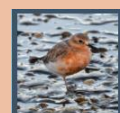




# Human Interactions with Big Cats

## An Annotated Bibliography

Colleen Black  
Michael Lück



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Bobcat (*Lynx rufus*) in Badland National Park, USA

## 1. INTRODUCTION

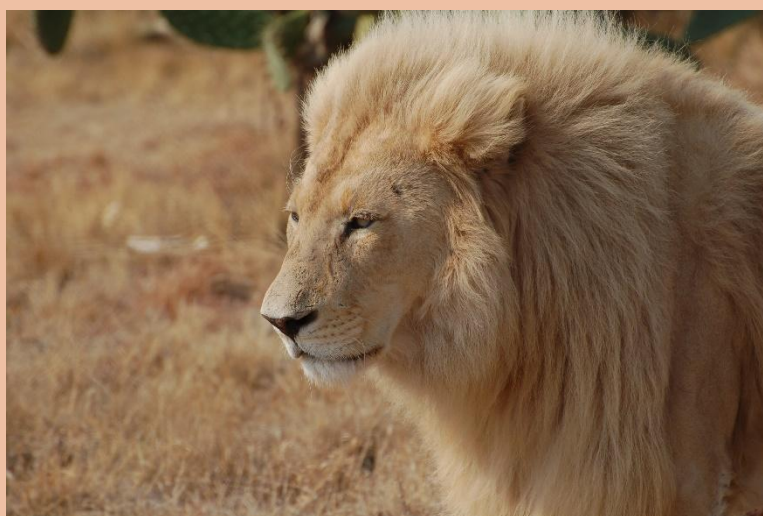
This is the seventh of a series of annotated bibliographies, published by Dotterel Publishing. The aim of this series is to provide a comprehensive overview of the literature pertaining to specific touristic and leisure activities, in particular (but not limited to) wildlife viewing activities. These annotated bibliographies will aid researchers, other interested persons and organisations in locating relevant literature.

Interactions with big cats have increased significantly over the past two decades, and so has the academic attention to these. As with many human interactions with wildlife there is a growing concern about the consequences of these activities, which is reflected by a large number of the works on conservation and hunting in this bibliography. In addition, big cats are often seen as in conflict with other human activities (such as farming), as well as seen as a threat. We have included a number of works related to these topics as well.

The main part of this document is divided into two sections: The first section is a *reference bibliography*. The second section is an *annotated bibliography*, adding short abstracts/summaries to most of the works listed in the first section. Both sections are organised in alphabetical order.

We have included references from a variety of sources, mostly from academic journals, books, theses and dissertations, conference proceedings and technical reports. We acknowledge that there are also numerous non-academic books and websites on human interactions with big cats; however, these would be virtually impossible to include in a systematic manner due to the sheer volume.

While this is an extensive bibliography, we do not claim it to be complete. In fact, we aim to regularly update this bibliography, and gratefully accept any suggestions for inclusion. Please email suggestions with publication details to [dotterelpublishing@gmail.com](mailto:dotterelpublishing@gmail.com)



Male lion (*Panthera leo*)

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Wilson, A., & Phillips, C. J. C. (2021). Identification and evaluation of African lion (*Panthera leo*) cub welfare in wildlife-interaction tourism. *Animals*, 11(9), Article 2748. <https://doi.org/10.3390/ani11092748>

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YuRong, G., Lu, X., Shi, K., QianQian, G., HaiTao, H., & JianZang, M. (2013). A SWOT analysis to evaluate the strategy for tourism development in ex-situ conservation of Siberian tiger. *Journal of Economic Animal*, 17(3), 160-164.



Lion (*Panthera leo*) family resting

### 3. ANNOTATED BIBLIOGRAPHY

#### A

**Author:** Arakaki, D. M.

**Year:** 2013

**Title:** Wildlife protection law and tiger tourism in India

**Journal:** Osaka Gakuin Law Review

**Volume:** 39

**Issue:** 2

**Pages:** 181-210

**Abstract:** The tiger, like the Taj Mahal and the Ganges River, serves as one of the great iconic images of India. Newspaper advertisements and internet homepages promoting tourism in India make liberal use of photographs of tigers to help attract foreign visitors to the country. Each year, thousands of people from around the world travel to India's national parks, hoping to get a close-up look at this majestic animal. The fact that the tiger is recognised as an endangered species by the International Union for Conservation of Nature (IUCN) further increases its appeal. Ironically, the tiger's great appeal may also be a threat to its survival. Increasing numbers of tourists entering India's tiger reserves caused greater pressure on the grassland environment in which the tigers hunt, with noisy jeeps full of tourists racing around parks to get to the best viewing spots. One environmentalist, claiming that these mad scrambles interrupted tigers' hunting activities and scared away prey animals, initiated a contentious lawsuit which raised serious questions about whether tourism was good or bad for tiger conservation.

In this article, Arakaki: 1) discusses the historical decline in tiger numbers in India and the laws introduced to protect them; 2) explains the characteristics of tiger tourism and the lawsuit which sought to ban such tourism in the tiger reserves; and 3) reports on the conditions observed in one Indian tiger reserve, the Bandhavgarh National Park, during a field visit conducted in early March 2013.

**Authors:** Aryal, A., Brunton, D., Ji, W., Barraclough, R. K., and Raubenheimer, D.

**Year:** 2014

**Title:** Human-carnivore conflict: Ecological and economical sustainability of predation on livestock by snow leopard and other carnivores in the Himalaya

**Journal:** Sustainability Science

**Volume:** 9

**Issue:** 3

**Pages:** 321-329

**Abstract:** Human communities in the Trans-Himalayan region depend on the dynamics of the agro-pastoral system for survival. Humans, livestock and wild predators share common resources in the region, and this leads to human-wildlife interactions that have the potential to threaten the continued viability of this fragile ecosystem and impact the local economy. This study explored the interaction between livestock and predators in the upper Mustang region of Nepal in terms of economic and ecological impacts. A total of 1,347 km<sup>2</sup> of pasture land was grazed by 30,217 livestock belonging to local people from six village development committees. It was found that the seasonal movement patterns of livestock, from higher to lower elevations (closer to villages), coincided with elevation movements of wild ungulate prey and snow leopards into this smaller land area. The number of livestock reported to have been killed by predators during the study period was 706, 75% of which was attributed to snow leopards. An



estimated US\$44,213 was lost between October 2009 and June 2011 due to livestock predation. These losses of livestock to snow leopards and other carnivores provoked retaliatory killings by villagers, and this in turn may significantly affect the viability of predator populations in this region. The investigators suggest four approaches to mitigate human-carnivore conflict in the region: a) introduce a livestock insurance policy b) promote the use of predator-proof livestock corrals and sheds c) involve local people in alternative income generating activities, and d) increase conservation education in these regions.

## B

**Author:** Banerjee, A.

**Year:** 2010

**Title:** Tourism in protected areas: Worsening prospects for tigers?

**Journal:** Economic and Political Weekly

**Volume:** 45

**Issue:** 10

**Pages:** 27-29

**Abstract:** Against the backdrop of the increasing popularity of ecotourism and the dramatic loss of tigers due to lack of funding, mismanagement, population and development pressures as well as poaching, this article finds that the present policies benefit neither conservation nor local communities. It is only by integrating ecotourism into a broader array of sustainable livelihoods, will local communities be more inclined to support conservation efforts.

**Author:** Banerjee, A.

**Year:** 2012

**Title:** Is wildlife tourism benefiting Indian protected areas? A survey

**Journal:** Current Issues in Tourism

**Volume:** 15

**Issue:** 3

**Pages:** 212-227

**Abstract:** India's protected areas (PAs), especially those designated tiger reserves, are popular tourist destinations, experiencing considerable and growing visitor numbers, but the principles of ecotourism are not well implemented. This paper analyses tourism practice in a sample of popular tiger reserves in India according to four principles of responsible ecotourism: minimisation of environmental impacts, generation of funds for conservation, benefits to local communities, and education of visitors. Evidence demonstrates that few criteria of ecotourism are met in most PAs: tourism imposes significant detrimental impacts, little of the generated revenue is captured, local communities get mostly menial jobs, and visitor education is virtually non-existent with tourism geared mainly towards thrill-seeking. The Indian Forest Service, which manages the PAs, is on the whole unprepared and ill-equipped to plan and implement proper ecotourism practices and faces constant pressure from other actors to increase tourism revenue. Periyar National Park stands out as an exception where innovative approaches involving local communities have brought about a significant positive change. Policy recommendations are offered based on limited, low-impact activities with high participation of local communities which is essential to build local support for conservation that has been historically lacking.



**Authors:** Barcelos, D., Vieira, E. M., Pinheiro, M. S., and Ferreira, G. B.

**Year:** 2022

**Title:** A before–after assessment of the response of mammals to tourism in a Brazilian national park

**Journal:** Oryx

**Volume:** 56

**Issue:** 6

**Pages:** 854-863

**Abstract:** Worldwide, nature-based tourism is becoming more popular and important economically. However, there is still debate regarding its impact on wildlife in protected areas. Barcelos and colleagues conducted a quasi-experimental study to investigate the effects of tourism on the mammal community of Cavernas do Peruaçu National Park, a priority area for conservation in Brazil. They used camera traps to survey tourist and non-tourist trails during 2011–2017, encompassing periods before and after tourism started in the park. The authors used four metrics for assessment: species richness, probability of using trails, activity levels and daily activity patterns. After tourism began in the park there was no significant change in species richness and the probability of using tourist trails either increased or remained stable for five of the six species assessed. The rock cavy (*Kerodon rupestris*) was the only species to be displaced from tourist areas and to show reduced overall activity on tourist trails after tourism began. The ocelot (*Leopardus pardalis*) showed reduced diurnal activity on tourist trails, an indication of temporal adjustment. Overall, the results show that the initial years of visitation at the park had limited negative impacts on the target mammal species, supporting the possibility of accommodating tourism activity and effective conservation of wildlife in the region. However, it is essential to continue monitoring in the park because of the expected growth in tourism and potential time lags in responses of species.

**Authors:** Becker, M. S., Watson, F. G. R., Droge, E., Leigh, K., Carlson, R. S., and Carlson, A. A.

**Year:** 2013

**Title:** Estimating past and future male loss in three Zambian lion populations

**Journal:** Wildlife Management

**Volume:** 77

**Issue:** 1

**Pages:** 128-142

**Abstract:** African lions (*Panthera leo*) are declining continent-wide, with protected area populations subject to a variety of anthropogenic effects. Zambia contains viable lion populations of considerable importance for photographic and hunting tourism, but long-term lion demographic data do not exist to guide recent management directives and population projections under different strategies. The researchers described population size, as well as age and sex structure of lions in three Zambian national park populations bordering hunting areas and found them to be male-depleted relative to other systems. They then estimated rates of adult male loss leading to male depletion in these populations and the effect of different future hunting management options on population characteristics. Predictions from matrix population models constructed within a Bayesian framework confirmed that the observed population structure was likely due to high rates of adult male loss and that instituting age limits on male harvests with quota reductions would reduce male depletion, improve tourism by providing older and more abundant males, and slightly increase population size. Reducing male mortality from wire snare poaching would also result in similar demographic impacts, and in concert with changes in hunting regulations would substantially improve the quality and quantity of adult male lions. However, model results varied depending on whether historical population

stability was assumed. Predictions assuming negative historical growth rate indicated that substantially more conservative lion harvest management is warranted. The authors discuss the relevance of these findings for maintaining viable lion populations in and around protected areas in Zambia.

**Authors:** Belotti, E., Heurich, M., Kreisinger, J., Šustr, P., and Bufka, L.

**Year:** 2012

**Title:** Influence of tourism and traffic on the Eurasian lynx hunting activity and daily movements

**Journal:** Animal Biodiversity and Conservation

**Volume:** 35

**Issue:** 2

**Pages:** 235-246

**Abstract:** Human presence influences the survival of large carnivores in various ways, and even outdoor activities can be a source of disturbance. Since ungulates are the prey that provide the boreal lynx (*Lynx lynx*) with food for several nights, and since the lynx's activity pattern is primarily designed to seek and consume large prey, the need to move is greatly diminished while it is in motion devouring the prey. However, during the day, human activity can force lynx to safe havens, and habitat features such as dense vegetation can increase their tolerance. In the Bohemian forests (Czech Republic), Belotti and colleagues found 116 prey hunted by five lynxes equipped with GPS collars. They studied whether kill sites were located farther from roads or tourist trails than if the sites had been chosen at random, and whether the presence of roads or tourist trails and habitat structure influenced the killing site distance of hunts to day resting areas. At night, with low human activity, lynx did not avoid roads and even chose the surroundings of tourist trails. The distance "hunting site to day rest areas" was negatively correlated with the presence of cryptic habitat and with the distance from tourist trails, suggesting that outdoor activities could be considered in management plans of the lynxes.

**Authors:** Belotti, E., Mayer, K., Kreisinger, J., Heurich, M., and Bufka, L.

**Year:** 2018

**Title:** Recreational activities affect resting site selection and foraging time of Eurasian lynx (*Lynx lynx*)

**Journal:** Hystrix: The Italian Journal of Mammalogy

**Volume:** 29

**Issue:** 2

**Pages:** 181-189

**Abstract:** Over the past decades, non-consumptive outdoor recreation has intensified, resulting in a more widespread and regular human presence in natural habitats, including protected areas. This has shown to negatively affect several animal species, and in some cases, cause their decline. Therefore, understanding the impacts of recreation on protected species is fundamental. In the Bohemian Forest Ecosystem, Belotti and colleagues GPS-monitored the Eurasian lynx (*Lynx lynx*), generally considered tolerant to human presence. The authors tested whether the local level of recreation influenced (a) time spent by lynx at killed prey, both in terms of number of hours each night and of number of nights at each killed prey (i.e. feeding behaviour) and (b) selection of daytime resting sites. Furthermore, they checked whether each behaviour was influenced by local habitat features ensuring low accessibility to people and high protective cover, and by the level of nature protection assigned to different parts of the study area, all of which likely influence perceived risk by lynx. Finally, the authors tested for seasonal (winter vs. summer) changes in these variables' effects. Throughout the year, the local intensity and recurrence of recreation was negatively correlated with the probability that lynx

would use a given location for daytime resting and with the number of hours that lynx spent at a given killed prey each night. Furthermore, habitat features providing protective cover positively correlated with both behaviours, and the probability that lynx would use a given location for daytime resting was higher inside than outside protected areas. Finally, recreation negatively correlated with the number of nights lynx spent at killed prey only in winter (i.e. October-April). These findings can be applied when planning recreational activities, and generally highlight the need for a deeper understanding of the impacts of human activities across a range of species.

**Authors:** Bhattarai, B. R., and Fischer, K.

**Year:** 2014

**Title:** Human–tiger *Panthera tigris* conflict and its perception in Bardia National Park, Nepal

**Journal:** Oryx

**Volume:** 48

**Issue:** 4

**Pages:** 522-528

**Abstract:** Human–wildlife conflict is a significant problem that often results in retaliatory killing of predators. Such conflict is particularly pronounced between humans and tigers (*Panthera tigris*) because of fatal attacks by tigers on humans. Bhattarai and Fischer investigated the incidence and perception of human–tiger conflict in the buffer zone of Bardia National Park, Nepal, by interviewing 273 local householders and 27 key persons (e.g. representatives of local communities, park officials). Further information was compiled from the park's archives. The annual loss of livestock attributable to tigers was 0.26 animals per household, amounting to an annual loss of 2% of livestock. Livestock predation rates were particularly high in areas with low abundance of natural prey. During 1994–2007, 12 people were killed and a further four injured in tiger attacks. Nevertheless, local people generally had a positive attitude towards tiger conservation and were willing to tolerate some loss of livestock but not human casualties. This positive attitude indicates the potential for implementation of appropriate conservation measures and the authors propose mitigation strategies such as education, monetary compensation and monitoring of tigers.

**Authors:** Bhattarai, B. R., Morgan, D., and Wright, W.

**Year:** 2021

**Title:** Equitable sharing of benefits from tiger conservation: Beneficiaries' willingness to pay to offset the costs of tiger conservation

**Journal:** Journal of Environmental Management

**Volume:** 284

**Issue:** -

**Pages:** Advance online publication

**Abstract:** Costs of large predator conservation may not be equitably distributed among stakeholders; these include farming communities, tourism business owners and visitors. Financial redistribution mechanisms based on accrued benefits and costs of conservation require relevant data unavailable in many locations. To address this, a contingent valuation method identified willingness to pay (WTP) among national park visitors and connected tourism business owners. Both groups derive benefit from government-funded conservation policies. The study was conducted in Bardia and Chitwan National Parks, Nepal 2017–2018; two locations world-renowned for tiger conservation. Local and international park visitors (N = 387) provided WTP for ongoing conservation via additional park entry fees. Tourism business owners (TBOs; N = 74) proximate to the parks stated their WTP for compensation funding provided directly to farmers. The majority (65%) of park visitors were willing to pay

extra to support conservation (sample mean US\$ 20) while 85 percent of TBOs supported their payment of funds for compensating farming communities (sample mean annual contribution being US\$ 156). Valid WTP regression modelling found that visitor WTP was predicted by international travel costs and environmental organisation affiliation. For TBOs indicating WTP, the amount to pay was predicted by annual net income from the tourism business. Application of study data indicates US\$ 25 average increase to visitor park fees would maximise revenue and contribute a further US\$ 495,000 available for conservation activities. Similarly, a flat-rate tariff on TBOs at the mean WTP amount would contribute more than double the annual budget available for farmer compensation (providing approximately US\$ 43,000). More generally, the study findings are informative for policymakers seeking equitable conservation outcomes while maintaining viable populations of critically endangered wild tigers. They should however be interpreted with caution given limitations of the sampling frame and method of data elicitation. Regardless, any policy decision effects require careful scrutiny to ensure desired outcomes are realised.

**Authors:** Bichel, N. and Hart, A.

**Year:** 2023

**Book Title:** Trophy hunting

**Publisher:** Springer

**Abstract:** This book gets to the heart of trophy hunting, unpacking and explaining its multiple facets and controversies, and exploring why it divides environmentalists, the hunting community, and the public. Bichel and Hart provide the first interdisciplinary and comprehensive approach to the study of trophy hunting, investigating the history of trophy hunting, and delving into the background, identity and motivation of trophy hunters. They also explore the role of social media and anthropomorphism in shaping trophy hunting discourse, as well as the viability of trophy hunting as a wildlife management tool, the ideals of fair chase and sportsmanship, and what hunting trophies are, both literally and in terms of their symbolic value to hunters and non-hunters. The analyses and discussions are underpinned by a consideration of the complex moral and practical conflicts between animal rights and conservation paradigms.

**Authors:** Booth, V. R., Masonde, J., Simukonda, C., and Cumming, D. H. M.

**Year:** 2020

**Title:** Managing hunting quotas of African lions (*Panthera leo*): A case study from Zambia

**Journal:** Journal for Nature Conservation

**Volume:** 55

**Issue:** -

**Pages:** Advance online publication

**Abstract:** Hunting lions, while their populations are declining in much of Africa, is a highly controversial issue. However, hunting for lions and other charismatic large mammals in Africa has contributed to maintaining large areas of wild land for lions and wildlife conservation. To minimise the impacts of hunting lions in some 150,000 km<sup>2</sup> of Game Management Areas (total ~190,000 km<sup>2</sup>) in Zambia an age-based quota setting system has been adopted. The approach involves reducing the number of lions taken to one per hunting block and limiting trophy hunting to past prime male lions. The age-based assessment criteria and the results from assessing the trophies taken in 2017 and 2018 are presented. Of the 18 trophies taken in 2017, 11% were judged to be under age, 17% were marginal and the remaining 72% were acceptable trophies of animals aged six years or older, with 28% being seven years or older. The results for 2018 showed a higher proportion (42%) of older lions ( $\geq 7$  years) being taken. Legal instruments to give force to the guidelines on trophies that can legally be hunted are being



introduced to ensure the sustainable offtake of past prime male lions with minimal disruption of pride coalitions. These developments will contribute to improved management of lion hunting in Zambia and to meeting the non-detriment finding and conservation enhancement requirements of European and American regulations governing the importation of lion trophies.

**Authors:** Braczkowski, A., Ruzo, A., Sanchez, F., Castagnino, R., Brown, C., Guynup, S., Winter, S., Gandy, D., and O'Bryan, C.

**Year:** 2019

**Title:** The ayahuasca tourism boom: An undervalued demand driver for jaguar body parts.

**Journal:** Conservation Science and Practice

**Volume:** 1

**Issue:** 12

**Article:** e126

**Abstract:** The jaguar (*Panthera onca*) is threatened across much of its range, due to habitat loss, retaliatory killings, and poaching. Consequently, it is listed as near threatened on the IUCN Red List. There is evidence of a growing trade in jaguar body parts across Latin America, particularly in Brazil, Bolivia, Suriname, Costa Rica, and Peru. For example, on February 23, 2018, two Chinese citizens were apprehended in Santa Cruz de la Sierra, Bolivia for possession of 185 jaguar teeth and three skins. Similarly, in Brazil at least 30 seizures of jaguar parts have occurred in the past five years.

In Southeast Asia, jaguar claws and teeth are worn as jewellery; their skins are bought for home decor; and a glue paste (made from boiled jaguar parts) is consumed to heal various ailments. Most organised trafficking appears to be by contractors working for foreign companies hired to hunt cats to export body parts. With Latin America's current ayahuasca and shamanic tourist boom there are additional demands for jaguar products, which is the focus of this study.

Each year, thousands of ayahuasca tourists travel to Peru, generating significant revenue for retreat centres that administer the brew. For example, a 2015 study found that in Iquitos, Peru's largest Amazonian city, 10 of the 40 largest retreats generated over USD 6.5 million annually. Ayahuasca is a traditional Amazonian medicine that has become a global phenomenon. It is a psychoactive brew made from the ayahuasca vine (*Banisteriopsis caapi*) and chakruna leaves (*Psychotria viridis*). It is traditionally administered in ritualised shamanic ceremonies for both spiritual and physical healing; however, recreational users now ingest it for entheogenic experiences.

In this article, the authors present findings from investigations into the jaguar parts trade in local markets in Peru, considered a top tourist and ayahuasca tourism destination. They postulate that commercialised ayahuasca tourism may be an undervalued contributor to the trade.

**Authors:** Brink, H., Smith, R. J., Skinner, K., and Leader-Williams, N.

**Year:** 2016

**Title:** Sustainability and long term-tenure: Lion trophy hunting in Tanzania

**Journal:** PLoS ONE

**Volume:** 11

**Issue:** 9

**Pages:** 1-15

**Abstract:** It is argued that trophy hunting of large, charismatic mammal species can have considerable conservation benefits but only if undertaken sustainably. Social-ecological theory suggests such sustainability only results from developing governance systems that balance financial and biological requirements. Brink and colleagues use lion (*Panthera leo*) trophy hunting data from Tanzania to investigate how resource ownership patterns influence hunting

revenue and offtake levels. Tanzania contains up to half of the global population of free-ranging lions and is also the main location for lion trophy hunting in Africa. However, there are concerns that current hunting levels are unsustainable. The lion hunting industry in Tanzania is run by the private sector, although the government leases each hunting block to companies, enforces hunting regulation, and allocates them a species-specific annual quota per block. The length of these leases varies and theories surrounding property rights and tenure suggest hunting levels would be less sustainable in blocks experiencing a high turnover of short-term leases. The researchers explored this issue using lion data collected from 1996 to 2008 in the Selous Game Reserve (SGR), the most important trophy hunting destination in Tanzania. They found that blocks in SGR with the highest lion hunting offtake were also those that experienced the steepest declines in trophy offtake. In addition, they found this high hunting offtake and the resultant offtake decline tended to be in blocks under short-term tenure. In contrast, lion hunting levels in blocks under long-term tenure matched more closely the recommended sustainable offtake of 0.92 lions per 1000 km<sup>2</sup>. However, annual financial returns were higher from blocks under short-term tenure, providing \$133 per km<sup>2</sup> of government revenue as compared to \$62 per km<sup>2</sup> from long-term tenure blocks. The results provide evidence for the importance of property rights in conservation, and support calls for an overhaul of the system in Tanzania by developing competitive market-based approaches for block allocation based on long-term tenure of ten years.

