

# THE ECONOMIC IMPORTANCE OF ALASKA'S WILDLIFE IN 2011

## SUMMARY REPORT





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The flash of sun on a bull moose's rack, the bugling of passing sandhill cranes, the rustle of black-tailed deer in a dripping forest, scars from a grizzly bear's claws raked deep into the bark of an aspen. Such are scenes of wildlife in Alaska, woven fast into the fabric of Alaskans' lives and the dreams of millions of visitors.

A tangible symbol of the state's natural wealth, wildlife inhabits our legends and myths, provides food for our table, recreation for our leisure, and teaches us about our world and its workings. Furthermore, wildlife helps fuel our economy.

This summary and the report on which it's based demonstrate what most people instinctively know: Alaska's wildlife is important to Alaskans and visitors alike. Surveys, including those conducted in the research reported here, consistently show that wildlife contributes significantly to residents' quality of life and is one of the main reasons people visit Alaska.

Because it is important to them, people spend money to hunt, view, and experience wildlife. This study measures resident and visitor spending on hunting and wildlife viewing trips; analyzes the impacts on economic output, jobs, labor income, and governmental revenue; and estimates the economic value of goods and services in the state.

Alaskans need solid information to make the best possible wildlife management decisions. We hope this report is an important contribution to that endeavor.



## PARTICIPATION IN HUNTING AND WILDLIFE VIEWING ACTIVITIES

Almost 1 million households—residents and visitors—took at least one trip in 2011 to hunt or view wildlife in Alaska. Of those, more than 110,000 households, 86 percent of them Alaska residents, went hunting. More than 868,000 households, 77 percent of them visitors, went wildlife viewing.

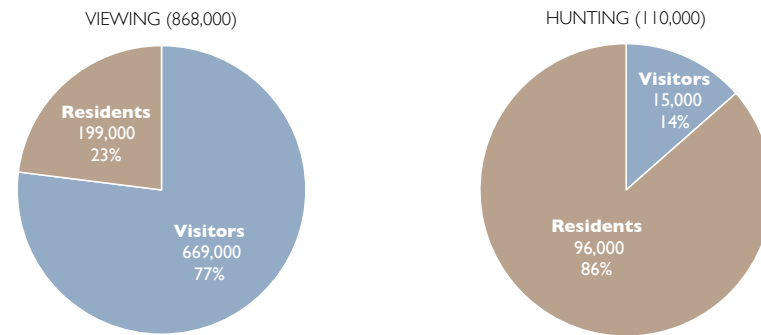
About 37 percent of all resident households took at least one hunting trip, and they averaged 11 trips during the year. About 2 percent of the visitor households hunted, with most taking only one trip.

About 77 percent of all resident households took at least one trip to view wildlife, and they averaged 30 trips during the year. About 86 percent of visitors participated in wildlife viewing and averaged 1.4 trips per household.

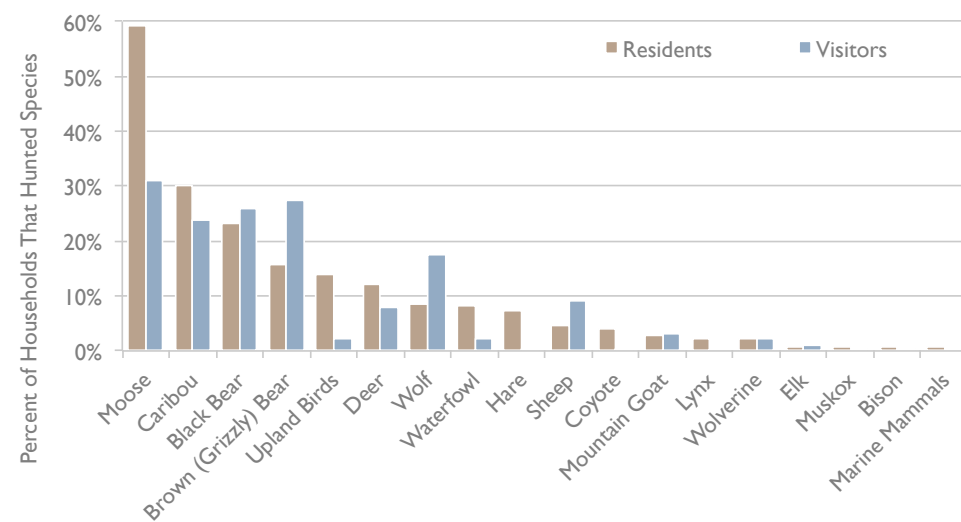
Hunters most commonly targeted moose, caribou, black bear, and brown bear. Wildlife viewers, especially visitors, also wanted to see those species. Seabirds, birds of prey, and marine mammals were also popular.

