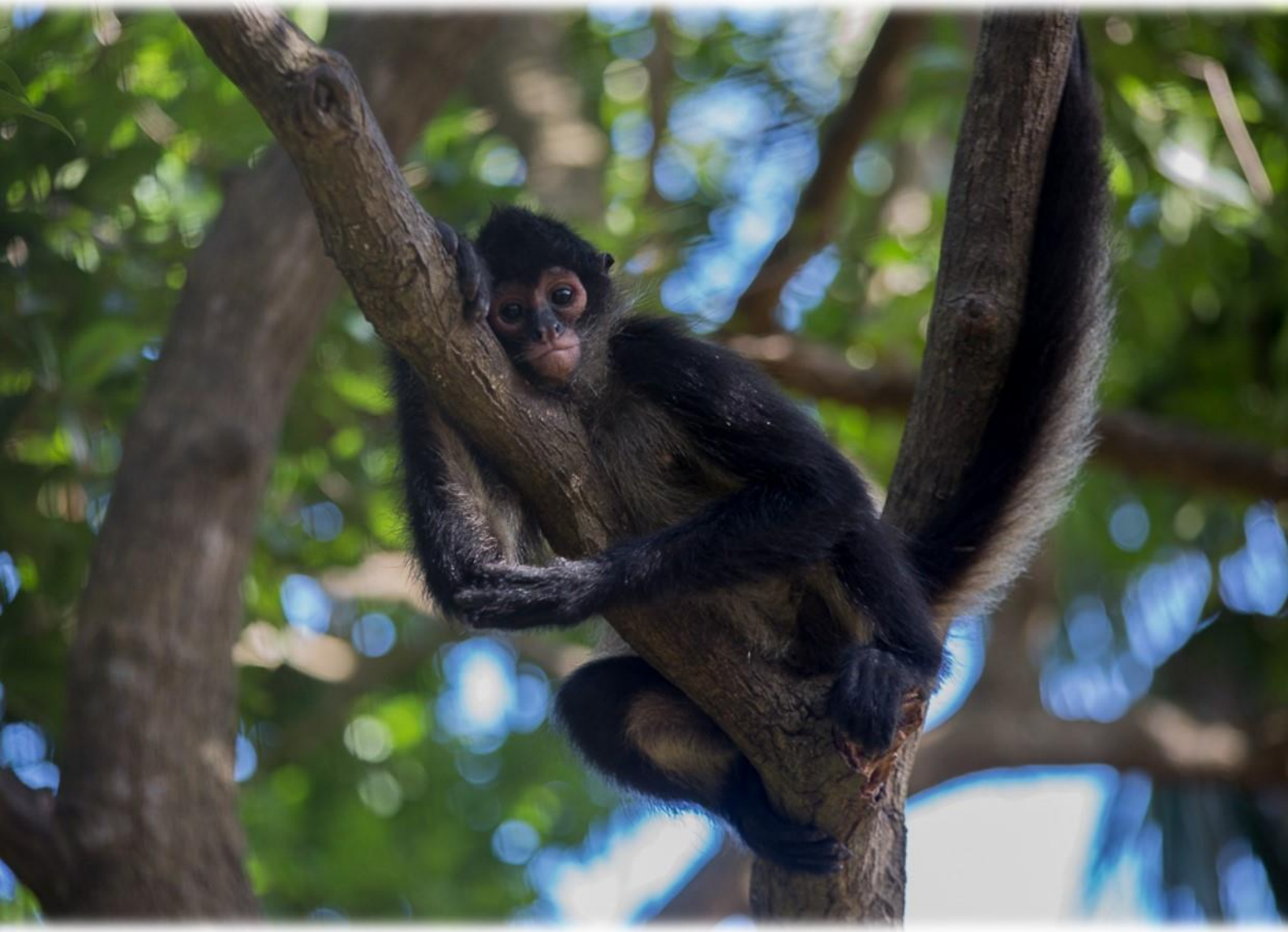
Journal of the MSc in Primate Conservation

Canopy

Volume 19
Issue 1
Winter 2018



OXFORD BROOKES UNIVERSITY

ISSN: 2054-2070

Canopy
Journal of the Primate Conservation
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Oxford Brookes University

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Front Cover Photo
Ateles geoffroyi at Wildtrack, Belize, confiscated from the illegal pet trade. Photo by James Parsons.

Table of contents

Letter from the editors

Dear Reader,

Why the Human-Primate Interface?

In 2011, the human population reached a landmark of 7 billion. With current projections showing continued exponential increase in population, people will carry on expanding into new territories and ecosystems in order to support these high densities. Because areas of the world experiencing particularly high levels of population growth also happen to be habitat countries for non-human primates, interest in studying the human-primate interface has increased considerably over the last decade. Primatologists and conservationists alike have stated that human settlements will continue to push into nonhuman primate territories at unprecedented rates, increasing the likelihood of interactions between humans and other primates and showing the need for conflict mitigation. In this issue, we highlight different types of interactions between humans and other primates that can occur from tourism to urban conflict. We hope to bring attention to the importance of ethnoprimatology, which incorporates the human element when assessing non-human primate ecology, in conservation of the world's extant primate populations.

Sincerely your editors,

Roseanne, Devan, Noelia, Meg, Deborah, James, Daniel & Magdalena

Letter from the Module Leader

Welcome to the first of two issues in this 19th volume of Canopy, the journal of the MSc in Primate Conservation at Oxford Brookes University. This issue is dedicated to the theme of the human-primate interface, an area of study that has become increasingly popular over the last decade or so with the development of the ethnoprimatological approach. In ethnoprimatology we incorporate theoretical and methodological perspectives from the qualitative and quantitative social sciences with those from evolutionary biology and behavioural and ecological sciences particularly. There are many challenges to working within this interdisciplinary framework but the rewards of developing and executing truly integrated analyses are increasingly recognised in pure and applied research contexts as evidenced by the inclusion of social science perspectives, and even social scientists, in conservation programmes, think-tanks and advisory groups. For example, the recently established IUCN Task Force in Human Wildlife Conflict includes at least four social scientists within its membership.