**Authors:** Broad, S., and Weller, B.

**Year:** 1998

**Title:** Captive animals and interpretation: a tale of two tiger exhibits

**Journal:** Tourism Studies

**Volume:** 9

**Issue:** 1

**Pages:** 14-27

**Abstract:** This study examines the role that tourist attractions can play in educating visitors. In particular, it compares the learning opportunities at two very different captive animal exhibits: one within a traditional zoo environment, the other within a tourist theme park. The research critically assesses the interpretive content and techniques used at each site in relation to three levels or categories of learning: cognitive, affective, and behavioural learning. A study undertaken in 1996 involved observation and interviews with visitors to Tiger Island and Western Plains Zoo, Australia. Over a period of 14 days, 95 groups were observed and another 74 interviewed at the former, while at the latter, 64 observations and 62 surveys were conducted. The findings reveal a relationship between the type of display and the interpretive techniques used, the visitors' experience at the site, and the quantity and quality of learning that took place. These findings are important for managers attempting to use captive animal exhibits as tourist drawcards and as tools to improve conservation. Recommendations are also offered for further research linking interpretation, visitor profiles, the visit experience and visitor learning at tourist attractions.

**Author:** Buckley, R.  
**Year:** 2012  
**Title:** The tourist trap  
**Journal:** New Scientist  
**Volume:** 216  
**Issue:** 2886  
**Pages:** 28-29

**Abstract:** The author discusses the role of wildlife tourism in providing the necessary funds for endangered species protection. Particular focus is given to a proposal to ban tourists from Bengal tiger conservation zones in Madhya Pradesh, India. Buckley argues that wildlife tourism helps spread awareness of conservation issues, finances local village-based anti-poaching programmes, and can assist in species reintroduction. He suggests that any negative impacts of wildlife tours can be mitigated.

**Authors:** Buckley, R., and Pabla, H. S.  
**Year:** 2012  
**Title:** Tourism won't help Indian tigers  
**Journal:** Nature  
**Volume:** 489  
**Issue:** 33  
**Article:** 489033b

**Abstract:** The Indian Supreme Court's temporary injunction against tourism in core areas of tiger reserves could place the animals at greater risk of poaching if it becomes permanent, by reducing revenue for park management. The injunction has now been extended until 27 September.

Most of the reserves with the highest numbers of tigers and tourists are in the state of Madhya Pradesh. In 2010–11, the state's 35 parks received US\$17.1 million from government sources. Five tiger reserves generated most of the \$2.8 million obtained from tourism. In 2011–12, Bandhavgarh reserve received \$1.2 million in tourist revenue and almost the same amount from government sources. Tourism therefore yields 25–50% of tiger conservation funds in Madhya Pradesh, safeguarding up to 130 tigers.

Different management strategies would be more effective in overcoming conservation concerns stemming from disruptive tourist behaviour.

## C

**Authors:** Campbell, M., and Lancaster, B.-L.  
**Year:** 2010  
**Title:** Public attitudes toward black bears (*Ursus americanus*) and cougars (*Puma concolor*) on Vancouver Island  
**Journal:** Society & Animals  
**Volume:** 18  
**Issue:** 1  
**Pages:** 40-57

**Abstract:** The sharp increase in the human population of Vancouver Island; the urban development policy favouring forest fragmentation and smaller, scattered settlements; and the relatively sizable population of large predatory mammals have contributed to one of the highest human-large predator contact zones in North America. Although some studies have evaluated public attitudes toward larger carnivores from urban/rural, gender, and generational

perspectives, few have focused on black bears and cougars on the British Columbia coast. In this study, four hundred people in the densely populated southeast corner of Vancouver Island were interviewed about their attitudes toward black bear and cougar presence and behaviour. The majority of interviewees had positive attitudes toward both bears and cougars, and were opposed to the shooting of carnivores, preferring trapping and removal. Contrary to expectation, few respondents saw carnivores as threats to livestock, companion animals, or children. Both black bears and cougars were perceived as serving useful functions as part of the island's heritage and cultural development (through hunting, tourism, and recreation).

**Authors:** Carter, N. H., Riley, S. J., Shortridge, A., Shrestha, B. K., and Liu, J.

**Year:** 2014

**Title:** Spatial Assessment of Attitudes Toward Tigers in Nepal

**Journal:** *Ambio*

**Volume:** 43

**Issue:** 2

**Pages:** 125-137

**Abstract:** In many regions around the world, wildlife impacts on people (e.g., crop raiding, attacks on people) and engender negative attitudes toward wildlife. Negative attitudes predict behaviours that undermine wildlife management and conservation efforts (e.g., by exacerbating retaliatory killing of wildlife). This study (1) evaluated attitudes of local people toward the globally endangered tiger (*Panthera tigris*) in Nepal's Chitwan National Park; and (2) modelled and mapped spatial clusters of attitudes toward tigers. Factors characterising a person's position in society (i.e., socioeconomic and cultural factors) influenced attitudes toward tigers more than past experiences with tigers (e.g., livestock attacks). A spatial cluster of negative attitudes toward tigers was associated with concentrations of people with less formal education, people from marginalised ethnic groups, and tiger attacks on people. This study provides insights and descriptions of techniques to improve attitudes toward wildlife in Chitwan and many regions around the world with similar conservation challenges.

**Authors:** Caruso, F., and Pérez, I. J.

**Year:** 2013

**Title:** Tourism, local pride, and attitudes towards the reintroduction of a large predator, the jaguar *Panthera onca* in Corrientes, Argentina

**Journal:** *Endangered Species Research*

**Volume:** 21

**Issue:** 3

**Pages:** 263-272

**Abstract:** Few studies have assessed public attitudes in relation to the reintroduction of large felids. Caruso and Pérez evaluated the knowledge and attitudes of inhabitants of Corrientes province, Argentina, in relation to the proposed reintroduction of jaguars (*Panthera onca*) to Iberá Natural Reserve (INR). Corrientes is a traditional society in which cattle ranching shapes much of the geographical landscape and social character. A questionnaire was distributed to a random sample of residents from the provincial capital, two towns neighbouring INR, and three villages inside or adjacent to the reserve. In general, residents showed a much greater positive disposition towards jaguars than actual knowledge about the species. The authors found a 95% level of support for the return of jaguars, which was independent of the respondents' gender, age, or location. A small random sample of cattle ranchers also showed significant support for the project. These results were obtained prior to any educational campaigns promoting the reintroduction of jaguars, which suggests that jaguars were already considered a positive symbol in the province. Caruso and Pérez propose that the jaguar may be acting as a bridge



between a proud traditional heritage and an alternative future where ecotourism serves as a route towards economic development. Conservation managers should be aware that this widespread support will probably change once jaguars become present in the local ecosystem and economy.

**Authors:** Carvalho, E. A. R. Jr., and Morato, R. G.

**Year:** 2013

**Title:** Factors affecting big cat hunting in Brazilian protected areas

**Journal:** Tropical Conservation Science

**Volume:** 6

**Issue:** 2

**Pages:** 303-310

**Abstract:** Carvalho and Morato surveyed Brazilian protected areas to assess the scale of big cat hunting within the National Protected Areas System. A questionnaire was emailed to managers of 297 reserves, with a response rate of 33.7%. One-third of respondents reported that jaguars (*Panthera onca*) and/or pumas (*Puma concolor*) have been hunted recently (i.e., within the last two years) in their reserves, resulting in the deaths of at least 60 cats. Hierarchical partitioning analysis revealed that degree of restriction to human use in the reserve (as a four-level rank variable) was the most important factor affecting the probability of a manager reporting big cat hunting, with hunting reported three times more frequently in the less restrictive reserves than in the more restrictive ones. Though their study represents only a small fraction of the problem, it confirms that hunting is widespread and represents a threat to carnivore conservation within Brazilian protected areas.

**Authors:** Carvalho, E. A. R., and Pezzuti, J. C. B.

**Year:** 2010

**Title:** Hunting of jaguars and pumas in the Tapajós–Arapicuns Extractive Reserve, Brazilian Amazonia

**Journal:** Oryx

**Volume:** 44

**Issue:** 4

**Pages:** 610-612

**Abstract:** Carvalho and Pezzuti surveyed the Tapajós–Arapicuns Extractive Reserve in Brazilian Amazonia to investigate hunting of jaguars (*Panthera onca*) and pumas (*Puma concolor*). They interviewed 115 people in 45 villages in 2007–2008, and recorded numbers of jaguars and pumas killed and the circumstances associated with each killing. At least 32 jaguars and 22 pumas were killed in the reserve, most within the last 10 years. However, these are underestimates because people probably did not mention all kills during interviews. The first-order jackknife suggests that the actual mortality for the two species is almost double that reported. Using data from 2006–2007 as a reference the authors estimated a minimum mortality of 12 jaguars and seven pumas per year in the reserve. Most animals were killed during chance encounters, a large number of these elicited by domestic dogs. Hunting motivated by livestock predation or perceived risks to human life were rare. Hunters kill large carnivores on sight and thus one alternative to reduce hunting is to take measures that will decrease encounter rates, such as forbidding hunting with dogs. Education and extension programmes are needed to ensure the long-term coexistence of humans and large carnivores in this reserve.

**Author:** Chandran, A.

**Year:** 2017

**Title:** Visitor management and community participation in an ecotourism destination: The case of Kanha Tiger Reserve, Madhya Pradesh, India

**Editor:** B. Varghese

**Book Title:** Evolving paradigms in tourism and hospitality in developing countries

**Publisher:** Apple Academic Press

**Pages:** 58-69

**Abstract:** Ecotourism has emerged as an ideal and alternative option to protect wildlife sanctuaries and national parks. In the modern day, ecotourism offerings focus on providing exciting wilderness experiences to nature enthusiasts, bird watchers, wildlife photographers, ecotourists, and so on. The fruitful implementation of ecotourism projects and propositions depends on a great deal on the conservation of forests and wildlife in the protected areas. Madhya Pradesh, a renowned tourism haven acclaimed as The Heart of Incredible India, is a forefront runner in the setting up of ecotourism projects with the profound involvement of ecodevelopment committees. With ecologically sound and conservation-oriented initiatives, Madhya Pradesh aims to conserve the natural resources through ecotourism practices and achieve sustainable forest management. The management of Kanha Tiger Reserve (KTR) has recognised ecotourism as a significant means for the generation of revenue and also job creation for the local communities. It has been realised that ecotourism is immensely contributing to the socioeconomic development of the areas. In this backdrop, this work attempts to study two important constructs, visitor management and community participation, for sustainable ecotourism. This chapter is driven by visitors as an integral part of ecotourism projects and their presence and productive involvement can make the projects more sustainable. Furthermore, community empowerment and initiatives in KTR shall reinforce sustainable ecotourism in the protected area. Although visitor management by the park managers will lead to maintenance of carrying capacity, community participation is bound to result in both resource protection and promotion of wildlife tourism. This chapter brings to light the challenges pertaining to sustainable ecotourism and also analyses the impact of tourism that is an unregulated influx of tourists. The prospects and potentials of wildlife tourism in KTR were also examined with the imperatives and implications of visitor management.

**Author:** Chaudhuri, T.

**Year:** 2017

**Title:** Revisiting the 'Kerala Model': Place-making, environmentalism and regional pride in the Periyar Tiger Reserve

**Journal:** South Asian Development

**Volume:** 12

**Issue:** 2

**Pages:** 155-176

**Abstract:** For several decades after independence, the 'Kerala model' provided a development alternative that set it apart from the rest of India. The recent rise of Kerala as a fast growing 'responsible' tourism destination has led to a resurgence of this narrative of exceptionalism. This article charts the shift from the 'old' Kerala development model, and its emphasis on distributive justice, to the 'new' Kerala model that nurtures public-private partnerships, in understanding how Kerala's reputation as a unique region in India is maintained amid significant socioeconomic and political changes. Specifically, the article draws on ethnographic data from the Kumily/Periyar Tiger Reserve region in analysing how unique locale-specific networks of biodiversity conservation ideologies, international capital and notions of environmental citizenship contribute to overall placemaking in Kerala. These

regional identities are formed through the confluence of several ideologies, influences and personnel, thereby contributing to unique 'actor-networks' that emerge at specific locales.

**Author:** Check, E.

**Year:** 2006

**Title:** Conservation biology: The tiger's retreat

**Journal:** Nature

**Volume:** 441

**Issue:** 7096

**Pages:** 927-930

**Abstract:** This article reports that human beings represent the biggest threat to tigers teetering on the verge of extinction and their habitats in India. Wildlife biologist Ullas Karanth's tiger ecology work at the Nagarhole National Park in Karnataka is the reason tigers thrive there. The same forces that threaten the tiger also pose dangers to other vulnerable species such as the Indian giant squirrel and the forest ox.

**Author:** Chimuka, G.

**Year:** 2019

**Title:** Western hysteria over killing of Cecil the lion! Othering from the Zimbabwean gaze

**Journal:** Tourist Studies

**Volume:** 19

**Issue:** 3

**Pages:** 336-256

**Abstract:** The Western media exploded in August 2015 because of a lion killed in Africa. Politicians, conservationists, civil society, musicians, sports stars, talk show hosts and ordinary people were outraged by the killing of a lion called Cecil in Zimbabwe. Interestingly there was not much focus on the reaction of Zimbabweans who were most injured by Cecil's death. If anything, Zimbabweans were surprised by the blanket coverage of Cecil. In this article, Zimbabweans' reaction to the Western media coverage was analysed within the broader context of Edward Said's concept of 'Othering'. Viewing the concept of Othering through the Zimbabwean lenses deepened and widened the traditional definition of Othering to include self-Othering and what Chimuka termed reverse-Othering. The Zimbabwean gaze must be understood and contextualised. Without this understanding, the ultimate outrage over Cecil, which is about sustainable wildlife management, might not be won for local people must be partners in the sustainability endeavour.

**Authors:** Chorney, S., DeFalco, A., Jacquet, J., LaFrance, C., Lary, M., Pirker, H., and Franks, B.

**Year:** 2022

**Title:** Poor welfare indicators and husbandry practices at lion (*Panthera Leo*) "cub-petting" facilities: Evidence from public YouTube videos

**Journal:** Animals

**Volume:** 12

**Issue:** 20

**Article:** 2767

**Abstract:** There is growing concern about captive lion hunting and breeding operations in South Africa, including cub-petting tourism. For the first time, the authors assess the quality of cub-petting facilities and code the stress behaviours of lion cubs when handled by tourists by analysing four stress-related behaviours and six indicators of poor husbandry in 49 YouTube videos of tourist-lion cub interactions (from at least 11 South African safari parks, 2008-2019).

Chorney and colleagues also categorised videos as regular tourism vs. voluntourism (tourism under the guise of helping those in need). They found a median of four poor husbandry practices per video, with all but two videos involving very young cubs (under seven months) and the majority (61%) involving cubs estimated under three months old. Two videos claimed to show cubs as young as nine days old and one day old, with their eyes still closed. The lion mother was apparent in only one of 49 videos. All but one of the interactions took place during the day, although young cubs are primarily active at night. The majority of videos (77%) showed cubs engaging in at least one stress behaviour, and the most common stress behaviours were avoidance and aggression. Comparing voluntourism to regular tourism, Chorney and colleagues found no difference in instances of poor husbandry or observable stress behaviours ( $p$ 's > 0.6). These results show that cub-petting operations are characterised by poor cub welfare, including features that are inherently harmful to cub development (e.g., separation from the mother at an early age and forced activity outside normal waking hours). Existing research suggests that many tourists are likely unaware of these negative impacts and may even believe that they are helping the cubs. This analysis provides evidence to the contrary.

**Author:** Cohen, E.

**Year:** 2012

**Title:** Tiger tourism: From shooting to petting

**Journal:** Tourism Recreation Research

**Volume:** 37

**Issue:** 3

**Pages:** 193-204

**Abstract:** This article investigates the changing forms of human engagement with tigers—in terms of manner of interaction, perceptions, experiences, and activation of the senses—in a four-fold sequence of settings. It outlines the process by which the fascinating ‘Otherness’ of the tiger in the wilderness has been gradually attenuated, as he was mastered by humans, first by virtual extermination, and then by increasingly strict forms of subjugation, eventually to become an apparently harmless plaything for patting tourists. The article dwells upon the tiger's resistance to domination, expressed in occasional outbursts of aggression, perceived by his masters as ‘accidents’. It concludes that the consequences of contemporary tourism for the conservation of wild tigers are predominantly negative, even as tourism encourages the proliferation of captive tigers, and argues that without political will the problems engendered by tiger tourism cannot be resolved, even with the best professional advice.

**Author:** Cohen, E.

**Year:** 2013

**Title:** 'Buddhist compassion' and 'animal abuse' in Thailand's Tiger Temple

**Journal:** Society & Animals

**Volume:** 21

**Issue:** 3

**Pages:** 266-283

**Abstract:** The Tiger Temple in Kanchanaburi province, western Thailand, is a popular tourist attraction, offering visitors a unique opportunity to interact closely with tigers. It presents itself as a 'tiger sanctuary,' whose tigers have been tamed by nonviolent Buddhist methods. This claim has been disputed by visitors and animal welfare activists. Cohen confronts the Temple's master narrative of 'Buddhist compassion' with a counternarrative of 'animal abuse' according to which, rather than being a 'sanctuary' for tigers, the temple in fact mistreats the animals and exploits them commercially. However, even as an animal welfare organisation's report confirmed the abuse of the tigers and called for their confiscation and for the suspension of



their display to visitors, the Thai authorities granted the temple permission to operate as a zoo. This decision highlights the profound contrast between Thai and Western-inspired international norms for the treatment of captive (wild) animals. The article examines the cultural roots of this contrast and argues that in their narrow focus on the Tiger Temple the critics have unwittingly missed the opportunity to use the Temple's animal abuse as an instance of a wider problem in the perception and treatment of (wild) animals in Thailand.

**Authors:** Connolly, E., and Nelson, H.

**Year:** 2023

**Title:** 'Buddhist compassion' and 'animal abuse' in Thailand's Tiger Temple

**Journal:** Society & Animals

**Volume:** 4

**Issue:** -

**Article:** 851254

**Abstract:** Conservation in the human-dominated anthropocene involves negotiations among diverse stakeholders. However, these stakeholder inclusion schemes are often superficial, leading to unsuccessful interventions. Connolly and Nelson apply the theory of multinaturalism as an operational starting point for stakeholder engagement efforts, to deepen local involvement and work towards coexistence. Multinaturalism posits that natures are multiple and can be known in many ways, and that many natures can coexist in the same geographical space. Using the northern jaguar population in the US-Mexico borderlands as a case study, the authors investigate, through semi-structured interviews, the natural realities ('natures') of various stakeholders involved in borderland jaguar conservation. They define a nature as an individual's or group's perceptions, knowledge, values, attitudes, and actions towards jaguars. Connolly and Nelson construct each stakeholder group's natural reality of this jaguar population through applied thematic analysis, and identify which aspects of stakeholders' natures are similar and different, particularly across the international border. For example, they found that many conservationists and activists value the jaguar as an apex predator because its presence signifies ecosystem health and balance, while some ranchers hold existence value for the jaguar's power and beauty, but resent its role as a predator, due to potential for conflict with livestock. This information provides a greater understanding of differences in realities that may cause conflicts over wildlife-related decisions, and can be used by local conservation actors to facilitate collaboration in a complex transboundary region. This interdisciplinary study highlights the importance of investigating the human dimensions of conservation completely, while treating all forms of knowledge about nature seriously and equally. Due to the unique nature of human-wildlife interactions, each conservation situation requires bespoke consideration, and particularly in diverse landscapes, a multinatural approach offers a novel path towards sustainable human-wildlife coexistence.

**Author:** Curtin, S.

**Year of Conference:** 2011

**Title:** Tiger, tiger burning bright: Is tourism a blessing or a blight?

**Conference Name:** Special Interest Tourism and Destination Management Conference

**Conference Location:** Kathmandu, Nepal

**Abstract:** The number of tigers has declined from 100,000 a century ago to only approximately 3,200 today and these tigers are a focus for conservation and last-chance tourism. However, tiger watching tourism is seen as another pressure on their survival and thus India has been the first country to announce plans to reduce/regulate tourism in its tiger reserves. This has reopened an international discussion on whether tourism is a positive or negative force for the

conservation of flagship species. Using India as a case study, this paper sets out the arguments for tiger tourism in order to invite further academic and industry comment.

**Authors:** Curveira-Santos, G., Sutherland, C., Santos-Reis, M., and Swanepoel, L. H.

**Year:** 2021

**Title:** Responses of carnivore assemblages to decentralized conservation approaches in a South African landscape

**Journal:** Journal of Applied Ecology

**Volume:** 58

**Issue:** 1

**Pages:** 92-103

**Abstract:** Conservation efforts in South Africa play out across multi-use landscapes where formal protected areas coexist with private wildlife business (ecotourism and/or hunting) in a human-dominated matrix. Despite the persistence of highly diverse carnivore guilds, management idiosyncrasies are often orientated towards charismatic large predators and assemblage-level patterns remain largely unexplored.

Curveira-Santos and colleagues conducted an extensive camera-trap survey in a natural quasi-experimental setting in KwaZulu-Natal, South Africa. They sampled across a protection gradient characterised by a provincial protected area (highest and formal protection status), a private ecotourism reserve, game ranches and traditional communal areas (lowest protected status). The authors evaluated assemblage-level and species-specific responses of free-ranging carnivores to the varying management contexts and associated environmental gradients.

Despite similar assemblage composition between management contexts, site-scale carnivore richness and occupancy rates were greater in the formal protected area than adjacent private reserve and game ranches. Carnivore occupancy was more similar between these private wildlife areas, although putative problem species were more common in the private reserve and contrasted with depauperate assemblages in least protected communal lands. Variation in carnivore occupancy probabilities was largely driven by land use contexts, that is, the level and nature of protection, relative to underlying fine-scale landscape attributes (e.g. distance to conservation fences) or apex predator populations.

The findings provide convincing empirical support for the added value of multi-tenure conservation estates augmenting and connecting South Africa's protected areas. However, the authors' emphasis on free-ranging carnivores exemplifies the importance of maintaining areas under long-term formal protection and the risks with viewing lucrative wildlife business as a conservation panacea. They suggest that unmanaged carnivore species be the formal components of carnivore reintroduction and recovery programmes to better gauge the complementary conservation role of South Africa's private land.

