Surcharges

		Fee	HTCF Surcharge	Total Cost
License type				
Hunter Number Card		Free		
Initiation License		$19		
Hunting License		$25	$7	$32
	Senior	$7		
	Youth	$7		
Limited Entry Hunting (LEH)		$6		
Species License				
	Black bear	$16	$4	$20
	Grizzly bear	$64	$16	$80

Source: Ministry of Forests, Lands and Natural Resource Operations, 2013 and Information provided to CREST by Fish, Wildlife, and Habitat Management Branch, October 2013.

There is no official reporting for black bears killed by resident hunters. The BC government annually sends out a voluntary survey to all resident hunters who received a draw to ask what they hunted, in what area, and whether they were successful. Based on these surveys, MFLNRO estimates the number of black bears hunted and killed, although the precise location is not determined.[108] It also must be acknowledged that, since the data are based on a survey of resident hunters, there is some variability in accuracy of the estimates. Within a specific MU, these variances can be large; however, when aggregated over all of the 11 MUs, the overall variance is much smaller. Nevertheless, the reader is cautioned to treat the specific estimates with some caution.

In a document provided for this study, MFLNRO's Fish, Wildlife and Habitat Management Branch technical team summarized the hunting "opportunities" for grizzly and black bears as follows:

Table 2.4: Level of Hunt Opportunity by Species

Grizzly Bears:

Opportunities are at the MU or smaller level Limited Entry Hunt (LEH) zone.
Guide outfitters are assigned a quota (for guided hunters); while a resident hunter must have a LEH
The Bag Limit (the number that a hunter may harvest) is 1 per licence year.
Compulsory Inspection is required.
Hunter harvest is tracked through compulsory inspection records and guide outfitter declarations.

Black Bears:

Opportunities are anywhere that a general open season is in place.
Non-residents must be accompanied by a guide outfitter or a resident a permit to accompany them.
Harvest is estimated at the MU level.
Bag limit is 2 per licence year.
Compulsory inspection is not required.
Hunter harvest is tracked through guide outfitter reports/declarations for guided hunters and estimated through harvest questionnaires for resident hunters.

Source: "Background Information" provided by MFLNRO's Fish, Wildlife and Habitat Management Branch technical team for this study, September 2013.

Hunting Associations

There are two major hunting organizations in BC with large memberships and effective lobbies that have been active in opposing any ban on bear hunting in the GBF. They are:

- **Guide Outfitters Association of British Columbia (GOABC)** is a non-profit membership organization based in Surrey, BC. It was established in 1966 "to represent the guide outfitting industry to government and advocate for science-based wildlife management."[109] The largest of the three guide outfitter associations, GOABC has 170 members or 80% of the outfitters in BC, Yukon, Northwest Territories and Nunavut. According to the GOABC website, "Guide outfitters are the founders of the tourism industry and an important part of the outdoor heritage of BC. More than 5,000 hunters come to BC each year and spend more, per day, per capita, than any other visitor to our province." GOABC General Manager Scott Ellis says that guide outfitting generate $120 million a year.[110] The Association has been a strong and effective lobby supporting what it calls the "wise and sustainable use of grizzly bears" and opposing the Coastal First Nations' campaign to end bear hunting in the Great Bear Rainforest. "Absolutely we need a hunt," says Ellis. "From my perspective, the bear population is fine, healthy, and growing. But bears like all other species need to be managed and hunting is one of the management tools." He adds, "There's no conflict between hunting and viewing. I don't think the two things are incompatible."

- **BC Wildlife Federation (BCWF)** is BC's largest and oldest conservation organization and the leading voice for the estimated 79,000 resident hunters in BC – nearly half of whom are BCWF members. According to the BCWF website, "Our 40,000 members are passionately committed to protecting, enhancing and promoting the wise use of the environment for the benefit of present and future generations."[111] In a July 2013 interview, BCWF officials described the new government study, *Expenditures of British Columbia Resident Hunters*, that was about to be released as "a good news story. It shows that resident hunting collectively is worth $230 million per year in generated revenue."[112] (See Chapter III for an analysis of this study.)

The GOABC and BCWF are the most influential provincial organizations representing hunters and are actively involved in the current debate over bear hunting. They have strong lobbying arms, are frequently quoted in the media, and are effective in galvanizing their members. In an interview, a high ranking BCWF official characterized the relationship between the province's two main hunter organizations as a "sibling rivalry," explaining, "It comes down to allocations: how many bears are allotted to resident hunters and how many to hunters coming from the outside."[113] The official added, "GOABC is about trophy hunting. We're about putting meat in the freezer. Asked if this included bears, the official said emphatically, "Absolutely! People eat bear."

Despite this rivalry, both organizations work closely with those managing hunting in the BC government, with former government officials holding posts in the associations. In an interview, a BCWF official described one of the Federation's top directors as having an inside track to government. "He hangs out in the Ministry [MFLNRO] He was involved in the development of information. He doesn't take no for an answer." The same official said of the 2013 *Expenditures of British Columbia Resident Hunters* study, "The Minister was the underwriter of the study, but we drove it. It was not their idea. They would never have done it if we didn't say they should do it."[114]

Two other associations play more minor roles in representing hunters and influencing BC hunting policies. They are:

- **Coastal BC Guide Outfitters Association** is a small association made up of eight member companies that broke away from the GOABC. Two of these companies – BC Hunting Adventures (John and Kathy Sievers) and Trophy West (Glenn Venus with his sons Steve and Geoff Venus) – do guiding within the GBF study area. According to the organization's rudimentary website, the Association members offer the "finest hunts for Coastal and Vancouver Island big game." [115]

- **United Sportsmen Association** is a membership organization, based in Alberta that promotes outdoor recreation and advocates "on behalf of hunters, anglers, outfitters and outdoor enthusiasts to guarantee responsible usage and conservation of land, water and renewable resources."[116]

Analysis of Bear Hunting in the GBF Study Area

As with our analysis of bear viewing, our study team used multiple sources in putting together an economic analysis of bear hunting in the GBF. Through surveys and interviews with guide outfitters and hunting associations, government reports and statistics, and data solicited from the Fish, Wildlife and Habitat Management Branch of the Ministry of Forest, Lands, and Natural Resources Management (MFLNRO) in Victoria, we endeavored to analyze hunting by guide outfitters and non-residents as well as by resident hunters for both grizzly and black bears. We looked at trends over time as well as conducted an in-depth analysis of the economic impacts of bear hunting in 2012. Specifically the research included the following:

- **Web-based research:** We examined the websites of guide outfitters that appeared to be doing or have done in recent years bear hunting in the GBF. We identified 12 outfitters with permits to operate within the Management Units that intersected with our study area. For each we compiled from their websites information on their company, facilities, areas of operation, types of bear-hunting trips, months of operation, and cost of trips.

We gradually determined that seven of these have been operating in recent years within the study area.

- **Site visit and interviews (in person and telephone):** During our site visit in July 2013 and in telephone calls, we interviewed a range of BC government officials from MFLNRO, Ministry of Environment, and BC Parks who are involved in managing bear hunting, including in the GBF. We also interviewed officials from the two main hunting associations, GOABC and BCWF.

- **Literature review:** We reviewed all the major studies since 1981 that include information about the economic value of bear hunting in BC and specifically the study area. Of particular interest was the *Expenditures of British Columbia Resident Hunters* study which was released in September 2013, as well as Rosie Child's "Coastal Grizzlies" study, released in April 2013.

- **Survey of guide outfitter companies:** Based on the guide outfitter websites, site visit, interviews, and review of previous surveys, we created a survey for guide outfitter companies designed to collect information roughly parallel to what we were collecting from the guide viewing companies. We identified and sent surveys to seven guide outfitter companies that appeared to have permits to operate within the GBF study area. Of these, two completed the survey, one did not qualify and another only partially qualified because they had had bear hunting permits bought out and effectively "retired" (one by Raincoast Conservation and the other by Knight Inlet Lodge), and three did not respond or refused to comply. This information was supplemented with telephone interviews with several additional guide outfitters, as well as with the GOABC. These efforts yielded valuable information which is incorporated into this report. However, overall the guide outfitters were less willing to participate in this study than were the bear-viewing companies. In particular, since the collection of financial data from guide outfitters was not as successful as with the bear-viewing companies, additional financial data were obtained from another study (conducted by a member of our study team) which were adapted for the purposes of this research.[117] That said, it must be recognized that the economic profile of guide outfitting companies operating in the GBF (see below) is not as precise as those presented for the bear-viewing industry.

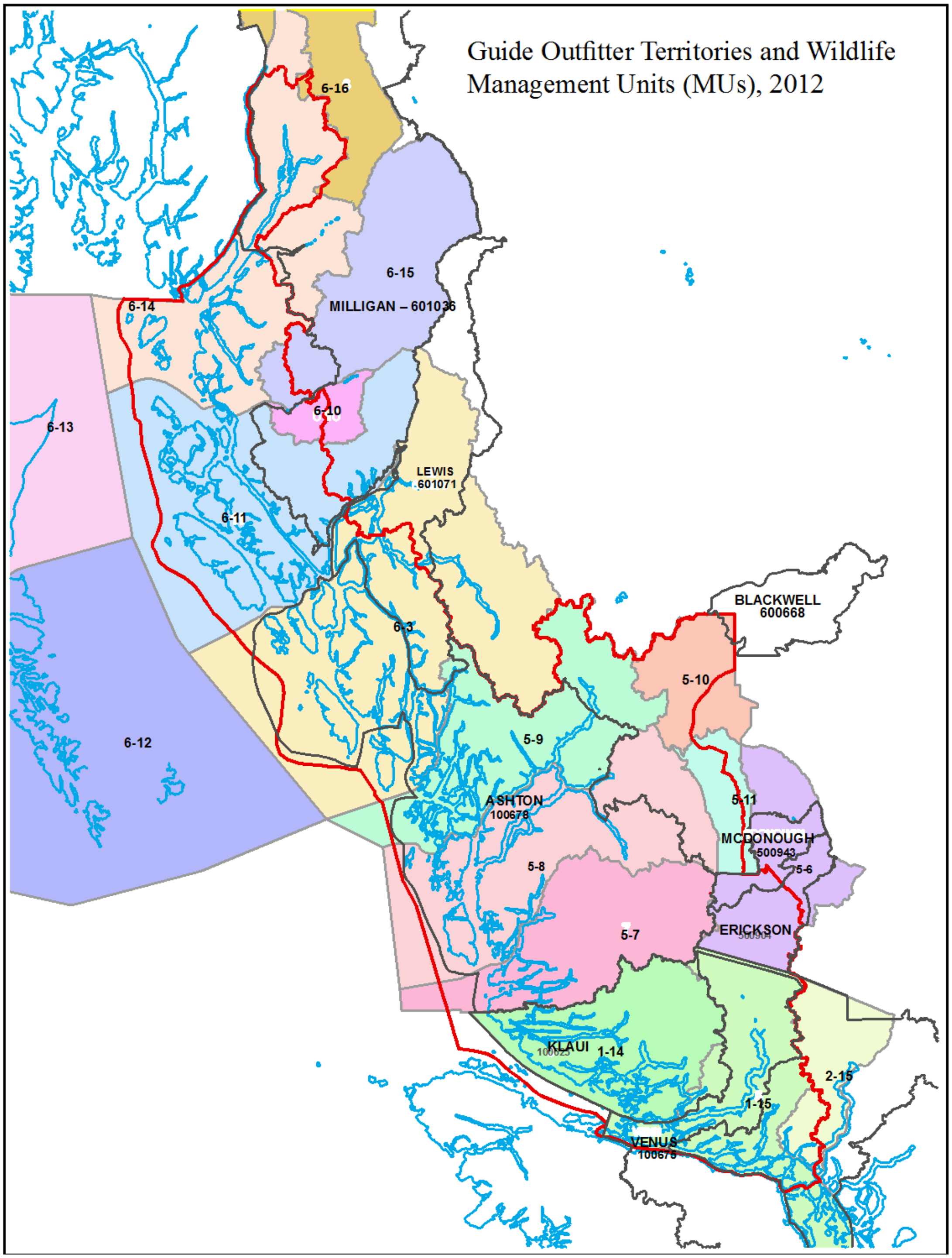
- **MFLNRO data:** Given our difficulties in collecting data directly from guide outfitters and given our need for data on the resident hunters who we were not able to survey, CREST entered into a Research Agreement with MFLNRO's Fish, Wildlife and Habitat Management Branch in Victoria to obtain specific information related to both guide outfitters/non-resident hunters and resident hunters in the GBF study area. We solicited in writing information on government regulations, policies, and operations, as well as large amounts of data over the last 15 years and more detailed information for the study's target year of 2012. Over the course of several months, a small technical team provided spreadsheets, maps, memos, documents, and other data and answered numerous questions about the government's far-from-intuitive systems for bear-management.

Since the BC government does not recognize the GBF as a legal geographic entity, it does not collect bear-hunting data specific to this region. However, the technical team led by Wildlife Manager Ian Hatter provided a number of tables, spreadsheets and maps, much of it specifically generated and tailored to conform as closely as possible to the parameters of our study area.[118] Even so, it proved difficult to compile data on the number of resident bear hunters and number of kills within the GBF study area because, as a memo from the technical team stated, the geographical areas relating to hunting including "WMU, LEH hunt area, guide area and the EBM [study area] polygon do not share common boundaries." In addition, the Ministry's own systems do not capture the location and numbers of black bear kills. Further, they were not able to provide – because of privacy rights – names and home addresses of non-resident and resident hunters who hunted grizzly and black bears in our study area in 2012 so we were unable to survey resident and non-resident hunters themselves.[119]

- **Guide Outfitters and Non-Resident Hunting**

Of the 225 Wildlife Management Units (MUs) in BC, we identified 14 which fall totally or partially within the GBF study area. We then selected the 11 that fall at least half or more within the GBF on which to tabulate hunting data.[120] Map 2.2 below shows both the boundaries and numbers of these MUs as well as the names and certificate numbers of the licensed guide territory holders, that is the individuals who holds the certificate for hunting within each of the MUs or a portion of each. As stated above, in the past the certificate holder for the territory and the guide outfitter had to be listed as the same person, but since the Wildlife Act was amended in 2008, guides territory holders can hire other licensed guides to work in their territory. For instance, on the map Peter Klaui is listed as the territory holder for guiding area in MU 1-14 (114) but Fish, Wildlife and Habitat Management Branch data and interviews determined that John H. Sievers is a licensed guide working for Klaui.

Map 2.2: Guide Areas and MUs: Non-Resident Hunters



Source: This and other maps were prepared by the Fish, Wildlife, and Habitat Management Branch technical team, based on CREST's map of the Great Bear Rainforest study area, September – October 2013. Colors are used to highlight the different MU units.

