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The Economic Impacts of Guided Hunting in Alaska

PREPARED FOR
Alaska Professional Hunters Association

PREPARED BY
McDowell GROUP

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Key Findings

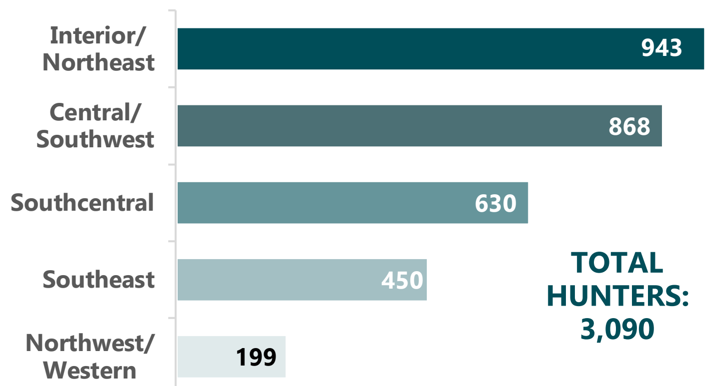
Guided hunting is one of the oldest renewable resource industries in Alaska. Hunts occur throughout the state, bringing in thousands of visitors and millions of dollars annually that benefit businesses such as guiding operations, transportation providers, and accommodations across the state. This spending represents an important source of employment and wages for Alaska residents. To better understand the role of guided hunting in Alaska's economy, the Alaska Professional Hunters Association contracted with McDowell Group to measure the industry's economic contribution in 2019. Sources of information include the Alaska Department of Fish & Game, Alaska Big Game Commercial Services Board, and a McDowell Group survey of hunting guides. Following are key findings from the study.

Volume and Location

In 2019, Alaska hosted 3,090 guided nonresident hunters along with 505 companions.

The most popular regions for guided hunts were Interior/Northeast Alaska with 943 hunters and Central/Southwest Alaska with 868 hunters. Southcentral Alaska hosted 630 hunters, Southeast Alaska hosted 450, and Northwest/ Western Alaska hosted 199.

Number of Nonresident Hunters by Region, 2019

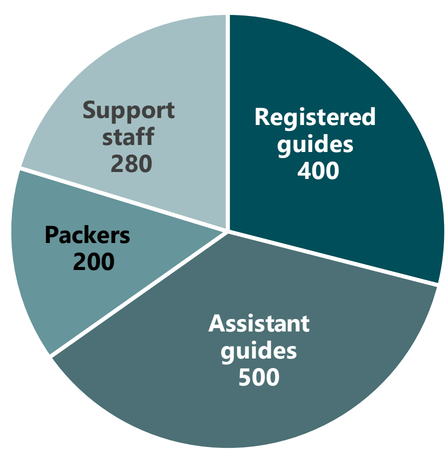


Direct Spending and Employment

Guided nonresident hunters and companions spent $62.4 million associated with big game hunting in Alaska in 2019 including $56.9 million for hunting packages, $1.6 million in companion fees, and $3.9 million in pre-and-post hunt spending.

Industry jobs generated directly by this spending totaled 1,380, including 400 active registered guides, 500 assistant guides, 200 packers and 280 support staff. Most industry participants are Alaska residents, including 85% of registered guides and 61% of assistant guides. Alaskan guides reside throughout the state, with 70% living outside Alaska's major urban areas.

Nonresident Hunting Direct Employment, 2019



TOTAL DIRECT JOBS: 1,380

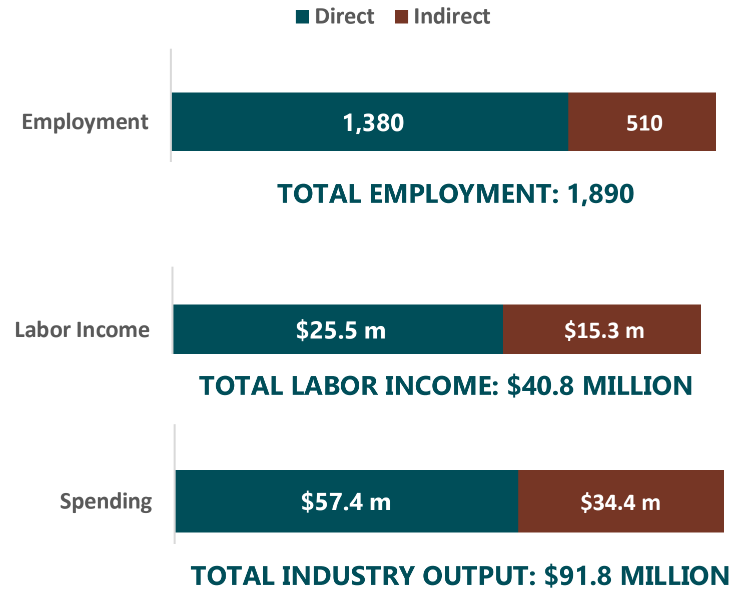
Total Economic Impacts

Including direct, indirect, and induced impacts, the guided hunting industry supported an estimated 1,890 jobs in Alaska in 2019, including 1,380 direct jobs and 510 indirect and induced jobs.

Direct labor income of $25.5 million combined with indirect and induced impacts of $15.3 million resulted in estimated statewide labor income of $40.8 million.

Guide and hunter in-state expenditures for goods, services, and labor of $57.4 million combined with $34.4 million in indirect and induced impacts generated total estimated economic output of $91.8 million statewide in 2019.

Economic Impacts of Guided Hunting in Alaska, 2019



License and Tag Revenue

Nonresident hunters generate a significant portion of all hunting license and game tag revenue for the State of Alaska, despite representing a very small portion of total licenses issued.