## D

**Author:** Dagorne, D., Kanté, A., and Rose, J. B.

**Year:** 2020

**Title:** A citizen science approach to monitoring of the Lion *Panthera leo* (Carnivora: Felidae) population in Niokolo-Koba National Park, Senegal

**Journal:** Journal of Threatened Taxa

**Volume:** 12

**Issue:** 1

**Pages:** 15091-15105

**Abstract:** A voluntary citizen science approach was used in a pilot study of the relict population of the critically endangered western African lion (*Panthera leo*) in Niokolo-Koba National Park (NKNP) in Senegal. In total, 93 observations involving 253 lion sightings were made by NKNP guides and their clients over a period of four and a half years in the central tourist area of the park which represents about 3% of the total area of NKNP. Identification sheets were produced for 10 individual lions on the basis of whisker spot patterns measured from photographs contributed by the tourists. Although the researchers were not able to identify a sufficient number of individual lions to estimate the lion population in the zone, extensive data on the geographic distribution, age-class and sex, and behaviour of the observed lions are presented. Data are also presented to tentatively support a relationship between the annual variations in lion observations and the total rainfall in the preceding year. The advantages of this citizen science approach in terms of complementing mainstream science, as well as in promoting tourism development and conservation sensitisation, are discussed, and recommendations are made for pursuing this cooperative effort at a higher level of effectiveness.

**Authors:** Dar, N. I., Minhas, R. A., Zaman, Q., and Linkie, M.

**Year:** 2009

**Title:** Predicting the patterns, perceptions and causes of human–carnivore conflict in and around Machiara National Park

**Journal:** Biological Conservation

**Volume:** 142

**Issue:** 10

**Pages:** 2076-2082

**Abstract:** Human–carnivore conflict is considered to be a major conservation and rural livelihood issue because many carnivore species have been heavily persecuted due to elevated conflict levels with communities. To mitigate such conflicts requires a firm understanding of their underlying patterns. This situation is epitomised in Pakistan, where carnivore populations have been greatly reduced, but where no research has investigated the conflict patterns of large carnivore guilds with humans. Focusing in and around Machiara National Park (MNP), Azad Jammu and Kashmir region, the authors conducted the first such scientific study in Pakistan. From January 2004 to May 2007, 148 people lost their livestock to four carnivore species. Leopard was responsible for the majority (90.6%) of the 363 livestock killed, mainly goats (57.3%) and sheep (27.8%). Information-theoretic evaluation of a candidate set of regression models found that leopard kills inside villages were significantly higher for areas without electricity, while leopard kills outside villages were higher for pastoralists with larger herds that were further from MNP, with no effect from several guarding strategies used. Temporal leopard attacks were significantly and positively related to temperature, but not to rainfall, for goat kills, but not for other livestock kills. While leopard kills caused the greatest overall

financial loss (19.8%) amongst carnivores, which negatively affected local tolerance towards leopards, disease caused greater livestock losses (72.7%). To improve both large carnivore and local livelihood prospects around MNP and across rural Pakistan, conservation and development projects should install village electricity supplies and vaccinate livestock, while the cost-effectiveness of different conflict mitigation strategies should be trialled.

**Authors:** Devy, S. M., Rattan, S., Ganesh, T., Prashanth, M., Jesudasan, A., and Goswami. R.

**Year:** 2015

**Title:** Sustainable green religious tourism: Ranthambhore Tiger Reserve. An emerging model with multi-stakeholder engagement

**City/State:** Bangalore, Karnataka, India

**Institution:** ATREE/ARC

**Date:** 2015

**Abstract:** The National Tiger Conservation Authority (NTCA) which oversees the tiger reserve network in the country has clearly articulated guidelines for regulated tourism of wildlife, especially related to the impact on tiger populations that adheres to the carrying capacity of the tiger reserve. Guidelines on management and regulation of pilgrimages by religious tourists to temples within such reserves have not received proper attention in the past. Active pilgrimage sites are found in a number of tiger reserves, the most notable being the Lord Ayyappa temple in Periyar Tiger Reserve. NTCA guidelines indicate every tiger reserve to draw a plan of action to manage and regulate religious tourism within three years of notification of the NTCA guidelines. Ranthambhore Tiger Reserve in the State of Rajasthan, has an ancient Trinethra Ganesha temple which is visited regularly i.e., daily, weekly, monthly and during the annual Ganesh Chaturthi festival by local, regional and national pilgrims. It is estimated to attract not less 8-10 lakh people annually. A project to meet the clause on religious tourism indicated by NTCA guidelines was perceived and jointly implemented by ATREE and ARC in association with the Forest Department for Ranthambhore Tiger Reserve along with local conservation and community NGO partners - Tiger Watch and Prakratik Society. The model comprised co-management of regulating the festival impact. It involved multiple stakeholders including the Forest Department (assisted by local district administration, wherever necessary), Trinethra Ganesh Temple Trust, conservation organisations such as Tiger Watch, World Wildlife Fund, Ranthambhore Foundation and community NGOs under the flagship of Prakratik Society, namely Bhu Premi Parivaar, Kids for Tigers, Ranthambhore Art & Wildlife Conservation Society (RAWCS), Dalit Vikas Sahayata Samithi, and more.

The Outreach component had some of these multiple stakeholders formulating various components of a Green Ganesha-Clean Ganesha (GG-CG) campaign to target various audiences. A popular theme song of the campaign announcing the ban on plastics and an associated penalty was composed in the local dialect; a mobile tableau with the theme song, banners, posters and pamphlets espousing religious beliefs supporting nature conservation spread the message in Sawai Madhopur town and many nearby villages. Awareness and education banners, posters, signature campaigns, appeals by the temple trust, talks with educational institutions/community organisations were undertaken a month prior to the festival. A major intervention component this year was frisking and replacement of polythene bags by cloth bags, by community volunteers with the help from the Ranthambhore Forest Department. The cloth bags were tailored by under privileged women groups which emerged as a social spin off to the entire effort. The model had a monitoring component of which assessment of pilgrim flow, garbage generation, pre and post festival impact on water quality tests of water bodies and road kills was a part. Social surveys of pilgrim perception and attitude to assess their willingness to reduce impact was done prior to, during and post-festival. Use of



religious beliefs supporting conservation was also assessed. The project effectively brought conservation groups, community groups and religious institutions together. More engagement by the district administration and Panchayats in this programme can further reduce the negative environmental impacts drastically. Additionally, monitoring should extend to biodiversity aspects in the pilgrimage area related to the flora, fauna and their ecosystems, to serve as important feedback for further action/intervention by forest managers. Community outreach can also be fine tuned as many "place of origin of pilgrims" have been identified through surveys. The authors propose this effort to become a part of the annual management plan of forest department to be implemented every year.

**Authors:** Dhungana, R., Savini, T., Karki, J. B., and Bumrungsri, S.

**Year:** 2016

**Title:** Mitigating human-tiger conflict: An assessment of compensation payments and tiger removals in Chitwan National Park, Nepal

**Journal:** Tropical Conservation Science

**Volume:** 9

**Issue:** 2

**Pages:** 776-787

**Abstract:** Human-tiger conflict is one of the most critical issues in tiger conservation, requiring a focus on effective mitigation measures. The authors assessed the mitigation measures used between 2007 and 2014 in Chitwan National Park (CNP) and its buffer zone, which include: compensation payments made to human victims or their families, compensation for livestock loss through depredation, and the removal of tigers involved in conflicts. The data collected from the offices of CNP and the Buffer Zone Management Committee were triangulated during questionnaire surveys (n=83) and key informant interviews (n=13). A total compensation of US\$ 93,618 (US\$11,702.3 per year) was paid for tiger attacks during the eight-year period. Of this, the majority (65%) was in payment for human killings, followed by payment for livestock depredations (29.3%) and for human injuries (5.7%). The payments on average covered 80.7% of medical expenses of injured persons, and 61.7% of the monetary value of killed livestock. Goats had the highest proportion of payments (43.5%) for livestock. A linear model suggested there was an increasing trend in total annual payments from US\$2,000 in 2007 to US\$21,536 in 2014, a jump of 976%. A total of 15 tigers were removed from the wild for conflict reasons: Eleven by authorities, and four killed by local people in retaliation. Thirteen tigers were removed from the buffer zone alone. The majority of the removed tigers were adults (n=9) and healthy (n=9). Most (n=12) of the removed tigers were killed, or died after removal, indicating greater impacts of tiger-removal in CNP. The authors suggest that in order to encourage community engagement, compensation payments be paid quickly, an insurance scheme in the buffer zone be promoted, live-removed tigers be better managed, including radio-tracking of wild released individuals, and awareness programmes be targeted at affected communities.

**Authors:** Dickman, A., Packer, C., Johnson, P. J., and Macdonald, D. W.

**Year:** 2018

**Title:** A sideways look at conservation and consistency in tourism policy

**Journal:** Conservation Biology

**Volume:** 32

**Issue:** 3

**Pages:** 744-746

**Abstract:** The article discusses whether lion trophy hunting and phototourism should be treated based on the same principles. Topics include the significance of both activities to lion conservation, the importance of consistency in attitudes toward wildlife, and the problems

associated with poorly managed phototourism and trophy hunting. Also cited are the organisations that promote lion conservation by restricting the international movement of animal parts, including the U.S. Fish and Wildlife Service.

**Author:** Dileep, M. R.

**Year:** 2006

**Title:** Sustainable tourism development: the case of Periyar Tiger Reserve

**Journal:** ATNA - Journal of Tourism Studies

**Volume:** 1

**Issue:** 1

**Pages:** 133-140

**Abstract:** Tourism evolved through many centuries, is one of the most vibrant, growing and economically useful activities in the world having wide cultural and social ramifications. In its modern form, since the end of the Second World War tourism has grown into one of the world's largest industries with a growth rate in excess of five percent per annum over the past twenty years. It is accepted that tourism is a major force in the economy of the world, an activity of global importance and significance. This most rapidly expanding industry is contributing over ten percent to global GDP and generating employment for 200 million people. It is reported that travel and tourism can be part of the solution to world problems, such as bridging the gap between the 'have's and 'have not's'. As an economic activity it can help contribute to the alleviation of poverty in almost all the areas of the globe. But at the same *time* attention has also been focused on the impacts of tourism on different spheres, in particular on the physical and human environment of destination, creating new, vitally important issues of consideration on this tourism agenda.

Humankind has experienced stunning developments during the last half century, where technology has played a significant role. Concurrently, the other side of the developments, the negative impacts, has also emerged as threatening factor to the existence of life on the Earth. The intensity of the issues due to developments raised many eyebrows and led to the search for alternative development paradigm. Tourism was initially highlighted as smokeless, non-polluting industry, emerged as a big player in the world industrial scenario and occupied one of the top most positions in the list of largest industries. The experience has shown that tourism is also a problematic industry, produces severe reversible as well as irreversible impacts in many areas.

The issue posed by modern development was a major topic of discussion in the Earth summit at Rio, and the outcome was the globally accepted concept - 'sustainable development'. Today it is widely believed that sustainable development of tourism can make significant contribution towards resource conservation while enhancing economic benefits. Periyar Tiger Reserve is a wildlife sanctuary, a protected area as per Government of India wildlife protection laws and during the last fifteen years different biodiversity preservation programmes are being planned and implemented at Periyar Tiger Reserve, a majority of them are tourism related. Against the backdrop of the discussion on sustainability, this paper attempts to examine the various tourism practices being followed at Periyar Tiger Reserve which can be considered as sustainable forms of tourism practices.

## F

**Author:** Fletcher-Barnes, E.

**Year:** 2021

**Title:** Cuddle, kill, conserve: A posthuman analysis of the African lion within the South African wildlife security assemblage

**Journal:** International Journal of Sociology and Social Policy

**Volume:** 41

**Issue:** 3/4

**Pages:** 475-488

**Abstract:** This paper explores the life cycle of a captive bred lion in South Africa, focusing on the distinction between captive bred and wild individuals. Lions are bred in captive breeding facilities across the country to provide cubs and teenagers for ecotourism, and following this, hunting “trophies.” A distinction is made between the “wild” and “captive” lion, a categorisation that Fletcher-Barnes argues legitimises violent and unethical treatment toward those bred specifically to be cuddled and killed. This analysis explores how the lion is remade or modified from wild to commodity and the repercussions this has had throughout the wildlife security assemblage.

The paper is based on ethnographic research carried out in South Africa during 2016 that involved conducting informal and semi-structured interviews with activists, breeders, wildlife security personnel and conservationists drawing out the interspecies relations that influenced the encounters between humans and wildlife.

Dominant conservation narratives continue to understand and interpret wildlife solely as a commodity or profitable resource, which has led to the normalisation of unethical and cruel practices that implicate wildlife in their own security and sustenance through their role in ecotourism, hunting and more recently, the lion bone trade. Captive bred lions are treated as products that undergo a series of transitions through which they are exposed to violence and exploitation operationalised through practices linked to conservation and ecotourism.

Through posthuman thinking, this paper contributes to debates on the interspecies dimensions of politics through challenging the dominant assumptions that govern conservation and the interspecies encounter.

**Authors:** Funston, P. J., Groom, R. J., and Lindsey, P. A.

**Year:** 2013

**Title:** Insights into the management of large carnivores for profitable wildlife-based land uses in African savannas

**Journal:** PLoS ONE

**Volume:** 8

**Issue:** 3

**Article:** e59044

**Abstract:** Large African predators, especially lions (*Panthera leo*) and leopards (*Panthera pardus*), are financially valuable for ecotourism and trophy hunting operations on land also utilised for the production of other wildlife species for the same purpose. Predation of ungulates used for trophy hunting can create conflict with landholders and trade off thus exists between the value of lions and leopards and their impact on ungulate populations. Therefore productionist and conservation trade-offs are complexly graded and difficult to resolve. The authors investigated this with a risk-benefit analysis on a large private wildlife production area in Zimbabwe. Their model showed that lions result in substantial financial costs through predation on wild ungulates that may not be offset by profits from hunting them, whereas the

returns from trophy hunting of leopards are projected to exceed the costs due to leopard predation. In the absence of additional income derived from photo-tourism the number of lions may need to be managed to minimise their impact. Lions drive important ecological processes, but there is a need to balance ecological and financial imperatives on wildlife ranches, community wildlife lands and other categories of multiple use land used for wildlife production. This will ensure the competitiveness of wildlife-based land uses relative to alternatives. The findings may thus be limited to conservancies, community land-use areas and commercial game ranches, which are expansive in Africa, and should not necessarily applied to areas where biodiversity conservation is the primary objective, even if hunting is allowed there.

## G

**Authors:** Gebresenbet, F., Bauer, H., Vadjunec, J. M., and Papes, M.

**Year:** 2018

**Title:** Beyond the numbers: Human attitudes and conflict with lions (*Panthera leo*) in and around Gambella National Park, Ethiopia

**Journal:** PLoS ONE

**Volume:** 13

**Issue:** 9

**Article:** e0204320

**Abstract:** Human-lion conflict is one of the leading threats to lion populations and while livestock loss is a source of conflict, the degree to which livestock depredation is tolerated by people varies between regions and across cultures. Knowledge of local attitudes towards lions and identification of drivers of human-lion conflict can help formulate mitigation measures aimed at promoting coexistence of humans with lions. The authors assessed locals' attitudes towards lions in and around Gambella National Park and compared the findings with published data from Kafa Biosphere Reserve, both in western Ethiopia. They used household interviews to quantify livestock loss. Gebresenbet and colleagues found that depredation was relatively low and that disease and theft were the top factors of livestock loss. Remarkably, however, tolerance of lions was lower around Gambella National Park than in Kafa Biosphere Reserve. Multivariate analysis revealed that education level, number of livestock per household, livestock loss due to depredation, and livestock loss due to theft were strong predictors of locals' attitude towards lion population growth and conservation. The researchers show that the amount of livestock depredation alone is not sufficient to understand human-lion conflicts and the authors highlight the importance of accounting for cultural differences in lion conservation. The low cultural value of lions in the Gambella region corroborate the findings of their study. In combination with growing human population and land-use change pressures, low cultural value poses serious challenges to long-term lion conservation in the Gambella region. Gebresenbet and colleagues recommend using Arnstein's ladder of participation in conservation education programs to move towards proactive involvement of locals in conservation.



**Authors:** Ghosh, N., Sharma, P., & Gupta, P.

**Year:** 2022

**Title:** Tourism and pollution: Investigating impact on Bali Island of Sunderbans Tiger Reserve, West Bengal, India

**Journal:** Webology

**Volume:** 19

**Issue:** 1

**Pages:** 2164-2169

**Abstract:** Tourism in protected areas generates noise pollution, air pollution, water pollution and litter which can adversely affect human health, social well-being and destination sustainability. These pollutants should be checked and kept under control. The quality of lifestyle of the host community will potentially be degraded due to these pollutants which will lead to social tension. In this paper, Ghosh and colleagues evaluate the perception of the host community regarding the pollution caused by tourism in Sunderbans Tiger Reserve by conducting a questionnaire survey. The data were collected from the Bali island of Sunderbans Tiger Reserve which is a popular island for tiger-man conflicts, hence has received lots of attention from tourism. Results show that there is an increase in water pollution and litter in the study area due to tourism.

**Authors:** Ghosh, N., and Uddhammar, E.

**Year:** 2018

**Title:** Tiger, lion, and human life in the heart of wilderness: Impacts of institutional tourism on development and conservation in East Africa and India

**Journal:** Conservation and Society

**Volume:** 11

**Issue:** 4

**Pages:** 375-390

**Abstract:** This article tests the hypothesis on whether tourism is an important institutional factor in reconciling the conflicting goals of conservation and development. The study entails data from field surveys across protected areas including the Serengeti National Park and the Ngorongoro Conservation Area in northern Tanzania, and the Corbett National Park in northern India. With human development defined in terms of 'stages of progress' (SOP) delineated by the respondents themselves, the study finds indicative evidence of the validity of the posed hypothesis in the two nations, in varying proportions. Factors not related to tourism, like incomes from livestock, have affected development in Tanzania, though not in India.

**Author:** Gilisho, J.

**Year:** 2020

**Title:** Maasai eco-lodge creates win-win for humans and animals alike

**Volume:** 1

**Issue:** -

**Pages:** 22-23

**Abstract:** Tourists who visit the Laikipia district north of Mount Kenya, between fertile highlands to the south and vast arid plains stretching north, do not only come to experience the eco-lodge, the Maasai hospitality and the stunning scenery they also come to see its wildlife.

**Author:** Guo, J.

**Year:** 2007

**Title:** Tigers in trouble: Year of the tiger

**Volume:** 449

**Issue:** -

**Pages:** 16-18

**Abstract:** Guo reports on the controversial issues faced by the tiger breeding facility, Hengdaohezi Feline Breeding Centre, in Harbin, China. With about 800 Siberian tigers in its collection, the facility is facing media attention due to violent videos taken from its tourism programmes. The Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) meeting, held in The Hague, Netherlands on June 2007, likewise criticises China's tiger-breeding programme and threatens to reintroduce its 600 tigers into the wild. Meanwhile, scientists are also considering the genetic diversity of Siberian tigers through artificial insemination to avoid their extinction.

## H

**Author:** Hannam, K.

**Year:** 2007

**Title:** Shooting tigers as leisure in colonial India

**Editor:** B. Lovelock

**Book Title:** Tourism and the consumption of wildlife: Hunting, shooting and sport fishing

**Publisher:** Routledge

**Pages:** 99-111

**Abstract:** Recent research has suggested that the dualistic oppositions between people and animals have to be transcended before a more sophisticated understanding of society can be reached. Within this framework the reconceptualisation of animals in their own right has led to studies that demonstrate the importance of animals to human activities. In particular, both popular and scientific anthropomorphic representations are deconstructed as part of the investigation into the 'continuing struggle between differentially empowered groups to define and represent the "true" meanings and values of wildlife and habitats'. In this chapter, Hannam seeks to extend this recent area of research by focusing on the importance of tiger hunting in India as a leisure pursuit for the reproduction and maintenance of the British colonial state.

**Authors:** Hanson, J. H., Schutgens, M., and Baral, N.

**Year:** 2019

**Title:** What explains tourists' support for snow leopard conservation in the Annapurna Conservation Area, Nepal?

**Volume:** 24

**Issue:** 1

**Pages:** 31-45

**Abstract:** Wildlife tourism is increasingly important for the conservation of threatened species such as snow leopards. However, what tourists know or value about snow leopards, and to what extent they support the conservation of this species, has received limited empirical attention. This paper investigates tourist knowledge about snow leopards, beliefs and values toward the species, and support for its conservation in the Annapurna Conservation Area of Nepal. Survey data were collected from 406 foreign tourists between March and May 2014. Although knowledge about snow leopards varied among respondents, there was widespread support for their conservation. Knowledge about snow leopards was best explained by education level and

environmental organisation membership. Improved knowledge about the species, and a variety of intrinsic conservation values, were found to increase tourist support for snow leopard conservation. These results provide important insights to help tailor tourism initiatives to support the conservation of snow leopards.

**Authors:** Hassan, A. and Sharma, A.

**Year:**2017

**Title:** Wildlife tourism for visitors' learning experiences: Some evidences on the Royal Bengal Tiger in Bangladesh and India

**Editors:** I. Borges de Lima and R. Green

**Book Title:** Wildlife tourism, environmental learning and ethical encounters

**Publisher:** Springer

**Pages:** 155-168

**Abstract:** Much wildlife tourism involves seeing animal species in pristine natural settings. However, it does include non-domestic animals on farms, in zoos etc., and in areas which are fairly natural but not really pristine. Resources for promoting wildlife tourism are scattered in different locales of the world. Wildlife tourism needs to be viewed from both theoretical and practical aspects. This chapter presents two classical examples to view wildlife tourism as a learning experience. In the Bangladesh context, this chapter explores wildlife tourism aspects of the Sundarbans. The Royal Bengal tiger (*Panthera tigris tigris*) is an important asset of the Sundarbans in Bangladesh. Particular references have been made to learning experiences generated through a new wildlife tourism product to showcase the Royal Bengal Tiger. On the other hand, in the context of India the chapter outlines wildlife resources in the Hadoti regions and makes some specific suggestions to employ these resources for wildlife tourism. Both empirical and literature-based data are gathered to outline wildlife tourism in these two separate perspectives. Findings outline the necessity of safeguarding wildlife tourism resources in the Sundarbans while promoting wildlife tourism products in the Hadoti region. This research emphasises the importance of involving both academics and tourists with wildlife tourism that can also benefit both ecological and environmental well-being of wildlife resources. On the common ground, the study shows the significance of wildlife tourism education. Then, it suggests that tourism planning in Sundarbans and Hadoti regions should consider the development of educative tour services and products for wildlife visitors aiming to inform them on ecological and biological data of wild animals, as well as to include conservation issues as part of learning experience.

**Authors:** Hayward, P. T., Liu, S., Thigpen, A. P., and Hart, L. A.

**Year:** 2022

**Title:** Animal tourism: Thai caregivers' perspectives on their relationships with elephants and tigers

**Volume:** 12

**Issue:** 6

**Article:** 760

**Abstract:** This study explored the perspectives of elephant mahouts (n=55) and tiger caregivers (n=18) working in four private or two government facilities in Thailand to learn about their experiences and viewpoints pertaining to the use of animals in tourism. Interviews were conducted in Thailand at facilities in four cities. Mahouts working in private tourism facilities used one-to-one management and were significantly younger and more poorly compensated than those working at government-funded zoos, where some had shifted to group management. Tiger caregivers in tourism had direct contact with young tigers, with group management; these caregivers also were significantly younger than in government zoos, and

with fewer benefits. Mahouts and tiger caregivers differed in how they viewed their relationships with their animals. Most mahouts considered their elephants as family members; a slight majority of these questioned the ethics of use of elephants in tourism. Tiger caregivers classified tigers as family or friend equally often; one-third of tiger caregivers declined answering on their approval of using tigers in tourism. What to do with aging tigers is a problem; this may explain some tiger caregivers' reticence to answer questions about using young tigers in tourism. While solving some problems, animal tourism creates several challenges.