Spreadsheets (summarized in Tables 2.5 and 2.6) were generated by the Management Branch team and include a range of information on guided grizzly and black bear guide operations over the last 15 years for the MUs that fall all or partially within the study area.[121] (See Appendices C and D for the full spreadsheets.) For each year, the spreadsheets list by name the licensed guide outfitters *who conducted hunts* (which is, in a few instances, different from the guide territory holder) in these MUs for each year, plus the number of hunter clients, days spent hunting, and number of grizzly and black bear kills. In some instances, an outfitter might only hunt black or grizzly bears, not both. So, for instance, in 2011, there were five guide outfitters that hunted grizzlies and only three that hunted black bears in our study area.

These data show that the number of licensed guide operators has been fairly constant over the years, averaging just over four different outfitters per year for both grizzly black bear hunts, although outfitters often have had certificates to hunt in more than one MU or zone. The spreadsheets also reveal that in many cases, the same guide outfitters operate year after year. In total, the spreadsheets show that only about a dozen different guide outfitters have operated bear hunts in these 11 MUs over the past fifteen years.

While BC outfitters are recorded under individual names, they also have company names. From surveys and interviews with hunter outfitters operating in the GBF study area, as well as analysis of their websites, it appears that most guide outfitting companies are owned and operated by couples or families who conduct the hunts themselves, often with licensed assistant guides. Each hunting expedition can have no more than two licensed non-resident hunters but on occasion they may also include non-hunters, such as family members. Their websites promote the large size and abundance of coastal grizzlies and black bears in the GBF. According to Milligan Outfitting (also known as Coastal Mountain Outfitters) "Coastal British Columbia offers the biggest grizzly bears available. Our guide territory has the largest grizzly bear population in all of British Columbia, giving us the biggest grizzly quota in the province. With a total of 60 years combined experience our grizzly guides have guided both rifle & bow hunters … with nearly 90% of our hunters bagging a grizzly since 1985."[122]

Outfitter company facilities and equipment include a mix of lodges or base camps, satellite camp sites, boats (such as yachts, skiffs, jet boat), large, off-road vehicles, and sometimes flights to get into interior locations that cannot be accessed by vehicle or boat. During spring, black-bear hunting is often done by boat along ocean shorelines where bears come after hibernation.[123] Hunters, however, cannot shoot game from moving boats; they must either turn off the engine before shooting or disembark and hunt on land. During the fall salmon-spawning season, hunts take place along rivers. As one website states, "Bears are concentrated on salmon streams where abundant fish offer natural 'bait' luring bears from afar."[124] Many outfitters offer "combo hunts" which mix grizzly with black bear, wolf, mountain goat, or other big game. They may also offer non-trophy hunting packages such as freshwater fishing for salmon or trout and saltwater fishing for Chinook salmon, rockfish, crab, and prawns.[125]

Outfitters in the GBF charge up to $8,000 to $10,000 for a black-bear hunting trip and up to $20,000 or $25,000 per grizzly hunting trip, with longer trips and more remote areas costing more. Their prices may or may not include licenses, taxes, royalties, or trophy fees. The spreadsheets provided by the technical team show that the overwhelming majority of hunters who went with guide outfitters are foreigners: over the 15 years from 1998 - 2012, only 6 of the 205 grizzly bear non-resident hunters were Canadians and only 13 of the 999 non-resident black-bear hunters who went with guide outfitters were Canadian. Based on the spreadsheets found in Appendices C and D, Tables 2.5 and 2.6 below summarize the main data from these 11 MUs by bear species for each year from 1998 through 2012.

Table 2.5: Guided Hunting for Grizzly Bears in the GBF MUs: 1998-2012

Hunt Year	# of Guide Outfitters*	Total # of Hunters	Total Days Hunted	Total Kill ("Harvest")
1998	5	10	58	3
1999	4	24	104	12
2000	5	16	109	8
2001	3	12	79	1
2002	4	15	76	4
2003	4	7	43	2
2004	5	15	93	6
2005	5	20	97	6
2006	4	16	91	9
2007	3	14	86	9
2008	5	11	83	5
2009	4	13	85	3
2010	3	7	60	3
2011	5	11	63	4
2012	4	14	94	6
Total	**64**	**205**	**1221**	**81**

*Many outfitters hunted in more than one MU.
Source: Created from spread sheet of "Guide Outfitters and Grizzly Bear Activity in the 11 MUs in Study Area.1998-2012,"provided to CREST by a technical team, Fish, Wildlife and Habitat Management Branch, October 2013.

Table 2.6: Guided Hunting for Black Bears in the GBF MUs: 1998-2012

Hunt Year	# of Guide Outfitters*	Total # of Hunters	Total Days Hunted	Total Kill ("Harvest")
1998	7	50	291	44
1999	4	81	386	70
2000	4	93	420	66
2001	3	44	200	32
2002	4	57	314	44
2003	6	66	397	60
2004	7	94	673	62
2005	7	125	727	85
2006	4	85	482	57
2007	4	60	332	44
2008	5	54	271	47
2009	4	60	263	49
2010	3	36	182	28
2011	3	34	175	31
2012	4	60	331	67
Total	**69**	**999**	**5444**	**786**

* Many outfitters hunted in more than one MU.
Source: Created from spread sheet of "Guide Outfitters and Black Bear Activity in MUs in Study Area.1998-2012", provided to CREST by Technical Team, Fish, Wildlife and Habitat Management Branch, October 2013.

These tables show that between 1998 and 2012, 81 grizzly bears and 786 black bears were killed by non-resident hunters, for an average of 5 grizzly and 52 black bears per year. The statistics also illustrate that often non-resident hunters did not always manage to kill a bear: the "success rate" of non-resident hunters was only 40% for grizzly bears (205 total grizzly bear hunters and 81 total kills)and 79% for black bears (999 total hunters and 786 total kills).

It is important to note that Map 2.2, Tables 2.5, 2.6, and Appendices C and D cover the 11 Management Units that fall within and in a number of cases extend beyond the boundaries of the GBF study area. It is not possible to tell, based on this information provided by Management Branch technical team, whether the hunting took place within or outside the study area. Therefore the number of bears recorded as "harvested" in these tables is slightly higher than the actual number killed within the precise dimensions of the study area. For 2012, the year on which our economic analysis is based, we determined using Compulsory Inspection data analysis (see below) that 4 grizzly bears were killed by non-resident hunters within the precise boundaries of the GBF study area, compared with six grizzly bears killed in 2012 in these 11 MUs. We therefore use this figure of 4 grizzlies in our economic calculations for 2012. However, because reporting of black-bear kills is not required, there is no way to know how many of the estimated 67 killed in these MUs in 2012 were killed within the boundary of the GBF study area. We therefore use, in calculating data for 2012 (in Section III), the 67 grizzlies for non-resident kills because accurate data are not available.

The following Table 2.7 displays the number of licenses purchased between 1998–2012 by those involved in guided bear hunting in the 11 MUs that intersect with the study area. As stated above, non-resident hunters must obtain both general hunting licenses plus individual species licenses. Each non-resident hunter is allowed to buy a license to hunt one grizzly bear and two licenses to hunt black bears per year. The table shows that non-resident hunters purchased, during these 15 years, over six times more black bear than grizzly bear licenses. In addition, it is interesting to note that the number of licenses purchased by assistant guides is three times larger than the number purchased by guide outfitters and that, as stated above, the vast majority of non-resident hunters are foreigners.

Table 2.7: Licenses for Guided Non-Resident Bear Hunting in GBF MUs: 1998-2012

Hunt Year	Guide Outfitter Licenses	Asst Game Guide Licenses	Non-Resident Alien Hunting Licenses	Non-Resident Canadian Hunting Licenses	Non-Res/Alien BEAB Species Licenses	Non-Res/Alien BEAG Species Licenses	Resident Hunting Licenses	Resident BEAB Species Licenses	Resident BEAG Species Licenses
1998	7	13	54		68	10			
1999	4	25	90		102	24			
2000	5	26	99	3	112	16			
2001	3	13	50		54	12			
2002	5	18	62		75	13	2		2
2003	6	10	69		93	7			
2004	7	18	100		131	14	1		1
2005	7	23	125	4	146	19	1	1	1
2006	4	19	91		100	13	4	1	3
2007	5	12	64		69	14			
2008	7	17	57	2	63	10	1		1
2009	5	15	67	1	65	13			
2010	3	7	41		64	6	1		1
2011	5	11	37	4	36	11			
2012	4	16	67	3	81	14			
Totals	77	243	1073	17	1259	196	10	2	9

Notes: BEAB = black bears and BEAG = grizzly bears. BC residents are permitted to go with guide outfitters but, as the last three columns show, only a few do so because the cost is high.

Source: Compiled from table of "Licenses Purchased in Support of Guided Bear Hunting in Study Area MUs 1998-2012,"provided by technical staff of the Fish, Wildlife and Habitat Management Branch, November 2013.

Further, Table 2.7 shows that since a peak in 2005, the number of guide outfitters, assistant guides, hunting licenses, and bear licenses have all been declining in the GBF study area. This is one of the indications of a decline in the bear-hunting sector in the GBF study area, as compared with bear viewing which is growing. As one guide outfitter stated in the CREST survey, his business has "diminished" in the last five years and he expects the situation to "stay the same" over the next ten years.

A more precise analysis of the GBF study area is possible by using the CI data that include the location of where hunters shot grizzly bears, that is, in which guide area or territory. The Management Branch technical team provided a table of grizzly bear kills by guide outfitters and non-resident hunters as well as resident hunters within five Guide Areas in the GBF study area from 2001 to spring 2013. This data, displayed in Table 2.8 illustrates that for these 12.5 years, a total of 50 grizzlies – an average of 4 per year -- were killed by non-resident hunters accompanied by guide outfitters within these Guide Areas. According to this table, another 105 grizzlies were killed during these 12.5 years by resident hunters operating in these guide areas, for an average of over 8 per year.

Table 2.8: Resident and Non-Resident Grizzly Kills in GBF Study Area: By Guide Areas

				YEAR												
Outfitter	**Company**	**Guide Area**	**Residency**	**2001**	**2002**	**2003**	**2004**	**2005**	**2006**	**2007**	**2008**	**2009**	**2010**	**2011**	**2012**	**2013**
Klaui/Sievers	North Coast	100623	non-resident	0	1	0	2	1	3	5	2	0	0	0	1	1
			resident	0	6	5	2	2	1	8	0	2	1	2	5	2
Glenn Venus	Trophy West	100675	non-resident	0	0	0	0	0	0	0	0	1	2	1	0	0
			resident	2	1	0	0	1	0	1	0	1	1	1	1	0
L. Ellis; Ashton	2006 on: Raincoast	100678	non-resident	1	1	1	1	2	0	0	0	0	0	0	0	0
			resident	0	2	1	5	4	1	4	5	5	2	3	0	3
Robert Milligan	Milligan Outfitting	601036	non-resident	0	0	0	1	1	2	1	2	2	1	2	4	1
			resident	0	1	0	0	0	0	1	0	0	0	0	0	0
Michael Lewis	Bolen Lewis	601071	non-resident	0	0	0	0	1	2	1	1	0	0	1	1	0
		outside guide area	non-resident	0	0	0	0	1	0	0	0	0	0	0	0	0
		outside guide area	resident	2	2	0	3	1	0	2	4	2	4	2	0	1
		TOTAL	non-resident	1	2	1	4	6	7	7	5	3	3	4	6	2
		TOTAL	resident	4	12	6	10	8	2	16	9	10	8	8	6	6
		GRAND TOTAL		5	14	7	14	14	9	23	14	13	11	12	12	8

Source: Totals compiled by CREST from "CI Report and Declaration of Guide Outfitter and Resident Hunters" table provided by the technical team in the Fish, Wildlife and Habitat Management Branch, October 2013.

- **Buy-Outs of Guide Outfitters**

Table 2.8 also shows that since 2006, there have been no grizzly bears shot by non-resident hunters in Guide Area 100678. That is because in November 2005, guide outfitter Leonard Ellis (no relation to the GOABC's Scott Ellis) sold his five hunting blocs to Raincoast Conservation Foundation that registered the area in the name of Leslie Ashton, a licensed guide outfitter who was no longer hunting. Raincoast, a Canadian environmental organization with a focus on coastal British Columbia, raised private money to buy for $1.35 million Leonard Ellis' territories totaling 25,000 square kilometers. Ellis had bought out four other outfitters and amalgamated their territories with his to become the biggest guide operator on the Central Coast. "I was generating about $500,000 a year for the local economy" between 1998 and 2004, he said in an interview. Ellis, a controversial Bella Coola based outfitter who had been in business for 25 years, said he decided to sell to Raincoast because of the growing "political pressure environmentalists were putting on the Ministry to close the hunt."[126] In 2011, Raincoast bought part of another territory from guide outfitter Michael Lewis for $400,000, and the organization has since continued to be actively seeking to purchase additional guide territories. This represents the only successful initiative by conservation organizations to curb hunting of bears since the short-lived 2001 moratorium and it has been an important tool in building a public campaign to stop trophy bear hunting.

In a similar move, beginning in 2006, Dean Wyatt, President and owner of Knight Inlet Lodge, the largest bear viewing operation in the GBR, quietly began paying guide outfitter Glenn Venus of Trophy West Guide Outfitters about $20,000 to $25,000 a year not to hunt grizzly bears in Glendale Cove which is near the lodge. In an interview Wyatt said that he took the decision to buy Glenn Venus' grizzly license because his lodge has a very successful bear-viewing operation which "cannot coexist in the same area with hunting." However, according to Table 2.8, Venus/Trophy West has hunted grizzlies in a number of the years since 2006. The Trophy West website describes the company as having "one of the largest guide areas" with "6000 square miles on Vancouver Island and Knight Inlet with large logged areas, old logging roads, and river estuaries that produce prime feeding areas for the bears." The website offers "COASTAL GRIZZLY HUNTS - KNIGHT INLET" including a ten-day hunt in October – November (apparently in 2013) which includes "float plane to and from Knight Inlet base camp" and "field preparation of trophy for transport." It also offers black-bear hunts on Vancouver Island and Knights Inlet during the spring season, April 15 through June 15.[127] Wyatt explained that he realizes Trophy West is hunting bear in other surrounding areas where there is no bear viewing. He describes Glenn Venus as "an honest man. We don't agree on this very emotional issue of trophy bear hunting, but I know he will do what he says he will do and only hunt where he has a license."[128]

The purpose of the buy-outs is to stop the non-resident grizzly bear hunting in these areas of the GBR. However, Raincoast and its allies state that their ultimate goal is to stop trophy bear hunting completely by both non-resident and resident hunters. As Table 2.8 shows, in Raincoast's Guide Area 100678, no grizzlies were reported killed by non-resident hunters after 2005. However, resident hunting has continued in this Guide Area, with 23 grizzlies killed by resident hunters between 2006 and spring 2013. In a memo prepared for CREST, the MFLNRO technical team stated, “The purchase of the guide outfitting territory did not effectively stop hunting within that area.” The memo explained that “the operations within a guide outfitter territory do not limit or restrict non-guided [resident] hunters within that area. Through the purchase of that territory Raincoast had the option to reduce the number of guided hunters within the area but did not have any authority to reduce or eliminate opportunities for non-guided [resident] hunters.” While the government contends that it has the legal authority to reallocate any of these unused non-resident hunting tags (specie licenses) to resident hunters, the Management Branch technical team stated that so far this has not happened for the territories purchased by Raincoast.

