## My Background

I have published more than 134 scientific articles on ecology, management, and conservation, including 100 peer-reviewed articles published by scientific journals. I have been investigating human-wolf coexistence in Wisconsin since 2000, with my most recent peer-reviewed scientific article on wolves published on June 18, 2021. As of writing, I am collaborating with the German Ministry of Environment in lower Saxony on wolf management and the French Ministry of the Environment on wolf science. I have twice been a Fulbright Senior Specialist for conservation of carnivores (Ecuador and Chile), and I was awarded a Fulbright for teaching and research on wildlife biology in Sweden in 2014-15. I formerly served on the Wisconsin DNR Wolf Science Committee until it was disbanded. I also was nominated for the Indianapolis Prize for Conservation in 2018 and won the Clements Prize for Outstanding Research & Education in 2017. I am a Professor with the Nelson Institute for Environmental Studies at the University of Wisconsin-Madison, where I founded and direct the Carnivore Coexistence Lab. I hold B.A. degrees in Biology and Anthropology from Rice University and a Ph.D. in Human Evolutionary Biology from Harvard University.

Research on compensation for wolf damage in the USA

The Wisconsin program for compensating the owners of domestic animals for injuries or deaths blamed on wolves was judged one of the most generous in the world in 2003 [1, 2]; and it only became more generous by 2009 [3]. The administrators of the program judged it an unsustainable expensive as payments increased in individual size and increased to cover more and more situations [3]. The Wisconsin public expected domestic animal owners to follow best management practices and responsible husbandry, seemingly to avoid the moral hazards that can accompany compensation programs [1, 3]. In brief, the moral hazard is that negligent owners will reduce protections for their domestic animals because they reason the government will pay them anyway. Meanwhile, one of the main goals of compensation for the state of Wisconsin was not being met.

We found those who received compensation for dead or injured animals had the same attitude as those who claimed an injury/death but got no compensation [1]. We also found tolerance for wolves declined and inclination to poach wolves increased without regard to their personal experiences of loss or encounter [4]. Decades of paying compensation only made livestock owners and hound-hunters more demanding [5].Wolf-killing (both legal and illegal) increased as policies tilted more and more in favor of cows, free-ranging bear-hounds, and their owners, and against wolves; namely policies for liberalizing wolf-killing and devaluing wolves relative to cattle or wild ungulates, were both followed by higher rates of legal killing, poaching, and intolerance [4-17]. Similar patterns have been reported for Mexican gray wolves in Arizona and New Mexico and red wolves in North Carolina [18, 19]. In sum, I recommend against paying compensation to protect wolves from negative attitudes or illegal killing. The opposite effect is more likely.

## Research on compensation outside the USA

Research on post facto compensation for dead livestock suggests it is less effective in influencing attitudes and behavior than paying incentives before losses occur, when payments are tied to protection of wildlife [20]. Regarding wild predators. the research on wolverines coming out of Scandinavia [21-23] showed that, despite incentives to protect wolverines, poachers continued or increased their efforts while changing methods to avoid detection by killing only males or non-GPS-collared individuals [22, 24].

At the same time, in other regions, concerns rose about the accuracy of verification of wolf predation and the reliability of compensation programs suggest that an important remedy would be third-party scrutiny of

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methods used and data collected by agencies before payments are made or interventions are implemented [2, 25, 26]. The increased scrutiny of compensation programs worldwide has led to population-wide economic analyses of predation on livestock. Many studies show that other causes of morbidity and mortality in livestock such as disease, weather, and accidents are far more serious, especially in systems where owners have left livestock unsupervised for long periods [27-29].

In conclusion, the worldwide, scientific consensus on the effectiveness of non-lethal methods for deterring wild predators from livestock [30-39], suggests funds ear-marked for compensation would be better spent as incentives for farmers to implement effective, well-designed non-lethal methods to protect their animals. Such a solution would avoid moral hazards of compensation, fraud, poor verification of losses leading to wasted funds, and intolerant attitudes and behavior among recipients of compensation. Incentives for non-lethal protection of domestic animals also meets U.S. societal values that favor protecting wildlife and especially wolves [40-42], while a U.S. public preference for investing in environmental-friendly behavior informed by science rather than handing out money [43].

References cited above. Any including my name can be downloaded for free from <a href="http://faculty.nelson.wisc.edu/treves/publications.php">http://faculty.nelson.wisc.edu/treves/publications.php</a>

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