**Authors:** Hazzah, L., Dolrenry, S., Naughton, L., Edwards, C. T. T., Mwebi, O., Kearney, F., and Frank, L.

**Year:** 2014

**Title:** Efficacy of two lion conservation programs in Maasailand, Kenya

**Volume:** 28

**Issue:** 3

**Pages:** 851-860

**Abstract:** Lion (*Panthera leo*) populations are in decline throughout most of Africa. The problem is particularly acute in southern Kenya, where Maasai pastoralists have been spearing and poisoning lions at a rate that will ensure near term local extinction. Hazzah and colleagues investigated two approaches for improving local tolerance of lions: compensation payments for livestock lost to predators and Lion Guardians, which draws on local cultural values and knowledge to mitigate livestock-carnivore conflict and monitor carnivores. To gauge the overall influence of conservation intervention, they combined both programmes into a single conservation treatment variable. Using eight years of lion killing data, they applied Manski's partial identification approach with bounded assumptions to investigate the effect of conservation treatment on lion killing in four contiguous areas. In three of the areas, conservation treatment was positively associated with a reduction in lion killing. The authors then applied a generalised linear model to assess the relative efficacy of the two interventions. The model estimated that compensation resulted in an 87–91% drop in the number of lions killed, whereas Lion Guardians (operating in combination with compensation and alone) resulted in a 99% drop in lion killing.

**Author:** Hemanta, R. M.

**Year:** 1982

**Title:** Balancing human needs and conservation in Nepal's Royal Chitwan Park

**Volume:** 11

**Issue:** 5

**Pages:** 246-251

**Abstract:** Royal Chitwan National Park has been successful in restoring depleted populations of rhino and tiger in Nepal's Terai region. But this success has been achieved at the price of direct conflict between park authorities and the local people. The restrictions imposed by park regulations, and losses of livestock, crops, and human lives to game from the park are the principal causes of these conflicts. Park authorities have experimented with public relations efforts at the community level, and an annual harvest of thatch grass as compensation for losses, as ways of ameliorating the villagers' resentment. Expected benefits from tourism have not materialised, and tourism revenues do not meet government financial inputs. Few jobs in tourism go to local residents.



**Authors:** Hemson, G., Maclennan, S., Mills, G., Johnson, P., and Macdonald, D.

**Year:** 2009

**Title:** Community, lions, livestock and money: A spatial and social analysis of attitudes to wildlife and the conservation value of tourism in a human–carnivore conflict in Botswana

**Volume:** 142

**Issue:** 11

**Pages:** 2718-2725

**Abstract:** Hemson and colleagues quantified livestock (cattle, shoats, horses and donkeys) losses to lions (*Panthera leo*) and attitudes to lions, livestock losses and tourism among livestock owners, village residents and tourism workers around Makgadikgadi Pans National Park in Botswana. Losses were not correlated with the size or structure of livestock enclosures, numbers of dogs or herders. Rather losses increased with the amount of livestock owned. Most were stray animals preyed upon at night. Attitudes to wildlife, conservation and lions were also not consistently distributed within the society the authors studied. Negative attitudes to lions were almost ubiquitous among cattle posts but less widespread among people living in the more urbanised society of villages or among people working in tourism.

Although four tourist camps were operating in the area, benefits from these operations were largely limited to employees. Despite considerable sums of money being paid to Botswana by local tourist facilities few respondents viewed tourism as valuable and most felt that the government and not they or their community was the main beneficiary of tourism. Tourism employees made up a small sub-section of the adult population drawn predominately from larger villages while the costs of livestock losses were spread among cattle posts near the park boundary. These same cattle post respondents were not prepared to improve stock care to protect livestock but indicated a willingness to kill lions instead. If tourism is to play a role in reducing human–wildlife conflict, communities must not be regarded as homogenous entities into which to distribute benefits evenly. Benefits might usefully be distributed in relation to the costs of coexisting with wildlife or used as incentives to better protect livestock or other human resources.

## I

**Authors:** Inskip, C., and Zimmermann, A.

**Year:** 2009

**Title:** Human-felid conflict: A review of patterns and priorities worldwide

**Journal:** Oryx

**Volume:** 43

**Issue:** 1

**Pages:** 18-34

**Abstract:** Conflict between people and felids is one of the most urgent wild cat conservation issues worldwide, yet efforts to synthesise knowledge about these conflicts have been few. For management strategies to be effective a thorough understanding of the dynamics of human-felid conflicts is necessary. Here the authors present the results of a cross-species, systematic review of human-felid conflicts worldwide. Using a combination of literature review and geographical information system analyses, they provide a quantitative as well as qualitative assessment of patterns and determinants that are known to influence the severity of human-felid conflicts, and a geographical overview of the occurrence of conflict worldwide. Inskip and Zimmermann found evidence of conflict affecting over 75% of the world's felid species. The severity of conflict increases with felid body mass and is of greatest conservation significance to nine species: caracal, cheetah, Eurasian lynx, jaguar, leopard, lion, puma, snow

leopard and tiger. They also reveal specific gaps in knowledge about human–felid conflicts and required actions within this aspect of felid conservation. With only 31% of implemented management strategies having been evaluated scientifically, there is a need for greater and more rigorous evaluation and a wider dissemination of results. Also urgently required are standardised reporting techniques to reduce the current disparity in conflict reporting methods and facilitate resolution of patterns and trends in the scale of human-felid conflict worldwide. This review provides a basis both for further synthesis and for the coordination of human-felid conflict management among researchers, practitioners and organisations.

## J

**Author:** Jackson, R.

**Year:** 2012

**Title:** Fostering community-based stewardship of wildlife in Central Asia: Transforming snow leopards from pests into valued assets

**Editor:** Squires, V.

**Book:** Rangeland stewardship in Central Asia: Balancing improved livelihoods, biodiversity conservation and land protection

**Pages:** 357-380

**Abstract:** Addressing human–wildlife conflict is an important requisite to managing rangelands for livestock and wildlife. Despite high altitudes, aridity, and relatively low primary productivity, the rangelands of Central Asia support a rich and diverse biodiversity—including the endangered snow leopard that many herders perceive as a predator to be eliminated. Conserving this and other wildlife species requires carefully crafted interventions aimed at curbing depredation losses and/or reducing competition for forage, along with offering locally sustainable, environmentally friendly income-generating activities for supplementing pastoral household livelihoods. This is best achieved through a combination of incentives designed to foster sound rangeland and wildlife stewardship, along penalties or disincentives targeting herders who violate mutually agreed rules and regulations (including grazing norms and wildlife disturbance or poaching).

When working toward the harmonious coexistence of people and wildlife, conservationists and rangeland practitioners need to seek the cooperation and build goodwill among herders and other stakeholders, including local government and private industry (especially the livestock production, mining, and tourism sectors).

**Authors:** Jain, P., and Sajjad, H.

**Year:** 2016

**Title:** Analysis of willingness for relocation of the local communities living in the critical tiger habitat of the Sariska Tiger Reserve, India

**Journal:** Local Environment

**Volume:** 21

**Issue:** 11

**Pages:** 1409-1419

**Abstract:** Many Indian Protected Areas (PAs) act as a support system for the communities living in and around them. Large-scale human interventions in these PAs have resulted in biodiversity loss, threat to wildlife and habitat fragmentation. The Sariska Tiger Reserve (STR) is no exception. In this reserve, tigers (*Panthera tigris*) became extinct in 2004. To create inviolate space for the reintroduced tigers, the government has planned voluntary relocation of villages located inside critical tiger habitat. The voluntary relocation plan will be more

challenging if people are not willing to get relocated from PAs. Therefore, the authors have empirically analysed the identified factors influencing local communities' willingness in getting relocated outside the STR using logit model. Results revealed that "restriction of access" and "market access" are the most influential factors and positively associated while forest dependency is negatively associated with local communities' willingness. Based on these results, it was recommended that policy should be directed towards restriction on accessing forest resources along with reduction in forest dependency by nurturing and strengthening villagers' livelihood to ensure successful relocation. Displacement of existed small markets around the reserve will also persuade them to relocate in areas more connected to market and other facilities.

**Author:** Jalais, A.

**Year:** 2008

**Title:** Unmasking the cosmopolitan tiger

**Journal:** Nature and Culture

**Volume:** 3

**Issue:** 1

**Pages:** 25-40

**Abstract:** The global 'cosmopolitan' tiger, as opposed to the local 'Sundarbans tiger', has become the rallying point for urbanites' concerns for wildlife protection globally. In this piece, Jalais looks at two different representations of tigers in recent history, one colonial and the other national. This so as to highlight how representations, even of wild animals, are ultimately linked to power. This leads him to argue how today's Western-dominated ideas about tigers (a view he calls 'cosmopolitan') ultimately act to the detriment of 'other' tigers because these do not allow for an engagement with alternative ways of understanding animals and wildlife. Such images, Jalais tries to show using Descola's arguments about nature and understandings of it, in turn perpetuate the coercive and unequal relationship between, in this case, those who partake of the 'cosmopolitan' tiger view versus those who live with 'wild' tigers.

**Authors:** Jhamvar-Shingote, R., and Schuett, M. A.

**Year:** 2013

**Title:** The predators of Junnar: Local peoples' knowledge, beliefs, and attitudes toward leopards and leopard conservation

**Journal:** Human Dimensions of Wildlife

**Volume:** 18

**Issue:** 1

**Pages:** 32-44

**Abstract:** This research evaluated local peoples' attitudes toward leopards and leopard conservation in the Junnar Forest Division, a hotspot for human–leopard conflict in India. This article used structured interviews and the theory of reasoned action to explore residents' knowledge, attitudes, subjective norms, and behavioural intentions toward leopards and their conservation. Results indicated a stronger influence of the attitudinal component than normative on locals' behavioural intention toward leopards and leopard conservation. Attitudes toward leopards were complex, with negative and positive views often held by the same person. This article revealed positive dimensions to the local peoples' perceptions of leopards, which are relevant to conservation of this animal. This research serves as a foundation for recommendations regarding regulatory interventions as well as educational and management strategies for the future.

**Authors:** Joshi, A., Vaidyanathan, S., Mondol, S., Edgaonkar, A., and Ramakrishnan, U.

**Year:** 2013

**Title:** Connectivity of tiger (*Panthera tigris*) populations in the human-influenced forest mosaic of Central India

**Journal:** PLoS ONE

**Volume:** 8

**Issue:** 11

**Article:** e77980

**Abstract:** Today, most wild tigers live in small, isolated protected areas within human dominated landscapes in the Indian subcontinent. Future survival of tigers depends on increasing local population size, as well as maintaining connectivity between populations. While significant conservation effort has been invested in increasing tiger population size, few initiatives have focused on landscape-level connectivity and on understanding the effect different landscape elements have on maintaining connectivity. Joshi and colleagues combined individual-based genetic and landscape ecology approaches to address this issue in six protected areas with varying tiger densities and separation in the Central Indian tiger landscape. They non-invasively sampled 55 tigers from different protected areas within this landscape. Maximum-likelihood and Bayesian genetic assignment tests indicate long-range tiger dispersal (on the order of 650 km) between protected areas. Further geo-spatial analyses revealed that tiger connectivity was affected by landscape elements such as human settlements, road density and host-population tiger density, but not by distance between populations. The results elucidate the importance of landscape and habitat viability outside and between protected areas and provide a quantitative approach to test functionality of tiger corridors. The authors suggest future management strategies aim to minimise urban expansion between protected areas to maximise tiger connectivity. Achieving this goal in the context of ongoing urbanisation and need to sustain current economic growth exerts enormous pressure on the remaining tiger habitats and emerges as a big challenge to conserve wild tigers in the Indian subcontinent.

**Author:** Joshi, A. P.

**Year:** 2013

**Title:** Striking a balance: The new generation of tiger tourism in India

**Academic Department:** Graduate School

**University:** University of Montana

**Thesis Type:** Master of Arts thesis

**Abstract:** In rural central India, thousands of domestic and foreign tourists flock to see wild Bengal tigers each year. An international debate about whether tourism is good or bad for tigers was heard by India's Supreme Court in 2012. After new guidelines were implemented, tiger reserves across the country had to review and manage their tourism policies. Set 550 miles east of the city of Mumbai, the Tadoba-Andhari tiger reserve is on the cusp of 'tiger tourism'. The reserve's ecotourism policy was recently extended by using it as precedence for other protected areas in the state of Maharashtra. A cap on vehicle numbers, limited tourism infrastructure and a conservation-oriented park management are some of the reserve's strengths but authorities need to tread carefully and avoid mistakes made by India's older tiger reserves. Frequent tiger sightings are driving tourism up, subsequently increasing consumer-oriented demands of tourists looking to find luxury amidst wilderness. Co-existing adjacent to this hobnob of tourists and tigers, is a village of 1200 people, most of whom are employed within the tourism sector directly or indirectly. Despite the increase in tourism revenue, this village – Moharli, has a long way to go before it can make substantial progress. Tourism has flourished in other tiger reserves at the cost of the locals' livelihood and the ecosystem's health. This project looks at



what it would take for the Tadoba-Andhari tiger reserve to avoid being enlisted with those reserves and carve a niche for itself as a sustainable tourism destination.

## K

**Authors:** Kabir, M., Ghoddousi, A., Awan, M. S., and Awan, M. N.

**Year:** 2014

**Title:** Assessment of human–leopard conflict in Machiara National Park, Azad Jammu and Kashmir, Pakistan

**Journal:** European Journal of Wildlife Research

**Volume:** 60

**Issue:** -

**Pages:** 291-296

**Abstract:** Livestock depredation by leopards is one of the key conservation issues in landscapes with limited resources worldwide. Any attempts to mitigate human–leopard conflict and conserve the species in conflict should be based on an unequivocal understanding of the conflict patterns. A household survey was conducted with an intention to quantify livestock losses resulting from depredation by leopards in and around the Machiara National Park, Azad Jammu and Kashmir, Pakistan. A total of 301 livestock were killed between June 2007 and August 2008 by leopards. The extent of loss varied in different months, with maximum killing occurring in the month of May. Small-bodied livestock such as goats and sheep were more vulnerable than large-bodied cattle. Goats were killed in significantly higher numbers as compared to other livestock. Domestic animals were killed more frequently at night as compared to other times of the day. There was a significant effect of the nighttime protection measures on depredation. Most attacks happened in valleys and in areas far from the forests. Factors most closely associated with livestock depredation included decline of natural prey, herding practices, guarding especially during the nighttime, and repeated use of pastures where predators were known to be hunting actively. Attitudes of the local community towards leopards were largely negative, and further efforts should be made to improve support for carnivore conservation. The authors suggest widespread local community education and proactive human–leopard conflict management, particularly through adopting carnivore-friendly livestock protection measures.

**Authors:** Kachel, S. M., McCarthy, K. P., McCarthy, T. M., and Oshurmamadov, N.

**Year:** 2017

**Title:** Investigating the potential impact of trophy hunting of wild ungulates on snow leopard *Panthera uncia* conservation in Tajikistan

**Journal:** Oryx

**Volume:** 51

**Issue:** 4

**Pages:** 597-604

**Abstract:** Declining availability of prey is potentially a major factor limiting snow leopard (*Panthera uncia*) populations in Tajikistan and neighbouring states. Conservation initiatives to develop community-based trophy hunting programmes for ibex (*Capra sibirica*) and argali (*Ovis ammon polii*) aim to provide financial incentives for communities to limit poaching of wild ungulates. Such programmes could help to reverse local declines in ibex and argali populations, and consequently snow leopard populations, while simultaneously improving the economic status of local people. However, in practice the desired effect may not materialise. To investigate the premise, the researchers estimated the population density of the snow

leopard, using a spatial capture–recapture model based on camera trapping in two study areas (each c. 1,000 km<sup>2</sup>) in the Tajik Pamirs: a well-managed trophy hunting concession and an otherwise similar area where grazing and poaching are unmanaged. They used distance-truncated counts to assess relative densities of wild and domestic ungulates between sites, and faecal analyses to compare the dietary habits of snow leopards. The data were limited in scope but suggested that the density of snow leopards and the relative density of wild and domestic ungulates may have been greater in the hunting concession, where wild ungulates accounted for a greater proportion of prey items. The results provide preliminary evidence that trophy hunting of ungulates may be a viable tool for achieving snow leopard conservation goals; however, the authors conclude that further investigation is necessary to adequately address the question.

**Authors:** Karanth, K. U., and Karanth, K. K.

**Year:** 2012

**Title:** A tiger in the drawing room: Can luxury tourism benefit wildlife?

**Journal:** Economic and Political Weekly

**Volume:** 47

**Issue:** 38

**Pages:** 38-43

**Abstract:** With decisions like the Supreme Court's interim order banning tourism inside tiger sanctuaries becoming inevitable in the face of increasing political and executive resistance to expansion of protected nature reserves on public land, the issue of tiger tourism calls for a pragmatic approach that can resolve contradictions between the burgeoning tourism demand and the tiger's shrinking habitats. A "Tiger Habitat Expansion Model", based on a shared profit motive between private landowners and tourism entrepreneurs rather than government intervention, is one that can help the tourism industry move towards a sustainable growth model that leverages its economic strength to expand tiger habitats.

**Authors:** Khan, U., Ferretti, F., Shah, S. A., and Lovari, S.

**Year:** 2020

**Title:** A large carnivore among people and livestock: The common leopard

**Editors:** F. M. Angelici and L. Rossi

**Book Title:** Problematic wildlife II: New conservation and management challenges in the human-wildlife interactions

**Publisher:** Springer

**Pages:** 93-110

**Abstract:** Mitigation of conflicts between humans and large carnivores is a major challenge in wildlife conservation. Habitat loss and depletion of wild prey, as well as easy availability of livestock, are expected to increase livestock depredation and, in turn, emphasise conflicts.

Khan and colleagues assessed the interactions between leopards, *Panthera pardus*, and humans in three study areas that all lie on a densely inhabited Himalayan part of Pakistan (c. 328 km<sup>2</sup>): a protected, largely forested area (Ayubia National Park and its surroundings, ANP) and two areas with a greater level of anthropogenic activities and lower extent of forest cover (Murree, MF; Transitional Area, TA). To suggest potential measures to mitigate the negative impacts of leopards on human activities – and vice versa – a multi-level approach was used to identify patterns and mechanisms of conflict. This approach looked at behavioural ecology, remote sensing and socioeconomics aspects. Large wild prey (i.e. ungulates) are virtually absent from the areas of study, but for very rare wild boar (*Sus scrofa*) and goral (*Nemorhaedus goral*). Therefore, livestock dominated the diet of leopards, with no significant differences between areas, nor between seasons, indicating a constant availability of domestic prey throughout the

year. In two decades, the forest coverage of these areas has decreased (ANP: *c.* 15% loss; MF: *c.* 4% loss; TA: *c.* 19% loss), with an increase in human settlements and agricultural land. The authors also investigated the socioeconomic implications of human-leopard coexistence: *c.* 20% of interviewed households in ANP ( $n = 593$ ) suffered livestock depredation by leopards, whereas 9% of 423 households suffered it in MF/TA ( $n = 423$ ). In 2005–2015, about 2 leopard attacks on humans/year were recorded, half of which were lethal, whereas *c.* 6 leopards/year were killed in retaliation.

Rapid habitat loss and depletion of wild prey are severe threats to the conservation of the common leopard in the areas of study. The restoration and protection of the forest and that of a diverse prey assembly have to be considered as a priority to favour the conservation status of leopards. However, these measures should be urgently integrated in parallel to improved practices of livestock management. Khan and colleagues suggest that only the implementation of these actions, synergistically, *i.e.* habitat protection, prey restoration and better practices of livestock management, would lead to mitigating human-leopard conflict and increasing the long-term survival of this large predator.

**Authors:** Kirchgessner, M. L., and Sewall, B. J.

**Year:** 2015

**Title:** The impact of environmental, social, and animal factors on visitor stay times at big cat exhibits

**Journal:** Visitor Studies

**Volume:** 18

**Issue:** 2

Pages: 150-167

**Abstract:** An accurate understanding of visitor interest is critical to the education and conservation missions of zoos. However, studies that consider multiple influences are rare, and measures such as stay time that have been used to measure visitor interest vary widely, making broader inferences challenging. Kirchgessner and Sewall sought to (a) compare the relative influences of social interactions, animal behaviour, environmental factors, and animal species on visitor stay time and (b) evaluate how conclusions vary depending on the metric of stay time used. They conducted 701 direct observations of zoo visitors at a big cat exhibit. The data suggest that animal visibility was a critical factor driving stay time. Animal species played a minor role. The relative importance of the number of other visitors present and animal activity level differed depending on the stay time metric used. Nine other factors examined were relatively unimportant in predicting stay time. These results have important implications for exhibit design, crowd flow management, animal husbandry, collection management, and educational programmes in zoos.

**Authors:** Krafte Holland, K., Larson, L. R., and Powell, R. B.

**Year:** 2018

**Title:** Characterizing conflict between humans and big cats *Panthera spp.*: A systematic review of research trends and management opportunities

**Journal:** PLoS ONE

**Volume:** 13

**Issue:** 9

**Article:** e0203877

**Abstract:** Conservation of big cats (*Panthera spp.*), a taxonomic group including tigers, lions, jaguars, leopards and snow leopards, is a daunting challenge. As expanding human populations across *Panthera* range countries exacerbate competition for land and prey, conflicts between humans and big cats are inevitable. Through a systematic review of the peer-reviewed literature

published from 1991 to 2014 and indexed in Web of Science and Google Scholar (186 articles), this study explored the current state of knowledge regarding human-*Panthera* conflict and potential solutions, examining variables such as spatial and temporal distribution of research, methods used to study conflict, evaluation of interventions, and management recommendations. The researchers' synthesis revealed several key data gaps and research needs. More studies could utilise diverse data collection approaches to focus on both the ecological and socio-cultural context for conflict. Additionally, only 21% of articles included in the review evaluated conflict mitigation interventions, and few of these yielded conclusive results. Success ratios suggest that compensation schemes and livestock management strategies were more effective tools for addressing conflict than either direct interventions (lethal removal or translocation of animals) or community interventions (e.g. education, ecotourism, local management). More studies should systematically evaluate the efficacy of conflict mitigation strategies, many of which are consistently recommended without empirical support. Results highlight trends and opportunities that can be used to inform future research and management efforts focused on human-*Panthera* conflict, ultimately enhancing the potential for coexistence between humans and carnivore species worldwide.