Responding to the government’s position, Chris Genovali, Executive Director of Raincoast Conservation Foundation, stated, "Raincoast purchased the guide outfitting territory to control the commercial trophy hunting in this vast area. The resident hunt is a completely separate issue and we had no expectation of reducing it by carrying out this acquisition.” Brian Falconer, Guide Outfitter Coordinator for Raincoast, added, “While there were 23 grizzly bears killed by resident hunters in this territory during this 8 year period [2006 – 2013], Raincoast had an annual quota of 5 bears per year -- a total of 40 bears -- which we did not kill.”[129]

While the buy-outs have successfully reduced non-resident hunting, there remains considerable bear hunting throughout GBR, mainly by resident hunters. Overall, according to CI data in Table 2.8, between 2001 and 2013, resident hunters killed more than twice as many grizzlies as non-resident hunters (102 vs. 50) in the GBF study area.

In 2013, the resident hunt within Raincoast’s territory erupted into a public scandal when it was revealed that a National Hockey League (NHL) player shot and killed a grizzly bear known locally as “Cheeky”. Initially questions were raised whether the hockey player should have been given a resident hunting license since he now lives in the United States. More broadly, for those opposed to bear hunting, this incident again highlighted the need to stop resident bear hunting as well.[130] As one of those involved in buying out guide outfitters explained, “This type of hunting should be stopped, but the resident hunter lobby is politically powerful in BC. And because there are so many, we can’t buy them out like we can guide outfitters.”[131]

With the Coastal First Nations declaration of a ban on all types of bear hunting in 2012 and the growing public opposition to bear hunting in the GBF, the remaining guide operators in the GBF are sensing the writing on the wall. Some have diversified to offer other outdoor sports activities such as fishing and wildlife-viewing. One outfitter wrote in responding to the CREST survey that half his income came from “non-hunting activities.” He said that he expects his hunting business to continue to decline. He blamed mainly not the Coastal First Nations trophy-hunting moratorium but the “fierce competition from USA hunting outfits for bear which have lower costs and less restrictive hunting regulations." Other hunters surveyed and interviewed blamed "the politics of grizzly hunting [that] forecloses the opportunity to hunt," falling salmon stocks which is causing a decline in the grizzly population, or the BC governments' "rough guesstimates" of the real size of grizzly population. As one hunter put it, "I don't think the government's got an accurate handle on any game in BC. I think there was a significant drop in grizzlies in 2008-2009" and "too many tags were issued on the Central Coast." For what is apparently a mix of reasons, by late 2013, the remaining guide operators in the GBF were said to be quietly approaching conservation organizations to discuss selling their territories. According to Raincoast, "We are in conversations with several guide outfitters at this point and we are interested in purchasing these territories."[132]

- **Resident Hunting in the GBF Study Area**

In 2012, there were 7,880 resident black-bear hunters and 1,457 resident grizzly bear hunters in BC, based on the 2013 resident hunter study.[133] In the GBF study area, the numbers are a small fraction of the provincial totals: in 2012, it is estimated that 65 residents hunted for black bears (with 34 kills) and 47 residents hunted for grizzly bears (with six kills).[134] As is consistent with provincial trends, the number of residents hunting black bears has been declining, from 198 in 1998 to 65 in 2012. Parallel with this, the estimated number of black bears killed by resident hunters in these MUs also declined, from an estimated 72 to 34.

However, trends in the number of resident hunting grizzly bears are unclear, with a high of 60 (2009) and low of 20 (2003), and 47 in 2012. For grizzly kills, we used Compulsory Inspection data which include the exact location and therefore we feel confident that a total six grizzly bears were *reported* killed by resident hunters in 2012. However, as the recent *PLOS ONE* study found, unreported kills can and do happen.

Table 2.9: Resident Hunters: Estimates based on Voluntary Surveys

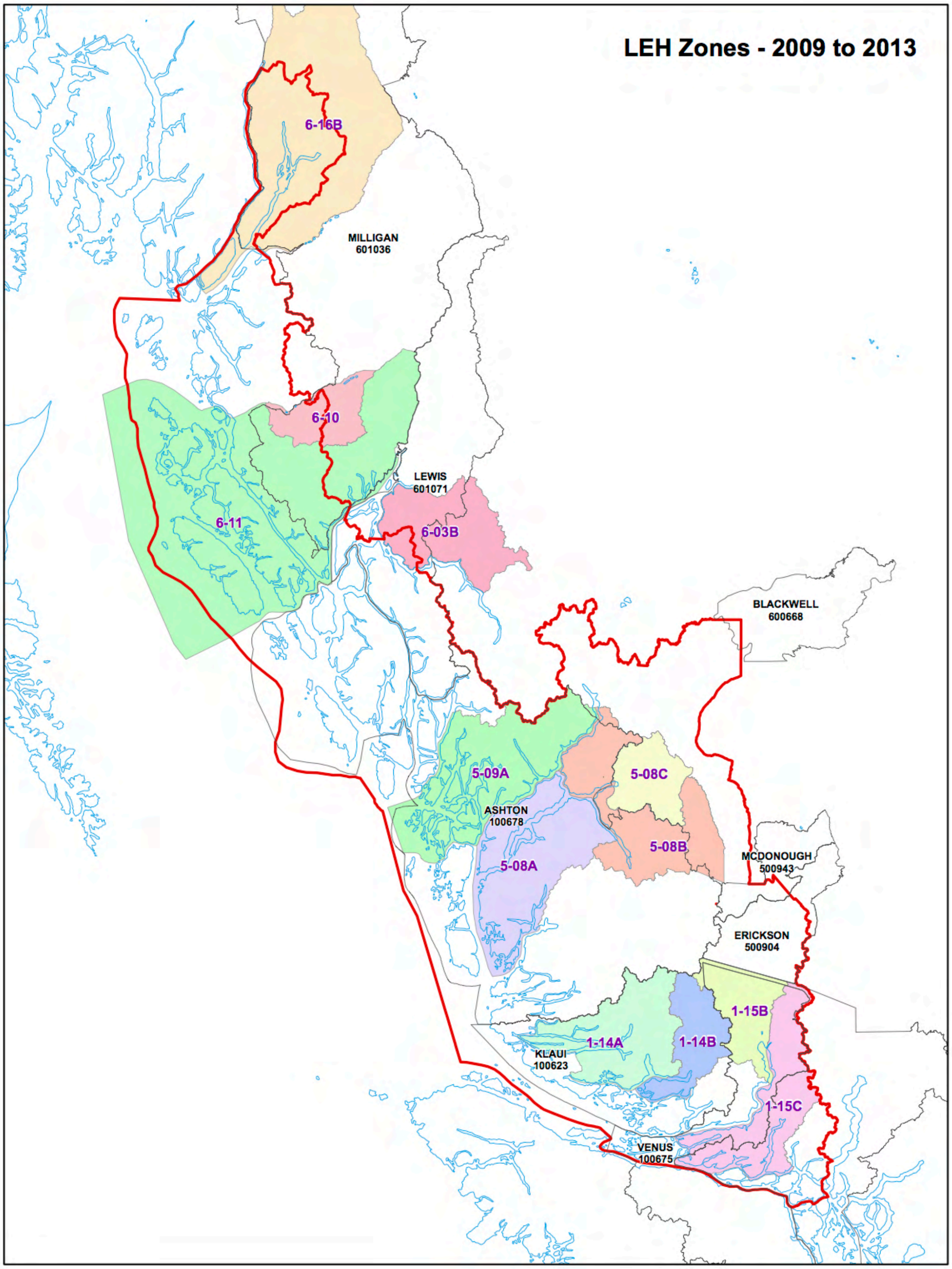
	Grizzly Bear			Black Bear		
Year	Total Hunters	Total Days Hunted	Estimated Kills*	Total Hunters	Total Days Hunted	Estimated Kills
1998	40	317		198	1266	72
1999	55	419		196	1133	102
2000	40	250		177	1527	69
2001	29	182	4	121	979	45
2002	45	273	12	166	1049	51
2003	20	143	6	125	681	29
2004	41	316	7	75	719	32
2005	28	126	8	90	700	4
2006	34	196	2	65	315	4
2007	56	301	16	150	985	41
2008	46	318	9	75	372	21
2009	60	489	10	162	886	50
2010	45	351	8	84	347	64
2011	26	143	8	103	497	14
2012	47	251	6	65	306	34

*Grizzly Kills sources from CI Report and Declaration of Guide Outfitter and Resident Hunters in Table 2.8.
Source: Technical team, Fish, Wildlife and Habitat Management Branch, "CREST BEAG and BEAB HS estimates - with 2012," a spreadsheet prepared for CREST based on annual voluntary surveys of resident hunters hunting in the 11 MU in the GBF study area.

With the exception of grizzly kills, the numbers in Table 2.9 are estimates based on data collected through voluntary annual 'Hunter Sample' surveys of resident hunters for the 11 MUs. These numbers are therefore likely not wholly reliable and are undoubtedly somewhat higher than the actual numbers because a number of the MUs extend beyond the boundary of the GBF study area.

As throughout BC, resident hunters can hunt black bears with a species license during General Open Season hunts and can kill two black bears per license. Resident hunters who want to hunt grizzly bears (and other designated species) in the GBF apply through the LEH lottery system to hunt in a specific area and if drawn, they are issued authorization to hunt grizzly bear in a particular LEH zone. These zones are based on MUs, but their geographical dimensions (and numbering system) may be different and vary slightly over time. The Fish, Wildlife and Habitat Management Branch technical team prepared a series of LEH maps for our GBF study area, including Map 2.3 for 2009 – 2013:

Map 2.3: LEH Zones – 2009-2013



Source: Technical team, Fish, Wildlife and Habitat Management Branch, MFLNRO, prepared for CREST based on boundaries of GBF used in this study.

In terms of economic impacts, both hunters and non-hunters interviewed say that resident hunters spend little and therefore put little into the local economy. Several hunters interviewed in Bella Coola said that most local residents hunt game for meat and black bears for trophies. Regarding resident hunters from other parts of BC, one of those interviewed explained, "The outsiders drive in from wherever. They bring so much gear and equipment and stay at campsites. They buy fuel but they come with a lot of food." Another former guide outfitter in Bella Coola concurred: "The LEH does not generate hardly any funds for the local economy. [These resident hunters] they don't buy anything and they don't hire boats."[135]

Economic Value of Bear Hunting: Resident and Non-Resident

For bear hunting in the GBF study area, we have assembled information from the BC government, most importantly MFLNRO's Fish, Wildlife, and Management Operations Branch; from surveys and interviews with guide outfitters, as well as analysis of their websites; from organizations representing outfitters and resident hunters; and from studies related to both non-resident and resident hunting. As with bear viewing, our economic analysis is based on 2012. In that year, only four guide outfitting companies carried out hunts with non-resident hunters in the GBF study area. These four guide outfitters – Milligan, Venus, Lewis and Sievers/Klaui – guided a total of fourteen non-resident hunters who killed ("harvested") a total of 6 grizzly bears and another 60 non-resident hunters who killed 67 black bears. In terms of resident hunters in the GBF, 47 hunted grizzly bears and killed 6, and 65 hunted black bears, that resulted in an estimated 34 bears killed.

Table 2.10: Summary of Grizzly and Black Bear Hunting, GBF Study Area, 2012

	# of Non-Resident Hunters	# of Bears Killed	# of Resident Hunters	# of Bears Killed	Total # Killed ("Harvested")
Grizzly Bears	14	6	47	6	12
Black Bears	60	67	65	34	101
Total	**74**	**73**	**112**	**40**	**113**

Source: Tables 2.5, 2.6, 2.8, 2.9 (above).

- **Economic Impacts of Non-Resident Guide Outfitters**

In analyzing non-resident hunting with guide outfitters, we used the above sources to estimate the cost for each type of hunt (black bear and grizzly). This, when multiplied by the number of clients, gave an estimate of hunt revenue for each guide outfitter. The hunt cost covers the outfitter charges, including any trophy-fees (an additional charge if a hunt is successful), plus the costs of licenses and other required payments (e.g., the Habitat Conservation Trust Fund). The total outfitter revenue from black- and grizzly-bear hunting in the GBF is estimated at $900,400 and the total hunter spending is $963,800 (hunter spending = outfitter revenues + HST charges where applicable).

Based on the collected financial information, the non-labor material purchases are estimated at $331,900, giving an estimated GDP impact of $568,500. Labor payments to employees amounted to $220,500 going to 11 employees.[136] On a FTE (full time equivalent of employment) basis, the total FTE employment of 4.8 received, on average, an FTE annual wage of approximately $46,000. Total government revenues (including licenses and tags) are estimated at $143,100, of which $62,400 went to the Federal government and $80,700 went to the provincial government. Taking into account total direct, indirect and induced impacts, bear hunting on the GBF generated $669,100 in provincial GDP, with $282,400 of income going to 13 employees and governments receiving $163,600 in revenues.

Table 2.11: Bear Hunting: Economic Impacts of Guide Outfitters, GBF, 2012 ($ 000)

	Direct	Indirect	Induced	TOTAL
Hunter Spending	$963.8			
Outfitter Revenue	$900.4	$55.9	$77.3	**$1,033.7**
Material Purchases	$331.9	$5.6	$27.1	**$364.6**
GDP --- of which	$568.5	$50.3	$50.2	**$669.1**
Labor Income*	$220.5	$32.5	$29.4	**$282.4**
Wages and Salaries	*$219.3*	*$26.2*	*$19.8*	***$265.3***
Mixed Income	*$0.0*	*$2.7*	*$7.2*	***$9.9***
Benefits	*$1.2*	*$3.6*	*$2.5*	***$7.3***
Employment	11	1	1	**13**
Employment (FTE)	4.8	0.5	0.5	**5.8**
Total Taxes	**$143.1**	**$11.1**	**$9.5**	**$163.6**
Total Federal Taxes	***$62.4***	***$6.7***	***$4.5***	***$73.6***
Total Indirect Taxes	$52.1	$0.3	$0.6	$53.1
Personal Income Taxes	$7.9	$5.2	$2.7	$15.8
Corp. Income Taxes	$2.4	$1.2	$1.2	$4.7
Total Provincial Taxes	***$80.7***	***$4.4***	***$5.0***	***$90.0***
Total Indirect Taxes	$76.9	$2.1	$3.5	$82.5
Personal Income Taxes	$2.7	$1.8	$1.0	$5.5
Corp. Income Taxes	$1.0	$0.5	$0.5	$2.0

Source: Estimates generated using Statistics Canada's Input-Output Model of the British Columbia economy. For explanations of the terms, see Table 1.5 on page 35.