**DEFINITION OF A TRIP** - Each survey respondent was asked to provide information about a hunting or wildlife viewing trip, defined as an "outing that begins from home or from another place of lodging, such as a vacation home, hotel, or a relative's home. A trip may last an hour, a day, or multiple days." The analysis of economic activity supported by hunting and viewing-related spending excluded trips that respondents would have taken even if they had not planned to hunt or view wildlife.

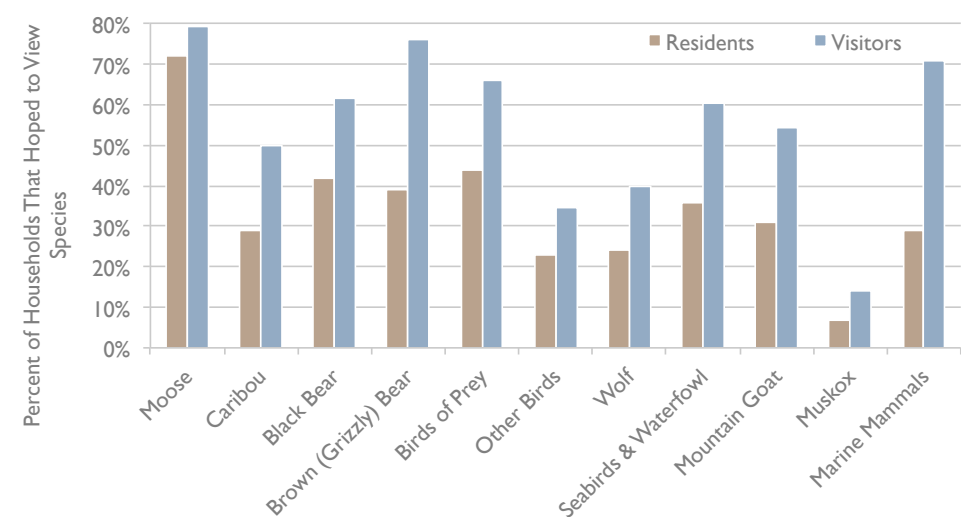
### Households that Participated in Hunting or Viewing Trips



### Species Sought by Hunters



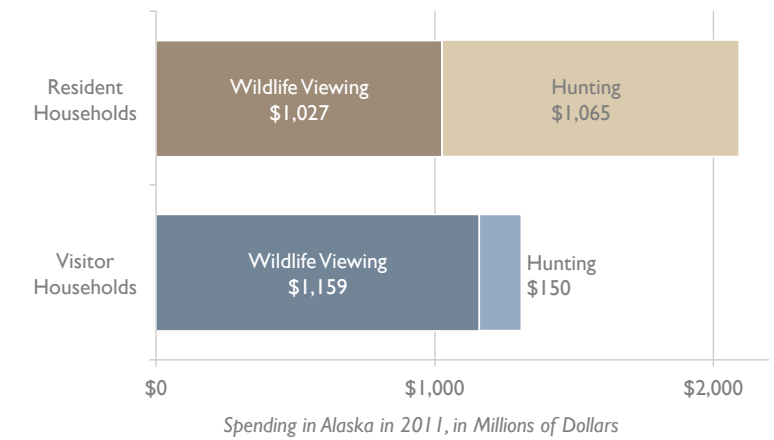
### Species Sought by Viewers



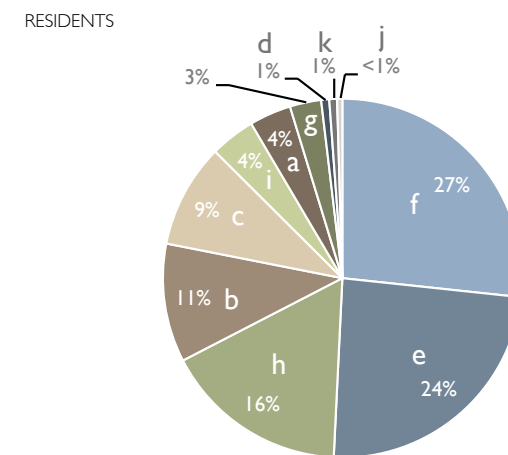
## SPENDING ON HUNTING AND WILDLIFE VIEWING

Residents and visitors spent \$3.4 billion in Alaska on hunting and viewing activities in 2011, supporting the economic activity described on pages 4 and 5. Resident households spent about \$2 billion of that, spread equally between hunting and viewing. Visitor households spent about \$150 million on hunting and \$1.2 billion on wildlife viewing.

