

WSU, UW research clashes

University rivalries are generally manifested in athletics, but can also come up in academic research.

A team at the University of Washington studied the effects of controlling wolf populations on livestock populations, with results directly conflicting a WSU study conducted in 2014.

According to the original study published by the science journal PLOS ONE, WSU researcher Robert Wielgus and data analyst Kaylie Peebles found that lethal wolf control had a negative effect on livestock populations.

“I used the numbers of wolves, the numbers of breeding pairs, and numbers of livestock at risk at any given time and then put those into a model,” Wielgus said. “They were all significant and I found that the more wolves you kill the more livestock depredation you get, unless you kill 25 percent of the wolves, then that causes a wolf population decline.”

He explained the dominant male and female in the pack were the focal point of the hierarchy structure. When they were healthy and strong, they suppressed the other wolves’ mating and reproduction.

Wielgus said when the alphas were killed, it destabilized the pack structure because there was no longer a strong core. The remaining wolves would then mate, leading to increases in the wolf population and therefore more predation on livestock.

“It all makes sense from a biological standpoint,” Wielgus said.

The UW research results, however, show killing wolves actually helps to protect livestock.

UW Research Associate Nabin Baral said they replicated the same WSU study but used more statistical analysis.

“We used the exact same variable the previous author used, and the exact same data, but in the previous model there was a time variable that was missing, and we thought that we should address the issue of time,” Baral said.

By using time as the main control variable, UW’s results showed killing the wolves, while harmful in the short term, helps livestock populations over time.

According to the published report, one less wolf per year would decrease the expected number of cattle and sheep killed by 1.9 percent and 3.4 percent in the next year, respectively.

However, results show only a 2.2 percent increase in sheep killed in the same year.

UW findings show the increase in livestock kills would be temporary. The overall decrease in the wolf population would lessen livestock kills.

“The result is more about how to use time series analysis,” Baral said. “Based on this information they could then make decisions on how to manage wolves in a better way.”

However, Wielgus is confident in his methodology.

“As time went on and the years progressed, all these wolves in all these states increased,” Wielgus said. “The number of livestock at risk increased, the number of depredations increased, the numbers of wolves killed increased. They put in year, which is auto-correlated with all those other variables so their analysis found that year had the biggest effect on livestock depredations.”

He said that by doing this and using time as the control variable they were ignoring a larger issue.

“Year doesn’t really mean anything,” Wielgus said. “And they found that oh, in addition, the more wolves you kill the fewer livestock depredations you get. Their same analysis showed that the number of wolves has no effect whatsoever on number of livestock depredations, so their analysis was biologically impossible.”

So because they used year as a control variable, it was auto-correlated with everything, which means that none of the other parameters such as number of wolves and breeding pairs that Wielgus mentioned can be interpreted.

“None of the UW researchers in this study were biologists, so they have never analyzed this kind of data,” Wielgus said. “Well they re-analyzed my data set and instead of controlling for the number of wolves they put in year as the control variable.”

Wielgus said the UW researcher knew this was a problem, and he along with other reviewers pointed it out and the UW researchers chose to ignore it.

“These folks are incompetent amateurs that don’t know what they’re doing,” Wielgus said.