When I first began teaching the module People-Primate Interactions (previously Human-Primate Conflict) it was apparent that members of the early cohorts of MSc students were slightly bemused by, though tolerant of, the idea that there was value to examining the experience of losing crops to foraging baboons or losing access to forest resources through the gazettement of nature reserves, from a farmer or local resident's perspective. Questions such as 'What does this have to do with Primate Conservation?' and 'Surely people are the problem rather than the 'victims'?' were often raised during those early classes. But some of those first students are now teaching and researching human-primate interactions themselves, encouraging their own students to adopt an interdisciplinary approach in their studies. Indeed, a few years ago, one of our MSc students turned out to have been taught Primate Conservation as an undergraduate by one of my first PhD students – which I guess makes me an academic 'grandmother'!

Moving swiftly on, since I'm not sure I'm ready to think of myself as 'grannie' quite yet - the contributions in this issue are from some of our recent alumni who have carried out research exploring aspects of the human-primate interface. Wildlife tourism and ecotourism have been promoted as a potential panacea for conservation, providing income and incentives for local people to protect their non-human primate neighbours as a way of diversifying or strengthening local income streams. But wildlife tourism can be a double-edged sword, where human populations may benefit at the expense of the wildlife or some sectors of the human population benefit over others. Several papers in this issue begin to unpack some of the challenges and controversies associated with tourism as a conservation tool. Another area of interest in ethnoprimatology and conservation science is exploring the human-wildlife interface and its implications for coexistence with primates and other wildlife species in urban and peri-urban environments. This theme is picked up in an article that explores some of the challenges experienced by people living alongside baboons in suburban South Africa, and their responses to these animals. In the final article our attention moves to examining primates on the silver screen, and how these animals are represented within mainstream films for public entertainment.

I hope you enjoy this Issue of Canopy as much as I have enjoyed teaching each and every cohort of students over the last 19 years!

Professor Kate Hill
Module leader, Primate Conservation

An ethnoprimatological approach to assessing the human-baboon (*Papio ursinus*) interface in the suburbs of Knysna, South Africa

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Human–wildlife conflict is defined by the World Wide Fund for Nature as "any interaction between humans and wildlife that results in negative impacts on human social, economic or cultural life, on the conservation of wildlife populations, or on the environment" (WWF, 2005). One area of human-wildlife conflict research that has received increased attention is that of human conflict with non-human primates (hereafter 'primates') (Lee & Priston, 2005; Hill & Webber, 2010; Strum, 2010; McLennan & Hill, 2012). Despite the high rate of land conversion for human uses, many generalist primate species, which exhibit both dietary and behavioural flexibility, are not only able to survive, but thrive in human dominated landscapes (Strum, 2010). Due to this adaptability, many species of primates have come into increasing competition with humans where land has been transformed for agricultural, urban, or suburban uses (Lee & Priston, 2005).

Baboons (genus *Papio*) are a species well known for coming into conflict with humans. They are highly intelligent, opportunistic, large-bodied, omnivorous primates that maintain a complex social organization (Else, 1991; Swedell, 2011). These characteristics make them highly adaptable and able to flourish in various human dominated landscapes throughout their sub-Saharan range. Despite the wide distribution of baboons in Africa, research on human-baboon interaction has mainly focused on agricultural conflicts. Literature calls for a focus on an ethnoprimatological approach to human-primate conflict (Fuentes & Wolfe, 2002; Fuentes & Hockings, 2010), an interdisciplinary approach that draws from several areas of anthropology to create a comprehensive picture of the human dimension of the conflict at hand (Sterling *et al.,* 2013). Understanding the dynamics of the human dimensions of primate conflict is vital to designing any management program that aims to ameliorate conflict and promote coexistence (Lee, 2010).

Data from 201 questionnaires collected from residents and 45 semi-structured qualitative interviews conducted with residents and various key stakeholders, including members of local government and environmental organizations, were used to assess the human element of the human-baboon interface in

Knysna, Western Cape Province, South Africa, an area of emerging suburban conflict.

Baboons visited just under eighty percent of respondents' properties. Data indicate that baboons are equally likely to visit any time of day and any time of year. The majority of respondents believe that baboons pose a moderate to extreme threat while on their property. When asked to define how baboons are threatening, the majority listed the safety of their pets, closely followed by personal safety and material items. There was a significant relationship between the level of threat that respondents selected and whether baboons had entered their homes in the past. Respondents that had had baboons in their homes listed the baboons as either a moderate or extreme threat (Fig. 1).