As seen in the tables at right, nonresidents purchased 14% (13,893) of all hunting licenses in 2019 but accounted for 76% of license/tag revenues. Guided nonresidents represented only 3% (3,090) of total licenses, but 30% of total license/tag revenues.

Nonresidents generated the highest average license and tag revenue on a per-person basis. Nonresidents spent $700 on licenses/tags on average, compared with $35 among Alaska residents. Guided nonresident hunters generated even more on average, at $1,237 per hunter.

Hunting Licenses by Residency, 2019

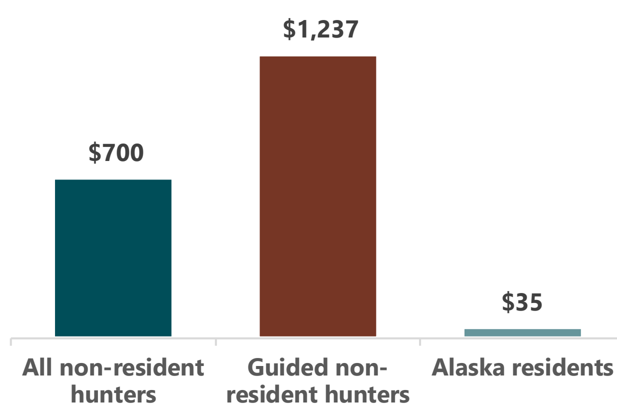
	Volume	% of Total
Nonresidents	13,893	14%
Guided	3,090	3%
Alaska residents	88,571	86%
Total	**102,464**	**100%**

Source: ADF&G.

Hunting License and Tag Revenue by Residency, 2019

	$millions	% of Total
Nonresidents	$9.7	76%
Guided	$3.8	30%
Alaska residents	$3.1	24%
Total	**$12.8**	**100%**

Source: ADF&G. Figures have been rounded.

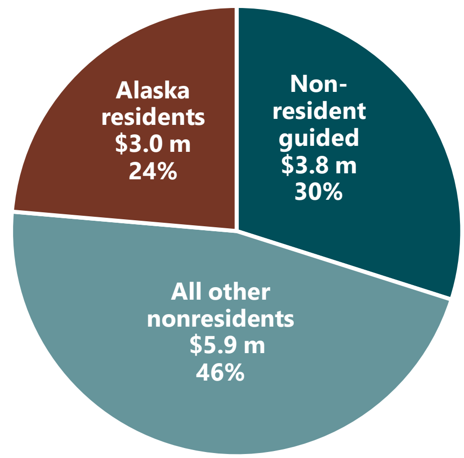


Source: ADF&G.

Fish and Game Fund

Hunting license fees and tag fees are transferred to the ADF&G Fish and Game Fund. Of the total $12.8 million accrued to the Fund in 2019, nonresident guided hunters contributed $3.8 million, or 30%. Unguided nonresident hunters contributed $5.9 million (46%), totaling 76% for nonresidents. Alaska resident hunters contributed $3.0 million, or 24% of total 2019 fund revenue.

ADF&G Fish and Game Fund Contributions, 2019

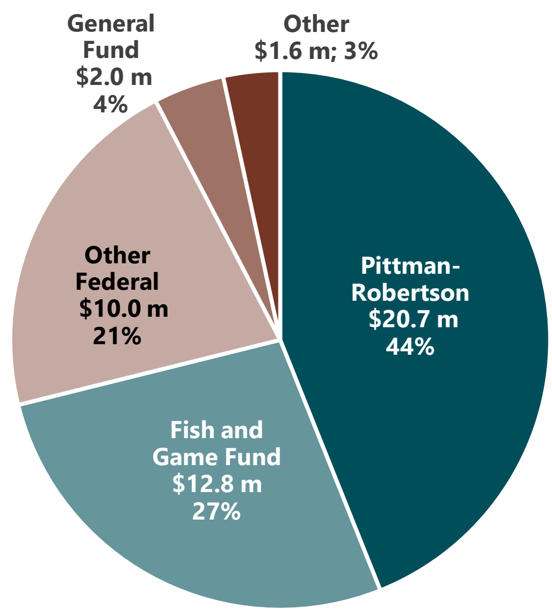


Source: ADF&G.

ADF&G Division of Wildlife

Nonresident hunters support a significant portion of Division of Wildlife Conservation funding. In 2019, ADF&G Division of Wildlife Conservation revenues and expenditures totaled $47.1 million. The Fish and Game Fund contributed $12.8 million (27%). Fish and Game funds are used to leverage Pittman-Robertson funds which totaled $20.7 million (44%). In total, these two sources accounted for 71% of total Division of Wildlife expenditures.[1]

Division of Wildlife Revenues by Source, 2019



Source: ADF&G.

[1] Pittman-Robertson collects excise taxes on sporting goods that is apportioned to state wildlife agencies for hunter education, shooting ranges, and wildlife conservation programs that benefit hunters and those that view wildlife. States must provide 25% non-federal matching funds for qualified projects. Stated another way, states can generate up to $3 for every $1 in matching funds. Alaska uses Fish and Game funds generated from the sale of licenses and game tags to match Pittman-Robertson funds.

Introduction

The Alaska Professional Hunters Association hired McDowell Group to update studies conducted in 2013 and 2016 that estimated the economic impacts of guided hunting in Alaska. This study measures the economic contribution of guided hunting, including employment, labor income, and spending on goods and services by both hunters and guides, as well as "multiplier effects" resulting from guide industry-related spending circulating through the Alaska economy.

This report includes an overview of guided hunting activity in Alaska, license and game tag sales and revenue, guide business expenses and revenue, and an analysis of how the industry impacts Alaska's economy.