Just as bear-viewing visitors experience pre- and post-viewing costs for accommodation, food, travel, etc., so to do those non-residents taking part in hunting. Unlike for bear viewing, the study team was not able to survey a representative sampling of the guide outfitter clients or any non-resident hunters, but the 2003 GOABC study placed an estimate of an additional $2200 spent on accommodation, food and travel to and from the hunting location. This excludes any extended holidays in BC related to the hunting trip as well as costs for shopping, taxidermy services and the like which can be significant. While the number of non-resident hunters is relatively small (74) in 2012, the $2200 spending directly on travel to/from the hunting location still generates over $160,000 in additional spending not accounted for in the above estimates of guide outfitter impacts. And on top of that, it is likely that some of those non-resident hunters remained in BC to vacation for an even longer time. Nevertheless, while this spending can be significant, it still does not increase the value of non-resident hunting to the BC economy to a point that it approaches the value of bear viewing.

- ### Economic Impacts of Resident Hunting

The MFLNOR statistics provided for the CREST study show that within the GBF study area in 2012, 47 resident hunters hunted grizzly bears, spent a total of 251 days hunting these grizzlies, and killed six, while 65 resident hunters hunted black bears, spent a total of 306 days hunting these black days, and succeeded in killing an estimated 34 black bears.

Table 2.12: Economic Impacts of Resident Hunting, GBF Study Area, 2012

	# of Resident Hunters	# of Bears Killed	Expenditures per Hunter	Total Expenditures
Grizzly Bears	47	6	$2,983	$140,223
Black Bears	65	34	$1,145	$74,402
TOTAL	**112**	**40**	**$1,916**	**$214,625**

Source: Table 2.9.

Total spending by all resident hunters for each bear species was estimated as the total number of hunters multiplied by the hunting days per hunter multiplied by the average daily expenditures. The former two (hunters and average hunter days per hunter) came from MFLNOR; necessary, then, was a value for the average daily expenditures by these hunters.

Resident hunter expenditure includes the purchases of goods and services during their hunting trip (e.g., food, accommodation, ammunition) plus the use of capital goods related to hunting (e.g., the use of an RV while hunting). In order to estimate these average expenditures per hunter in 2012, the study team made use of a recently published study by Responsive

Management (RM) on resident hunting in BC that was undertaken at the request of the BC Wildlife Federation and commissioned by MFLNRO.[137] Because this was a government study, the research firm was provided contact information for individual resident hunters (by contrast, the government, for privacy reasons, would not provide CREST with the hunter names and contact information). MFLNRO provided the consultant with background information on resident hunters (names, telephone numbers, etc.) from which to conduct a broad-ranging telephone survey. Through a random telephone interview process of roughly 2,600 British Columbians, the Responsive Management study determined the daily expenditures by hunter, average expenditures per hunter-trip, and the number of trips per hunter for a variety of big game for each of the economic regions in BC (see Map 2.1). While the data were not specific to the GBF area, there were estimates for those regions most closely associated with the Central and North Coast (Region 5, Region 6 and partially Regions 1 and 7) and consequently we were able to calculate reasonable estimates of average daily expenditures for black bears and grizzlies separately. Data from the Ministry provided the average number of days each hunter hunted during the year resulting in average per hunter total expenditures per species of animal, as displayed in Table 2.13 above of $2,983 for grizzlies and $1,145 for black bears. In sum then, the total expenditures in 2012 for all resident bear-hunters in the GBFR study area are estimated at $140,223 for grizzly bears and $74,402 for black bears for a total of $214,625 in total spending by resident hunters in the study area.

A 2005 study by BC STATS[138] (the provincial government's statistical agency) estimated a GDP-to-Expenditure ratio of approximately 0.43 (that is, for every dollar of resident hunting expenditure, provincial GDP went up $0.43). Using this estimate, the $214,625 in hunting expenditures translates into roughly $92,000 in GDP in 2012. From the same BC STATS study, wages and salaries represented approximately 29% of total expenditures, or $62,000. Unfortunately, the information on expenditures did not enable the calculation of a credible estimate of employment nor total government revenues.

As will be seen below, we have some rather serious issues with some of the data and the overall conclusions of the Responsive Management Study; however, we ended up using the daily expenditure estimates (see above) despite our fears that these daily expenditures over-estimate true spending. Accordingly, the reader is advised that the estimates of overall expenditures and economic impacts of resident hunting may be biased upwards and our conclusions of bear viewing versus bear hunting should be read with that in mind. The following is a brief critique of the Responsive Management Study.

- ### **Analysis of 2013 Resident Hunter Study**

The Responsive Management (RM) study is the most recent and most comprehensive study available on resident hunting in BC.[139] However, a review of the study brought out a few questions. First, the RM study suggests that total resident hunter expenditures reached $230 million in 2012. This is in contrast to the 2005 study undertaken by BC STATS for the year 2003 in which total revenues were estimated at $70 million, and this figure represented a decline of $6 million from 1991.[140]

In the same BC STATS study, hunter days in 2003 were estimated at 5.7 days, up slightly from 1991 estimate of 5.0 days. This is in contrast to the RM study which estimated the number of hunter days at 15.1, a putative increase of 300% since 2003. The RM study also estimated black bear-hunting days in the general GBF area (i.e., for Region 5 and6 and partially Regions 1 and 7) at roughly 7 to 7.5 days while for grizzly was approximately 10 days. In contrast, the Ministry data provided to CREST for the study area indicates an average of 4.7 days for black bear and 5.3 for grizzly. It therefore appears likely that the RM study estimate of 15.1 hunter days is too high. Since hunting-days feed directly into the calculation of total expenditures, one must question the validity of the total expenditure estimate of some $230 million.

At the same time, hunting licenses issued to residents declined from just over 160,000 in 2003 to slightly fewer than 80,000 in 2012. A threefold increase in expenditures since 2003 contrasts strongly with a 50% decline in people hunting and it suggests that there may be some errors in the RM results.

Other information may confirm this view. Contrasting the BC expenditure data against data for California indicates that the RM study's estimated daily spending of $305 in Skeena (Region 6) is twice as high as in California.[141] While there are some prices that would be higher in Skeena (gasoline, etc.), it does appear that daily spending rates in Skeena and possibly elsewhere in BC are over-estimated. In addition, large purchases (cars and trucks, RVs, ATMs, boats, freezers, etc.) account for almost 25% of all expenditures in the RM study. Including other durable purchases (firearms, ammunition, camping gear, hunting equipment, etc.) results in a value of roughly half of total expenditures. While it is difficult to make an exact comparison with the California data (their expenditures categories are somewhat different), a rough estimate of hunting durables purchased is approximately 25% of total expenditures. Of course, costs are different in the US, especially for vehicles and major purchases, but it seems somewhat exaggerated to say that the average BC resident hunter spends twice what the average California hunter spends on durable goods.

Furthermore, the RM study accepted the telephone responses as stated and did not benchmark to any known data. For example, total licenses and tags for the province are estimated at just over $9 million,[142] whereas the actual value of licenses and tags collected by MFLNRO was only approximately $6.0 million for 2012,[143] a value roughly 65% of the RM estimated value. Likewise, according to Statistics Canada's Input-Output data,[144] the value of personal expenditures on firearms and ammunition in BC in 2009 was roughly $17 million (so perhaps $18 million in 2012 adjusting for inflation), whereas the estimated value of these two expenditure items in the RM study is $32.3 million. Again known data come in at roughly 60% of the RM study estimate.

Given these uncertainties, it is not really possible to say how accurate the 2013 *Expenditure of British Columbia Resident Hunters* study is. The survey methods for the collection of the data appears sound; the gross up to universe totals, however, raises considerable doubts. The fact that the *Expenditure Study* suggests such a high rate of growth in hunting activity since 2003 (not borne out from available evidence), that where benchmark values are available, the expenditure figures far exceed those values, and that the spending values are substantively higher than equivalent spending data from California, leads to the conclusion that the estimate for total expenditures (and at least some of the expenditure categories and estimates of hunting days) are inflated.

When estimating the total expenditures made by resident hunters, we have relied on hunter numbers directly from MFLNRO, while also relying on hunter-expenditure data taken from the RM study since CREST was unable to obtain from the government contact information in order to interview resident hunters for this study. Since these RM data are possibly over-estimated, it is fair to say that the total expenditure results in our study may be biased upwards. That said, since the overall impacts for residential hunting presented in this study are based on these expenditure-data, the impacts should be considered as an upper limit on the economic value of resident hunting.

It is important to raise one final caveat concerning resident hunters. Many analysts believe that the resident hunter expenditures should not be considered as an increase in provincial economic activity since the funds spent on hunting are dollars that are not available to be spent in the economy on other goods and services. That is, if the resident hunters did not go hunting, they would be able to spend these additional dollars on other items, such as restaurants, entertainment, and the like. As such, the increase in activity attributable to resident hunting leads to a decrease in activity in those other sectors. This is not true with non-resident hunting, since those dollars are effectively an export; they are new dollars in the economy, and therefore the impacts of that spending are correctly interpreted as an increase in economic activity.

Chapter 3: Economic Value of Bear Hunting vs. Bear Viewing, GBF

Over the last number of years, a highly charged debate has been growing in BC as to the value of wildlife, particularly bears on the Central and North Coast. The debate is wide ranging, encompassing issues of wildlife stewardship and management, credible science, public opinion of trophy-hunting, traditions and values, rights of First Nations peoples versus non-Aboriginal British Columbians, and the balance of authority between the BC government and the Coastal First Nations in the GBF. However, all involved have recognized the importance of accurately answering the question of whether the hunting of bears leads to greater economic value to the region, or whether bear viewing provides greater economic opportunities. As discussed below, by assessing each sector using the same criteria that Statistics Canada uses to determine the economic importance of other industry sectors, *the overwhelming conclusion is that bear viewing generates more value-added and provides greater employment opportunities than does hunting.* These findings are summarized below.

Table 3.1: Economic Value of Bear Hunting and Bear Viewing in the GBF Study Area, 2012

SECTOR	EXPENDITURES	GDP	LABOR INCOME	FEDERAL TAXES	PROVINCIAL TAXES
Bear Viewing	$15,109,000	$7,309,300	$4,889,600	$971,400	$1,512,500
Non-Resident Hunting	$963,800	$568,500	$200,500	$62,400	$80,700
Grizzly Bear	$414,700	$244,600	$94,900	$26,800	$34,700
Black Bear	$549,100	$323,900	$125,600	$35,600	$46,000
Resident Hunting	$214,625	$92,000	$62,000	Unknown*	Unknown*
Grizzly Bear	$140,223	$60,000	$40,500	Unknown*	Unknown*
Black Bear	$74,402	$32,000	$21,500	Unknown*	Unknown*

Source: Data are calculated using Statistics Canada's Input-Output Model of the British Columbia economy

* The amount of licenses and tags going to the provincial government would total roughly $5,500 for grizzly bears and $3,500 for black bears for a total of approximately $9,000. Other taxes stemming from resident hunting activity are unknown.

As displayed in Table 3.1, bear viewing in the GBF clearly contributes far more to the provincial economy in terms of overall expenditures as well as in terms of GDP, wages and salaries (and employment), and in terms of government revenues than does bear hunting. Even assuming that resident hunting actually contributes to the economy, it is also true that non-resident grizzly hunting makes a greater economic contribution than does resident grizzly hunting:

$244,600 in non-resident grizzly GDP for 4 kills or $61,000 per kill compared to $60,000 for resident grizzly GDP for 6 kills or $10,000 per kill.

In addition, this study finds evidence that bear viewing in the GBF study area is likely to continue to be a far stronger economic sector than bear hunting. In 2012 at least 60 times more tourists engaged in bear viewing activities than in sport hunting and these bear viewing tourists come from a healthy mix of countries while the non-resident hunters are overwhelming from the United States. Dependence on a single market can be risky – as demonstrated by the 20% drop in non-resident hunter numbers coming to BC during the recent "Great Recession". A majority of bear viewing companies surveyed have experienced growth in the last five years and they expect to continue to grow over the next decade. In contrast, guide outfitters in the GBF study area have not experienced growth and do not expect to grow in the future. Some coastal guide outfitters are increasing their other wilderness tourism activities to replace diminishing hunting opportunities. From interviews, it is apparent that a number of outfitters are seeking buy-outs from conservation organizations. Unlike two other studies,[145] this study does not try to project how long it might take bear viewing to make up for the loss in economic value related to hunting. *However, if bear viewing continues to expand at its current rate, then the local economy may not feel the impacts of lower hunting activity.*

Another important issue which this study was not been able to fully answer is whether the BC government is spending more each year to manage bear hunting than it is collecting in fees and licenses linked to bear hunting. MFLNRO's technical team said that that they do not have available information on what the BC government is spending to maintain the staff and elaborate system that oversees bear hunting. However, according to one BC government wildlife biologist, "We spend an inordinate amount of time and resources on grizzly bear management and regulations, compared with other species in the province because it is a politically charged hunt. I would say for sure it's a net loss."[146]

Bear viewing, in contrast, is largely unlicensed and unregulated and therefore the provincial government does not assess any direct fees or taxes on these activities, a situation considered patently unfair to local guide outfitters (the government did, of course, receive considerable revenues in 2012 from its portion of the HST – now eliminated – and from other taxes – property taxes, liquor taxes, and the like). The government also, unlike with bear hunting, spends very little to oversee and regulate bear-viewing activities. Wildlife-viewing guides who work in provincial parks and conservancies must obtain a permit from the Park Use Authorization Service that costs $250 a year. In addition, guides are required to pay a head tax of $1 to $4 for people they take into the park,[147] but they are not required to have a business license. Currently, no section of the Wildlife Act deals with bear viewing. As one government biologist noted, “We don’t keep a list of viewing operators because there is no license. Wildlife guides don’t need a license to operate. But,” he added, “as ecotourism and wildlife viewing has grown in the last ten years, we find ourselves walking a thin line between viewing and harassment.” With growing popularity of bear viewing and the need for more industry protocols and government regulations over how it is done in order to protect both the tourists and the bears, there appears to be opportunities for the government — as well as businesses and associations involved in bear viewing — to increase revenue from this type of non-consumptive wildlife tourism.

