The Economic Impacts of

Guided Hunting in Alaska

PREPARED FOR

Alaska Professional Hunters Association

PREPARED BY

McDowell GROUP

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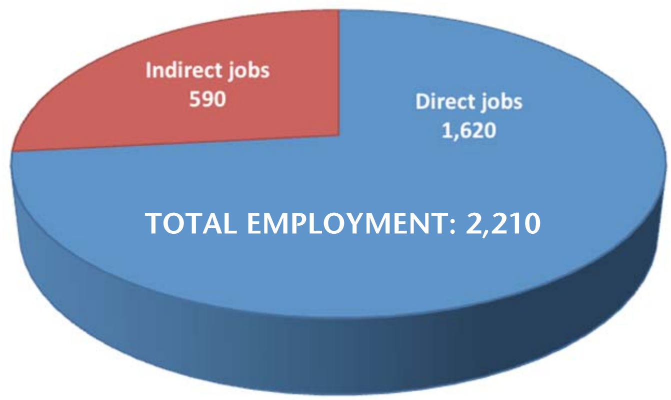
Executive Summary

The Alaska Professional Hunters Association (APHA) contracted with McDowell Group to conduct a study of the economic impact of guided hunting in Alaska. Because guided hunting occurs in remote parts of the state, many Alaskans are not aware of the significant contributions that hunting guides and their clients make to the state's economy, especially the rural economy. Following are key findings from the study.

Guided hunting in Alaska accounted for a total of 2,210 jobs and $35 million in total labor income in 2012, including all direct, indirect and induced impacts.

An estimated **1,620** people were directly employed in guiding activity in Alaska in 2012. While most of these jobs were seasonal, they provided **$21 million** in direct wages and guide income. Those directly employed in the industry include registered guides, assistant guides, packers, pilots and boat captains, camp support, cooks, mechanics, and accountants. Multiplier effects generated another **590 jobs** and **$14 million** in wages in Alaska's support sector.

Employment Associated with Guided Hunting in Alaska, 2012

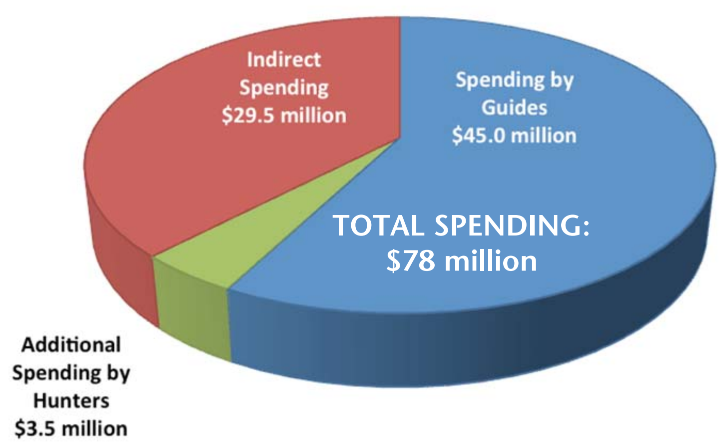


Guided hunting generated a total of $78 million in economic activity in Alaska in 2012.

In 2012, guides contracted with 3,207 hunters, 3,055 of them nonresidents. In total, hunters spent **$51 million** on guided hunts. Of the total, nonresident hunters spent an estimated **$48 million**. In addition to hunting packages, non-resident hunters and their companions spent another **$3.5 million** on lodging, food and beverage, clothing, souvenirs, and outdoor equipment, among other purchases while in Alaska. Dollars spent in Alaska by non-residents provides new dollars that help support the state's economy.

Including **$29.5 million** in direct and indirect (multiplier effects) associated with this spending, guided hunting in Alaska accounted for **$78 million** in total economic activity in 2012.

Spending Associated with Guided Hunting in Alaska, 2012



Guided hunters purchased nearly $2 million in hunting license and game tags.

Revenues from the sales of license and tags are an important source of funding for Alaska Department of Fish & Game (ADF&G) and sales are part of the funding formula used to allocate Pittman-Robertson Act funds. ADF&G's Fish and Game fund provides a source of matching funds for wildlife management-related projects. In addition to the total economic activity mentioned above, guided hunters spent **$361,500** on hunting licenses and **$1.6 million** on game tags in 2012.

Guided hunting operations provided $13 million in wages and guide income and $12 million in spending for goods and services in areas outside urban Alaska.

Nearly nine out of ten guides are Alaska residents. They live in communities throughout the state, with about half living outside urban communities. A significant portion of the assistant guides, packers, camp staff, pilots and boat captains also reside in the state, many in small communities. Guides spent **$12 million** for goods and services and accounted for **$13 million** in wages and income in outlying areas of the state. This **$25 million** in economic activity is especially important in rural areas where opportunity for cash income is limited.

Guides provide significant non-monetary support to rural communities in the form of donated meat and other contributions.

In addition to the economic impact associated with jobs, payroll, and spending for goods and services, hunting guides provide a significant level of non-monetary support to residents of rural Alaska including distributing tens of thousands of pounds of game meat each year.

The table on the following page summarizes the highlights of guided hunting impacts.

