



Dall Sheep

What are they worth?

by Sarah Watson

Dall sheep habitat is viewed by some as mountainous and inaccessible and its climate unforgiving. Some investment-minded people, however, have seen the alpine tundra as a place of economic possibilities. Domestic livestock grazing, homesite subdivisions, ski facilities, and mining are some examples of proposed development projects. Dall sheep already living where future developments occur will have to habituate to their new neighbors or, at the extreme, die off and disappear as did many bighorn sheep populations in the western U.S. There, mining and settlement, in addition to decreasing the amount of habitat available for bighorns, attracted more settlers who brought domestic livestock. These animals competed for range and transmitted new and deadly diseases to bighorns. The incremental losses of bighorn sheep and habitat added up over time. Present bighorn sheep abundance, even after decades of restoration attempts, does not approach the historic levels.

However, in retrospect, tradeoffs are always made in economic decisions. Economic decisions involve the weighing of all

costs and benefits in search of the most benefits for the least cost. Does this mean Alaskans have to trade wildlife for economic development and a sound state economy?

On the contrary, Dall sheep as well as other wildlife resources have economic importance, too. Their value is in part reflected in people's actions—how they choose to spend their time and money. For example, some people travel long distances just to see these all-white mountain-dwelling animals which grow massive curling horns. To some, it is important to go sheep hunting every year. Photographers often win photo contests with pictures of Dall sheep, their photos gracing magazine covers, newspapers, and travel posters. For some, just knowing sheep are there, perhaps even in distant mountains, is of value.

Measuring these values in economic terms and comparing them to the benefits of a traditional industry is challenging. However, for those to whom wildlife is important, it can no longer be enough to say wildlife is "priceless" or has an indefinable value. Many land use decisions are being made using economic values and "priceless" cannot be used in economic analysis. With such a designation, wildlife such as Dall sheep may not be considered among the economically important choices for Alaska's future.

In 1983, biologists in the Fairbanks office of ADF&G decided to take on the challenge of estimating the value of Dall sheep by quantifying the importance of hunting to Alaska's economy and to hunters. With the help of the Foundation for North American Wild Sheep, especially its Alaska chapter, and the University of Alaska, we sent a questionnaire to all who hunted Dall sheep in Alaska in 1983. Over 2500 questionnaires were mailed to resident sheep hunters in all corners of Alaska and to nonresident hunters around the U.S. and the world. We received replies from 86 percent of the hunters, including 90 percent of the nonresidents.

Hunters answered questions about the cost and the benefits of their sheep hunt. The costs included money spent for equipment, time off from work without pay, guide services, transportation, taxidermy, and other expenditures. Payment for these goods and services went to businesses both inside and out of Alaska and had positive impact on the economy. However, costs do not measure the value of the hunting experience to the hunter. The benefits to the consumer—the hunter—must also be considered in order to make sound economic evaluations.

Economists measure benefits to the consumer by the difference between the amount the consumer is willing to pay and the price actually paid. We asked hunters how much more they would have been willing to spend on their sheep hunt before deciding that it was too expensive to go Dall sheep hunting in Alaska that year.

Each individual decides what a hunt is worth and what he or she would be willing to give up in order to hunt. [See sidebar.] For some, sheep hunting is very important; they would be willing to forego most other activities in order to hunt. To others, sheep hunting just is not all that important and the money could be better spent doing something else, maybe moose hunting or maybe on that new set of tires. Everyone performs his or her own cost-benefit analysis individually. If we can spend less than the maximum we are willing to pay for the same experience,

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we get a good deal! We all like good deals enough to choose them. This is why the amount spent on a hunt may not be a measure of the hunt's value.

From the survey, we found that Alaska's Dall sheep hunters spent an estimated \$6.2 million dollars in 1983. The average resident hunter spent over \$1,500 on a hunt. Nonresident hunters spent on the average almost \$8,000. Nonresidents had higher transportation costs and, by law, must hire a guide unless hunting with a resident relative within the second degree of kindred. Nonresidents additionally spent an estimated \$760,000 on hunting other species, visiting relatives, and buying items not related to their hunt. Nonresident sheep hunters accounted for only 17 percent of the hunters. Almost \$6 million from sheep hunting went directly into Alaska's economy for a harvest of about 1000 rams.

A few hunters thought that sheep hunting was an over-rated activity that costs far too much in energy and money for too little gain. However, most hunters not only "got what they paid for," but also got more out of the experience than what it cost. The net benefit of sheep hunting (not including other hunts or tourism) to hunters in economic terms came to \$5.5 million for their 1983 hunt.

The estimated costs and benefits attributable to sheep hunting in 1983 are minimum values. We did not measure the economic value of sheep hunting opportunities for those who chose not to hunt in 1983, and, judging from hunting statistics from ADF&G, the number of people hunting Dall sheep is increasing annually. We must eventually determine the value of Dall sheep to those who just want to see, photograph, or know wild sheep will be around for their great grandchildren to enjoy. Although it may be difficult to determine the value of an experience not normally bought and sold, it is important to express the benefits as well as the costs in any economic evaluation. As more and more land use decisions are being made based on economics, it is important to fully evaluate the tradeoffs.

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Is Hunting Worth It?

"Is hunting worth it? Can I afford to go hunting?"

Every year many Alaskans silently wrestle with these questions in their minds and, judging from the popularity of hunting in Alaska, the answer for many is yes!

Why do people choose to spend their time and money hunting? Many people have to evaluate how much time they can take off from work, how much money the hunt will cost after buying camp food, gas, ammunition, and maybe that new rifle. Can an air charter be afforded or will it have to be a hunt along the road system with the crowds again?

The benefits are also considered. The meat is good. Many people enjoy getting away from town to where it is quiet and where they can get some exercise, inhale that fresh mountain air, and spend time with their favorite hunting partners.

Maybe this is the year that trophy animal will be found. For some, it is a very personal time, a spiritual renewal of ties to nature.

We make decisions daily by weighing the costs and benefits of alternate choices, trying to decide which will give us the most benefits for the least cost. Our values, which stem from our social, historic, religious, and educational backgrounds, determine what is a benefit or cost to us. Still, individuals with similar backgrounds may have different values because values are very personal and reflect the basic preferences of individuals. Values are expressed in economic decisions every time we choose to buy or not to buy some item.

So, to answer the question why some people choose to go hunting, it is because the benefits outweigh the costs.

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