In December 2012, Costa Rica became the first country in the Americas to ban trophy hunting. In response to a petition drive which collected 177,000 signatures, the Costa Rican congress voted unanimously to end sport hunting and the president signed the measure into law. (Hunting for personal consumption remains legal.) Economics was a driving force behind this decision: Costa Rica has a global reputation for high quality ecotourism. Almost two million international tourists visit Costa Rica each year, generating about $2 billion from wildlife viewing and other non-consumption tourism activities. In contrast, trophy hunting was attracting far smaller numbers, although there was no accurate data on how much it generated.[148] While clearly there are differences, the Great Bear Rainforest, like Costa Rica is also gaining an international reputation for outstanding nature-based tourism, including bear viewing. Within less than two decades, bear viewing has become a leading tourism draw --- perhaps *the* leading draw – for international visitors to the GBR. While the arguments for and against hunting are many and varied, the economics seem clear: as long as the grizzly, black and Spirit bear populations are robust and well protected, bear viewing is well positioned to continue to expand, bringing more visitors, more jobs, and more economic value to both BC province and the GBF.

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b. Provide accommodations for visitors who participate in bear viewing;
c. Provide boats for people who do bear viewing;
d. Hire one or more bear viewing guides who offer trips through their facilities;
e. Partner with other person or company to offer bear viewing;
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[68] In a nutshell, the financial expenses reported by a company must be adjusted to account for any retail, wholesale, transportation and tax margins that are included in the sale price of the expense item (each of these margins are then captured by the appropriate industry – that is, retail margins are assigned to the retail sector). For a detailed explanation of the differences between financial accounting and economic (or National) accounting, as well as for a detailed explanation of direct, indirect and induced impacts, see Appendix A.

[69] Simply stated, sector value added is the difference between the sale price and the material costs of production; equivalently, it is the sum of labour income, depreciation, interest payments, and profits.

[70] Appendix B contains a listing of definitions of the major concepts used in this report.

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About the Center for Responsible Travel (CREST)

The Center for Responsible Travel (CREST) is a non-profit organization affiliated with Stanford University, devoted to providing reliable information to tourism policymakers. Founded in 2003, CREST functions as a bi-coastal institute, with offices in Washington, DC and at Stanford University in California.

CREST stands alone in the areas of environmentally sustainable and socially responsible tourism, having built an international network of highly-trained experts providing interdisciplinary research, analysis, and solutions, as well as publications, conferences, courses, training, and educational workshops. Our thorough research and innovative solutions benefit visitors, businesses and destinations alike. CREST delivers programs and services in field research, feasibility and impact studies, market research, certification programs, destination development, travelers' philanthropy and strengthening sustainable tourism and ecotourism. CREST's mission is to promote responsible tourism policies and practices globally so that local communities may thrive and steward their cultural resources and biodiversity.

Because we are affiliated with Stanford University, one of the world's leading academic institutions and a renowned business incubator, we adhere to the highest academic and professional standards. Our research complies with Stanford's rigorous protocol and we are able to draw on the intellectual assets of the university to benefit our clients. Furthermore, our staff and the select specialists of CREST Consulting Services have been in the business of tourism development, with a focus on sustainability, for a combined 200+ years, and have worked in more than 100 countries.

We rely on a diverse portfolio of funders and clients, including international agencies, private tourism companies, philanthropic foundations and individuals, other non-governmental organizations, and national governments.

Visit www.responsibletravel.org and www.travelersphilanthropy.org to learn more.

About Pacific Analytics

Pacific Analytics is a firm of consulting economists located in Victoria, British Columbia. One of our main areas of expertise is the financial and economic assessments of industries, with particular emphasis on financial modeling and input-output analysis and the valuation of accurate estimates of GDP, employment, government revenues, foreign exchange, and import demand based on strict national accounting standards.

Many of our projects focus on tourism-related firms and sectors, including wildlife viewing, guide outfitting, sport fishing, wilderness lodges, and other nature-based tourism-related businesses. Our clients are from all parts of Canada, as well as from the US, Britain, Jamaica, Brazil, Ireland and Australia.

About Small Planet Consulting

Small Planet Consulting is headed by tourism industry veteran Judy Karwacki and located in Vancouver, Canada. Our key interest is supporting tourism that provides destinations, communities and companies with sustainable long-term economic, social and cultural benefits, while protecting their natural and cultural heritage. Small Planet specializes in international sustainable tourism and community development, and has recognized expertise in ecotourism and indigenous tourism. For over 12 years, we have worked with destinations, communities and businesses around the world to develop their tourism potential.

Appendix A: An Input-Output Primer

National Accounting (also termed Economic Accounting) assumes a company undertakes two steps in its production process. First, it purchases material inputs from other industries; and second, it transforms those material inputs into finished goods (or services), ready for resale. Take as an example a Restaurant. Restaurants buy fresh vegetables, meat, etc. from the Agriculture sector. Using other material inputs (e.g., electricity, cooking oil, etc.), it transforms them into finished dishes, which, in turn, are sold at a selling price higher than the cost of its inputs. The difference between the selling price and the material input cost is the "mark-up" or "value-added". This value-added is used to pay for the kitchen and wait personnel, any taxes levied by governments, the depreciation of equipment, any interest costs the restaurant may have, and will also generate, the owner hopes, a profit.

National Accounting asserts that the value which the restaurant sector adds to the economy (hence, the term "value added") is equal not to the total revenues of Restaurants, but only to this "mark-up" value. That is, the value of an industry to an economy is the difference between the value of its output (effectively, total operating revenues) and the cost of its material inputs. In this way, the Restaurant industry does not claim the value of the agriculture inputs it uses, which should rightly be accounted for by the Agriculture industry. As a result, there is no double counting when measuring the value of the entire economy.

In other words: the value-added of the Outfitting Industry is the revenue from all of its sales to clients (output) minus all of its costs for payments to other firms for goods or services (material inputs), or:

Value Added = Output (or Final Sales) - Material Inputs

Another way of defining value added is that it is the sum of an industry's payments to employees, for indirect taxes, for depreciation and interest costs, and for profit:

Value Added = Labor + Indirect Taxes + Depreciation + Interest Costs + Profit

The resulting value-added of any firm (or industry) is available to be shared among labor (wages, salaries and benefits), indirect taxes and "operating surplus." The operating surplus itself is shared between payments for the use of physical capital (depreciation), payments for the use of monetary capital (interest costs), and payments (profits) to the owner(s) of the enterprise. Value-added is an industry's contribution to, or direct impact on, the economy. And the sum of value-added of all industries is termed the country's Gross Domestic Product (GDP).

An important distinction needs to be made between Financial Accounting and National Accounting. Under financial accounting, an industry which has a high value added (i.e., contributes a lot to the economy), can be unprofitable if, for example, its payments to labor or for interest costs are too high. Alternatively, low value-adding industries can be very profitable to their owners, depending on their usage of labor and their capital structure.

Economists have standardized the measure of these flows and the inter-relationships of inputs and outputs among industries through the concept of Input-Output (I/O) analysis. The MAKE matrix (the top section of Exhibit 16 on page 20 identifies the various types of output the sector produces. The USE matrix (the bottom section of that same table) highlights all of the various types of inputs used to produce that output. One can readily determine from these tables that subtracting total Material Inputs from total Output leaves Gross Domestic Product (GDP). This GDP is equal to the sum of Wages and Salaries, Benefits, and Operating Surplus.

The GDP-to-Output ratio is a measure of the direct contribution to the economy per dollar of output. Clearly, an industry that requires a lower dollar value of inputs to produce a given dollar of output is a higher value-adding industry. One must note, however, that a higher GDP-to-Output ratio does not imply that the industry is more important to the economy. It merely states that for every dollar of output the impact on the economy is greater. Obviously, when examining an industry's importance to an economy one must also take into account the total output of the industry. There is, however, another important characteristic of an industry that must be examined if one is to determine the importance of a sector to the local economy: its linkages to other industries.

When inputs such as fresh produce or meat are purchased by the Restaurant sector, the industries supplying those goods and services (in this case farmers, food manufacturers, and food wholesalers and retailers) increase their own economic activity. This increased activity itself creates demand for other products. Farmers, for example, may need more fertilizers for their land and more petrol to run their machinery. Food wholesalers may require additional box material. The demand for extra fertilizers and petrol and box material will, in turn, stimulate activity in the fertilizer, petrol and box industries. The increased activity in the fertilizer industry will create greater demand for its own inputs, perhaps some chemicals. And so it continues down the chain of industries. The sum effects of all this additional economic activity are known as indirect impacts.

Such indirect impacts (also known as "multiplier effects" or "spin-offs") on the economy clearly are important. They should not be ignored (as they usually are with financial accounting) if we are to measure the true benefits of an industry to an economy. An interesting observation is that, while it is true that high value-adding industries have low indirect impacts, those industries with relatively lower direct impacts have relatively higher indirect impacts. This is because, by definition, low value-adding industries consume more inputs per dollar of output and thus have a greater impact on their supplying industries. It should be noted, however, that the level of indirect impacts is highly influenced by the type of goods and services demanded and by the propensity of the companies (or the economy) to import those particular goods and services. The higher the propensity to import the required goods and services, the lower will be the effects on the local economy. Indeed, an industry that imports all its inputs will have virtually no indirect impact on the economy, save the small level of distributive activity (wholesale, retail and transportation margins) the imports may generate.

Increased industrial activity has a third effect on the economy. When additional wages and salaries are paid out, those dollars (appropriately adjusted for taxes and savings) are available to be re-spent on consumer goods and services. Take, for example an additional $1 million in wages resulting in say, an increase of disposable income of $750,000. Depending on the spending patterns, this may result in extra consumer spending of say, $500,000 in the retail sector (the remaining being spent in the entertainment sector, restaurant sector, etc.). This will increase the economic activity of the manufacturers and other suppliers of consumer goods who, in turn, will increase their own employment and their own wage payments. The sum effects of this additional activity due to increased wages are known as induced impacts. Again, it should be clear that, like indirect impacts, induced impacts are highly influenced by the economy's propensity to import, as well as by taxation and savings rates, the level of wages paid to employees and the level of capacity at which the economy is operating.

The question arises: given that there are many levels of indirect and induced spending which affect many, many different firms and industrial sectors, how can we estimate these impacts on the economy? Fortunately, economists have developed a method to estimate these impacts, by using the same input-output tables to which we already have been introduced. However, since the base information is coming from financial statement data directly provided by operators, it is critical to understand how financial statement data are re-structured to meet National Accounting standards. These differences are discussed below.

- **Technical Differences**

Although the National Accounting (Input-Output) measurement of the value and impacts of Outfitting begins with the same set of data as the financial results of the industry, a number of adjustments are required in order to conform to strict National Accounting standards. To avoid possible confusion, these technical differences between Financial Accounting and National Accounting should be understood. The intent here is not to provide a comprehensive or definitive discussion of these differences, however, but rather to provide a cursory overview. For a more in-depth discussion of the differences and of the methodology underlying National

Accounting, the interested reader is referred to the National Accounting compendium published by the UN.

The following outlines the major differences:

1. The first and perhaps most important difference is that National Accounting measures all non-tax related revenues and expenses related to production, even those not itemized on the corporate income statement. Hence, gratuities paid to staff are included as output (in the case of the Outfitting Industry, as an increase in sports revenues). This increases output but not material inputs, and therefore it increases the estimate of GDP (Output – Inputs) by precisely the amount of gratuities. Using our other definition of GDP (GDP = indirect taxes + wages, salaries and benefits + operating surplus), we see that the increase in GDP is reflected in an increase in wages and salaries equal to the reported gratuities.

2. Another (usually) off-budget item is an estimate of the value of imputed room and board. On the Output side there is an increase in lodging revenues and, since the provision of room and board is a value to the employee, it is considered equivalent to a wage subsidy, and thus contributes to overall GDP. Normally, the cost of food is already accounted for within the financial statement, thus the net impact on GDP is equal to the value of the imputed room and board. Statistics Canada has standard values that it uses to assess the value of this room and board and it is that standard that is used in this report.

3. At the same time, National Accounting omits revenues not directly related to the production process. Generally, these incomes are limited to interest and dividend earnings, but include non-operating revenues related to rental incomes, commissions and the like.

4. A third difference is that, under National Accounting, the value of each input in the USE matrix is stated in “producer” prices. That is, all wholesale, retail, and transportation costs included in the “purchaser” price of a commodity are removed, as are all commodity taxes, indirect taxes and import duties. These “distributive and tax margins,” as they are called, are explicitly recognized in the USE matrix as separate line items. The reader should understand that this does not in any way reduce the total cost of inputs to the industry; it simply re-assigns the costs to different input categories.

5. A fourth difference lies in the treatment of merchandise sales. National Accounting treats the purchase of merchandise as partly a purchase from the manufacturer of the good (equal to the cost price of the good less distributive and tax margins) and partly a purchase from the retailer (equal to the mark-up for the good). Consequently, in an input-output table for a sector selling some retail goods, there is no recognition of the cost of the merchandise on the input (USE) side, and only the mark-up value is recognized on the output (MAKE) side. The cost of the merchandise is captured in the Manufacturing sector as output. It is for this reason

that some analysts recognize certain manufacturing industries as direct tourism, even though tourists do not actually buy any goods directly from those manufacturers.

6. Related to this unusual approach to merchandise sales is the treatment of "service margins." When a firm purchases a product (such as liquor, beer or wine) and re-sells it with a mark-up without any fundamental change to it, National Accounting recognizes only the mark-up or "service margin" as output. It then treats the purchase cost of the product (less distributive and tax margins) as an output to the original producer of the good. The main instance that affects most industries (besides retail sales) is alcohol sales. In this case, only the service margins are recognized as output, and the costs are assigned to the alcohol manufacturing sectors (beer, wine and liquor/distillers). In effect, then, the alcohol-manufacturing sector is a direct provider to tourists under National Accounting principles.

Appendix B: Definitions

As in any technical briefing, a number of terms are used in this Report that may be confusing to those not directly working in the field. The following provides some help with definitions.

Input-Output Model: comprised of three tables or matrices: a Make matrix, a Use matrix, and a Final Demand matrix. The Make matrix lists all the different outputs produced by each industry. The Use matrix lists all the different purchases (material inputs) by each industry used in the production process as well as itemizing all taxes (explicit and implicit) paid by the industry (HST is not a company-level tax; rather it is a tax paid by final consumers but channeled through the company). The Final Demand matrix lists all the various purchases by persons (including HST), by government, by industries for investment purposes, plus all net exports (exports minus imports) of each commodity (good or service). Mathematically re-arranging the tables enables one to determine how much addition production will be generated in the economy from an increase in demand for a commodity or series of commodities.