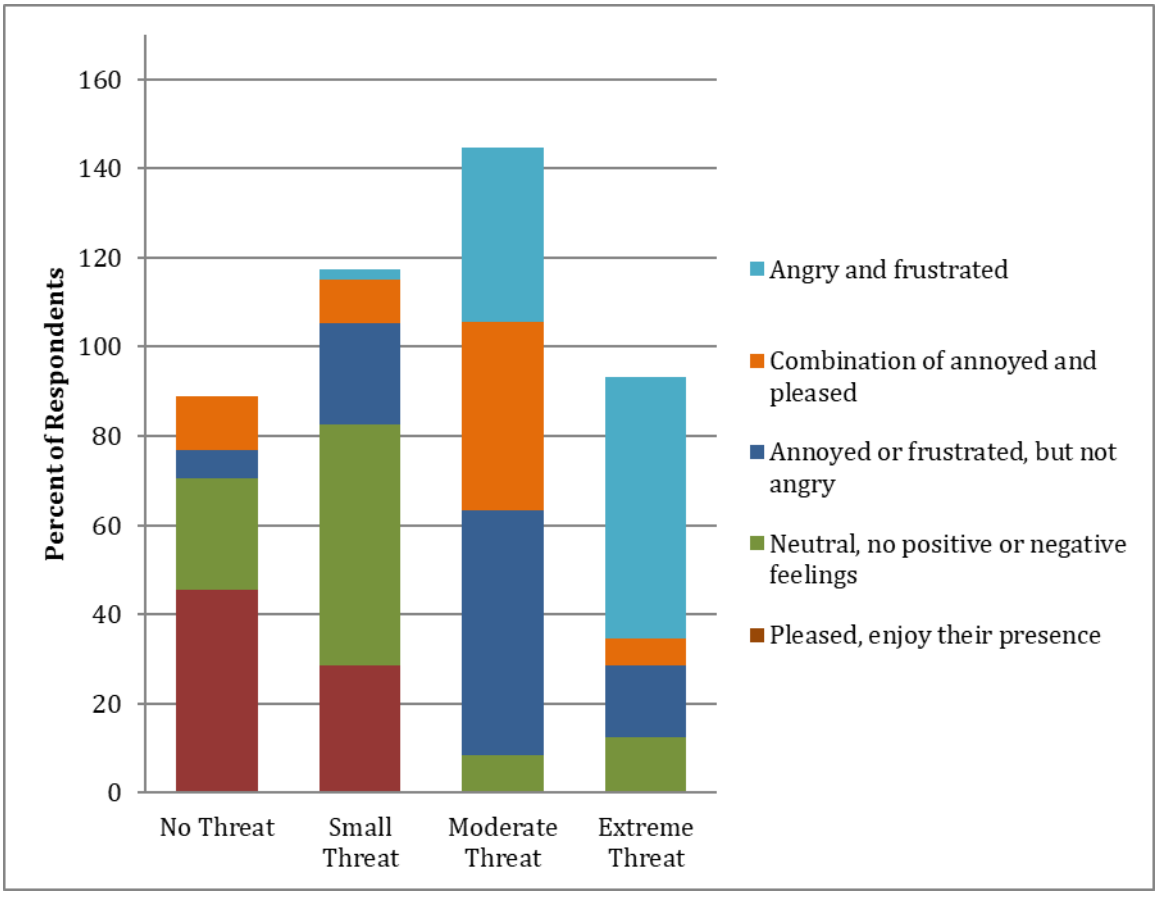

Figure 1. Comparison of respondent perceived level of threat and their attitude towards baboon presence on their properties

Individuals that have not had baboons enter their homes were more likely to consider the baboons little to no threat while on their properties. The vast majority of individuals who believed the baboons pose little to no threat described themselves as either 'pleased' or 'neutral' about the presence of baboons on their properties. The majority of

individuals who believe the baboons are a moderate or extreme threat described themselves as 'annoyed' or 'angry and frustrated'. Surprisingly, even respondents that did not have baboons on their properties believe the presence of baboons in Knysna's suburbs is a problem. However, the majority of individuals that are 'pleased', 'neutral' or 'annoyed' about the baboons were concerned about their conservation in Knysna, while the majority of individuals who described themselves as 'angry' were unconcerned about their conservation (Fig. 2).