Summary of Guided Hunting Economic Impacts in Alaska, 2012

	Impacts
Guided Hunting Industry Related Employment	
Direct employment	1,620 jobs
Indirect and induced employment	590 jobs
Total employment (direct, indirect, and induced)	**2,210 jobs**
Guided Hunting Industry Related Labor Income	
Direct labor income (payroll and guide income)	$21 million
Indirect and induced labor income	$14 million
Total labor income (direct, indirect, and induced)	**$35 million**
Guided Hunting Industry Direct Spending for Goods and Services	
Guide spending on goods and services with Alaska-based vendors	$24 million
Hunter and companion pre/post hunt spending	$3.5 million
Indirect and induced spending	$15.5 million
Total direct, indirect, and induced non-payroll spending	**$43 million**
Total Guide Industry-Related Output	**$78 million**
Guided Hunter License and Game Tag Spending	
License sales	$361,500
Game tag sales	$1.6 million
Guided Hunters	
Alaska residents	152
Nonresident US citizen	2,599
Foreign nationals	456
Total Hunters	**3,207**

Sources: Registered Guide Survey, ADF&G, and McDowell Group Estimates.

Introduction and Methodology

Introduction

The Alaska Professional Hunters Association hired McDowell Group to conduct a study of the economic impacts of the guided hunting industry in Alaska. The purpose of this study is to measure the economic contribution of guided hunting, including employment, payroll, and spending on goods and services (by both the hunter and the guide), as well as "multiplier effects" resulting from guide industry-related spending circulating through the Alaska economy.

Methodology

Data Sources

Two primary sources of data were used to analyze the economic impacts of guided hunting in Alaska, a detailed analysis of guided hunt records maintained by the State of Alaska, and a survey conducted with registered hunting guides.

DCCED Hunt Records

The Alaska Commercial Big Game Services Board regulates the big game commercial services industry in Alaska. The Board is staffed by the Division of Corporations, Business and Professional Licensing within the State of Alaska, Department of Commerce, Community, and Economic Development (DCCED). The guided hunting industry is governed by a myriad of statues and regulations which, among other things, require detailed reporting of hunt activities to the state.[1]

For every guided hunter, DCCED requires a hunt record be submitted following completion of the hunt. The record includes information on the hunter's place of residence, hunt dates, hunt location, number and types of game tags acquired, as well as the names and status of all guides associated with the hunt. While hunt record data was used, confidentiality restrictions and database management limitations prohibited detailed analysis of hunt record data.

Registered Guide Survey

In consultation with the Alaska Professional Hunters Association, an online survey was designed and administered by McDowell Group. Survey content included species hunted, duration and price of hunts, number of hunters, number of employees, and business revenues and expenses (by type and location), among other questions. Each licensed guide was sent a letter in late November 2013 inviting them to participate in the survey, using their own secure unique password to access the online survey. The survey was conducted between late November 2013 and mid-January 2014.

[1] Guide industry statutes and regulations can be found at: http://commerce.alaska.gov/dnn/Portals/5/pub/BGCSStatutes.pdf.

Of the 566 licensed guides who received the survey (having valid mailing addresses), 111 accessed the survey website for a response rate of 20 percent. Of the 111 respondents, 75 were a contracting guide for at least one hunt in 2012. Respondents guided 1,167 hunters, or 36 percent of all guided hunters in 2012.

Additional Sources of Data

- Alaska Visitor Statistics Program VI (AVSP VI) data for **pre and post-hunt expenditures by nonresident hunters and companions**. Hunter spending in Alaska that occurs before or after the actual hunt, such as spending on lodging, food and beverage, clothing, souvenirs, gifts, equipment, and other items, are not part of the purchased hunting package. To estimate hunters' (and their companions') non-package spending, AVSP VI data was analyzed. AVSP is an intercept survey conducted for the State of Alaska, most recently in 2011; McDowell Group surveyed 6,700 visitors as they exited Alaska. A small sample of those visitors were hunters and their companions who had been on a guided hunting trip, and their spending in Alaska was captured in the AVSP data.

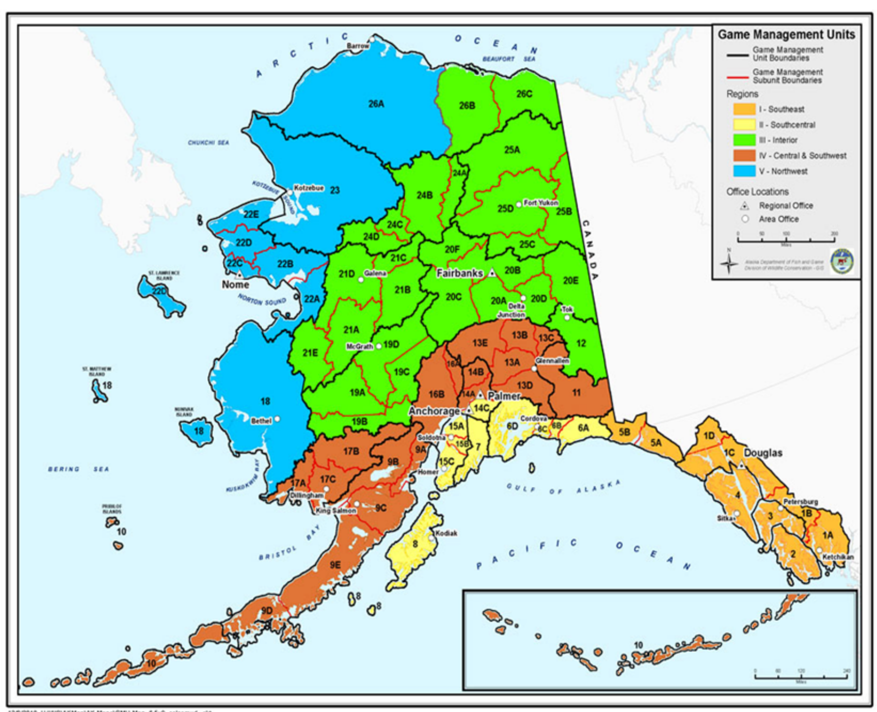
- **Alaska Department of Fish & Game (ADF&G) game tag and license sales data**. A list of all 2012 game tag sales was purchased from ADF&G. The list included hunter residency and type of tags purchased. Hunting license sales data is made publicly available annually by ADF&G.

