

Responsive Management™



EXPENDITURES OF BRITISH COLUMBIA RESIDENT HUNTERS

**A Comparison of British Columbia and United States Hunting
Expenditures**

**Conducted for the
British Columbia Ministry of
Forests, Lands and Natural Resource Operations**

by Responsive Management

2013

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Expenditures**

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Responsive Management National Office

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INTRODUCTION AND METHODOLOGY

This study was conducted for the British Columbia Ministry of Forests, Lands and Natural Resource Operations (hereinafter referred to as the Ministry) to determine the economic impact of residents' hunting activities. The study entailed a telephone survey of British Columbia hunters, 18 years old and older, who had purchased a license for a species or species category and hunted for that species in 2012 (or 2012/13 in the case of cougar). Specific aspects of the research methodology are discussed below. This report compares the results of this study with those documented in the U.S. Fish and Wildlife Service's *National Survey of Hunting, Fishing, and Wildlife-Associated Recreation* (2011).

USE OF TELEPHONES FOR THE SURVEY

The survey was administered by telephone. Telephones were selected as the preferred sampling medium because of the almost universal ownership of telephones among British Columbia hunters (both landlines and cell phones were called). Additionally, telephone surveys, relative to mail or Internet surveys, allow for more scientific sampling and data collection, provide higher quality data, obtain higher response rates, are more timely, and are more cost-effective. Telephone surveys also have fewer negative effects on the environment than do mail surveys because of reduced use of paper and reduced energy consumption for delivering and returning the questionnaires.

QUESTIONNAIRE DESIGN

The telephone survey questionnaire was developed cooperatively by Responsive Management, Dr. Tony Fedler, and the Ministry, based on the research team's familiarity with hunting, natural resources, and economic analyses. The Ministry and Dr. Fedler reviewed the survey, and Responsive Management conducted pre-tests of the questionnaire to ensure proper wording, flow, and logic in the survey.

The economic aspects of the survey were based on the above-referenced *National Survey of Hunting, Fishing, and Wildlife-Associated Recreation* categories, as well as the data analyses presented in a previous report on this topic, *The Value of British Columbia Resident Hunting 2003*.

DATA ANALYSIS

The analysis of data was performed using Statistical Package for the Social Sciences, proprietary software developed by Responsive Management, and proprietary software developed by Dr. Fedler.

Notes on the analysis:

- Because of the length of the survey, it was not possible to use a detailed list of expenditures; rather, some items were captured under general categories. For instance, interviewers were trained that rifle scopes were included under “firearms equipment,” spotting scopes were included under “hunting equipment,” and tents were included in “camping equipment.” Expenses related to scouting or trail building would have been captured under “other trip-related expenses.”
- Dog-related expenses were captured when the dogs were used for hunting.
- Large purchases are things such as cars, trucks, ATVs, trailers, campers, boats, cabins, and appliances such as freezers (if used primarily for hunting) that typically are paid in installments. Large purchases included only estimated payments made in the time period under consideration rather than the entire cost of the items.

HUNTING EXPENDITURES

An analysis of hunters in British Columbia (BC) showed a total annual hunting expenditure of \$229,705,597 in 2012, with a mean annual amount of \$2,900 being spent per hunter. This is a higher average than a 2011 study showed for hunters in the United States, at \$2,465 per hunter (national total of \$33,702,018,000 for the year).

Table 1 shows expenditures by category in the 2012 BC survey. Outside of large purchases, vehicle fuel is the category that had the most spent on it, followed by food/beverage and firearms equipment.

Expenditure Category	Expenditures				
	Total	Mean Annual	Mean Trip	Mean Daily	Percentage of Total
Food and Beverage	\$33,644,895	\$424.76	\$48.54	\$29.22	14.6%
Lodging	\$5,006,383	\$63.20	\$7.22	\$4.35	2.2%
Vehicle Fuel	\$47,868,499	\$604.33	\$69.06	\$41.57	20.8%
Public Transportation	\$2,128,690	\$26.87	\$3.07	\$1.85	0.9%
Equipment Rental	\$542,918	\$6.85	\$0.78	\$0.47	0.2%
Other Expenses	\$1,819,207	\$22.97	\$2.62	\$1.58	0.8%
Archery Equipment	\$7,005,200	\$88.44	\$10.11	\$6.08	3.0%
Firearms Equipment	\$24,501,850	\$309.33	\$35.35	\$21.28	10.7%
Ammunition	\$7,767,984	\$98.07	\$11.21	\$6.75	3.4%
Related Firearms Pursuit Equipment	\$6,628,504	\$83.68	\$9.56	\$5.76	2.9%
Camping Equipment	\$7,066,592	\$89.21	\$10.20	\$6.14	3.1%
Hunting Equipment	\$13,899,774	\$175.48	\$20.05	\$12.07	6.1%
Licenses and Tags	\$9,052,430	\$114.28	\$13.06	\$7.86	3.9%
Processing and Taxidermy	\$7,711,891	\$97.36	\$11.13	\$6.70	3.4%
Large Purchases*	\$55,060,780	\$695.13	\$79.44	\$47.81	24.0%
TOTAL	\$229,705,597	\$2,899.96	\$331.40	\$199.49	100%