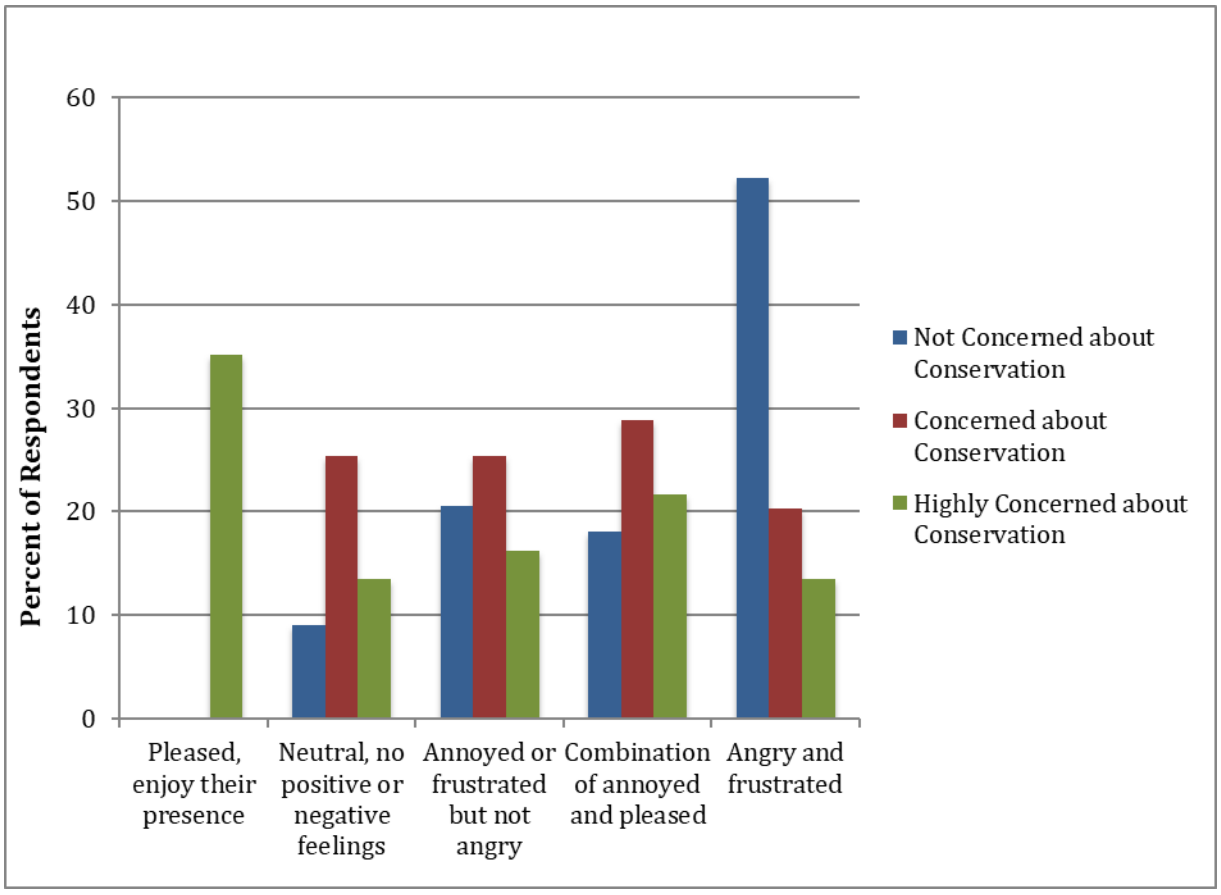

Figure 2. Respondents' attitude compared to their conservation concern (X^2 = 55.701, df=8, n=140, p<0.001).

Furthermore, these 'angry' individuals were the only respondents that supported lethal removal as a solution to the issues with baboons in Knysna. Overall, the most commonly selected solutions to address the issues with baboons were 'baboon monitors that keep baboons out of human areas' and 'baboon proof bins', independent of respondent attitude toward baboons or perceived level of threat.

The respondents in this study define Knysna as an area of human-baboon conflict. Even

residents that did not have baboons enter their property considered the presence of baboons to be a problem, indicating that the basis of the conflict lies in the fact that baboons are viewed as 'out of place' in human dominated areas. In support of this notion, "baboon monitors that keep baboons out of human areas" was the most frequently selected solution by all respondents. This fundamental conflict is only amplified for residents living in overlap with baboons. Visits from baboons are perceived as threatening, unpredictable, and uncontrollable. Perception of threat has been shown to play a pivotal role in creating negative attitudes towards baboons in this study. Residents holding negative attitudes towards baboons have shown a decrease in support for local baboon conservation and advocate for their lethal removal. Understanding this perspective is extremely important, not only for the affected residents whose needs must be addressed, but also to learn how residents can be prevented from reaching this point. Each of the factors discussed in this study play a part in the complex matrix of the human dimension of human-baboon conflict in Knysna. The findings from this study have been used to create a baboon management plan that was approved by the local government. This plan will provide education to residents regarding baboons and conflict avoidance, initiate a baboon-monitoring program, and provide baboon proof bins to residents in suburbs where baboons are present. This study illustrates the importance of considering insight into the human dimension, which provides the opportunity to foster coexistence between humans and wildlife, rather than focusing solely on mitigating conflict. Furthermore, this study has significant implications not only for the human-baboon interface in the suburbs of Knysna, but also for emerging suburbs throughout South Africa.

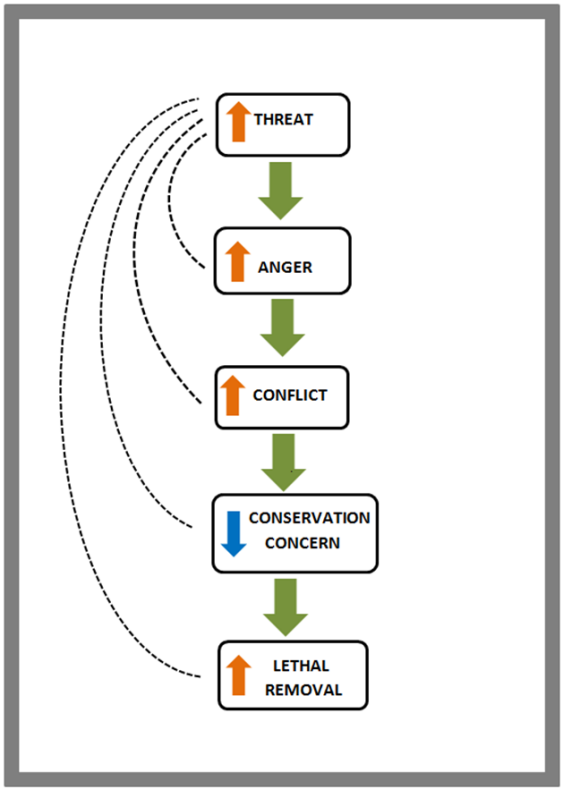

Figure 3. Model of order and significant relationships between factors analysed in this study. Orange arrows indicate an increase in the factor and blue arrows indicate a decrease. Green arrows indicate statistical significance and factor order. Dashed lines indicate significant relationships between factors (p<0.05).

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“Voluntourism:” recognising the potential negative implications of volunteer tourism on conservation initiatives and community outreach projects

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Wearing (2001) defines volunteer tourists as: “tourists who… volunteer in an organised way to undertake holidays that might involve aiding or alleviating the material poverty of some groups in society, the restoration of certain environments, or research into aspects of society or environment.” The volunteer tourism industry is a relatively new and fast-growing phenomenon that has great potential to enact positive change in many areas (Lyons & Wearing, 2008; Guttentag, 2009). However, it is important to recognise that the negative impacts of volunteer tourism and community outreach projects persist and have received little attention (Isaacs, 2000; Guttentag, 2009). Whilst the benefits of volunteer tourism are potentially numerous, it is imperative to appreciate that both conservation initiatives and outreach projects may be compromised if volunteer tourism is recognised solely for its positive impacts (Guttentag, 2009). We must acknowledge that volunteer tourism is far from flawless and further explore the consequences of volunteer tourism.