- **Executive interviews with licensed guides**. Telephone interviews were conducted with guides to gain better insight into various aspects of guided hunting activity in Alaska.

This report includes a brief overview of guided hunting activity in Alaska, a profile of guided hunters, license and game tag sales and revenue, guide business expenses and revenue, and an economic analysis of how employment, payroll, and spending around guided hunting activities impacts Alaska's economy.

Regions

For this study, the state was split into five regions (Southcentral, Interior, Central/Southwest, Southeast and Northwest) to describe where hunting and spending took place, and where guides live. The regions are defined by Game Management Units (GMU) and Guide Use Areas (GUA), which are roughly equivalent. The accompanying map shows the GMU regional borders and can be found on the ADF&G website in the general information section of the 2012-2013 hunting regulations. [1]



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[1] http://www.adfg.alaska.gov/index.cfm?adfg=wildliferegulations.hunting

Profile of Alaska's Guided Hunting Industry

This section provides a profile of Alaska's guided hunting industry, including the number and types of guides working in Alaska, their place of residence, number of clients served, facilities and equipment used, lands on which they guide, and other information.

Guided Hunting in Alaska

Guided hunting is one of the oldest renewable resource industries in Alaska. Regulations require guides for nonresident hunting of three game species; mountain goats, Dall sheep, and brown/grizzly bear.[2] Many nonresident hunters choose to hire a guide for other species, especially moose, caribou, and black bear. Because of the inherent risks and logistics of hunting in remote Alaska, hunters are often willing to pay for professional assistance from someone able to provide a higher-quality hunt through extensive knowledge of the land and the target species.

Types of Hunting Guides

Alaska's professional guides consist of registered guide-outfitters (including master guides) and assistant guides, as described below.

- An "assistant guide" is required to be 18 years of age, and to either take an assistant guide training course or have a recommendation from a registered guide who intends to hire them. A class "A" assistant guide must be 21 years of age or older, been employed as a guide for at least three years in the game management unit where the endorsement is sought, and have at least 10 years of hunting experience.
- A "registered guide-outfitter" license may be obtained by a person 21 years of age or older, who has significant field experience related to hunting in Alaska, has hunted in the state for at least five years, passed an written and oral exam, has been an active licensed assistant guide for at least three years, and has positive recommendations from previous clients. They must be present and in close proximity of the hunter while in the field.
- "Master guide" status can be obtained by a registered guide after 12 years of guiding and with significant favorable recommendations from previous clients.
- A "contracting guide" is a registered or master guide who contracts with the hunter and is responsible for completing hunt records and other paperwork. Only master and registered guides can function as contracting guides. Some master and registered guides choose to work for other contracting guides. Assistant guides may not contract hunts.

Other positions such as packers and support staff are not currently licensed by the state. However, there are detailed limitations on what packers and camp support staff can and cannot do to assist guides.

[2] US citizens with first degree kindred may hunt these species with a relative who is a resident of the state. Foreign nationals must use a guide for these species.

Number and Type of Guides

As of August 2012, there were 575 registered guides in Alaska.[3] Of these, 128 were classified as master guides. In addition, there were 930 licensed assistant guides; 130 had class "A" licenses.

Registered Guides and Assistant Guides, 2012

	# of Guides
Registered Guides	
All registered guides	**575**
Contracting guides	299
Master guides	128
Assistant Guides	
All assistant guides	**930**
Class A assistant guides	130
Total Registered and Assistant Guides	**1,505**

Source: Division of Corporations, Business and Professional Licensing, DCCED, and McDowell Group estimates.

Number of Guided Hunters

Between 2007 and 2012, the number of guided hunters in Alaska ranged from 3,764 to 3,207 (resident and nonresident hunting clients). A dip in the number of hunters in 2009 and 2010 is likely the result of the recession. Preliminary estimates for 2013 show a 7 percent increase, to 3,443 guided hunters.

Number of Guided Hunters, 2007-2013

Year	Guided Hunters	% Annual Change
2007	3,623	
2008	3,764	4%
2009	3,337	-11
2010	3,260	-2
2011	3,301	1
2012	3,207	-3
2013*	3,443	7

Source: Hunt record data, Division of Corporations, Business and Professional Licensing, DCCED.
*Preliminary data.