*Large purchases include cars, trucks, ATVs, trailers, campers, boats, cabins, and appliances such as freezers (if used primarily for hunting); only the estimated payments for the time period of the study are considered rather than the entire cost of the item.

Table 2 shows expenditures by category in the 2011 US survey, documented in *National Survey of Hunting, Fishing, and Wildlife-Associated Recreation*.

Expenditure Category	Expenditures		
	Total	Mean Annual	Percentage of Total
Food and Beverage	\$3,217,859,000	\$235	9.5%
Lodging	\$663,444,000	\$49	2.0%
Vehicle Fuel	\$4,463,711,000	\$326	13.2%
Public Transportation	\$304,204,000	\$22	0.9%
Equipment Rental	\$62,747,000	\$5	0.2%
Other Expenses	\$10,031,178,000	\$733	29.8%
Archery Equipment	\$934,847,000	\$68	2.8%
Firearms Equipment	\$3,779,996,000	\$277	11.2%
Ammunition	\$1,298,456,000	\$95	3.9%
Related Firearms Pursuit Equipment	\$1,725,025,000	\$127	5.1%
Camping Equipment	\$159,853,000	\$12	0.5%
Hunting Equipment	\$1,012,268,000	\$74	3.0%
Licenses and Tags	\$986,385,000	\$72	2.9%
Processing and Taxidermy	\$672,759,000	\$49	2.0%
Large Purchases	\$4,389,286,000	\$321	13.0%
TOTAL	\$33,702,018,000	\$2,465	100%