“Voluntourism” programmes often seek to accomplish both the hedonistic aspect of tourism along with the altruistic component of development work (Simpson, 2004). Volunteer tourism can be an incredibly unique and awe-inspiring experience that instils passion in individuals and has great potential to give rise to the number of national and international conservationists, NGO pioneers, and NGO workers. Nevertheless, volunteers’ expectations often impose constraints on conservation and community outreach programmes. Since these programmes are often reliant on volunteers paying a great deal of money to participate, project staff are deemed responsible to ensure that they meet volunteers’ expectations, as some projects rely heavily on positive reviews and word-of-mouth to produce an influx of volunteers for additional income (Carvalho-Junior & Schmidt, 2006; Coghlan, 2008). As a result, conservation and community outreach programme staff are paradoxically faced with the decision to distort their objectives in order to meet volunteers’ expectancies to secure additional funds. Whilst true altruism is often deemed the primary reason for participating in volunteer tourism programmes, somewhat selfish desires and elements of self-gratification prevail as the most important motivators to volunteers that participate in such programmes. As a result, essential arduous tasks may be set aside to host volunteers who really only want to

pet animals or play with children (Lorimer, 2009).

Influencing positive change within local communities and host-destinations is a central component of volunteer tourism (Sin, 2009). In this case, whilst volunteers' intentions appear altruistic, local communities often suffer negative impacts. For example, volunteer tourists frequently pay for the opportunity to perform work that members of the local community are perfectly capable of completing themselves, which creates a scenario where volunteers undercut local labourers who would usually get paid for the same work (Guttentag, 2009). Furthermore, volunteers lacking knowledge of local cultures or who do not speak the local language have been described as a hindrance rather than an asset (Simpson, 2004; Raymond & Hall, 2008).

Laborious work such as building a school can often be poorly executed by volunteers and has caused misconceptions of members of local communities and their work ethics to occur in the past. For example, Wearing *et al.* (2017), studied the attitudes of a group of volunteers towards local collaborators who paid large sums of money to build a school in Tanzania. Whilst volunteers viewed themselves as "active helpers" within the host-community, many volunteers described members of the local community as "lazy" and "passive." In reality, the locals were "lazing about" during the day because they spent all night tearing down and rebuilding the school themselves.

Volunteer tourism is by no means a panacea to save threatened biodiversity or enact positive change through community outreach projects. In fact, if not executed properly, volunteer tourism has a great deal of potential to inhibit such initiatives. Irresponsible and egotistical volunteer tourism remains one of the largest factors that negatively contribute to these efforts. A societal shift is required whereby volunteers do not perpetuate harm and are instead completely immersed in unselfish actions that will benefit conservation, local communities, and help save biodiversity. Such an ideology seems almost unattainable with the growth of social media and people simply taking part in activities that appear to reflect well on themselves, or to simply tick something off their personal "bucket lists." Nevertheless, some of the flaws ubiquitous in volunteer tourism can be rectified through a persistent ecocentric commitment to conservation projects and improved management of community outreach programmes.

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Tourism or ecotourism at Outamba Kilimi National Park, Northern Sierra Leone?

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International and local people visit Outamba Kilimi National Park (OKNP), Sierra Leone, primarily to see its wildlife. Hippopotami are the animals that motivate the most these visits, acting as a flagship species for the other wildlife at OKNP. The question that arises now is: are these visitors' tourists or ecotourists? The classification of their motivations can aid in the tailoring of more suitable activities, increasing financial income to the national park and, in turn, conservation.

Definitions of tourism incorporate a multi-faceted idea of visiting places with the motivations for traveling remaining unspecified, whereas the definition of ecotourism implies support for conservation (Goodwin, 1996; Hvenegaard & Dearden, 1998; Shannon et al., 2017). Ecotouism has been defined as "an economic process where rare and beautiful ecosystems are marketed internationally to attract visitors" (Steele, 1993). Ecotourists visit areas to observe natural processes, environments and species (Wheat, 1994; Goodwin, 1996).

In 1982, the International Union for Conservation of Nature (IUCN) affirmed that an important factor in the selection of protected areas is their touristic potential. The Sierra Leonean government has stated plans to further develop nature-based tourism in sites such as

OKNP. Henceforth, it is critical for us as conservationists to understand the true travel motivators, the activities developed and their impacts on conservation.

The socio-anthropologic method of semi-structured interviews was used over other interviewing methods due to its increased flexibility and in order to elicit the interviewees' perspectives without prediction or planning (Weiss, 1994; Drury *et al*., 2011; Rabionet, 2011). Participant observation enabled critical evaluation of the data collected (Kellert *et al*., 2000; Ormsby & Kaplin, 2005; Drury *et al*., 2011).

Research was conducted in one village inside (Yembere) and one village outside (Kotor) OKNP, as well as with the national park staff and visitors/tourists/ecotourists of OKNP. 71 people were interviewed in total between May and July 2018. Interviews were conducted with the help of a local field assistant. Our collaboration enabled enhanced rapport with local participants (Fontana & Frey, 1994), and increased depth in understanding of data collected (Drury *et al*., 2011; Jones-Engel *et al*., 2011).

'Soft' ecotourism where a less dedicated approach to activities is taken was found to not be suitable for OKNP. Rather a 'hard' ecotourism approach is the only option, wherein special interests can be experienced and, more importantly for OKNP, home comforts are removed (Eagles *et al.,* 2002). The wilderness is unavoidable at OKNP with even the expensive accommodation being little more than four walls, a roof, a bed, and a mosquito net.