In 2012, 152 guided hunters were Alaska residents, or 4.7 percent of all guided hunters. Approximately one out of five nonresidents (3,055 hunters) that bought an Alaska hunting license hired a registered guide.

[3] Division of Corporations, Business and Professional Licensing, DCCED.

Non-Hunting Companions

In addition to 3,207 hunters guided in 2012, an estimated 500 non-hunting companions accompanied these hunters in the field.[4] Many guide operations host non-hunting companions, charging a daily fee for lodging, transportation, and food expenses.

Number of Hunters by Geographic Region

In 2012, the most popular regions for guided hunting were Central/Southwest Alaska, with 1,018 guided hunters, and Interior Alaska, with 915 guided hunters. In Southeast and Southcentral Alaska, there were 505 and 471 guided hunters, respectively. The fewest number of guided hunters hunted in Northwest Alaska (298).

Number of Guided Hunters, by Geographic Region of Hunt, 2012

	# of Hunters	% of Total
Central/Southwest	1,018	32%
Interior	915	29
Southeast	505	16
Southcentral	471	15
Northwest	298	9
Total	**3,207**	**100%**

Source: Hunt record data, Division of Corporations, Business and Professional Licensing, DCCED.
Due to rounding, percentage column does not equal 100 percent.

Size of Alaska Guiding Operations

Over the last three years there have been roughly 300 guides each year that contracted hunts. Most contracting guides (about 80 percent) serve 15 or fewer hunting clients each year. In fact, many (40 percent) contracted with five or fewer clients. In 2012, 18 contracting guides guided more than 25 hunters; the largest operator guided about 50.

Contracting Guides, by Number of Clients Served, 2010-2012

# of Hunters Served	2010 # of Guides	2011 # of Guides	2012 # of Guides
1 – 5	120	107	119
6 – 10	67	77	67
11 – 15	51	51	52
16 – 20	33	26	24
21 – 25	22	26	19
26+	22	20	18
Total	**315**	**307**	**299**

Source: Hunt record data, Division of Corporations, Business and Professional Licensing, DCCED.

[4] McDowell Group estimates, Registered guide survey data.

Land Use

Guides must obtain permits from the State of Alaska to guide in specific Guide Use Areas (GUA). They may apply to guide in a maximum of three GUAs. If predator hunting, guides can apply for permits for more than three GUAs. A complex matrix of land ownership/management underlies Alaska's GUA system. Land can be managed by the State, federal government (Bureau of Land Management, US Fish and Wildlife Service, US Forest Service, National Park Service), or by private landowners (including Alaska Native Corporations).

Guides pay fees to, and must have signed agreements with, relevant land managers prior to applying for a GUA permit where they wish to guide. Permits are often limited to specific species. Some land managers (through limited concessions) restrict the number of guides that may hunt in a specific area, or the overall number of hunts each year, to assure game sustainability and quality hunts.

Contracting guides reported that 46 percent of their 2012 revenues came from hunts conducted on land managed by the State of Alaska. Almost half of revenue was earned hunting on federal lands, including US Fish and Wildlife Service (22 percent), US Forest Service (11 percent), NPS (9 percent), and BLM (4 percent). Eight percent was derived from private land (including Alaska Native Corporation land).

Guide Revenue by Land Hunted, 2012

Land Manager	% of Guide Revenue
State of Alaska	46%
US Fish and Wildlife Service (USFWS)	22
US Forest Service (USFS)	11
National Park Service (NPS)	9
Private land owners (including Alaska Native Corps)	8
Bureau of Land Management (BLM)	4

Source: Registered guide survey.

Alaska Guides' Place of Residency

Among Alaska's 575 registered guides in 2012, 89 percent (510) were Alaska residents, while 11 percent (65) were nonresidents. Guides' place of residence is dispersed throughout the state with more than half (52 percent) living outside Alaska's major urban areas (areas with populations of less than 30,000). The largest concentration of guides was in Southcentral, with 43 percent (217 guides). Central/Southwest was home to 28 percent (141 guides), the Interior 14 percent (73 guides), Southeast 13 percent (64 guides), and Northwest 4 percent (15 guides).

(see table next page)

Registered Hunting Guide Place of Residence, 2012

	# of Guides
Southcentral	**219 (43% of Total)**
Anchorage/Chugiak/Eagle River	118
Kodiak	24
Soldotna	21
Homer	8
Kenai (7), Kasilof (6), Girdwood (4), Sutton (4), Anchor Point (3), Nikolai (3), Ninilchik (3), Cordova (2), Nikiski (2), Port Lions (2), Seward (2), Sterling (2), Valdez (2), Alexander Creek (1), Cooper Landing (1), Ft. Richardson (1), Moose Pass (1), Old Harbor (1), Seldovia (1)	
Central/Southwest	**140 (28% of Total)**
Palmer/Wasilla	71
Dillingham	8
Talkeetna	8
Gakona (6), King Salmon (6), Port Alsworth (6), Willow (6), Chickaloon (5), Pedro Bay (4), Iliamna (3), Cantwell (2), Chitina (2), Cooper Center (2), Ekwok (2), Trapper Creek (2), Chignik (1), Cold Bay (1), Glennallen (1), Kokhanok (1), Nondalton (1), Port Moller (1), Skwentna (1)	
Interior	**72 (14% of Total)**
Fairbanks/North Pole	35
Delta Junction	9
Tok (6), Healy (5), Ester (4), Aniak (2), Manley Hot Springs (2), Salcha (2), Sleetmute (2), Bettles (1), McGrath (1), Nenana (1), Tanana (1), Two Rivers (1)	
Southeast	**64 (13% of Total)**
Juneau/Auke Bay/Douglas	18
Sitka	13
Haines (5), Hoonah (5), Ketchikan (5), Petersburg (5), Gustavus (4), Klawock (2), Elfin Cove (1), Throne Bay (2), Yakutat (2), Wrangell (2)	
Northwest	**15 (3% of Total)**
Huslia (2), Mekoryuk (2), Nome (2), Bethel (1), Galena (1), Holy Cross (1), Kaltag (1), Kobuk (1), Kotzebue (1), Red Devil (1), Two Rivers (1) Unalakleet (1)	