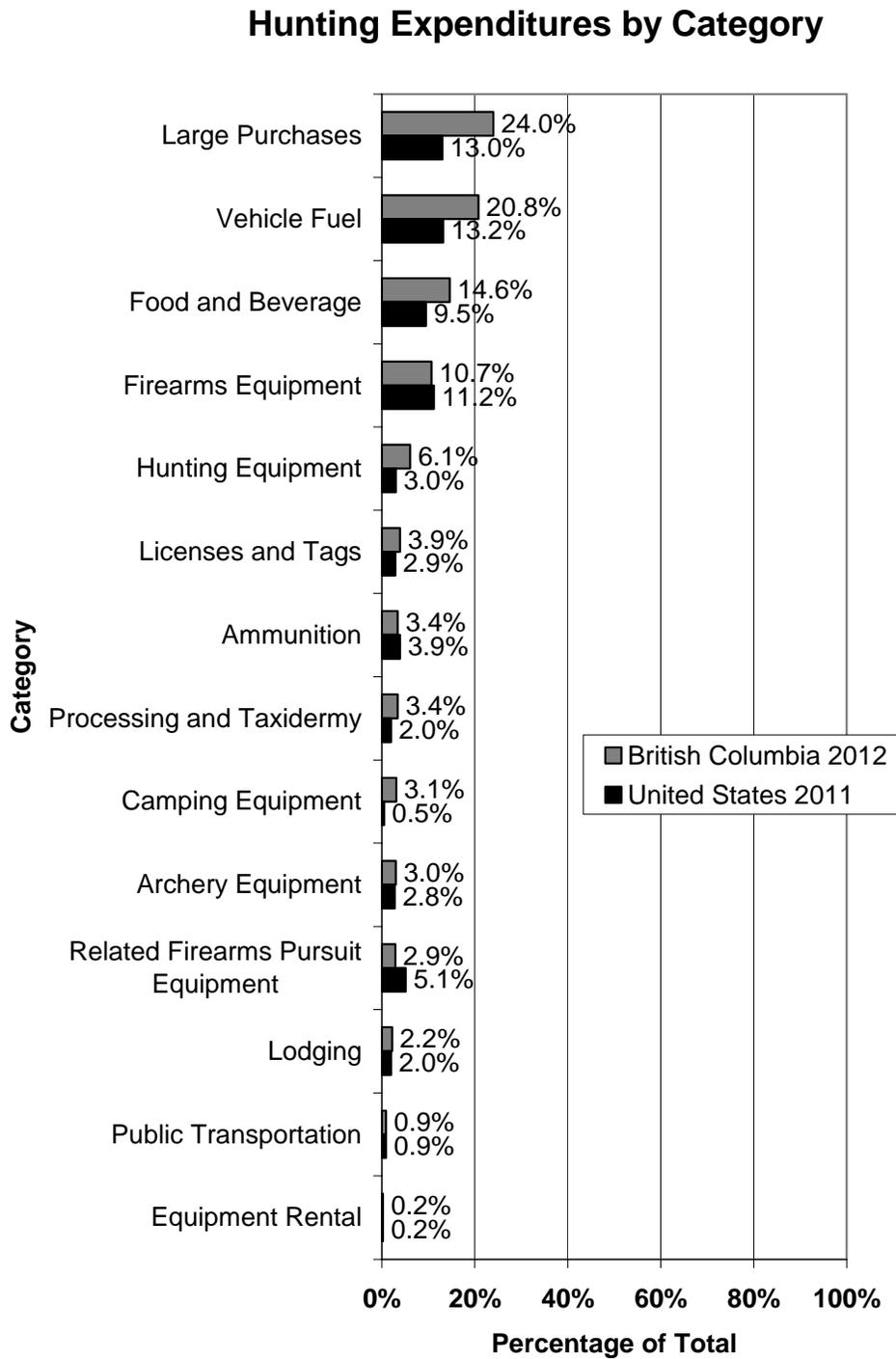
COMPARING THE 2012 BC AND 2011 US EXPENDITURE STUDIES

Fifteen expenditure categories* were compared between the 2012 BC and the 2011 US studies. Figure 1 shows a side-by-side comparison of hunter expenditure categories between the 2012 BC and 2011 US surveys, based on the category as a percentage of total hunting expenditures.

A number of categories closely matched between the studies: Lodging, Public Transportation, Equipment Rental, Archery Equipment, Firearms Equipment, Ammunition, Licenses and Tags, and Processing and Taxidermy. However, two categories showed substantially higher expenditures in the BC study compared to the US study, both as a percentage of the total and as a mean annual cost per hunter. First, the category Vehicle Fuel made up 21% of total expenditures and \$604 per hunter in BC, compared to 13% and \$326 per hunter in the US. Likewise, Large Purchases—such as boats, cabins, ATVs, motor homes, etc.—made up 24% of total expenditures in the BC study, compared to 13% in the US. When comparing dollar amounts, the BC study showed \$695 spent per hunter on Large Purchases as opposed to only \$321 in the US, over a 2-to-1 ratio. Minor differences between the US and Canadian dollar were neglected for these comparisons.

*Caveat: Only 10 of the 15 categories were a direct comparison. The remaining categories were grouped and compared as closely and logically as possible, although “Other Expenses” should be disregarded.