The study is based on data for calendar year 2019, pre-Covid-19. The impacts of Covid-19 on the 2020 guided hunting industry are not yet known. Many 2020 hunts were cancelled, and the number of hunting licenses and tags purchased fell significantly from 2019. Hunters who purchase guided hunts typically have financial resources and are dedicated to their pursuit which should support an industry rebound in 2021, but full recovery to 2019 levels may take longer.

Financial support for this study was provided by the Alaska Professional Hunters Association, the Alaska Hunting Conservation Foundation and Dallas Safari Club.

Methodology

Data Sources

Two primary sources of data were used to analyze the economic impacts of guided hunting: guided hunt records maintained by the State of Alaska, and a McDowell Group survey of registered hunting guides.

STATE HUNT RECORDS

The Alaska Big Game Commercial 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 Alaska Department of Commerce, Community, and Economic Development (DCCED). The guided hunting industry is governed by myriad statutes and regulations which, among other things, prescribe detailed reporting of hunt activities.[2]

For every guided hunter, the board 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, and game harvested. Also required are the names and status of all guides associated with the hunt. Due to confidentiality restrictions, some hunt record data is not publicly available, such as hunters' names and addresses.

[2] Guide industry statutes and regulations can be found at: BGCSStatutes.pdf (alaska.gov)

REGISTERED GUIDE SURVEY

An online hunting guide survey was designed and administered by McDowell Group in consultation with the Alaska Professional Hunters Association. Survey questions included species hunted, duration and price of hunts, number of hunters and companions guided, number of employees, business revenues and expenses (by type and location), and other questions. The survey was conducted between early July and early September 2020 and referenced the 2019 season. Licensed guides were sent a letter inviting them to participate using a password to access the secure online survey. Several reminder emails were sent to guides who did not respond to the survey.

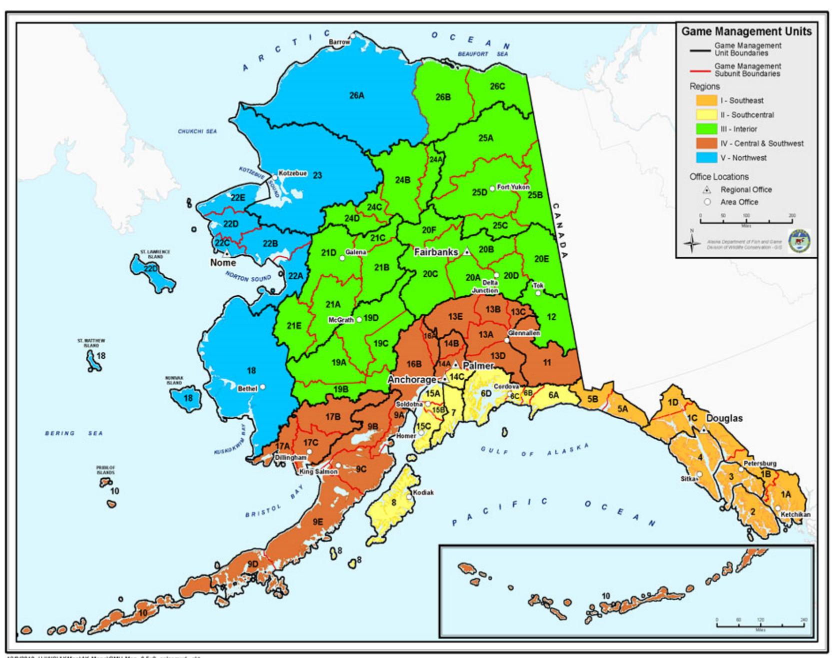
Of 420 licensed guides who received invitations, 109 participated in the survey for a response rate of 26%. Respondents guided 1,202 hunters, or 37% of all guided hunters in 2019. Of the 109 respondents, 85 were contracting guides. This represented 34% of all contracting guides in 2019. Averages from survey data were expanded to the full population of guides and guided hunters for measures such as revenue, expenses, and employment, among others.

Additional Sources of Data

- **Pre-and post-hunt expenditures by nonresident hunters and companions**. In addition to their hunting package price, hunters and companions spend money in Alaska before and after the hunt for lodging, food and beverage, clothing, souvenirs, gifts, equipment, and other items. To estimate non-package spending, Alaska Visitor Statistics Program 7 (AVSP 7) visitor spending data was analyzed. AVSP is an intercept survey conducted periodically by McDowell Group for the State of Alaska, most recently in 2016. A small sample of visitors were hunters and their companions who had been on a guided hunting trip
- **Alaska Department of Fish & Game (ADF&G) game license and tag sales data**. A list of 2019 license and game tag sales was provided by ADF&G.
- **Executive interviews with licensed guides**. Telephone interviews were conducted with a dozen guides to gain better insight into guided hunting activity and impacts in Alaska.

Regions

This study references five regions (Southcentral, Interior/Northeast, Central/Southwest, Southeast and Northwest/Western) 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.[3]



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

Profile of Alaska's Guided Hunting Industry

The following profile of the guided hunting industry in Alaska in 2019 includes the number and types of guides working in Alaska, their place of residence, number of clients served, land use, and other information.

Guided Hunting in Alaska

Each year, thousands of out-of-state hunters travel to Alaska in pursuit of big game animals, predators, game birds, and small game. Alaska statutes require most nonresident hunters to hire guides if they are targeting the following species: mountain goats, Dall sheep, and brown/grizzly bear.[4] Nonresident hunters targeting other species often choose to hire an experienced guide for their knowledge and logistical support, and to ensure a safe, high-quality experience. In addition to the species mentioned above, moose, caribou, and black bear are the most sought-after animals by guided hunters. Other guided hunts include deer, muskox, bison, elk, wolves, wolverine, and waterfowl.