Source: DCCED, Division of Corporations, Business & Professional Licensing.

Economic Impact of Guided Hunting

This chapter describes the economic impact of guided hunting activity in Alaska. Economic impacts are measured in terms of guide business-related revenues and expenditures, employment and income for guides and their employees, and all related multiplier effects.

Guide Business Revenues and Expenditures

Revenues

In 2012, purchases of guided hunting packages in Alaska generated an estimated $51 million in total gross revenue, including an estimated $1.3 million in non-hunting companion package sales. Approximately, 95 percent of the total revenue (or $48 million), and all of the $1.3 million in pre and post-hunt spending, was generated by nonresident hunters (U.S. and alien) and their non-hunting companions. These estimates are based primarily on the results of the registered guide survey.

Non-Payroll Expenditures in Support of Guiding Operations

Guides spend money on a wide variety of goods and services, including transportation (aircraft, boats, ATVs, other vehicles, and fuel), groceries, and a variety of outdoor equipment and gear. They also pay access fees to land managers (federal agencies and Alaska Native Corporations). The survey of registered guides indicated that non-payroll spending by contracting guides in support of guiding operations totaled about $30 million in 2012. Approximately 81 percent (slightly more than $24 million) of this spending was with Alaska vendors.

Where in Alaska spending occurs is largely determined by two factors; where the guide lives and where the hunting occurs. Often, the guide's hunt locations are far removed from their place of residence, and in many cases, they hunt two or three different remote locations. The net effect is that most guides have significant spending in their home community, the nearest hub community if they live in a remote rural area, and in communities near their hunt locations, most of which are in rural areas.

Southcentral had the highest level of guide spending for goods and services in 2012 at $8.3 million. The Interior and Central/Southwest regions received roughly $5 million in spending, while Southeast received $3.4 million, and Northwest $2.4 million.

Guide Spending in Alaska by Region, Guide Place of Residence by Region, and Number of Hunts by Region, 2012

Region	Guides Residing in Region	% of Hunts in Region	Guide Spending in Region
Southcentral	217	15%	$8.3 million
Interior	73	29	$5.4 million
Central/Southwest	141	32	$4.9 million
Northwest	15	9	$2.4 million
Southeast	64	16	$3.4 million
Total	**510**	**100%**	**$24.4 million**

Source: Registered guide survey and McDowell Group estimates.

Guiding-Related Employment, Payroll, and Spending in Alaska

Employment

Guiding related jobs include registered guides, assistant guides, packers, and camp/office support staff. Nine out of 10 contracting guides hired at least one person in 2012. Due to the seasonal nature of guiding, most of these jobs are seasonal.[5]

Registered and Contracting Guides: As described previously, there were 575 registered guides in 2012. Not all of those were active, however. According to the registered guide survey, 6 percent of registered guides (about 35 guides) did not guide in 2012. Therefore, it is estimated there were approximately 540 active guides that year. Just over half of the active registered guides in 2012 were contracting guides (299). Contracting guides market their businesses, communicate with clients, and sign contracts. Nearly half (46 percent) of contracting guides reported working at their business more than 8 months of the year. When not in the field, guides are engaged in logistics management, equipment and facility maintenance, marketing (such as attending trade shows), sales, and client relations.

Assistant Guides: There were 930 licensed assistant guides in 2012. The number of active assistant guides employed is unknown. Some assistant guides work for more than one contracting guide and some assistants maintain their license but no longer guide for a variety of reasons. Based on analysis of registered guide survey data and guide interviews, it is estimated that about 600 assistant guides were employed in 2012. On average, each assistant guide worked a little less than three months. Of all registered assistant guides, 54 percent are Alaska residents.

Packers: Based on the registered guide survey data and guide interviews, slightly less than half of contracting guides reported hiring packers. Total employment is estimated at about 180 packers in 2012. According to guides interviewed for this study, the vast majority of packers are Alaska residents and many are hired from small communities near the guide's hunting areas. Packers averaged slightly less than two months of employment in 2012.

Support Staff: About 60 percent of contracting guides reported hiring support staff. Total employment is estimated at about 300 support staff in 2012. Undoubtedly, some staff are employed year-round but the majority of support staff average two to four months of employment per year. An estimated three-quarters of support staff (or 225 people) are Alaska residents.

In summary, approximately 1,620 people were directly employed in Alaska's guided hunting sector in 2012.