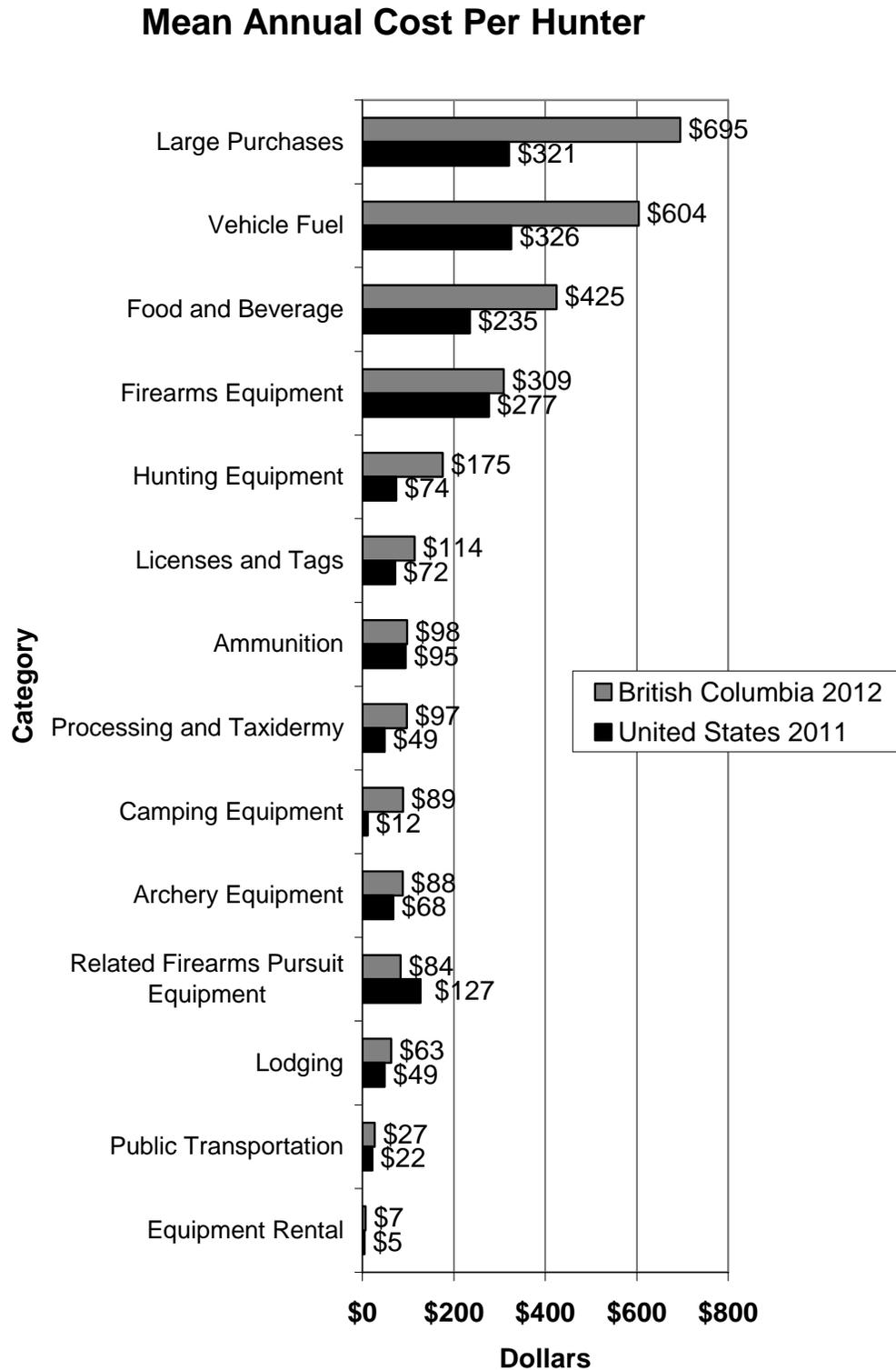
Figure 1: Hunting Expenditure Categories as Percentage of Total