Number of Guided Hunters

There were 3,223 guided hunters in 2019, an increase of 10% over 2,917 guided hunters in 2018. About 4% of 2019 guided hunters (133) were Alaska residents. Of the 3,090 nonresident hunters, 204 were non-U.S. citizens. One in five nonresidents who purchased an Alaska hunting license hired a registered guide.[5]

Number of Guided Hunters, 2018-2019

Year	Hunters	% Chg.
2018	2,917	
2019	3,223	+10%

Source: State of Alaska, Division of Corporations, Business and Professional Licensing, hunt record data.

Non-Hunting Companions

Many guide operations welcome non-hunting companions, charging a daily fee for lodging, transportation, and food. In addition to 3,090 guided nonresident hunters, an estimated 505 non-hunting companions accompanied these hunters.

[4] U.S. citizens may hunt these species with a relative who is of first-degree kindred that is a resident of Alaska.
[5] Excludes nonresidents that only purchased a small game hunting license.

Guided Hunters by Geographic Region

The most popular regions for guided hunting were Interior/Northeast Alaska, with 943 hunters, and Central/Southwest Alaska, with 868 hunters. Southcentral Alaska hosted 630 hunters, Southeast 450, and Northwest/Western Alaska 199.

Number of Guided Nonresident Hunters, by Region Hunted, 2019

Region Hunted	Hunters	% of Total
Interior/Northeast	943	31%
Central/Southwest	868	28%
Southcentral	630	20%
Southeast	450	15%
Northwest/Western	199	6%
Total	**3,090**	**100%**

Source: State of Alaska, Division of Corporations, Business and Professional Licensing, hunt record data.

Hunting Guide Licensure

Alaska's licensed professional guides include registered guide-outfitters and assistant guides.

- 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, have 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" must be 21 years of age or older and have significant field experience related to hunting in Alaska, have hunted in the state for at least five years, pass a written and oral exam, have been an active licensed assistant guide for at least three years, and have positive recommendations from previous clients.
- "Master guide" status can be obtained by a registered guide after 15 years of guiding and with significant favorable recommendations from previous clients.
- A "contracting guide" is a registered or master guide who contracts with a 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 work for other contracting guides.

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

Number of Guides by Type

As of July 2019, there were 420 active master guides (115) and active registered guides (305), of whom 250 contracted for one or more hunts in 2019. There were 640 licensed assistant guides including 85 with class A licenses.

Alaska Registered Guides and Assistant Guides, 2019

	# of Guides
Registered Guides	
Master Guides	115
Registered Guides	305
Total Master/Registered Guides	**420**
Assistant Guides	
Assistant Guides (non-Class A)	555
Class A Assistant Guides	85
Total Assistant Guides	**640**

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

Alaska Guides' Place of Residency

Among Alaska's 420 registered guides, 355 (85%) resided in Alaska in 2019. Of Alaska-resident guides, 70% live outside Alaska's major urban areas (Anchorage, Fairbanks, and Juneau). The largest concentration lives in Central/Southwest with 136 (38% of Alaska-resident guides), followed by 120 (34%) in Southcentral, 45 (13%) in the Interior/Northeast, 46 (13%) in Southeast, and 8 (2%) in Northwest/Western Alaska.

Alaska Hunting Guides, Place of Residence, 2019

Region (% of total)	# of Guides
Central/Southwest (38%)	**136**
Wasilla	49
Kodiak	19
Palmer	14
Talkeetna	11
Willow (7), Gakona (5), King Salmon (5), Chitina (4), Dillingham (3), Ekwok (3), Iliamna (3), Kokhanok (2), Port Alsworth (2), Skwentna (2), 1 each in Cantwell, Chickaloon, Copper Center, Koliganek, Nondalton, Pedro Bay, Trapper Creek	
Southcentral (34%)	**120**
Anchorage	56
Soldotna	16
Eagle River	13
Chugiak (7), Homer (4), Kenai (3), Sutton (3), Anchor Point (2), Cordova (2), Port Lions (2), Seward (2), Valdez (2), 1 each in Cooper Landing, Girdwood, Kasilof, Larsen Bay, Moose Pass, Nikolai, Ninilchik, Sterling	

(Table continued next page)

Interior/Northeast (13%)	**45**
Fairbanks/North Pole	27
Healy (4), Tok (4), Delta Junction, Sleetmute (2), 1 each in Bettles, Ester, Galena, McGrath, Nenana, Ruby	
Southeast (13%)	**46**
Sitka	11
Juneau/Douglas	10
Petersburg	6
Ketchikan	5
Haines (3), Hoonah (2), Klawock (2), Gustavus (2), Yakutat (2), 1 each in Elfin Cove, Tenakee Springs, Wrangell	
Northwest/Western (2%)	**8**
Nome (2), 1 each in Holy Cross, Huslia, Red Devil, St. Michael, Two Rivers, Unalakleet	

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

Industry Revenue, Expenses, and Employment

The following analysis is based on data from the registered guide survey, which represents one-third of contracting guides and 39% of guided hunters in 2019. Averages for revenue, expenses, and employment per hunter were applied to the total number of guided nonresident hunters in 2019 to estimate total nonresident revenue and expenses.

Summary of Guide Industry Related Revenues

The guided hunting industry generated revenues of $62.4 million in 2019. Revenues included spending by hunters and companions:

- 3,090 nonresident hunters spent an estimated average of $18,400 each on hunting packages generating $56.9 million.
- 505 companions spent an estimated average of $3,170 per hunt for a total of $1.6 million.
- Hunters and companions spent an estimated 2.5 nights in Alaska before and after their hunts. They spent, on average, $1,075 per trip for transportation, lodging, food and beverages, clothing, gifts, and other goods and services. Total pre-and-post hunting spending totaled $3.9 million.