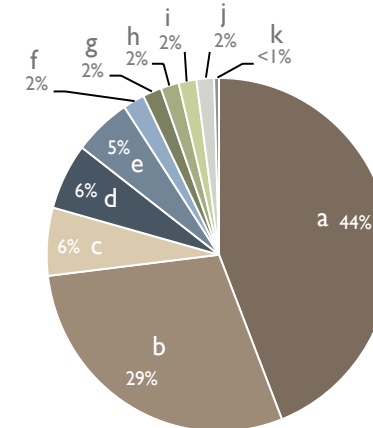
### Spending by Residents and Visitors



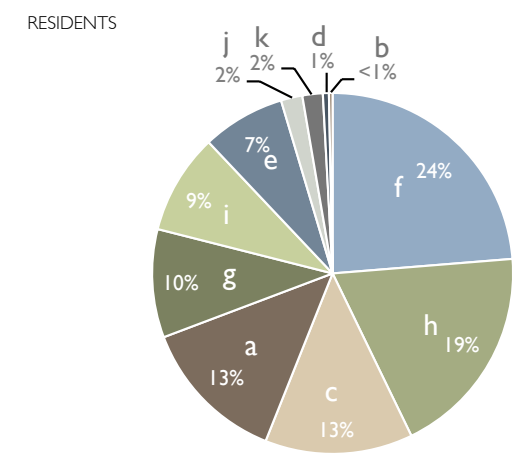
### Hunting-Related Spending, by Category



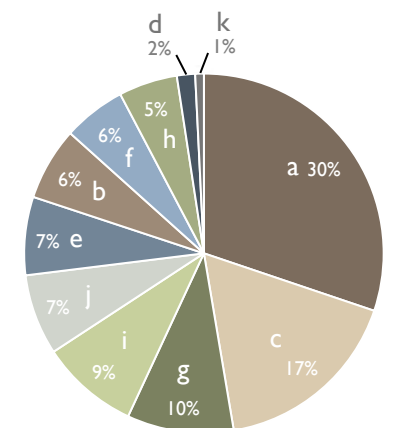
### Visitors



### Viewing-Related Spending, by Category



### Visitors



- a** Trip-Package Spending
- b** Guide, Outfitter, Charter, and Transporter Fees
- c** Transportation Fees or Tickets
- d** Licenses, Tags, and Fees
- e** Gear and Equipment Purchases
- f** Fuel for Vehicles
- g** Lodging
- h** Groceries, Food, Liquor Purchased at Stores
- i** Meals Purchased at Restaurants and Bars
- j** Souvenirs and Gifts
- k** Equipment Rental



Photo by Jim Dau

## ECONOMIC ACTIVITY SUPPORTED BY SPENDING ON HUNTING AND WILDLIFE VIEWING

Spending on wildlife, whether by individuals, businesses, organizations, or government agencies, supports in-state economic activity and can be measured four ways:

- 1. Economic output** – the total economic activity generated by spending on wildlife-related activities. This is equivalent to wildlife’s share of Alaska’s Gross Domestic Product (GDP).
- 2. Jobs** – the total number of full-time and part-time jobs supported by spending on wildlife-related activities.
- 3. Labor income (earnings)** – salaries, wages, employee benefits, and proprietors’ profits stimulated by spending on wildlife-related activities.
- 4. Governmental revenue** – the total personal and business tax revenues earned by local, state, and federal governments that are generated by spending on wildlife-related activities.

Spending on hunting and viewing in 2011 supported about 8 percent of Alaska’s total economic output, 6 percent of its total employment, and 5 percent of the earnings of all workers. It supported about \$343 million in revenue for local and state governments.

Economic activity associated with hunting and wildlife viewing occurred primarily in the service sector (guides, lodging, etc.), followed by the trade sector (shops selling groceries, binoculars, etc.) and transportation (gas stations, car dealers, etc.). Manufacturing, construction, and government also experienced hunting- and viewing-related economic activity.