At OKNP there is no running water, no electricity, no washing facilities, no waste disposal methods, and the two toilets are a simple dug-out latrine. There is no information on the conservation status of the national park or the species present at OKNP. There is also no information on how visitors can be involved with conservation. The price list states that OKNP is the first national park to be created in Sierra Leone.

Figure 1. showing one of the tourist accommodations; photograph taken in May 2018 at the tourist area of OKNP.

Tourism, whether 'eco' or not, currently exists in low levels at OKNP. Valentine (1993) defines ecotourism by the fulfilment of four criteria: (1) based on natural areas, (2) ecological sustainability, (3) direct contributions to protection and management of natural areas, and (4) managed adequately and appropriately.

Table 1: Visitor price list at Outamba Kilimi NP, GBP prices adjusted 27.09.2018.

Activity	Sierra Leonean Price	Non-Sierra Leonean Price
Entrance Free	10000 Le 0.91 GBP	30000 Le 2.72 GBP
Overnight Stay in Traditional Hut	15000 Le 1.36 GBP	50000 Le 4.53 GBP
Overnight Stay (in personal tent)	15000 Le 1.36 GBP	30000 Le 2.72 GBP
Hippo Canoe Cruise	10000 Le 0.91 GBP	25000 Le 2.26 GBP
Hiking Walking Safari	5000 Le 0.45 GBP	25000 Le 2.26 GBP
Guide Fee	5000 Le 0.45 GBP	10000 Le 0.91 GBP
2 Local Meals per day	65000 Le 5.89 GBP	65000 Le 5.89 GBP
2 Meals per day (visitor provides food – staff prepare food)	25000 Le 2.26 GBP	25000 Le 2.26 GBP

Tourism at OKNP fulfils the criteria of only one of these: based on natural areas. Financial contributions from tourist fees contribute to staff wages, indirectly helping, then, with the protection and management of the park by providing resources to its staff.

Some definitions state that ecotourism improves the welfare and livelihoods of local people (Bastias-Perez & Var, 1995; Goodwin, 1996; Kiss, 2004; Zacarias & Loyola, 2017). The people of Yembere rarely saw tourists and when they did, they were not involved with them, therefore receiving no benefit from the tourism existing at OKNP.

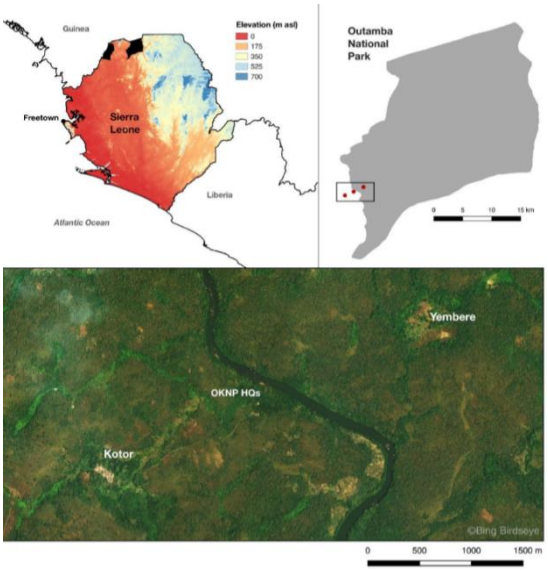

Figure 2. Map depicting the two villages: Kotor and Yembere and their proximity to OKNP HQs (the tourist camp).

When the visitors need something upon arrival at OKNP, the park staff always directs them to Kotor. Once in Kotor, the residents sell the goods for an inflated touristic price, benefiting from the tourism at OKNP.

Tourism, even based on the premise of ecotourism, can have detrimental effects to conservation. It increases the chances of zoonotic disease transmission, causes land degradation, can lead to habituation of wild animals, and increases human-induced stress to the wildlife (Wallis & Lee, 1999; Hill 2002; Woodford *et al*., 2002). Tourism at OKNP is currently susceptible to this since no conservation education is accomplished with the tourists. Their actions, even with the perceived right intentions, could therefore cause more harm to conservation than the money they bring in doing good.

Through an assessment of the motivations behind tourists' desire to visit OKNP, ecotourism could be assumed as the correct category. The definition of ecotourism must be better described in order to benefit conservation (Goodwin, 1996). Conservation efforts at OKNP could work towards marketing ecotourism, increasing visitor numbers and, in turn, increasing financial income. But first, the costs and benefits of ecotourism's potential impacts on the wildlife and local communities must be weighed up in a context-dependent manner to determine whether they are acceptable or not (Eagles *et al*., 2002).

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To what extent do tourists influence lemurs' behaviour in Madagascar?

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Tourists' effects on primates have been mainly studied in zoos, where it was observed that tourists can elicit aggressive, vigilant and stereotypic behaviours (Chamove *et al.,* 1988). Throughout the years, researchers have broadly investigated the effects that food provisioning can have on free-ranging primates (Orams, 2002; McKinney, 2011; Russon & Wallis, 2014), while other kinds of primate-tourist interaction, such as photos of primates in contact with tourists, have not received the same attention.

Lemurs' popularity in primate tourism is increasing (Wollenberg *et al.,* 2011) and is positively contributing to Madagascar's Gross National Product (GNP) (Wright *et al.,* 2014). Previous research on tourists' influence on lemur behaviour has been investigated mainly in Berenty Reserve, where it was revealed that tourists feeding free lemurs who would normally forage might positively influence their survivorship and decrease infant mortality (Koyama *et al*., 2001). We performed a search on Google Images identifying photos of tourists interacting with lemurs in Madagascar. Based on the photos found, we selected three reserves (Lemur Island, Lemuria Land and Lemur Park2) where lemur contact and feeding were allowed and one reserve (Lemurs' Park1) where they were prohibited (Table 1).

