Meet the New Neighbor: Can Gray Wolves (Canis lupus) Establish Territories in Areas of Higher Human and Road Density Than Expected?

Lavan, Grace (School: Cloquet Senior High School)

This project used mapping software (ArcGIS Pro and Online) to create wolf location maps. A Fond du Lac Resource Management Division wildlife biologist shared wolf location and road data with the student researcher. Human and road densities in wolf territories were measured and compared to the findings of a study conducted by Fuller et al. (1992). The question was: Will wolves establish territories in areas of higher human and road density than predicted in the 1992 study (<4 humans/km2 and <0.70 km roads/km2)? The hypothesis was: Wolves can establish territories in Northeastern Minnesota, in areas of higher human and road density than expected. The hypothesis was supported. Overall, human density in wolf territories was 2.67 humans/km2 greater and road density was 0.07 km roads/km2 greater than the Fuller et al. (1992) thresholds. Wolf population has risen so there are fewer areas with densities less than 0.7 km roads/km2 and 4 humans/km2 for wolves to inhabit. Thus, wolves see more humans in their territories because of residential area expansion, outdoor recreation, logging, and other human activity. Wolves may gradually tolerate higher human densities in their territories as they acclimate to human proximity. Wolves may spend more time near roads to scavenge roadkill or to use cleared roads to make travel easier. Wolf management agencies will benefit from this study with the knowledge that wolves can establish territories in areas with densities >4 humans/km2 and >0.7 km roads/km2.

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