Summary of Nonresident Guided Hunting Related Revenues, 2019

	Revenue
Guided hunting packages	$56.9 million
Companion fees	$1.6 million
Pre-and-post hunt spending	$3.9 million
Total Industry Related Revenue	**$62.4 million**

Registered guide survey and McDowell Group estimates. Figures have been rounded.
Source: Registered guide survey, AVSP 7, and McDowell Group estimates.

Summary of In-State Expenditures

Of the $62.4 million in industry revenues, a total of $57.4 million was spent in-state by guides, hunters, and companions. Guides' in-state expenditures for labor (payroll and business-owner net income) are estimated at $25.5 million. Guides also spent an estimated $28.0 million in-state for goods and services (79% of all spending for goods and services). As previously noted, hunters and companions spent $3.9 million in Alaska, pre-and-post hunt.

Alaska Guided Hunting Industry in-State Expenditures, 2019

	Expenditure
Guide spending	
Labor	$25.5 million
Goods and services	$28.0 million
Hunter/companion spending	
Goods and services	$3.9 million
Total in-state spending	**$57.4 million**

Source: Registered guide survey and McDowell Group estimates. Figures have been rounded.

Following is an overview of industry employment and guide expenditures for goods and services by type and region.

Guiding Operation Employment

Industry jobs include registered guides, assistant guides, packers, pilots, and camp/office support staff. Nine out of 10 contracting guides reported hiring at least one person in 2019. An estimated 1,380 people were directly employed in Alaska's guided hunting industry in 2019 including 400 active registered guides, 500 assistant guides, 200 packers and 280 support staff. Due to the nature of the hunting industry, most of these jobs are seasonal. Many guides hunt in the spring and/or fall; typically for four to six weeks in spring and six to eight weeks in fall. Hunts targeting sea ducks, and deer in more temperate areas of Alaska, and predator hunts may have extended seasons.

Alaska Guided Hunting Industry Employment, 2019

Position	Employment
Registered guides	400
Assistant guides	500
Packers	200
Support staff	280
Total Employment	**1,380**

Source: Hunt record data, State of Alaska, Division of Corporations, Business and Professional Licensing, registered guide survey, and McDowell Group estimates.

Employment by Position

The following analysis of guided hunting employment is based on DCCED professional licensing data, the registered guide survey, guide interviews, and McDowell Group estimates. 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 980 assistant guides, packers, and support staff are paid on a daily basis. Some administrative support staff are likely paid hourly, and a small number may be salaried.

Registered and Contracting Guides: Of 420 registered guides, an estimated 5 percent (20 guides) did not guide in 2019, leaving about 400 active guides that year. Of active guides, 250 or 63% were contracting guides. Contracting guides market their businesses, communicate with clients, and sign contracts with clients. When not in the field, they manage logistics, maintain equipment and facilities, and engage in marketing, sales (such as attending trade shows), and client relations. Guides were asked to estimate how many days they participated in activities related to guiding. On average, guides reported working 221 days or about 7 months in 2019. Thirty-eight percent reported working 10 months or more.

Assistant Guides: There were 640 licensed assistant guides in 2019. More than half (61%) were Alaska residents. Two-thirds of assistant guides living in Alaska reside outside the Anchorage, Fairbanks, and Juneau areas. The exact number of assistant guides who were employed in 2019 is unknown. The study team estimates that about 500 assistant guides were employed that year. On average, assistant guides worked slightly less than three months.

Packers: About half of contracting guides reported hiring packers. Total employment is estimated at about 200 packers in 2019. Interviews with guides indicate the 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 2019.

Support Staff: Half of contracting guides reported hiring support staff with employment estimated at about 280 support staff in 2019. A small number of support staff are employed year-round, but support staff work an average of 2.5 months per year. Most support staff are Alaska residents.

Guide Expenditures by Type and Region

Non-Payroll Expenditures in Support of Guiding Operations

The survey of registered guides indicated that total non-payroll spending by contracting guides in support of guiding operations totaled about $35.5 million in 2019. Approximately 79% ($28.0 million) of this spending was with Alaska vendors.

Guides spend money in-state on a wide variety of goods and services, including transportation aircraft, boats, ATVs, other vehicles, and fuel ($8.4 million), food and beverages ($4.6 million), outdoor equipment and gear $4.8 million), and $10.3 million on other goods and services such as access fees to land managers, insurance, and website development, and marketing, among other business-related expenses.

Guide Expenditures in Alaska by Type, 2019 (millions)

	Transportation	Food/Beverage	Equipment	All Other	Total
Expenditure	$8.4	$4.6	$4.8	$10.3	**$28.0**
% of Total	30%	16%	17%	37%	**100%**

Source: Registered guide survey and McDowell Group estimates. Note: Figures have been rounded.

Expenditures by Region

Where in Alaska spending occurs is largely determined by two factors: where a guide lives and where hunts occur. Often, hunt locations are far from a guide's place of residence, and in many cases, guides hunt in multiple locations. Most guides make significant expenditures in their home community or nearest hub if they live in a remote rural area, and in communities near their hunt locations, most of which are in remote locations. Estimated 2019 spending by region is based on regional spending by guides responding to the survey overlaid with an analysis of guide residence and number of hunts in each region.

Of total 2019 in-state spending of $28.0 million, expenditures were highest in Southcentral at $10.4 million, followed by Central/Southwest with $7.3 million. Guides spent about $4.8 million in Interior/Northwest, $4.2 million in Southeast, and $1.4 million in Northwest/Western Alaska.