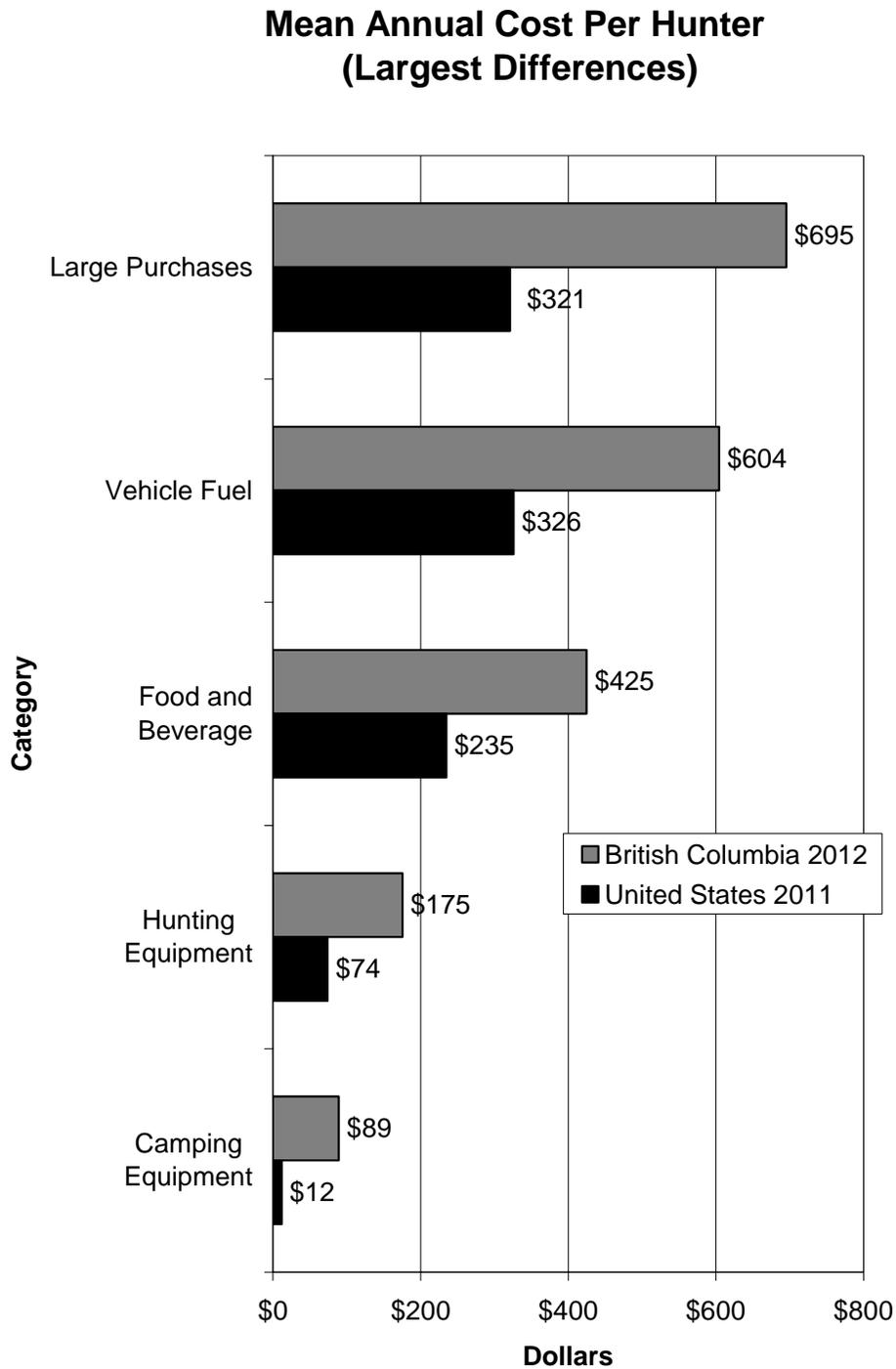
To lesser degrees, other categories showed higher expenditure percentages and dollars per hunter within the BC study. The category Food and Beverage was 14.6% of the total and \$424 per hunter, compared to 9.5% and \$235 per hunter in the US. Camping Equipment accounted for 3.1% of the total and \$89 per hunter in the BC study, but only 0.5% of the total and \$12 per hunter in the US. Finally, Hunting Equipment accounted for 6.1% of total expenditures and \$175 per BC hunter in 2012, compared to just 3% of expenditures and \$74 per US hunter in 2011.

Figure 2 shows the categories based on the mean annual cost per hunter. Figure 3 shows the categories (mean annual cost per hunter) with the largest differences between the 2012 BC and 2011 US studies.

Figure 2: Hunting Expenditures, Mean Annual Cost Per Hunter



**Figure 3: Hunting Expenditures, Mean Annual Cost Per Hunter
(Largest Differences Between BC 2012 and US 2011 Studies)**



To further examine the impacts of Vehicle Fuel and Large Purchases in understanding the differences between BC and US hunting expenditures, these categories were removed from the analysis. First, as shown in Table 3, Vehicle Fuel was removed as a category, which resulted in a mean annual expenditure of \$2,296 per BC hunter and \$2,139 per US hunter.

Expenditure Category	Mean Annual Cost Per Hunter	
	BC 2012	US 2011
Food and Beverage	\$425	\$235
Lodging	\$63	\$49
Public Transportation	\$27	\$22
Equipment Rental	\$7	\$5
Other Expenses	\$23	\$733
Archery Equipment	\$88	\$68
Firearms Equipment	\$309	\$277
Ammunition	\$98	\$95
Related Firearms Pursuit Equipment	\$84	\$127
Camping Equipment	\$89	\$12
Hunting Equipment	\$175	\$74
Licenses and Tags	\$114	\$72
Processing and Taxidermy	\$97	\$49
Large Purchases	\$695	\$321
TOTAL	\$2,296	\$2,139

Similarly, Table 4 shows that the removal of Large Purchases from the calculation resulted in a tightening of mean annual expenditures between the studies, with \$2,205 per BC hunter and \$2,144 per US hunter. When both Vehicle Fuel and Large Purchases are removed, the BC mean annual expenditure (\$1,601) falls below that of the US (\$1,818), as shown in Table 5.

