"Current Patterns and Mitigation Strategies of Human-Wildlife Conflicts in Chinese Protected Areas"

Kou, Mengxi, Ye Htet Lwin, Yifu Wang et al.

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Human-wildlife conflicts (HWCs), driven by habitat fragmentation, species recovery, and climate change, have intensified globally and are increasingly prevalent in China, especially in and around protected areas (PAs). This study investigates HWCs in 164 PAs across mainland China, addressing three critical gaps: (1) the relationship between HWC prevalence and biodiversity hotspots, (2) dominant conflict types, and (3) effectiveness of mitigation strategies. Using a nationwide online survey of PA rangers with direct HWC experience, we found that 54.4% of surveyed PAs reported conflicts. Central and southeastern China exhibited the highest frequency and severity. Wild boars (Sus scrofa) were the most commonly reported species (40.9%), followed by bears (Ursus arctos and Ursus thibetanus, 14.0%) and macaques (Macaca mulatta and Macaca thibetana, 13.5%). Over 63% of affected PAs faced multi-species conflicts, with crop damage being the most widespread issue. Generalized linear models revealed that the number of omnivorous species was the strongest predictor of HWC impacts across agriculture, daily life, and personal safety. Irregular PA boundaries also aggravated conflicts. Conversely, an increase in conflict-causing carnivores was associated with reduced impacts on daily life and personal safety, suggesting possible ecological suppression on omnivores. Among mitigation strategies, environmental education was rated by rangers most effective and widely used, followed by human resettlement. In contrast, measures such as economic compensation and animal removal were perceived as less effective. These findings call for a shift in HWC management priorities toward high-conflict areas beyond biodiversity hotspots. Integrated strategies tailored to omnivore-driven conflicts and strengthened education efforts are essential for fostering coexistence in China's PAs, aligning with global conservation goals. (Abstract)

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