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[5] Many guides hunt in the spring and/or the fall seasons; typically four to six weeks in the spring and six to eight weeks in the fall. Hunts catering to sea duck and deer hunters in more temperate areas of Alaska, as well as those hunting predators, tend to have extended seasons.

Alaska Hunting Guide Industry Employment, 2012

	Employment
Active master/registered guides	540
Assistant guides	600
Packers	180
Support staff	300
Total Employment	**1,620**

Source: Hunt record data, Division of Corporations, Business and Professional Licensing, DCCED, Registered guide survey, and McDowell Group estimates.

Wages/Income

Registered guides are either paid by a contracting guide on a per hunt basis or earn income from their own guiding business. Most of the 1,080 assistant guides, packers, and support staff are paid on a per day basis. Some administrative support staff are likely paid hourly and a small number of those working year-round may be salaried. Based on registered guide survey data, total industry payroll and business-owner net income (before taxes) is estimated to be $21 million in 2012.

Pre and Post-Hunt Expenditures

Typically, hunters (and their companions) spend an average of about 2.5 nights per trip (pre and post-hunt combined) in addition to their time spent in the field. Expenditures related to this extra time in Alaska are usually not included in the hunting package. This additional spending may include transportation, lodging, food and beverages, clothing, souvenirs, and other goods and services.

Based on AVSP VI data, it is estimated that hunters and their companions spent an average of $970 each for their pre and post-hunt stays, or about $3.5 million for all nonresident guided hunting pre and post-hunt visits.

Nonresident Guided Hunters and Companion Pre and Post-Hunt Expenditures, 2012

	Count	Average Trip Expenditures	Total Spending
Hunters	3,055	$970	$3.0 million
Companions	500	$970	$0.5 million
Total	**3,555**		**$3.5 million**

Source: Registered guide survey, AVSP VI, and McDowell Group estimates.

Bed Taxes Paid

Of the $970 spent on pre- and post-hunt stays, about one-third ($1.2 million) of spending was on lodging. Many of Alaska's communities where nonresident hunters fly into, particularly the larger centers of Anchorage, Fairbanks, Juneau, and Kodiak, have a bed tax. Bed tax revenues are used for a wide variety of purposes, including funding destination marketing programs and local governments. These bed taxes can range from 5 percent (Kodiak) to 12 percent (Anchorage). It can reasonably be assumed that guiding hunting parties generate about $70,000 in bed tax revenue statewide (assuming an average tax rate of 6 percent).

Multiplier Effects of Alaska's Guided Hunting Industry

The guided hunting industry's direct impact of 1,620 jobs and $21 million in annual wages and owner's income is only part of the industry's impact on the Alaska economy. The guided hunting industry, much like the mining, tourism, and seafood industries, brings new dollars to the Alaska economy. As these new dollars circulate through the economy, additional jobs and income are created.

A full accounting of economic impacts, including direct, indirect and induced effects, includes:

- **Direct impacts:** jobs held by guides and their employees, and the income they earn.
- **Indirect impacts:** Jobs and income in businesses providing goods and services to guiding operations. This includes jobs with, for example, air taxi/charter operators, independent lodge operator, sporting goods stores, and grocery stores.
- **Induced impacts:** Jobs and income created as a result of guide operation employees spending their payroll dollars in the Alaska economy.

The economic impact estimates below are based on a widely used input/output model, IMPLAN, which provides multipliers for determining the indirect and induced impacts. IMPLAN multipliers are adjusted to account for nonresident workers in the guiding industry.

Indirect and Induced Impacts

Annual in-state spending of $24 million in support of guiding operations, coupled with in-state spending of $21 million in guiding industry wages and income, is estimated to account for approximately 590 jobs in Alaska's support sector. Therefore total direct, indirect, and induced employment associated with the Alaska guided hunting industry is estimate at 2,210 jobs.

Total direct, indirect, and induced income associated with the Alaska guided hunting industry is estimate at $35 million, including $21 million in direct wages and owners' income, and $14 million in indirect and induced wages and income.

One additional measure of economic impact is output, or total spending activity. Including all direct, indirect, and induced wages and income, and all direct and indirect business non-payroll spending, guided hunting related economic activity in Alaska totals approximately $78 million annually, based on 2012 data.

Total Guide Industry Employment and Income Impacts in Alaska, 2012

	Direct	Indirect & Induced	Total
Employment	1,620	590	2,210
Wages/income	$21 million	$14 million	$35 million
Non-payroll spending	$24 million	$13 million	$37 million
Pre and post-hunt spending	$3.5 million	$2.5 million	$6 million
Total Output	**$48.5 million**	**$29.5 million**	**$78 million**

Source: McDowell Group estimates.

Distribution of Economic Impacts Within Alaska

It is beyond the scope of this study to measure all of the regional indirect and induced economic impacts of the guiding industry in Alaska. However, it is evident from available data that the industry has an important impact in areas outside the state's primary centers of commerce.

Guide Place of Residence

Revenues from guided hunting are distributed widely throughout the state in the form of payroll and owner's income as well as spending on goods and services. About half (52 percent) of registered guides live in areas outside Alaska's largest urban areas (Anchorage, Fairbanks, and Juneau). A significant portion of their annual expenditures take place outside the urban centers. Additionally, many of the people employed by hunting guides (regardless of where the guides live) also live in rural and smaller communities.