**Authors:** Kumbhojkar, S., Yosef, R., Benedetti, Y., and Morelli, F.

**Year:** 2019

**Title:** Human-leopard (*Panthera pardus fusca*) co-existence in Jhalana Forest Reserve, India

**Journal:** Sustainability

**Volume:** 18

**Issue:** 14

**Article:** 3912

**Abstract:** The intensity and frequency of human-animal conflicts has escalated in recent decades due to the exponential increase in the human population over the past century and the subsequent encroachment of human activities on wilderness areas. Jhalana Forest Reserve (JFR) presents the characteristics of island biogeography in the heart of Jaipur, which is a city of 3.1 million people. The leopard (*Panthera pardus fusca*) is the top predator in this newly declared sanctuary of 29 km<sup>2</sup>. The researchers surveyed people in the 18 villages that engulf this sanctuary. They questioned the villagers' (n=480) perceptions about conservation. As much as 93% of the population have encountered leopards, and 83% were fully aware of its role in the ecosystem. In addition, 100% stressed the necessity of conservation to save the forests and 91% supported the efforts to a wall in the reserve in order to prevent human encroachment. Most of the population are Jains and Gujars, which are communities that believe in non-violence. The authors conclude that the villagers support conservation efforts. The authorities that manage JFR view the villagers favourably and, as stakeholders, are the basis for continued human-leopard coexistence.



## L

**Author:** Lemelin, R. H.

**Year:** 2008

**Title:** Doubting Thomases and the Cougar: The perceptions of puma management in Northern Ontario, Canada

**Journal:** Sociologia Ruralis

**Volume:** 49

**Issue:** 1

**Pages:** 56-69

**Abstract:** The purpose of this discussion is to provide a better understanding of the conflicting perceptions regarding cougar (*Puma concolor*) management in northern Ontario, Canada. Despite two alleged puma attacks, numerous cougar sightings throughout the region and the recent confirmation of the puma's existence in Ontario through DNA analysis, the existence of these animals in the north-east of Canada and the USA remains largely contentious. Findings derived from interviews conducted in northern Ontario and content analysis of media sources in Canada and the USA suggest that the ongoing debate over the existence of pumas in this region of Canada can be attributed to current wildlife management largely predicated on the grand narrative of the wildlife expert. This centralised, bureaucratic approach decreases the opportunity for constructive dialogue between stakeholders and mitigates the implementation of community-based wildlife management approaches. While this analysis largely focuses on Ontario, Canada, the debate provides insights into the human dimensions of wildlife management, especially elusive wildlife, in North America and elsewhere.

**Authors:** Lindsey, P., Alexander, R., Balme, G., Midlane, N., and Craig, J.

**Year:** 2012

**Title:** Possible relationships between the South African captive-bred lion hunting industry and the hunting and conservation of lions elsewhere in Africa

**Journal:** South African Journal of Wildlife Research

**Volume:** 42

**Issue:** 1

**Pages:** 11-22

**Abstract:** The trophy hunting of lions is contentious due to increasing evidence of impacts on wild populations, and ethical concerns surrounding the hunting of captive-bred lions in South Africa. The captive-bred lion hunting industry in South Africa has grown rapidly while the number of wild lions hunted in other African countries has declined. In 2009 and 2010, 833 and 682 lion trophies were exported from South Africa, respectively, more than double the combined export (2009, 471; 2010, 318) from other African countries. There has been an associated increase in the prevalence of the export of lion bones from South Africa: at least 645 bones/sets of bones were exported in 2010, 75.0% of which went to Asia. Such trade could be problematic if it stimulated demand for bones from wild lions or other wild felids. Captive-bred lion hunting differs from wild lion hunting in that lions are hunted in smaller areas ( $49.9 \pm 8.4$  km<sup>2</sup> compared to 843 to 5933 km<sup>2</sup>, depending on the country), hunts are cheaper (US\$20,000-40,000 compared to US\$37,000-76,000 [excluding the costs of shooting other species and government charges]), shorter (3.3 compared to 14-21 days), success rates are higher (99.2% compared to 51.0-96.0%), and trophy quality is higher (skull length + breadth = 638.8 compared to 614-638 cm). Most clients perceive captive-bred and wild lion hunting to be different products but there is some overlap in markets: 48.7% of clients that had hunted captive-bred lions showed no preference regarding the type of future hunts. Owing to the size

of the captive-bred hunting industry, even marginal overlap in demand could affect wild lion hunting significantly. If captive-bred lion hunting were ever prohibited, a transfer of demand to wild lion hunts could lead to elevated off-takes with negative impacts on wild populations. However, if off-takes of wild lions were held constant or reduced through effective regulation of quotas, increased demand could increase the price of wild lion hunts and strengthen financial incentives for lion conservation. These possibilities should be considered if future efforts are made to regulate captive-bred lion hunting.

**Authors:** Lindsey, P. A., Petracca, L. S., Funston, P. J., Bauer, H., Dickman, A., Everatt, K., Flyman, M., Henschel, P., Hinks, A. E., Kasiki, S., Loveridge, A., Macdonald, D. W., Mandisodza, R., Mgoola, W., Miller, S. M., Nazerali, S., Siegel, L., Uiseb, K., and Hunter, L. T. B.

**Year:** 2017

**Title:** The performance of African protected areas for lions and their prey

**Journal:** Biological Conservation

**Volume:** 209

**Issue:** -

Pages: 137-149

**Abstract:** Using surveys of experts associated with 186 sites across 24 countries, the authors assessed the effectiveness of African protected areas (PAs) at conserving lions and their prey, identified factors that influence conservation effectiveness, and identified patterns in the severity of various threats. Less than one third of sampled PAs conserve lions at  $\geq 50\%$  of their estimated carrying capacity (K), and less than half conserve lion prey species at  $\geq 50\%$  of K. Given adequate management, PAs could theoretically support up to  $4\times$  the total extant population of wild African lions ( $\sim 83,000$ ), providing a measurable benchmark for future conservation efforts. The performance of PAs shows marked geographic variation, and in several countries there is a need for a significant elevation in conservation effort. Bushmeat poaching was identified as the most serious threat to both lions and to wildlife in general. The severity of threats to wildlife in PAs and the performance of prey populations were best predicted by geographic-socioeconomic variables related to the size of PAs, whether people were settled within PAs, human/livestock densities in neighbouring areas and national economic indicators. However, conservation outcomes for lions were best explained by management variables. PAs tended to be more effective for conserving lions and/or their prey where management budgets were higher, where photographic tourism was the primary land use, and, for prey, where fencing was present. Lions and prey fared less well relative to their estimated potential carrying capacities in poorer countries, where people were settled within PAs and where PAs were used for neither photographic tourism nor trophy hunting.

**Authors:** Lindsey, P. A., Balme, G. A., Funston, P., Henschel, P., Hunter, L., Madzikanda, H., Midlane, N., and Nyirenda, V.

**Year:** 2013

**Title:** The trophy hunting of African lions: Scale, current management practices and factors undermining sustainability

**Journal:** PLoS ONE

**Volume:** 8

**Issue:** 9

**Article:** e73808

**Abstract:** The trophy hunting of lions (*Panthera leo*) is contentious due to uncertainty concerning conservation impacts and because of highly polarised opinions about the practice. African lions are hunted across at least  $\sim 558,000$  km<sup>2</sup>, which comprises 27–32% of the lion

range in countries where trophy hunting of the species is permitted. Consequently, trophy hunting has potential to impart significant positive or negative impacts on lions. Several studies have demonstrated that excessive trophy harvests have driven lion population declines. There have been several attempts by protectionist non-governmental organisations to reduce or preclude trophy hunting via restrictions on the import and export of lion trophies. Lindsey and colleagues document the management of lion hunting in Africa and highlight challenges which need addressing to achieve sustainability. Problems include: unscientific bases for quota setting; excessive quotas and off-takes in some countries; fixed quotas which encourage over-harvest; and lack of restrictions on the age of lions that can be hunted. Key interventions needed to make lion hunting more sustainable, include implementation of: enforced age restrictions; improved trophy monitoring; adaptive management of quotas and a minimum length of lion hunts of at least 21 days. Some range states have made important steps towards implementing such improved management and off-takes have fallen steeply in recent years. For example, age restrictions have been introduced in Tanzania and in Niassa in Mozambique, and are being considered for Benin and Zimbabwe, several states have reduced quotas, and Zimbabwe is implementing trophy monitoring. However, further reforms are needed to ensure sustainability and reduce conservation problems associated with the practice while allowing retention of associated financial incentives for conservation.

**Authors:** Lucherini, M., and Merino, M. J.

**Year:** 2008

**Title:** Perceptions of human–carnivore conflicts in the High Andes of Argentina

**Journal:** Mountain Research and Development

**Volume:** 28

**Issue:** 1

**Pages:** 81-85

**Abstract:** The Andean cat (*Leopardus jacobitus*), one of the world's most threatened felids, forms part of the little-known carnivore guild occurring in the dry areas of the High Andes. Although human–carnivore conflicts are among the major causes of carnivore population decline, no data are available on this issue for the High Andes. Lucherini and Merino report here the results of the first survey of human perceptions of, and attitudes towards, carnivores in the high-altitude Andes of Argentina. Interviews with 50 adults and 226 schoolchildren revealed that pumas (*Puma concolor*) and foxes (*Lycalopex culpaeus*) are considered pests for preying upon livestock and are actively hunted by adults. Although perceptions of the Andean cat and the Pampas cat (*Leopardus colocolo*) were more positive, especially among schoolchildren, they are also frequently killed by local people. The authors suggest that, contrary to what was previously thought, hunting might be affecting the conservation status of the Andean cat and of some puma populations in the High Andes of Argentina, and that education strategies may help to improve human attitudes, particularly in the case of the endangered Andean cat.

**Authors:** Luebke, J. F., Watters, J. V., Packer, J., Miller, L. J., and Powell, D. M.

**Year:** 2016

**Title:** Zoo visitors' affective responses to observing animal behaviors

**Journal:** Journal of Ecotourism

**Volume:** 19

**Issue:** 1

**Pages:** 60-76

**Abstract:** The opportunity to observe or interact with animals in a zoo is often vital in influencing visitors' positive feelings towards animals and ultimately their conservation

behaviour. This study explores the relationship between observed animal behaviour and zoo visitors' responses. A self-administered questionnaire was completed by 717 visitors across four exhibits (giraffe, lion, cheetah, and red panda) at three zoos (Brookfield Zoo, San Diego Zoo Safari Park, and Central Park Zoo). The questionnaire measured observed animal behaviours and visitors' predispositions, affective responses, and meaning-making at animal exhibits. Multivariate path analyses indicated that up-close encounters with zoo animals, along with observable active animal behaviours, predicted visitors' reported positive affective responses which, in turn, predicted their meaning-making. These findings lend support to the role of positive affect as a mediator between observable animal behaviours and visitor meaning-making. Implications are discussed in relation to achieving both conservation education and animal welfare outcomes.

**Authors:** Lyngdoh, S., Mathur, V. B., and Sinha, B. C.

**Year:** 2017

**Title:** Tigers, tourists and wildlife: Visitor demographics and experience in three Indian Tiger Reserves

**Journal:** Biodiversity & Conservation

**Volume:** 26

**Issue:** -

**Pages:** 2187-2204

**Abstract:** Ecotourism or sustainable tourism is an effective conservation tool. Recently increasing trends in visitations to protected areas (PAs) in India particularly, tiger reserves (TRs) have been documented. A questionnaire survey was carried out to objectively investigate visitor experience in three high profile tiger reserves (n=684). Information on the role of nature interpreters, media and infrastructure was collected to assess how they influence tourist activity, aspiration and satisfaction in a PA. Domestic tourists formed the majority of the visitor numbers in all three PAs (82.7%). Tourists who visit these PAs chose to have close encounters with large mammals, especially tigers. Primary attractions for visitors were wild mammals > tigers > peacefulness > photography > bird watching. Visitors mainly travelled in groups with a family (43-58%). The majority of visitors to PAs were from minor cities situated 200-600 km from a PA. Visitors informed that their primary source of information regarding a PA was word of mouth (35.78%) and newspapers (24%). These sources of information varied significantly across eight other categories and parks. Designing each visit as an interpretive experience and meaningful conservation activity largely for the domestic visitors as well as gradually increasing international visitors can be encouraged in such PAs.

## M

**Author:** Mbaiwa, J. E.

**Year:** 2018

**Title:** Effects of the safari hunting tourism ban on rural livelihoods and wildlife conservation in Northern Botswana

**Journal:** South African Geological Journal

**Volume:** 100

**Issue:** 1

**Pages:** 41-61

**Abstract:** This paper examines the effects of the safari hunting ban of 2014 on rural livelihoods and wildlife conservation in Northern Botswana using the social exchange theory. The paper used both primary and secondary data sources. Data were analysed qualitatively. Results

indicate that the ban led to a reduction of tourism benefits to local communities such as: income, employment opportunities, social services such as funeral insurance, scholarships and income required to make provision of housing for the needy and elderly. After the hunting ban, communities were forced to shift from hunting to photographic tourism. Reduced tourism benefits have led to the development of negative attitudes by rural residents towards wildlife conservation and the increase in incidents of poaching in Northern Botswana. The implications of the hunting ban suggest that policy shifts that affect wildlife conservation and rural livelihoods need to be informed by socio-economic and ecological research. This participatory and scientific approach to decision-making has the potential to contribute sustainability of livelihoods and wildlife conservation in Botswana.

**Authors:** Macdonald, C., Gallagher, A. J., Barnett, A., Brunnschweiler, J., Shiffman, D. S., and Hammerschlag, N.

**Year:** 2017

**Title:** Conservation potential of apex predator tourism

**Journal:** Biological Conservation

**Volume:** 215

**Issue:** -

**Pages:** 132-141

**Abstract:** In recent decades, public interest in apex predators has led to the creation and expansion of predator-focused wildlife tourism. As wildlife tourism has become an increasing topic of study for both social and biological scientists, researchers have debated whether these activities serve conservation goals by providing non-consumptive values for wildlife. Discussion of predator tourism requires additional recognition of predator-specific biological and ecological characteristics, consideration of human safety concerns, and mitigation of human-wildlife conflict. By reviewing tourism activities centred on both aquatic and terrestrial predators from diverse taxa (sharks, crocodiles, and big cats), Macdonald and colleagues evaluate the potential benefits and conservation challenges associated with predator tourism. This review suggests that positive conservation outcomes are possible, but not assured given historical, cultural, and ecological complexities. The authors explore some of the factors which determine whether tourism contributes to conservation outcomes, including (1) effective protection of animals and habitats, (2) avoidance and mitigation of human-wildlife conflict, (3) quality of associated educational interpretation and outreach, (4) collaboration with local stakeholders, and (5) use of generated funds to advance conservation goals. Their findings suggest tourism is most likely to support predator conservation and/or recovery when the industry has both public and political support and under conditions of effective regulation focused on management, monitoring and enforcement by local, national, and international bodies.

**Authors:** Macdonald, D. W., Loveridge, A. J., Dickman, A., Johnson, P. J., Jacobsen, K. S., and Du Preez, B.

**Year:** 2017

**Title:** Lions, trophy hunting and beyond: Knowledge gaps and why they matter

**Journal:** Mammal Review

**Volume:** 47

**Issue:** 4

**Pages:** 247-253

**Abstract:** What does trophy hunting (selective hunting for recreation) contribute to wild lion conservation? Macdonald (Report on Lion Conservation with Particular Respect to the Issue of Trophy Hunting. WildCRU, Oxford, UK, 2016) summarises what we know. In this paper,



Macdonald and colleagues identify unknowns, gaps in the knowledge that inhibit conservation planning, including: the causes of lion mortality, the amount of land used for lion trophy hunting, the extent to which trophy hunting depends on lions for financial viability, and the vulnerability of areas used for hunting to conversion to land not used for wildlife, if trophy hunting ceased. The cost of reversing biodiversity loss exceeds income from tourism, including hunting. New financial models are needed, particularly in view of the expanding human population in Africa.

**Authors:** Mangachena, J. R., and Pickering, C. M.

**Year:** 2021

**Title:** Why are some animals popular with wildlife tourists: Insights from South Africa

**Journal:** Journal of Ecotourism

**Volume:** -

**Issue:** -

**Pages:** Advance online publication

**Abstract:** Wildlife tourism is an important type of ecotourism including in South Africa. Mangachena and Pickering considered how the aesthetic value theory can be applied to wildlife tourism by assessing the relative popularity of species with tourists in South Africa and which traits predicted popularity. When data from six published visitor surveys across seven protected areas were combined, they found that only 26 species out of 299 mammals and 850+ birds were selected by 2245 tourists. Elephant (48%), black and white rhinos (36%), lion (36%), cheetah (35%) and giraffe (34%) were the most popular in these visitor surveys with similar results reported in data from destination marketing and social media, but not wildlife auctions. When 13 species traits were assessed using ordinations and Generalised Linear Models, traits associated with specific aesthetics were important as large mammals that use open vegetation, with highly contrasting coat colours and/or are fluffy were most popular. Given the diversity of animals in South Africa, those responsible for wildlife tourism opportunities could diversify the types of species used in marketing to better match animals likely to be encountered in the wild, enhancing repeat visitor experiences while promoting the conservation of more species in the region.

**Author:** Marshall, J.

**Year:** 2016

**Title:** Exploring our interpretive practice: An impact evaluation

**Journal:** IZE - International Zoo Educators Association Journal

**Volume:** 52

**Issue:** -

**Pages:** 23-26

**Abstract:** Interpretation is a critical aspect of any zoo or aquarium's educational mission. This study evaluated the impact of Tiger Trail, a new habitat for Sumatran tigers at the San Diego Zoo Safari Park featuring an immersive environment where the visitor's journey unfolds through a storyline narrative. The study measured visitor knowledge of key messages, recall of interpretive elements, and reaction to the exhibit, and found that Tiger Trail visitors demonstrated significantly more knowledge of the exhibit's key messages relative to a matched comparison group. The study also found that visitors who interacted with an interpreter or keeper exhibited slightly more knowledge relative to exhibit visitors who did not, and that those visitors expressed significantly more positive ratings of the exhibit and their self-assessed learnings. There is increasing interest in measuring the results of interpretive efforts in zoological settings. Marshall states that "[e]valuation can be in many forms such as needs assessments or exhibition evaluations. It can also be used to gauge things such as the

effectiveness of informal education or education techniques" (para. 1). This article presents results from an impact evaluation of the Tiger Trail exhibit at the San Diego Zoo Safari Park. The study was commissioned to understand visitors' reactions to the exhibit and their activities within it and investigated reception of key messaging. As interaction between visitors and zoo personnel has been established as a positive influence on visitor outcomes that include increased knowledge, conservation understanding and potential action, the study also compared outcomes between visitors who interacted with zoo personnel, and those who did not. The results of this evaluation were one important component that helped Tiger Trail receive the Association of Zoos & Aquarium's 2015 Top Honors Exhibit Award.

**Author:** McCubbin, S. G.

**Year:** 2020

**Title:** The Cecil moment: Celebrity environmentalism, Nature 2.0, and the cultural politics of lion trophy hunting

**Journal:** Geoforum

**Volume:** 108

**Issue:** -

**Pages:** 194-203

**Abstract:** In 2015 Cecil the lion's death sparked international furore over the practice of lion trophy hunting. Celebrities and everyday citizens, traditional news and social media alike were aflame around the globe, most notably after American celebrity Jimmy Kimmel expressed disgust in Cecil's death during a monologue on his late-night talk show. This paper explores the Cecil Moment as a case study of the cultural politics of the environment at the intersection of celebrity environmentalism and 'Nature 2.0' applications like Facebook and Twitter. The research asks: what can the Cecil Moment tell us about how celebrity and Nature 2.0 environmentalisms work and to what kind of conservation politics do they lead? Drawing on the celebrity environmentalism and Nature 2.0 literatures, McCubbin develops an analytic framework for analysing the Cecil Moment which considers and evaluates the network of actors enrolled, the representations foregrounded and backgrounded, as well as the outcomes. Empirical insights are drawn from document and media review, and key informant interviews. McCubbin argues that the Cecil Moment operated through a more-than-human network which served to channel agency unleashed by Cecil's death to the already-empowered lion conservation actors, as well as mutable meanings that shifted Cecil Moment focus away from trophy hunting and toward lion conservation in general. Ultimately, the Cecil Moment operated to dismiss the anti-trophy hunting politics that sparked and fuelled it in the first place; yet the momentum of the Cecil Moment was grasped and re-directed toward other lion conservation priorities. Critically, this re-direction was not neutral; rather, it shifted the politics of the Cecil Moment in a way that reproduced longstanding patterns of conservation injustice wherein blame for biodiversity loss is directed away from powerful forces onto the racialised, rural poor from the Global South.

**Author:** Millican, A.

**Year:** 2016

**Title:** Ghosts of the mountains: The role of wildlife conservation in sustainable tourism - A case study of snow leopard conservation and sustainable tourism in Mongolia

**Journal:** WIT Transactions on Ecology and the Environment

**Volume:** 201

**Issue:** -

**Pages:** 167-175

**Abstract:** Mongolia is currently home to 500–1,000 of the estimated 3,500–7,000 snow leopards left in the wild, according to the most recent figures from the Snow Leopard Trust and the Wildlife Conservation Society. Through on-site research and interviews with in-country nongovernmental organisations (NGOs) and government officials, the paper questions whether current sustainable tourism in Mongolia has been supported or deterred by efforts in snow leopard conservation.

Snow leopards, often called the “Ghosts of the Mountains”, are rarely seen by tourists to Central Asia. Still, few who travel to Mongolia are unaware of their endangered status. The snow leopards’ rarity and endangered species status has been highly publicised, with snow leopards often central to conservation groups’ public campaigns. Thus, Millican discusses what impact sustainable tourism has on snow leopard conservation, and vice versa, in the past decade?

Based on the outcomes of the case study, what are the best practices and lessons learned in this model which could be applied to other developing sustainable tourism projects in relation to wildlife conservation? The author will draw on her background in wildlife conservation and sustainable tourism in East Africa in gathering information and prescribing potential model replication and methods.

**Authors:** Millspaugh, J. J., Rittenhouse, C. D., Montgomery, R. A., Matthews, W. S., and Slotow, R.

**Year:** 2015

**Title:** Resource selection modeling reveals potential conflicts involving reintroduced lions in Tembe Elephant Park, South Africa

**Journal:** Journal of Zoology

**Volume:** 296

**Issue:** 2

**Pages:** 124-132

**Abstract:** Ecotourism has motivated efforts to reintroduce lions (*Panthera leo*) to landscapes where they were not previously common. In 2002, four lions were reintroduced into the fenced Tembe Elephant Park, South Africa to improve ecotourism opportunities, but lions potentially compete for habitat with humans and endemic herbivores of conservation concern. Millspaugh and colleagues developed a population-level resource selection function to map the relative probability of lion occurrence throughout Tembe Elephant Park to predict the spatial distribution of potential conflicts. In winter, high relative probability of lion occurrence spatially overlapped with Muzi reedbeds/hygrophilous grassland habitat, which is where humans gather natural resources. Comparatively, they found no spatial overlap with sand forest habitat used by endemic herbivores. The results were opposite in summer, with lion occurrence overlapping sand forest habitat and no predicted overlap with Muzi reedbeds/hygrophilous grassland habitat. During spring and autumn, the highest relative probability of lion occurrence spatially overlapped both Muzi reedbeds/hygrophilous grassland and sand forest habitats. These results show that lions might compete with humans in winter, spring and autumn and with endemic herbivores in all seasons but winter. Despite the success of reserve fencing in

limiting human-lion conflicts, the authors show that communities that reintroduce carnivores continue to balance relative reward, associated with ecotourism, and risks to human safety and species of conservation concern. They discuss the importance of dynamic management practices that ensure temporal segregation between humans and lions within specific habitat types.