Guide Expenditures by Region, 2019 (millions)

	Southcentral	Central/ Southwest	Interior/ Northeast	Southeast	Northwest/ Western	Total
Expenditure	$10.4	$7.3	$4.8	$4.2	$1.4	**$28.0**
% of Total	37%	26%	17%	15%	5%	**100%**

Source: Registered guide survey and McDowell Group estimates. Note: Figures have been rounded.

Spending Impacts Outside Alaska's Largest Communities

The guide industry has an important economic impact in areas outside the state's largest communities (Anchorage, Fairbanks, and Juneau). In many remote rural locations, opportunities to earn cash income are limited, and guide spending is an important component of these communities' economy. In 2019, the industry generated an estimated $16.7 million in labor income among industry participants and $14.8 million in guide spending on goods and services outside the largest communities. In total, an estimated $31.5 million (59%) of the $53.5 million in guide industry spending for labor and goods and services occurred outside Alaska's largest communities.

Estimated Guide Expenditures Outside Alaska's Largest Communities, 2019

	Expenditure (millions)
Labor income	$16.7
Purchase of goods and services	$14.8
Total	**$31.5**

Source: Registered guide survey, and McDowell Group estimates.
Figures have been rounded.

Economic Impacts of Guided Hunting in Alaska

The guided hunting industry brings new dollars to the Alaska economy. As these dollars circulate through the economy, additional employment and labor income are created. This chapter describes the economic impact of industry employment and labor income and in-state expenditures in support of guiding operations. Economic impacts of the industry also include pre-and-post hunt expenditures by hunters and companions for accommodations, food and beverage, transportation, and gifts. This study measures the industry's impact at three levels: direct, indirect, and induced. The indirect and induced effects of direct spending are often referred to as the "multiplier effect."

- **Direct impacts** include guide industry employment, labor income, and industry expenditures for goods and services.
- **Indirect impacts** are jobs and payroll supported by spending for goods and services by guides, guided hunters, and their companions.
- **Induced impacts** are generated as employees in the guide industry and employees of vendors providing goods and services spend their payroll dollars in local economies.

Impacts are presented in terms of employment, labor income (wages and owners' retained earnings), and economic output, a measure of total economic activity. Total impacts were calculated using IMPLAN, a widely used economic modeling application.[6]

Total Economic Impacts

The guided hunting industry supported about 1,890 jobs in Alaska in 2019, including 1,380 direct jobs and 510 indirect and induced jobs.[7] Direct labor income of $25.5 million combined with indirect and induced labor income of $15.3 million result in estimated statewide labor income of $40.8 million.

Direct in-state industry labor income and expenditures by guides for goods and services ($53.5 million) and hunter and companion pre-and-post hunt spending ($3.9 million) totaled $57.4 million in 2019. That spending generated an additional $34.4 million in indirect and induced economic activity. In total, the guided hunting industry generated an estimated $91.8 million in economic output statewide in 2019.

Total Guide Industry Employment and Economic Impacts, 2019

	Employment	Labor Income	Output
Direct Impacts	1,380	$25,500,000	$57,400,000
Indirect and Induced Impacts	510	$15,300,000	$34,400,000
Total Impacts	**1,890**	**$40,800,000**	**$91,800,000**

Source: Registered guide survey and McDowell Group estimates.

[6] Economic Impact Analysis for Planning (IMPLAN), Huntersville, NC. https://implan.com
[7] Due to the nature of the industry most direct jobs are seasonal.

License and Game Tag Sales and Revenue

The sale of Alaska licenses and game tags are an important source of revenue for the State of Alaska that supports a significant portion of Division of Wildlife activities. Following is an overview of 2019 license and tag sales and revenue.

License and Game Tag Sales and Revenue

A total of 102,464 licenses that allow big game hunting in Alaska were issued in 2019, including 88,571 resident and 13,893 nonresident licenses.[8] This includes all types of combination licenses that also allow sportfishing and/or trapping. Nonresident hunters accounted for 14% and guided nonresident hunters accounted for 3% of all licenses. Revenue generated by the hunting portion of license sales totaled nearly $5 million, including $2.9 million from residents and $2.1 million from nonresidents. Guided hunters generated $590,000 in license revenue, or 12% of all hunting license revenue.

A total of 17,533 game tags were sold in 2019, including 13,272 nonresident tags and 4,261 resident tags. Nonresident tags accounted for 76% of all tag sales, and guided nonresident hunters accounted for 25% of all tag sales. Revenue generated by tag sales totaled nearly $7.7 million, of which 98% was generated by nonresidents. Guided hunters purchased $3.2 million in game tags, generating 42% of all tag revenue.

In 2019, visiting hunters purchased 14% of all hunting licenses issued in Alaska and generated 76% of all license and tag revenue. Guided hunters purchased 3% of hunting licenses issued and generated 30% of all hunting license and game tag revenue.

Licenses Issued, Game Tag Sales and Revenue, by Residence, 2019

	Alaska Residents	All Nonresidents**	Total	All Nonresident % of Total	Guided Nonresidents	Guided Nonresident % of Total
Licenses*						
Hunting licenses	88,571	13,893	102,464	14%	3,090	3%
Hunting license revenue	$2,917,000	$2,140,000	$5,057,000	42%	$590,000	12%
Tags						
Tag purchased	4,261	13,272	17,533	76%	4,464	25%
Tag revenue	$135,500	$7,579,700	$7,715,000	98%	$3,232,000	42%
Total combined revenue	**$3,052,500**	**$9,719,700**	**$12,772,000**	**76%**	**$3,822,000**	**30%**

Source: ADF&G, State of Alaska, Division of Corporations, Business and Professional Licensing.
Includes all license types that allow the hunting of big game. **Includes all nonresident (guided and unguided) hunters.
Note: Revenue figures have been rounded.