Each reserve was visited for twelve days between May 1st and June 24th in 2017. We selected tourist groups at the reserves' entrances using a convenience sampling method, as tourists' visits to the reserve were unpredictable (Newing, 2010). We submitted a pre-visit questionnaire to each selected tourist group. We then followed the tourists in the reserve during their visit and submitted to them a post-visit questionnaire.

While following tourists in the reserve, we collected data on lemurs' behaviour using an all occurrence method (Altmann, 1974). Data on tourists' nationality, age, behaviour, distance from lemurs, group size and kind of interaction with lemurs were also collected. We then calculated the average percentage of time that all lemur groups observed throughout each visit spent performing:

- "attraction toward tourists" (hence "attraction") including all the behaviours that showed lemurs' increased interest for tourists, such as: begging for food, spontaneous or forced approach to tourists and lemurs attracted using food.

- "neutral" including lemurs' natural behaviours, showing that tourists' presence did not alter lemurs' activity.

•"negative toward tourists" (hence "negative") including behaviours suggesting stress and fear of tourists such as: stare, flee and try to flee.

We investigated which of our selected variables regarding the tourist group were influencing lemurs' behaviour the most using a Kruskal-Wallis or a Mann-Whitney test. Those found to be significant were included in a Generalized Linear Model (Lehmann *et al.,* 2007) to observe which had the strongest influence on lemurs' behaviour.

Table 1. List of the reserves visited during the study. Data regarding reserves' coordinates, lemur species hosted, lemurs' level of freedom and tourist-lemur interactions allowed are also included

Reserve visited	Coordinates	Lemur species	Lemurs' freedom level	Lemur-tourist interaction allowed
Lemurs' Park[1]	18°57'17.9"S 47°21'30.3"E	*Eulemur fulvus, E. mongoz, Hapalemur griseus, Lemur catta, Propithecus coronatus, P. coquereli*, *Varecia variegata*	Semi-captive	Observation
Lemur Island	18°53'21.6"S 48°26'06.6"E	*E. fulvus, H. griseus, V. variegata*.	Semi-captive	Direct contact
Lemuria Land	13°23'23.9"S 48°20'23.2"E	*E. coronatus, E. macaco, L. catta, P. coquelreli, P. deckenii, P. coronatus, V. variegata*, *V. rubra*	Semi-captive and captive	Direct contact
Lemur Park[2]	13°26'46.7"S 48°20'58.6"E	*E. macaco*	Free-ranging	Direct contact

We observed a strong correlation (Pearson's correlation: -0.914, N=80, $p<0.001$) between "neutral" and "positive" behaviours suggesting, as hypothesized by Matheson (2006), that primates habituated and fed by humans are more likely to shift their "neutral" behaviour to "attraction" rather than "negative".

It is particularly interesting to point out that the reserve visited and the presence of photos in contact with tourists were the main factors influencing both "attraction" and "negative" behaviours. It is probable that lemurs' behaviour was significantly different among sites as each location hosted different lemur species and lemur groups. The influence of photos is compelling as, to our knowledge, it has never been evaluated before as a factor impacting lemurs' behaviour. The effect of photos on "negative" behaviours can be researched because tourists actively seeking contact with animals for photos are more likely to disrupt their social interactions (Green & Higginbottom, 2000). Moreover, even animals that have been habituated to human presence can still be stressed, especially if tourists get too close, increasing threatening behaviours toward other individuals of the same species or against tourists (Matheson *et al.,* 2006).

The increase of "attraction" behaviours in presence of photos in contact with tourists might be due to an increased feeding activity to attract lemurs to tourists and to make them stay there. Providing food was the only option to make lemurs come into contact with tourists (Knight, 2009; Matheson *et al*., 2006). It is important to observe that lemurs were always fed bananas, a fruit that is not originally from Madagascar (Beaujard, 2011) and that entered lemurs' diet just recently. Wild lemurs have been observed to not feed frequently on bananas, having instead a much more varied diet (Jolly *et al.,* 2002; Siemmen *et al.*, 2007).

We suggest that studies of this kind can provide valuable information and opportunities for more effective wildlife tourism management, both in the reserves we selected for the study and to many other locations where tourists can have close interactions with wild and semi-captive primates.

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Primate portrayals in motion pictures

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Entertainment comes in a variety of forms. Film has evolved tremendously since the first films (Vachon, 2018). Motion pictures are essentially a work in process (O'Brien, 2015); movies will always be ever changing and improved upon as time goes by. These changes include shifting black and white films to films of colour. Motion pictures are a large part of modern culture, and have been from the beginning (Vachon, 2018). The first films produced used 'ground breaking' technologies and often had the same cast and crew. The film titled Sherlock Holmes in the Great Murder Mystery (1908) was the first to contain a man in a gorilla costume.

More than half the species of primates are endangered. Conservation of primates is important because the world needs primates (Estrada *et al.,* 2017). Conservationists must understand public opinion of primates, and one way to do so is by studying primate usage in entertainment. Previous studies have focused on how a visit to a zoo can connect people to animals and conservation, as well as change implicit connections (Arendt & Matthes, 2016). In addition, humans are more inclined to assist in conservation efforts when they are initially introduced to the natural world and then shown how to assist (Born *et al.,* 2018). Non-human primate (hereafter referred to as primates) portrayal in films and social media play a role in the attitude of the public (Leighty *et al*., 2015). Chimpanzees (*Pan troglodytes*), are used for humour in commercials and films, which negatively affects the public's perception of their conservation status (Ross *et al.,* 2008; Schroepfer *et al.,* 2011).