**Authors:** Mishra, C., Allen, P., McCarthy, T., Madhusudan, M. D., Bayarjargal, A., and Prins, H. H. T.

**Year:** 2003

**Title:** The role of incentive programs in conserving the snow leopard / El papel de programas de incentivos en la conservación del *Uncia uncia*

**Journal:** Conservation Biology

**Volume:** 17

**Issue:** 6

**Pages:** 1512-1520

**Abstract:** Pastoralists and their livestock share much of the habitat of the snow leopard (*Uncia uncia*) across south and central Asia. The levels of livestock predation by the snow leopard and other carnivores are high, and retaliatory killing by the herders is a direct threat to carnivore populations. Depletion of wild prey by poaching and competition from livestock also poses an indirect threat to the region's carnivores. Conservationists working in these underdeveloped areas that face serious economic damage from livestock losses have turned to incentive programmes to motivate local communities to protect carnivores. The authors describe a pilot incentive programme in India that aims to offset losses due to livestock predation and to enhance wild prey density by creating livestock-free areas on common land. They also describe how income generation from handicrafts in Mongolia is helping curtail poaching and retaliatory killing of snow leopards. However, initiatives to offset the costs of living with carnivores and to make conservation beneficial to affected people have thus far been small, isolated, and heavily subsidised. Making these initiatives more comprehensive, expanding their coverage, and internalising their costs are future challenges for the conservation of large carnivores such as the snow leopard.

**Authors:** Mossaz, A., Buckley, R. C., and Castley, J. G.

**Year:** 2015

**Title:** Ecotourism contributions to conservation of African big cats

**Journal:** Journal for Nature Conservation

**Volume:** 28

**Issue:** -

**Pages:** 112-118

**Abstract:** Ecotourism has been advocated and adopted widely to provide financial, political and local community support for conservation. Mossaz and colleagues analyse its application for conservation of African big cats, through systematic analysis of 66 published studies over three decades, and on-site audit of 48 current conservation tourism enterprises. Conservation measures include: expanding and restoring habitat and reducing net habitat loss; anti-poaching patrols and programmes; measures to combat illegal wildlife trade; improved livestock husbandry such as better fences and guard dogs; well-designed livestock compensation and predator conservation incentive programmes; and live-capture, veterinary services, captive breeding, and translocation and reintroduction programmes. Some tourism enterprises do contribute to conservation of African big cats, but others have negligible or negative net outcomes. Conservation outcomes depend critically on the detailed design of conservation programmes, community involvement, and tourism marketing.

**Authors:** Mweetwa, T., Christianson, D., Becker, M., Creel, S., Rosenblatt, E., Merkle, J., Dröge, E., Mwape, H., Masonde, J., and Simpamba, T.

**Year:** 2018

**Title:** Quantifying lion (*Panthera leo*) demographic response following a three-year moratorium on trophy hunting

**Journal:** PLoS ONE

**Volume:** 13

**Issue:** 5

**Article:** e0197030

**Abstract:** Factors that limit African lion populations are manifold and well-recognised, but their relative demographic effects remain poorly understood, particularly trophy hunting near protected areas. Mweetwa and colleagues identified and monitored 386 individual lions within and around South Luangwa National Park, Zambia, for five years (2008–2012) with trophy hunting and for three additional years (2013–2015) during a hunting moratorium. They used these data with mark-resight models to estimate the effects of hunting on lion survival, recruitment, and abundance. The best survival models, accounting for imperfect detection, revealed strong positive effects of the moratorium, with survival increasing by 17.1 and 14.0 percentage points in subadult and adult males, respectively. Smaller effects on adult female survival and positive effects on cub survival were also detected. The sex-ratio of cubs shifted from unbiased during trophy-hunting to female-biased during the moratorium. Closed mark-recapture models revealed a large increase in lion abundance during the hunting moratorium, from 116 lions in 2012 immediately preceding the moratorium to 209 lions in the last year of the moratorium. More cubs were produced each year of the moratorium than in any year with trophy hunting. Lion demographics shifted from a male-depleted population consisting mostly of adult ( $\geq 4$  years) females to a younger population with more ( $>29\%$ ) adult males. These data show that the three-year moratorium was effective at growing the Luangwa lion population and increasing the number of adult males. The results suggest that moratoria may be an effective tool for improving the sustainability of lion trophy hunting, particularly where systematic monitoring, conservative quotas, and age-based harvesting are difficult to enforce.

## N

**Authors:** Nassar, P. M., Ramalho, E. E., and Da Silveira, R.

**Year:** 2013

**Title:** Economic and market viability of scientific ecotourism related to the jaguar in a Várzea area in Central Amazonia

**Journal:** Uakari

**Volume:** 9

**Issue:** 2

**Pages:** 21-32

**Abstract:** Ecotourism can be an efficient strategy to generate income for local communities and conservation. Scientific tourism is defined under the same premises as ecotourism, but its objectives are focused on research. In this study, the creation of a package tour for jaguar-related scientific ecotourism in the Mamirauá Sustainable Development Reserve (MSDR) was proposed. The objectives were to analyse the economic and market viability for this package through a cash flow analysis for 18 different scenarios. Questionnaires were sent to two groups titled technical-scientific and ecotourism. Nine scenarios had the same daily rate for the 10 year period, and the other nine had daily rates increase annually in accordance with the mean IPCA



for the previous three years. For each scenario, the Net Present Value (NPV) was calculated. Ninety-two questionnaires were returned: 47 from the technical-scientific group, and 45 from the ecotourism group. Jaguar-related scientific ecotourism activities should be related to scientific research, contemplation, and culture, and not just focused on the species. Ecotourists also value low-impact activities, information, and benefits to the communities and to research. For the economically viable scenarios, sharing of profits with the communities and with research was proposed.

## O

**Authors:** Ohrens, O., Tortato, F. R., Hoogesteijn, R., Sarno, R. J., Quigley, H., Goic, D., and Elbroch, L. M.

**Year:** 2021

**Title:** Predator tourism improves tolerance for pumas, but may increase future conflict among ranchers in Chile

**Journal:** Biological Conservation

**Volume:** 258

**Issue:** -

**Pages:** Advance online publication

**Abstract:** Predator tourism is one strategy to improve tolerance for predators, and support biodiversity and ecosystem health. Torres del Paine National Park (TdP) – a UNESCO Biosphere Reserve in southern Chile - supports productive livestock industries and nascent puma tourism. Ohrens and colleagues compared interviews conducted in the region prior to puma tourism, with results from interviews collected across 45 ranches post-puma tourism. They assessed rancher attitudes regarding pumas, puma-livestock conflict, puma tourism, and linked them with socio-ecological factors. Respondents who viewed pumas as a threat experienced higher livestock losses. Respondents who reported higher sheep losses were inclined to support the lethal removal of livestock-killing pumas, and to initiate a puma hunt, whereas respondents who supported puma tourism disagreed with hunting pumas. Using the Potential for Conflict Index, the authors found that participants exhibited the highest consensus on the benefit of puma tourism and the lowest consensus over lethal removal of pumas. The results suggest predator tourism has increased tolerance for pumas but is creating new potential for conflict. Before puma tourism, ranchers were almost entirely negative about pumas and unanimously supported illegal puma hunting. Now, most believe that pumas are part of Patagonia's heritage. This divide was best explained by distance to TdP: ranches closer to TdP experienced greater losses to pumas but had neighbours that benefitted most from puma tourism. Therefore, the authors suggest that tourism revenues supplement community compensation insurance programmes that reimburse rancher losses to pumas to mitigate the growing divide between those benefiting from pumas and those experiencing economic hardship.

**Authors:** Okello, M. M., Manka, S. G., and D'Amour, D. E.

**Year:** 2008

**Title:** The relative importance of large mammal species for tourism in Amboseli National Park, Kenya

**Journal:** Tourism Management

**Volume:** 29

**Issue:** 4

**Pages:** 751-760

**Abstract:** Marketing for tourism in Kenya mostly revolves around “the big five” charismatic large mammals. However, it is not known if these are in fact the species tourists seek and prefer to see, or what other species are important when the “big five” are absent. This study investigated the large mammal interests of tourists in Amboseli National Park. Tourist interests were determined by tracking tourist vehicles and observing for which animals they stopped, the duration of each stop, and which animals were ignored. Okello and colleagues developed five criteria for assessing the relative importance of large mammals: (i) length of viewing, (ii) vehicle crowding, (iii) stopping on every encounter, (iv) proportion of stops per species, and (v) the relative tourism importance rank index that weighed viewing to availability. This study found that tourists were interested particularly in the big cats and other unique large mammals, but interest was not confined to these species. Other animals attracting interest were cheetah, waterbuck, lion, hippopotamus, giraffe, spotted hyena, baboon, warthog and elephant. The authors propose that marketing for Amboseli should focus on the large mammals that tourists actually prefer and highlight the viewing potential of these mammals within the park. This should also be emulated such that each protected area in Kenya develops its own list of “attractive” animals for tourists.

**Author:** O’Neal Campbell, M.

**Year:** 2013

**Title:** The relevance of age and gender for public attitudes to brown bears (*Ursus arctos*), black bears (*Ursus americanus*), and cougars (*Puma concolor*) in Kamloops, British Columbia

**Journal:** Society & Animals

**Volume:** 21

**Issue:** 4

**Pages:** 341-359

**Abstract:** In British Columbia, brown bears (*Ursus arctos*), black bears (*Ursus americanus*), and cougars (*Puma concolor*) must relate to growing human populations. This study examines age- and gender-related attitudes to these animals in the urbanising, agriculturally significant, intermontane city of Kamloops. Most respondents, especially women, feared cougars and bears, saw bears as more troublesome than cougars, and were concerned for child and adult safety. More middle-aged and older participants perceived brown bears as dangerous to companion animals, and black bears as troublesome, than did younger participants, and more middle-aged participants perceived brown bears as troublesome than did younger and older participants. Opinions favoured trapping and removal of animals rather than shooting or toleration, but more younger participants opted for shooting, whereas more middle-aged and older participants opted for toleration and removal. Majorities agreed that the animals serve useful functions, women more than men for cougars, middle-aged more than old or young for bears, but saw only cougars as increasing their quality of life. These findings contribute to knowledge about human-wildlife relations, an important first step toward more efficient local and more general conservation policy.

**Authors:** Osano, P. M., Said, M., Y., de Leeuw, J., Ndiwa, N., Kaelo, D., Schomers, S., Birner, R., and Ogutu, J. O.

**Year:** 2013

**Title:** Why keep lions instead of livestock? Assessing wildlife tourism-based payment for ecosystem services involving herders in the Maasai Mara, Kenya

**Journal:** Natural Resources Forum

**Volume:** 37

**Issue:** 4

**Pages:** 242-256

**Abstract:** This paper examines the effects of wildlife tourism-based payments for ecosystem services (PES) on poverty, wealth inequality and the livelihoods of herders in the Maasai Mara Ecosystem in south-western Kenya. It uses the case of Olare Orok Conservancy PES programme in which pastoral landowners have agreed to voluntary resettlement and exclusion of livestock grazing from their sub-divided lands. These lands are set aside for wildlife tourism, in return for direct monetary payments by a coalition of five commercial tourism operators. Results show that, on the positive side, PES is the most equitable income source that promotes income diversification and buffers households from the livestock income declines during periods of severe drought, such as in 2008-2009. Without accounting for the opportunity costs, the magnitude of the PES cash transfer to households is, on average, sufficient to close the poverty gap. The co-benefits of PES implementation include the creation of employment opportunities in the conservancy and provision of social services. There is however a need to mitigate the negative effects of PES, including the widening inequality in income between PES and non-PES households and the leakages resulting from the displacement of settlements and livestock to currently un-subdivided pastoral commons.

**Authors:** Ouboter, D. A., Kadosoe, V. S., and Ouboter, P. E.

**Year:** 2021

**Title:** Impact of ecotourism on abundance, diversity and activity patterns of medium-large terrestrial mammals at Brownsberg Nature Park, Suriname

**Journal:** PloS One

**Volume:** 16

**Issue:** 6

**Article:** e0250390

**Abstract:** The impacts of ecotourism on biodiversity are poorly understood and the outcome of this type of research is often contradictory. On the one hand ecotourism could impact the occurrence, survival or behaviour of species, on the other hand ecotourism is often mentioned as providing a "human shield" by deterring negative practices like gold mining, logging and hunting. Brownsberg Nature Park is easily the most visited protected area of Suriname, with a high number of ecotourists visiting from abroad. A four-year study on the impact of ecotourism on medium-large terrestrial mammals was carried out between 2013 and 2016 using 16 camera trap stations. The area has a clear gradient of tourism pressure, with the pressure decreasing further away from the lodging facilities. Evidently, the impacts of human presence on the mammal communities were more significant in the busiest areas. Most species avoided areas with many hikers or switched to a more nocturnal activity pattern. In these areas the impact was not reflected in species numbers, however it was causing a significant decrease in the diversity of mammals. On the other hand, vehicles had little impact on species avoidance or diversity, but did increase nocturnality, even more than hikers. A few species seemed to be "attracted" by hikers and/or traffic. Giant armadillos (*Priodontes maximus*) and spotted pacas (*Cuniculus paca*) used the pools in the road created by traffic. Ocelots (*Leopardus pardalis*), margays (*Leopardus wiedii*) and red-rumped agoutis (*Dasyprocta leporina*) seemed to favour

human disturbance probably because of predator release. Some of the most impacted species were the jaguar (*Panthera onca*), puma (*Puma concolor*) and lowland tapir (*Tapirus terrestris*), all three species with significant contribution to ecosystem balance. Management measures should focus on lowering the number of hikers in popular places and limiting the number of vehicles in recreational areas.

## P

**Authors:** Procko, M., Naidoo, R., LeMay, V., and Burton, A. C.

**Year:** 2016

**Title:** Human impacts on mammals in in and around a protected area before, during and after COVID-19 lockdowns

**Journal:** Conservation Science and Practice

**Volume:** 4

**Issue:** 7

**Article:** e12743

**Abstract:** The dual mandate for many protected areas (PAs) to simultaneously promote recreation and conserve biodiversity may be hampered by negative effects of recreation on wildlife. However, reports of these effects are not consistent, presenting a knowledge gap that hinders evidence-based decision-making. Procko and colleagues used camera traps to monitor human activity and terrestrial mammals in Golden Ears Provincial Park and the adjacent University of British Columbia Malcolm Knapp Research Forest near Vancouver, Canada, with the objective of discerning relative effects of various forms of recreation on cougars (*Puma concolor*), black bears (*Ursus americanus*), black-tailed deer (*Odocoileus hemionus*), snowshoe hares (*Lepus americanus*), coyotes (*Canis latrans*), and bobcats (*Lynx rufus*). Additionally, public closures of the study area associated with the COVID-19 pandemic offered an unprecedented period of human-exclusion through which to explore these effects. Using Bayesian generalised mixed-effects models, the authors detected negative effects of hikers (mean posterior estimate =  $-0.58$ , 95% credible interval [CI]  $-1.09$  to  $-0.12$ ) on weekly bobcat habitat use and negative effects of motorised vehicles (estimate =  $-0.28$ , 95% CI  $-0.61$  to  $-0.05$ ) on weekly black bear habitat use. They also found increased cougar detection rates in the PA during the COVID-19 closure (estimate =  $0.007$ , 95% CI  $0.005$  to  $0.009$ ), but decreased cougar detection rates (estimate =  $-0.006$ , 95% CI  $-0.009$  to  $-0.003$ ) and increased black-tailed deer detection rates (estimate =  $0.014$ , 95% CI  $0.002$  to  $0.026$ ) upon reopening of the PA. The results emphasise that effects of human activity on wildlife habitat use and movement may be species- and/or activity-dependent, and that camera traps can be an invaluable tool for monitoring both wildlife and human activity, collecting data even when public access is barred. Further, Procko and colleagues encourage PA managers seeking to promote both biodiversity conservation and recreation to explicitly assess trade-offs between these two goals in their PAs.

## R

**Author:** Rai, N.

**Year:** 2012

**Title:** Green grabbing in the name of the tiger

**Journal:** Economic and Political Weekly

**Volume:** 47

**Issue:** 42

**Pages:** 108-109

**Abstract:** The tiger might yet be saved not by markets and the influx of private capital, but through democratic, collaborative state and community efforts that judiciously integrate with the market on their own terms. A critical response to "A Tiger in the Drawing Room: Can Luxury Tourism Benefit Wildlife?"

**Authors:** Rai, N. D., Benjaminsen, T. A., Krishnan, S., and Madegowda, C

**Year:** 2019

**Title:** Political ecology of tiger conservation in India: Adverse effects of banning customary practices in a protected area

**Journal:** Tropical Geography

**Volume:** 40

**Issue:** 1

**Pages:** 124-139

**Abstract:** Protected areas have had significant impacts on local communities primarily through the physical removal of people. In some instances, people continue to live within protected areas due to the inability of the state to evict them. The restrictions on livelihoods placed on people living inside protected areas lead to in situ displacement. Rai and colleagues show how conservation enclosures in the Biligiri Rangaswamy Temple Tiger Reserve have produced a class of people that the state 'lets die' by banning customary practices such as fire use, hunting and harvesting of forest produce. Using longitudinal ethnographic, socio-economic and ecological data, the authors demonstrate that conservation policy has alienated indigenous forest dwellers from their agricultural and forest-land. The outcomes of conservation policy include dispossession through increased crop losses, reduced income from agriculture and forest produce, as well as a forest that is dominated by weeds due to fire suppression. The ban on hunting in particular has increased wildlife densities, which has enabled the state to accumulate revenues through the establishment of wildlife tourism facilities. All in all, centralised protected area governance has changed the relationships among people, forest and the state in a way that has produced adverse effects for both livelihoods and the ecosystem.

**Authors:** Rashid, W., Shi, J., ur Rahim, I., Dong, S., and Sultan, H.

**Year:** 2020

**Title:** Issues and opportunities associated with trophy hunting and tourism in Khunjerab National Park, Northern Pakistan

**Journal:** Animals

**Volume:** 10

**Issue:** 4

**Article:** 597

**Abstract:** Trophy hunting and mass tourism were introduced to Khunjerab National Park, northern Pakistan to generate income for the community and help conserve and sustain the ecosystem in the region. These initiatives have provided economic benefits, but only at the cost



of other environmental problems, as both trophy hunting and mass tourism have resulted in various ecological issues. Trophy hunting has not been based on scientific population data and has thus not helped increase numbers of wild ungulates or wild carnivores. Although mass tourism has increased enormously in this region, it has damaged the ecosystem through pollution generation and negatively impacted wildlife. The authors suggest that trophy hunting should be stopped, and mass tourism should be shifted to ecotourism as a sustainable solution to help improve the ecosystem, while generating income for the local community. Further studies are required to investigate ecotourism as a potential mitigation measure for the conservation issues in this region.

**Authors:** Rashid, W., Shi, J., ur Rahim, I., Sultan, H., Dong, S., & Ahmad, L.

**Year:** 2020

**Title:** Research trends and management options in human-snow leopard conflict

**Journal:** Biological Conservation

**Volume:** 242

**Issue:** -

**Pages:** Advance online publication

**Abstract:** Conservation of the snow leopard (*Panthera uncia*) is challenging because of its threatened status and increase in human-snow leopard conflict (HSC). The area of occupancy of the snow leopard comprises mountainous regions of Asia that are confronted with various environmental pressures including climate change. HSCs have increased with a burgeoning human population and economic activities that enhance competition between human and snow leopard or its preys. Here Rashid and colleagues systematically review the peer-reviewed literature from 1994 to 2018 in Web of Science, Google Scholar, Science Direct and PubMed (30 articles), to evaluate the current state of scholarship about HSCs and their management. They determine: 1) the spatio-temporal distribution of relevant researches; 2) the methodologies to assess HSCs; 3) and evaluate existing interventions for conflict management; and 4) the potential options for HSC management. The aim of the current study is thus to identify key research gaps and future research requirements. Of the articles in this review, 60% evaluated the mitigation of HSCs, while only 37% provided actionable and decisive results. Compensation programmes and livestock management strategies had high success rates for mitigating HSCs through direct or community-managed interventions. Further research is required to evaluate the efficacy of existing HSC mitigation strategies, many of which, while recommended, lack proper support. In spite of the progress made in HSC studies, research is needed to examine ecological and socio-cultural context of HSCs. The authors suggest future work focus on rangeland management for HSC mitigation, thus ultimately fostering a co-existence between human and snow leopard.

**Authors:** Rastogi, A., Hickey, G. M., Anand, A., Badola, R., and Hussain, S. A.

**Year:** 2015

**Title:** Wildlife-tourism, local communities and tiger conservation: A village-level study in Corbett Tiger Reserve, India

**Journal:** Forest Policy and Economics

**Volume:** 61

**Issue:** -

**Pages:** 11-19

**Abstract:** This paper presents the results of research conducted in a village on the south-eastern boundary of Corbett Tiger Reserve (CTR) which has experienced rapid and dramatic social-ecological change as a result of tiger-related tourism. The authors' aim was to better understand the impacts of wildlife tourism on the forest ecosystem, village structure, solidarity and

institutions and consider the implications of this for tiger conservation management and policy. The results indicate that while wildlife tourism established linkages between the village society and the global economy, it negatively impacted the local community and ecology. It also created a new village entity, tourist resorts, which are neither an individual nor a village member making dispute-resolution impossible under existing institutional structures. The results suggest that future forest and conservation policy and management strategies should de-emphasise the monetary function of wildlife-tourism, and instead focus on building social capital and strengthening local institutions. This will likely increase the adaptive capacity of villages to the impacts of tourism and mitigate the associated ecological impacts.

**Authors:** Rastogi, A., Hickey, G. M., Badola, R., and Hussain, S. A

**Year:** 2013

**Title:** Diverging viewpoints on tiger conservation: A Q-method study and survey of conservation professionals in India

**Journal:** Biological Conservation.

**Volume:** 161

**Issue:** -

**Pages:** 182-192

**Abstract:** Biodiversity conservation often involves contentious and complex decision-making dilemmas that do not have clear solutions yet need urgent attention. Such problems typically involve stakeholders with divergent viewpoints and interests, leading to disagreement, controversy and political dispute. In these situations, it becomes critical for conservation managers and policymakers to distinguish the worldviews driving the debate. Focusing on the case of tiger conservation in India, the authors combined the Q-method with a traditional survey instrument to explore the diverse viewpoints of conservationists in India. The results indicate five dominant viewpoints: (1) community-centred; (2) tiger-centred; (3) science and tourism-led; (4) instrumental approach; and (5) moral-centred. Based on these findings the researchers identify the predictable points of disagreement and potential areas of consensus and discuss the implications of the findings for addressing complex socio-ecological conservation challenges. Overall, the research suggests that despite ‘tiger-tribal’ issues often overwhelming conservation debates in India, there are important areas of overlap within the tiger-centred and community-centred viewpoints, and with other independent (albeit rarely evident) viewpoints. To help foster consensus, the authors suggest the need to avoid framing conservation policy discussions along the tiger-tribal debate and instead focus on existing areas of agreement. Creating a discourse around these views can help organise conservation professionals into a more coherent and united body, crucial for effective participation in policy advocacy, design and implementation.

