

OFRA Estimate E2025-004

Table: Estimated Private Economic Losses to Northern Cattle Ranches from Gray Wolf Presence ¹		
Estimate Window: 2025-2034		
Cost	Scenario 1 (50-Cow Herd Size)	Scenario 2 (400-Cow Herd Size) ²
Private ranch costs ³	\$282,000	\$2,259,000
Government compensation benefits ⁴	-\$3,000	-\$75,000
Opportunity cost of lower net revenues ⁵	\$10,000	\$157,000
Reduced property value ⁶	\$16,000	\$130,000
Total	\$305,000	\$2,471,000

Source: Jeffrey Gillespie, “2022 Census of Agriculture: Majority of farms with beef cows have fewer than 50 cows,” USDA Charts of Note (July 23, 2024), https://www.ers.usda.gov/data-products/charts-of-note/chart-detail?chartId=109597&utm_source=chatgpt.com. John Williams, “Estimates of Economic Losses to Stock Growers due to the Presence of Wolves in North Eastern Oregon,” (September 2015), <https://www.congress.gov/118/meeting/house/117201/witnesses/HHRG-118-II13-Wstate-WilliamsJ-20240503-SD001.pdf>. Dana Hoag, “Economic Impacts Related to Wolves,” (October 2023), [https://extension.colostate.edu/wp-content/uploads/2023/10/Extension-Education-Hoag-Economic-value-of-wolves.pdf#:~:text=Compensation%3AA%20payment%20that%20a%20producer,and%20Wyoming%2C%20which%20already%20have](https://extension.colostate.edu/wp-content/uploads/2023/10/Extension-Education-Hoag-Economic-value-of-wolves.pdf#:~:text=Compensation%3AA%20payment%20that%20a%20producer,and%20Wyoming%2C%20which%20already%20have.). John K. Oakleaf, Curt Mack and Dennis L. Murray, “Effects of Wolves on Livestock Calf Survival and Movements in Central Idaho,” *The Journal of Wildlife Management* Vol. 67, No. 2 (Apr., 2003), pp.

299-306, <https://doi.org/10.2307/3802771>. Dari Duval, George Frisvold and Claudia Montaña, “Effects of Depredation & Mexican Gray Wolf Presence on Ranch Returns: Case Study of a Representative Ranch in Arizona,” (March 2025), <https://extension.arizona.edu/publication/effects-depredation-mexican-gray-wolf-presence-ranch-returns-case-study-representative>. USDA, “2024 Agricultural Land Values and Cash Rents,” (October 2024), <https://www.nass.usda.gov/Publications/Highlights/2024/2024LandValuesCashRents.pdf>.

1. Reported in nominal dollars over ten years. All historical costs are adjusted to 2025 dollars using the Consumer Price Index for All Urban Consumers (CPI-U), with a 2% annual inflation rate assumed thereafter.
2. Average herd size in the U.S. in 2022 was 47 cows. See Gillespie (2024). 400-cow scenario is base case found in Williams (2015). Note many U.S. ranches have fewer or greater than these herd sizes.
3. Includes death loss, preventive labor costs, and indirect production losses such as due to reduced weight, lower fertility, and poorer body condition in surviving cattle.
4. Assumes 15 cattle lost annually on a 400-cow ranch based on Williams (2015), and 2 on a 50-cow ranch. The 50-cow scenario uses a lower-bound 2025 market value of \$1,161 per head (based on Hoag 2023). The 400-cow scenario assumes an upper-bound \$1,823 (based on Williams 2015) with a 2× benefit multiplier. (Some states pay a multiplier benefit for cattle losses. For example, Washington State uses a multiplier of 2 and Wyoming uses a multiplier of 7. See Hoag (2023).) It is assumed that only 1 in 8 cattle killed by wolves is confirmed (Oakleaf 2003), justifying compensation. From the rancher’s perspective, compensation offsets a portion of losses, which is why they are counted as a benefit here. From society’s perspective, these payments would represent an additional cost of wolf presence.
5. Costs accrued through of the end of 2034. The 400-cow scenario assumes an opportunity cost annual rate of 7%, reflecting typical market returns. The 50-cow scenario assumes 3.9% return for ranches based on Duval et al. (2025). Both scenarios assume 80% of annual savings would be reinvested on average across the capitalists, workers and consumers that bear the incidence of the cost.
6. Duval et al. (2025) estimate a \$191,000 ranch property value loss under a scenario of 2% calf depredation and 3.5% weight loss. However, the Williams (2015) study suggests higher average losses nearly double these baseline assumptions. To align the figures more closely with the Williams data and the regional context, the Arizona-based loss estimate is adjusted downward to reflect that average farm real estate values in Arizona are higher than those in northern states (see USDA 2024), where the Williams estimates originate. Separately, the \$191,000 baseline figure is adjusted for herd size (scaling from 448 to 400 head), updated it to nominal terms using a 2% inflation rate, annualized using a 3.9% discount rate, and then summed over a 10-year period to reflect the decade-long impact.