

# Nature-based tourism in a changing climate: costs and benefits for an endangered species



Ben Chapple<sup>1,2</sup>, Rosie Woodroffe<sup>2</sup>, Caroline Howe<sup>1</sup>  
<sup>1</sup>Centre for Environmental Policy; <sup>2</sup>Institute of Zoology

Imperial College  
London



## Introduction

Climate change presents a significant threat to human wellbeing and the natural world (Lambers, 2015). The global tourism industry has been estimated to account for 8% of global carbon emissions (Lenzen et al., 2018), and tourist numbers continue to grow rapidly. However, nature-based tourism can provide incentives to conserve landscapes that are rich in wildlife (Dangal et al., 2020) and ecotourism is often crucial to the economies of countries with high biodiversity but low wealth (Snyman 2012).

**Nature-based tourism therefore both helps and hinders conservation.** This apparently irreconcilable trade-off has to date received limited attention. Understanding the impacts of this industry is more important than ever, as the COVID-19 pandemic has brought international tourism to a standstill, providing a unique opportunity for reviewing and potentially improving the nature-based tourism industry.

## Research Questions

This thesis aims to shed light on the question of whether nature-based tourism can sustainably support conservation, in the context of climate change and shrinking carbon budgets.

### Primary Research Question

**Is the overall contribution of nature-based tourism to African wild dog conservation positive or negative?**

### Secondary Research Questions

- How do the carbon emissions associated with nature-based tourism influence African wild dog extinction risk?
- How does nature-based tourism contribute to conservation budgets and protected area management?
- How does nature-based tourism impact local communities, and do these impacts influence tolerance for wildlife and support for conservation?



A tourist camp in the Kruger National Park, South Africa (Ben Chapple 2016)

## The African Wild Dog

The African wild dog (*Lycaon pictus*) is an endangered canid native to sub-Saharan Africa (Creel & Creel, 2002). It is an excellent study species for investigating the contradictory impacts of nature-based tourism, for several reasons:

1. It is **highly vulnerable to climate change**, with higher ambient temperatures leading to **increased mortality and lower reproductive success** (Woodroffe et al. 2017)
2. Most of its remaining strongholds are **largely dependent on nature-based tourism**
3. It requires **large expanses of well-connected habitat** – the sorts of landscapes most likely to be resilient to climate change

## Methods

### Rapid Evidence Assessment

- Review of the state of knowledge of the contribution made by nature-based tourism to conservation, and in particular through its impacts on local communities
- Focus on social, economic and environmental sustainability

### Climate impacts of nature-based tourism

- Using UNTWO data, calculate the carbon impact of tourism to African wild dog range states
- Using climate models and an existing model linking wild dog demography to temperature, calculate the impact of nature-based tourism to wild dog extinction risk

### Key informant interviews

- Using a modified Delphi method, conduct key informant interviews with stakeholders to ascertain expert opinion on the importance of nature-based tourism for conservation and poverty alleviation
- Focus on a range of current and potential future tourism models

### Fieldwork

- Conduct fieldwork in Laikipia, Kenya, using semi-structured interviews with local community members to understand the impacts of nature-based tourism on livelihoods and support for conservation
- The intention is to cover communities within a variety of land use and tourism models
- If COVID-19 continues to limit travel, then the possibility of hiring local research assistants to conduct these surveys will be investigated

## Research Implications

My ambition for this thesis is for it to have implications for tourism in two contrasting ways:

1. Influence policy on the regulation of nature-based tourism, so that the industry's negative impacts are minimised and its contribution to conservation and poverty alleviation can be maximised
2. Provide better information on the sustainability of nature-based tourism to consumers, so that tourists themselves are able to make more well-informed decisions on where/how/whether to travel

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