Hunting Guide Area of Residence, 2012

Residence	# of Guides	% of Total
Urban centers	242	47%
All other areas of Alaska	264	52
Guides Living in Alaska	**510**	**100%**

Source: Division of Corporations, Business, and Professional Licensing, DCCED.

Guide Spending

In 2012, half of all guide spending in Alaska on goods and services (an estimated $12 million) took place in areas outside urban Alaska. At least an additional $13 million was distributed in payroll and income to guides and their employees living in these areas. In many of these communities, especially the remote rural locations, the opportunities to earn cash income are limited.

Impacts Outside Urban Alaska, 2012

	Expenditures
Purchases of goods and services	$12 million
Payroll and guide income	$13 million
Total	**$25 million**

Source: Registered guide survey data and McDowell Group estimates.

Rural Community Support

In addition to the impacts of jobs, payroll, and spending for goods and services, hunting guides provide a significant level of voluntary support to residents of rural Alaska. The most important of these is the distribution of meat donated by hunters. Because of the expense and logistics of taking meat home from Alaska, the majority of all game meat harvested in the state is donated. While the total amount of meat distributed is unknown, it could reasonably be assumed to be tens of thousands of pounds annually. Guides also often provide in-kind assistance such as monitoring remote cabins, and moving people and materials.

License and Game Tag Sales and Revenue

Following is a detailed look at revenue generated by all hunters (guided and unguided) through the purchase of hunting licenses and game tags. License and tag revenues accrue to the State's Fish and Game Fund and are used as matching funds for additional Pittman/Robertson funding. Combined, these sources of revenue fund a significant portion of ADF&G Wildlife Division research and other activities related to wildlife and habitat in Alaska. A brief discussion of these funding sources is provided in the appendix.

License and Tag Sales and Revenue from Nonresident Hunters (Guided and Unguided)

In 2012, 15,952 nonresidents (including U.S. residents living outside of Alaska and non-U.S. residents) purchased hunting licenses and 13,383 purchased game tags. This was the highest number of licenses sold to nonresidents since 2007. Tag sales in 2012 were well below the 16,218 sold in 2007, but sales were up about 10 percent from a low of 12,180 in 2009.

Total Nonresident Hunter License and Tag Sales and Revenue (in millions), 2007-2012*

	2007	2008	2009	2010	2011	2012
Tags						
Tag sales	16,218	14,857	12,180	12,829	12,970	13,383
Tag revenue	$4.3	$4.0	$3.3	$3.5	$3.6	$3.7
Licenses						
Hunting license sales	15,091	14,266	13,390	14,504	15,278	15,952
Hunting license revenue	$1.2	$1.1	$1.0	$1.0	$1.0	$1.1
Total combined revenue	**$5.5**	**$5.1**	**$4.3**	**$4.5**	**$4.6**	**$4.8**

Source: ADF&G.
*Includes all nonresident (guided and unguided) and foreign (alien) hunters.
Also, includes combination hunting, sportfishing, and trapping licenses.

License and Tag Sales and Revenue from Nonresident Hunters (Guided Only)

In 2012, 3,207 guided hunters generated $361,500 in hunting license revenue and $1.6 million in game tag revenues (41 percent of all nonresident tag and license revenue). Guided hunters contribute approximately 39 percent of all ADF&G nonresident license and tag sales revenue.

(see table next page)

Guided Hunter License and Tags Sales and Revenue, 2012

Licenses	
Hunting license sales	3,207
Hunting license revenue	$361,500
Tags	
Tag sales	4,513
Tag revenue	$1,593,000
Total combined revenue	**$1,954,500**

Source: ADF&G, Division of Corporations, Business and Professional Licensing, DCCED.

Of all 2012 nonresident guided hunters, 2,599 were nonresidents living elsewhere in the US and 456 were foreigners (referred to as "aliens"). Non-Alaska residents living in the U.S. paid a total of $220,900 in license fees, aliens $136,800, and Alaska residents $3,800. Combined, nonresidents and aliens generated 99 percent of guided hunter license and tag revenue in 2012.

Guided Hunter License Revenue, by Hunter Residency, 2012

	Hunters	Revenue	% of Guided Hunters
Total Alaska resident	152	$3,800	1%
Total nonresident (U.S.)	2,599	$220,900	61
Total alien	456	$136,800	38
Total Guided Hunters	**3,207**	**$361,500**	**100%**

Source: Hunt record data, Division of Corporations, Business and Professional Licensing, DCCED, and McDowell Group estimates.

In 2012, nonresident guided hunters purchased an average of about 1.4 tags per hunter. About 2,300 hunters bought only one tag in 2012, while the remainder purchase 2 or more with a handful of hunters purchasing as many as six tags.

Tags Purchased by Guided Hunters, by Species and Geographic Region Hunted

The table below highlights tags purchased by guided hunters and provides a general measure of interest in each species. Some hunters plan multi-species hunts, paying higher package prices up front. Other hunters focus on a single species with "trophy fees" paid if an opportunity to harvest an incidental species arises.

In 2012, guided hunters purchased approximately 4,513 tags, including big game, wolf, and wolverine. By far, a brown/grizzly bear tag was the most popular tag purchased by guided hunters (1,598 tags in 2012). brown/grizzly bear tags represented about 35 percent of all guided hunter tags purchased and 51 percent of all guided hunter tag revenue. Other popular tags included black bear (655), moose (590), wolf (482), Dall sheep (429), and caribou (349).