Gross Domestic Product (GDP or Value-Added): a measure of the total flow of goods and services produced by the economy and used for final domestic consumption, investment and export (e.g., excluding immediate consumption). GDP can be calculated in three different ways, all of which yield the same results. The first method, used in this Report, estimates the difference between the value of gross output of all industries minus the value of gross material inputs used for immediate production (excluding indirect taxes). The second method sums the values of Wages and Salaries, Supplementary Labor Income (Benefits), Operating Surplus (Profits plus Depreciation plus Interest on Long Term Debt) and Indirect Taxes for all industries. And the third method sums the values for personal consumption, government expenditures, investment (including changes to inventories) and net exports. In addition to total GDP for the economy, GDP is also estimated for individual industrial sectors.

Direct Impacts: equivalent to the level of direct value-added (or GDP) generated by an industry.

Indirect Impacts: the impacts resulting from the expenses (goods and services) of a firm or industry used in the production process. The purchase of goods or services increases the economic activity of the supplying firms and, in turn, the supplying firms themselves must purchase their own goods and services which generate further economic activity in those supplying firms.

Induced Impacts: the impacts resulting from the wages and salaries paid by a firm or industry. When the wages and salaries are spent (less taxes and savings), the economic activity of the firms supplying those goods and services increases. As well, the supplying firms themselves will pay additional wages and salaries to their own employees which, when spent, generates more economic activity.

Person-Year (PY) Employment: the level of employment in a firm or industry when part-time positions are counted as a fraction of full-time positions. Four half time positions equal 2 Peron-Years of work.

Intermediate Demand (material inputs): sales to each industrial sector used for further production.

Producer Prices: the value of a commodity (good or service) at the factory gate. It excludes all indirect taxes, as well as wholesale, retail, and transportation costs (called "margins") associated with the final selling (purchaser) price.

Purchaser Prices: the price of a commodity (good or service) actually invoiced to the purchaser. It includes the factory gate cost of the commodity plus any additional costs associated with indirect taxes, wholesale and retail margins, and costs associated with transporting the commodity from the factory gate to the final purchaser.

Value-Added: a term identical to GDP in concept, but referring to a particular establishment.

Appendix C: Black Bear Hunting in GBF Study Area

Hunt Year	Guide Surname	Guide Init(s)	Certificate	Hunter License Type	Species Code	MU	Hunters	Total Hunt Days	Total Harvest
1998	KLAUI	P	100623	NRH	BEAB	114	10	92	8
1998	KLAUI	P	100623	NRH	BEAB	115	11	84	14
1998	SWIFT	B	100572	NRH	BEAB	115	10	36	12
1998	ELLIS	L	500666	NRH	BEAB	508	9	30	5
1998	JUOZAITIS	J	500386	NRH	BEAB	508	1	16	2
1998	ESTEB	O	500662	NRH	BEAB	509	2	7	0
1998	RICHBURG	R	500191	NRH	BEAB	509	2	12	0
1998	MCCOWAN	H	600649	NRH	BEAB	603	5	14	3
1999	KLAUI	P	100623	NRH	BEAB	114	11	64	8
1999	KLAVI	P	100623	NRH	BEAB	114	2	20	2
1999	SWIFT	B	100572	NRH	BEAB	115	12	50	13
1999	ELLIS	L	500666	NRH	BEAB	507	6	26	1
1999	ELLIS	L	500906	NRH	BEAB	507	9	36	8
1999	ELLIS	L	500666	NRH	BEAB	508	2	3	2
1999	ELLIS	L	500906	NRH	BEAB	508	1	8	0
1999	ELLIS	L	500666	NRH	BEAB	509	7	36	7
1999	ELLIS	L	500906	NRH	BEAB	509	16	82	13
1999	MCCOWAN	H	601004	NRH	BEAB	603	15	61	16
2000	KLAUI	P	100623	NRH	BEAB	114	2	12	1
2000	KLAUI	P	100623	NRH	BEAB	115	10	40	9
2000	SWIFT	B	100572	CRH	BEAB	115	3	14	2
2000	SWIFT	B	100572	NRH	BEAB	115	10	28	9
2000	ELLIS	L	500906	NRH	BEAB	508	8	31	3
2000	ELLIS	L	500333	NRH	BEAB	509	3	12	2
2000	ELLIS	L	500906	NRH	BEAB	509	35	183	21
2000	MCCOWAN	H	601004	NRH	BEAB	603	22	100	19
2001	KLAUI	P	100623	NRH	BEAB	114	4	35	3
2001	KLAUI	P	100623	NRH	BEAB	115	13	57	12
2001	ELLIS	L	500906	NRH	BEAB	508	4	6	0
2001	ELLIS	L	500906	NRH	BEAB	509	10	40	4
2001	MCCOWAN	H	601004	NRH	BEAB	603	13	62	13
2002	KLAUI	P	100623	NRH	BEAB	114	12	62	7
2002	KLAUI	P	100623	NRH	BEAB	115	3	21	1
2002	SWIFT	B	100572	NRH	BEAB	115	3	15	3
2002	ELLIS	L	500906	NRH	BEAB	508	15	82	6
2002	ELLIS	L	500906	NRH	BEAB	509	8	24	2
2002	MCCOWAN	H	601018	NRH	BEAB	603	13	94	22
2002	ORTH	K	601019	NRH	BEAB	603	3	16	3
2003	KLAUI	P	100623	NRH	BEAB	114	1	5	1

Hunt Year	Guide Surname	Guide Init(s)	Certificate	Hunter License Type	Species Code	MU	Hunters	Total Hunt Days	Total Harvest
2003	KLAUI	P	100623	NRH	BEAB	115	13	62	11
2003	SWIFT	B	100572	NRH	BEAB	115	7	31	8
2003	ELLIS	L	500906	NRH	BEAB	508	5	17	4
2003	ELLIS	L	500906	NRH	BEAB	509	3	23	2
2003	MCCOWAN	H	601018	NRH	BEAB	603	17	88	10
2003	ORTH	K	601019	NRH	BEAB	603	2	15	1
2003	MILLIGAN	RA	600455	NRH	BEAB	611	10	81	13
2003	MILLIGAN	RA	600455	NRH	BEAB	614	8	75	10
2004	KLAUI	P	100623	NRH	BEAB	114	4	30	3
2004	KLAUI	P	100623	NRH	BEAB	115	16	86	15
2004	SWIFT	B	100572	NRH	BEAB	115	6	48	9
2004	ELLIS	L	500906	NRH	BEAB	508	3	17	2
2004	ELLIS	L	500906	NRH	BEAB	509	4	22	1
2004	LEWIS	M	601030	NRH	BEAB	603	1	3	0
2004	MCCOWAN	H	601018	NRH	BEAB	603	16	103	6
2004	MILLIGAN	RA	600455	NRH	BEAB	603	8	52	6
2004	ORTH	K	601019	NRH	BEAB	603	9	92	4
2004	MILLIGAN	RA	600455	NRH	BEAB	611	15	108	5
2004	MILLIGAN	RA	600455	NRH	BEAB	614	12	112	11
2005	KLAUI	PG	100623	NRH	BEAB	114	5	39	0
2005	KLAUI	PG	100623	RH	BEAB	114	1	3	0
2005	KLAUI	PG	100623	NRH	BEAB	115	15	55	16
2005	SWIFT	BJ	100572	NRH	BEAB	115	11	45	10
2005	ELLIS	LE	500906	CRH	BEAB	508	1	8	1
2005	ELLIS	LE	500906	NRH	BEAB	508	9	36	8
2005	ELLIS	LE	500906	CRH	BEAB	509	3	11	1
2005	ELLIS	LE	500906	NRH	BEAB	509	12	83	5
2005	LEWIS	MR	601033	NRH	BEAB	603	18	124	9
2005	MCCOWAN	H	601018	NRH	BEAB	603	7	50	5
2005	ORTH	K	601019	NRH	BEAB	603	24	148	14
2005	MILLIGAN	RA	600455	NRH	BEAB	611	4	14	1
2005	MILLIGAN	RA	601037	NRH	BEAB	614	15	111	15
2006	KLAUI	PG	100623	NRH	BEAB	114	7	35	6
2006	KLAUI	PG	100623	NRH	BEAB	115	10	29	3
2006	SWIFT	BJ	100572	NRH	BEAB	115	12	56	11
2006	SWIFT	BJ	100572	RH	BEAB	115	1	0	0
2006	LEWIS	MR	601037	NRH	BEAB	603	37	250	22
2006	MILLIGAN	RA	601036	NRH	BEAB	611	4	34	0
2006	MILLIGAN	RA	601036	NRH	BEAB	614	14	78	15
2007	KLAUI	PG	100623	NRH	BEAB	114	5	33	4
2007	KLAUI	PG	100623	NRH	BEAB	115	9	35	8

Hunt Year	Guide Surname	Guide Init(s)	Certificate	Hunter License Type	Species Code	MU	Hunters	Total Hunt Days	Total Harvest
2007	SWIFT	BJ	100572	NRH	BEAB	115	3	10	4
2007	LEWIS	MR	601037	NRH	BEAB	603	23	157	9
2007	MILLIGAN	RA	601036	NRH	BEAB	610	1	6	0
2007	MILLIGAN	RA	601036	NRH	BEAB	611	3	12	3
2007	MILLIGAN	RA	601036	NRH	BEAB	614	16	79	16
2008	KLAUI	PG	100623	CRH	BEAB	114	1	6	0
2008	KLAUI	PG	100623	NRH	BEAB	114	1	5	0
2008	KLAUI	PG	100623	NRH	BEAB	115	5	19	8
2008	SWIFT	BJ	100572	NRH	BEAB	115	2	5	2
2008	LEWIS	MR	601037	CRH	BEAB	603	1	7	0
2008	LEWIS	MR	601037	NRH	BEAB	603	17	109	8
2008	SCHLAUCH	DK	601045	NRH	BEAB	603	3	22	2
2008	MILLIGAN	RA	601036	NRH	BEAB	611	10	33	9
2008	MILLIGAN	RA	601036	NRH	BEAB	614	14	65	18
2009	KLAUI	PG	100623	NRH	BEAB	114	4	28	0
2009	KLAUI	PG	100623	NRH	BEAB	115	3	9	3
2009	VENUS	GE	100675	NRH	BEAB	115	3	13	3
2009	LEWIS	MR	601037	CRH	BEAB	603	1	8	0
2009	LEWIS	MR	601037	NRH	BEAB	603	16	85	12
2009	MILLIGAN	RA	601036	NRH	BEAB	611	15	58	10
2009	MILLIGAN	RA	601036	NRH	BEAB	614	18	62	21
2010	VENUS	GE	100675	NRH	BEAB	115	4	17	3
2010	LEWIS	MR	601037	NRH	BEAB	603	15	83	11
2010	MILLIGAN	RA	601036	NRH	BEAB	614	17	82	14
2011	VENUS	GE	100675	CRH	BEAB	115	1	4	1
2011	VENUS	GE	100675	NRH	BEAB	115	5	23	4
2011	LEWIS	MR	601037	NRH	BEAB	603	16	95	15
2011	MILLIGAN	RA	601036	NRH	BEAB	611	1	12	0
2011	MILLIGAN	RA	601036	NRH	BEAB	614	11	41	11
2012	SIEVERS	JH	100623	NRH	BEAB	114	13	55	11
2012	SIEVERS	JH	100623	NRH	BEAB	115	2	4	2
2012	VENUS	GE	100675	NRH	BEAB	115	8	37	5
2012	LEWIS	MR	601037	NRH	BEAB	603	16	116	20
2012	MILLIGAN	R	601036	NRH	BEAB	610	1	2	1
2012	MILLIGAN	R	601036	CRH	BEAB	611	2	13	3
2012	MILLIGAN	R	601036	NRH	BEAB	611	7	44	9
2012	MILLIGAN	R	601036	NRH	BEAB	614	11	60	16

Source: MFLNRO Technical Team, “Guide Outfitters and Black Bear Activity in 11 MUs in Study Area.1998-2012,” October 2013.

Appendix D: Grizzly Bear Hunting in the GBF Study Area

Hunt Year	Guide Surname	Guide Init(s)	Certificate	Hunter License Type	Species Code	MU	Hunters	Total Hunt Days	Total Harvest
1998	KLAUI	P	100623	NRH	BEAG	114	2	15	1
1998	KLAUI	P	100623	NRH	BEAG	115	2	6	
1998	SWIFT	B	100572	NRH	BEAG	115	2	21	
1998	JUOZAITIS	J	500386	NRH	BEAG	508	1	9	1
1998	ELLIS	L	500666	NRH	BEAG	508	2	5	
1998	MCCOWAN	H	600649	NRH	BEAG	603	1	2	1
1999	KLAUI	P	100623	NRH	BEAG	114	5	27	2
1999	KLAUI	P	100623	NRH	BEAG	115	1	6	
1999	SWIFT	B	100572	NRH	BEAG	115	2	7	1
1999	ELLIS	L	500666	NRH	BEAG	507	7	28	3
1999	ELLIS	L	500906	NRH	BEAG	507	5	23	3
1999	ELLIS	L	500906	NRH	BEAG	509	1	2	1
1999	MCCOWAN	H	601004	NRH	BEAG	603	3	11	2
2000	KLAUI	P	100623	NRH	BEAG	115	1	9	
2000	SWIFT	B	100572	NRH	BEAG	115	2	19	2
2000	ELLIS	L	500906	NRH	BEAG	508	8	43	6
2000	PERKINSON	C	600620	NRH	BEAG	509	1	7	
2000	ELLIS	L	500906	NRH	BEAG	509	3	23	
2000	MCCOWAN	H	601004	NRH	BEAG	603	1	8	
2001	KLAUI	P	100623	NRH	BEAG	114	3	24	
2001	ELLIS	L	500906	NRH	BEAG	508	1	8	
2001	ELLIS	L	500906	NRH	BEAG	509	7	40	1
2001	MCCOWAN	H	601004	NRH	BEAG	603	1	7	
2002	KLAUI	P	100623	NRH	BEAG	114	3	16	
2002	KLAUI	P	100623	RH	BEAG	114	2	2	
2002	KLAUI	P	100623	NRH	BEAG	115	1	2	1
2002	SWIFT	B	100572	NRH	BEAG	115	1	6	1
2002	ELLIS	L	500906	NRH	BEAG	508	6	41	1
2002	ELLIS	L	500906	NRH	BEAG	509	1	4	
2002	ORTH	K	601019	NRH	BEAG	603	1	5	1
2003	KLAUI	P	100623	NRH	BEAG	114	1	7	
2003	ELLIS	L	500906	NRH	BEAG	508	3	15	1
2003	ELLIS	L	500906	NRH	BEAG	509	1	7	
2003	ORTH	K	601019	NRH	BEAG	603	1	9	1
2003	MCCOWAN	H	601018	NRH	BEAG	603	1	5	
2004	KLAUI	P	100623	NRH	BEAG	114	3	14	1
2004	SWIFT	B	100572	NRH	BEAG	115	2	22	1
2004	KLAUI	P	100623	NRH	BEAG	115	2	11	1
2004	ELLIS	L	500906	NRH	BEAG	508	2	7	1