**Authors:** Rastogi, A., Hickey, G. M., Badola, R., and Hussain, S. A.

**Year:** 2014

**Title:** Understanding the local socio-political processes affecting conservation management outcomes in Corbett Tiger Reserve, India

**Journal:** Environmental Management

**Volume:** 53

**Issue:** -

**Pages:** 913-929

**Abstract:** Several measures have been recommended to guarantee a sustainable population of tigers: sufficient inviolate spaces for a viable population, sufficient prey populations, trained and skilled manpower to guard against poaching and intrusion, banning trade in tiger products to reduce poaching, and importantly, the political will to precipitate these recommendations

into implementation. Of these, the creation of sufficient inviolate spaces (generally in the form of protected areas) has created the most issues with local resource-dependent communities, often resulting in significant challenges for tiger conservation policy and management. Very little empirical research has, however, been done to understand and contextualise the local-level socio-political interactions that may influence the efficacy of tiger conservation in India. In this paper, the authors present the results of exploratory research into the ways in which local-stakeholder groups affect the management of Corbett Tiger Reserve (CTR). Using a combined grounded theory–case study research design, and the Institutional Analysis and Development framework for analysis, they identify the socio-political processes through which local-stakeholder groups are able to articulate their issues and elicit desirable actions from the management of CTR. Increasing the awareness of these processes can help inform the design and implementation of more effective tiger conservation management and policy strategies that have the potential to create more supportive coalitions of tiger conservation stakeholders at the local level.

## S

**Authors:** Schmidt-Burbach, J., Ronfot, D., and Srisangiam, R.

**Year:** 2015

**Title:** Asian elephant (*Elephas maximus*), pig-tailed macaque (*Macaca nemestrina*) and tiger (*Panthera tigris*) populations at tourism venues in Thailand and aspects of their welfare

**Journal:** PLoS ONE

**Volume:** 10

**Issue:** 9

**Article:** e0139092

**Abstract:** This study focused on determining the size and welfare aspects of Asian elephant, pig-tailed macaque and tiger populations at facilities open to tourists in Thailand. Data were gathered from 118 venues through direct observations and interviews with staff. A score sheet-based welfare assessment was used to calculate scores between 1 and 10, indicating each venue's welfare situation. Factors such as freedom of movement for the animals, access to veterinary care, environmental noise quality, hygiene standards and work intensity were included in the score sheet. 1688 elephants, 371 macaques and 621 tigers were found at the venues. Eighty-nine venues exclusively kept elephants, nine designated 'monkey schools' offered macaque shows, four venues kept primarily tigers, mostly for petting and photo opportunities, and the remaining venues kept a mix of these animals. A strong imbalance in female to male gender ratios was recorded with about 4:1 for adult elephants and 1:4 for adult macaques. Severely inadequate welfare conditions were common, with 75% of macaques and 99% of tigers being kept at venues with scores less than five. Eighty-six percent of elephants were kept in inadequate conditions at venues with scores between three and five, but a significant number of venues with scores above five were found. Only 4.6% of elephants were provided commendable conditions, reaching assessment scores of eight and above. Seventy-one percent of venues did not offer any sort of education about animals to visitors. This study is the first to assess welfare aspects of captive wild animals at tourism venues across Thailand. It concludes that significant concerns exist about the welfare of wild animals in the tourism sector of Thailand. Urgent attention needs to be given to address these concerns and prevent further suffering. But also, to ensure the demand for wild animals does not have a negative impact on wild populations.

**Authors:** Schutgens, M. G., Hanson, J. H., Baral, N., and Ale, S. B.

**Year:** 2019

**Title:** Visitors' willingness to pay for snow leopard *Panthera uncia* conservation in the Annapurna Conservation Area, Nepal

**Journal:** Oryx

**Volume:** 53

**Issue:** 4

**Pages:** 633-642

**Abstract:** The Vulnerable snow leopard (*Panthera uncia*) experiences persecution across its habitat in Central Asia, particularly from herders because of livestock losses. Given the popularity of snow leopards worldwide, transferring some of the value attributed by the international community to these predators may secure funds and support for their conservation. Schutgens and colleagues administered contingent valuation surveys to 406 international visitors to the Annapurna Conservation Area, Nepal, between May and June 2014, to determine their willingness to pay a fee to support the implementation of a Snow Leopard Conservation Action Plan. Of the 49% of visitors who stated they would pay a snow leopard conservation fee in addition to the existing entry fee, the mean amount that they were willing to pay was USD 59 per trip. The logit regression model showed that the bid amount, the level of support for implementing the Action Plan, and the number of days spent in the Conservation Area were significant predictors of visitors' willingness to pay. The main reasons stated by visitors for their willingness to pay were a desire to protect the environment and an affordable fee. A major reason for visitors' unwillingness to pay was that the proposed conservation fee was too expensive for them. This study represents the first application of economic valuation to snow leopards and is relevant to the conservation of threatened species in the Annapurna Conservation Area and elsewhere.

**Authors:** Sharma, T., Chen, J. S., and Liu, W.-Y.

**Year:** 2019

**Title:** Investigating environmental transgressions at Corbett Tiger Reserve, Indi

**Journal:** Sustainability

**Volume:** 11

**Issue:** 20

**Article:** 5766

**Abstract:** Through a qualitative lens involving both in-depth interviews and focus groups, this research attempts to probe the issues of environmental transgressions caused by tourists and tourism providers in one of the oldest and largest national parks in India, the Corbett Tiger Reserve (CTR), Uttarakhand. It reveals that even though tourism stakeholders are conscious of environmental transgressions, concrete efforts towards environmentally sustainable practices in CTR do not seem to be a priority. Nevertheless, this research suggests that visitors' noncompliant behaviour may be altered by enhancing place attachment through repeat visitations, improving visitor experiences, and effective information dissemination. Also, future tourism operations may require a reduction in environmental transgressions through the creation of an agency that can assist community-based tourism operations.

**Author:** Shepherd, S. M.

**Year:** 2020

**Title:** Large felid predators and “man-eaters”: Can we successfully balance conservation of endangered apex predators with the safety and needs of rapidly expanding human populations?

**Editors:** F. M. Angelici and L. Rossi

**Book Title:** Problematic wildlife II: New conservation and management challenges in the human-wildlife interactions

**Publisher:** Springer

**Pages:** 17-91

**Abstract:** The large felid carnivores are among the most endangered, and the most challenging, species to conserve on this increasingly human-dominated planet. In modern times, large felid carnivores were widely distributed in the continents of Asia, Africa, and the Americas. Unfortunately, global human expansion, loss of prey species, hunting and poaching, and retaliatory killings after livestock predation have greatly reduced and fragmented their original ranges and decimated their populations. In this chapter, large felid carnivore characteristics, usual habitats, ecology, and predatory behaviours are reviewed. Changes in great cat distribution, changes in wild prey populations resulting in a shift to increased livestock predation, and the resulting human-felid conflicts are discussed. Preservation of remaining wild large felid carnivore populations has become a global conservation priority as populations have plummeted over the last century. Current approaches to better understand and conserve these apex keystone predators and to maintain ecosystem integrity are discussed. Current strategies and policies to ameliorate and resolve the intricate and difficult problems of predator-human conflict are examined. The complex issues of “problem carnivores” and “man-eaters” are discussed. Finally, recommendations on creative, fluid, and scientifically sound strategies that might be employed to address these conflicts in a manner acceptable to all key stakeholders are discussed.

**Authors:** Simms, A., Moheb, Z., Salahudin, Ali, H., Ali, I., and Wood, T.

**Year:** 2011

**Title:** Saving threatened species in Afghanistan: Snow leopards in the Wakhan Corridor

**Journal:** International Journal of Environmental Studies

**Volume:** 68

**Issue:** 3

**Pages:** 299-312

**Abstract:** The Wakhan Corridor in northeast Afghanistan is an area known for relatively abundant wildlife and it appears to represent Afghanistan’s most important snow leopard landscape. The Wildlife Conservation Society (WCS) has been working in Wakhan since 2006. Recent camera trap surveys have documented the presence of snow leopards at 16 different locations in the landscape. These are the first camera trap records of snow leopards in Afghanistan. Threats to snow leopards in the region include the fur trade, retaliatory killing by shepherds and the capture of live animals for pets. WCS is developing an integrated management approach for this species, involving local governance, protection by a cadre of rangers, education, construction of predator-proof livestock corrals, a livestock insurance programme, tourism and research activities. This management approach is expected to contribute significantly to the conservation of snow leopards and other wildlife species in the Wakhan.



**Authors:** Sinha, B. C., Qureshi, Q., Uniyal, V. K., and Sen, S.

**Year:** 2012

**Title:** Economics of wildlife tourism -contribution to livelihoods of communities around Kanha Tiger Reserve, India

**Journal:** Journal of Ecotourism

**Volume:** 11

**Issue:** 3

**Pages:** 207-218

**Abstract:** Principles supporting ecotourism suggest a commitment to social responsibility and nature conservation. While nature conservation often appears obvious the social responsibility of ecotourism operations is not as apparent. On one hand, the task of nature conservation is entirely the responsibility of the protected area (PA) manager whereas, on the other, contribution to conservation through sharing of benefits with the community living around the PA should be a mandate of the tourism industry. In this research note, the authors have tried to examine whether the tourism industry in and around Kanha Tiger Reserve, India, is contributing to conservation by securing sustainable livelihoods for the local people. There is an urgent need for a national ecotourism policy that would ensure sharing of benefits and thus foster less dependence on forest resources.

**Authors:** Sivakami, V., and Bindu, V. T.

**Year:** 2020

**Title:** A study on factors influencing the visitor experience on eco tourism activities at Parambikulam Tiger Reserve

**Journal:** International Journal of Hospitality & Tourism Systems

**Volume:** 13

**Issue:** 1

**Pages:** 81-89

**Abstract:** Ecotourism is one of the fastest-growing segments of tourism industry. Its potential for growth is virtually unlimited. Any tourism programme which is: nature-based, ecologically sustainable, where education and interpretation is a major concept and where local people are benefited can be called ecotourism. The Western Ghats of Kerala, with its tropical forest ecosystem, provides a natural advantage for development of ecotourism and can be projected as an ecotourism zone in the true sense. It is commonly perceived that ecotourism in protected areas can bring incentives necessary for their management and has minimal physical and social impact on the visited area. They also demonstrate the commitment of the present generation to the future generation. Protected areas are the cornerstone of most national biodiversity conservation strategies. The study revealed the features, facilities and experience of tourists on ecotourism activities at Parambikulam Tiger Reserve. The study identifies the factors that influences the visitors to undertake tourism activities at Parambikulam Tiger Reserve, and suggested measures to increase the satisfaction level of visitors by improving the facilities at the Tiger Reserve for a sustainable tourism development in the region.

**Authors:** Skibins, J., Powell, R., and Hallo, J.

**Year:** 2016

**Title:** Lucky 13: Conservation implications of broadening “Big 5” flagship species recognition in East Africa

**Journal:** Journal of Sustainable Tourism

**Volume:** 24

**Issue:** 7

**Pages:** 1024-1040

**Abstract:** Sustainable tourism experiences seek to inspire tourists to perform behaviours that enhance the environment on site and at home. In sustainable wildlife tourism, flagship species are used as icons to attract attention for conservation initiatives. Parks and protected areas also rely on flagship species to attract visitation. Expected tourist responses from the use of flagship species include raising concern and stimulating pro-conservation behaviours. However, flagship-based ecotourism has been criticised for not delivering expected conservation benefits for species of interest or biodiversity and having negative impacts for wildlife on site. Using interactional theory as a framework, this study investigated the potential of the African “Big 5”, and eight other commonly observed African species, to stimulate an emotional connection and intention to perform species and biodiversity oriented conservation behaviours. Data were obtained from 416 tourists at Kilimanjaro Airport and analysed with structural equation modelling. Tourists reported a connection to all 13 species, and this connection was strongly predictive of species and biodiversity oriented behavioural intentions. No differences were observed between the traditional “Big 5” and additional species. Results suggest that species beyond the “Big 5” may be effective flagship species for African parks and protected areas and the associated tourism industry.

**Author:** Somerville, K.

**Year:** 2019

**Book Title:** Humans and lions: Conflict, conservation and coexistence

**Publisher:** Routledge

**Description:** This book places lion conservation and the relationship between people and lions both in historical context and in the context of the contemporary politics of conservation in Africa. The killing of Cecil the lion in July 2015 brought such issues to the public’s attention. Were lions threatened in the wild and what was the best form of conservation? How best can lions be saved from extinction in the wild in Africa amid rural poverty, precarious livelihoods for local communities and an expanding human population?

This book traces man’s relationship with lions through history, from hominids to the Romans, through colonial occupation and independence, to the present day. It concludes with an examination of the current crisis of conservation and the conflict between Western animal welfare concepts and sustainable development, thrown into sharp focus by the killing of Cecil the lion.

**Authors:** Suraci, J. P., Clinchy, M., Zanette, L. Y., and Wilmers, C. C.

**Year:** 2019

**Title:** Fear of humans as apex predators has landscape-scale impacts from mountain lions to mice

**Journal:** Ecology Letters

**Volume:** 22

**Issue:** 10

**Pages:** 1578-1586

**Abstract:** Apex predators such as large carnivores can have cascading, landscape-scale impacts across wildlife communities, which could result largely from the fear they inspire, although this has yet to be experimentally demonstrated. Humans have supplanted large carnivores as apex predators in many systems, and similarly pervasive impacts may now result from fear of the human 'super predator'. The authors conducted a landscape-scale playback experiment demonstrating that the sound of humans speaking generates a landscape of fear with pervasive effects across wildlife communities. Large carnivores avoided human voices and moved more cautiously when hearing humans, while medium-sized carnivores became more elusive and reduced foraging. Small mammals evidently benefited, increasing habitat use and foraging. Thus, just the sound of a predator can have landscape-scale effects at multiple trophic levels. The results indicate that many of the globally observed impacts on wildlife attributed to anthropogenic activity may be explained by fear of humans.

**Authors:** Suryawanshi, K. R., Bhatia, S., Bhatnagar, Y. V., Redpath, S., and Mishra, C.

**Year:** 2014

**Title:** Multiscale factors affecting human attitudes toward snow leopards and wolves

**Volume:** 28

**Issue:** 6

**Pages:** 1657-1666

**Abstract:** The threat posed by large carnivores to livestock and humans makes peaceful coexistence between them difficult. Effective implementation of conservation laws and policies depends on the attitudes of local residents toward the target species. There are many known correlates of human attitudes toward carnivores, but they have only been assessed at the scale of the individual. Because human societies are organised hierarchically, attitudes are presumably influenced by different factors at different scales of social organisation, but this scale dependence has not been examined. The authors used structured interview surveys to quantitatively assess the attitudes of a Buddhist pastoral community toward snow leopards (*Panthera uncia*) and wolves (*Canis lupus*). They interviewed 381 individuals from 24 villages within six study sites across the high-elevation Spiti Valley in the Indian Trans-Himalaya. The authors gathered information on key explanatory variables that together captured variation in individual and village-level socioeconomic factors. They used hierarchical linear models to examine how the effect of these factors on human attitudes changed with the scale of analysis from the individual to the community. Factors significant at the individual level were gender, education, and age of the respondent (for wolves and snow leopards), number of income sources in the family (wolves), agricultural production, and large-bodied livestock holdings (snow leopards). At the community level, the significant factors included the number of smaller-bodied herded livestock killed by wolves and mean agricultural production (wolves) and village size and large livestock holdings (snow leopards). The results show that scaling up from the individual to higher levels of social organisation can highlight important factors that influence attitudes of people toward wildlife and toward formal conservation efforts in general. Such scale-specific information can help managers apply conservation measures at appropriate

scales. Their results reiterate the need for conflict management programmes to be multipronged.

**Authors:** Szokalski, M. S., Foster, W. K., and Litchfield, C. A.

**Year:** 2013

**Title:** Behavioral monitoring of big cats involved in ‘behind-the-scenes’ zoo visitor tours

**Journal:** International Journal of Comparative Psychology

**Volume:** 26

**Issue:** 1

**Pages:** 83-104

**Abstract:** While interactive tours have been argued to hold great conservation potential for zoo visitors, the influence on the participating animal’s behaviour is often ignored. To investigate this, Szokalski and colleagues observed the behaviour of one Sumatran tiger (*Panthera tigris sumatrae*) and three African lions (*Panthera leo leo*) involved in a protected contact tour, as well as that of three cheetahs (*Acinonyx jubatus*) involved in a hands-on tour, at Zoos South Australia. Instantaneous scan sampling (30-s intervals) was used to record animal behaviour before, during, and after behind-the-scenes tours, as well as for equivalent times on non-tour days, over a three-month period. Estimated proximity (close, < 2m; moderate, 2-5m; and distant, > 5m) to humans was also recorded as an indirect measure of interaction. The animals in the protected contact tour displayed decreased inactivity and increased feeding and pacing during the tours, compared to before and after. The authors suggest that the increased pacing is more associated with the animals being fed during the tours, rather than the tours being a stressful experience. Those in the hands-on tour showed variation in proportions of multiple behaviour categories and primarily these were shifts in species-typical behaviours. In contrast to those in the protected contact tour, they showed decreased pacing during the tour sessions. No aggressive or otherwise antagonistic behaviours directed at humans were observed by animals in either tour, with these animals typically spending more than half of their tour times in distant proximity to keepers and visitors. Combined, these findings indicate that large felid behaviour may be altered by participation in interactive tours, but that these changes are not necessarily indicative of compromised well-being. Additional research is needed to determine the impact that these experiences are having on the welfare of the animals. This study reinforces the potential for behavioural monitoring to be used as a method for assessing the influence of visitors on zoo animals.

**Authors:** Szokalski, M. S., Litchfield, C. A., and Foster, W. K.

**Year:** 2013

**Title:** What can zookeepers tell us about interacting with big cats in captivity?

**Journal:** Zoo Biology

**Volume:** 32

**Issue:** 2

**Pages:** 142-151

**Abstract:** Despite the potential dangers involved, interactions between zookeepers and captive big cats are increasing. Research with other animals, particularly nonhuman primates, suggests that closer interactions can be beneficial not only for the animals and their keepers, but also for zoo visitors. This study sought to determine whether the same benefits may apply to keeper-big cat interactions. An online questionnaire was completed by 86 keepers worldwide, assessing which types of handling (hands-on, protected, hands-off) they practice with their big cats, whether they practice training, and what their opinions of these methods are (through a series of rating scales and open-ended questions). Protected contact was the most frequently used handling method among this sample, particularly with lions, tigers, and cheetahs, and

training was practiced by the majority of participants with all big cat species. Participants perceived protected contact as the most beneficial handling practice for big cats, keepers, and visitors, noting how it can allow a close bond between keeper and cat, as well as its educational value for zoo visitors. Contrastingly, concerns were raised about the use of hands-on approaches, particularly regarding the safety of all parties involved and the potential for wrong messages to be sent to visitors. Further, training was reported to be more beneficial for each group than any handling practice, yielding similar potential benefits as protected contact. Consistent with existing information with other species, these findings will be useful in directing objective research examining the use of different handling and training methods with big cats.

## T

**Author:** Tait, P.

**Year:** 2009

**Title:** Controversy about a human-animal big cat stunt in Fillis's Circus

**Journal:** Early Popular Visual Culture

**Volume:** 7

**Issue:** 2

**Pages:** 199-211

**Abstract:** This article considers objections to the nineteenth-century stunt in which a big-cat handler put his or her head between the jaws of a big cat in the context of attitudes to performing animals in the 1890s. This stunt was commonly seen in menageries in the USA and Europe, and a newspaper exchange developed in New Zealand in 1894 between a journalist, Scrutator, and Frank Fillis, the English proprietor of Fillis's Circus from South Africa touring New Zealand with four African lions and a Bengal tiger. While there was a significant change to human-animal relations in the Euro-American circus ring over the decade of the 1890s as wild animals were trained to do tricks on cue led by Carl and Wilhelm Hagenbeck's acts, the controversial Fillis's Circus big-cat act in New Zealand seems to have been an older menagerie-style display. It is argued that opposition was indicative of a nineteenth-century anxiety about compromising the hierarchy of species and additionally in association with gender rather than a reaction against performances by wild animals and trained acts. Yet the defence offered by Fillis offers an early coherent example of what would later become standard rhetoric about the inclusion of trained wild animals in traditional circus.

**Authors:** Tarver, R., Cohen, K., Klyve, D., and Liseki, S.

**Year:** 2019

**Title:** Sustainable safari practices: Proximity to wildlife, educational intervention, and the quality of experience

**Journal:** Outdoor Recreation and Tourism

**Volume:** 25

**Issue:** -

**Pages:** 76-83

**Abstract:** This research examines the perceived quality of experience for safari tourists within the Ngorongoro Conservation Area in relation to wildlife viewing proximities and the potential of an educational intervention as a management strategy to mitigate adverse impacts of safari participant crowding. Crowding originates from the safari tourists' preference to obtain close proximity to large mammals, in this case, lions. Recognising these preferences and the associated impacts to animal behaviour defined in the previous research, the researchers



developed and delivered a survey instrument designed to measure the perceived quality of experience of the safari tourist while controlling for the viewing proximity variable. The survey instrument involves participants responding to stock photos selected to represent the safari-tour experience, using a Likert type rating scale. Using a 'pre-treatment' and 'post treatment' protocol, the authors measure an educational management intervention that correlates the impact of intervention on safari participants' perceptions of the quality of safari experience based on proximity to animals. Their findings revealed a statistically significant relationship between an educational intervention conveying the adverse impacts of crowding on lion behaviour and safari tourists' perception of a quality experience in relation of proximity to lions.

**Authors:** Tewari, H., and Srivastava, S. K.

**Year:** 2015

**Title:** A study on the visitors in the Corbett Tiger Reserve: Problems and prospects

**Journal:** International Journal of Environment, Ecology, Family and Urban Studies

**Volume:** 5

**Issue:** 2

**Pages:** 13-20

**Abstract:** Tourism is an impetus for the socio-economic development of developing countries like India. It is the largest and fastest growing civilian industry that employs the maximum number of persons, both directly and indirectly. India attracts 17 million foreigners each year, generating more than US \$100 billion in revenues. Corbett Tiger Reserve is one of the oldest protected areas in India and was established in 1936 as Hailey National Park to protect the endangered Bengal tiger. Tourism in Corbett Tiger Reserve has earned a local sense of pride and has led to the promotion of regional development. In recent years, the number of people coming here has increased dramatically. Presently, every year more than 100,000 visitors come to the reserve from India and other countries. Keeping in mind the importance of tourism, it seems necessary to know the socio-economic characteristics of the visitors in the reserve and the problems faced by them. This study has been conducted with the specific objectives: 1) to study the socio-economic profile of the visitors 2) to study the constraints faced by the visitors. This paper focuses on studying the socio-economic profile of both Indian and foreign visitors and identifying their problems during their visit. The data used in the study are based on a sample of 120 visitors of the reserve. Findings of the study suggest policy recommendations and action plans for the encouragement of tourism and improvement of the facilities provided by the reserve. The findings of the study are important for the policy makers and relevant agencies.