Guided Hunter Tag Purchases and Revenue, By Species, 2012

	Resident			Nonresident			Alien			Total Revenue by Species
	#Tags	$ Per Tag	Total Tag Fees	#Tags	$ Per Tag	Total Tag Fees	#Tags	$ Per Tag	Total Tag Fees	
Brown/G. Bear	33	$25	**$825**	1,402	$500	**$701,000**	163	$650	**$106,000**	**$807,800**
Black Bear	35	$0	**$0**	571	$225	**$128,500**	49	$300	**$14,700**	**$143,200**
Moose	32	$0	**$0**	495	$400	**$198,000**	63	$500	**$31,500**	**$229,500**
Wolf	2	$0	**$0**	408	$30	**$12,200**	72	$50	**$3,600**	**$15,800**
Dall Sheep	6	$0	**$0**	390	$425	**$165,800**	33	$550	**$18,200**	**$183,900**
Caribou	35	$0	**$0**	281	$325	**$91,300**	33	$425	**$14,000**	**$105,400**
Mtn Goat	6	$0	**$0**	157	$300	**$47,100**	9	$400	**$3,600**	**$50,700**
Deer	5	$0	**$0**	141	$150	**$21,200**	20	$200	**$4,000**	**$25,200**
Muskox	29	$500	**$14,500**	8	$1,100	**$8,800**	1	$1,500	**$1,500**	**$24,800**
Wolverine	0	$0	**$0**	18	$175	**$3,200**	13	$250	**$3,300**	**$6,400**
Bison	1	$0	**$0**	1	$450	**$450**	0	$650	**$0**	**$450**
Elk	1	$0	**$0**	0	$300	**$0**	0	$400	**$0**	**$0**
Total	**185**		**$15,300**	**3,872**		**$1,377,000**	**456**		**$200,300**	**$1,593,000**

Source: ADF&G and McDowell Group estimates.

Tags Purchased by Region Hunted

The most tags were purchased by hunters who hunted in Interior (1,441) and Central/Southwest (1,333) Alaska. Southeast and Southcentral Alaska hunters purchased 633 and 566 tags, respectively. The Northwest region saw the fewest number of tags purchased (383).

Guided Hunter Tags Purchased, by Geographic Region Hunted and Species, 2012*

	Northwest	Interior	South-central	Central/ Southwest	Southeast	Total
Brown/G. Bear	111	304	212	728	188	**1,543**
Black Bear	5	138	98	153	237	**631**
Moose	49	328	20	173	0	**570**
Wolf	38	133	21	182	92	**466**
Dall Sheep	6	323	9	77	0	**415**
Caribou	134	193	4	5	0	**336**
Mtn. Goat	0	3	104	7	53	**167**
Deer	0	0	98	0	61	**159**
Muskox	37	0	0	0	0	**37**
Wolverine	3	17	0	8	1	**29**
Bison	0	2	0	0	0	**2**
Elk	0	0	0	0	1	**1**
Total	**383**	**1,441**	**566**	**1,333**	**633**	**4,356**

Source: Division of Corporations, Business, and Professional Licensing, DCCED, and McDowell Group estimates.
*Total count and by species counts are slightly different than in the previous table due to incomplete information in the DCCED data base.

Pittman-Robertson Act/Fish and Game Fund

The Pittman-Robertson Act was passed in 1937. Revenue generated from excise taxes on sporting goods is apportioned to state wildlife agencies for hunter education, shooting ranges, and wildlife conservation programs. Funds can be specifically used for the following:[6]

Wildlife Restoration

- Surveys and inventories of wildlife
- To acquire, manage and improve habitat
- Wildlife relocation
- To improve public access and enjoyment of wildlife

Hunter Education

- Develop hunter education programs
- Develop and manage shooting and archery ranges

Taxes are levied on the wholesale price of some sporting goods (long guns, ammunition, and archery equipment at 11 percent and handguns at 10 percent). The taxes are collected by the federal government and distributed according to a set formula. Some funds are set aside for specific programs, such as hunter education and grants for specific projects. The remaining funds are distributed to states based on population, land area and number of paid hunting license holders. There are minimum and maximum adjustments to assure that no state receives an unreasonably large portion of the annual funding. States must provide 25 percent matching (non-federal) funds for projects. Typically these matching funds come from the ADF&G's Fish and Game Fund. Fish and Game Fund revenues are received primarily from the sale of hunting licensees, big game tags, and drawing permit fees.

In 2012, 38 percent of ADF&G's Division of Wildlife expenditures were paid by Pittman Robertson Funds and 20 percent from the Fish and Game Fund.

Pittman-Robertson Fund and Fish and Game Fund Expenditures by ADF&G, $Million, FY2007-FY2013

	2007	2008	2009	2010	2011	2012	2013
Pittman-Robertson	$9.1	$10.0	$10.9	$11.7	$14.9	$14.9	$15.7
Fish and Game Fund	7.5	7.7	8.2	8.4	7.8	7.9	8.3

Source: ADF&G

[6] For Alaska, approximately 95 percent of funding received is allocated to wildlife restoration projects.