Given the importance of the public perception of primates for conservation efforts, the question for my paper is: will there be an association between the taxa of a primate and the portrayal?

I hypothesize that there will be an association, and the stronger association will be between chimpanzees and CGI films. This is because chimpanzees are prominent in films such as the Planet of the Apes franchise (2011-2017) where all the primates are CGI.

Films were gathered using Google search results, and each result was recorded up to five pages until no new films were found. I used IMDb, to collect the viewership ratings, countries the films were produced in, if it was primarily live action or animated, and IMDb rating scores given by the public. I accessed Rotten Tomatoes for the Rotten Tomatoes

'Tomatometer', used by film critics, and the Rotten Tomatoes Audience Score, used by the public were collected. I watched the first trailer of each film released on YouTube to verify a primate was in the trailer and determine the taxa. The films had to be released in the USA or UK, in English, have a primate in the trailer, be feature length (45 minutes minimum), and not a TV episode or movie. Films that did not meet the inclusion criteria were removed. There was a total of 222 films. The data was cleaned Excel for SPSS. Categories were made for taxonomy of primates. The groups were composed of Capuchins (Cebinae), Chimpanzees (*Pan troglodytes*), Gorillas (*Gorilla*), Other, and Multiple Species. More categories were created for portrayal on screen. One for films with a live primate actor and one for films with wild and untrained primates in natural environments or in rescue centres, films with animated or CGI primates, films with costumed human actors and puppeteers, and for films with multiple techniques. I then ran a Pearson Chi-Square test in SPSS.

The results of the Pearson Chi Square test were statistically significant (p = 0.00). The cell count was listed at 44%. Figure 1 illustrates that chimpanzees had the highest film count in the primate actor categories and the multiple techniques and multiple species categories were in the lowest amount of films.

The question is, will there be an association between primate portrayal and taxa? My hypothesis states yes, there will be a strong association between chimpanzees and CGI films. The results, as shown in Figure 1, did not support the hypothesis. The chimpanzees had the highest film count in the primate actors' section. For the CGI group however, the chimpanzees had only a slightly higher film count. For chimpanzees, primate actors were utilized the most in the live action

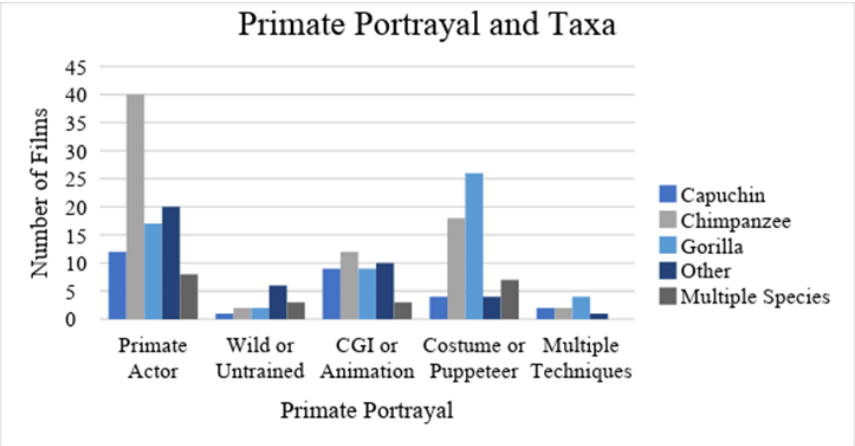

Figure 1. Number of primates portrayed in films *Portrayals and Primate Taxa.*

Tarzan films (1930s to 1960s). These films featured a chimpanzee named Cheetah.

Primates in entertainment have been a part of modern popular culture for over a century. Cinema has played a key role in entertainment since the creation of its industry in the late 1800s. Conservation and cinema is a new area of research and is an imperative aspect to consider when examining public perceptions of primates. Many people go to the cinema each year and view films of all different sorts. For many, cinema and visits to the zoo are the only times they may be viewing these species. Therefore, primates in cinema is a key area of research for conservationists. The findings of this study did not support my hypothesis.

Future studies can examine human perception and primate portrayals on screen. This could be interesting for a conservationist to understand how these portrayals are received and how they can make a difference in the field of primate conservation.

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University Events

Seminar Series

The seminar series is a weekly event which events guest speakers to present their research. We are always looking to recruit speakers for our seminar semester. If you are interested in attending or presenting, please do not hesitate to get in contact with us. Contact details are provided within the contents pages.

Upcoming talks for next semester are:

28 Jan	**Philipe Bujold** (University of Cambridge) *Adaptive economics: exploring choice biases in macaque decision-making*
4 Feb	**Penny Wallace** (TRAFFIC) *Combatting the illegal wildlife trade using a trade chain approach: rhino horn, ivory and beyond*
11 Feb	**Andrew Walmsley** (Freelance wildlife photographer) *On Assignment - From conception to publication of a wildlife photo story*
18 Feb	**Natalie Horner** (Cotswold Wildlife Park) *Lemur conservation in and ex situ - a wildlife park perspective*
4 March	**Dr Andrea Donaldson** (Durham University) *Rehabilitation release of vervet monkeys in south coast Kenya: a scientific approach*
18 March	**Grace Ellison** (Manchester Metropolitan University) *Behaviour and ecology of the northern lesser galago*
25 March	**Dr David Chivers** (University of Cambridge) *TBA*
1 April	**Thomas Fry** (University College London) *Rewilding in eco-cultural landscapes: The socio-political dimensions of reintroduced white-tailed eagles in the Scottish Highlands*
8 April	**Dr Christoph Schwitzer** (Bristol Zoological Society) *The IUCN Red List and lemur conservation*

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