[8] In 2019, Alaska issued 16,673 low-income hunt/fish licenses ($5 each). Additionally, 6,648 permanent ID cards, 1,850 military hunt/fish and 681 disabled veteran hunt/fish licenses were issued free of charge. The number of those holding these licenses that hunted is unknown.

Average License and Tag Revenue by Residence

On average, Alaska resident licenses that allow big game hunting generated $35 each, while nonresident licenses and tags generated $700 each in 2019. Guided nonresident hunters spent an average of $1,237 each on hunting license and game tags in 2019.[9]

Average License and Tag Revenue by Residence, 2019

	Alaska Residents	All Nonresidents	Guided Nonresidents
Hunting license sales	88,571	13,893	3,090
License/tag revenue	$3,053,000	$9,720,000	$3,822,000
Average Revenue	**$35**	**$700**	**$1,237**

Source: ADF&G. Note: Revenue figures have been rounded.

Guided Hunter Tags Purchased by Species

Guided hunters purchased 4,464 game tags, including 4,137 by nonresident hunters who are U.S. citizens and 327 by non-citizen (alien) hunters, generating $3.2 million in revenue. On average, 3,090 guided hunters purchased slightly less than 1.5 tags each.

Brown bear tags were the most frequently purchased, with 1,414 tags sold, accounting for 32% of all guided hunter tags and 44% of guided hunter tag revenue. Other popular species included moose (658 tags), black bear (572 tags), Dall sheep (484 tags), and caribou (484 tags).

Tags Purchased and Revenue by Guided Hunters with Residency Status, 2019

	All Guided Hunters	Guided Nonresident (Alien) Hunters			Guided Nonresident (U.S. Citizen) Hunters		
Species	Tags	Tags	Tag Fee	Tag Revenue	Tags	Tag Fee	Tag Revenue
Brown Bear	1,414	106	$1,300	$137,800	1,308	$1,000	$1,308,000
Moose	658	32	$1,000	$32,000	626	$800	$500,800
Black Bear	572	48	$600	$28,800	524	$450	$235,800
Dall Sheep	484	16	$1,100	$17,600	468	$850	$397,800
Caribou	396	21	$850	$17,850	375	$650	$243,750
Wolf	347	25	$100	$2,500	322	$60	$19,320
Deer	277	42	$400	$16,800	235	$300	$70,500
Mt. Goat	268	27	$800	$21,600	241	$600	$144,600
Wolverine	31	9	$500	$4,500	22	$350	$7,700
Musk Ox	8	0	$3,000	$0	8	$2,200	$17,600
Elk	6	1	$800	$800	5	$600	$3,000
Bison	3	0	$0	$0	3	$900	$2,700
Total Tags	**4,464**	**327**			**4,137**		
Total Revenue	**$3,232,000**			**$280,000**			**$2,952,000**

Source: ADF&G, State of Alaska, Division of Corporations, Business and Professional Licensing. Note: Total figures have been rounded.

[9] In 2019, Alaska issued 16,673 low-income hunt/fish licenses ($5 each). Additionally, 6,648 permanent ID cards, 1,850 military hunt/fish and 681 disabled veteran hunt/fish licenses were issued free of charge. The number of those holding these licenses that hunted is unknown.

Pittman-Robertson Act

Under the Pittman-Robertson Act of 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 used for the following:[10]

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% and handguns at 10%). 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. 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 no state receives an unreasonably large portion of annual funding.

States must provide 25% non-federal matching funds for qualified projects. Stated another way, states can generate up to $3 for every $1 in matching funds. Alaska uses Fish and Game funds generated from the sale of licenses and game tags to match Pittman-Robertson funds. The combined funds are used by ADF&G primarily for wildlife conservation projects that benefit license holders and those who view wildlife, and for hunter education programs.[11]

[10] In Alaska, approximately 95% of Pittman-Robertson funds are allocated to wildlife restoration projects.
[11] Detailed expenditures of Pittman-Robertson and Fish and Game funds can be found at: Funding for Wildlife Management: Wildlife Conservation Division, Alaska Department of Fish and Game

ADF&G Fish and Game Fund

A portion of resident and nonresident hunting license fees and all tag fees are deposited in the ADF&G Fish and Game Fund. The percentage of license fees that are deposited varies by type of license and ranges from 52% to 100%. Of the total $12.8 million accrued to the Fish and Game Fund in 2019, more than three-quarters (76%) was generated by visiting hunters (unguided and guided) with the remainder generated by resident hunters (24%). Guided hunters contributed an estimated $3.8 million or about 30% of 2019 total Fish and Game funds.

Visiting Hunter Fish and Game Fund Contributions, 2019

Revenue Source	Revenue	% of Total F&G Fund Contribution
Nonresidents	$9,719,000	76%
Alaska Residents	$3,053,000	24%
Total	**$12,772,000**	**100%**

Source: ADF&G.
Note: Revenue figures have been rounded.

ADF&G Division of Wildlife Expenditures

In 2019, ADF&G Division of Wildlife Conservation expenditures totaled $47.1 million. Revenue from the Fish and Game Fund contributed $12.8 million and Pittman-Robertson funds accounted for $20.7 million. In total, these two sources accounted for 71% of Division of Wildlife expenditures.

ADF&G Division of Wildlife Conservation, Expenditures by Funding Source, FY2014-FY2019 ($Million)

	FY14	FY15	FY16	FY17	FY18	FY19	FY19 % of Total
Pittman-Robertson	$16.7	$16.6	$17.0	$18.4	$18.9	$20.7	44%
Fish and Game Fund	$9.8	$8.8	$8.9	$10.0	$12.7	$12.8	27%
General Fund	$7.6	$7.3	$5.0	$4.5	$1.9	$2.0	4%
Federal	$6.4	$8.0	$9.2	$9.2	$9.8	$10.0	21%
Other	$1.1	$1.5	$.8	$1.1	$.8	$1.6	3%
Total	**$41.6**	**$42.2**	**$40.9**	**$43.2**	**$44.1**	**$47.1**	**100%**

Source: ADF&G. Note: figures have been rounded.