**Authors:** Thapa, B., Aryal, A., Roth, M., and Morley, C.

**Year:** 2018

**Title:** The contribution of wildlife tourism to tiger conservation (*Panthera tigris tigris*)

**Journal:** Biodiversity

**Volume:** 18

**Issue:** 4

**Pages:** 168-174

**Abstract:** Wildlife tourism (WLT) in Nepal flourished after the establishment of Chitwan National Park (CNP) in 1973. Each year CNP receives a large number of international tourists wanting to observe a Royal Bengal Tiger (*Panthera tigris tigris*). As tiger numbers are relatively high within CNP, this study was aimed at assessing the impact of WLT on tiger conservation. A total of 151 locals, tourists, tourism operators, park officials and wildlife experts were interviewed. The researchers used the wildlife tourism research framework model

developed by Higginbottom and Tribe and found that WLT is the main source of revenue and employment for the local people around CNP. In addition to the economic benefits and financial security gained by the local community, these employment opportunities also provided motivation for them to participate in conservation activities, ultimately helping tiger conservation. Similarly, the WLT in CNP plays a significant role in conserving tigers.

**Author:** Tierney, A.

**Year:** 1998

**Title:** Can CITES prevent the tiger from being worshiped to death in China?

**Volume:** 3

**Issue:** 1

**Pages:** 3-21

**Abstract:** Habitat loss and poaching to meet demand of tiger parts for traditional Chinese medicine are the major threats facing five species of tiger as they move toward extinction in 1998, the Year of the Tiger. This article examines the role of the 1973 Convention of International Trade in Endangered Species of Wild Fauna and Flora (CITES) in protecting the tiger from extinction and the operation of the convention in China. It also looks at the means of supplementing the enforcement of the convention such as the promotion of non-consumptive sustainable use of tigers through tourism and the important role of education campaigns in eliminating Chinese demand for tiger parts.

**Authors:** Tortato, F. R., Hoogesteijn, R., Devlin, A. L., Quigley, H. B., Bolzan, F., Izzo, T. J., Ferraz, K. M. P. M. B., and Peres, C. A.

**Year:** 2021

**Title:** Reconciling biome-wide conservation of an apex carnivore with land-use economics in the increasingly threatened Pantanal wetlands

**Journal:** Scientific Reports

**Volume:** 11

**Issue:** 1

**Article:** 22808

**Abstract:** Conservation of carnivores involves finding solutions to minimise habitat loss and human-wildlife conflict. Understanding the nature of land-use economics can allow us to mitigate both threats. In the Pantanal, the two main economic activities are cattle ranching and ecotourism, each of which directly and indirectly affect the persistence of jaguars (*Panthera onca*). To understand how the geography of these economic activities is related to jaguar populations, Tortato and colleagues developed a jaguar distribution model (JDM), livestock density model, and ecotourism lodge density model for the Pantanal. Due to the recent wildfires within the Pantanal, they also assessed the impact of burnt areas that are suitable for jaguars, cattle ranching, and tourism. The JDM indicates that 64% of the Pantanal holds suitable habitat for jaguars. However, jaguar habitat suitability was positively correlated with ecotourism, but negatively correlated with areas most suitable for intensive cattle-ranching. This demonstrates a biome-wide scenario compatible with jaguar conservation. Of particular concern, recent wildfires overlap with most suitable areas for jaguars. If wildfires become increasingly frequent, this would represent a serious threat to jaguars and many other wildlife populations. The authors emphasise the global importance of the Pantanal wetland ecoregion as a key stronghold for long-term jaguar conservation.

**Authors:** Tortato, F., Hoogesteijn, R., and Elbroch, L. M.

**Year:** 2020

**Title:** Have natural disasters created opportunities to initiate big cat tourism in South America?

**Volume:** 52

**Issue:** 3

**Pages:** 400-403

**Abstract:** Livestock is the predominant biomass in terrestrial systems around the world, and conflict with livestock inventories continues to threaten large carnivore persistence in increasingly fragmented habitats. Nevertheless, social tolerance for large carnivores is increasing, as is interest in predator tourism, which can facilitate wildlife–livestock coexistence strategies. Tortato and colleagues report on two case studies in which natural disasters led to a reduction in local livestock inventories, and subsequent economic hardships that in turn created opportunities for initiating predator tourism: jaguar tourism in the Pantanal of Brazil and puma tourism in the Patagonia steppe grasslands of southern Chile. Any time livestock numbers are reduced, whether through management decisions or natural disasters, may be considered opportunities to reduce dependency upon livestock and to weigh diversifying revenue streams via alternative activities, such as tourism. Livestock reductions in combination with a surge in the global demand for wildlife tourism have made jaguar and puma tourism an increasingly important economic activity for both regions. Well-managed predator tourism can be effective carnivore conservation, and if integrated among other strategies, can augment conservation agendas.

**Authors:** Tortato, F. R., and Izzo, T. J.

**Year:** 2017

**Title:** Advances and barriers to the development of jaguar-tourism in the Brazilian Pantanal

**Journal:** Perspectives in Ecology and Conservation

**Volume:** 15

**Issue:** 1

**Pages:** 61-63

**Abstract:** Wildlife tourism has grown in recent years and in many countries represents a major economic activity. The observation of wildlife in Brazil, despite its great biodiversity potential, is underexploited. Here the authors discuss the importance of jaguar-tourism as an economic and ecological activity, contributing to the jaguar conservation in the Pantanal, a region with abundant fauna and recognised as an important ecotourism destination in Brazil. Tortato and Izzo argue that the absence of management plans for protected areas in the Pantanal are impeding the development of this activity.

**Authors:** Tortato, F. R., Izzo, T. J., Hoogesteijn, R., and Peres, C. A.

**Year:** 2017

**Title:** The numbers of the beast: Valuation of jaguar (*Panthera onca*) tourism and cattle depredation in the Brazilian Pantanal

**Journal:** Global Ecology and Conservation

**Volume:** 11

**Issue:** -

**Pages:** 106-114

**Abstract:** Large carnivores fascinate people because of their beauty and potential as human predators and have therefore become focal species for the ecotourism industry. Wildlife tourism has grown exponentially and has often been used as a financial argument for species conservation. However, carnivores depredate livestock, leading to a direct economic conflict

with rural livelihoods, often resulting in lethal retaliation action. Tortato and colleagues show that jaguar ecotourism represents a gross annual income of US\$6,827,392 in land-use revenue across a representative portion the Brazilian Pantanal, the world's largest wetland. Considering the aggregate costs of jaguar depredation on livestock within the same area, they estimate that the resident jaguar population would induce a hypothetical damage of only US\$121,500 per year in bovine cattle losses. This large discrepancy between economic gains and losses reinforces the importance of wildlife tourism as a conservation tool in boosting tolerance of jaguars in private ranches. They also evaluate the partnership between ecotourism and cattle ranchers, in which cattle losses induced by jaguars could be compensated by a system of voluntary donations from tourists, ensuring that both traditional livestock husbandry and ecotourism can co-exist within the same ranches, thereby promoting landscape-scale jaguar conservation.

**Authors:** Tyagi, A., Kumar, V., Kitur, S. Reddy, M., Naidenko, S., Ganswindt, A., and Umaphathy, G.

**Year:** 2019

**Title:** Physiological stress responses of tigers due to anthropogenic disturbance especially tourism in two central Indian tiger reserves

**Journal:** Conservation Physiology

**Volume:** 7

**Issue:** 1

**Article:** coz045

**Abstract:** Tigers continue to face unprecedented threats to their existence due to poaching, habitat loss, habitat fragmentation and anthropogenic disturbances. The present study examines the physiological stress response of tigers due to anthropogenic activities including wildlife tourism in Bandhavgarh Tiger Reserve and Kanha Tiger Reserve using faecal glucocorticoid metabolite (fGCM) measurement. Tyagi and colleagues collected a total of 341 faecal samples from both reserves during tourism and non-tourism periods. Data on various anthropogenic disturbances including tourism activities like number of vehicles and visitors were also collected. They ascertained the species identity and sex of all the samples collected using genetic markers. fGCMs were extracted using a previously reported procedure, and fGCM concentrations were subsequently determined using an established enzyme immunoassay. There was no significant difference in overall mean fGCM concentrations between the two tiger reserves, but within each reserve, concentrations were significantly higher in tigers during the tourism period as compared to the non-tourism period. The authors also found that the number of tourist vehicles and disturbance level significantly correlated with fGCM concentrations. This study further supports the assumption that unbridled tourism associated with high anthropogenic disturbance can be related to perceived stress and consequently may have an impact on the reproductive fitness of tigers and long-term survival of isolated populations.

## U

**Author:** Udaya Sekhar, N.

**Year:** 2003

**Title:** Local people's attitudes towards conservation and wildlife tourism around Sariska Tiger Reserve, India

**Journal:** Journal of Environmental Management

**Volume:** 69

**Issue:** 4

**Pages:** 339-347

**Abstract:** Conservationists in the recent years view local peoples' support for protected areas management as an important element of biodiversity conservation. This is often linked to the direct benefits, which local communities get from the protected areas. These benefits could be in the form of biomass resources, park funds diverted to local villages by state agencies and revenue from wildlife tourism. There are a very few studies which have attempted to study the direct relationship between benefits from wildlife tourism and local support for conservation. In India, wildlife tourism is restricted, and mostly controlled by state and private agencies. Wildlife conservation policy does not view tourism in protected areas as a source of revenue for the local communities. The present study examines the local people's attitudes towards wildlife tourism and the impact of benefits from tourism on the local support for Sariska Tiger Reserve (STR), India. STR is a flagship for tourism where protected areas are increasingly being visited and where local support for wildlife tourism has not been studied adequately. Results indicate that two-thirds of the respondents were positive towards tourism and support for conservation. The respondents were aware that more tourism benefits are possible from a well-conserved protected area. There appears to be correlation between benefits obtained by local people from wildlife tourism and other sources, and support for protected area existence, suggesting that benefits impact people's attitudes towards conservation. Some of the main problems are the unequal distribution of tourism benefits, lack of locals' involvement in tourism and development. There is a need to clearly address these issues, so that protected areas may get the support of local people, which may lead to sustainable development.

## V

**Authors:** van der Meer, E., Badza, M. N., and Ndhlovu, A.

**Year:** 2016

**Title:** Large carnivores as tourism flagship species for the Zimbabwe component of the Kavango Zambezi Ttransfrontier Conservation Area

**Journal:** African Journal of Wildlife Research

**Volume:** 46

**Issue:** 2

**Pages:** 121-134

**Abstract:** Wildlife tourism provides an opportunity to offset conservation costs and promote co-existence between people and wildlife. To promote conservation through wildlife tourism, one can use flagship species; charismatic species that increase awareness and public recognition of a site and stimulate financial and political support for conservation. Due to their large area requirements and sensitivity to disturbance, promoting conservation of large carnivores automatically promotes conservation of other species, and the use of large carnivores as flagship species has been positively related to ecosystem conservation. In this study, van der Meer and colleagues interviewed wildlife tourists to determine which large



carnivores could serve as flagship species for the Zimbabwe component of the Kavango Zambezi Transfrontier Conservation Area (KAZA TFCA), an area that is expected to become a premier tourist destination and make a significant contribution to conservation. Based on likability and the possibility to raise funds and promote the area, lion (*Panthera leo*) was the most suitable flagship species, closely followed by leopard (*Panthera pardus*). Spotted hyaena (*Crocuta crocuta*) was the least suitable flagship species. Despite its endangered status, African wild dog (*Lycaon pictus*) did not seem to have a high potential to serve as a flagship species for the area. Although cheetah (*Acinonyx jubatus*) was less often mentioned as a species tourists were hoping to see or a favourite species seen, cheetah was liked as much as lion and leopard and provided similar potential to raise funds and promote the area. Flagship species status does not have to apply to a single species, it can also successfully apply to a cohort of species. With the KAZA TFCA being in the unique position of harbouring the largest free-roaming cheetah population in Zimbabwe, it would be appropriate if the area was promoted by using large cats as a flagship species cohort.

**Authors:** van der Meer, E., Botman, S., and Eckhardt, S.

**Year:** 2019

**Title:** I thought I saw a pussy cat: Portrayal of wild cats in friendly interactions with humans distorts perceptions and encourages interactions with wild cat species

**Journal:** PLoS ONE

**Volume:** 14

**Issue:** 5

**Article:** e0215211

**Abstract:** Most people lack the opportunity to see non-domesticated animals in the wild. Consequently, people's perception of wild animals is based on what they see on (social) media. The way in which (social) media portrays non-domesticated animals determines our perception of and behaviour towards these animals. People like to interact with animals, which is why venues which offer the opportunity to interact with non-domesticated animals are popular wildlife tourist attractions (WTAs). However, these WTAs more often than not profit at the expense of animal welfare, conservation and human safety. Participation in such WTAs should therefore be discouraged. Through (social) media we are regularly exposed to images of non-domesticated animals in close interactions with humans. Exposure to such images seems to blur the line between what is a friendly domesticated animal and what is a potentially dangerous wild animal. Such images may also increase our desire to engage in interactions with non-domesticated animals ourselves and reduce moral concerns about the use of non-domesticated animals for such interactions, thereby promoting WTAs in which tourists can interact with non-domesticated animals. Wild cat species are commonly used in the wildlife tourism industry to interact with tourists. In this study, van der Meer and colleagues determine whether portrayal of wild cat species in interactions with humans promotes WTAs with wild cats. They presented respondents with an image of a wild cat species (lion, cheetah, caracal) in a control setting, walked by a human (WTA), petted by a human (WTA) or in the wild and asked them to answer a fixed set of questions. The authors found that portraying wild cat species in interactions with humans reduced the fear of wild cats, encouraged people to regard WTAs with wild cats as acceptable and stimulated them to participate in such activities themselves.

**Authors:** Vannelli, K., Hampton, M. P., Namgail, T., and Black, S. A.

**Year:** 2019

**Title:** Community participation in ecotourism and its effect on local perceptions of snow leopard (*Panthera uncia*) conservation

**Journal:** Human Dimensions of Wildlife

**Volume:** 24

**Issue:** 2

**Pages:** 180-193

**Abstract:** Local support and involvement is often essential for effective wildlife conservation. This study assessed the impact of local involvement in ecotourism schemes on perceptions of wildlife, promotion of conservation action, types of values that communities placed on wildlife, and contexts in which wildlife are considered to be most valuable. The study used qualitative semi-structured interviews conducted in seven villages in Ladakh, India, which is an important region of snow leopard (*Panthera uncia*) habitat. Results indicated that in these communities, ecotourism-based interventions encourage more positive perceptions of wildlife species, in particular the snow leopard. Achieving change in community perceptions of wildlife is key when implementing ecotourism schemes to enable more effective conservation, as well as generating local awareness and value for wildlife toward problematic keystone species such as the snow leopard, which are frequently the focus of human–wildlife conflict.

**Author:** Vasana, S.

**Year:** 2018

**Title:** Consuming the tiger: Experiencing neoliberal nature

**Journal:** Conservation and Society

**Volume:** 16

**Issue:** 4

**Pages:** 481-492

**Abstract:** This is an ethnographic account of urban middle class Indian tourists' experience of seeing the tiger in the national parks (NP) in India, based on participant observation in Ranthambore National Park in Rajasthan, and Kanha and Bandhavgarh National Parks in Madhya Pradesh, India. This experience of seeing the tiger emerges as a specific form of commodity located within the process of commodification pervasive under neoliberal capitalism, circulated and sustained through a range of media, attainable through competitive exchange of economic and social capital. While the experience is prefigured, standardised and fetishised, actual embodied experience of the tiger safari in NP adds form and content to this commodity. Specific practices including the economy of tiger sighting, forms of access to NP and safari regulations reinforce wildlife experience as a scarce market commodity. The tourist gaze, mediated through global and new social media and materialised through ubiquitous photography, make the tiger simultaneously wild and familiar, cosmopolitan, and parochial, universal commodity sign and specifically unique. Material experience through which the tourist 'consumes' the tiger reinforces ideas of nature as enclosed, separated, and rationed space accessible through the market to those with money to spend, and the tiger as accessible through social status and economic hierarchies. This research unravels a basic contradiction between a sustainable conservation ethic, and subjectivity created by this form of competitive consumption of commoditised nature.

## W

**Authors:** Watts, S. M., McCarthy, T. M., and Namgail, T.

**Year:** 2019

**Title:** Modelling potential habitat for snow leopards (*Panthera uncia*) in Ladakh, India

**Journal:** PLoS ONE

**Volume:** 14

**Issue:** 1

**Article:** e0211509

**Abstract:** The snow leopard (*Panthera uncia*) is an elusive species inhabiting some of the most remote and inaccessible tracts of Central and South Asia. It is difficult to determine its distribution and density pattern, which are crucial for developing conservation strategies. Several techniques for species detection combining camera traps with remote sensing and geographic information systems have been developed to model the habitat of such cryptic and low-density species in challenging terrains. Utilising presence-only data from camera traps and direct observations, alongside six environmental variables (elevation, aspect, ruggedness, distance to water, land cover, and prey habitat suitability), Watts and colleagues assessed snow leopard habitat suitability across Ladakh in northern India. This is the first study to model snow leopard distribution both in India and utilising direct observation data. Results suggested that elevation and ruggedness are the two most influential environmental variables for snow leopard habitat suitability, with highly suitable habitat having an elevation range of 2,800 m to 4,600 m and ruggedness of 450 m to 1,800 m. The authors' habitat suitability map estimated approximately 12% of Ladakh's geographical area (c. 90,000 km<sup>2</sup>) as highly suitable and 18% as medium suitability. They found that 62.5% of recorded livestock depredation along with over half of all livestock corrals (54%) and homestays (58%) occurred within highly suitable snow leopard habitat. The habitat suitability model can be used to assist in allocation of conservation resources by targeting construction of livestock corrals to areas of high habitat suitability and promoting ecotourism programmes in villages in highly suitable snow leopard habitat.

**Authors:** Wilson, A., and Phillips, C. J. C.

**Year:** 2021

**Title:** Identification and evaluation of African lion (*Panthera leo*) cub welfare in wildlife-interaction tourism

**Journal:** Animals

**Volume:** 11

**Issue:** 9

**Article:** 2748

**Abstract:** African lion (*Panthera leo*) cubs are extensively used in South Africa in wildlife-interaction tourist activities. Facilities provide close interaction opportunities, but the welfare impacts on the cubs are unclear. A workshop was held with 15 lion-experienced stakeholders, including government officials, nature conservationists, animal welfare organisations, lion breeders, lion handlers, an animal ethologist, wildlife veterinarian, wildlife rehabilitation specialist and an animal rights advocacy group representative. Individual representatives nominated a range of welfare concerns, and 15 were identified for discussion and prioritisation. The leading welfare concern was a lack of governance and regulation within the industry. Participants agreed on nine non-negotiable practices affecting welfare concerns, which included ethical concerns, such as cubs exiting into the ranching industry (farming of lions for hunting) and the bone trade (lions being slaughtered for their bones, which are exported for

lion bone wine) once petting age has passed. Welfare concerns representative of current management practices within the lion cub interaction industry were compared for importance using an online adaptive conjoint analysis survey of 60 stakeholders in the industry. The survey identified the most important welfare concerns to be poor social grouping of cubs, an inability for cubs to choose their own environment and retreat from a forced interaction, a lack of trained and dedicated caretakers, and poor breeding practices. The conjoint analysis survey results produced a value model, which can be used as a tool to score cubs' welfare in interaction facilities, and it identified unacceptable practices lacking welfare consideration.

## Y

**Authors:** YuRong, G., Lu, X., Shi, K., QianQian, G., HaiTao, H., and JianZang, M.

**Year:** 2013

**Title:** A SWOT analysis to evaluate the strategy for tourism development in ex-situ conservation of Siberian tiger

**Journal:** Journal of Economic Animal

**Volume:** 17

**Issue:** 3

**Pages:** 160-164

**Abstract:** The China Hengdaohezi Felidae Breeding Center is the largest breeding facility for Siberian tiger (*Panthera tigris* subsp. *altaica*) in the world. As an important ex-situ conservation site, the centre has 1026 Siberian tigers and became a famous tourist attraction. To optimise the management of the centre, a comprehensive SWOT analysis was carried out to evaluate the strengths, weaknesses, opportunities and threats of the strategy for tourism development. It had been identified that as well as being an effective ex-situ conservation site for Siberian tiger, the centre should also conduct research on the ecology of Siberian tiger, provide pre-release training to captive-bred Siberian tigers, and release these trained Siberian tigers to the wild. Meanwhile, activities to attract tourists should be developed around tiger watching and the promotion of a 'tiger culture'; lectures and exhibitions about Siberian tiger should also be provided. The healthy growth of the tourism would provide the much needed funds for the ex-situ conservation site.



Tiger (*Panthera tigris*)



#### 4. ABOUT THE EDITORS

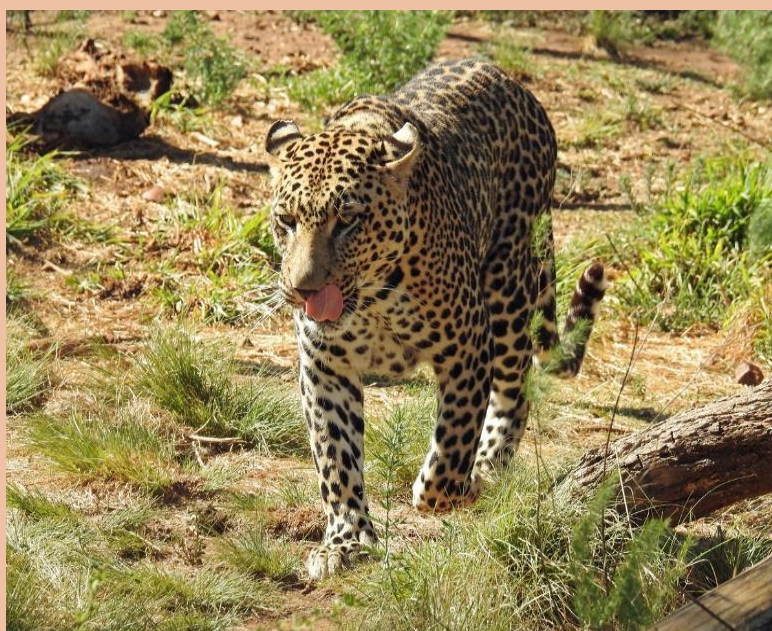
##### Colleen Black

Colleen Black is a graduate of the Bachelor of Tourism Management and Events and Conventions Management programmes of Thompson Rivers University in Kamloops, Canada. Her research interests include marine tourism, wildlife tourism, wildlife ethics and human dimensions of wildlife. Colleen's other interests include the psycho-social benefits of baking and culinary creations within tourism and events.



##### Dr Michael Lück

Michael is a professor of tourism and an independent researcher based in Sweden. He has worked in Germany, Belize, Canada, Scotland, and New Zealand, and is founding co-chair of the International Coastal & Marine Tourism Society (ICMTS). Michael has more than 10 years' work experience in the tourism industry and his research interests include (marine) wildlife tourism, ecotourism, interpretation and education on wildlife tours, the impacts of tourism, the cruise ship industry, and aviation. He has published in a number of international journals, is founding editor of the academic journal *Tourism in Marine Environments* and Associate Editor of the *Journal of Ecotourism*. Michael has edited or co-edited over ten volumes on ecotourism, marine (wildlife) tourism, polar tourism, citizen science, sustainable events, and low cost airlines, as well as the *Encyclopedia of Tourism and Recreation in Marine Environments* (CAB International), and co-authored the introductory text *Tourism* (2<sup>nd</sup> ed., CAB International).



Leopard (*Panthera pardus*) in Kruger National Park, South Africa







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