Residents and visitors, like hunters and wildlife viewers, all have distinct spending patterns that affect the patterns of economic activity in Alaska differently. Residents, who took more hunting and wildlife viewing trips than visitors, spent less per trip than visitors and directed a greater proportion of that spending to goods, such as gear and equipment. Visitors, who took more viewing than hunting trips, tended to spend more on services provided by Alaskans. Consequently, visitor spending had a big impact on Alaska’s economy since a dollar spent in the labor-intensive service sector typically generates more in-state jobs and labor income than a dollar spent in the trade sector, which often involves the sale of goods produced outside the state.

## Economic Activity in Alaska Supported by Spending on Hunting and Wildlife Viewing

|                               | HUNTING | VIEWING | TOTAL   | PERCENT OF STATE TOTAL <sup>2</sup> |
|-------------------------------|---------|---------|---------|-------------------------------------|
| Output (millions)             | \$1,326 | \$2,750 | \$4,077 | 8                                   |
| Jobs                          | 8,400   | 18,820  | 27,220  | 6                                   |
| Labor Income (millions)       | \$457   | \$976   | \$1,434 | 5                                   |
| Government Revenue (millions) | \$112   | \$231   | \$343   | --                                  |

<sup>1</sup> Dollars are rounded to the nearest million, and jobs are rounded to the nearest ten.

<sup>2</sup> Totals for Alaska’s Gross Domestic Product, employment and earnings of Alaska’s labor force from [www.bea.gov](http://www.bea.gov).

The amounts in these tables come from taking the spending reported by survey respondents, extrapolating to estimate total spending by hunters and viewers, then inserting those total estimates into a model that traces how money circulates through the state’s economy.

## Average Spending per Trip and per Household

|  | RESIDENTS |                  | VISITORS |         |
|--|-----------|------------------|----------|---------|
|  | HUNTING   | VIEWING          | HUNTING  | VIEWING |
| Trip-Package Expenditures (per trip)                       | \$52      | \$137            | \$5,441  | \$1,014 |
| Guide, Outfitter, Charter, and Transporter Fees (per trip) | \$108     | N/A <sup>1</sup> | \$2,843  | N/A     |
| Other Trip Expenditures (per trip)                         | \$840     | \$819            | \$1,911  | \$2,053 |
| Licenses and Fees (per household)                          | \$81      | \$28             | \$594    | \$28    |
| Gear and Equipment (per household)                         | \$2,686   | \$383            | \$527    | \$122   |

<sup>1</sup> N/A means spending is included in other categories.

### HOW SPENDING ON HUNTING AND WILDLIFE VIEWING

#### GENERATES ECONOMIC ACTIVITY AND JOBS

Spending on hunting and viewing totaled \$3.4 billion in 2011 but generated \$4.1 billion in economic activity in the state, over 27,000 jobs, and \$1.4 billion in labor income. How does that work?

Two moose hunters leave their homes in Fairbanks and head to the local sporting goods store where they buy hunting licenses, ammunition, new hunting boot insoles, a spotting scope, and some game bags. They grab sandwiches and sodas at the local grocery store and fill their trucks and 4-wheeler tanks with gas. Early the next morning, they put their 4-wheelers in their truck beds and drive to their secret spot to begin their search for moose.

A couple visiting from Ohio decide to go brown bear viewing on a remote river near Juneau. After securing seats on a float plane, they buy a pack lunch from the hotel and new rain hats and a waterproof camera bag from a local sporting goods store. After a great day viewing bears, they leave a generous tip with their pilot guide.

The money the hunters and wildlife viewers spend goes to work almost immediately. It goes to pay the wages of the sporting goods store sales clerk, for example, who in turn spends some of those wages at a local restaurant and some more to pay his utility bill. The pilot pays her rent and buys a new parka for the upcoming ski season.

Spending by the clerk and the pilot helps support still other jobs as the money our hunters and wildlife viewers spent ripples outward in many directions through the local economy, even to sectors not directly related to hunting or viewing. The cycle continues until all the initial hunting and viewing spending eventually leaks out of the economy.





Photo by Kim Titus

## TOTAL ECONOMIC VALUE OF WILDLIFE-RELATED TRIPS

One measure of the economic value of wildlife is the amount of money, or the market price, a person pays for a hunting or viewing trip. While we know that a person who buys the trip is willing to pay at least the market price, his or her willingness to pay could be greater. That amount added to the market price constitutes the total value of the trip for that person.

