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Resource conflicts between humans and the African wild dog (Lycaon pictus)

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Abstract

The African wild dog (*Lycaon pictus*) is one of South Africa's most endangered carnivores. The species has suffered massive range shrinkages in the past few decades and population numbers have dropped significantly. Along with other factors responsible for its decline, one of the most notable threats to the African wild dog is conflict with humans. These carnivores are often persecuted by farmers for their alleged depredation of livestock and captive-bred game species, although doubt exists as to whether wild dogs are the avid depredators as suggested. My research therefore aimed to investigate the conflict between people and African wild dog, focussing on livestock depredation. Due to heterogeneous farming landscapes, the history and location of protected areas and the endangered status of the African wild dog, South Africa provides many opportunities to study this particular type of human-carnivore conflict. Firstly, I conducted a meta-analysis of human-carnivore conflict using published literature about African wild dog depredation of livestock and game and compared these to other African carnivores as well as non-African carnivores. Results indicated that African wild dog were less avid depredators than other African species such as lion (*Panthera leo)* and spotted hyena (*Crocuta crocuta*). Also evident was that high carnivore and livestock densities, coupled with poor communities with poor livestock husbandry practices, make people and carnivores in developing regions more vulnerable to human-carnivore conflicts. Secondly, I assessed actual African wild dog occurrence in relation to the location of farms, livestock density and several other anthropogenic and natural landscape features. This was achieved using GPS data from four collared African wild dog individuals from packs residing in the northeastern part of South Africa and resource selection functions. Results from these analyses suggested that, whilst African wild dog may occur in close proximity to farms, they established home ranges in areas of low livestock density and few farms, indicating predictive avoidance of areas where mortality may occur. Major roads were highlighted as a vulnerability for the African wild dog, whilst nature reserves and vegetation were also important predictors of wild dog occurrence. Other anthropogenic and natural landscape features varied in importance in determining wild dog occurrence. Knowledge about how the African wild dog selects its resources will enable us to identify vulnerabilities for these carnivores as well as areas where they are likely to occur, aiding in conservation planning. Though African wild dog have historically been reported to kill livestock such goats and cattle, my study seems to indicate that these carnivores are not avid stock-killers. Given the precarious survival status of the African wild dog and the food security needs of people in a developing region strongly suggests the need for cooperation of farmers and the education of communities to aid the recovery of this uniquely African carnivore.