Meat Sharing by Guided Hunters

Hunting guides provide significant voluntary support to residents of Alaska such as monitoring remote cabins, moving people and materials, and sharing meat. Guides report that because of the expense and logistics of taking meat home from Alaska, most game meat harvested on guided hunts is donated. While some meat is shared with residents of Alaska's larger communities, a significant portion is donated to residents of communities close to the hunt. Guide comments regarding meat sharing:

> *Its customary in rural areas to help others when they are in need. Meat donations really help people.*
>
> *The logistics of meat sharing can be challenging. We only have a short time to get the meat from the field to those that need it. Sometimes we fly significant distances to drop off meat. We typically have one contact in the village, and they distribute to the people they know need it most.*
>
> *Wild meat is important for many Alaskans both urban and rural residents. It is especially important for elders in the areas we hunt, they love it. We always try to make sure that they have meat in their freezers.*
>
> *We share meat with people that live in villages and in cities. People that do not or cannot hunt are very thankful to get fresh game meat.*

Meat is also donated to traditional food programs that provide healthy traditional meals to patients.

Moose donation to Alaska Native Medical Center traditional foods program.

In 2015, the Alaska Department of Conservation (DEC) began allowing certified food service programs to serve traditional foods such as game meat, fish, greens, and other foods. Those donating and accepting meat must follow strict DEC guidelines to assure food quality and safety. Meat must be well cared for, whole and dressed, quartered, or cut into roasts. Meat harvested on guided hunts is donated to traditional food programs at the Alaska Native Medical Center and at the Southeast Alaska Regional Health Consortium (SEARHC) hospital in Sitka. Meat accepted by the facilities is primarily processed into burger and stew meat. Bones are used to make bone broth which provides significant nutrition. Chefs at these facilities are passionate about the benefits of including game meat in their meals. Program managers say:

> *Wild, clean, traditional foods promote health. Wild meat is nutritionally rich but also culturally rich.*
>
> *I have seen patients not feeling well and grimacing in pain take a bowl of bone broth and you can see them visibly relax. It makes them feel better.*

Our traditional foods program is important for patients' quality of life. It has been even more important with Covid-19 when patients have little or no access to loved ones. Eating a traditional food makes them feel better. Patients have said it tastes like home.

Estimated Volume of Shared Meat

Hunting guides estimate that nearly 80% of game meat harvested by guided hunters is shared with Alaska residents. The percentage shared varies by species; on average, 50% of sheep is shared, 80% of moose and caribou, and 85% of mountain goat and deer.[12]

Analysis of DCCED harvest data by species, ADF&G meat recovery ratios, and percentages of meat donated indicates an estimated 223,500 pounds of meat was shared with Alaskans in 2019. For example, DCCED hunt report data showed 415 moose were killed by guided hunters in 2019. ADF&G estimates the average recovery weight for moose meat is 500 pounds. This would generate about 207,500 pounds of meat. Guides reported sharing 80% of this meat, or about 166,000 pounds.

There was not enough data on donated bear meat to estimate the overall donation rate. Based on guide reports, the study team conservatively estimates that 10,000 pounds of bear meat was shared in 2019. Some guided hunters reported donating waterfowl, but total volume is unknown. Additionally, there may have been some sharing of muskox, elk, and upland birds.

Estimated Meat Sharing by Guided Hunters, 2019

Species	# Harvested	Net Weight	Total Weight	% Shared	Total # Shared
Moose	415	500	207,500	80%	166,000
Caribou	247	100	24,700	80%	19,800
Mt Goat	215	85	18,275	85%	15,500
Sheep	304	80	24,320	60%	14,600
Deer	179	50	8,950	85%	7,600
Total			**283,745**	**79%**	**223,500**

Source: Registered guide survey and interviews, DCCED, Division of Corporations, Business & Professional Licensing hunt record harvest report, McDowell Group estimates. Total #'s shared figures have been rounded.

Estimated Replacement Value of Shared Meat

Guides reported about 25% of their meat was shared with urban residents and 75% with rural residents in 2019. This resulted in about 56,000 pounds of meat shared with urban residents and 168,000 pounds shared with rural residents.

The value of replacing this meat with beef was estimated using several sources including USDA Market News, online searches for meat prices in Alaska, the Alaska Geographic Differential Study (GDS),[13] and a 2006 study of the value of moose in Alaska.[14] The result was an estimate of beef prices (assuming half burger and half steak)

[12] Meat sharing information was gathered in the registered guide survey.
[13] Alaska Geographic Differential Study 2008, McDowell Group for the State of Alaska.
[14] The Value of Alaska Moose, Northern Economics, 2006.

of $8 per pound in urban Alaska in 2019. Applying cost of living differences to meat, fish and poultry prices, meat prices are about 1.35 times higher in rural than in urban areas, resulting in a blended price of about $10.80 per pound for beef in rural areas.

The estimated replacement value of meat shared by guides and guided hunters was nearly $2.3 million in 2019. Replacement value was $447,000 in in urban communities, and $1.8 million in rural communities.

Meat Shared by Guided Hunters and Guides, 2019

	Pounds of Meat Shared	Est. Price per Pound	Replacement Value
Urban	55,875	$8.00	$447,000
Rural	167,625	$10.80	$1,810,00
Total	**223,500**		**$2,257,000**

Source: Hunting guide survey, ADF&G, USDA, McDowell Group estimates.
Note: Figures have been rounded.