For some survey respondents, the amount spent on a hunting or wildlife viewing trip in 2011 adequately measured the trip's full value. Many people, however, were actually willing to pay more than the market price. In fact, most respondents said the trip's value exceeded what they spent on it. The additional amount a person would have been willing to pay, above what he or she actually paid, represents a net benefit to the person.

The charts on the right illustrate that resident households receive a fairly large net benefit when hunting or viewing in Alaska. That is, residents report being willing to pay, on average, 34 percent more than they actually paid for a hunting trip and 25 percent more for a viewing trip; so that the net benefit was 26 percent and 20 percent of the total value for hunting and viewing trips respectively.

Visitors, who already paid quite a bit more than residents to hunt or view in the state (including the cost of traveling from out-of-state), report being willing to pay 7 percent more than they actually spent for a hunting trip and 14 percent more for a viewing trip.

### CONTINGENT VALUATION

This study used a method called contingent valuation to estimate the amounts households would have been willing to pay for wildlife-related goods and services, beyond what they actually paid. This method has been employed for decades and natural resource economists generally agree that contingent valuation can yield a reliable estimate of what the public is willing to pay for wildlife-related goods and services. This study employed techniques that comply with widely accepted recommendations and guidelines for this type of research.

Respondents were asked if they still would have made the hunting or viewing trip if the cost of the trip had been higher. The extent to which respondents were willing to pay more than they actually paid for the trip reflects the net economic benefit of the trip. Adding this additional amount to the actual spending for the trip reflects the trip's total value to the person.

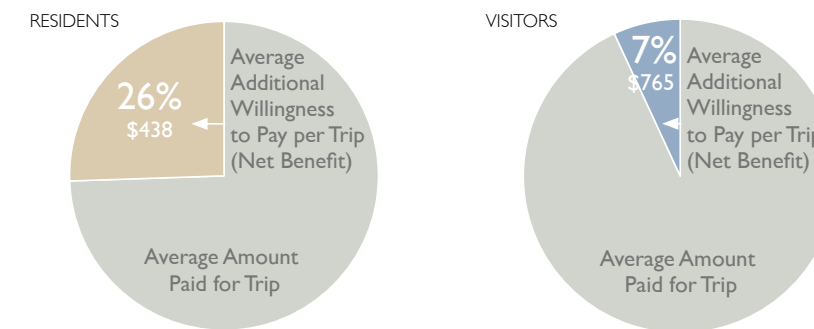


## NET ECONOMIC BENEFIT OF HUNTING AND VIEWING TRIPS

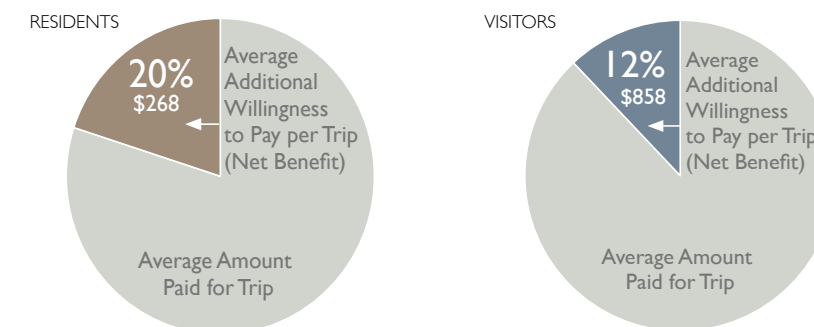
Visitor households, on average, realized a per-trip net economic benefit of \$765 for hunting trips and \$858 for viewing trips. Resident households, on average, enjoyed somewhat smaller per-trip net economic benefits: \$438 for hunting trips and \$268 for viewing trips. These values, multiplied by the number of trips taken in 2011, yield the total net economic benefit, shown in the table below. Accounting for the number of hunting and viewing trips taken per household in 2011 yields the average net benefit households received from hunting and wildlife viewing trips in 2011, also shown in the table below.