Expenditure Category	Mean Annual Cost Per Hunter	
	BC 2012	US 2011
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Lodging	\$63	\$49
Vehicle Fuel	\$604	\$326
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Licenses and Tags	\$114	\$72
Processing and Taxidermy	\$97	\$49
TOTAL	\$2,205	\$2,144

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Related Firearms Pursuit Equipment	\$84	\$127
Camping Equipment	\$89	\$12
Hunting Equipment	\$175	\$74
Licenses and Tags	\$114	\$72
Processing and Taxidermy	\$97	\$49
TOTAL	\$1,601	\$1,818

CONCLUSIONS

Because so many of the expenditure categories show similar values between the two groups, it is hard to consider avidity or access as the primary reasons for higher hunting expenditures in BC. It is important to note that the studies were not conducted for the same year. In the US, 2012 enjoyed a stronger economy compared to 2011, whereas the Canadian economy remained relatively stable. In fact, although Canada showed great economic resilience during the global financial crisis, the US saw gross domestic product (GDP) growth of 2.7% in the third quarter of 2012 compared to only 0.6% GDP growth for Canada during the same period. As of October 2012, the US job market had posted 25 consecutive months of growth, resulting in an unemployment rate of 7.9%, only half a percentage point higher than the Canadian rate of 7.4%. In contrast, the US unemployment rate was 8.7% at the end of 2011. If the US hunting expenditures study was conducted in 2012 rather than 2011, it appears likely that the Large Purchases expenditure gap would narrow due to additional disposable income.

The other major expenditure difference, Vehicle Fuel, is unlikely to change between BC and US hunters. Canadian gas prices tend to rise and fall with US prices, nearly bump for bump, yet are consistently about \$0.29 higher per liter. Also, because the BC hunters spent substantially more on Camping Equipment than their US counterparts, it is reasonable to conclude that BC hunters are traveling more often or for longer distances. Given the higher gas prices and longer travel distances, Vehicle Fuel will remain a consequential part of BC hunting expenditures.

ABOUT RESPONSIVE MANAGEMENT

Responsive Management is an internationally recognized public opinion and attitude survey research firm specializing in natural resource and outdoor recreation issues. Our mission is to help natural resource and outdoor recreation agencies and organizations better understand and work with their constituents, customers, and the public.

Utilizing our in-house, full-service telephone, mail, and web-based survey center with 50 professional interviewers, we have conducted more than 1,000 telephone surveys, mail surveys, personal interviews, and focus groups, as well as numerous marketing and communication plans, needs assessments, and program evaluations.

Clients include the federal natural resource and land management agencies, most state fish and wildlife agencies, state departments of natural resources, environmental protection agencies, state park agencies, tourism boards, most of the major conservation and sportsmen's organizations, and numerous private businesses. Responsive Management also collects attitude and opinion data for many of the nation's top universities.

Specializing in research on public attitudes toward natural resource and outdoor recreation issues, Responsive Management has completed a wide range of projects during the past 22 years, including dozens of studies of hunters, anglers, wildlife viewers, boaters, park visitors, historic site visitors, hikers, birdwatchers, campers, and rock climbers. Responsive Management has conducted studies on endangered species; waterfowl and wetlands; and the reintroduction of large predators such as wolves, grizzly bears, and the Florida panther.

Responsive Management has assisted with research on numerous natural resource ballot initiatives and referenda and has helped agencies and organizations find alternative funding and increase their membership and donations. Additionally, Responsive Management has conducted major organizational and programmatic needs assessments to assist natural resource agencies and organizations in developing more effective programs based on a solid foundation of fact.

Responsive Management has conducted research on public attitudes toward natural resources and outdoor recreation in almost every state in the United States, as well as in Canada, Australia, the United Kingdom, France, Germany, and Japan. Responsive Management has also conducted focus groups and personal interviews with residents of the African countries of Algeria, Cameroon, Mauritius, Namibia, South Africa, Tanzania, Zambia, and Zimbabwe.

Responsive Management routinely conducts surveys in Spanish and has conducted surveys in Chinese, Korean, Japanese, and Vietnamese and has completed numerous studies with specific target audiences, including Hispanics; African-Americans; Asians; women; children; senior citizens; urban, suburban, and rural residents; large landowners; and farmers.

Responsive Management's research has been upheld in U.S. District Courts; used in peer-reviewed journals; and presented at major natural resource, fish and wildlife, and outdoor recreation conferences across the world. Company research has been featured in most of the nation's major media, including CNN, *The New York Times*, *The Wall Street Journal*, and on the front pages of *USA Today* and *The Washington Post*. Responsive Management's research has also been highlighted in *Newsweek* magazine.

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