Hunt Year	Guide Surname	Guide Init(s)	Certificate	Hunter License Type	Species Code	MU	Hunters	Total Hunt Days	Total Harvest
2004	ORTH	K	601019	NRH	BEAG	603	1	9	1
2004	MILLIGAN	RA	600455	RH	BEAG	611	1	7	1
2004	MILLIGAN	RA	600455	NRH	BEAG	611	4	23	
2005	KLAUI	PG	100623	NRH	BEAG	114	4	18	
2005	KLAUI	PG	100623	RH	BEAG	114	1	2	
2005	KLAUI	PG	100623	NRH	BEAG	115	1	1	1
2005	SWIFT	BJ	100572	NRH	BEAG	115	2	11	1
2005	ELLIS	LE	500906	NRH	BEAG	508	2	8	
2005	ELLIS	LE	500906	CRH	BEAG	509	2	7	2
2005	ELLIS	LE	500906	NRH	BEAG	509	4	20	
2005	LEWIS	MR	601033	NRH	BEAG	603	2	22	1
2005	MILLIGAN	RA	600455	NRH	BEAG	611	1	1	1
2005	MILLIGAN	RA	601037	NRH	BEAG	614	1	7	
2006	KLAUI	PG	100623	NRH	BEAG	114	4	18	2
2006	KLAUI	PG	100623	RH	BEAG	114	3	15	1
2006	SWIFT	BJ	100572	NRH	BEAG	115	2	14	2
2006	LEWIS	MR	601037	NRH	BEAG	603	3	17	2
2006	MILLIGAN	RA	601036	NRH	BEAG	611	2	13	1
2006	MILLIGAN	RA	601036	NRH	BEAG	614	2	14	1
2007	KLAUI	PG	100623	NRH	BEAG	114	3	12	3
2007	KLAUI	PG	100623	NRH	BEAG	115	2	2	2
2007	SWIFT	BJ	100572	NRH	BEAG	115	2	15	1
2007	LEWIS	MR	601037	NRH	BEAG	603	2	20	1
2007	SCHLAUCH	D	601045	NRH	BEAG	603	1	5	1
2007	MILLIGAN	RA	601036	NRH	BEAG	614	4	32	1
2008	VENUS	GE	100675	NRH	BEAG	115	2	31	
2008	VENUS	GE	100675	RH	BEAG	115	1	10	
2008	KLAUI	PG	100623	NRH	BEAG	115	2	5	2
2008	ASHTON	LJ	500950	NRH	BEAG	508	2	13	
2008	LEWIS	MR	601037	NRH	BEAG	603	1	2	1
2008	MILLIGAN	RA	601036	NRH	BEAG	610	1	10	
2008	MILLIGAN	RA	601036	NRH	BEAG	611	1	1	1
2008	MILLIGAN	RA	601036	NRH	BEAG	614	1	11	1
2009	KLAUI	PG	100623	NRH	BEAG	114	4	28	
2009	VENUS	GE	100675	NRH	BEAG	115	2	14	1
2009	ASHTON	LJ	500950	NRH	BEAG	508	2	6	
2009	MILLIGAN	RA	601036	NRH	BEAG	611	3	13	2
2009	MILLIGAN	RA	601036	NRH	BEAG	614	2	24	
2010	VENUS	GE	100675	NRH	BEAG	115	2	15	2
2010	VENUS	GE	100675	RH	BEAG	115	1	6	
2010	LEWIS	MR	601037	NRH	BEAG	603	1	14	

Hunt Year	Guide Surname	Guide Init(s)	Certificate	Hunter License Type	Species Code	MU	Hunters	Total Hunt Days	Total Harvest
2010	MILLIGAN	RA	601036	NRH	BEAG	614	3	25	1
2011	SIEVERS	JH	100623	NRH	BEAG	114	2	20	
2011	VENUS	GE	100675	NRH	BEAG	115	1	3	1
2011	ASHTON	LJ	500950	NRH	BEAG	509	1	3	
2011	ASHTON	LJ	500950	CRH	BEAG	509	3	9	
2011	LEWIS	MR	601037	NRH	BEAG	603	2	19	1
2011	MILLIGAN	RA	601036	NRH	BEAG	611	1	7	1
2011	MILLIGAN	RA	601036	NRH	BEAG	614	1	2	1
2012	SIEVERS	JH	100623	NRH	BEAG	114	6	56	
2012	VENUS	GE	100675	NRH	BEAG	115	2	14	
2012	SIEVERS	JH	100623	CRH	BEAG	115	1	5	1
2012	LEWIS	MR	601037	NRH	BEAG	603	1	8	1
2012	MILLIGAN	RA	601036	NRH	BEAG	610	2	5	2
2012	MILLIGAN	RA	601036	NRH	BEAG	611	1	5	1
2012	MILLIGAN	RA	601036	NRH	BEAG	614	1	1	1

Source: MFLNRO Technical Team, “Guide Outfitters and Grizzly Bear Activity in 11 MUs in Study Area.1998-2012,” October 2013.

Appendix E: Bear Viewing Companies in GBF Study Area

The following are the 53 companies the research team identified as involved in bear viewing within the Great Bear Rainforest study area. We attempted to survey all 53 of these companies. Of these, six did not respond, 17 did not complete the full survey, and 30 completed all or a significant portion of the survey:

Name	Website
1. Aboriginal Journeys	www.aboriginaljourneys.com
2. Bear Coast Tours (Nan Charter Boat)	www.bearcoasttours.com
3. Bella Coola Cumbrian Inn	bellacoolacumbrianinn.com
4. Bella Coola Grizzly Tours	www.bcgrizzlytours.com
5. Bella Coola Motel	www.bellacoolamotel.com
6. Bella Coola Valley Inn	www.bellacoolavalleyinn.com
7. Bella Coola's Eagle Lodge	www.eaglelodgebc.com
8. Bluewater Adventures	bluewateradventures.ca
9. Bones Bay Lodge	www.bonesbaylodge.com
10. Campbell River Whale Watching	www.campbellriverwhalewatching.com
11. Casa Bella Guest Cottage	www.casabellaguestcottage.com
12. Coast Mt Guesthouse	www.bellacoola.ca
13. Cottonwood Cottages	www.bellacoola.ca
14. Dam Good Logistics	damgoodlogistics.com
15. Discovery Marine Safaris	www.adventurewhalewatching.com
16. Doug on the Trail	www.bellacoola.ca
17. Eco Tours BC	ecotours-bc.com
18. Gnome's Home RV	www.gnomeshome.ca
19. Great Bear Chalet Ltd.	www.greatbearchalet.com
20. Great Bear Lodge	www.greatbeartours.com
21. H2O Adventures	www.h20adventure.com
22. Kingfisher Wilderness Adventures	www.kingfisher-adventures.com
23. Knight Inlet Lodge	www.grizzlytours.com; www.knightinletlodge.com
24. Kynoch West Coast Adventures	www.bcmountainlodge.com
25. Maple Leaf Adventures	www.mapleleafadventures.com
26. Mothership Adventures	www.mothershipadventures.com
27. Natural Habitat	www.nathab.com
28. Nimmo Bay Resort	www.nimmobay.com
29. Northern Rockies Lodge	www.northern-rockies-lodge.com
30. Nusatsum River Guest House	www.bellacoolacabin.com
31. Ocean Adventures Charter Co.	www.oceanadventures.bc.ca
32. Ocean Light II Adventures	www.oceanlight2.bc.ca
33. Outershores Expeditions	www.outershores.ca
34. Pacific Catalyst II Inc	www.pacificcatalyst.com
35. Pacific Yellowfin Charters	www.pacificyellowfin.com

36. Palmerville Adventures	www.palmerville.bc.ca
37. Prince Rupert Adventure Tours	www.adventuretours.net
38. Rainforest Guest House	No website available
39. Redfern River Lodge	www.redfernriverlodge.ca
40. Rip Rap Campsite	riprapcamp.com
41. River’s Inlet Lodge	www.riversinlet.com
42. Sailcone's Grizzly Bear Lodge	www.grizzly-bear-watching.com
43. Seawolf	www.seawolfadventures.net
44. Shearwater Resort & Marina	shearwater.ca
45. Spirit Bear Lodge	www.spiritbear.com
46. Sun Chaser Eco-Tours	www.sunchasercharters.ca
47. Suntree Guest Cottages	www.suntree.ca
48. Tallheo Cannery Guest House	www.bellacoolacannery.com
49. The Float House Inn	www.thefloathouseinn.com
50. Thunder 1 Adventures Inc	www.thunder1.ca
51. Tide Rip Grizzly Tours	www.tiderip.com
52. Tweedsmuir Park Lodge/ Bella Coola Heli Skiing	www.tweedsmuirparklodge.com; www.bellacoolaheliskiing.com
53. Whiskey Cove	www.whiskeycovebedandbreakfast.com

Appendix F: Survey for Bear Viewing Companies

Survey of Ecotourism/Bear Viewing Companies in Great Bear Rainforest

Conducted by:
Center for Responsible Travel (CREST)
at Stanford University and in Washington, DC

The information provided will be kept strictly confidential by the research team and will be destroyed at the conclusion of the study. Only aggregate information will be released and under no circumstances will your information be released to any individual, government, government agency, company, or association. Please enter all requested dollar values in Canadian Dollars.

Respondent Name: ____
Respondent Email: ____
Respondent Phone Number: ____
Respondent Role in Company: ____

Company Name: ____
Company Address: ____
Company Website: ____
Company General Email Address: _______________________________________
Company Phone Number: ____
Company Fax Number: ____

Background Information:

54. Does your company offer tours/packages that include bear viewing within Central and North Coast (Great Bear Rainforest/GBF)? _____Yes _____No

55. Does your company provide accommodations for visitors who participate in bear viewing in the Central and North Coast (Great Bear Rainforest/GBF)? (Check yes, even if only a small number of your guests participate in bear viewing.)

_____ Yes   _____ No

(If your answer is “No” to both Questions 1 and 2, do not continue with this survey.)

56. When was your company founded? _______________

57. In 2012, what did your company’s operations in the GBF include:
    ____Individual guide(s)
    ____Tour operator
    ____Bed and breakfast
    ____Hotel or motel
    ____Cabins and cottages
    ____Lodge or inn
    ____Tent site/trailer park
    ____Small ship (with accommodations)
    ____Other (specify): ______________________________

58. If you offered any form of accommodation, what is the maximum number of visitors/guests you could accommodate/night in 2012? ____________persons

59. In 2012, did your company own, or rent/lease from a third party, accommodation facilities or partner with another operator to provide accommodation?

    ____ We owned accommodations
    ____ We rented/leased accommodations
        Name(s) of Owner(s): ______________________
    ____ We partnered with another operator to provide accommodations
        Name(s) of Partner(s): _______________________
    ____ Our company does not provide accommodations

60. In 2012, what was the total number of guests/visitors your company handled?
    ____

61. How many of your total guests in 2012 were from:
    (Give actual numbers, not %)
    ______BC
        ______ Canada (not BC)
        ______ U.S.
        ______ Europe
        ______ Other countries

62. In 2012, please estimate the total number of guests/visitors who did bear viewing activities in the GBF, either with your company or independently.
    _________________persons

Bear Viewing Information – General:

(If your company does not offer bear viewing tours, please skip to Question 24)

63. In what area within GBF do you offer bear viewing? ____________________________

64. Is this an area where bear hunting also takes place? ____ Yes _____No

65. In 2012, how often did clients see hunters while on your tours?

Never ____ Occasionally_____ Often______ Always ______

66. In 2012, did your company and/or clients find any bear carcasses left by hunters?

___Yes ___No If yes, how many: _______

67. Do you operate your own bear viewing tours or do you sub-contract?

_____ Own bear viewing tours

_____ Sub-contract

_____ Sub-contract but only when demand is beyond the capacity of your company's own operation

Name(s) of contractor(s): ___________________________________

68. Which months do you offer trips with bear viewing components in GBF? Please list which months:____

69. How important is bear viewing to your tourism packages/operations in GBF?

____Somewhat important

____Important (one of top 3 reasons people buy the package)

____Very important (the main reason people buy the package)

70. What types of bear viewing do you offer in GBF? (Check all that apply)

______ Grizzly _______Spirit/Kermode ________Black

71. In 2012, how often did your clients see bears on your tours in GBF?

Never ____ Occasionally_____ Often______ Always ______

Estimated number of bears sighted per tour day: __________

72. What % of your company's bear viewing in GBF is done via the following:

_______ Land/Walking

_______ Watercraft (without accommodations)

________Small ship/ferry (with accommodations)

________From Lodge

________Air (plane or helicopter)
________Horseback
________Other -- Specify:____

73. In 2012, how many protected areas/conservancies did your company access for viewing in the GBF, and which were they? ____

74. Describe the different bear viewing packages in GBF that your company offered in 2012? (Please use chart to fill in your responses; add more cells if needed. Please specify amounts in Canadian $)

Name or location of tour	Total # of tours in 2012	Length of tour: # of days	Avg. # of clients/ tour (group size)	Cost of package/ guest	Cost of lodging/person/ night (if not in package)	Average additional expenses/ guest*

*Do not include tips/gratuities here. This is covered in Question 28 below.

75. Please list what is included in the package price: (e.g. chartered flight, scheduled flight, guide, food, lodge, small ship, boat, ground vehicles, park fees, etc.)
____
____

76. Please list what "additional expenses" your clients incur on bear viewing trips that are NOT included in the package price: (e.g. alcohol, equipment rental, chartered flight, scheduled flight, park fees, etc. DO NOT include cost of transport from outside BC)____
____

Employment Information:
(We are seeking data for your entire company, not simply your bear viewing activities.)

77. During what months in 2012 did your company employ staff (full-time, part-time or contract)? This may include staff based outside GBF, as well as owners and other family members who work for the company.
____January ____ May ____ September

____February	____ June	____ October
____March	____ July	____ November
____April	____ August	____ December

78. How many employees did your company have in 2012? (This may include staff based outside GBF, as well as owners and other family members who work for the company.)
    i. Full time _______
    ii. Seasonal ______
    iii. Contract______
    iv. Total______

26. For 2012, please specify the main employee types, number of persons, and total person-months of employment. (e.g., 1 guide working 2 months plus another guide working 7 months = 9 person-months of guiding). Add more rows as needed to list all employee types.