### Net Benefit of Hunting Trips



### Net Benefit of Viewing Trips



### Net Economic Benefit of Hunting and Viewing Trips

|                                   | RESIDENTS |         | VISITORS |         |
|-----------------------------------|-----------|---------|----------|---------|
|                                   | HUNTING   | VIEWING | HUNTING  | VIEWING |
| Total Net Benefit (Millions)      | \$461     | \$1,605 | \$12     | \$833   |
| Average Net Benefit per Household | \$4,828   | \$8,050 | \$765    | \$1,244 |
| Average Net Benefit per Trip      | \$438     | \$268   | \$765    | \$858   |



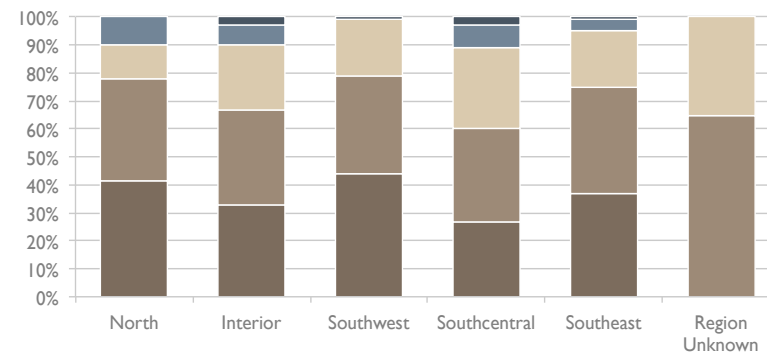
## WILDLIFE'S CONTRIBUTIONS TO ALASKANS' QUALITY OF LIFE AND DECISION TO LIVE IN ALASKA

Wildlife makes an essential contribution to the quality of life for most Alaskans:

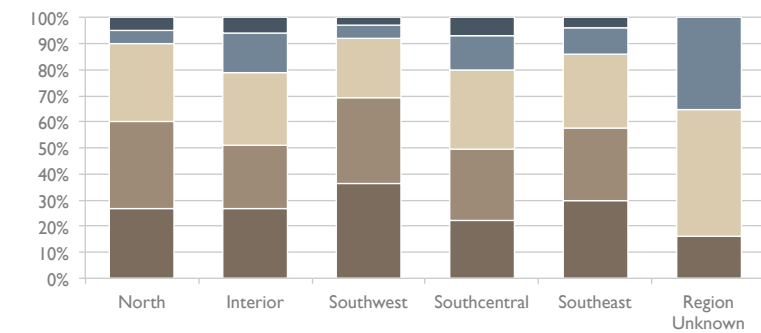
- For 65 percent of Alaskans, wildlife's contribution to their quality of life is either "extremely important" or "very important."
- Nearly 98 percent of Alaskans who participated in wildlife viewing activities in 2011 enjoyed seeing wildlife near their homes and in their daily lives.

Some of this contribution comes from the net economic benefit Alaskans enjoy from hunting and viewing activities, and from the jobs, income, and other aspects of economic activity supported by expenditures associated with these activities. Other parts of the contribution occur outside the monetary sector of the economy. These include the cultural or non-material goods and services Alaskans obtain from wildlife and their habitats through spiritual enrichment, cognitive development, knowledge systems, social relations, and perceptions of aesthetic pleasure.

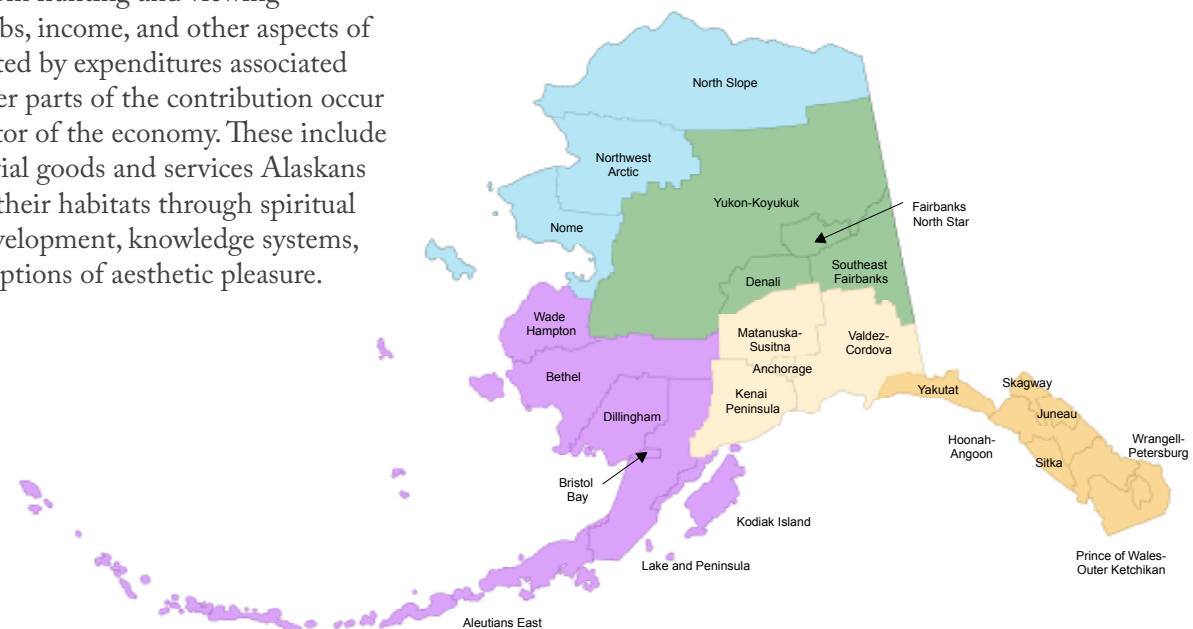
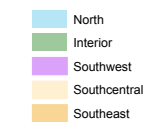
Importance of Wildlife to Alaskans' Quality of Life



