Relationship between rural depopulation and puma-human conflict in the high Andes of Chile


Abstract

Rural depopulation has different effects on biodiversity and ecosystems in many regions of the world. For large carnivores such as pumas (Puma concolor) the effects are uncertain. An analysis of relationships between patterns of rural depopulation and perceptions of the risk posed by pumas among Aymara people in the altiplano region of Chile examined perceived risk, as well as self-reported losses, in relation to livestock husbandry, sociodemographic variables (age, household size, and residency status), and reported self-sufficiency. There was no evidence that rural depopulation elevated perceived risk, or the level of self-reported losses of livestock blamed on pumas. Indeed, many respondents, including older respondents and those with smaller households, reported a decline in perceived risk over the preceding five years. These perceptions of risk were not associated with self-reported losses to pumas in the previous year. An increase in perceived risk was associated with the use of guards for livestock, suggesting livestock owners accommodated their absences from herds by using guards. Absolute numbers of livestock lost increased with the distance from households to where livestock were grazed or gave birth. A cost-effective verification system for puma attacks is recommended, and further human dimensions research is required to identify the owners who complained and the costs and benefits of different wildlife species. Further interventions to prevent either livestock losses or retaliation against pumas can then be targeted more precisely.

Keywords

Altiplano, Aymara, Depredation, Hazard assessment, Human dimensions, Large carnivore conservation, Non-lethal mitigation, Puma concolor, Risk perception, South American camelids, Traditional livestock practices, Urbanization.