Employee Types	Number of Persons	Total Person-Months
Owner(s)		
Managers		
Guides		
Accountants		
TOTAL		

4.How many of your staff (full time, seasonal and contract) are originally from towns or communities in GBF in 2012? ________
How many are Coastal First Nations? ______

5.What is the total estimated amount that your staff (including guides, waiters, housekeeping, owners, managers, etc.) received in tips and gratuities in 2012? $_______________

Financial Information (Revenue and Expenses):

As stated above, the information provided in this survey will be kept strictly confidential and will be destroyed at the conclusion of the study. In order to determine the economic value of both bear hunting and bear viewing in the Great Bear Rainforest, it is extremely important that we receive the following financial information (Revenue and Expenses, Questions 29-34) from the companies included in this survey.

Or, instead of answering Questions 29-34, please consider providing us with your 2012 financial statements (income statement and balance sheet). These statements will be kept confidential. Your 2012 financial statements can be sent to CREST via:

Email: survey@responsibletravel.org
Mail: Survey, Center for Responsible Travel, 1333 H Street, NW,
Suite 300, East Tower, Washington, DC 20005

If you prefer, one of our research team can contact your accountant. If you would like us to contact your accountant, please specify:

Your accountant's name____
Contact information:____
Telephone number Email

Revenue

5. In 2012, what was your company's annual gross revenue from all your operations (exclude GST) in Canadian Dollars? $______________

6. Of the total 2012 revenue (from Q29), what % of your gross revenue can be attributed to:

______% Bear viewing (both guided and self guided)
______% Other wildlife viewing activities (whale watching, birding etc)
______% All other activities (skiing, fishing, boating, trail-riding, cultural etc.)

Expenses

6.What were your company's total expenses (including interest and amortization) in 2012?
$_____________

32. Of the 2012 operating expenses (Q31), what was paid for each of the following categories? (Please put zero if there were no expenses in a particular category.)

$_____ Labour expenses (wages, salaries)
$_____ Benefits (e.g., medical, pension, WCB, etc)
$_____ Advertising and promotional activities
$_____ Liability insurance
$_____ New facilities, vehicles, equipment, and/or animals (capital investments)
$_____ Maintenance of existing facilities and/or equipment

$_____ Mortgage and rent
$_____ Transportation and fuel (Guest related and freight)
$_____ Food and beverage
$_____ Interest
$_____ Amortization
$_____ All other expenses

$_____ **= TOTAL EXPENSES (Please check that this is the same amount as in Q31)**

33. Please estimate the market value of all physical assets (excluding tenure and leases) owned by your company at the end of 2012. $_______________ Total Assets

33. Knowing the value of taxes/fees paid to governments is extremely important. Please indicate the total amount of direct taxes/fees paid to governments in 2012:
$________________Total paid to governments

34. Please breakdown the government fees/taxes into the following categories:
$__________Gross GST
$__________Provincial hotel tax
$__________Other PST
$__________Crown land lease
$__________Park/conservancy user fee
$__________Daily client park fee (sum total for year)
$__________Property Taxes

$__________Grazing license
$__________Guide/Assistant Guide fee
$__________Business license
$__________Other fees, licenses, or taxes

36. Does your company pay protocol fees to First Nations in the GBF?

____Yes ____No

If yes, how much did you pay in 2012? $__________________

Trends:

37. How has the size of your business changed in the last 5 years?
____Grown _____Diminished ______Stayed the same ____ Don't know

Why? ____
____

38. Do you expect bear viewing tours in your company to increase, stay the same, or decrease in the GBF over the next 10 years? Why?

____
____

39. **Other Businesses:**
Attached is a full list of companies we are contacting. Could you look over this list and add names of any other businesses that are involved in bear viewing in the GBF?

1. Name of company____

Person to interview____
Email_______________________________________Telephone_____________

2. Name of company____

Person to interview____
Email_______________________________________Telephone_____________

3. Name of company____

Person to interview____
Email_______________________________________Telephone_____________

4. Name of company____

Person to interview____
Email_______________________________________Telephone_____________

5. Name of company____

Person to interview____
Email_______________________________________Telephone_____________

END

Appendix G: Survey for Bear Viewing Tourists

Center for Responsible Travel

Visitor/Client Survey: Bear Viewing

(Please indicate all dollar amounts in Canadian Dollars.)

79. Name____

80. Home Town, Province or Country ____________________________________

81. What was the main reason for your visit to **BC**? (If applicable, check both)
    Bear Viewing______
    Other (specify)____

6. In 2012, how long was your trip **in BC**?________________
    a. How long were you in the **Great Bear Rainforest**?_____________
    b. How many days included bear viewing in the **Great Bear Rainforest**?___________
    c. What is the total number of days you spent in BC before and after you visited the Great Bear Rainforest?_______

7. Number of others who traveled with you to the Great Bear Rainforest_________

8. What did you spend on the bear viewing portion of your holiday?________________

How many people did this amount cover?____________

9. While bear viewing, did you have any additional costs not included in your viewing package price? ____Yes ____No

10. If yes, please indicate these costs below:
    a. Tips to bear viewing guides $______________
    b. Other tips $______________
    c. Souvenirs & Gifts $_____________
    d. Other (Please specify__________) $____________

11. Prior to and following your viewing trip, how much **per day** did you (and your traveling companions, if applicable) spend on average **in BC** for the following:
    a. Room (include taxes and tips) $____________per day
    b. Restaurant food and beverage (include taxes and tips) $__________ per day
    c. Travel costs (excluding flights to/from BC) $_____________ per day
    d. Entertainment (include taxes and tips) $_____________ per day
    e. Shopping (include taxes and tips) $__________ per day
    f. Other expenses (include taxes and tips) $__________ per day

12. Comments:
____
____

Thank you!

-End-

Appendix H: Survey for Guide Outfitters

Survey of Hunting Outfitters in Central and North Coast, BC

Conducted by:
Center for Responsible Travel (CREST)
at Stanford University and in Washington, DC

The information provided will be kept strictly confidential by the research team and will be destroyed at the conclusion of the study. Only aggregate information will be released and under no circumstances will your information be released to any individual, government, government agency, company, or association. Please enter all requested dollar amounts in **Canadian Dollars**.

Respondent Name: ____
Respondent Email: ____
Respondent Phone Number: ____
Respondent Role in Company: ____

Company Name: ____
Company Address:____
Company Website: ____
Company General Email Address: _______________________________________
Company Phone Number: ____
Company Fax Number: ____

Background information:

2. Does your company conduct guided bear hunting or transport hunters to hunting areas within the Central and North Coast of BC? The following Wildlife Management Units (WMUs) are included in this study: 114, 115, 215, 506, 507, 508, 509, 510, 511, 603, 610, 611, 614, 615

______Yes ________No
(If no, please do not continue with the survey)

3.In 2012, which areas(s) within the Central and North Coast was your company licensed to guide bear hunters? (Please specify by WMUs)______________________________

____

4.Are you aware of any bear viewing tours that also take place in this area?

______Yes ______No

5.If yes, how often do you encounter/see non-hunting tour groups?

Never ____ Occasionally_____ Often______ Always ______

6.When was your guide outfitter company founded? __________

7.In 2012, what base camp and facilities did your company have? (check all that apply)

_____ Lodge _____Trucks/ATVs
_____ Cabins _____ Pack/riding horses
_____ Hotel/motel _____ Aircraft
_____ Tents _____ Watercraft
_____ Other (please specify)____

8.How many satellite camps did your company have in 2012?

________Tenured ______ Non-Tenured

<u>Bear Hunting Information – General:</u>

9.What type of bear hunts do you offer?

_____Grizzly _____Black _____Both

10.How important is bear hunting to your operations in the Central and North Coast?

____Somewhat important
____Important (one of top 3 reasons people buy the package)
____Very important (main reason people buy the package)

11.Which months do you hunt bears in the Central and North Coast?

____

12.In 2012, what was the maximum number of **grizzly** bears that your company was permitted to hunt within the Central and North Coast?__________________

13.In 2012, how many guided **grizzly** hunts did your company conduct in the Central and North Coast? _________

14. In 2012, how many **grizzlies** did your clients harvest in this area? __________

15. In 2012, how many **black bears** did your clients harvest in the Central and North Coast? ___________

16. In 2012, how many of bears harvested by your company in the Central and North Coast were sent for taxidermy preparation?
    ____________Grizzly bears ________ Black bears

17. Has your number of grizzly and black bear hunts guided by your company increased or decreased in the past five years?

_____ Increased _____ Decreased _____ Stayed the same

Why do you think that is? And what do you think the main reasons for that trend are?
____
____

18. In 2012, did your company hunt any other big game in the Central and North Coast?

_____ Yes ______ No
If yes, what species:____

19. Please name any protected areas/conservancies that your company accessed for hunting in the Central and North Coast in 2012? _____________________________________

<u>Detailed Information on Your Bear Hunting Packages</u>:

20. What was the total number of guests/visitors your company handled in 2012? _______in total.

______Number of hunters _______ Number of non-hunters

21. In 2012, what was the total number of clients your company took on trips that included bear (grizzly and/or black bear) hunting in the Central and North Coast?
    ____________Total number of clients.

    ________Number of hunters _______ Number of non-hunters

22. In 2012, what are the different bear hunting packages that your company offered?

(Please answer using this chart, and add more cells if necessary. Put in Canadian $.)

Name or Location	# of trips in 2012	# of days/trip	Hunted: Grizzly, Black or both	Hunter: Guide Ratio	Total # of clients in 2012	Average Cost of package/client	Cost of lodging/person/night (if not in package)	Average additional expenses/ guest*

*Do not include tips/gratuities here. This is covered in Question 29 below.

23. Please list what is included in the package price (e.g. chartered flight, guide, food, lodging, boat, other local transport, permit fees, licenses, etc.)______________________
____

24. Please list additional expenses that your clients incurred on these hunting trips (e.g. chartered flight, taxidermy cost, alcohol, ammunition, fees, licenses, royalties, etc.; DO NOT include cost of transport getting to British Columbia)______________________
____

25. How many of your total guests in 2012 were from:
(Please give actual numbers, not %)
______BC
______Canada (outside BC)
______U.S.
______Europe
______Other countries

Employment Information:
(We are seeking data for your entire company, not simply your bear hunting activities.)

26. During which months in 2012 did your company employ full-time, part-time or contract staff? (Please include owners and all family members who work for the company)

____January	_____ May	___September
____February	_____ June	___October
____March	_____ July	___ November
____ April	_____ August	___ December

27. How many employees did your company have in 2012? (This may include staff based outside the Central and North Coast.)
    i. Full time _______
    ii. Seasonal/Part time______
    iii. Contract______
    iv. Total_______

28. For 2012, please specify the main employee types, number of persons, and total person-months of employment. (e.g., 1 guide working 2 months plus another guide working 7 months = 9 person-months of guiding) Add more rows as needed to list all employee types.

Employee Types	Number of Persons	Total Person-Months
Owner(s)		
Managers		
Guides		
Assistant Guides		
Base Camp Helpers		
Satellite Camp Helpers		
TOTAL		

29. How many of your staff (full time, seasonal and contract) are originally from towns or communities in the Central and North Coast? ________
    How many are Coastal First Nations? _______

30. What is the total estimated amount that your staff (including guides, waiters, housekeeping, owners, managers, etc.) received in tips and gratuities in 2012?
$_______________

Financial Information (Revenue and Expenses):

As stated above, the information provided will be kept strictly confidential and will be destroyed at the conclusion of the study. In order to determine the economic value of both bear hunting and bear viewing in the Central and North Coast, it is extremely important that we receive the following financial information (Revenue and Expenses, Questions 30-34) from the companies included in this survey.

Or, instead of answering Questions 30-34, please consider providing us with your 2012 financial statements (income statement and balance sheet). These statements will be kept confidential. Your 2012 financial statements can be sent to CREST via:
Email: survey@responsibletravel.org
Mail: Survey, Center for Responsible Travel, 1333 H Street, NW,
Suite 300, East Tower, Washington, DC 20005

If you prefer, one of our research team can contact your accountant. If you would like us to contact your accountant, please specify:

Your accountant's name____
Contact information:____
Telephone number Email

7. Revenue

31. In 2012, what was your company's annual gross revenue from all your operations?
$_______________

32. In 2012, what is the estimated percentage (%) of your revenue that was derived from bear hunting and from other activities? (The sum of all three responses should be 100)
___% Bear (grizzly and black) hunting
___% Other hunting
___% Non-hunting activities (skiing, trail riding, boating, fishing, cultural, etc)

8. Expenses

33. What were your company's total operating expenses (including interest and amortization) in 2012? $____________

34. Of the 2012 operating expenses (Q32), what was paid for each of the following categories? (Please mark zero (0) if there were no expenses in a particular category)

$_____ Labour expenses (wages, salaries)
$_____ Benefits (e.g., medical, pension, WCB, etc)
$_____ Advertising and promotional activities
$_____ Insurance (liability, life, property, etc)
$_____ New facilities, vehicles, equipment, and/or animals (capital investments)
$_____ Maintenance of existing facilities and/or equipment
$_____ Mortgage and rent
$_____ Transportation and fuel (Guest related and freight)
$_____ Food and beverage
$_____ Interest

$_____ Amortization
$_____ All other expenses

$_____TOTAL EXPENSES (Please check that this is the same amount as in Q32)

35. Please estimate the market value of all physical assets (excluding tenure and leases) owned by your company at the end of 2012. $_______________ Total Assets

36. Knowing the value of taxes/fees paid to governments is extremely important. Please indicate the total amount of direct taxes/fees paid to governments in 2012:

    $________________Total paid to governments

Please breakdown the government fees/taxes into the following categories:

$__________Gross GST
$__________Provincial hotel tax
$__________Other PST
$__________Crown land lease
$__________Park/conservancy user fee
$__________Property Taxes
$__________Grazing license

$__________Guide/Assistant Guide fee
$__________Business license
$__________Permits and tags
$__________Hunt royalties for harvested grizzlies
$__________Hunt royalties for other harvested species
$__________Other fees, licenses, and taxes

37. Does your company pay protocol fees to First Nations in the Central and North Coast?

    ____Yes ____No

    If yes, how much did you pay in 2012? $__________________

Trends:

38. How has the size of your business changed in the last 5 years?

____Grown ______Diminished ______Stayed the same? ____ Don't know

Why do you think it has shown this trend?
____

____

39. Do you expect bear hunting tours in your company to increase, stay the same, or decrease in the Central and North Coast over the next 10 years? Why?
____
____

40. <u>Other businesses:</u>
Attached is a full list of guide outfitters we are contacting. Could you look over this list and add names of any other businesses that are involved in bear hunting in the Central and North Coast?

13. Name of company____
Person to interview______________________________________
Email_______________________________________Telephone____________________

14. Name of company____
Person to interview______________________________________
Email_______________________________________Telephone____________________

15. Name of company____
Person to interview______________________________________
Email_______________________________________Telephone____________________

END