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Balancing the economic wins, losses from the reintroduction of wolves

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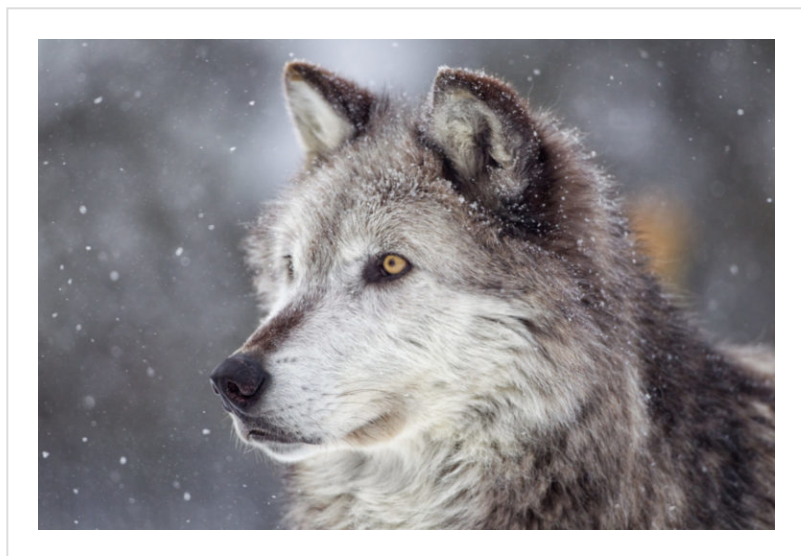


In 2020, Colorado voters narrowly approved the reintroduction of gray wolves, which will happen later this year. New research from Colorado State University's [Regional Economic Development Institute](#) estimates that the benefits to those who voted "yes" will be about \$115 million per year, more than 50 times the estimated government spending for ranchers experiencing losses due to predation.

Almost 90% of those benefits fall in the Front Range, where very few people will ever encounter a wolf, explained Dana Hoag, lead author of the study and agriculture and resource economics professor. On the other side, about 5.4% of those same benefits fall on the Western Slope, where almost all of the costs will occur.

[The study](#) also found that wolf conservation can easily pay its own way, even if only a small portion of benefactors are willing to help.

A 'warm glow' benefit



"Most Coloradans will probably never see a wolf in the wild," Hoag said. "Even fewer will have an encounter with one. This means that the average Coloradan will experience the benefits of reintroduction mostly by knowing that wolves will once again occupy the state."

This [existence value](#) is what economists call a "warm glow" benefit, he said. So, how do you put a

price tag on a feeling?

Calculating the value of wolf reintroduction

In the study, researchers measured the economic value that people who voted "yes" would receive when wolves are reintroduced. Using a survey of more than 400 adults, along with standard economic techniques, they measured each voter's willingness to pay (WTP) for reintroduction.

“An example of WTP would be, suppose you wanted to go to an amusement park, but the price of admission was \$100, which was too high for your budget,” Hoag said. “You then see a coupon for 50% off admission and decide to go. This implies that your WTP was at least \$50. In other words, you were not willing to pay \$100, but you were willing to pay \$50, which means you expected to receive at least \$50 worth of benefits from attending the amusement park.”

However, because wolf reintroduction will be supported by tax dollars, no one will be required to pay directly for it.

So now it's like going to the amusement park expecting to pay \$50, but showing up at the entrance to find admission is free that day, Hoag said. Now entering the amusement park gives \$50 worth of benefits, and you get to go home and spend that \$50 on something else. In the context of wolf reintroduction, WTP describes how much value or benefit reintroduction adds to the economy when the government (taxpayers) provides the wolves.

The most frequently mentioned reasons that survey respondents said they voted for reintroduction included:

1. To restore a balanced ecosystem/environment.
2. To keep wolves from going extinct.
3. That protecting and returning wolves is the right thing to do.

Among respondents who voted against wolf reintroduction, the most often mentioned reasons included:

1. Negative impacts on livestock and agriculture.
2. It is a waste of money.

On average, people that voted for the original amendment had a WTP of approximately \$27 per person for a population of 200 wolves (represented as the biologically sustainable population in the study). They were willing to add or contribute another \$72 if compensation to producers for livestock losses is included.

While the “no” voters put a negative value on wolves overall, they said they would be willing to pay \$196.84 for wolf hunting, if ever allowed. Currently, gray wolves are a federally protected endangered species and may not be killed for any reason other than self-defense.

When all these values are combined and applied to the number of “yes” votes in every Colorado county, researchers found that they would be willing to pay \$31 million per year to reintroduce a population of 200 wolves. That value increases by another \$84 million to include compensation for livestock losses, as proposed by the state’s initial plan. Therefore, the total annual value of a program to reintroduce and manage wolves is estimated at \$99.7 per “yes” voting household or \$115,488,154 across all “yes” voting households.

The cost of reintroduction

Other Western states typically spend between \$1-2 million annually for compensation, cost-sharing and management. Colorado has appropriated \$1.1 million for FY 21-22, but more can be spent through new funding and other funding mechanisms, including federal programs that help provide funds. An assumed \$2 million in government spending would amount to \$57.5 of benefit for each \$1 of government spending.

Estimating the true cost of wolf reintroduction is complicated, Hoag said. It can include everything from the cost of prevention, mitigation and handling of injured or killed livestock to lost revenue due to an injured or killed animal.

Plus, there are indirect losses such as reduced pregnancies or weight loss in surviving animals that were harassed by wolves, as well as fewer job opportunities for hunting guides, or recreational experiences because campers packed up their campsite due to concerns over wolf encounters.

“Wolves have killed dogs, people’s pets,” Hoag said. “How do you put a price on a pet? Those kinds of things are much harder to calculate.”

Meanwhile, government spending represents only a portion of actual losses because not all conflicts are avoided through management techniques or compensated when animals are lost.

The state — along with private groups — provides services to redistribute some of the benefits to those incurring costs, including reimbursements for losses and aid in the adoption of management practices that can help reduce conflicts with predators such as range riders, guard dogs and special fencing that can help keep wolves at bay for short periods during critical times such as calving.

The private group Defenders of Wildlife first provided funding to compensate producers for predation losses in the famous wolf reintroduction in Yellowstone and Idaho in the mid-1990s. However, most funding for compensation and cost sharing now comes from the government.

Finding middle ground

Hoag points out that the study takes no position regarding the reintroduction of wolves in Colorado. Rather it focuses strictly on providing a cost/benefit analysis.

“The hope is that this will reduce conflicts between groups for and against wolves through a better understanding of what each group perceives it is gaining or losing,” Hoag said.

It also creates an opportunity for willing benefactors to help ranchers who incur costs, he said, adding that in this case, conservation can easily pay its own way, even if only a small portion of benefactors are willing to help.

“If even only 2% of that benefit went towards covering the cost of wolf reintroduction, it would double the budget to pay for compensation and other costs,” Hoag said. “I think there can be winners on both sides here.”

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