

LETTER FROM THE CONSERVATION FRONT LINE

First stop human depredation to double the number of Bengal tigers

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The tiger *Panthera tigris* is distributed in Nepal as well as 12 other countries of Asia. It is classed as 'Endangered' in the IUCN red list (GTRP, 2010; Goodrich *et al.*, 2015), is included in Appendix I of the Convention on International Trade in Endangered Species (CITES, 2017), and is protected by the Nepal's National Parks and Wildlife Conservation Act (GoN, 1973). The Global Tiger Recovery Program was introduced in 2010 to double the tiger population by 2022 (GTRP, 2010). As a tiger range country, Nepal is working hard to increase the number of Bengal tigers, from a national population of 155 in 2010 to double by 2022 (DNPWC, 2010; GTRP, 2010); the total number of tigers increased to 198 in 2013 (DNPWC, 2016).

Within Nepal, human–tiger conflicts are on the increase (Dhungana *et al.*, 2016; DNPWC, 2016). Although there is estimated to be enough habitat to hold, at least, double the

tiger population (Wikramanayake *et al.*, 2011; Joshi *et al.*, 2016), human casualties do occur, due to tiger attacks outside the national parks (Silwal *et al.*, 2017). It should be noted that the number of people killed by tigers is much higher than the number of tigers killed by people – in Nepal tigers killed 29 people between 2009 and 2015, another eight people were badly injured, but only two tigers were killed by people (DNPWC 2010, 2012, 2013, 2014, 2015, 2016; Rimal, 2015; Fig. 1). Likewise in the Sundarbans, the largest mangrove forest in Bangladesh and India, 184 people were killed by tigers between 2000 and 2010, whereas 23 tigers were killed by people (Haque *et al.*, 2015). This trend of increasing human casualties due to tiger attacks is a threat to the future of tiger conservation.

Because of human population increase, and climate and land use change, a large proportion of people now depend on forest resources, leading to losses of wildlife habitats and the biodiversity they contain (Aukema *et al.*, 2017). Changes in forest structure, composition and function decrease the abundance of tigers' prey species. In these circumstances, tigers engage in territorial fights, and the old, weak and injured tigers leave their natural habitat to seek food by hunting livestock and attacking humans (Haque *et al.*, 2015).

It is widely agreed that both tigers and humans living on the periphery of tiger habitats should be safe from harm and depredation. Therefore, it is important to provide assistance for people who suffer due to the presence of tigers at forest boundaries. It is also essential to provide alternative sources of livelihoods for vulnerable people to prevent the destruction of the forest, to restore degraded habitats, to ensure that tigers stay in the forest, and to return to the forest the tigers that stray close to human habitation.

Nepal is adopting the zero-poaching strategy and celebrated zero-poaching years for rhinos in 4 years between 2011 and 2015 (Acharya, 2016). The responsible bodies – namely, the government of Nepal and conservation partners

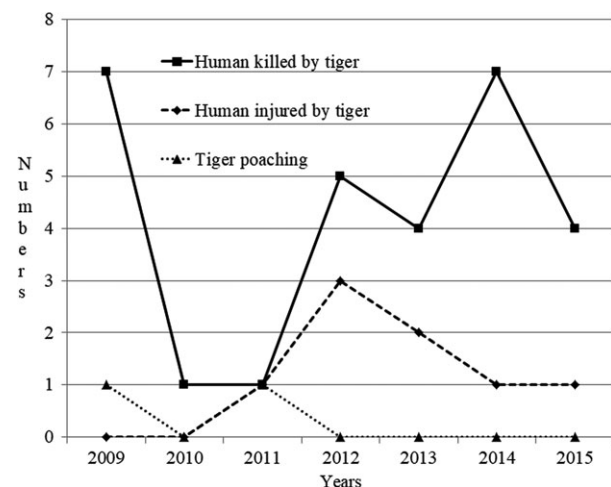


Figure 1 Human casualties by tiger and tiger poaching by poachers in Nepal during 2009–2015.

such as WWF Nepal and the National Trust for Nature Conservation – focus on tiger conservation through actions that mitigate against tiger poaching, but their actions to reduce human casualties from tiger attacks have been ineffective. Unlike for rhinos, humans are prey for tigers, so more resources should be allocated to minimize human casualties from tiger attacks.

The human–tiger conflict is a serious challenge for tiger conservation. Nepal will need to introduce a ‘zero-human-casualty’ strategy if it is to achieve its ambition to double the tiger population by 2022. To mitigate human–tiger conflict, research is needed on how to restore native forest ecosystems (including building in adaptation and resilience to climate change), on the potential for spatial zoning of the tiger habitat and livestock grazing areas, and on the identification of alternative livelihoods for the people living in the buffer zones next to national parks. Researchers should also explore the potential of translocating individual tigers from high-density areas, in order to manage tiger populations and reduce human–tiger conflict, as a last resort measure. Ultimately, it requires political commitment, legal arrangements and law enforcement to significantly improve the plight of both tigers and the people who live with them.

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