Importance of Wildlife to Alaskans' Reasons for Living in Alaska



Alaska Regions



This document summarizes a 50-page report and its several technical appendices. The full report and appendices include complete results of *The Economic Importance of Alaska's Wildlife in 2011* along with detailed descriptions of the study's methods and data sources.

The core data for the report's economic analyses come from surveys conducted in 2012 that gathered information from about 7,000 residents and 2,000 visitors through six interlocking surveys conducted by phone, over the Internet, and by mail. Additional information comes from key informants with knowledge about the wildlife/economy relationship and a review of related literature.

Researchers used state-of-the-art methods to gather, process, and analyze the data. As with any research of this type, some uncertainty remains embedded in the findings. This uncertainty is smallest for aggregate, statewide findings and largest for detailed findings, such as those related to individual regions of the state or specific types of expenditures.

Respondents to the surveys were sufficiently representative of the overall population of residents and visitors to yield a 90 percent or higher confidence that the results from the surveys accurately represent what the study would have found if it had gathered data from all residents and visitor households.

To download a PDF copy of the full report and its appendices, visit ADF&G's webpage at [www.adfg.alaska.gov](http://www.adfg.alaska.gov).

## A MESSAGE FROM THE DIRECTOR

We have long known that wildlife is important to Alaskans and to people who visit our state. But quantifying wildlife's economic importance in our vast state—including direct and indirect spending, jobs, and associated economic activity—is not a trivial task. We contracted with ECONorthwest to provide these data and are pleased to see the summary findings presented in this publication.

The Division of Wildlife Conservation is proud to do its part in ensuring that wildlife populations remain healthy and strong for present and future generations. We are proud that our work helps sustain the wildlife populations on which hunters and viewers depend. In 2011, they spent over \$3.4 billion in Alaska to hunt and view wildlife here plus additional dollars out-of-state on gear and other goods supporting those activities. Visitors reported that wildlife is indeed one of the main reasons they visited Alaska, and residents articulated how wildlife contributes to their quality of life and reasons for living here.

By improving the quality of life, wildlife also attracts talented workers. The increase in workforce and in households' spending attracts businesses to the state and creates jobs and income for other workers. Through its contribution to Alaskans' quality of life, wildlife shapes the industrial composition of Alaska's economy and the geographical pattern of development.

We hope you find this report a useful addition to understanding the many ways wildlife contributes to the economy and enriches our lives. On behalf of the department, I want to express my deep appreciation to everyone who completed the survey and took the time to tell us about their hunting and viewing experiences in Alaska.

Doug Vincent-Lang, Director, Division of Wildlife Conservation

## ACKNOWLEDGMENTS

The research team gratefully thanks each of the many Alaskans and others who patiently provided information to assist this research. We particularly appreciate the patience, knowledge, and insights provided by staff of the Alaska Department of Fish and Game, Division of Wildlife Conservation, especially Maria Gladziszewski, Assistant Director, Division of Wildlife Conservation, who served as Project Manager. Other staff who contributed to the project include Scott Brainerd, Mark Burch, Bruce Dale, Kristen Romanoff, and Anne Sutton.

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